

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

**FORM 20-F**

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED  
DECEMBER 31, 2022

OR

TRANSITIONAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 Date of event requiring this shell  
company report \_\_\_\_\_

Commission file number 001-36885

**TANTECH HOLDINGS LTD**

(Exact name of registrant as specified in its charter)

Not Applicable

(Translation of Registrant's Name into English)

British Virgin Islands

(Jurisdiction of incorporation or organization)

**c/o Tantech Holdings (Lishui) Co., Ltd**  
**No. 10 Cen Shan Road, Shuige Industrial Zone, Lishui City**  
**Zhejiang Province 323000**

People's  
Republic of China

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
Common shares	TANH	The Nasdaq Capital Market

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

Common Shares

(Title of Class)

The number of outstanding shares of each of the issuer's classes of capital or common share as of the close of the period covered by the annual report was: 1,217,906

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of

Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer  Non-accelerated filer  Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP  International Financial Reporting Standards as issued by the International Accounting Standards Board  Other

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

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### **Special Note Regarding Forward-Looking Statements**

This annual report contains forward-looking statements. All statements contained in this annual report other than statements of historical fact, including statements regarding our future results of operations and financial position, our business strategy and plans, and our objectives for future operations, are forward-looking statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in the “Risk Factors” section. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this annual report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. The events and circumstances reflected in the forward-looking statements may not be achieved or occur. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. We are under no duty to update any of these forward-looking statements after the date of this annual report or to conform these statements to actual results or revised expectations.

**PART I**

**ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS**

Not applicable for annual reports on Form 20-F.

**ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE**

Not applicable for annual reports on Form 20-F.

**ITEM 3. KEY INFORMATION**

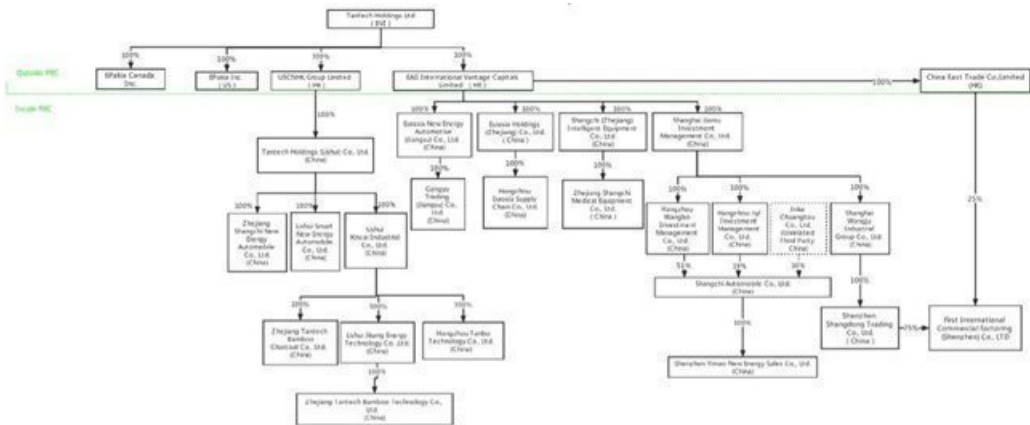
**Our Corporate Structure and the Operations of Our PRC Subsidiaries**

Tantech Holdings Ltd (“THL,” “we,” “our” or “us”) is not a PRC operating company but a holding company incorporated in the British Virgin Islands (“BVI”). As a holding company, we conduct a substantial portion of our operations through our subsidiaries based in mainland China. Therefore, investing in our securities involves unique and a high degree of risk. You should carefully read and consider the risk factors of this report (beginning on page 12), especially the risk factors under the caption “Risks Related to Doing Business in China” (beginning on Page 25).

The securities registered under the Securities Act and the Exchange Act are of the off-shore holding company Tantech Holdings Ltd, a British Virgin Islands company, which owns equity interests, directly or indirectly, of the operating subsidiaries. Subsidiaries conduct operations in China and the holding company does not conduct operations in China.

Prior to August 3, 2021, we controlled Hangzhou Wangbo Investment Management Co., Ltd (“Wangbo”), Shangchi Automobile Co., Ltd. (“Shangchi Automobile”) and Shenzhen Yimao New Energy Sales Co., Ltd. (“Shenzhen Yimao”) through a series of contractual arrangements (the “VIE Agreements”). Pursuant to the VIE Agreements, Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”) had the exclusive right to provide Wangbo consulting services related to business operations including technical and management consulting services. We previously controlled Shangchi Automobile through the VIE agreements because the Guidance Catalogue for Industrial Structure Adjustments (the “Catalogue”), a principal regulation governing foreign ownership of businesses in the PRC, expressly prohibited direct foreign investment over 50% in automobile industry. In 2018, the Catalogue was replaced by the Special Administrative Measures (Negative List) for Foreign Investment Access (the “Negative List”). According to the Negative List, foreign investors may invest fully in the business that Shangchi Automobile is conducting. After the VIE structure was dismantled in August 2021, we control Shangchi Automobile through our indirect ownership of 70% of its equity.

The following diagram illustrates our Company’s organizational structure as of the date of this annual report:



Currently, our corporate structure contains no VIEs, and the industries in which we operate are not subject to foreign ownership limitations in mainland China. However, there are uncertainties with respect to the PRC legal system, and there may be changes in laws, regulations and policies, including how those laws, regulations and policies will be interpreted or implemented. If, in the future, the PRC government determines that our corporate structure does not comply with PRC regulations, or if PRC regulations change or are interpreted differently, the value of our common shares (“Common Shares”) may decline or become worthless.

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There are significant legal and operational risks associated with conducting a substantial portion of our operations in mainland China, including that changes in the legal, political, and economic policies of the PRC government, the relations between China and the United States, or PRC or U.S. regulations may materially and adversely affect our business, financial condition, results of operations, and the market price of our common shares. Any such changes could significantly limit or completely hinder our ability to offer or continue to offer our shares to investors and could cause the value of our shares to significantly decline or become worthless. Recent statements made and regulatory actions undertaken by the PRC government, including the recent enactment of China's Data Security Law, as well as our obligations to comply with China's new Cybersecurity Review Measures (which became effective on February 15, 2022), regulations and guidelines relating to the multi-level protection scheme, Personal Information Protection Law, or PIPL, and any other future laws and regulations may require us to incur significant expenses and could materially affect our ability to conduct our business, accept foreign investments or continue to be listed on a U.S. or foreign stock exchange.

### *Permissions Required from the PRC Authorities for Our Operations*

We conduct our business in China through our subsidiaries, and prior to August 2021, also through our VIEs in China. Our operations in China are governed by PRC laws and regulations. We are required to obtain certain permissions from the PRC authorities to operate, issue securities to foreign investors, and transfer certain data. The PRC government has exercised, and may continue to exercise, substantial influence or control over virtually every sector of the Chinese economy through regulation and state ownership. Our ability to operate in China may be undermined if our PRC subsidiaries are not able to obtain or maintain approvals to operate in China. The central or local governments could impose new, stricter regulations or interpretations of existing regulations that could require additional expenditures, and efforts on our part to ensure our compliance with such regulations or interpretations. To operate our general business activities currently conducted in mainland China, each of our PRC subsidiaries is required to obtain a business license from the local counterpart of the State Administration for Market Regulation, or SAMR. Each of our PRC subsidiaries has obtained a valid business license from the local SAMR, and no application for any such license has been denied. Our PRC subsidiaries are also required to obtain certain licenses and permits, including but not limited to the following material licenses and permits: the Wood and Bamboo Operation and Processing Approval Certificate issued by Zhejiang provincial government for our consumer product segment and our electric vehicles (EVs) and fuel vehicles being listed in the Announcement of the Vehicle Manufacturers and Products issued by the Ministry of Industry and Information Technology of PRC, or the MIIT, which is the entry approval for Shangchi Automobile to become a qualified manufacturer of vehicles and for the manufacturing and sales of our EVs and other vehicles. As of the date of this report, as advised by our PRC legal counsel, Zhejiang Zhengbiao Law Firm, we and our PRC subsidiaries have received all requisite permits, approvals and certificates from the PRC government authorities to conduct our business operations in China. To our knowledge, no permission or approval has been denied or revoked. However, given the uncertainties of interpretation and implementation of relevant laws and regulations and the enforcement practice by government authorities, we cannot be certain that relevant policies in this regard will not change in the future, which may require us or our subsidiaries to obtain additional licenses, permits, filings or approvals for conducting our business in the PRC. If we or our subsidiaries do not receive or maintain required permissions or approvals, or inadvertently conclude that such permissions or approvals are not required, we may be subject to governmental investigations or enforcement actions, fines, penalties, suspension of operations, or be prohibited from engaging in relevant business or conducting securities offering, and these risks could result in a material adverse change in our operations, significantly limit or completely hinder our ability to offer or continue to offer securities to investors, or cause such securities to significantly decline in value or become worthless.

In connection with our previous issuance of securities to foreign investors, under current PRC laws, regulations and regulatory rules, as of the date of this annual report, we and our PRC subsidiaries, (i) are not required to obtain permissions from the China Securities Regulatory Commission, or the CSRC, (ii) are not required to go through cybersecurity review by the Cyberspace Administration of China, or the CAC, and (iii) have not received or were denied such requisite permissions by any PRC authority. However, the PRC government has recently indicated an intent to exert more oversight and control over offerings that are conducted overseas and/or foreign investment in China-based issuers.

On February 17, 2023, with the approval of the State Council, China Securities Regulatory Commission (the "CSRC") issued the relevant system and rules for the management of overseas listing records, which will be implemented from March 31, 2023. A total of six institutional rules (the "Listing Records Rules") have been issued this time, including the Trial Measures for the Administration of Overseas Issuance and Listing of Securities by Domestic Enterprises (hereinafter referred to as the "Trial Measures") and five supporting guidelines. Under the Listing Records Rules, a company established in mainland China seeking securities offering and listing, by both direct or indirect means, in an overseas market is required to undertake filing procedures with the CSRC for its overseas offering and listing activities. The Trial Measures also set forth a list of circumstance under which overseas offering and listing by domestic companies established in mainland China is prohibit, including: (i) where such securities offering and listing is explicitly prohibited by the PRC laws; (ii) where the intended securities offering and listing may endanger national security as reviewed and determined by competent PRC authorities under the State Council in accordance with PRC laws; (iii) where the domestic company established in mainland China, or its controlling shareholders and the actual controller, have committed crimes such as corruption, bribery, embezzlement, misappropriation of property or undermining the order of the socialist market economy during the latest three (3) years; (iv) where the domestic company established in mainland China seeking securities offering and listing is suspected of committing crimes or major violations of laws and regulations, and is under investigation according to law, and no conclusion has yet been made thereof; and (v) where there are material ownership disputes over equity held by the controlling shareholder of the company established in mainland China or by other shareholders that are controlled by the controlling shareholder and/or actual controller. In accordance with the Trial Measures, the listing and trading of our Common Shares on Nasdaq is deemed as an indirect overseas offering and listing by domestic companies established in mainland China, and thus, we are subject to the Listing Records Rules and the relevant filing procedures as required. Further, we believe, as of the date of this annual report, none of the circumstances prohibiting the overseas offering and listing by domestic companies established in mainland China as listed above applies to us, and we can offer and continue to offer our Common Shares on Nasdaq.

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In accordance with the Notice on the Arrangement for the Filing of Overseas Offering and Listing by Domestic Companies issued by the CSRC along with the Listing Records Rules on the same day, we are deemed as an “Existing Issuer” because we have been listed overseas before March 31, 2023. Under such Notice, we are not required to undertake the initial filing procedure immediately. However, we shall carry out filing procedures as required in a timely manner for the subsequent events, including any further follow-up offerings on Nasdaq, dual and/or secondary offering and listing on different overseas markets, and occurrence of material events including change of control, investigations or sanctions imposed by overseas securities regulatory agencies or other relevant competent authorities, change of listing status or transfer of listing segment, and voluntary or mandatory delisting. If we or our Mainland China Subsidiaries in future fail to undertake filing procedures as stipulated in the Trial Measures, or offer and list securities in an overseas market in violation of the Trial Measures, the CSRC may order rectification, issue warnings to us and/or our Mainland China Subsidiaries, and impose a fine of between RMB 1,000,000 yuan and RMB 10,000,000 yuan. The CSRC may also inform its regulatory counterparts in the overseas jurisdictions, such as the SEC, via cross-border securities regulatory cooperation mechanisms.

Further, on February 24, 2023, the CSRC, together with Ministry of Finance, National Administration of State Secrets Protection, and National Archives Administration of China, released the Provisions on Strengthening the Confidentiality and Archives Administration Related to the Overseas Securities Offering and Listing by Domestic Enterprises (the “Confidentiality Provisions”), which will come into effect on March 31, 2023 with the Trial Measures. Under the Confidentiality Provisions, domestic companies established in mainland China seeking overseas offering and listing, by both direct and indirect means, are required to institute a sound confidentiality and archives system. If such domestic companies established in mainland China intend to, either directly or through its overseas listed entity, publicly disclose or provide to relevant individuals or entities including securities companies, securities service providers and overseas regulators, any documents and materials that contain state secrets or working secrets of government agencies, they shall obtain approval from competent authorities and complete the relevant filing procedure with the competent secrecy administrative department prior to their disclosure or provision of such documents and materials. Further, if they provide or publicly disclose documents and materials which may adversely affect national security or public interests, they shall strictly follow the corresponding procedures in accordance with relevant laws and regulations. Once effective, any failure or perceived failure by us or our subsidiaries to comply with the above confidentiality and archives administration requirements under the Confidentiality Provisions and other relevant PRC laws and regulations may cause relevant entities to be held legally liable by competent authorities, and referred to the judicial organ to be investigated for criminal liability if suspected of committing a crime. As of the date of this annual report, we believe that we and our subsidiaries have not provided or publicly disclosed any documents or materials involving state secrets or work secrets of PRC government agencies or any of which may adversely affect national security or public interests, to relevant securities companies, securities service institutions, overseas regulatory agencies and other entities and individuals. We intend to strictly comply with the Confidentiality Provisions and other relevant PRC laws and regulations in our offering and listing on Nasdaq in future.

However, any failure of us or our mainland China subsidiaries to fully comply with the Listing Records Rules and/or the Confidentiality Provisions, once effective, may significantly limit or completely hinder our ability to offer or continue to offer our Common Shares on Nasdaq, cause significant disruption to our business operations, severely damage our reputation, materially and adversely affect our financial condition and results of operations and cause our Common Shares to significantly decline in value or become worthless.

On July 10, 2021, the CAC published a revised draft revision to the Cybersecurity Review Measures for public comment, or the Revised Cybersecurity Measures. Under these measures, an operator having more than one million users shall be subject to cybersecurity review before listing abroad. The cybersecurity review will evaluate the risk of critical information infrastructure, core data, important data, or a large amount of personal information being influenced, controlled or maliciously used by foreign governments after going public overseas. The procurement of network products and services, data processing activities and overseas listing should also be subject to cybersecurity review if they concern or potentially pose risks to national security. According to the effective Cybersecurity Review Measures, online platform/website operators of certain industries may be identified as critical information infrastructure operators by the CAC, once they meet standard as stated in the National Cybersecurity Inspection Operation Guide, and such operators may be subject to cybersecurity review. On December 28, 2021, the CAC, the National Development and Reform Commission (“NDRC”), and other government agencies jointly issued the final version of the Revised Measures for Cybersecurity Review, or the Measures, which took effect on February 15, 2022 and replaced the previously issued Revised Cybersecurity Review Measures. Under the Measures, an “online platform operator” in possession of personal data of more than one million users must apply for a cybersecurity review if it intends to list its securities on a foreign stock exchange. The operators of critical information infrastructure and the online platform operators (collectively, the “Operators”) carrying out data processing activities that affect or may affect national security, shall conduct a cybersecurity review, and any online platform operator who controls more than one million users’ personal information must go through a cybersecurity review by the cybersecurity review office if it seeks to be listed in a foreign country. Pursuant to the Measures, we believe we are not subject to the cybersecurity review by the CAC, given that (i) we possess personal information of a relatively small number of users in our business operations as of the date of this report, significantly less than one million users; and (ii) data processed in our business does not have a bearing on national security and thus shall not be classified as core or important data by the PRC authorities. We don’t believe that we are an Operator within the meaning of the Measures, nor do we control more than one million users’ personal information, and as such, we should not be required to apply for a cybersecurity review under the Revised Measures. Further, an expert interpretation of the Measures published at the CAC’s website on February 17, 2022 indicated no application review is required for operators that have been listed abroad before the implementation of the Revised Cybersecurity Measures. However, the Measures were just recently released and there is a general lack of guidance and substantial uncertainties exist with respect to their interpretation and implementation. For example, certain terms used in the Measures are not defined and require further clarification on their meaning. Whether the data processing activities carried out by traditional enterprises (such as food, medicine, manufacturing, and merchandise sales enterprises) are subject to such review and the scope of the review remain to be further clarified by the regulatory authorities in the subsequent implementation process.



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The PRC government recently initiated a series of regulatory actions and statements to regulate business operations in China, including adopting new measures to extend the scope of cybersecurity reviews, cracking down on illegal activities in the securities market, and expanding the efforts in anti-monopoly enforcement. The PRC government is increasingly focused on data security. In July 2021, the CAC opened cybersecurity probes into several U.S.-listed technology companies focusing on anti-monopoly regulation, and how companies collect, store, process and transfer data. On November 14, 2021, the CAC published the Draft Regulations on Network Data Security Management in November 2021 for public comments, which among other things, stipulates that a data processor listed overseas must conduct an annual data security review by itself or by engaging a data security service provider and submit the annual data security review report for a given year to the municipal cybersecurity department before January 31 of the following year. If the Draft Regulations on Network Data Security Management are enacted in the current form, we, as an overseas listed company, would be required to carry out an annual data security review and comply with the relevant reporting obligations. As of the date of this report, the draft regulations have been released for public comment only and have not been formally adopted. The final provisions and the timeline for its adoption are subject to changes and uncertainties. We have been closely monitoring the regulatory development in China, particularly regarding the requirements of approvals, annual data security review or other procedures that may be imposed on us. If any approval, review or other procedure is in fact required, we cannot assure our investors that we will be able to obtain such approval or complete such review or other procedure timely or at all. For any approval that we may be able to obtain, it could nevertheless be revoked and the terms of its issuance may impose restrictions on our operations and/or securities offerings. The PRC regulatory requirements with respect to cybersecurity and data security are constantly evolving and can be subject to varying interpretations and significant changes, resulting in uncertainties about the scope of our responsibilities in that regard. Failure to comply with these cybersecurity and data privacy requirements in a timely manner, or at all, may subject us to government enforcement actions and investigations, fines, penalties, suspension or disruption of our operations.

Because we are relying on advice of our PRC counsel with regard to PRC laws, there is uncertainty inherent in relying on an opinion of counsel in connection with whether we are required to obtain permissions from a governmental agency that is required to approve of our operations and/or listings. In the event that an government approval is required, we cannot assure our investor that we will be able to receive clearance in a timely manner, or at all. Any failure of us to fully comply with new regulatory requirements may significantly limit or completely hinder our ability to offer or continue to offer our common shares, cause significant disruption to our business operations, severely damage our reputation, materially and adversely affect our financial condition and results of operations and cause our shares to significantly decline in value or become worthless.

For more detailed information, see “Item 3. Key Information-D. Risk Factors-Risks Relating to Doing Business in China.”

### *The Holding Foreign Companies Accountable Act (“HFCAA”)*

Our common shares may be prohibited from trading on a national exchange or “over-the-counter” markets under the HFCAA if the Public Company Accounting Oversight Board of the United States (“PCAOB”) determines it is unable to inspect or investigate completely our auditors for three consecutive years beginning in 2021. Further, on June 22, 2021, the U.S. Senate passed the Accelerating Holding Foreign Companies Accountable Act (“AHFCAA”) and on February 4, 2022, the U.S. House of Representatives passed the America Creating Opportunities for Manufacturing Pre-Eminence in Technology and Economic Strength (COMPETES) Act of 2022, or the COMPETES Act. If either the AHFCAA or COMPETES Act is enacted into law, it would amend the HFCAA and require the SEC to prohibit an issuer’s securities from trading on any U.S. stock exchanges if its auditor is not subject to PCAOB inspections or complete investigations for two consecutive years instead of three.

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Pursuant to the HFCAA, the PCAOB issued a Determination Report on December 16, 2021 which found that the PCAOB is unable to inspect or investigate completely registered public accounting firms headquartered in mainland China and Hong Kong. In addition, the PCAOB's report identified the specific registered public accounting firms which are subject to these determinations. On August 26, 2022, the CSRC, the Ministry of Finance of the PRC (the "MOF"), and the PCAOB signed a Statement of Protocol (the "Protocol"), governing inspections and investigations of audit firms based in China and Hong Kong. On December 15, 2022, the PCAOB determined that it was able to secure complete access to inspect and investigate registered public accounting firms headquartered in mainland China and Hong Kong and vacated its previous Determinations to the contrary. However, should PRC authorities obstruct or otherwise fail to facilitate the PCAOB's access in the future, the PCAOB may consider the need to issue a new determination. On December 29, 2022, the Accelerating Holding Foreign Companies Accountable Act was signed into law as part of the "Consolidated Appropriations Act, 2023" (the "Consolidated Appropriations Act"), reducing the number of consecutive non-inspection years required for triggering the prohibitions under the HFCA Act from three years to two. Our current auditor, YCM CPA Inc., headquartered in Irvine, California, is a firm registered with the PCAOB and is required by the laws of the U.S. to undergo regular inspections by the PCAOB to assess its compliance with the laws of the U.S. and professional standards. YCM CPA Inc. has been subjected to PCAOB inspections, and is not among the PCAOB-registered public accounting firms headquartered in the PRC or Hong Kong that are subject to PCAOB's determination on December 16, 2021 of having been unable to inspect or investigate completely. Notwithstanding the foregoing, in the future, if it is later determined that the PCAOB is unable to inspect or investigate our auditor completely, or if there is any regulatory change or step taken by PRC regulators that does not permit our auditors to provide audit documentations to the PCAOB for inspection or investigation, or the PCAOB expands the scope of the Determination so that we are subject to the HFCAA, as the same may be amended, you may be deprived of the benefits of such inspection. Any audit reports not issued by auditors that are completely inspected or investigated by the PCAOB, or a lack of PCAOB inspections of audit work undertaken in China that prevents the PCAOB from regularly evaluating our auditors' audits and their quality control procedures, could result in a lack of assurance that our financial statements and disclosures are adequate and accurate, which could result in limitation or restriction to our access to the U.S. capital markets and trading of our securities, including trading on the national exchange or "over-the-counter" markets, may be prohibited under the HFCAA.

### *Cash Flows through Our Organization*

As a holding company, we may rely upon dividends paid to us by our subsidiaries in the PRC to pay dividends and to finance any debt we may incur. As of the date of this report, none of our subsidiaries has issued any dividends or distributions to us and we have not made any dividends or distributions to our shareholders. Our subsidiaries in the PRC generate and retain cash generated from operating activities and re-invest it in our business.

Under BVI law, we may pay only pay dividends from surplus (the excess, if any, at the time of the determination of the total assets of our company over the sum of our liabilities, as shown in our books of account, plus our capital), and we must be solvent before and after the dividend payment so that we will be able to satisfy our liabilities as they become due in the ordinary course of business; and the realizable value of assets of our company will not be less than the sum of our total liabilities, other than deferred taxes as shown on our books of account, and our capital. If we determine to pay dividends, as a holding company, we will be dependent on receipt of funds from our subsidiaries in PRC through our Hong Kong subsidiaries.

Current PRC regulations permit our subsidiary in mainland China to pay dividends to the Company only out of its accumulated profits, if any, determined in accordance with Chinese accounting standards and regulations. Under our current corporate structure, we rely on dividend payments or other distributions from our subsidiaries to fund any cash and financing requirements we may have, including the funds necessary to pay dividends and other cash distributions to our shareholders or to service any debt we may incur. If any subsidiary incurs debt on its own behalf in the future, the instruments governing such debt may restrict its ability to pay dividends to us. In addition, under PRC laws and regulations, each of our Chinese subsidiaries is required to set aside a portion of their net income each year to fund a statutory surplus reserve until such reserve reaches 50% of its registered capital. This reserve is not distributable as dividends. As a result, our PRC subsidiaries are restricted in their ability to transfer a portion of its net assets to us in the form of dividends, loans or advances. Further, the PRC government also imposes controls on the conversion of RMB into foreign currencies and the remittance of currencies out of the PRC. Therefore, we may experience difficulties in completing the administrative procedures necessary to obtain and remit foreign currency for the payment of dividends from our profits, if any. If we are unable to receive funds from our subsidiaries, we may be unable to pay cash dividends on our common shares.

Cash dividends, if any, on our common shares will be paid in U.S. dollars. If we are considered a PRC tax resident enterprise for tax purposes, any dividends we pay to our overseas shareholders may be regarded as China-sourced income and as a result may be subject to PRC withholding tax at a rate of up to 10%. A 10% PRC withholding tax is applicable to dividends payable to investors that are non-resident enterprises. Any gain realized on the transfer of common shares by such investors is also subject to PRC tax at a current rate of 10% which in the case of dividends will be withheld at source if such gain is regarded as income derived from sources within the PRC.

Pursuant to the Arrangement between Mainland China and the Hong Kong Special Administrative Region for the Avoidance of Double Taxation and Tax Evasion on Income, or the Double Tax Avoidance Arrangement, the 10% withholding tax rate may be lowered to 5% if a Hong Kong resident enterprise owns no less than 25% of a PRC resident enterprise. However, the 5% withholding tax rate does not automatically apply and certain requirements must be satisfied, including without limitation that (a) the Hong Kong resident enterprise must be the beneficial owner of the relevant dividends; and (b) the Hong Kong resident enterprise must directly hold no less than 25% share ownership in a PRC entity during the 12 consecutive months preceding its receipt of the dividends. In current practice, a Hong Kong entity must obtain a tax resident certificate from the Hong Kong tax authority to apply for the 5% lower PRC withholding tax rate. As the Hong Kong tax authority will issue such a tax resident certificate on a case-by-case basis, we cannot be certain that we will be able to obtain the tax resident certificate from the relevant Hong Kong tax authority and enjoy the preferential withholding tax rate of 5% under the Double Taxation Arrangement with respect to dividends to be paid by our PRC subsidiaries to our Hong Kong subsidiaries. As of the date of this report, we have not applied for the tax resident certificate from the relevant Hong Kong tax authority. Our Hong Kong subsidiaries intend to apply for the tax resident certificate when our subsidiaries in mainland China plan to declare and pay dividends to their Hong Kong parent companies.

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As an offshore holding company, we will be permitted under PRC laws and regulations to provide funding from the proceeds of our offshore fund-raising activities to our subsidiaries in China only through loans or capital contributions, subject to the satisfaction of the applicable government registration and approval requirements. Before providing loans to our PRC subsidiaries, we will be required to make filings about details of the loans with the State Administration of Foreign Exchange of the PRC (the “SAFE”) in accordance with relevant PRC laws and regulations. Our PRC subsidiaries that receive the loans are only allowed to use the loans for the purposes set forth in these laws and regulations. Under regulations of the SAFE, Renminbi is not convertible into foreign currencies for capital account items, such as loans, repatriation of investments and investments outside of China, unless the prior approval of the SAFE is obtained and prior registration with the SAFE is made. In addition, in accordance with the Notice on the Arrangement for the Filing of Overseas Offering and Listing by Domestic Companies issued by the CSRC along with the Listing Records Rules on the same day, we are deemed as an “Existing Issuer” because we have been listed overseas before March 31, 2023. Under such Notice, we are not required to undertake the initial filing procedure immediately. However, we shall carry out filing procedures as required in a timely manner for the subsequent events, including any further follow-up offerings on Nasdaq, dual and/or secondary offering and listing on different overseas markets, and occurrence of material events including change of control, investigations or sanctions imposed by overseas securities regulatory agencies or other relevant competent authorities, change of listing status or transfer of listing segment, and voluntary or mandatory delisting. If we or our mainland China subsidiaries in future fail to undertake filing procedures as stipulated in the Trial Measures, or offer and list securities in an overseas market in violation of the Trial Measures, the CSRC may order rectification, issue warnings to us and/or our mainland China subsidiaries, and impose a fine of between RMB 1,000,000 yuan and RMB 10,000,000 yuan. The CSRC may also inform its regulatory counterparts in the overseas jurisdictions, such as the SEC, via cross-border securities regulatory cooperation mechanisms.

Under PRC law, we may provide funding to our PRC subsidiaries only through capital contributions or loans, and prior to the dismantling of our PRC consolidated affiliated entities only through loans to our former consolidated affiliated entities, subject to satisfaction of applicable government registration and approval requirements.

For the years ended December 31, 2020, the Company provided working capital loans of \$8.3 million in aggregate to our wholly owned subsidiary, USCNHK Group Limited.

For the years ended December 31, 2021, the Company provided working capital loans of \$12.0 million in aggregate to our wholly owned subsidiary, USCNHK Group Limited, and provided working loans of \$7.0 million in aggregate to our wholly owned subsidiary, Zhejiang Tantech Bamboo Charcoal Co., Ltd.

For the years ended December 31, 2022, the Company provided working capital loans of \$8.9 million in aggregate to our wholly owned subsidiary, USCNHK Group Limited, provided working loans of \$350,000 in aggregate to our wholly owned subsidiary, EPakia Inc., provided working loans of \$20,000 in aggregate to our wholly owned subsidiary EPakia Canada Inc., and provided working loans of \$2,000 in aggregate to our wholly owned subsidiary EAG International Vantage Capitals Limited.

We have not declared or paid any cash dividends, nor do we have any present plan to pay any cash dividends on our common shares in the foreseeable future. We currently intend to retain most, if not all, of our available funds and any future earnings to operate and expand our business.

As of the date of this report, we do not anticipate any difficulties on our ability to transfer cash between subsidiaries. We have not installed any cash management policies that dictate the amount of such funds and how such funds are transferred.

**A. Selected financial data.**

In the table below, we provide you with historical selected financial data for the fiscal years ended December 31, 2022, 2021, 2020, 2019, and 2018. The information is derived from our consolidated financial statements included elsewhere in this annual report and previous annual report filed. Historical results are not necessarily indicative of the results that may be expected for any future period. When you read this historical selected financial data, it is important that you read it along with the historical financial statements and related notes and “Item 5. Operating and Financial Review and Prospects” included elsewhere in this annual report. Our audited consolidated financial statements are prepared and presented in accordance with Generally Accepted Accounting Principles in the United States of America, or U.S. GAAP.

(All amounts in thousands of U.S. dollars)

**Statement of operations data:**

	<b>For the year ended December 31,</b>				
	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Revenues	\$ 53,490	55,264	\$ 42,284	\$ 49,230	\$ 29,561
Gross profit	10,093	10,431	4,476	5,977	8,029
Operating expenses	5,520	18,946	14,821	14,886	5,679
Income (loss) from operations	4,573	(8,515)	(10,345)	(8,909)	2,350
Income (loss) from continuing operations before income tax expense (credit)	5,728	(8,264)	(10,634)	(9,295)	2,028
Income tax expense (credit)	3,142	2,429	(612)	364	1,031
Net income (loss) from continuing operations	2,586	(10,693)	(10,022)	(9,659)	997
Net income (loss) from discontinued operations	-	-	-	(299)	83
Net income (loss)	2,586	(10,693)	(10,022)	(9,958)	1,080
Net income (loss) attributable to the non-controlling interest	(435)	(2,335)	(3,502)	(3,602)	(897)
Net income (loss) attributable to common stockholders	\$ 3,021	(8,358)	\$ (6,520)	\$ (6,356)	\$ 1,977
Earnings (loss) from continuing operations per share	\$ 3.03	(48.35)	\$ (52.93)	\$ (50.40)	\$ 16.56
Earnings (loss) from discontinued operations per share	\$ -	-	-	\$ (2.40)	\$ 0.72

**Balance sheet data:**

	<b>As of December 31,</b>				
	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Working capital	\$ 93,216	84,041	\$ 65,097	\$ 49,028	\$ 48,159
Current assets	106,757	105,808	81,901	68,162	70,314
Total assets	134,132	134,527	116,295	115,451	134,194
Current liabilities	13,541	21,767	16,804	19,134	22,155
Total liabilities	18,197	21,990	16,804	20,919	24,208
Total equity	\$ 115,935	112,537	\$ 99,491	\$ 94,532	\$ 109,986

**Selected Consolidated Financial Schedule**

	<b>For the year ended December 31, 2022</b>				
	<b>Tantech Holding</b>	<b>Non-PRC Subsidiaries</b>	<b>PRC Subsidiaries</b>	<b>Eliminations</b>	<b>Consolidated Total</b>
Revenues	\$ -	\$ 14	\$ 53,613	\$ (137)	\$ 53,490
Loss for equity method investment	\$ 4,243	\$ -	\$ -	\$ (4,243)	\$ -
Net loss	\$ 3,021	\$ (288)	\$ 4,118	\$ (4,265)	\$ 2,586
Comprehensive loss	\$ (6,293)	\$ (288)	\$ (1,235)	\$ 1,099	\$ (6,717)

	For the year ended December 31, 2021			
	Tantech Holding	WFOE and other Subsidiaries	Eliminations	Consolidated Total
Revenues	\$ -	\$ 55,264	\$ -	\$ 55,264
Loss for equity method investment	\$ (5,898)	\$ -	\$ 5,898	\$ -
Net loss	\$ (8,358)	\$ (8,233)	\$ 5,898	\$ (10,693)
Comprehensive loss	\$ (5,794)	\$ (6,553)	\$ 4,190	\$ (8,157)

	For the year ended December 31, 2020				
	Tantech Holding	WFOEs and other Subsidiaries	VIE	Eliminations	Consolidated Total
Revenues	\$ -	\$ 41,900	\$ 384	\$ -	\$ 42,284
Loss from VIE and its subsidiaries	\$ -	\$ (8,172)	\$ -	\$ 8,172	\$ -
Loss for equity method investment	\$ (5,973)	\$ -	\$ -	\$ 5,973	\$ -
Net loss	\$ (6,520)	\$ (5,973)	\$ (11,674)	\$ 14,145	\$ (10,022)
Comprehensive loss	\$ (422)	\$ (873)	\$ (11,513)	\$ 8,679	\$ (4,129)

	As of December 31, 2022				
	Tantech Holding	Non-PRC Subsidiaries	Non-prc Subsidiaries	Eliminations	Consolidated Total
Cash	\$ 11	\$ 11	\$ 18,960	\$ -	\$ 18,982
Total current assets	\$ 52,721	\$ 202	\$ 106,556	\$ (52,722)	\$ 106,757
Investments in subsidiaries	\$ 66,352	\$ -	\$ -	\$ (66,352)	\$ -
Total non-current assets	\$ 66,352	\$ -	\$ 18,715	\$ (57,692)	\$ 27,375
Total assets	\$ 119,073	\$ 202	\$ 125,271	\$ (110,414)	\$ 134,132
Total liabilities	\$ 989	\$ 490	\$ 65,902	\$ (49,184)	\$ 18,197
Total shareholders' equity	\$ 118,084	\$ (288)	\$ 59,369	\$ (61,230)	\$ 115,935
Total liabilities and shareholders' equity	\$ 119,073	\$ 202	\$ 125,271	\$ (110,414)	\$ 134,132

	As of December 31, 2021			
	Tantech Holding	WFOEs and other Subsidiaries	Eliminations	Consolidated Total
Cash	\$ 411	\$ 43,156	\$ -	\$ 43,567
Total current assets	\$ 43,847	\$ 105,397	\$ (43,436)	\$ 105,808
Investments in subsidiaries	\$ 71,423	\$ -	\$ (71,423)	\$ -
Total non-current assets	\$ 71,423	\$ 20,059	\$ (62,763)	\$ 28,719
Total assets	\$ 115,270	\$ 125,456	\$ (106,199)	\$ 134,527
Total liabilities	\$ 1,009	\$ 64,852	\$ (43,871)	\$ 21,990
Total shareholders' equity	\$ 114,261	\$ 60,604	\$ (62,328)	\$ 112,537
Total liabilities and shareholders' equity	\$ 115,270	\$ 125,456	\$ (106,199)	\$ 134,527

	For the year ended December 31, 2022				
	Tantech Holding	Non-PRC Subsidiaries	PRC Subsidiaries	Eliminations	Consolidated Total
Net cash provided by (used in) operating activities	\$ (1,251)	\$ (450)	\$ 9,994	\$ -	\$ 8,293
Net cash provided by (used in) investing activities	\$ (9,265)	\$ -	\$ (44,999)	\$ 9,265	\$ (44,999)
Net cash provided by (used in) financing activities	\$ 10,116	\$ 460	\$ 13,981	\$ (9,265)	\$ 15,292

	For the year ended December 31, 2021				Consolidated Total
	Tantech Holding	WFOEs and other Subsidiaries	Eliminations		
Net cash provided by (used in) operating activities	\$ (1,848)	\$ (6,242)	\$ -	\$ -	\$ (8,090)
Net cash provided by (used in) investing activities	\$ (19,004)	\$ 524	\$ 19,004	\$ -	\$ 524
Net cash provided by (used in) financing activities	\$ 21,203	\$ 10,606	\$ (19,004)	\$ -	\$ 12,805

	For the year ended December 31, 2020				Consolidated Total
	Tantech Holding	WFOEs and other Subsidiaries	VIE	Eliminations	
Net cash provided by (used in) operating activities	\$ (332)	\$ 14,128	\$ 375	\$ -	\$ 14,171
Net cash provided by (used in) investing activities	\$ (8,300)	\$ 19	\$ (142)	\$ 8,300	\$ (123)
Net cash provided by (used in) financing activities	\$ 9,229	\$ 8,119	\$ (108)	\$ (8,300)	\$ 8,940

**B. Capitalization and indebtedness.**

Not applicable for annual reports on Form 20-F.

**C. Reasons for the offer and use of proceeds.**

Not applicable for annual reports on Form 20-F.

**D. Risk factors.**

**Risks Related to Our Business and Industry**

***We face risks related to health epidemics that could impact our sales and operating results.***

Our business could be adversely affected by the effects of a widespread outbreak of contagious disease. Any outbreak of contagious diseases, and other adverse public health developments, particularly in China, could have a material and adverse effect on our business operations. These could include disruptions or restrictions on our ability to produce our products, as well as temporary closures of our facilities or the facilities of our customers and third-party service providers. Any disruption or delay of our customers or third-party service providers would likely impact our operating results and the ability of the Company to continue as a going concern. In addition, a significant outbreak of contagious diseases in the human population could result in a widespread health crisis that could adversely affect the economies and financial markets of China and many other countries, resulting in an economic downturn that could affect demand for our services and significantly impact our operating results.

***The coronavirus disease 2019 (COVID-19) has had a significant impact on our operations since January 2020 and could materially adversely affect our business and financial results for the fiscal year 2022.***

Our ability to manufacture and/or sell our products may be impaired by damage or disruption to our manufacturing, warehousing or distribution capabilities, or to the capabilities of our suppliers, logistics service providers or distributors as a result of the impact from COVID-19. This damage or disruption could result from events or factors that are impossible to predict or are beyond our control, such as raw material scarcity, pandemics, government shutdowns, disruptions in logistics, supplier capacity constraints, adverse weather conditions, natural disasters, fire, terrorism or other events. Since late 2019, COVID-19 has had a significant adverse impact on our business and operations. The effect was reduced in fiscal year 2021 when the spread of the disease has gradually been under control in China. However, in fiscal year 2022, some instances of COVID-19 infections have emerged in various regions of China, including infections caused by the Omicron variant. For example, a wave of infections caused by the Omicron variant emerged in Shanghai in early 2022, and a series of restrictions and quarantines were implemented to contain the spread. The logistics was affected to certain extent, and the plan for the employees to come back to work was delayed as well.

Since December 2022, the Chinese government has modified its COVID-19 control policy, and most of the travel restrictions and quarantine requirements have been lifted. However, we cannot be assured that more lockdowns and other restrictive measures will not be implemented in the future caused by a resurgence, which could negatively affect the sales, the collection of the payments from account receivables and the utilization of advances to suppliers. resurgence The impact of COVID-19 pandemic on us in the future will depend on future developments which are highly unpredictable and beyond our control, such as the frequency, duration and severity of the resurgence of COVID-19 and the emergence of new variants, as well as the measures that may be taken by governments around the world in response to these developments, the impact of the pandemic on the global economy and the measures taken by governments to stimulate the general economy. Therefore, we cannot guarantee that the pandemic will not continue to have an adverse effect on our business and results of operations in the future, which may be material.

***A weakening of the Chinese economy could hurt demand for our Charcoal Doctor products and vehicle products.***

Our Charcoal Doctor products are generally considered “household use and decorative items,” meaning that these products are used for beautification and decoration purposes in addition to purification purposes. For example, consumers tend to purchase charcoal products for their value in absorbing odors and tend to purchase some of our bamboo charcoal products for these purposes and also for the perceived attractiveness of our products. We seek to design bamboo charcoal products that our customers want to display throughout their homes. As such, we have relied on consumer spending to drive sales in this product line. Since 2010, China’s GDP growth rate has slowed from more than 10% to 3.0% in 2022. If China’s economy slows, or if customer spending for household items decreases, demand for our charcoal products may be reduced, which would negatively affect sales of our Charcoal Doctor products.

The demand for our vehicle products, such as electric vehicles (EVs) and fuel midibuses, are also impacted by Chinese economy. As a result, the slowed Chinese economy will negatively affect sales of our vehicle products.

***If we are unable to develop products that meet the demands of our customers, sales of our products could decrease.***

As a company that focuses primarily on consumer products in our Charcoal Doctor line of products, and to a lesser extent vehicles and mining, we rely on our ability to predict the needs and desires of customers several months before fulfilling orders for distributors. If we are unable to accurately forecast our customers’ preferences, we may lose market share to our competitors.

***Our two largest competitors are significantly larger than our company.***

Although our company is one of the largest providers of bamboo charcoal-based products of their kind, we compete with companies that make products that have equivalent function but that are not bamboo charcoal-based, and some of these competitors are much larger than we are. Charcoal Doctor’s two largest such competitors are Guangzhou Blue Moon Industry Co., Ltd, which makes Blue Moon branded products (“Blue Moon”), and Shanghai SC Johnson Wax Co., Ltd, which makes Mr. Muscle branded products (“Mr. Muscle”). Blue Moon and Mr. Muscle are substantially larger than Charcoal Doctor. We believe that they have a much greater customer recognition level than Charcoal Doctor. Charcoal Doctor has not historically spent substantial resources on television or print advertising. As a result, we expect that such competitors are likely to continue efforts to improve their brand recognition, while we may be unable to do so without changing our business plan to increase spending on such advertisements.

***As a charcoal-based provider of household products, we are subject to supply risks that some of our competitors do not face.***

Some of our largest competitors in the provision of household products such as our bamboo vinegar products rely on chemical solutions, rather than charcoal and derivatives of charcoal, to create their products. As a result, we do not believe they are subject to business risk in the event bamboo or wood charcoal supplies are compromised. On the other hand, if we were unable to procure bamboo or wood charcoal products or unable to procure them on attractive terms, our product line could become substantially more expensive or our growth rate could be limited, resulting in us becoming less competitive than others in our industry.

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In summer 2012, we faced a supply shortage based on local government initiatives to reduce the risk of fire caused by charcoal. As a result, the local government in Daxing Anlin, where one of our main suppliers of wood-based OEM BBQ charcoal is located, restricted the production of charcoal during June, July and August 2012. At that time, our stock of OEM BBQ charcoal was insufficient to avoid demand pressures. As a result, our revenues declined during this period. If local governments similarly reduce production of charcoal in the future, we could be negatively impacted by the lack of supply, either as to our ability to obtain suitable product or by our ability to obtain such product at a reasonable price.

### ***Our suppliers' bamboo is subject to risks related to fire, flooding, disease and pests.***

While bamboo is considered a relatively hardy plant, it remains a plant that can be burned in fires or damaged by prolonged flooding or exposure to diseases, fungus and pests. If our suppliers' bamboo resources were affected by such natural risks, it could be more difficult or expensive to source the bamboo charcoal for our products.

### ***Increases in bamboo charcoal costs may negatively affect our operating results.***

While bamboo is a renewable resource (and thus bamboo products like bamboo charcoal may be considered renewable), the price of raw materials may be inelastic when we wish to purchase supplies. While we have attempted to mitigate this risk by taking advantage of decreases in other expenses (due to better transportation infrastructure reducing the cost of bringing materials to our company and from our company to our customers) and improving efficiency, we cannot guarantee that we will be able to control our material expenses. In addition, as we are competing based upon low price, we will risk losing customers by increasing our selling prices. To the extent our expenses increase beyond the price we can charge our customers, our operating results could be harmed.

### ***We face competition from smaller competitors that may be able to provide similar charcoal briquette products at lower prices.***

Our charcoal briquette products are valued primarily for their ability to burn and create heat. As result, our competitors in this line of business do not require the same high technology as our competitors for our Charcoal Doctor products. For this reason, our charcoal briquette business is subject to competition from a variety of small producers, which may be able to provide similar product for a much lower price. To the extent our customers discriminate based on price, we may find that we lose market share to such producers. Moreover, we may be required to reduce our price in order to maintain or slow loss of market share for such products. As charcoal briquette products make up a substantial percentage of revenues, even at a lower profit margin, the reduction of sales of such products could hurt our company.

### ***Our electric vehicle (EV) business of Shangchi Automobile Co., Ltd. ("Shangchi Automobile") does not meet our expectation when we acquired it, and we do not know if such business will grow in the future.***

We acquired 70% of Shangchi Automobile, formerly known as Suzhou E-Motors Co., Ltd. ("Suzhou E-Motors"), in 2017 as we valued its potential in EV business. While the overall EV market in China is growing, Shangchi Automobile's EV business has not reached to our original expectation. During the year 2020, due to the impact of COVID-19, Shangchi Automobile was unable to maintain normal operations and all sales and marketing events were disrupted due to travel restrictions and other government regulations. In 2021, the company's vehicle sales returned to normal. During the year of 2022, during the lock-downs, the logistics was affected to certain extent, and the plan for the employees to come back to work was delayed as well. While the spread of COVID-19 has gradually been under control in China and most of the travel restrictions and quarantine requirements have been lifted since December 2022, it could adversely affect the Company's business for the future in the event there is a resurgence. Shangchi Automobile has no immediate business plan to start manufacturing the electric vehicles. Management determined that the electric vehicle manufacturing license should be impaired. The Company recorded an impairment of \$0, \$0, and \$11,998,606 for the year ended December 31, 2022, 2021 and 2020, respectively, because the carrying amount was not recoverable and it exceeded its fair value based on the management's assessment for the electric vehicle manufacturing license.

Our future growth of EV business is highly dependent upon the adoption by customers of, and we are subject to a risk of any reduced demand for, alternative fuel vehicles in general and electric vehicles (EVs) in particular. The market for alternative fuel vehicles (including EVs) is relatively new and rapidly evolving, characterized by rapidly changing technologies, price competition, evolving government regulation and industry standards both domestically and abroad, frequent new vehicle announcements and changing consumer demands and behaviors. If the market for EVs in China does not develop as we expect or develops more slowly than we expect, our business, prospects, financial condition and operating results will be harmed.



***Our high concentration of vehicle sales to relatively few customers may result in significant impact on our liquidity, business, results of operations and financial condition.***

For the year ended December 31, 2022, one customer accounted for 77.68% of vehicle sales for Shangchi Automobile. For the year ended December 31, 2021, one customer accounted for 77% of vehicle sales for Shangchi Automobile. For the year ended December 31, 2020, one customer accounted for 100% of vehicle sales for Shangchi Automobile. Mainly due to the concentration of sales to relatively few customers, loss of one customer will have relatively high impact on our operational results. We expect this trend to continue for the foreseeable future. In the event there is an unfavorable change in our business relationship with our significant customers, it could have a material adverse effect on our business and financial results.

***Our vehicle models are highly dependent on the approvals from the Ministry of Industry and Information Technology of the People's Republic of China (the "MIIT"). A failure to obtain approval quickly or at all might cause significant delays in production and sales, results of operations and financial conditions.***

Through Shangchi Automobile, we submit certain vehicle models' application to the MIIT from time to time. The MIIT's approval of our application is the key for us to produce and sell any related vehicle products. Any delays or rejections in our applications will have significant negative impact on our Shangchi Automobile's operations and financial conditions.

***Our EVs make use of lithium-ion battery cells, which have the potential to catch fire or vent smoke and flame. This may lead to additional concerns about batteries used in automotive applications.***

The battery packs in our EV products make use of lithium-ion cells. On rare occasions, lithium-ion cells can rapidly release the energy they contain by venting smoke and flames in a manner that can ignite nearby materials as well as other lithium-ion cells. Extremely rare incidents of laptop computers, cell phones and EV battery packs catching fire have focused consumer attention on the safety of these lithium-ion cells. These events have raised concerns about batteries used in automotive applications. To address these questions and concerns, a number of battery cell manufacturers are pursuing alternative lithium-ion battery cell chemistries to improve safety. We may have to recall our vehicles or participate in a recall of a vehicle that contains our battery packs, or redesign our battery packs, which would be time consuming and expensive. Also, negative public perceptions regarding the suitability of lithium-ion cells for automotive applications or any future incident involving lithium-ion cells such as a vehicle or other fire, even if such incident does not involve us, could seriously harm our business.

***Compliance with environmental regulations can be expensive, and noncompliance with these regulations may result in adverse publicity and potentially significant monetary damages and fines.***

Our various business operations generate noise, waste water, gaseous byproduct and other industrial waste. We are required to comply with all national and local regulations regarding the protection of the environment. We are in compliance with current environmental protection requirements and have all necessary environmental permits to conduct our business. However, if more stringent regulations are adopted in the future, the costs of compliance with these new regulations could be substantial. Additionally, if we fail to comply with present or future environmental regulations, we may be required to pay substantial fines, suspend production or cease operations. Any failure by us to control the use of, or to adequately restrict the unauthorized discharge of, hazardous substances could subject us to potentially significant monetary damages and fines or suspensions to our business operations. Certain laws, ordinances and regulations could limit our ability to develop, use, or sell our products.

***Developments in alternative technologies or improvements in the internal combustion engine may materially adversely affect the demand for our EV products.***

Significant developments in alternative technologies, such as advanced diesel, ethanol, fuel cells or compressed natural gas, or improvements in the fuel economy of the internal combustion engine, may materially and adversely affect our business and prospects in ways we do not currently anticipate. Any failure by us to develop new or enhanced technologies or processes, or to react to changes in existing technologies, could materially delay our development and introduction of new and enhanced EV products, which could result in the loss of competitiveness of our EVs, decreased revenue and a loss of market share to competitors.

***Our strategy of developing driverless street sweepers may fail and as a result, our future results of operations and growth prospects may be materially and adversely affected.***

We have been focusing on developing driverless street sweepers. While we believe the potential market of these products could be considerable, there are chances that our driverless street sweepers do not have competitive strengths, the demand is not as much as we expect, or the revenue is not high enough to cover our costs including R&D expenses. Accordingly, our strategy of developing driverless street sweepers may fail and we may lose all of our investments. Our future results of operations and growth prospects may be materially and adversely affected.

***If we are unable to keep up with advances in EV technology, we may suffer a decline in our competitive position.***

We may be unable to keep up with changes in EV technology, and we may suffer a resulting decline in our competitive position. Any failure to keep up with advances in EV technology would result in a decline in our competitive position which would materially and adversely affect our business, prospects, operating results and financial condition. Our research and development efforts may not be sufficient to adapt to changes in EV technology. As technologies change, we plan to upgrade or adapt the vehicles and introduce new models in order to continue to provide vehicles with the latest technology, in particular battery cell technology. However, our vehicles may not compete effectively with alternative vehicles if we are not able to source and integrate the latest technology into our vehicles. For example, we do not manufacture battery cells, which makes us dependent upon other suppliers of battery cell technology for our battery packs.

***Changes to the Chinese government's subsidy/rebate support policies and further delays in subsidy/rebate payments may have further negative impacts on our EV segment.***

The Company sells electric vehicles in China and is eligible for a government manufacturing rebate on each qualifying electric vehicle sold. The Chinese central government subsidy support policies, or rebate policies, have been changing every year. The policy changes have caused certain uncertainties and negative impacts on our EV operations and may cause further negative impacts on our EV segment. For example, the Chinese central government subsidy support policies effective as of January 1, 2017, called for a 20% of reduction in central government subsidies per electric car in 2017 from its 2016 level and the total local government subsidy matched to be not more than 50% of the total central government subsidies per electric car. For example, the support policies effective as of January 1, 2021 required that Commercial EV only can get subsidies when the single declare more than 1,000, and the support policies effective as of January 1, 2021, called for a 20% of reduction in central government subsidies per electric car in 2021 from its 2020 level. The support policies effective as of January 1, 2022, called for a 30% of reduction in central government subsidies per electric car in 2022 from its 2021 level, and the subsidies was terminated after December 31, 2022. The reduction and termination of subsidies from both the central government and local governments inevitably increased the costs to the consumers to purchase our EVs, which caused temporary pressure for us to expand our EV sales. The change in subsidy payment methods in 2017 from paid-in-advance to paid post-sale and further delay in releasing subsidy payments for the EVs manufactured and sold in the prior years also caused the potential delay in collection of the accounts receivable from our business partners, which temporarily increased the pressure on our working capital for continuing operations. Since 2018, the rebate policies required all the EVs manufactured since 2016 to install the national platform so the government could monitor the mileage and other information. Accordingly, we installed the platform on our EVs manufactured since 2016. Since 2019, the rebate policies required the battery capacity attenuation can't exceed 20%. Accordingly, we plan to inspect the batteries of our EVs. In addition, we decided to pause EV productions as our costs would not be covered when we are not able to receive the government rebates to EV manufacturers timely because of the much stricter new government rebate policy issued in 2019 which has become stricter in 2020, 2021 and 2022. The Company determined that there is remote possibility to successfully claim the manufacturing rebate under the newly implemented policy. As a result, the Company recorded 100% allowance against the manufacturing rebate receivable as of December 31, 2021.

The unavailability, reduction or elimination of government and economic incentives could have a material adverse effect on our business, financial condition, operating results and prospects.

***We do not own 100% of our electric vehicle subsidiary, and we are a minority investor in Libo Haokun and Fuquan Chengwang, our mining investments.***

We only own 70% of Shangchi Automobile. Zhangjiagang Jinke Chuangtuo Co., Ltd. (“Jinke”) holds the remaining 30% equity interest in Shangchi Automobile and has significant influence on its operation. The potential for differences between us and Jinke may result in ineffective operation of Shangchi Automobile and our operating results would be materially negatively affected.

Further, we own an indirect 18% interest in Libo Haokun Stone Co., Ltd. (“Libo Haokun”), a marble mining operating company, and an indirect 14.76% interest in Fuquan Chengwang Mining Co., Ltd. (“Fuquan Chengwang”), a basalt mining company. As such, we have an inability to control or significantly influence Libo Haokun’s and Fuquan Chengwang’s management and operations. If we believe that Libo Haokun and Fuquan Chengwang are being managed or operated ineffectively, we have limited options.

***Outstanding bank loans may reduce our available funds.***

We have approximately \$3.6 million in outstanding bank loans as of December 31, 2022. The loans are held at multiple banks, and we used our land and property as the collateral for the debt. While our land and property are worth more than the total loan amount and we also have approximately \$18.9 million in cash and approximately \$106.8 million of current assets available to pay the debt, there can be no guarantee that we will be able to pay all amounts when due or refinance the amounts on terms that are acceptable to us or at all. If we are unable to make our payments when due or to refinance such amounts, our property could be foreclosed and our business could be negatively affected.

While we do not believe they will impact our liquidity, the terms of the debt agreements impose significant operating and financial restrictions on us. These restrictions could also have a negative impact on our business, financial condition and results of operations by significantly limiting or prohibiting us from engaging in certain transactions, including but not limited to: incurring or guaranteeing additional indebtedness; transferring or selling assets currently held by us; and transferring ownership interests in certain of our subsidiaries. The failure to comply with any of these covenants could cause a default under our other debt agreements. Any of these defaults, if not waived, could result in the acceleration of all of our debt, in which case the debt would become immediately due and payable. If this occurs, we may not be able to repay our debt or borrow sufficient funds to refinance it on favorable terms, if any.

***If the value of our property decreases, we may not be able to refinance our current debt.***

All of our current debt is secured by our real and other business property. If the value of our real property decreases, we may find that banks are unwilling to loan money to us secured by our business property. A drop in property value could also prevent us from being able to refinance that loan when it becomes due on acceptable terms or at all.

***If our expansions into new businesses are not successful, our future results of operations and growth prospects may be materially and adversely affected.***

We are a holding company incorporated in the British Virgin Islands. Prior to August 3, 2021, we conduct a substantial part of our operations through Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”) and the Variable Interest Entity (“VIE”) and their subsidiaries in China providing certain technical and consultation services.

On January 27, 2016, we entered into a framework agreement to acquire Suzhou E-Motors which is now known as Shangchi Automobile, a specialty electric vehicles manufacturer. Pursuant to the Call Option Agreement executed on May 2, 2016, Supplemental Agreement I signed on December 22, 2016 and Supplemental Agreement II signed on July 12, 2017, the Company acquired a 70% equity interest of Shangchi Automobile with total cash consideration of RMB 103,200,000 (approximately \$15.9 million) and a share consideration of 2,500,000 restricted shares of the Company’s common stock.

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Our 70% equity interest in Shangchi Automobile comprises a 19% equity interest owned directly through Hangzhou Jiye Investment Management Co., Ltd (“Jiye”) and a 51% equity interest owned through a series of contractual agreements with the owners of Hangzhou Wangbo Investment Management Co., Ltd (“Wangbo”). Jiye is 100% owned through Jiamu, which is, in turn, wholly owned by Euroasia International Vantage Capital Limited (“Euroasia”), a 100% owned subsidiary of the Company. These agreements include an Exclusive Management Consulting and Technology Agreement, two Equity Pledge Agreements, two Exclusive Call Option Agreements, two Proxy Agreements and two Powers of Attorney (collectively, the “VIE Agreements”). Pursuant to the VIE Agreements, Jiamu has the exclusive right to provide to Wangbo consulting services related to business operations including technical and management consulting services. All the above contractual agreements obligate Jiamu to absorb a majority of the risk of loss from Wangbo’s activities and entitle Jiamu to receive a majority of their residual returns. In essence, Jiamu has gained effective control over Wangbo. Therefore, the Company believes that Wangbo should be considered as a VIE under the Statement of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 810 “Consolidation.”

On August 3, 2021, the Company completed dismantling its VIE structure and began controlling Wangbo, Shangchi Automobile and its subsidiary, Shenzhen Yimao New Energy Sales Co., Ltd. (“Shenzhen Yimao”) through direct equity ownership instead of a series of contractual arrangements.

The Company had originally negotiated to acquire 100% of Shangchi Automobile; however, following initial discussions, Shangchi Automobile’s minority shareholder, Jinke, a local government-led venture capital fund, opted to retain its 30% interest.

We may face competition from existing leading players in this business. If we cannot successfully address the new challenges and compete effectively against the existing leading players in the new businesses, we may not be able to develop a sufficiently large customer and user base, recover costs incurred for investing in, developing and marketing new businesses, and eventually achieve profitability from these businesses, and our future results of operations and growth prospects may be materially and adversely affected.

### ***We face risks and uncertainties associated with our recent investment in mining and processing operations.***

In January 2018, we made a purchase of an indirect 18% interest in Libo Haokun, a marble mining operating company. In November 2019, we made a purchase of an indirect 18% interest in Fuquan Chengwang, a basalt mining company. The Company’s indirect interest in Fuquan Chengwang was diluted from 18% to 14.76% in April 2020 after a third party signed an investment agreement with Jingning Meizhongkuang Industry Co., Ltd. to invest in Fuquan Chengwang by paying \$7.13 million (RMB 46.5 million) to exchange 18% of the interest of Fuquan Chengwang. Libo Haokun’s and Fuquan Chengwang’s mining and processing operations are subject to a number of operating risks and hazards, some of which are beyond our control. These operating risks and hazards include:

(i) unexpected maintenance or technical problems; (ii) periodic interruptions of its mining operations due to inclement or hazardous weather conditions and natural disasters; (iii) industrial accidents; (iv) power or fuel supply interruptions; (v) critical equipment failures; and (vi) unusual or unexpected variations in the quarry and geological or mining conditions, such as instability of the slopes and subsidence of the working areas. These risks and hazards may result in personal injury, damage to, or destruction of, properties or production facilities, environmental damages, business interruptions and damage to Libo Haokun’s and Fuquan Chengwang’s business reputation. In addition, the breakdown of machinery and equipment, difficulties or delays in obtaining replacement machinery and equipment, natural disasters, industrial accidents or other events could temporarily disrupt its operations. Any disruption for a sustained period to the operations of Libo Haokun’s and Fuquan Chengwang’s quarry or supporting infrastructure, or any change to the natural environment surrounding its quarry may have a material adverse effect on our investment in Libo Haokun and Fuquan Chengwang.

In addition, while Fuquan Chengwang has received a renewed government-issued mining permit with a term from March 2021 to March 2024, we cannot be certain if it will be able to renew it when the permit expires.

### ***We may experience increased costs or losses resulting from the hazards and uncertainties associated with mining operations.***

The exploration for natural resources and the development and production of mining operations are activities that involve a high level of uncertainty. These can be difficult to predict and are often affected by risks and hazards outside of our control. These factors include, but are not limited to:

- Industrial accidents, including in connection with the operation of mining transportation equipment and accidents associated with the preparation and ignition of any blasting operations, milling equipment, conveyor systems and transportation of chemicals, explosions or other materials;

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- Environmental hazards, including discharge of metals, concentrates, pollutants or hazardous chemicals;
- Surface or underground fires or floods;
- Unexpected geological formations or conditions (whether in mineral or gaseous form);
- Ground and water conditions;
- Fall-of-ground accidents in underground operations;
- Seismic activity; and
- Other natural phenomena, such as lightning, cyclonic or tropical storms, floods or other inclement weather conditions.

The occurrence of one or more of these events in connection with Libo Haokun's and Fuquan Chengwang's exploration activities and development and production of mining operations may result in the death of, or personal injury to, its employees, other personnel or third parties, the loss of mining equipment, damage to or destruction of mineral properties or production facilities, monetary losses, deferral or unanticipated fluctuations in production, environmental damage and potential legal liabilities, all of which may adversely affect Libo Haokun's, Fuquan Chengwang's and our reputation, business, prospects, results of operations and financial position.

***Mining companies are increasingly required to consider and provide benefits to the communities and countries in which they operate, and are subject to extensive environmental, health and safety laws and regulations.***

As a result of public concern about the real or perceived detrimental effects of economic globalization and global climate impacts, businesses generally and corporations in natural resources industries, such as Libo Haokun and Fuquan Chengwang, in particular, face increasing public scrutiny of their activities. These businesses are under pressure to demonstrate that, as they seek to generate satisfactory returns on investment to shareholders, other stakeholders, including employees, governments, communities surrounding operations and the countries in which they operate, benefit and will continue to benefit from their commercial activities. Such pressures tend to be particularly focused on companies whose activities are perceived to have a high impact on their social and physical environment. The potential consequences of these pressures include reputational damage, legal suits, increasing social investment obligations and pressure to increase taxes and royalties payable to governments and communities.

In addition, Libo Haokun's and Fuquan Chengwang's ability to successfully obtain key permits and approvals to explore for, develop and operate mines and to successfully operate in communities in China will likely depend on its ability to develop, operate and close mines in a manner that is consistent with the creation of social and economic benefits in the surrounding communities, which may or may not be required by law. Libo Haokun's and Fuquan Chengwang's ability to obtain permits and approvals and to successfully operate in particular communities may be adversely impacted by real or perceived detrimental events associated with its activities or those of other mining companies affecting the environment, human health and safety of communities in which we operate. Delays in obtaining or failure to obtain government permits and approvals may adversely affect Libo Haokun's, Fuquan Chengwang's and our operations, including Libo Haokun's and Fuquan Chengwang's ability to explore or develop properties, commence production or continue operations. Key permits and approvals may be revoked or suspended or may be varied in a manner that adversely affects Libo Haokun's and Fuquan Chengwang's operations, including our ability to explore or develop properties, commence production or continue operations.

Libo Haokun's and Fuquan Chengwang's exploration, development, mining and processing operations are subject to extensive laws and regulations governing worker health and safety and land use and the protection of the environment, which generally apply to air and water quality, protection of endangered, protected or other specified species, hazardous waste management and reclamation. Libo Haokun and Fuquan Chengwang have made, and expects to make in the future, significant expenditures to comply with such laws and regulations. Compliance with these laws and regulations imposes substantial costs and burdens, and can cause delays in obtaining, or failure to obtain, government permits and approvals which may adversely impact Libo Haokun's and Fuquan Chengwang's closure processes and operations.

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Future changes in applicable laws, regulations, permits and approvals or changes in their enforcement or regulatory interpretation could substantially increase costs to achieve compliance, lead to the revocation of existing or future exploration or mining rights or otherwise have an adverse impact on Libo Haokun's, Fuquan Chengwang's and our results of operations and financial position. Increased global attention or regulation on consumption of water by industrial activities, as well as water quality discharge, and on restricting or prohibiting the use of hazardous substances in processing activities could similarly have an adverse impact on Libo Haokun's and Fuquan Chengwang's results of operations and financial position due to increased compliance and input costs.

### ***Libo Haokun's and Fuquan Chengwang's business requires substantial capital investment and it may be unable to raise additional funding on favorable terms.***

The construction and operation of potential future mining projects and various exploration projects will require significant funding. Libo Haokun's and Fuquan Chengwang's operating cash flow and other sources of funding may become insufficient to meet all of these requirements, depending on the timing and costs of development of these and other projects. As a result, new sources of capital may be needed to meet the funding requirements of these investments, fund its ongoing business activities and pay dividends. Libo Haokun's and Fuquan Chengwang's ability to raise and service significant new sources of capital will be a function of macroeconomic conditions, future marble prices, its operational performance and its current cash flow and debt position, among other factors. In the event of lower marble prices, unanticipated operating or financial challenges, or a further dislocation in the financial markets as experienced in recent years, Libo Haokun's and Fuquan Chengwang's ability to pursue new business opportunities, invest in existing and new projects, fund its ongoing operations, retire or service all of our outstanding debt and pay dividends could be significantly constrained, all of which could have an adverse effect on our minority investment.

### ***Competition from other natural resource companies may harm Libo Haokun's and Fuquan Chengwang's business.***

Libo Haokun and Fuquan Chengwang compete with other natural resource companies to attract and retain key executives, skilled labor, contractors and other employees. They also compete with other natural resource companies for specialized equipment, components and supplies necessary for exploration and development. They may be unable to continue to attract and retain skilled and experienced employees, or to obtain the services of skilled personnel and contractors or specialized equipment or supplies.

### ***We may require additional financing in the future and our operations could be curtailed if we are unable to obtain required additional financing when needed.***

We may need to obtain additional debt or equity financing to fund future capital expenditures. While we do not anticipate seeking additional financing in the immediate future, any additional equity may result in dilution to the holders of our outstanding shares of capital stock. Additional debt financing may include conditions that would restrict our freedom to operate our business, such as conditions that:

- limit our ability to pay dividends or require us to seek consent for the payment of dividends;
- increase our vulnerability to general adverse economic and industry conditions;
- require us to dedicate a portion of our cash flow from operations to payments on our debt, thereby reducing the availability of our cash flow to fund capital expenditures, working capital and other general corporate purposes; and
- limit our flexibility in planning for, or reacting to, changes in our business and our industry.

We cannot guarantee that we will be able to obtain any additional financing on terms that are acceptable to us, or at all.

***The loss of any of our key charcoal product customers could reduce our revenues and our profitability.***

Our key charcoal product customers are principally third-party distributors in the PRC. For the year ended December 31, 2022, four major customers accounted for approximately 27.69%, 22.73%, 19.07%, and 9.98% of the Company's total charcoal product sales, respectively. There can be no assurance that we will maintain or improve the relationships with these customers, or that we will be able to continue to supply these customers at current levels or at all. Any failure to pay by these customers could have a material negative effect on our company's business. In addition, having a relatively small number of customers may cause our quarterly results to be inconsistent, depending upon when these customers pay for outstanding invoices.

If we cannot maintain long-term relationships with these major customers, the loss of our sales to them could have an adverse effect on our business, financial condition and results of operations.

***We rely on third-party distributors for a substantial portion of our sales, which could affect our ability to efficiently and profitably distribute and market our products, maintain our existing markets and expand our business into other geographic markets.***

Sales of our products through distributors constituted approximately 95%, 95%, and 92% of our total sales in 2022, 2021, and 2020, respectively. To the extent our distributors are distracted from selling our products or do not expend sufficient efforts in managing and selling our products, our sales will be adversely affected. Our ability to maintain our distribution network and attract additional distributors will depend on a number of factors. Some of these factors include: (i) the level of demand for our brand and products in a particular market; (ii) our ability to maintain current distribution relationships or establish and maintain successful relationships with distributors in new geographic areas. These factors are partially outside our control because consumers ultimately determine what they purchase and we cannot control the actions of our distributors. Our inability to achieve any of these factors in a geographic distribution area will have a material adverse effect on our relationships with our third-party distributors in that particular geographic area, thus limiting our ability to maintain and expand our market, which will likely adversely affect our revenues and financial results.

***We buy our supplies from a relatively limited number of suppliers, and disruption in supply may increase our production cost.***

For the years ended December 31, 2022, three major suppliers accounted for approximately 68% of the Company's total purchases. For the year ended December 31, 2021, two major suppliers accounted for approximately 65% of the Company's total purchases. For the years ended December 31, 2020, two major suppliers accounted for approximately 70% of the Company's total purchases.

The loss of any such suppliers could result in increased expenses for our company and result in adverse impact on our business, financial condition and results of operations.

***Our bank accounts are not insured or protected against loss.***

We maintain most of our cash with various banks located in the PRC. Our cash accounts are not insured or otherwise protected. Should any bank or trust company holding our cash deposits become insolvent, or if we are otherwise unable to withdraw funds, we would lose the cash on deposit with that particular bank or trust company.

***We are subject to risks relating to the banking facilities we use to overcome cash flow issues.***

We generate a large proportion of our sales revenue through wholesale channels and distribution networks requiring us to extend net 90 days payment terms in most cases. These payment terms are difficult to negotiate given the significant bargaining power of the counterparties to the agreements. For this reason, we rely on banking facilities to overcome cash flow shortfalls between delivery and payment collection. Although we engage third-party debt collection agencies when required to manage counterparty risk, we cannot guarantee that we will receive payment in a timely fashion from our customers. To the extent we fail to receive payment in time to service our banking facilities, our business to be materially impacted.

***We are substantially dependent upon our senior management and key research and development personnel.***

We are highly dependent on our senior management to manage our business and operations and our key research and development personnel for the development of new products and the enhancement of our existing products and technologies. In particular, we rely on our CEO, Mr. Wangfeng Yan to manage our operations to some extent. Mr. Yan has been involved in the bamboo charcoal industry by working at our subsidiaries for almost ten years. Due to his experience in the industry in general and our company in particular for such a long period of time, he would be difficult to replace.

While we provide the legally required personal insurance for the benefit of our employees, we do not maintain key man life insurance on any of our senior management or key personnel. The loss of any one of them would have a material adverse effect on our business and operations. Competition for senior management and our other key personnel is intense, and the pool of suitable candidates is limited. We may be unable to quickly locate a suitable replacement for any senior management or key personnel that we lose. In addition, if any member of our senior management or key personnel joins a competitor or forms a competing company, they may compete with us for customers, business partners and other key professionals and staff members of our company. Although each of our senior management and key personnel has signed a confidentiality and non-competition agreement in connection with his employment with us, we cannot assure you that we will be able to successfully enforce these provisions in the event of a dispute between us and any member of our senior management or key personnel.

We compete for qualified personnel with other technology companies and research institutions. Intense competition for these personnel could cause our compensation costs to increase, which could have a material adverse effect on our results of operations. Our future success and ability to grow our business will depend in part on the continued service of these individuals and our ability to identify, hire and retain additional qualified personnel. If we are unable to attract and retain qualified employees, we may be unable to meet our business and financial goals.

***We are heavily dependent upon the services of experienced personnel who possess skills that are valuable in our industry, and we may have to actively compete for their services.***

We are heavily dependent upon our ability to attract, retain and motivate skilled personnel to serve our customers. Many of our personnel possess skills that would be valuable to all companies engaged in our industry. Consequently, we expect that we will have to actively compete for these employees. Some of our competitors may be able to pay our employees more than we are able to pay to retain them. Our ability to profitably operate is substantially dependent upon our ability to locate, hire, train and retain our personnel. Moreover, our pool of available labor in Lishui is limited, as Lishui is a relatively small city in China. Accordingly, it may be difficult to recruit personnel to move to Lishui to work and to keep talented individuals from moving to other employers who recruit them. There can be no assurance that we will be able to retain our current personnel, or that we will be able to attract and assimilate other personnel in the future. If we are unable to effectively obtain and maintain skilled personnel, the development and quality of our services could be materially impaired.

***Failure to manage our growth could strain our management, operational and other resources, which could materially and adversely affect our business and prospects.***

Our growth strategy includes building our brand, increasing market penetration of our existing products, developing new products, increasing our targeting of the home respiratory market in China, and increasing our exports. Pursuing these strategies has resulted in, and will continue to result in substantial demands on management resources. In particular, the management of our growth will require, among other things:

- continued enhancement of our research and development capabilities;
- information technology system enhancement;
- stringent cost controls and sufficient liquidity;
- strengthening of financial and management controls and information technology systems; and
- increased marketing, sales and support activities; and hiring and training of new personnel.



If we are not able to manage our growth successfully, our business and prospects would be materially and adversely affected.

***We have not yet implemented advanced logistical management techniques, which may hamper our efficiency and growth.***

We have not yet implemented digital logistic management solutions and have not applied any advanced management techniques, such as enterprise resource planning or any structured logistical system and procedures, which may result in a loss of efficiency and require investment at a later stage. We have not yet committed to implement such systems and cannot guarantee that we will do so in the near future. To the extent we do not implement such techniques in a timely or efficient manner, we may be at a competitive disadvantage to those of our competitors who do.

***Our business may be negatively affected by adverse publicity.***

Failure or perceived failure by us to comply with legal, regulatory and compliance requirements could result in adverse publicity. In September 2015, we were subject to significant negative publicity resulting from reports published by a short seller of our shares. This negative publicity resulted in significant volatility in the trading price of our shares. Such adverse publicity could result in reputational harm, lead to increased regulatory supervision, affect our ability to attract and retain customers, affect our ability to attract and retain key personnel, affect our ability to maintain access to the capital markets, or have other material adverse effects on us in ways that are not predictable.

***Our business may be negatively affected by low share prices in the stock market.***

The trading price of our shares has been fluctuated over the past year. And we encountered an over 90% decline in market value since 2015. The continued decline in our share price could continue to harm investor confidence, affect our ability to retain existing investors, affect our ability to attract potential investors, affect our ability to maintain access to the capital market, or have other material adverse effects on us in ways that are not predictable.

***We may be affected by disruptions to our production facilities.***

Our production facilities are subject to breakdown or failure of equipment, power supplies or processes, performance below expected levels of output or efficiency, obsolescence, labor disputes, natural disasters and the need to comply with relevant regulatory and requirements. From time to time, we may need to carry out planned shutdowns of our production plants for routine maintenance, statutory inspections and testing and may need to shut down various plants for capacity expansions and equipment upgrades. Moreover, our production processes are continuously being modified and updated. As a result of manufacturing process updates and improvements, from time to time, we may experience shutdowns, and disruptions to the operations. The occurrence of any of the above events may cause us to stop or suspend our production operations and we may not be able to deliver the products to our customers on a timely basis, which would have an adverse impact on its business, financial position and profitability.

***If we fail to protect our intellectual property rights, it could harm our business and competitive position.***

We rely on a combination of patent, trademark and trade secret laws and non-disclosure agreements and other methods to protect our intellectual property rights. We currently hold four patents on charcoal products and five patents on vehicles.

The process of seeking patent protection can be lengthy and expensive, our patent applications may fail to result in patents being issued, and our existing and future patents may be insufficient to provide us with meaningful protection or commercial advantage. Our patents and patent applications may also be challenged, invalidated or circumvented.

We also rely on trade secret rights to protect our business through non-disclosure provisions in employment agreements with employees. If our employees breach their non-disclosure obligations, we may not have adequate remedies in China, and our trade secrets may become known to our competitors.

Implementation of PRC intellectual property-related laws has historically been lacking, primarily because of ambiguities in the PRC laws and enforcement difficulties, according to our PRC counsel, though China has paid more and more attention to the protection of intellectual property rights, it is still in early stage. Accordingly, intellectual property rights and confidentiality protections in China may not be as effective as in the United States or other western countries. Furthermore, policing unauthorized use of proprietary technology is difficult and expensive, and we may need to resort to litigation to enforce or defend patents issued to us or to determine the enforceability, scope and validity of our proprietary rights or those of others. Such litigation and an adverse determination in any such litigation, if any, could result in substantial costs and diversion of resources and management attention, which could harm our business and competitive position.

***We may be exposed to intellectual property infringement and other claims by third parties which, if successful, could disrupt our business and have a material adverse effect on our financial condition and results of operations.***

Our success depends, in large part, on our ability to use and develop our technology and know-how without infringing third party intellectual property rights. If we sell our branded products internationally, and as litigation becomes more common in China, we face a higher risk of being the subject of claims for intellectual property infringement, invalidity or indemnification relating to other parties' proprietary rights. Our current or potential competitors, many of which have substantial resources and have made substantial investments in competing technologies, may have or may obtain patents that will prevent, limit or interfere with our ability to make, use or sell our branded products in either China or other countries, including the United States and other countries in Asia. The validity and scope of claims relating to patents in our industry involve complex scientific, legal and factual questions and analysis and, as a result, may be highly uncertain. In addition, the defense of intellectual property suits, including patent infringement suits, and related legal and administrative proceedings can be both costly and time consuming and may significantly divert the efforts and resources of our technical and management personnel. Furthermore, an adverse determination in any such litigation or proceedings to which we may become a party could cause us to:

- pay damage awards;
- seek licenses from third parties;
- pay ongoing royalties;
- redesign our branded products; or
- be restricted by injunctions,

each of which could effectively prevent us from pursuing some or all of our business and result in our customers or potential customers deferring or limiting their purchase or use of our branded products, which could have a material adverse effect on our financial condition and results of operations.

***We are dependent on our brand and trademarks.***

We rely on our "Charcoal Doctor" brand in the marketing and distribution of a majority of our bamboo charcoal products. We believe that we have built significant goodwill in our brand in terms of the quality of products and services and it is widely recognized by the industry in the PRC. We consider our "Charcoal Doctor" brand to be vital in promoting product recognition and customer loyalty. Hence, if there are any major defects in our products or adverse publicity on our brand, the goodwill in our "Charcoal Doctor" brand will be adversely affected and our customers may lose confidence in our products. This will adversely affect our sales of charcoal products, hence affecting our business and financial performance.

***Our charcoal briquette products have relatively low technical requirements; therefore, barriers to entry are minimal.***

We expect to face competition for our charcoal briquette products because competitors can create similar products at a relatively low cost because there are minimal barriers of entry. If competitors enter our market to create similar products they may be able to do so for a much lower price. To the extent our customers discriminate based on price, we may find that we lose market share to such producers. Moreover, we may be required to reduce our price in order to maintain or slow loss of market share for such products. As charcoal briquette products make up a substantial percentage of our revenues, even at a lower profit margin, the reduction of sales of such products could hurt our company.

#### **Risks Related to Doing Business in China**

***The PRC government may intervene in or influence our operations at any time, which could result in a material change in our operations and significantly and adversely impact the value of our common shares.***

The Chinese government has significant oversight and discretion over the conduct of our business and may intervene or influence our operations as the government deems appropriate to further regulatory, political and societal goals. The Chinese government has recently published new policies that significantly affected certain industries such as the education and internet industries, and we cannot rule out the possibility that it will in the future release regulations or policies regarding our industries that could require us to seek permission from Chinese authorities to continue to operate our business, which may adversely affect our business, financial condition and results of operations. Furthermore, recent statements made by the Chinese government have indicated an intent to increase the government's oversight and control over offerings of companies with significant operations in mainland China that are to be conducted in foreign markets, as well as foreign investment in China-based issuers like us.

For example, the newly issued Trial Measures attaches great importance to security review and industry supervision, requiring enterprises to strictly abide by national security laws, administrative regulations and relevant provisions such as foreign investment, network security, and data security laws and regulations, and unreservedly perform their obligations to safeguard national security. The Measures allow the raising of funds in foreign currency or RMB and the payment of dividends, but also clearly require that the exchange and cross-border flow of funds should comply with the national regulations on cross-border investment and financing, foreign exchange management, and cross-border RMB management. At the same time, the Trial Measures also provide for severe legal liability and penalty measures for violations.

***If the Chinese government determines that our corporate structure does not comply with Chinese regulations, or if Chinese regulations change or are interpreted differently in the future, the value of our common shares may decline in value or become worthless.***

In July 2021, the Chinese government provided new guidance on Chinese companies raising capital outside of mainland China, including through arrangements called variable interest entities, or VIEs. Currently, our corporate structure contains no variable interest entities and we are not in an industry that is subject to foreign ownership limitations in mainland China. However, there are uncertainties with respect to the Chinese legal system and there may be changes in laws, regulations and policies, including how those laws, regulations and policies will be interpreted or implemented. If in the future the Chinese government determines that our corporate structure does not comply with Chinese regulations, or if Chinese regulations change or are interpreted differently, the value of our common shares may decline or become worthless.

***The approval of, filing or other procedures with the CSRC or other Chinese regulatory authorities may be required in connection with issuing securities to foreign investors under PRC law, and, if required, we cannot predict whether we will be able, or how long it will take us, to obtain such approval or complete such filing or other procedures.***

The Chinese government has exercised, and may continue to exercise, substantial influence or control over virtually every sector of the Chinese economy through regulation and state ownership. Our ability to operate in mainland China could be undermined if our Chinese subsidiaries are not able to obtain or maintain approvals to operate in mainland China. The central or local governments could impose new, stricter regulations or interpretations of existing regulations that could require additional expenditures and efforts on our part to ensure our compliance with such regulations or interpretations.

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The Regulations on Mergers and Acquisitions of Domestic Enterprises by Foreign Investors, or the M&A Rules, appear to require that offshore special purpose vehicles, controlled by Chinese companies or individuals formed for the purpose of seeking a public listing on an overseas stock exchange through acquisitions of Chinese domestic companies or assets in exchange for the shares of the offshore special purpose vehicles, obtain CSRC approval prior to publicly listing their securities on an overseas stock exchange.

Further, on July 6, 2021, the General Office of the Communist Party of China Central Committee and the General Office of the State Council jointly promulgated the Opinions on Strictly Cracking Down on Illegal Securities Activities in Accordance with the Law, pursuant to which Chinese regulators are required to accelerate rulemaking related to the overseas issuance and listing of securities, and update the existing laws and regulations related to data security, cross-border data flow, and management of confidential information. Numerous regulations, guidelines and other measures have been or are expected to be adopted in addition to the Cyber Security Law and Data Security Law.

On February 17, 2023, with the approval of the State Council, the CSRC issued the Listing Records Rules, including the Trial Measures, for the administration of overseas listing filing system, which will be implemented from March 31, 2023. Under the Listing Records Rules, a company established in mainland China seeking securities offering and listing, by both direct or indirect means, in an overseas market are required to undertake filing procedures with the CSRC for its overseas offering and listing activities. Further, the Trial Measures set forth a list of circumstance under which overseas offering and listing by PRC domestic companies is prohibit, including: (i) where such securities offering and listing is explicitly prohibited by the PRC laws; (ii) where the intended securities offering and listing may endanger national security as reviewed and determined by competent PRC authorities under the State Council in accordance with PRC laws; (iii) where the company established in mainland China, or its controlling shareholders and the actual controller, have committed crimes such as corruption, bribery, embezzlement, misappropriation of property or undermining the order of the socialist market economy during the latest three (3) years; (iv) where the company established in mainland China seeking securities offering and listing is suspected of committing crimes or major violations of laws and regulations, and is under investigation according to law, and no conclusion has yet been made thereof; and (v) where there are material ownership disputes over equity held by the controlling shareholder of company established in mainland China or by other shareholders that are controlled by the controlling shareholder and/or actual controller. In accordance with the Trial Measures, the listing and trading of our Common Shares on Nasdaq is deemed as an indirect overseas offering and listing by companies established in China, and thus, we are subject to the Listing Records Rules and the relevant filing procedures as required. Further, we believe, as of the date of this annual report, none of the circumstances prohibiting the overseas offering and listing by companies established in China as listed above applies to us, and we can offer and continue to offer our Common Shares on Nasdaq.

In accordance with the Notice on the Arrangement for the Filing of Overseas Offering and Listing by Domestic Companies issued by the CSRC along with the Listing Records Rules on the same day, we are deemed as an “Existing Issuer” because we have been listed overseas before March 31, 2023. Under such Notice, we are not required to undertake the initial filing procedure immediately. However, we shall carry out filing procedures as required by the Trial Measures in a timely manner for the subsequent events, including any further follow-up offerings on Nasdaq, dual and/or secondary offering and listing on different overseas markets, and occurrence of material events including change of control, investigations or sanctions imposed by overseas securities regulatory agencies or other relevant competent authorities, change of listing status or transfer of listing segment, and voluntary or mandatory delisting. If we or our Mainland China Subsidiaries in future fail to undertake filing procedures as stipulated in the Trial Measures, or offer and list securities in an overseas market in violation of the Trial Measures, the CSRC may order rectification, issue warnings to us and/or our Mainland China Subsidiaries, and impose a fine of between RMB 1,000,000 yuan and RMB 10,000,000 yuan. The CSRC may also inform its regulatory counterparts in the overseas jurisdictions, such as the SEC, via cross-border securities regulatory cooperation mechanisms.

Further, on February 24, 2023, the CSRC, together with Ministry of Finance, National Administration of State Secrets Protection, and National Archives Administration of China, released the Provisions on Strengthening the Confidentiality and Archives Administration Related to the Overseas Securities Offering and Listing by Domestic Enterprises (the “Confidentiality Provisions”), which will come into effect on March 31, 2023 with the Trial Measures. Under the Confidentiality Provisions, companies established in China seeking overseas offering and listing, by both direct and indirect means, are required to institute a sound confidentiality and archives system. If such companies established in China intend to, either directly or through its overseas listed entity, publicly disclose or provide to relevant individuals or entities including securities companies, securities service providers and overseas regulators, any documents and materials that contain state secrets or working secrets of government agencies, they shall obtain approval from competent authorities and complete the relevant filing procedure with the competent secrecy administrative department prior to their disclosure or provision of such documents and materials. Further, if they provide or publicly disclose documents and materials which may adversely affect national security or public interests, they shall strictly follow the corresponding procedures in accordance with relevant laws and regulations. Once effective, any failure or perceived failure by us or our subsidiaries to comply with the above confidentiality and archives administration requirements under the Confidentiality Provisions and other relevant PRC laws and regulations may cause relevant entities to be held legally liable by competent authorities, and referred to the judicial organ to be investigated for criminal liability if suspected of committing a crime.

Any failure of us or our Mainland China Subsidiaries to fully comply with the Listing Records Rules, may significantly limit or completely hinder our ability to offer or continue to offer our Common Shares on Nasdaq, cause significant disruption to our business operations, severely damage our reputation, materially and adversely affect our financial condition and results of operations and cause our Common Shares to significantly decline in value or become worthless.

To operate our general business activities currently conducted in mainland China, each of our Chinese subsidiaries is required to obtain a business license from the local counterpart of the State Administration for Market Regulation, or SAMR. Each of our Chinese subsidiaries has obtained a valid business license from the local counterpart of the SAMR, and no application for any such license has been denied.

***Trading in our securities may be prohibited under the Holding Foreign Companies Accountable Act if the PCAOB determines that it cannot inspect or investigate completed our auditors for three consecutive years beginning in 2021, or for two consecutive years if the Accelerating Holding Foreign Companies Accountable Act or the America COMPETES Act becomes law.***

In recent years, U.S. regulatory authorities have continued to express their concerns about challenges in their oversight of financial statement audits of U.S.-listed companies with significant operations in China. As part of a continued regulatory focus in the United States on access to audit and other information, the Holding Foreign Companies Accountable Act, or the HFCAA, was enacted on December 18, 2020. The HFCAA includes requirements for the SEC to identify issuers whose audit work is performed by auditors that the PCAOB is unable to inspect or investigate completely because of a restriction imposed by a non-U.S. authority in the auditor's local jurisdiction. The HFCAA also requires that, to the extent that the PCAOB has been unable to inspect an issuer's auditor for three consecutive years since 2021, the SEC shall prohibit its securities registered in the United States from being traded on any national securities exchange or over-the-counter markets in the United States.

On March 24, 2021, the SEC adopted interim final rules relating to the implementation of certain disclosure and documentation requirements of the HFCAA. The interim final rule applies to registrants that the SEC identifies as having filed an annual report with an audit report issued by a registered public accounting firm that is located in a foreign jurisdiction that the PCAOB is unable to inspect or investigate completely because of a position taken by an authority in that jurisdiction. Consistent with the HFCAA, the interim final rule requires the submission of documentation to the SEC establishing that such a registrant is not owned or controlled by a government entity in that foreign jurisdiction and also requires disclosure in a foreign issuer's annual report regarding the audit arrangements of, and government influence on, such registrants. On May 13, 2021, the PCAOB issued proposed PCAOB Rule 6100, Board Determinations Under the Holding Foreign Companies Accountable Act for public comment. The proposed rule provides a framework for making determinations as to whether PCAOB is unable to inspect an audit firm in a foreign jurisdiction, including the timing, factors, bases, publication and revocation or modification of such determinations, and such determinations will be made on a jurisdiction-wide basis in a consistent manner applicable to all firms headquartered in the jurisdiction. In November 2021, the SEC approved PCAOB Rule 6100. On December 2, 2021, the SEC adopted amendments to final rules implementing the disclosure and submission requirements of the HFCAA.

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On June 22, 2021, the U.S. Senate passed the Accelerating Holding Foreign Companies Accountable Act or AHFCAA, and on February 4, 2022, the U.S. House of Representatives passed the America Creating Opportunities for Manufacturing Pre-Eminence in Technology and Economic Strength (COMPETES) Act of 2022, or the COMPETES Act. If either bill is enacted into law, it would amend the HFCAA and require the SEC to prohibit an issuer's securities from trading on any U.S. stock exchanges if its auditor is not subject to PCAOB inspections or complete investigations for two consecutive years instead of three. As a result, our securities may be prohibited from trading on Nasdaq or over-the-counter markets if our auditor is not inspected by the PCAOB for three consecutive years as specified in the HFCAA or two years if the AHFCAA or the COMPETES Act becomes law, and would reduce the time before our securities may be prohibited from trading or delisted.

On December 2, 2021, the SEC issued amendments to finalize rules implementing the submission and disclosure requirements in the HFCAA. The rules apply to registrants that the SEC identifies as having filed an annual report with an audit report issued by a registered public accounting firm that is located in a foreign jurisdiction and that PCAOB is unable to inspect or investigate completely because of a position taken by an authority in foreign jurisdictions.

On December 16, 2021, the PCAOB announced the PCAOB Holding Foreign Companies Accountable Act determinations (the "PCAOB determinations") relating to the PCAOB's inability to inspect or investigate completely registered public accounting firms headquartered in mainland China of the PRC or Hong Kong, a Special Administrative Region and dependency of the PRC, because of a position taken by one or more authorities in the PRC or Hong Kong.

On August 26, 2022, the CSRC, the Ministry of Finance of the PRC (the "MOF"), and the PCAOB signed a Statement of Protocol (the "Protocol"), governing inspections and investigations of audit firms based in China and Hong Kong. On December 15, 2022, the PCAOB determined that it was able to secure complete access to inspect and investigate registered public accounting firms headquartered in mainland China and Hong Kong and vacated its previous Determinations to the contrary. However, should PRC authorities obstruct or otherwise fail to facilitate the PCAOB's access in the future, the PCAOB may consider the need to issue a new determination. On December 29, 2022, the Accelerating Holding Foreign Companies Accountable Act was signed into law as part of the "Consolidated Appropriations Act, 2023" (the "Consolidated Appropriations Act"), reducing the number of consecutive non-inspection years required for triggering the prohibitions under the HFCA Act from three years to two.

Our current auditor, YCM CPA Inc., an independent registered public accounting firm that is headquartered in the United States, is a firm registered with the U.S. Public Company Accounting Oversight Board (the "PCAOB"), and is required by the laws of the U.S. to undergo regular inspections by the PCAOB to assess its compliance with the laws of the U.S. and professional standards. YCM CPA Inc. has been subjected to PCAOB inspection.

Notwithstanding the foregoing, if it is later determined that the PCAOB is unable to inspect or investigate our auditor completely, or if there is any regulatory change or step taken by PRC regulators that does not permit our auditor to provide audit documentations located in China or Hong Kong to the PCAOB for inspection or investigation, you may be deprived of the benefits of such inspection. Any audit reports not issued by auditors that are completely inspected or investigated by the PCAOB, or a lack of PCAOB inspections or investigations of audit work undertaken in China that prevents the PCAOB from regularly evaluating our auditors' audits and their quality control procedures, could result in a lack of assurance that our financial statements and disclosures are adequate and accurate.

### ***Chinese economic downturn or growth slowdown may harm our business.***

Since 2010, Chinese economic growth has been slowing down from double-digit GDP speed. The situation has impacted many industries and economic segments in China, such as restaurants, the hospitality industry, auto industry, and discretionary consumer spending. Our business operations in China mainly rely on consumer cash availability and spending, consumer demand for our products and consumer confidence, which are impacted by an economic downturn. The recent rapid spread of COVID-19, or fear of such an event, can have a material adverse effect on the demand for our products and therefore have a material adverse effect on our business and results of operations. Office closings, travel restrictions and required quarantines implemented in China has caused significant slowdown of China's economic growth and could further adversely affect China's economy resulting in an economic downturn. If China's economy continues to slow down or go into recession, our financial and operation results could be materially and adversely affected as a result of slower consumer spending on our products or below par performance of the consumer discretionary goods industries.

***U.S. regulatory bodies may be limited in their ability to conduct investigations or inspections of our operations in China.***

The Securities and Exchange Commission (the “SEC”), the U.S. Department of Justice and other U.S. authorities may also have difficulties in bringing and enforcing actions against us or our directors or executive officers in the PRC. The SEC has stated that there are significant legal and other obstacles to obtaining information needed for investigations or litigation in China. China has recently adopted a revised securities law that became effective on March 1, 2020, Article 177 of which provides, among other things, that no overseas securities regulator is allowed to directly conduct investigation or evidence collection activities within the territory of the PRC. Accordingly, without governmental approval in China, no entity or individual in China may provide documents and information relating to securities business activities to overseas regulators when it is under direct investigation or evidence discovery conducted by overseas regulators, which could present significant legal and other obstacles to obtaining information needed for investigations and litigation conducted outside of China.

According to our PRC counsel, China has recently formulated an administrative regulation, namely, the provisions on strengthening the confidentiality and archives management related to the overseas issuance and listing of securities by domestic enterprises, in order to promote cooperation between China and the United States in this regard. At present, this administrative regulation is still soliciting opinions from the society and has not yet come into force. This law makes it clear that the investigation and evidence collection or inspection conducted by overseas regulatory institutions in China should be carried out through the cross-border regulatory cooperation mechanism, and the CSRC and relevant competent departments will provide necessary assistance in accordance with the bilateral and multilateral cooperation mechanism. At the same time, in combination with the international practice of cross-border audit and supervision cooperation, the expression that “on-site inspection shall be mainly conducted by Chinese regulators or rely on the inspection results of Chinese regulators” in the original provisions is deleted. So it may still present some legal and other obstacles to obtaining information needed for investigations and litigation conducted outside of China.

***Adverse changes in political and economic policies of the PRC government could have a material adverse effect on the overall economic growth of China, which could reduce the demand for our products and materially and adversely affect our competitive position.***

Substantially all of our business operations are conducted in China. Accordingly, our business, results of operations, financial condition and prospects are subject to economic, political and legal developments in China. Although the Chinese economy is no longer a planned economy, the PRC government continues to exercise significant control over China’s economic growth through direct allocation of resources, monetary and tax policies, and a host of other government policies such as those that encourage or restrict investment in certain industries by foreign investors, control the exchange between RMB and foreign currencies, and regulate the growth of the general or specific market. These government involvements have been instrumental in China’s significant growth in the past 30 years. In response to the recent global and Chinese economic downturn, the PRC government has adopted policy measures aimed at stimulating the economic growth in China. If the PRC government’s current or future policies fail to help the Chinese economy achieve further growth or if any aspect of the PRC government’s policies limits the growth of our industry or otherwise negatively affects our business, our growth rate or strategy, our results of operations could be adversely affected as a result.

***Labor laws in the PRC may adversely affect our results of operations.***

On June 29, 2007, the PRC government promulgated the Labor Contract Law of the PRC, which became effective on January 1, 2008. The Labor Contract Law imposes greater liabilities on employers and significantly affects the cost of an employer’s decision to reduce its workforce. Further, it requires certain terminations be based upon seniority and not merit. In the event we decide to significantly change or decrease our workforce, the Labor Contract Law could adversely affect our ability to enact such changes in a manner that is most advantageous to our business or in a timely and cost-effective manner, thus materially and adversely affecting our financial condition and results of operations.

***Imposition of trade barriers and taxes may reduce our ability to do business internationally, and the resulting loss of revenue could harm our profitability.***

We may experience barriers to conducting business and trade in our targeted markets, specifically South Korea, Japan and Russia, in the form of delayed customs clearances, customs duties and tariffs. In addition, we may be subject to substantial taxes on profits, revenues, assets and payroll, as well as value-added tax. The markets in which we plan to operate may impose onerous and unpredictable duties, tariffs and taxes on our business and products, and there can be no assurance that this will not reduce the level of sales that we achieve in such markets, which would reduce our revenues and profits.

***Under the Enterprise Income Tax Law, we may be classified as a “Resident Enterprise” of China. Such classification will likely result in unfavorable tax consequences to us and our non-PRC stockholders.***

China passed the Enterprise Income Tax Law, or the EIT Law, and it is implementing rules, both of which became effective on January 1, 2008. Under the EIT Law, an enterprise established outside of China with “de facto management bodies” within China is considered a “resident enterprise,” meaning that it can be treated in a manner similar to a Chinese enterprise for enterprise income tax purposes. The implementing rules of the EIT Law define de facto management as “substantial and overall management and control over the production and operations, personnel, accounting, and properties” of the enterprise.

On April 22, 2009, the State Administration of Taxation of China, or the SAT, issued the Circular Concerning Relevant Issues Regarding Cognizance of Chinese Investment Controlled Enterprises Incorporated Offshore as Resident Enterprises pursuant to Criteria of de facto Management Bodies, or the SAT Notice 82, further interpreting the application of the EIT Law and its implementation to offshore entities controlled by a Chinese enterprise or enterprise group. Pursuant to the SAT Notice 82, an enterprise incorporated in an offshore jurisdiction and controlled by a Chinese enterprise or enterprise group will be classified as a “non-domestically incorporated resident enterprise” if (i) its senior management in charge of daily operations reside or perform their duties mainly in China; (ii) its financial or personnel decisions are made or approved by bodies or persons in China; (iii) its substantial assets and properties, accounting books, corporate stamps, board and stockholder minutes are kept in China; and (iv) at least half of its directors with voting rights or senior management often resident in China. After SAT Notice 82, the SAT issued a bulletin, known as SAT Bulletin 45, which took effect on September 1, 2011, to provide more guidance on the implementation of SAT Notice 82 and clarify the reporting and filing obligations of such “non-domestically incorporated resident enterprise.” SAT Bulletin 45 provides procedures and administrative details for the determination of resident status and administration on post-determination matters. On January 29, 2014, the SAT issued Announcement of the State Administration of Taxation on Recognizing Resident Enterprises Based on the Criteria of de facto Management Bodies, to further clarify the reporting and filing procedure for the offshore entities controlled by a Chinese enterprise or enterprise group and recognized as a resident enterprise.

Because THL, USCNHK Group Limited (“USCNHK”) and Euroasia are controlled (although indirectly) by a foreign individual, rather than by a PRC enterprise or a PRC enterprise group, we do not believe that any of THL, USCNHK or Euroasia is a PRC resident enterprise.



However, although both SAT Notice 82 and SAT Bulletin 45 only apply to offshore enterprises controlled by PRC enterprises or PRC enterprise groups, not those controlled by PRC individuals or foreign individuals, the determining criteria set forth in SAT Notice 82 and SAT Bulletin 45 may reflect the SAT's general position on how the "de facto management body" test should be applied in determining the tax resident status of offshore enterprises, regardless of whether they are controlled by PRC enterprises, PRC enterprise groups or by PRC or foreign individuals. If the PRC tax authorities determine that THL or USCNHK is a PRC resident enterprise for PRC enterprise income tax purposes, a number of unfavorable PRC tax consequences could follow. First, we may be subject to the enterprise income tax at a rate of 25% on our worldwide taxable income as well as PRC enterprise income tax reporting obligations. In our case, this would mean that income such as non-China source income would be subject to PRC enterprise income tax at a rate of 25%. Currently, we do not have any non-China source income, as we complete our sales, including export sales, in China. Second, under the EIT Law and its implementing rules, dividends paid to us from our PRC subsidiaries would be deemed as "qualified investment income between resident enterprises" and therefore qualify as "tax-exempt income" pursuant to the clause 26 of the EIT Law. Finally, it is possible that future guidance issued with respect to the new "resident enterprise" classification could result in a situation in which the dividends we pay with respect to our common stock, or the gain our non-PRC stockholders may realize from the transfer of our common stock, may be treated as PRC-sourced income and may therefore be subject to a 10% PRC withholding tax. The EIT Law and its implementing regulations are, however, relatively new and ambiguities exist with respect to the interpretation and identification of PRC-sourced income, and the application and assessment of withholding taxes. If we are required under the EIT Law and its implementing regulations to withhold PRC income tax on dividends payable to our non-PRC stockholders, or if non-PRC stockholders are required to pay PRC income tax on gains on the transfer of their common shares, our business could be negatively impacted and the value of your investment may be materially reduced. Further, if we were treated as a "resident enterprise" by PRC tax authorities, we would be subject to taxation in both China and such countries in which we have taxable income, and our PRC tax may not be creditable against such other taxes.

***We may be subject to a significant withholding tax should equity transfers by our non-resident enterprises be determined to have been done without a reasonable business purpose.***

In December 2009, the State Administration of Tax in China issued a circular on strengthening the management of proceeds from equity transfers by non-resident enterprises and requires foreign entities to report indirect sales of resident enterprises. If the existence of the overseas intermediary holding company is disregarded due to lack of reasonable business purpose or substance, gains on such sale are subject to PRC withholding tax. Due to limited guidance and implementation history of the circular, significant judgment is required in determining the existence of a reasonable business purpose by considering multiple factors, such as the form and substance of the arrangement, time of establishment of the foreign entity, relationship between each step of the arrangement, relationship between each component of the arrangement, implementation of the arrangement and the changes in the financial position of all parties involved in the transaction. Although we believe that our transactions during all the periods presented would be determined to have reasonable business purposes, should this not be the case, we would be subject to a significant withholding tax that could materially and adversely impact our financial position, results of operations and cash flows.

***We may be exposed to liabilities under the Foreign Corrupt Practices Act and Chinese anti-corruption law.***

We are subject to the U.S. Foreign Corrupt Practices Act ("FCPA"), and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute for the purpose of obtaining or retaining business. We are also subject to Chinese anti-corruption laws, which strictly prohibit the payment of bribes to government officials. We have operations, agreements with third parties, and make sales in China, which may experience corruption. Our activities in China create the risk of unauthorized payments or offers of payments by one of the employees, consultants or distributors of our company, because these parties are not always subject to our control. We are in process of implementing an anticorruption program, which prohibits the offering or giving of anything of value to foreign officials, directly or indirectly, for the purpose of obtaining or retaining business. The anticorruption program also requires that clauses mandating compliance with our policy be included in all contracts with foreign sales agents, sales consultants and distributors and that they certify their compliance with our policy annually. It further requires that all hospitality involving promotion of sales to foreign governments and government-owned or controlled entities are in accordance with specified guidelines. In the meantime, we believe to date we have complied in all material respects with the provisions of the FCPA and Chinese anti-corruption law.

However, our existing safeguards and any future improvements may prove to be less than effective, and the employees, consultants or distributors of our Company may engage in conduct for which we might be held responsible. Violations of the FCPA or Chinese anti-corruption law may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition. In addition, the government may seek to hold our Company liable for successor liability FCPA violations committed by companies in which we invest or that we acquire.

***Uncertainties with respect to the PRC legal system could adversely affect us.***

We conduct all of our business through our subsidiaries in China. Our operations in China are governed by PRC laws and regulations. Our PRC subsidiaries are generally subject to laws and regulations applicable to foreign investments in China and, in particular, laws and regulations applicable to wholly foreign-owned enterprises. The PRC legal system is based on statutes. Prior court decisions may be cited for reference but have limited precedential value.

Since 1979, PRC legislation and regulations have significantly enhanced the protections afforded to various forms of foreign investments in China. However, China has not developed a fully integrated legal system and recently enacted laws and regulations may not sufficiently cover all aspects of economic activities in China. In particular, because these laws and regulations are relatively new, and because of the limited volume of published decisions and their nonbinding nature, the interpretation and enforcement of these laws and regulations involve uncertainties. In addition, the PRC legal system is based in part on government policies and internal rules (some of which are not published on a timely basis or at all) that may have a retroactive effect. As a result, we may not be aware of our violation of these policies and rules until sometime after the violation. In addition, any litigation in China may be protracted and result in substantial costs and diversion of resources and management attention.

Historically, the principal regulation governing foreign ownership of businesses in the PRC was the Guidance Catalogue for Industrial Structure Adjustments (the “Catalogue”). The Catalogue classified various industries into three categories: encouraged, restricted and prohibited. The Catalogue has been replaced by the Special Administrative Measures (Negative List) for Foreign Investment Access (2018), effective July 28, 2018, and amended and restated by the 2021 version, effective January 1, 2022 (the “Negative List”). The Negative List specifies the prohibited and non-prohibited (similar to the restricted in the Guidance Catalogue) industries for foreign investment. For the industries not covered by the Negative List, the foreign investment and the domestic investment have equal access. Foreign investors may not invest in the prohibited industries specified by the Negative List. For the non-prohibited industries on the Negative List, a foreign investor must obtain an investment permit. There are certain requirements on the equity ownership and the executive officers of the foreign invested enterprises. If PRC has certain equity requirements in certain investment fields, no foreign-invested partnership may be established.

According to the Negative List, our charcoal products and electric vehicle products are not prohibited. Therefore, our proportion of the foreign investment for these products may be up to 100%. We may not also produce or operate those items which belong to the Negative List. In addition, we are not sure if the Negative List will change in a way that the foreign investment may be limited or prohibited in our business.

Another example is the changes to the Chinese government’s subsidy/rebate support policies to EV manufacturers. Those changes have happened on a yearly basis and are at least partially causing delays in our collection of the accounts receivable.

***PRC government has legalized the VIE structure for the first time, but VIE structure still faces many uncertainties.***

Based on the advice of our PRC legal counsel, Zhejiang Zhengbiao Law Firm, the corporate structure of our VIE in China are in compliance with all existing PRC laws and regulations. According to the administrative provisions of the State Council on overseas securities issuance and listing of domestic enterprises (Draft for comments) (hereinafter referred to as the Administrative Provisions) and the administrative measures for the filing of overseas securities issuance and listing of domestic enterprises (Draft for comments) (hereinafter referred to as the Filing Measures) issued by the CSRC on December 24, 2021, The VIE framework has been officially recognized, but these two laws in draft are soliciting public opinions. At present, they have not been officially promulgated or come into force, and many filing requirements have been put forward for VIE. If VIE structure enterprises satisfy the premise of complying with domestic laws and regulations, and meet the compliance requirements, these VIE structure enterprises can go for overseas listing after filing with the appropriate government agencies, but the legislators have not yet provided a detailed explanation of the word “compliance requirements”. According to relevant legislative explanations and interpretations, the new regulations are not retroactive in principle, but additional offerings after overseas listing still need to be subject to regulatory measures such as filings. In addition, the new regulations require stricter national security and data security in the process of overseas listing. For example, “personal information of more than 100,000 people or sensitive personal information of more than 10,000 people” is subject to supervision of Chinese government. Chinese government’s legislation or legal supervision on VIE structure has just begun, the new regulations are only the “first step”, and other supporting rules will inevitably follow up in the future. Also, the two new regulations would be revised to some extent after the comments period, so overseas listed companies with VIE structure still faces many legal uncertainties. We need to wait for the more detailed rules and guideline on the VIE structure. According to PRC lawyers, since the Chinese government is a government under the rule of law before laws are promulgated, there will be a process of soliciting comments or publicizing them in advance. It is unlikely that there will be a sudden change in legislative act without prior notice.

On August 3, 2021, the Company completed dismantling its VIE structure and began controlling Wangbo, Shangchi Automobile and its subsidiary, Shenzhen Yimao, through direct equity ownership instead of a series of contractual arrangements. After the VIE was dismantled, the Company indirectly owns 100% of Wangbo. Wangbo and Jiyei keep owning 51% and 19% of Shangchi Automobile respectively. A third party keeps owning 30% of Shangchi Automobile.

***Governmental control of currency conversion may affect the value of your investment.***

The PRC government imposes controls on the convertibility of the RMB into foreign currencies and, in certain cases, the remittance of currency out of China, and in recent years, such controls have become increasingly stringent, although these controls are mainly aimed at criminal activities such as money laundering and fraud. We receive substantially all of our revenues in RMB. Under our current corporate structure, our income is primarily derived from dividend payments from our PRC subsidiaries. Shortages in the availability of foreign currency may restrict the ability of our PRC subsidiaries to remit sufficient foreign currency to pay dividends or other payments to us, or otherwise satisfy their foreign currency denominated obligations. Under existing PRC foreign exchange regulations, payments of current account items, including profit distributions, interest payments and expenditures from trade-related transactions can be made in foreign currencies without prior approval from the State Administration of Foreign Exchange of the People’s Republic of China (the “SAFE”) by complying with certain procedural requirements. However, approval from appropriate government authorities is required where RMB is to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of loans denominated in foreign currencies. The PRC government may also at its discretion restrict access in the future to foreign currencies for current account transactions. If the foreign exchange control system prevents us from obtaining sufficient foreign currency to satisfy our currency demands, we may not be able to pay dividends in foreign currencies to our security-holders.

***We are a holding company and we rely for funding on dividend payments from our subsidiaries, which are subject to restrictions under PRC laws.***

We are a holding company incorporated in the British Virgin Islands, and we operate our core businesses through our subsidiaries in the PRC. Therefore, the availability of funds for us to pay dividends to our shareholders and to service our indebtedness depends upon dividends received from these PRC subsidiaries. If our subsidiaries incur debt or losses, their ability to pay dividends or other distributions to us may be impaired. As a result, our ability to pay dividends and to repay our indebtedness will be restricted. PRC laws require that dividends be paid only out of the after-tax profit of our PRC subsidiaries calculated according to PRC accounting principles, which differ in many aspects from generally accepted accounting principles in other jurisdictions. PRC laws also require enterprises established in the PRC to set aside part of their after-tax profits as statutory reserves. These statutory reserves are not available for distribution as cash dividends. In addition, restrictive covenants in bank credit facilities or other agreements that we or our subsidiaries may enter into in the future may also restrict the ability of our subsidiaries to pay dividends to us. These restrictions on the availability of our funding may impact our ability to pay dividends to our Shareholders and to service our indebtedness.

***Our business may be materially and adversely affected if any of our PRC subsidiaries declare bankruptcy or become subject to a dissolution or liquidation proceeding.***

The Enterprise Bankruptcy Law of the PRC, or the Bankruptcy Law, came into effect on June 1, 2007. The Bankruptcy Law provides that an enterprise will be liquidated if the enterprise fails to settle its debts as and when they fall due and if the enterprise's assets are, or are demonstrably, insufficient to clear such debts.

Our PRC subsidiaries hold certain assets that are important to our business operations. If any of our PRC subsidiaries undergoes a voluntary or involuntary liquidation proceeding, unrelated third-party creditors may claim rights to some or all of these assets, thereby hindering our ability to operate our business, which could materially and adversely affect our business, financial condition and results of operations.

According to the SAFE's Notice of the State Administration of Foreign Exchange on Further Improving and Adjusting Foreign Exchange Administration Policies for Direct Investment, effective on December 17, 2012, and the Provisions for Administration of Foreign Exchange Relating to Inbound Direct Investment by Foreign Investors, effective May 13, 2013, if any of our PRC subsidiaries undergoes a voluntary or involuntary liquidation proceeding, prior approval from the SAFE for remittance of foreign exchange to our shareholders abroad is no longer required, but we still need to conduct a registration process with the SAFE local branch. It is not clear whether "registration" is a mere formality or involves the kind of substantive review process undertaken by SAFE and its relevant branches in the past.

***Fluctuations in exchange rates could adversely affect our business and the value of our securities.***

Changes in the value of the RMB against the U.S. dollar, Euro and other foreign currencies are affected by, among other things, changes in China's political and economic conditions. Any significant revaluation of the RMB may have a material adverse effect on our revenues and financial condition, and the value of, and any dividends payable on our shares in U.S. dollar terms. For example, to the extent that we need to convert U.S. dollars into Renminbi for our operations, appreciation of the Renminbi against the U.S. dollar would have an adverse effect on the Renminbi amount that we receive from the conversion. Conversely, if we decide to convert our RMB into U.S. dollars for the purpose of paying dividends on our common shares or for other business purposes, appreciation of the U.S. dollar against the RMB would have a negative effect on the U.S. dollar amount available to us. In addition, fluctuations of the RMB against other currencies may increase or decrease the cost of imports and exports, and thus affect the price-competitiveness of our products against products of foreign manufacturers or products relying on foreign inputs.

Since July 2005, the RMB is no longer pegged to the U.S. dollar. Although the People's Bank of China regularly intervenes in the foreign exchange market to prevent significant short-term fluctuations in the exchange rate, the RMB may appreciate or depreciate significantly in value against the U.S. dollar in the medium to long term. Moreover, it is possible that in the future PRC authorities may lift restrictions on fluctuations in the RMB exchange rate and lessen intervention in the foreign exchange market.

Our trading business relies heavily on exchange rate fluctuations. We seek to match suppliers and potential purchasers, which may be located in different geographic areas, and to lock in the exchange rates in order to ensure an appropriate profit margin on such sales. To the extent we are unable to obtain favorable exchange rates, we may find lower profits or losses than we expect.

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We reflect the impact of currency translation adjustments in our financial statements under the heading “accumulated other comprehensive income (loss).” For years ended December 31, 2022, 2021, and 2020, we had adjustments of \$(9,303,340), \$2,535,599, and \$5,892,311, respectively, for foreign currency translations. Very limited hedging transactions are available in China to reduce our exposure to exchange rate fluctuations. To date, we have not entered into any hedging transactions. While we may enter into hedging transactions in the future, the availability and effectiveness of these transactions may be limited, and we may not be able to successfully hedge our exposure at all. In addition, our foreign currency exchange losses may be magnified by PRC exchange control regulations that restrict our ability to convert RMB into foreign currencies.

***If we become directly subject to the recent scrutiny, criticism and negative publicity involving U.S.-listed Chinese companies, we may have to expend significant resources to investigate and resolve the matter which could harm our business operations and our reputation and could result in a loss of your investment in our stock, especially if such matter cannot be addressed and resolved favorably.***

In recent years, U.S. public companies that have substantially all of their operations in China have been the subject of intense scrutiny, criticism and negative publicity by investors, financial commentators and regulatory agencies, such as the SEC. Much of the scrutiny, criticism and negative publicity has centered around financial and accounting irregularities, a lack of effective internal controls over financial accounting, inadequate corporate governance policies or a lack of adherence thereto and, in many cases, allegations of fraud. As a result of the scrutiny, criticism and negative publicity, the publicly traded stock of many U.S. listed Chinese companies has sharply decreased in value and, in some cases, has become virtually worthless. Many of these companies are now subject to shareholder lawsuits and the SEC enforcement actions and are conducting internal and external investigations into the allegations. It is not clear what effect this sector-wide scrutiny, criticism and negative publicity will have on our company and our business. If we become the subject of any unfavorable allegations, whether such allegations are proven to be true or untrue, we will have to expend significant resources to investigate such allegations and/or defend the Company. This situation may be a major distraction to our management. If such allegations are not proven to be groundless, our company and business operations will be severely hampered and your investment in our stock could be rendered worthless.

***PRC regulations relating to the establishment of offshore special purpose companies by PRC residents may subject our PRC resident shareholders to penalties and limit our ability to inject capital into our PRC subsidiary, limit our PRC subsidiary’s ability to distribute profits to us, or otherwise adversely affect us.***

On October 21, 2005, the SAFE issued the Notice on Issues Relating to the Administration of Foreign Exchange in Fund-raising and Return Investment Activities of Domestic Residents Conducted via Offshore Special Purpose Companies, or Notice 75, which became effective as of November 1, 2005. According to Notice 75, prior registration with the local SAFE branch is required for PRC residents to establish or to control an offshore company for the purposes of financing such offshore company with assets or equity interests in an onshore enterprise located in the PRC, or an offshore special purpose company. An amendment to registration or filing with the local SAFE branch by such PRC resident is also required for the injection of equity interests or assets of an onshore enterprise in the offshore special purpose company or overseas funds raised by such offshore company, or any other material change involving a change in the capital of the offshore special purpose company. Moreover, Notice 75 applies retroactively. As a result, PRC residents who have established or acquired control of offshore special purpose companies that have made onshore investments in the PRC in the past are required to have completed the relevant registration procedures with the local SAFE branch by March 31, 2006.

To further clarify the implementation of Circular 75, the SAFE issued Circular 19 on May 20, 2011. Under Circular 19, PRC subsidiaries of an offshore special purpose company are required to coordinate and supervise the filing of SAFE registrations by the offshore holding company’s shareholders or beneficial owners who are PRC residents in a timely manner. However, on May 11, 2013, Circular 19 was annulled by Circular 21, issued by the SAFE. Circular 21 has not yet given clear guidance as to how to complete the relevant registration procedures with the local SAFE branch.

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While Ms. Yefang Zhang, a citizen of the Saint Lucia, is not required to register with the SAFE, it is not clear, especially with the annulment of Circular 19 and the absence of replacement guidance, whether Mr. Zhengyu Wang, a PRC resident who presently owns no shares of our company needs to register with the SAFE. In the event Mr. Zhengyu Wang receives any shares in the future and is a PRC resident at such time, he would be required to register with the SAFE. We cannot provide any assurances that such registration will be completed in a timely manner, or at all. As advised by our PRC legal counsel, if any future failure by any of our shareholders who are PRC residents, to comply with relevant requirements under this regulation could subject such shareholders and/or our PRC subsidiaries to fines and legal sanctions and may also limit our ability to contribute additional capital into our PRC subsidiaries or to provide loans to our PRC subsidiaries, limit our PRC subsidiaries' ability to distribute dividends to our company, or otherwise adversely affect our business.

### ***PRC regulation of loans and direct investment by offshore holding companies to PRC entities may delay or prevent us from using the proceeds from the offerings of any securities to make loans or additional capital contributions to our PRC operating subsidiaries.***

As an offshore holding company, our ability to make loans or additional capital contributions to our PRC operating subsidiaries is subject to PRC regulations and approvals. These regulations and approvals may delay or prevent us from using the proceeds we received in the past or will receive in the future from the offerings of securities to make loans or additional capital contributions to our PRC operating subsidiaries, and impair our ability to fund and expand our business which may adversely affect our business, financial condition and result of operations.

For example, the SAFE promulgated the Circular on the Relevant Operating Issues concerning Administration Improvement of Payment and Settlement of Foreign Currency Capital of Foreign Invested Enterprises, or Circular 142, on August 29, 2008. Under Circular 142, registered capital of a foreign invested company settled in RMB converted from foreign currencies may only be used within the business scope approved by the applicable governmental authority and may not be used for equity investments in the PRC. In addition, foreign invested companies may not change how they use such capital without the SAFE's approval, and may not in any case use such capital to repay RMB loans if they have not used the proceeds of such loans. Furthermore, the SAFE promulgated a circular on November 9, 2010, or Circular 59, which requires the authenticity of settlement of net proceeds from offshore offerings to be closely examined and the net proceeds to be settled in the manner described in the offering documents. In addition, to strengthen Circular 142, on November 9, 2011, the SAFE promulgated the Circular on Further Clarifying and Regulating Relevant Issues Concerning the Administration of Foreign Exchange under Capital Account, or Circular 45, which prohibits a foreign invested company from converting its registered capital in foreign exchange currency into RMB for the purpose of making domestic equity investments, granting entrusted loans, repaying intercompany loans, and repaying bank loans that have been transferred to a third party. Circular 142, Circular 59 and Circular 45 may significantly limit our ability to transfer the net proceeds from offerings of our securities or any future offering to our PRC subsidiaries and convert the net proceeds into RMB, which may adversely affect our liquidity and our ability to fund and expand our business in the PRC.

### ***The uncertainties of Chinese government's oversight on overseas listed company post the risk of the offering***

According to our PRC counsel, there are still uncertainties in the negotiations between the Chinese and US governments, and recent statements and actions by the Chinese government indicate an intent to exert more oversight and control over offerings that are conducted overseas and/or foreign investment in China-based issuers, so there are some risks that any such action could significantly limit or completely hinder our ability to offer or continue to offer securities to investors and cause the value of such securities to significantly decline or be worthless.

### **Risks Related to Our Corporate Structure and Operation**

#### ***We incur additional costs as a public company, which could negatively impact our net income and liquidity.***

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, Sarbanes-Oxley and rules and regulations implemented by the SEC and The Nasdaq Capital Market (the "Nasdaq") require significantly heightened corporate governance practices for public companies. We expect that these rules and regulations to increase our legal, accounting and financial compliance costs and make many corporate activities more time-consuming and costly.

We do not expect to incur materially greater costs as a public company than those incurred by similarly sized U.S. public companies. If we fail to comply with these rules and regulations, we could become the subject of a governmental enforcement action, investors may lose confidence in us and the market price of our common shares could decline.

***We have guaranteed the bank loan and share repurchase obligation of related parties and share purchase obligation of an unrelated party; if any such party fails to pay the bank loan or the share purchase obligation, our property may be subject to foreclosure or enforcement.***

In July 2020, we provided a guaranty on a line of credit on behalf of a related party, Zhejiang Forasen Food Co., Ltd. (“Forasen Food”). Forasen Food’s outstanding line of credit of RMB 10 million (approximately \$1.6 million) will expire on July 8, 2023.

In connection with this guaranty, we pledged our building and land’s rights as collateral for Forasen Food’s loans.

At the time we offered these guarantees, we believed Forasen Food would be able to repay (and would in fact repay) such loans and bank acceptance notes. Forasen Food, like our Company, is controlled by Ms. Yefang Zhang. For this reason, we are aware that Forasen Food has historically had a strong credit history with the banks with which it does business.

We also guaranteed the share repurchase obligation of a related party in 2018 and that guaranty has been replaced by a guaranty for the share purchase obligation of an unrelated party in 2019. In May 2018, our wholly owned subsidiary Zhejiang Tantech Bamboo Technology Co., Ltd. (“Tantech Bamboo”) signed an agreement with other co-guarantors to jointly and severally guarantee the share repurchase obligation of Forasen Group Co., Ltd. (“Forasen Group”), in favor of an unrelated third party. Such third party filed a complaint to claim a payment of \$4.6 million (RMB 29.50 million) against Forasen Group, together with the guarantors on January 9, 2019. On August 30, 2019, the court issued a settlement by which another unrelated third party agreed to purchase the shares from the plaintiff by paying approximately \$14.1 million (RMB 90 million), and all the co-guarantors including Tantech Bamboo jointly and severally guarantee the payment obligation regarding the \$14.1 million (RMB 90 million) and other possible fees, for three years from June 30, 2020, the due date of the share purchase payment obligation. On June 11, 2021, a new settlement agreement was reached by all parties. As of the settlement date, total payment obligation increased to approximately \$16.5 million (RMB 105.36 million) due to accrued interest for unpaid portion. The accused third party has paid approximately \$5.6 million (RMB 35.86 million) and approximately \$10.9 million (RMB 69.50 million) remains unpaid including accrued interest. As of the date of this filing, all outstanding payments were fully paid by the accused third party and dispute was settled.

***Entities controlled by our employees, officers and/or directors control a significant percentage of our common shares, decreasing your influence on shareholder decisions.***

Entities controlled by our employees, officers and/or directors, in the aggregate, beneficially own approximately 2.067% of our outstanding shares. As a result, our employees, officers and directors possess substantial ability to impact our management and affairs and the outcome of matters submitted to shareholders for approval. These shareholders, acting individually or as a group, could exert control and substantial influence over matters such as electing directors and approving mergers or other business combination transactions. This concentration of ownership and voting power may also discourage, delay or prevent a change in control of our company, which could deprive our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and might reduce the price of our common shares. These actions may be taken even if they are opposed by our other shareholders. See “ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES - E. Share Ownership.”

***The obligation to disclose information publicly may put us at a disadvantage to competitors that are private companies.***

As a publicly listed company, we are required to file periodic reports with the SEC upon the occurrence of matters that are material to our company and shareholders. In some cases, we need to disclose material agreements or results of financial operations that we would not be required to disclose if we were a private company. Our competitors may have access to this information, which would otherwise be confidential. This may give them advantages in competing with our company. Similarly, as a U.S.-listed public company, we are governed by U.S. laws that our competitors, which are mostly private Chinese companies, are not required to follow. To the extent compliance with U.S. laws increases our expenses or decreases our competitiveness against such companies, our public listing could affect our results of operations.

***We are a “foreign private issuer,” and our disclosure obligations differ from those of U.S. domestic reporting companies. As a result, we may not provide you the same information as U.S. domestic reporting companies or we may provide information at different times, which may make it more difficult for you to evaluate our performance and prospects.***

We are a foreign private issuer and, as a result, we are not subject to the same requirements as U.S. domestic issuers. Under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), we are subject to reporting obligations that, to some extent, are more lenient and less frequent than those of U.S. domestic reporting companies. For example, we are not required to issue quarterly reports or proxy statements. We are not required to disclose detailed individual executive compensation information. Furthermore, our directors and executive officers are not required to report equity holdings under Section 16 of the Exchange Act and are not subject to the insider short-swing profit disclosure and recovery regime.

As a foreign private issuer, we will also be exempt from the requirements of Regulation FD (Fair Disclosure) which, generally, are meant to ensure that select groups of investors are not privy to specific information about an issuer before other investors. However, we will still be subject to the anti-fraud and anti-manipulation rules of the SEC, such as Rule 10b-5 under the Exchange Act. Since many of the disclosure obligations imposed on us as a foreign private issuer differ from those imposed on U.S. domestic reporting companies, you should not expect to receive the same information about us and at the same time as the information provided by U.S. domestic reporting companies.

***We may lose our foreign private issuer status in the future, which could result in significant additional costs and expenses.***

The determination of our status as a foreign private issuer is made annually on the last business day of our most recently completed second fiscal quarter and, accordingly, the next determination will be made with respect to us on or after June 30, 2023. We would lose our foreign private issuer status if (1) a majority of our outstanding voting securities are directly or indirectly held of record by U.S. residents, and (2) a majority of our shareholders or a majority of our directors or management are U.S. citizens or residents, a majority of our assets are located in the United States, or our business is administered principally in the United States. If we were to lose our foreign private issuer status, the regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic issuer may be significantly higher. We may also be required to modify certain of our policies to comply with corporate governance practices associated with U.S. domestic issuers, which would involve additional costs.

***Our directors’ and executive officers’ other business activities may pose conflicts of interest.***

Our directors and executive officers have other business interests outside the company that could potentially give rise to conflicts of interest. For example, our Chairman, Zhengyu Wang, and his wife and our director, Yefang Zhang, collectively own all of Forasen Group. The Forasen Group’s primary business areas are investment, rubber trading, foodstuff production, and financial management. We also have historically engaged in rubber trading. Although we have significantly reduced our trading in rubber at Tantech to immaterial levels, both businesses were for a time trading similar products. Mr. Wang and Ms. Zhang work with the Forasen Group’s rubber trading department and other advisors to locate opportunities that meet the Forasen Group’s investment criteria. As Tantech has significantly reduced its rubber trading activities, they anticipate that any rubber trading opportunities would be presented to and considered by the Forasen Group rather than by Tantech.

Yefang Zhang is also the Chairman and Chief Executive Officer of Fammi, Inc. (“Fammi”), another Nasdaq listed company, and Zhengyu Wang is a director of Fammi. Mr. Wang has historically devoted approximately 15% of his time to matters concerning Fammi, approximately 15% of his time to matters for Tantech, and approximately 70% of his time to matters concerning Forasen Group. As Ms. Zhang and Mr. Wang devote considerable time and efforts to Fammi and Forasen Group, these sort of business activities could both distract them from focusing on Tantech and pose an issue of time commitment.

Ms. Zhang also indirectly controls 72.7% of CN Energy Group, Inc. (“CN Energy”), another Nasdaq-listed company. CN Energy is a manufacturer and supplier of wood-based activated carbon and a producer of biomass electricity. Neither Ms. Zhang nor Mr. Wang currently holds any position at CN Energy.



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Mr. Wang and Ms. Zhang signed a Non-Competition Agreement with our company, Fammii and CN Energy which provides that Mr. Wang and Ms. Zhang shall not vote in favor or otherwise cause Fammii or CN Energy to engage in the business that we conduct. Although, because of this non-competition agreement, we do not believe that there are business activities of Mr. Wang and Ms. Zhang that will compete directly with our business operations, it is possible that the enforceability of this agreement may be challenged and a conflict of interest may occur.

In addition, we have permitted Forasen Group to occupy and use 6,415.32 square meters of our Tianning Street real property as office and factory facilities. We have not historically charged Forasen Group for such usage, but plan to do so in the near future. Although we believe we engage in sound corporate governance practices, there remains the risk that our company may be negatively affected by our directors' or executive officers' conflicts of interest.

### ***An insufficient amount of insurance could expose us to significant costs and business disruption.***

While we have purchased insurance to cover our certain assets and property of our business, the amounts and scope of coverage could leave our business inadequately protected from loss. If we were to incur substantial losses or liabilities due to fire, explosions, floods, other natural disasters or accidents or business interruption, our results of operations could be materially and adversely affected.

### **Risks Related to Ownership of Our Common Shares**

***A recent joint statement by the SEC and the Public Company Accounting Oversight Board (United States), or the "PCAOB," proposed rule changes submitted by The Nasdaq Stock Market LLC ("NASDAQ"), and an act passed by the U.S. Senate all call for additional and more stringent criteria to be applied to emerging market companies upon assessing the qualification of their auditors, especially the non-U.S. auditors who are not inspected by the PCAOB. These developments could add uncertainties to our continued listing on NASDAQ in the future.***

On April 21, 2020, the SEC and PCAOB released a joint statement highlighting the risks associated with investing in companies based in or having substantial operations in emerging markets including China. The joint statement emphasized the risks associated with lack of access for the PCAOB to inspect auditors and audit work papers in China and higher risks of fraud in emerging markets.

On May 18, 2020, NASDAQ filed three proposals with the SEC to (i) apply a minimum offering size requirement for companies primarily operating in a "Restrictive Market," (ii) adopt a new requirement relating to the qualification of management or the board of directors for Restrictive Market companies, and (iii) apply additional and more stringent criteria to an applicant or listed company based on the qualifications of the company's auditor.

On May 20, 2020, the U.S. Senate passed an act requiring a foreign company to certify it is not owned or manipulated by a foreign government if the PCAOB is unable to audit specified reports because the company uses a foreign auditor not subject to PCAOB inspection. If the PCAOB is unable to inspect the company's auditor for three consecutive years, the issuer's securities are prohibited to trade on a national exchange.

On June 4, 2020, the U.S. President issued a memorandum ordering the President's working group on financial markets, or the "PWG" to submit a report to the President within 60 days of the date of the memorandum that should include recommendations for actions that can be taken by the executive branch and by the SEC or PCAOB to enforce U.S. regulatory requirements on Chinese companies listed on U.S. stock exchanges and their audit firms. However, it remains unclear what further actions, if any, the U.S. executive branch, the SEC, and PCAOB will take to address the problem.

On August 6, 2020, the PWG released a report recommending that the SEC take steps to implement the five recommendations outlined in the report. In particular, to address companies from jurisdictions that do not provide the PCAOB with sufficient access to fulfill its statutory mandate, or "NCJs", the PWG recommends enhanced listing standards on U.S. stock exchanges. This would require, as a condition to initial and continued exchange listing, PCAOB access to work papers of the principal audit firm for the audit of the listed company. Companies unable to satisfy this standard as a result of governmental restrictions on access to audit work papers and practices in NCJs may satisfy this standard by providing a co-audit from an audit firm with comparable resources and experience where the PCAOB determines it has sufficient access to audit work papers and practices to conduct an appropriate inspection of the co-audit firm. The report permits the new listing standards to provide for a transition period until January 1, 2022 for listed companies, but would apply immediately to new listings once the necessary rulemakings and/or standard-setting are effective.

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On August 10, 2020, the SEC announced that SEC Chairman had directed the SEC staff to prepare proposals in response to the PWG Report, and that the SEC was soliciting public comments and information with respect to these proposals. Since we are listed on the Nasdaq Capital Market, if we fail to meet the new listing standards before the deadline specified thereunder due to factors beyond our control, we could face possible de-listing from the Nasdaq Capital Market, deregistration from the SEC, and/or other risks, which may materially and adversely affect, or effectively terminate, the trading of our shares of common stock in the United States.

On November 23, 2020, the Division of Corporation Finance of SEC released a report regarding disclosure considerations for China-Based issuers. The report recommended that China-based Issuers must disclose material risks related to their operations in China. The recommended risk factors including i) providing clear and prominent disclosure of PCAOB inspection limitation and lack of enforcement mechanisms; ii) using VIEs in its organizational structure; (iii) disclose risks relating to the regulatory environment in China; (iv) disclosing about differing shareholder rights and remedies in the company's country of organization and/or based on where a company's operations are located; and (vi) if the company is a foreign private issuer, disclosing corporate governance differences pursuant to Item 16G of Form 20-F, and difference in reporting requirements between U.S. domestic issuers and foreign private issuers.

On December 14, 2020, the Division of Investment Management's Disclosure Review and Accounting office reported an Accounting and Disclosure Information-Disclosure Regarding Investments in Emerging Markets, encouraging funds to provide tailored disclosures of risks in the emerging markets in which the funds invest and related risks, so that investors are able to make informed investment decisions about the among funds.

The Holding Foreign Companies Accountable Act, or the HFCA Act, was enacted on December 18, 2020. The HFCA Act states if the SEC determines that a company has filed audit reports issued by a registered public accounting firm that has not been subject to inspection by the PCAOB for three consecutive years beginning in 2021, the SEC shall prohibit such shares from being traded on a national securities exchange or in the over the counter trading market in the U.S.

On March 24, 2021, the SEC adopted interim final rules relating to the implementation of certain disclosure and documentation requirements of the HFCA Act. A company will be required to comply with these rules if the SEC identifies it as having a "non-inspection" year under a process to be subsequently established by the SEC. The SEC is assessing how to implement other requirements of the HFCA Act, including the listing and trading prohibition requirements described above.

On June 22, 2021, the U.S. Senate passed a bill titled as the Accelerating Holding Foreign Companies Accountable Act, or AHFCA Act which, if passed by the U.S. House of Representatives and signed into law, would reduce the number of consecutive non-inspection years required for triggering the prohibitions under the Holding Foreign Companies Accountable Act from three years to two.

Further, the PCAOB adopted a final rule on September 22, 2021 implementing the HFCA Act. Such final rule, however, remains subject to the SEC's approval and it remains when the SEC will complete its rulemaking and when such rules will become effective and what, if any, of the PWG recommendations and or PCAOB's rule will be adopted.

On December 2, 2021, the SEC adopted amendments to finalize rules implementing the submission and disclosure requirements in the Holding Foreign Companies Accountable Act.

On December 16, 2021, the PCAOB issued a report on its determinations that it is unable to inspect or investigate completely PCAOB-registered public accounting firms headquartered in mainland China and in Hong Kong because of positions taken by PRC and Hong Kong authorities in those jurisdictions.

On August 26, 2022, the CSRC, the Ministry of Finance of the PRC (the "MOF"), and the PCAOB signed a Statement of Protocol (the "Protocol"), governing inspections and investigations of audit firms based in China and Hong Kong. On December 15, 2022, the PCAOB determined that it was able to secure complete access to inspect and investigate registered public accounting firms headquartered in mainland China and Hong Kong and vacated its previous Determinations to the contrary. However, should PRC authorities obstruct or otherwise fail to facilitate the PCAOB's access in the future, the PCAOB may consider the need to issue a new determination. On December 29, 2022, the Accelerating Holding Foreign Companies Accountable Act was signed into law as part of the "Consolidated Appropriations Act, 2023" (the "Consolidated Appropriations Act"), reducing the number of consecutive non-inspection years required for triggering the prohibitions under the HFCA Act from three years to two.

However, the recent developments would add uncertainties to our listing and we cannot assure you whether Nasdaq or regulatory authorities would apply additional and more stringent criteria to us after considering the effectiveness of our auditor's audit procedures and quality control procedures, adequacy of personnel and training, or sufficiency of resources, geographic reach or experience as related to the audit of our financial statements. Furthermore, there is a risk that our auditor cannot be inspected by the PCAOB in the future. The lack of inspection could cause trading in our securities to be prohibited on a national exchange or in the over-the-counter trading market under the HFCA Act and related regulations, and, as a result, Nasdaq may determine to delist our securities, which may cause the value of our securities to decline or become worthless.

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Our auditor, YCM CPA Inc., is an independent registered public accounting firm with the PCAOB, and as an auditor of publicly traded companies in the U.S., is subject to laws in the U.S. pursuant to which the PCAOB conducts regular inspections to assess its compliance with the applicable professional standards. Our auditor has been inspected by the PCAOB on a regular basis. However, the above recent developments have added uncertainties to our continued listing on NASDAQ in the future, to which NASDAQ may apply additional and more stringent criteria after considering the effectiveness of our auditor's audit and quality control procedures, adequacy of personnel and training, sufficiency of resources, geographic reach, and experience as related to our audit.

***If we continue to be unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common shares may decline.***

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. In addition, we are required to furnish a report by management on the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. If we continue to identify material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner or assert that our internal control over financial reporting is effective, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common shares could be negatively affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, which could require additional financial and management resources.

***The requirements of being a public company may strain our resources and divert management's attention.***

As a public company, we are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Act, the listing requirements of the securities exchange on which we list, and other applicable securities rules and regulations. Despite recent reforms made possible by the JOBS Act, compliance with these rules and regulations will nonetheless increase our legal and financial compliance costs, make some activities more difficult, time-consuming or costly and increase demand on our systems and resources, particularly as we have ceased to be an "emerging growth company." The Exchange Act requires, among other things, that we file annual, quarterly, and current reports with respect to our business and operating results.

As a result of disclosure of information in this annual report and in filings required of a public company, our business and financial condition become more visible, which we believe may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and operating results could be harmed, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and adversely affect our business, brand and reputation and results of operations.

We also expect that being a public company and these rules and regulations make it more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

***The market price of our common shares may be volatile or may decline regardless of our operating performance, and you may not be able to resell your shares at or above the price you paid.***

The trading prices for our common shares have fluctuated since we first listed our common shares. Since our common shares became listed on the Nasdaq on March 24, 2015, the trading price of our common shares has ranged from \$0.222 to \$7461.60 per common share, and the last reported trading price on April 28, 2023 was \$[\*] per common share. The market price of our common shares may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- actual or anticipated fluctuations in our revenue and other operating results;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;
- actions of securities analysts who initiate or maintain coverage of us, changes in financial estimates by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;

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- announcements by us or our competitors of significant products or features, technical innovations, acquisitions, strategic partnerships, joint ventures, or capital commitments;
- price and volume fluctuations in the overall stock market, including as a result of trends in the economy as a whole;
- lawsuits threatened or filed against us; and
- other events or factors, including those resulting from war or incidents of terrorism, or responses to these events.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. Stock prices of many companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have filed securities class action litigation following periods of market volatility. If we were to become involved in securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business, and adversely affect our business.

### ***We do not intend to pay dividends for the foreseeable future.***

We currently intend to retain any future earnings to finance the operation and expansion of our business, and we do not expect to declare or pay any dividends in the foreseeable future. As a result, you may only receive a return on your investment in our common shares if the market price of our common shares increases.

### ***We incur significant costs as a result of being a public company.***

As a public company, we incur legal, accounting and other expenses that we did not incur as a private company. For example, we must now engage U.S. securities law counsel and U.S. auditors that we did not require as a private company, and we have annual payments for listing on Nasdaq. In addition, the Sarbanes-Oxley Act, as well as new rules subsequently implemented by the SEC and NASDAQ, have required changes in corporate governance practices of public companies. We expect these new rules and regulations to increase our legal, accounting and financial compliance costs and to make certain corporate activities more time-consuming and costly. In addition, we incur additional costs associated with our public company reporting requirements. While it is impossible to determine the amounts of such expenses, we expect that we incur expenses of between \$500,000 and \$1 million per year that we did not experience as a private company.

### ***U.S. tax authorities could treat us as a “passive foreign investment company,” which could have adverse U.S. federal income tax consequences to U.S. shareholders.***

A non-U.S. entity treated as a corporation for U.S. federal income tax purposes will be treated as a “passive foreign investment company,” or a PFIC, for any taxable year for which either (i) at least 75% of its gross income consists of certain types of “passive income” or (ii) at least 50% of the average value of the corporation’s assets produce, or are held for the production of, those types of passive income. For purposes of these tests, passive income includes rents and royalties (other than rents and royalties that are received from unrelated parties in connection with the active conduct of a trade or business) and does not include income derived from the performance of services.

If we are treated as a PFIC, U.S. Holders would ordinarily be able to mitigate certain of the negative tax consequences if they are able to make: (i) a timely qualified electing fund (“QEF”) election; (ii) a protective QEF election; or (iii) a mark to market election with respect to the first taxable year in which we are considered a PFIC during the U.S. Holder’s holding period in its shares.

We are not committing to provide our U.S. Holders with the information required for making a QEF election or protective QEF election. If we fail to provide such information, a QEF election with respect to such entity generally will not be available. In such event, the rules described in the next paragraph generally will apply.

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If we are treated as a PFIC, a U.S. Holder that does not make a QEF election generally will be subject to a special tax and an interest charge upon the sale of its shares or receipt of an “excess distribution” with respect to its shares. A U.S. Holder will be treated as receiving an “excess distribution” if the amount of the distributions received by the U.S. Holder in any taxable year is more than 125% of the average annual distributions paid by the Company with respect to its shares during the three preceding taxable years (or the period in which the U.S. Holder held such shares if shorter).

In addition, a portion of any gain recognized by a U.S. Holder upon the sale of our shares may be recharacterized as ordinary income. Further, any dividends received from the Company, if the Company is treated as a PFIC, will not constitute qualified dividend income and will not be eligible for the reduced 20% rate of tax even if such rate would be available otherwise. If a U.S. Holder holds our shares during any taxable year in which we are treated as PFICs, such shares will generally be treated as stock in a PFIC for all subsequent years.

***We are subject to liability risks stemming from our foreign status, which could make it more difficult for investors to sue or enforce judgments against our company.***

Our operations and assets are located in the PRC. In addition, most of our executive officers and directors are non-residents of the U.S., and substantially all the assets of such persons are located outside the U.S. As a result, it could be difficult for investors to effect service of process in the U.S., or to enforce a judgment obtained in the U.S. against us or any of these persons.

In addition, British Virgin Islands companies may not have standing to initiate a shareholder derivative action in a federal court of the United States. The circumstances in which any such action may be brought, and the procedures and defenses that may be available in respect to any such action, may result in the rights of shareholders of a British Virgin Islands company being more limited than those of shareholders of a company organized in the United States. Accordingly, shareholders may have fewer alternatives available to them if they believe that corporate wrongdoing has occurred. The British Virgin Islands courts are also unlikely to recognize or enforce against us judgments of courts in the United States based on certain liability provisions of U.S. securities law; and to impose liabilities against us, in original actions brought in the British Virgin Islands, based on certain liability provisions of U.S. securities laws that are penal in nature. There is no statutory recognition in the British Virgin Islands of judgments obtained in the United States, although the courts of the British Virgin Islands will generally recognize and enforce the non-penal judgment of a foreign court of competent jurisdiction without retrial on the merits. This means that even if shareholders were to sue us successfully, they may not be able to recover anything to make up for the losses suffered.

Lastly, under the law of the British Virgin Islands, there is little statutory law for the protection of minority shareholders other than the provisions of the BVI Act dealing with shareholder remedies. The principal protection under statutory law is that shareholders may bring an action to enforce the constituent documents of the corporation, our amended and restated memorandum and articles of association. Shareholders are entitled to have the affairs of the company conducted in accordance with the general law and the articles and memorandum.

There are common law rights for the protection of shareholders that may be invoked, largely dependent on English company law, since the common law of the British Virgin Islands for business companies is limited. Under the general rule pursuant to English company law known as the rule in *Foss v. Harbottle*, a court will generally refuse to interfere with the management of a company at the insistence of a minority of its shareholders who express dissatisfaction with the conduct of the company’s affairs by the majority or the board of directors. However, every shareholder is entitled to have the affairs of the company conducted properly according to law and the constituent documents of the corporation. As such, if those who control the company have persistently disregarded the requirements of company law or the provisions of the company’s memorandum and articles of association, then the courts will grant relief. Generally, the areas in which the courts will intervene are the following: (1) an act complained of which is outside the scope of the authorized business or is illegal or not capable of ratification by the majority; (2) acts that constitute fraud on the minority where the wrongdoers control the company; (3) acts that infringe on the personal rights of the shareholders, such as the right to vote; and (4) where the company has not complied with provisions requiring approval of a special or extraordinary majority of shareholders, which are more limited than the rights afforded minority shareholders under the laws of many states in the United States.

## ITEM 4. INFORMATION ON THE COMPANY

### A. History and Development of the Company

Tantech Bamboo was established in October 2002 under the trading name “Lishui Zhonglin High Tech Co., Ltd.” by its incumbent owner. Lishui Forasen Food Co. Ltd. was established in January 1998. In April 2003, it changed its name to Lishui Forasen Green Industry Group, later renamed Forasen Group Co. Ltd. (“Forasen Group”). In May 2003, 60% of THL’s shares were acquired by the Forasen Group. A second subsidiary, Zhejiang Tantech Bamboo Charcoal Co., Ltd. (“Tantech Charcoal”), was acquired in September 2006 to manage the Forasen Group’s export business. In September 2008 a third subsidiary, Zhejiang Tantech Energy Technology Co., Ltd. (“Tantech Energy”), was established to research and develop bamboo charcoals application as a carbon component for EDLCs. On December 14, 2017, the Company entered into a sale agreement and related agreements to transfer its EDLC carbon business (including intellectual property rights and equipment) to Zhejiang Apeikesi Energy Co., Ltd. (the “Buyer”), a PRC start-up company controlled by Dr. Zaihua Chen, the Company’s then Chief Technology Officer. Following the renaming of the Forasen Group to its current name, 95% of Tantech Bamboo’s shares were acquired by USCNHK, a Hong Kong registered company, in December 2010. In May and December 2016, Tantech Holdings (Lishui) Co., Ltd., formerly Zhejiang Tantech Bamboo Technology Co., Ltd., a USCNHK’s wholly owned subsidiary, acquired 100% of Tantech Bamboo’s shares from USCNHK and five individuals.

#### Historical Timeline

Below is a brief timeline of key dates in our Company’s history since its formation.

- January 1998: Lishui Forasen Food Co. Ltd. is established.
- September 2001: Tantech Charcoal is established.
- October 2002: Tantech Bamboo is established as “Lishui Zhonglin High Tech Co., Ltd.” with registered capital of RMB 3.15 million.
- April 2003: Lishui Forasen Food Co. Ltd. is renamed “Lishui Forasen Green Industry Group” (the former name of Forasen Group Co., Ltd.).
- May 2003: Forasen Group acquires 60% of Tantech Bamboo.
- December 2005: (1) Tantech Bamboo reorganizes its structure (a) from a limited company to a shareholder company and (b) to increase registered capital to RMB 21 million, resulting in a decrease of Forasen Group’s interest to 41.24%; (2) Tantech Bamboo is renamed “Zhejiang Tantech Bamboo Technology Co., Ltd.”; (3) Zhengyu Wang becomes legal representative of Tantech Bamboo.
- September 2006: Tantech Bamboo acquires Tantech Charcoal by transferring shares from Forasen Group and natural shareholders to Tantech Bamboo. As a subsidiary, Tantech Charcoal’s business scope is exporting Forasen Group’s products to a multitude of countries worldwide.
- September 2007: Forasen Group’s interest in Tantech Bamboo increases to 44.25%.
- January 2008: Tantech Bamboo increases its registered capital to RMB 27 million, decreasing Forasen Group’s interest to 34.41%.
- July 2008 through April 2009: Several shareholders of Tantech Bamboo transfer their interests to Forasen Group, increasing its interest in Tantech Bamboo to 51.45%.
- September 2008: Tantech Energy is established and operates as subsidiary of Tantech Bamboo.
- October 2008: USCNHK is established as “Raymond & O/B Raysuccess Co., Limited”.

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- October 2009: Lishui Forasen Green Industry Group is renamed “Forasen Group Co. Ltd.”.
- November 2010: THL is established as “Sinoport Enterprises Limited.”
- December 2010: (1) USCNHK is renamed “USCNHK Group Limited”; (2) Tantech Bamboo increases its registered capital to RMB 80 million, increasing Forasen Group’s interest to 95%; (3) Forasen Group transfers all of its interest in Tantech Bamboo to USCNHK.
- April 2013: THL is renamed “Tantech Holdings Ltd”.
- March 2015: THL completed an initial public offering of its common shares and listing on Nasdaq.
- April 2015: THL established a subsidiary Euroasia.
- July 2015: Euroasia established a subsidiary Jiamu.
- December 2015: Hangzhou Tanbo Technology Co., Ltd. was established.
- February 2016: Jiamu established a subsidiary Jiye.
- April 2016: USCNHK established a new subsidiary as “Zhejiang Tantech Bamboo Technology Co., Ltd.”
- May 2016: USCNHK transferred 95% of Tantech Bamboo’s shares it owned to Zhejiang Tantech Bamboo Technology Co., Ltd.
- December 2016: Zhejiang Tantech Bamboo Technology Co., Ltd acquired the remaining 5% of Tantech Bamboo’s shares.
- May 2017: Zhejiang Tantech Bamboo Technology Co., Ltd changes its name to Lishui Tantech Energy Technology Co., Ltd, which in turn changed its name in July 2017 to Tantech Holdings (Lishui) Co., Ltd.
- On July 12, 2017, the Company acquired a 70% equity interest of Shangchi Automobile, formerly Suzhou E-Motors. The 70% equity interest comprises a 19% equity interest owned directly through Jiye and a 51% equity interest owned through a series of contractual agreement with the owners of Wangbo.
- October 2017: Euroasia established a subsidiary Euroasia New Energy Automotive (Jiangsu) Co., Ltd.
- On December 14, 2017, the Company entered into a sale agreement and related agreements to transfer its EDLC carbon business (including intellectual property rights and equipment) to Zhejiang Apeikesi Energy Co., Ltd., a PRC start-up company controlled by Dr. Zaihua Chen, our former Chief Technology Officer.
- On January 10, 2018, the Company signed a share purchase agreement with Shanghai Shicai Minerals Co., Ltd. (“Shanghai Shicai”) to acquire all of the shares of Lishui Xincai Industrial Co., Ltd. (“Lishui XinCai”), a wholly-owned subsidiary of Shanghai Shicai, at a price of approximately \$18.2 million (or RMB 120 million). Lishui Xincai owns 18% of the equity interests in Libo Haokun, so we indirectly hold a 18% stake in Libo Haokun.
- On October 24, 2018, the Company closed Khorgas Tantech Business Service Co., Ltd. and Khorgas Yabo Software Co., Ltd.
- On November 5, 2018, the Company closed Zhejiang Tantech Tourism Development Co., Ltd.
- On November 12, 2018, the Company closed Zhejiang Babiku Charcoal Co., Ltd.

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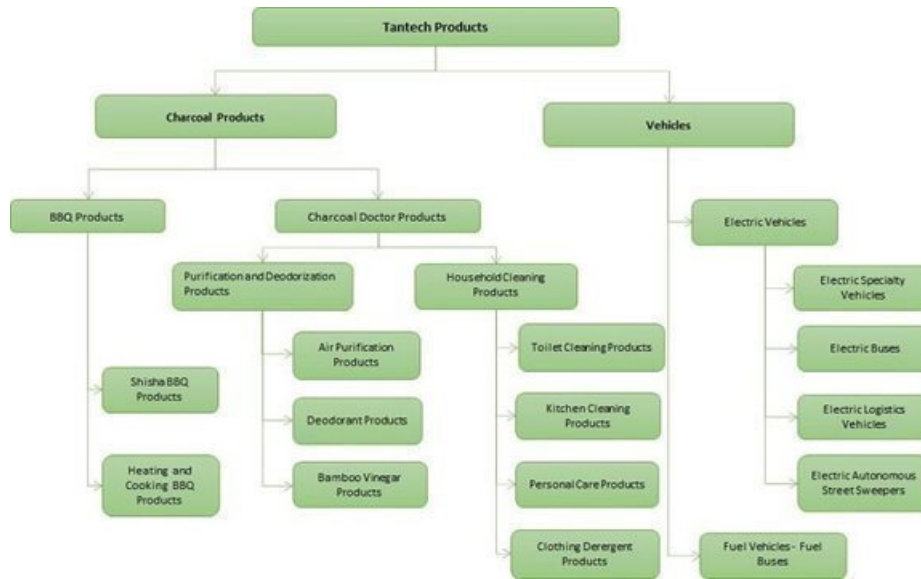
- On November 13, 2018, the Company established Shenzhen Yimao New Energy Sales Co., Ltd., a sales subsidiary through Shangchi Automobile (formerly known as Suzhou E-Motors).
- On June 26, 2019, the Company entered a share transfer agreement to sell all of its shares in its wholly-owned subsidiary Tantech Energy to an unrelated third party.
- On November 29, 2019, the Company signed an investment agreement with Jingning Zhonggang Mining Co., Ltd. (“Jingning Zhonggang”) to acquire 18% of the equity interest of Fuquan Chengwang, a wholly-owned subsidiary of Jingning Zhonggang, at a price of RMB 46.323 million, or \$6.48 million.
- On December 31, 2019, the Company’s wholly owned subsidiary Tantech Bamboo transferred all of its shares in its wholly-owned subsidiary Tantech Charcoal to Lishui Xincai, the Company’s another wholly owned subsidiary Lishui Xincai.
- In January 2020, Lishui Jikang Energy Technology Co., Ltd. was established.
- In November 2020, Lishui Smart New Energy Automobile Co., Ltd. (“Lishui Smart”) and Zhejiang Shangchi New Energy Automobile Co., Ltd. (“Zhejiang Shangchi”) were established.
- In November 2020, the Company launched driverless and autonomous street sweepers.
- In November 2020, the Company closed an offering with institutional investors, raising approximately \$10 million in gross proceeds, before deducting placement agent fees and other standard offering expenses, from the sale of 6,060,608 of its common shares, priced at \$1.65 per share, registered warrants to purchase up to 2,754,820 common shares in a registered direct offering, and unregistered warrants to purchase up to 3,305,788 common shares in a concurrent private placement.
- On September 23, 2021, the Company established Shanghai Wangju Industrial Group Co., Ltd.
- On October 21, 2021, EAG International Vantage Capital Limited, a subsidiary of the Company, entered into an Equity Acquisition Agreement with Zhifan Dai, an unrelated third party, to acquire all the shares of China East Trade Co., Limited. without any consideration.
- On October 21, 2021, Shanghai Wangju Industrial Group Co., Ltd., a subsidiary of the Company, entered into an Equity Transfer Agreement with Shenzhen Shangdong Investment Co., Ltd., an unrelated third party, to acquire all the shares of Shenzhen Shangdong Trading Co., Ltd. without any consideration. As of the date of acquisition of China East Trade Co., Limited and Shenzhen Shangdong Trading Co., Ltd., First International Commercial Factoring (Shenzhen) Co., Ltd became the 100 holding company of the company.
- On November 13, 2021, the Company established Zhejiang Shangchi Medical Equipment Co., Ltd.
- On December 2, 2021, the Company entered into an underwriting agreement with Aegis Capital Corp., or the Underwriter, pursuant to which the Company agreed to sell to the Underwriter, in a firm commitment public offering, 21,120,509 common shares of the Company, par value \$0.001 per share for a public offering price of \$0.65 per share. The Company received approximately \$13.7 million in net proceeds from the Offering before deducting the underwriting discount and estimated offering expenses payable by the Company. The Company also granted the Underwriter an option for a period of 45 days to purchase an additional 3,168,076 common shares solely to cover over-allotments.
- On February 24, 2022, the Company’s Board approved a proposal to effect a share consolidation of the Company’s authorized shares including issued and unissued common shares at the ratio of one-for-ten. The consolidation was effective on February 28, 2022. under the symbol “TANH” but trade under a new CUSIP Number, G8675X123.
- On March 18, 2022, the Company closed an underwritten public offering of 20,000,000 common shares and prefunded warrants to purchase common shares pursuant to an underwriting agreement dated March 16, 2022 by and between the Company and Aegis Capital Corp. The gross proceeds to the Company were approximately \$10.0 million, before deducting underwriting discounts and commissions and other estimated expenses payable by the Company. The pre-funded warrants were offered at the same \$0.50 price per share as the common shares, less the \$0.001 per share exercise price of each pre-funded warrant. On March 22, 2022, the underwriter of the Offering exercised its Over-allotment Option to purchase an additional 2,880,000 common shares at a price of \$0.50 per common share. Total gross proceeds to the Company from the Offering, including the proceeds received from the prior closing and the exercise of the Over-allotment Option, were approximately \$11.4 million, before deducting underwriting discounts, commissions, and other offering expenses payable by the Company.
- On May 19, 2022, the Company formed a wholly-owned subsidiary, EPakia Inc., under the laws of the State of Delaware. Based in the Mid-Atlantic region of the United States, EPakia will be primarily focused on developing biodegradable packaging business in the United States and the international markets.
- In July 2022, the Company formed a wholly-owned subsidiary in Canada, EPakia Canada Inc. EPakia Canada will be engaged in developing the biodegradable packaging trading business in Canada and other international markets.
- On October 28, 2022, the Board of Directors of the Company, approved a proposal to effect a share consolidation of the Company’s authorized shares including issued and unissued common shares at the ratio of one-for-twenty-four. The consolidation was effective on November 2, 2022, under the symbol “TANH” but trade under a new CUSIP Number, G8675X149.

## **B. Business Overview**

We develop and manufacture bamboo-based charcoal products for industrial energy applications and household cooking, heating, purification, agricultural and cleaning uses. We have grown over the past decade to become a pioneer in charcoal products industry made from carbonized bamboo. We are a highly specialized high-tech enterprise producing, researching and developing bamboo charcoal-based products with an established domestic and international sales and distribution network. On July 12, 2017, we completed the acquisition of Suzhou E Motors Co, which was later renamed as Shangchi Automobile, a vehicle manufacturer based in Zhangjiagang City, Jiangsu Province, and our business includes the manufacture and sale of vehicles. In November 2020, we established two subsidiaries in Zhejiang Province with the plan of producing and selling specialty electric vehicles such as driverless street sweepers. In May and July 2022, we established two subsidiaries in United States and Canada with the plan of developing biodegradable packaging business.



We provide our products primarily in the following areas:



We oversee a national sales network that has a presence in 19 cities throughout China for our charcoal products. Through distributors, our charcoal products are also sold in Japan, South Korea, Taiwan, the Middle East and Europe.

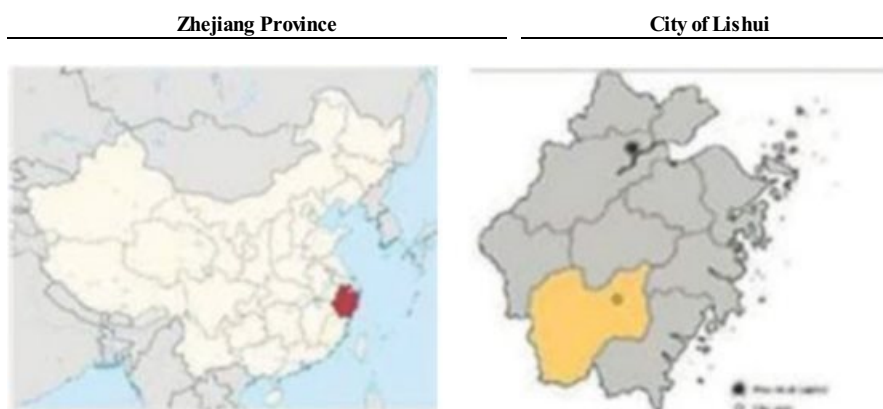
In addition to our bamboo charcoal products, we also derive revenues from our trading activities, which primarily relate to industrial purchases and sales of charcoal.

Further, we own an indirect 18% interest in Libo Haokun Stone Co., Ltd., a marble mining operating company, and an indirect 14.76% interest in Fuquan Chengwang, a basalt mining company.

We are headquartered in the bamboo rich southwest of Zhejiang Province, in the city of Lishui. Zhejiang province, located in southeastern coastal China, is China's seventh largest province in population, with 65.77 million residents as of the end of 2022. The first province in China without any counties in the poverty-county list of the central government, Zhejiang has become one of the wealthiest and most commercial provinces in China. Its province-wide GDP of approximately RMB 7.77 trillion in 2022 places it as the fourth highest in China in absolute amount.

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Lishui is a prefecture-level city located in southwest Zhejiang province. Approximately 2.693 million residents live in the city as the end of 2022, and city-wide GDP is approximately RMB 183 billion in 2022. Lishui's primary industries include wood and bamboo production, ore smelting, textile, clothes making, construction materials, pharmaceutical chemistry, electronic machinery and food processing. As to wood and bamboo production, approximately 81.7% of Lishui prefecture is covered with forest, giving it the nickname "The Foliage Ocean of Zhejiang."



We rely on a combination of patent, trademark and trade secret laws and non-disclosure agreements and other methods to protect our intellectual property rights. We currently own four patents and fifty-eight trademarks in China covering our bamboo charcoal production and five patents and fifteen trademarks in China covering our vehicle production.

For the years ended December 31, 2022, 2021, and 2020, three major suppliers accounted for approximately 68%, three major suppliers accounted for approximately 69%, and two major suppliers accounted for approximately 70%, of the Company's total purchases, respectively. Because we purchase a material amount of our raw materials from these suppliers, the loss of any such suppliers could result in increased expenses for our company and result in adverse impact on our business, financial condition and results of operations.

**Bamboo and Bamboo Charcoal**

As a company primarily focused on bamboo charcoal, our business is in a sub-part of China's bamboo industry. Government policies that encourage the use of bamboo also benefit the bamboo charcoal industry. Accordingly, we provide a brief overview of bamboo and those elements of China's bamboo industry, insofar as they have an effect on the bamboo charcoal industry in general and our company in particular.

**Bamboo**

Bamboo plants are some of the fastest growing plants in the world, with some varieties growing more than three feet per day. Moreover, Bamboo can be re-grown quickly following harvesting, ensuring high frequency utilization without shortages. Unlike trees, individual bamboo culms emerge from the ground at their full diameter and grow to their full height in a single growing season of three to four months. Over the next 2-5 years, fungus begins to form on the outside of the culm, which eventually penetrates and overcomes the culm. Eventually the fungal growths cause the culm to collapse and decay. As a result, bamboo culms generally have life cycles of up to ten years, at which point they must be cut down in order to preserve the environment of the surrounding forest. Optimal quality bamboo culms for carbonization are cut at five years of age. Additional bamboo can be grown in the same area where previous culms grew.

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Bamboo is considered environmentally friendly because it takes in substantial amounts of carbon dioxide and gives off oxygen as it grows. Indeed, bamboo sequesters more carbon dioxide than an equivalent region of plantation trees. Moreover, harvesting of bamboo is considered more environmentally friendly than allowing it to live through the full life cycle, as such harvesting maximizes the amount of carbon dioxide the bamboo can sequester because of the effects of fungus noted above.

According to the Opinions on Accelerating the Innovation and Development of the Bamboo Industry jointly issued by ten departments including the State Forestry and Grassland Administration of China in 2021, by 2035, the total value of China bamboo industry will exceed 1 trillion yuan. The total value of China's bamboo industry was approximately RMB380 billion yuan, as of 2021. As of 2021, it employs more than 15 million people and has become a pillar industry of development of economic society of China's bamboo main producing area and major income source of peasants' families. Given bamboo's importance in China, we believe that favorable government policies and regulations encouraging the advancement of bamboo technology in China generally will create an environment favorable to our increased production of bamboo-based charcoal products. The Chinese government is also working to develop its bamboo industry to meet its goals in environmental protection and green economic development, as planting bamboo is both profitable and environmentally-friendly, according to the International Network for Bamboo and Rattan ("INBAR"). Moreover, given the central government's goal to reduce carbon dioxide emissions per unit of GDP by 60 to 65 percent by 2030 compared to 2005, we expect the bamboo technology industry to continue to be important to the country's long-term planning.

According to statistics from INBAR, China has more than 6 million hectares for bamboo production and over 500 bamboo species.

In 2021, for example, the domestic industry was worth 380 billion yuan and employed more than 15 million people.

During a period of rampant deforestation, China put in place restrictions on harvesting of natural wood and encouraged the country to make more use of bamboo. Under the National Forest Protection Program ("NFPP"), China implemented natural forest logging bans that covered 17 provinces in China. These bans required consumers of charcoal to look to other sources for creation of charcoal than the natural trees they were most familiar with using. During this time, bamboo charcoal became a viable alternative in the country.

Bamboo has many desirable characteristics compared to timber based products:

- Culms are ideally allowed to reach 5-7 years of maturity prior to full capacity harvesting. The clearing out or thinning of culms, particularly older decaying culms, helps to ensure adequate light and resources for new growth;
- Commercial growers can annually harvest between one-quarter and one-third of a bamboo grove that is at least three years old. Harvesting at such rates allows continuous, sustainable harvesting;
- Bamboo will re-grow from same rootstalk (rhizome);
- Plant tends to be drought tolerant; and
- Bamboo minimizes carbon dioxide gases and generates up to 35% more oxygen than an equivalent area of trees. One hectare of bamboo can sequester 62 tons of CO<sub>2</sub>/year, while one hectare of young forest can sequester 15 tons of CO<sub>2</sub>/year.

The global bamboos market size was valued at USD 61.52 billion in 2022 and is expected to reach over USD \$105.22 billion by 2032, growing at a CAGR of around 5% during the forecast period from 2023 to 2032. There are about 39 genera of bamboo and more than 857 species in China with more than 7.01 million hectares of pure bamboo forest, which accounts for one third of the bamboo area in the world in 2022. China is leading the world's bamboo industry in its number of varieties, amount of bamboo reserves, as well as production output, said Zehui Jiang, co-chair of INBAR's board of trustees.

Zhejiang province is situated on the shore of the East China Sea and has about thirty genera and four hundred varieties of bamboo. Bamboo products made there are sold all around the world, with an annual output of RMB53.7 billion (\$8.3 billion) in 2021. Zhejiang province has almost one sixth of the whole bamboo forest area in China.

## **Bamboo Charcoal**

Bamboo charcoal has been documented in China as early as 1486 AD during the Ming Dynasty in China. Bamboo charcoal has traditionally been used as a heating source, in replacement of wood, coal or wood charcoal. As a source of heat, bamboo charcoal has a calorific value approximately half that of an equivalent weight of oil, and similar to the calorific value of wood. In addition to being an efficient source of heat, bamboo charcoal is considered by the International Tree Foundation less polluting than wood charcoal, because it burns more cleanly due to a lower percentage of volatile matter. Smoke and pollution in charcoal burning relate largely to moisture content and volatile matter. While careful processing can control the moisture content, the ratio of volatile matter is affected by the source of charcoal.

Because of the relatively higher pollution levels in wood charcoal, it is estimated that the burning of wood fuel claims the lives of an estimated 4 million people every year who inhale the smoke. Moreover, it takes between seven and ten tons of wood to produce one ton of wood charcoal, compared with four tons of bamboo to produce one ton of bamboo charcoal.

In addition to use as a heating source, bamboo charcoal has applications as an adsorbent, deodorizer, dehumidifier, purifier and electrical conductor. Nonactivated bamboo charcoal is a versatile mineral matter with great porosity and consequently high absorption ability. Bamboo charcoal's porous surface area makes it an ideal air and water purifying agent, odor absorbent, additive, dehumidifier and electromagnetic wave absorber (electromagnetic waves from computers, mobile telephones and other electronics can be conducted through bamboo charcoal to dissipate their energy in the charcoal pores). While wood charcoal's surface area may be as low as 20 m<sup>2</sup>/g, bamboo charcoal generally ranges from 300-600 m<sup>2</sup>/g.

While bamboo charcoal has a high absorptive capacity after carbonization, it becomes even more effective after activation. Activated bamboo carbon is bamboo charcoal that has been taken through an extra step greatly increasing its absorptive abilities. Activated bamboo charcoal can be used for cleaning the environment, absorbing excess moisture and producing medicines.

The carbonization process occurs in the absence of oxygen and produces a brown-black liquid containing more than 200 organic compounds known as bamboo vinegar, or pyroligneous acid. Following sedimentation two distinct layers appear: a light yellow-brown liquid (clarified bamboo vinegar) which can be refined to produce acetic acid, propionic acid, butyric acid, carbinol and organic solvents, and a viscid oily liquid (bamboo tar) containing large amounts of phenol substances. Bamboo vinegar is found in sanitary and health products as well as a range of horticultural fertilizers and organic solutions.

## **EDLC Carbon (Divested Business)**

On December 14, 2017, the Company entered into a sale agreement and related agreements to transfer its EDLC carbon business (including intellectual property rights and equipment) to Zhejiang Apeikesi Energy Co., Ltd., a PRC start-up company controlled by Dr. Zaihua Chen, our former CTO. With the completion of the transactions, the Company expected to focus its core business on the development of electric vehicle products and traditional charcoal products. Tantech's Board of Directors approved the terms of the sale based on a valuation report obtained by the parties and with knowledge that Dr. Chen was the Company's CTO during the transaction. However, as part of the transactions, Dr. Chen resigned from the Company's CTO position on December 31, 2017.

The decision of the Company to divest its EDLC carbon business was made based on business considerations, including the fact that (1) the company's EDLC carbon business had been dependent on a very limited number of customers, (2) capital constraints on additional substantial investment on developing EDLC Carbon products, (3) a challenging market condition and unfavorable political climate and (4) the Company's future transition focus of its traditional charcoal business to electric vehicle business.

Pursuant to the agreements, Tantech sold to the buyer all of its intellectual property rights related to EDLC carbon and the equipment for R&D and production. The buyer paid Tantech a total purchase price of RMB 16 million. The payment will be made over 10 years. Other key terms include the following: (a) the first payment of 28% of the total purchase price, or RMB 4.48 million, was made in 2017, consisting of RMB 3.2 million in cash advancement and RMB 1.28 million as payment for Tantech's EDLC carbon related IP rights;

(b) the remaining balance of the purchase price would be paid evenly over the following nine years; and all the payment has been made in 2020. (c) the second payment of RMB 1.28 million of the purchase price and cash interests on the remaining cash receivable was made in 2018; and (d) Tantech will lease its office space, including offices and EDLC carbon R&D and production facilities, to the Buyer, subject to a concession of a free leasehold for the first two years.

**Our Products**



Before acquisition of Shangchi Automobile, we primarily produced and sold three categories of products (including EDLC carbon products which were divested in 2017), all of which are produced from bamboo charcoal or bamboo charcoal byproducts. Because of the lifespan and fast growth rate of bamboo, our products are considered environmentally friendly. Moreover, our facilities have received ISO 14001:2004 certification, which reflects our focus on measuring and managing our environmental impact.



Samples of Charcoal Doctor solid products from our exhibition hall



Samples of Charcoal Doctor liquid products from our exhibition hall.

## BBQ Charcoal Products

We sell pressed and formed charcoal briquettes for use in grills, incense burners, and other applications for which the primary purpose of the charcoal is burning for heat or fuel. These products are sold in China and internationally under the Algold brand. Previously we produced most of these products by ourselves. Since 2019, we stopped producing BBQ charcoal products due to the stricter environmental requirements by the local government and started to purchase them from third party manufacturers. Because of too few profits, the company stopped selling the BBQ in 2020.



BBQ Charcoal Briquettes



Hookah Coals



Refined BBQ Charcoal



Disposable BBQ Grill

Our charcoal briquettes are processed from carbonized bamboo and wood into charcoal and pressed into shapes appropriate for our customers' preferred use. These products include barbecue grill briquettes, disposable all-in-one barbecue grills (including charcoal), and fuel for incense and tobacco burners.

We expect revenues generated from our charcoal briquette products in overseas market will increase, however we expect total revenue in our charcoal briquette will keep current relevant level in comparison to these other segments and in absolute terms.

## Charcoal Doctor Products

Our primary consumer brand is Charcoal Doctor ("Tan Boshi" or "Dr. Tan" in Chinese). In processing the charcoal products, the primary byproducts are solid charcoal and charcoal vinegar. We make use of both the solid and liquid byproducts in our Charcoal Doctor products.

Our Charcoal Doctor brand products have been the primary source of our revenue over the last few years. Charcoal Doctor products are sold throughout China and stocked by many supermarkets and specialty shops in Zhejiang Province and other provinces. Several years ago we sought to protect and grow our market share pricing our products aggressively, often as much as 10-15% below our competitors' prices, with the brand improve visibility, our price are same as others. Our Charcoal Doctor products' gross profit margins average 26%, largely due to our industrialized and automated production processes. We plan to expand product lines in the coming years to take advantage of the many uses of bamboo charcoal and vinegar. Charcoal Doctor products can be categorized according to their physical state: liquid or solid:

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Our solid charcoal products are primarily used for purification and deodorization. These consumer products are made from dry distilled carbonized bamboo, and have the ability to absorb harmful substances and foul odors from the air, including benzene, toluene, ammonia and carbon tetrachloride. The primary ingredient of these products, activated charcoal, is an adsorbent. Our solid Charcoal Doctor products generally fit within three categories: (1) charcoal bags, primarily used as air purifiers and humidifiers, (2) charcoal deodorants and (3) toilet cleaning disks. Our primary Charcoal Doctor solid products include the following:

- Air purifiers and humidifiers
- Automotive accessories for air purification
- Underfloor humidity control
- Pillows and mattresses
- Wardrobe deodorizers
- Mouse pads and wrist mats
- Refrigerator deodorant
- Charcoal toilet cleaner disks
- Liquid charcoal cleaner
- Shoe insoles
- Decorative charcoal gifts

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Samples of the range of solid Charcoal Doctor products are pictured below.



Flat Health Pillow



Memory Foam Back Rest



Mesh Charcoal Insole



Clothes Hanger



Rod Charcoal Head Pillow



Air Purifier/Humidifier



Wardrobe Strips



Liquid Toilet Cleaner



Bottle Bag



Toilet Cleaner Disks



Car Air Purifiers



Refrigerator Deodorants



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In addition to providing solid charcoal, the carbonization process also results in a liquid byproduct called bamboo vinegar. Bamboo vinegar is used in disinfectants, detergents, lotions, specialized soaps, toilet cleaners and fertilizers. We have also adapted our bamboo vinegar for use in a variety of agricultural applications:

- Fruit, vegetable, and other plant fertilizers
- Soil conditioners and sweeteners
- Flower nutrients
- Toilet cleaning liquid detergent and solid disks
- Hand washing sanitation

Samples of the range of liquid Charcoal Doctor products are pictured below.



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We believe liquid products are crucial to maintaining close ties with the agricultural industry, which we expect will be a key area for growth in the coming years. We have expanded in this area by adding production lines for daily health products, such as toilet-cleaning products, hand washing products, as well as other everyday household items based on silver ion anti-bacterial nanotechnology.

We use this silver ion nanotechnology for sterilization to improve the effectiveness of our sanitation and purification products. We purchase silver ion nano powder from third parties to add into our products. We use our own formulas for the purification and sanitation products that incorporate such powder.

We have developed two kinds of products that use our silver ion nanotechnology. Our detergent products are based on bamboo vinegar and are supplemented by the introduction of silver ion nano powder. These products are used for washing clothes and are in the trial stage. We began trial sales of our silver nano detergent products in Yantai (Shandong Province), Lishui (Zhejiang Province), Chengdu (Sichuan Province) and Zhengzhou (Henan Province) in November 2012. We have concluded our trial sales in Lishui and Chengdu (and plan to conclude sales in Yantai upon the exhaustion of current trial sales inventory), and our preliminary conclusions are that customers liked the product but were less enthusiastic about the packaging. As a result, we adjusted our packaging in preparation for full-scale sales. At the same time as we have sold such products under our Charcoal Doctor brand name in China, we also sold these products to Africa and the Middle East. Because silver nano decomposes and turns black after encountering light, it will turn black in the detergent, which is not good in appearance, but the washing effect is very good. In addition, the company needs to invest a lot of money in brand development. Considering comprehensively, silver ion laundry detergent will no longer be produced.

Our silver ion bamboo charcoal bag products are used for odor absorption and air purification. We combine our charcoal powder products with silver ion nano powder to achieve a charcoal bag that may be stored in a wider variety of locations. If our traditional bags are stored in conditions that are too damp and warm, mold or mildew may grow. Our silver ion nano products are able to fight the growth of mold and mildew, allowing them to be used in damp conditions without problem. We have begun to promote and sell limited numbers of such bags in connection with our sales of traditional charcoal bags. We are promoting these bags in anticipation of adding such products to our portfolio of products for sale in supermarkets and other stores. Our distributors typically invite us to apply in June or July to update the products we will offer for sale in their customer stores, and we are required to pay a fee for shelf space at such time. Accordingly we plan to increase demand for our silver ion nano products in anticipation for adding them to the list of products we sell this year. As we will make these silver ion nano charcoal bags available everywhere we offer our traditional charcoal bags, we will leverage our existing sales and distribution channels to introduce these products to the market.

### **Vehicles**

On July 12, 2017, the Company acquired a 70% equity interest of Shangchi Automobile, formerly Suzhou E-Motors. Suzhou E-Motors develops, manufactures, and sells electric vehicles and fuel vehicles. The company also offers solar cells, lithium-ion batteries, auto parts, and electric control systems in China. Its manufacturing facility, located in Zhangjiagang City, Jiangsu Province, is 15,000 square meters. Shangchi Automobile has been approved by the Ministry of Industry and Information Technology ("MIIT") as qualified to manufacture vehicles. It is also entitled to both central and local government subsidies with any approved EV models. As of the date of this report, Shangchi Automobile has seventeen fuel vehicle and one EV vehicle model approved by MIIT.

Shangchi Automobile has to date developed a full range of electric buses and a variety of specialty vehicles. It has developed ten models of electric buses, electric logistics cars, and electric specialty vehicles, such as high-speed brushless cleaning cars, electric cleaning cars, special emergency vehicles, and funeral cars. The sale region for current products is mainly within Jiangsu Province where the Shangchi Automobile locates. In 2018, we sold 110 electric logistic vehicles to Southern China. In 2019, we sold 117 electric logistic cars on behalf of other vehicle manufacturers for commission income. In 2020, we produced 10 fuel midibuses and exported them to Singapore. In addition, we sold 85 fuel midibuses and 59 electric specialty vehicles in fiscal 2020 on behalf of other vehicle manufacturers for commission income. In 2021, we produced 7 fuel midibuses to export, and we sold 477 fuel midibuses on behalf of other vehicle manufacturers for commission income. In 2022, we produced 264 fuel midibuses of which 212 were sold domestically and 52 were exported, and we also sold 360 fuel midibuses on behalf of other vehicle manufacturers for commission income.

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Below are examples of the vehicles produced by Shangchi Automobile.

**Tourist Buses.** The tourist buses are 12-meter-long and 7-meter-long lithium-battery-based buses whose interior noise is less than 76 dBs and off vehicle acceleration noise is less than 82 db.



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**Logistic Vehicles.** The electric logistic vehicles are 4.2-meter-long, 810 kg standard load weight fully charged vehicles. Each are a 100% electricity-driven vehicle specially designed for logistics companies. The batteries for this vehicle can be charged and discharged quickly, and each vehicle is made of high quality steel stamping body which is highly durable. The internal structure and the design of the car doors are both made for the deliverers' convenience.





**Urban Sanitary Vehicles.** The urban sanitary vehicles work with high efficiencies with low operating expenses. They travel (clean) around 20~30 km/hr with fuel consumption rates approximately 3.33 km/liter. The vehicles are equipped with professional sanitary vehicle chasses, with front axle drives & front axle steering to strengthen their operations' stability and smoothness; the whole vehicle is made of strengthened steel plates and pipes, making it more durable and anti-collusive.



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Below are the major vehicle components we purchase for assembling the EVs:

- Vehicle chassis
- Electric motors
- Lithium-ion battery packs
- Three-in-One electric control systems
- Vehicle carriage

In general, the purchase of the vehicle chassis, electric motors, lithium-ion battery pack and three-in-one electric control system have covered two-thirds of EVs' production cost. We purchase these components from three different but well-established suppliers in China.

We currently rely on local EV distributors to sell our EVs to end-users. The primary reason for such a sales channel is the dependence on local government subsidy policies. In general, local governments only allow the locally-licensed EV distributors to sell EV vehicles, which are entitled to EV road permits and subsidies.

Over the years, Shangchi Automobile has had more than 20 EV core technologies and patents, including nanotechnology for raw materials for power lithium electronics, group technology of power lithium electronics and battery management technology.

**Fuel Buses.** In addition to EVs including electric buses, Shangchi Automobile also produces fuel buses. Our major fuel bus products are sleek, diesel midibuses which have an overall length of 7 meters, two doors and have seats for 23 passengers, with a total capacity of 50. Featuring a manual 5 speed transmission and all the luxuries of a high-end bus, the midibus boasts an efficient, luxury travel experience with comfortable seating, USB charging ports, powerful air conditioning and a state-of-the-art air purification system. We can also assemble fuel buses based on the customers' customized requirements.



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**Autonomous Electric Street Sweepers.** We have developed three driverless and autonomous street sweeper models. They are designed for closed areas and therefore do not require any vehicle manufacturing license. All of them are electric. The Shangchi SC-120A model features unmanned, automatic sweeping, the Shangchi SC-120B model features manned, autonomous, intelligent sweeping, and the Shangchi SC-100A features unmanned, automatic sweeping, autonomous learning, and remote control. These street sweepers are designed for quieter operation and improved cleaning performance, with the ability to reduce or eliminate the 7 to 8 humans required for typical sweeper vehicle operation. We have sold 37 driverless street sweepers during 2021, and we established two companies, Lishui Smart and Zhejiang Shangchi, to produce and sell street sweepers, respectively.



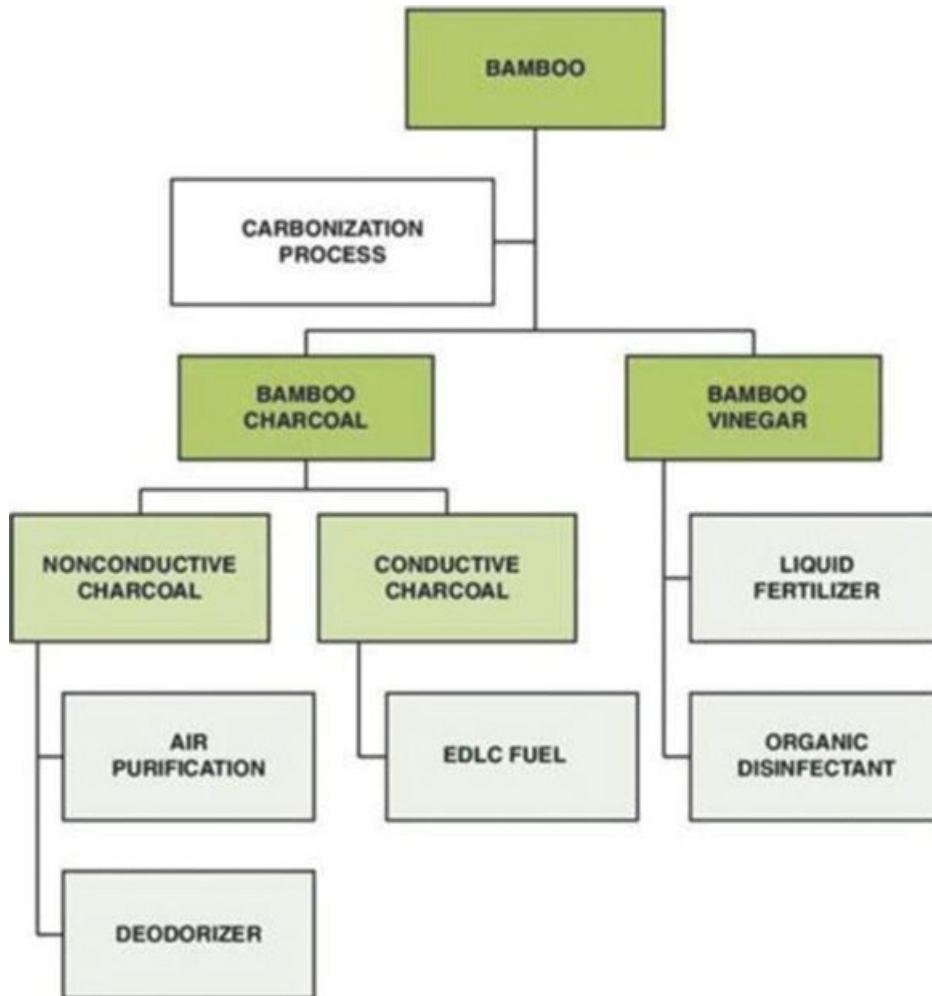
**New Lines of Business**

During the year ended December 31, 2022, we have started two new lines of business-biodegradable packaging business and commercial factoring service. Biodegradable packaging is a type of packaging that is designed to break down naturally in the environment, without leaving behind harmful pollutants or waste. The market for biodegradable packaging has been growing rapidly in recent years, driven by increased awareness of environmental issues and the desire to reduce plastic waste. We generated approximately \$4.0 million revenue from biodegradable packaging business in fiscal 2022.

For the commercial factoring service, we provide it to customers who seek financing for their receivables. We generated approximately \$1.4 million financing interest income in fiscal 2022.

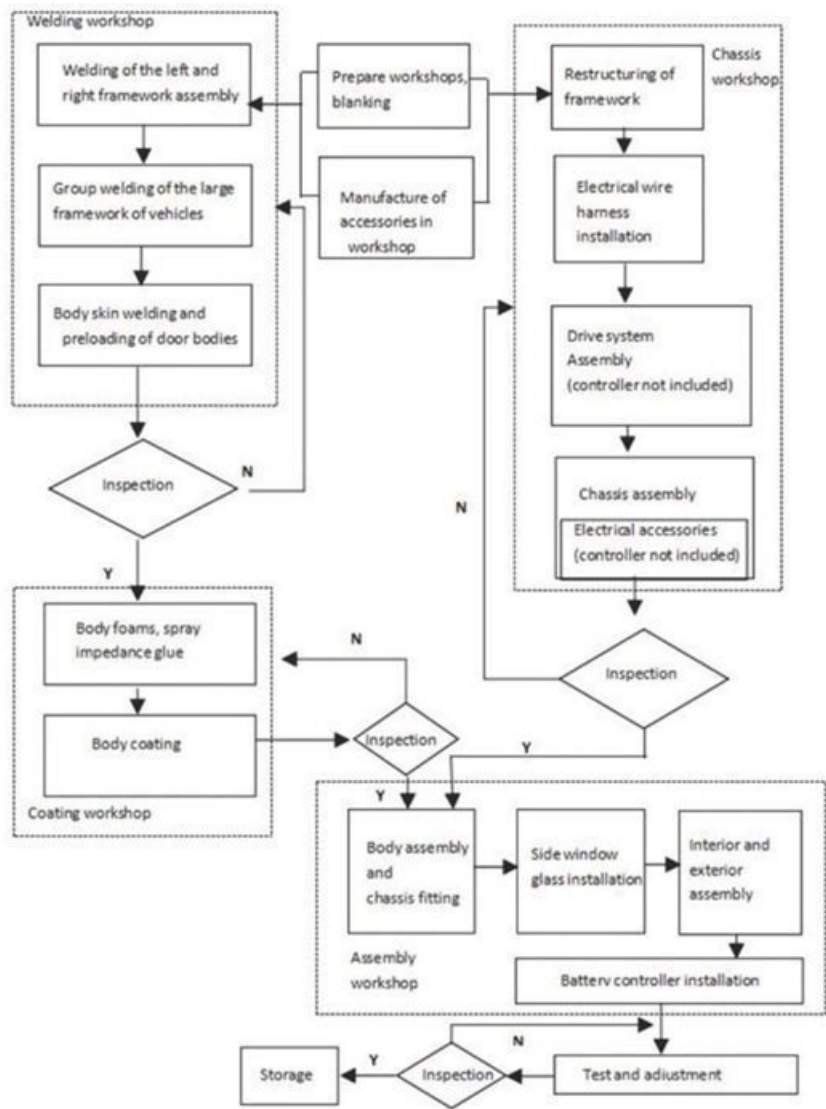
**Our Processing Workflow of Bamboo Charcoal Products**

We develop and manufacture our bamboo charcoal products using the following processing workflow:





We develop and manufacture our electric vehicles using the following processing workflow:



## **Raw Materials**

Our primary raw material for charcoal products is bamboo charcoal. Each year, we purchase bamboo charcoal locally that has been prepared to our specifications from between 15 and 20 suppliers located in and around Lishui. The majority of such purchases comes from approximately two suppliers. In recent years, due to the rising awareness of environmental protection, the Zhejiang province is taking a series of measures to improve water environment, which has led to a massive closure of small-sized bamboo charcoal manufacturers. In addition, we were unable to purchase wood charcoal briquettes from a large supplier, Tahe Xingzhongda Carbon Co. in 2016, due to shortage of supply. However, we have taken actions to remedy such matters, in particular to our primary raw material, bamboo charcoal. Therefore, we do not expect any shortage supply from bamboo charcoal in coming years.

We also purchase bamboo vinegar for use in our liquid products. Our bamboo vinegar suppliers in some but not all cases are the same as our bamboo charcoal suppliers. As the supply of bamboo vinegar is directly related to the supply of bamboo charcoal, we believe we have a steady supply of bamboo vinegar given the prevalence of bamboo in the Lishui area. Accordingly, we do not anticipate any lack of availability of bamboo vinegar for our liquid products.

We purchased wood charcoal briquettes from a supplier in Heilongjiang province for use in our OEM BBQ charcoal products before. As such products have low technical requirements and are typically used for heating and cooking purposes, we have found that competing on price makes purchasing wood-based charcoal for such purposes suit our customers' requirements. Our primary source for wood charcoal briquettes, which we rebrand under our Algold brand for sale in China, is Tahe Xingzhongda Carbon Co. in Daxing Anling, Heilongjiang province. In 2016, we were unable to purchase raw material from Tahe Xingzhongda Carbon Co. It caused major decline in our domestic charcoal briquettes sale. While we have adjusted our purchasing strategies to look for alternatives, due to tightening environmental control in local authority, we expect the cost of wood charcoal briquettes would increase in the coming years. Because of too few profits, the Company stopped selling the BBQ in 2020.

In addition to our primary raw materials, we also purchase small amounts of other raw materials, such as silver ion nano powder, fabric for charcoal bags, packaging materials, and coconut charcoal. We do not anticipate any difficulty in replacing the suppliers of any of such minor raw materials.

The prices of our primary raw materials have not historically been volatile. We have generally experienced differences in price of less than 5% over the course of a year for our primary raw materials.

## **Vehicles**

We do not produce major vehicles components directly from raw material. In general, we purchase major parts directly from three major suppliers. The suppliers for parts are shown below:

- Changzhou Ruiyue Automobile Co., Ltd. - SKD
- Jiangsu King Power Technology Co., Ltd. - Engine
- Danyang City Bona Vehicle Industry Co., Ltd.- automobile wire harness

## **Distribution Channels and Methods of Competition**

### **International Markets and Customers**

Our bamboo charcoal products are also sold directly or indirectly through distributors to international markets. Such exported products include bamboo vinegar, bamboo charcoal and purification product. The majority of our export items are for non-energy use. We estimate that with respect to our charcoal products that the percentage of goods sold for export is less than 5%, with the majority destined for Japan, South Korea and Taiwan.

## **Domestic Markets and Customers**

Currently, our consumer products and vehicles are sold via our distributors' networks. In addition, we have a logistics center in Lishui and relationships with third-party warehousing companies in Jinan. Starting from 2016, we have been selling our products mainly through distributors instead of operating logistics and warehousing facilities internally. In addition, we have significantly cut our charcoal product sales to supermarket customers.

We are in the process of expanding our charcoal product line to include toilet cleaning and kitchen cleaning products, among others. We believe there will be a high demand for these types of products because of growing awareness of cleanliness and environmental protection, as well as antibacterial products and disinfectants. In addition, we are in the process of restructuring our distribution network in an effort to cut both overall time and costs relating to the sale cycle.

## **Geographic Distribution of Revenues**

Beginning in 2017, our charcoal products are sold via distributors instead of direct distribution to supermarkets and chain stores. As all of our sales are completed in China, with title transferring to our customers in the country, we estimate most of our products are sold and used in China. We have divested our EDLC line of business, which had contributed greatly to our international sales.

## **Electric Vehicles**

Supported by the Chinese government's endorsement and driven by its focus on petroleum resource independence, environmental protection and the "Made in China 2025" industrial upgrade, we believe the electric vehicle sector is the most promising segment in the Chinese auto industry. China has become the largest new energy vehicle market in the world. According to equal ocean's forecast, a well-known research institution in China, China's new energy vehicle sales are projected to grow to 11.3 million units in 2025, and its penetration rate is expected to reach 35% by 2025.

Our specialty vehicles have a variety of uses in many areas. Each of these vehicles integrate the advanced technology of mechanical, electronic, hydraulic, chemical, environmental protection and other fields into a special vehicle chassis to realize its specific function. Specialty vehicles are widely used in the highway transportation, engineering construction, oil fields, mines, electricity, telecommunications, postal, medical, environmental sanitation, agriculture, water conservancy, aviation, food, public security, fire protection, justice and national defense construction markets.

In general, our EV product faces two group of competitors: manufacturers of conventional fuel vehicles and EV manufactures. In terms of competitors specializing in conventional fuel vehicles, many of them are much larger in terms of size, have greater manufacturing capabilities, and have larger customer bases than we do. However, the conventional fuel vehicle manufacturers face many challenges, including environmental pollution and energy scarcity, which provides great opportunities for the rapid development of the EV industry in China. In addition, conventional fuel vehicle manufacturers have begun focusing their attention on developing and producing EV, and we expect that we may face tougher competition in the future from these manufacturers.

There are many companies in China that engage in the research, production and distribution of electric vehicles. Competition within the electric vehicle market is intense as we have to compete with many domestic and global companies, established and new EV manufactures, some of which have greater brand recognition and resources than we do. As a brand new player in the Chinese electric vehicle industry, we hope our focus on developing specialty vehicles might give us advantages in a niche market, rather than facing strong competition from similar vehicles on the consumer vehicle market.

## **Methods of Competition**

The primary market for our Charcoal Doctor line of products is household hygiene use. Our air purification, deodorizing, and other health promoting products such as our charcoal pillow, cater to a niche but growing market of health-conscious customers. Customers in this sector have a particular affinity to brands. Notwithstanding this loyalty, product-switching costs are low, so manufacturers must compete on price.

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We conducted a marketing survey in Guangzhou in October 2013 for our charcoal bag products. According to the survey, we found that a decrease in package weight of 10% or an increase in price of 5% resulted in a loss of sales of less than 1%, showing that the market could absorb minor changes. By contrast, when the price increase reached 10% or the package weight decrease reached 15%, we saw that 30% of respondents were willing to choose alternate brands or forego a purchase. We further found that for cleaning and purification products, 85% of respondents cared about design attractiveness and approximately 65% made purchasing decisions based on attractiveness, causing us to conclude that demand for our products is more heavily influenced by such products than by minor (but not major) economic fluctuations.

Because the household hygiene sector has enjoyed relatively strong growth in the last few years as a result of increases in disposable urban income and an increased awareness of healthy lifestyle products, we have focused on growing our market share in this industry. In order to do this, compete by pricing our products aggressively, often at a discount of 10 - 20% below our competitors. In addition, we pride ourselves on providing a high quality product, so that our customers believe they have received value for the price they pay.

With regard to household carbonized bamboo products, the Charcoal Doctor brand is one of the largest and most famous. Our Charcoal Doctor brand name has been recognized as a "China Well-known Brand" by the China Brand Strategy Management Association, and our products have been recognized as a "Zhejiang Famous Forest Product" by the Zhejiang Famous Forest Product Affirmation Committee and have been awarded "The Fifth China Yiwu International Forestry Product Expo Gold Award" by the Fifth China Yiwu International Forestry Product Expo Committee. Moreover, the 2014 - 2018 China Bamboo Charcoal Products Market Research and Corporate Strategy Analysis Report notes high brand recognition for Charcoal Doctor products in China.

The industry is geographically concentrated in the South East of China in the provinces of Anhui, Zhejiang and Fujian where bamboo is more prominent, the bamboo charcoal industry is also fragmented since it is subject to relatively low barriers of entry; low initial capital expenditure, low technical requirements (excluding high end EDLC carbon compounds), highly homogenous products and few substitutes.

We face competition from a number of companies operating in the vicinity. Many of these companies have similar profiles in terms of size, number of employees and product ranges. One of the largest competitors is Zhejiang Maitanweng Ecology Development Co. Ltd. ("Zhejiang Maitanweng"), a local company also from Zhejiang Province.

Zhejiang Maitanweng has the largest franchise in the industry with a presence in over 100 cities in China. Like our Company, Zhejiang Maitanweng has an extensive product portfolio of 200 household, automotive and health related bamboo charcoal-based products.

Zhejiang Jiejiegao Charcoal Industry Ltd. Co. ("Jiejiegao") is another company with a similar product portfolio. Also located in the Lishui vicinity, it also holds many awards, and its products are stocked by Walmart, Hualian, Century Mart and other supermarkets like our products are. Jiejiegao is also one of the founding members of INBAR - International Network for Bamboo and Rattan.

Due to product homogeneity and low barriers to entry branding is an important differentiator in the industry. We are not aware of any foreign competitors in this specific segment.

### **Awards and Recognition**

The Company is fully ISO 9000 and ISO 14000 certified and has received a number of national, provincial and local honors, awards and certifications for its quality products and scientific research efforts. In addition, our subsidiary Tantech Charcoal participated in the creation of Part 1, Part 2 and Part 3 of ISO 21626, an international standard for bamboo charcoal.

#### **2004**

- Lishui High-Tech Product Company Certification for its Bamboo Vinegar

#### **2005**

- Zhejiang Province High Tech Product Award for its Bamboo Vinegar 62
- Zhejiang Science and Technology Award (Third Class) for R&D of a continuous distillation process during the bamboo carbonization process

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**2006**

- Zhejiang Science and Technology Award (Third Class) for its Liquid Bamboo Vinegar Products
- Forestry Industry Award for Excellence in Forestry - Liquid Bamboo Vinegar Products (6th Anniversary)
- Lishui City Forestry Industry Key Enterprise in Forestry Award
- Liandu District High Tech Prize (Second Class) for R&D in Carbonization of Bamboo

**2007**

- Zhejiang New Forestry High Tech Company Industrialization Project Award for R&D efforts in super capacitors using bamboo charcoal
- Zhejiang Provincial-Level Key Enterprise in Forestry Award
- Lishui Science and Technology Award (First Class) for its Liquid Bamboo Vinegar Products

**2008**

- Official China High Tech Industry Enterprise Certificate (this award entitles the company to preferential enterprise income tax rates of 15% rather than 25%)

**2009**

- National Torch Plan Project Certificate for Liquid Bamboo Products
- National Science and Technology Progress Award (Second Class) for Bamboo Carbonization

**2011**

- Zhejiang Science and Technology Award (Second Class) for its Activated Carbon Production Technology and Equipment Research
- Garden Unit Recognition for beautification and ecological efforts

**2012**

- Lishui City Recognition for Patent Grants

**2013**

- Zhejiang Province High Technology Enterprise Recognition

**2014**

- Lishui City Doctoral Working Station

**2020**

- Obtain 3 international standard certifications of bamboo charcoal for participating in the creation of Part 1, Part 2 and Part 3 of ISO 21626,

## Research and Development

We are committed to researching and developing applications of bamboo charcoal, activated bamboo charcoal and EVs such as street sweepers. We believe scientific and technological innovations will help the Company achieve its long-term strategic objectives. R&D is an integral part of our operations and the crux of its competitive advantage and differentiation strategy.

Our R&D team is well educated and has far-reaching research capabilities. The R&D team has 3 dedicated researchers and analysts, with one focusing on Charcoal Doctor product development and applications, and two focusing on developing vehicle products such as street sweepers. Quality control is an important aspect of the team's work and ensuring quality at every stage of the process has been a key driver in maintaining and developing brand value for the Company.

In 2021, we cooperated with technology companies and consulting companies to develop specialty EVs. Due to the high costs of research and development in this field and the fierce competition at the market, the Company decided to prioritize other areas of expenses in the year of 2022 and will look for further cooperation in the future when there is a suitable opportunity.

We have also collaborated with a number of top domestic universities and institutions for the advancement of bamboo charcoal research and process technology. Recent efforts and collaborations cover a wide range of areas including but not limited to: bamboo vinegar applications, bamboo yield and quality improvements, bamboo's natural characteristics, bamboo carbonization process optimization and engineering initiatives to optimize and integrate production processes. It is through these collaborations that the company has managed to secure important breakthroughs resulting in proprietary knowledge and patents. Research has been carried out in cooperation with the following notable institutions:

- China National Bamboo Research and Development Center
- Zhejiang University of Agriculture and Forestry
- Zhejiang Academy of Forestry & Zhejiang Forestry Institute

## Our Research Projects

We have led or participated in numerous scientific projects that have led to important technological breakthroughs and advances. The following list does not include EDLC research projects which we transferred in December 2017 to Zhejiang Apeikesi Energy Co., Ltd, a PRC start-up company controlled by Dr. Zaihua Chen, our former Chief Technology Officer.

<b>Project Description</b>	<b>Time Period</b>	<b>Project Level</b>
Bamboo carbonization technology R&D for tobacco product manufacturing	12/2007-06/2010	Zhejiang Provincial Government funded scientific agricultural project
Development of dry distillation of bamboo wood	06/2007-05/2009	Central government funded high-tech agricultural project
Technological innovations to be able to produce bamboo vinegar in a continuous process	04/2006-04/2008	Zhejiang Provincial Government funded scientific agricultural project
Bamboo vinegar spontaneous combustion automation production technology	08/2004-12/2006	Central Government funded high-tech agricultural project
Bamboo R&D for lithium-ion battery anodes	08/2004-02/2006	Zhejiang Provincial Government funded scientific project
The research and demonstration for technology of agricultural waste carbonization and low ignition point molding charcoal fuel preparation	01/2016-12/2018	Zhejiang Provincial Government directly funded scientific project
Demonstration and promotion of green combustible carbon manufacturing technology using epicarps residue	08/2015-12/2017	Central Government funded forestry technology promotion project
R&D for driverless street sweepers	10/2020-present	Cooperate with other companies

During the years ended December 31, 2022, 2021 and 2020, we spent \$227,829, \$8,053,400, and \$890,316, respectively, on R&D. We had year-over-year increase on R&D expenses primarily due to more R&D activities in connection with our EV segment. During fiscal 2021, we increased our investment significantly for smart electric sanitation vehicles designed to be used in closed industrial parks and residential communities. We have successfully manufactured sanitation vehicles.

## Our Patents

We rely on our technology patents to protect our domestic business interests and ensure our position as a bamboo carbon technology pioneer in our industry. We have placed a high priority on the management of our intellectual property. Some products that are material to our operating results incorporate patented technology. Patented technology is critical to the continued success of our products. However, we do not believe that our business, as a whole, is dependent on, or that its profitability would be materially affected by the revocation, termination, expiration or infringement upon any particular patent. We currently hold four patents on charcoal products and five patents on vehicles.

Patents on Charcoal Products

Patent Description	Holder	Patent Type	Application	Expiration	Patent Number
Biomass acaricide with gasified tar for organic pesticides	Tantech Bamboo	Invention	Jan. 24, 2006	Jan. 23, 2026	ZL 200610049234.0
A Filling and fixing device for Bottles of Plant nutrient solution	Tantech Bamboo	Utility Model	Dec. 30, 2015	Dec. 29, 2025	201521127995.4
Laundry detergent bottles	Tantech Bamboo	Design	Jun. 28, 2013	Jun. 27, 2023	201330292120.X
Refrigerator deodorant box	Tantech Bamboo	Design	Jun. 28, 2013	Jun. 27, 2023	201330291808.6

Patents on Vehicles

Patent Description	Holder	Patent Type	Application	Expiration	Patent Number
Road Sweeper	Shangchi Automobile	Patent for Invention	Aug 28, 2012	Aug 27, 2032	ZL201210311790.6
Energy-absorbing and anti-collision equipment on side of fuel tank	Shangchi Automobile	Utility Mode	November 26, 2020	November 25, 2030	ZL202022776533.2
Variable light front windshield	Shangchi Automobile	Utility Mode	November 26, 2020	November 25, 2030	ZL202022779980.3
Sound insulation and noise prevention hood with reinforcing ribs for front engine	Shangchi Automobile	Utility Mode	November 12, 2020	November 15, 2030	ZL202022605348.7
Multifunctional expanding bucket for sweeping vehicle	Shangchi Automobile	Utility Mode	November 12, 2020	November 15, 2030	ZL202022601008.7

**Our Trademarks and Domain Names**

We rely on trademarks and service marks to protect our branding. As of the date of this report, we hold over 70 registered trademarks about or related to “Charcoal Doctor” and “Shangchi” in different applicable trademark categories in China. We also own a domain name of tantech.cn, the registration of which will expire on March 11, 2024, and we expect to renew it annually. This website is not part of this report and is not incorporated by reference herein.

**REGULATIONS**

We are subject to a variety of PRC and foreign laws, rules and regulations across a number of aspects of our business. This section summarizes the principal PRC laws, rules and regulations relevant to our business and operations. Areas in which we are subject to laws, rules and regulations outside of the PRC include intellectual property, competition, taxation, anti-money laundering and anti-corruption.

**Investment Direction Regulations**

On March 27, 2011, the National Development and Reform Commission (“NDRC”) issued the Guidance Catalogue for Industrial Structure Adjustments (2011 edition), which was amended on February 16, 2013. This Catalogue is an important basis for the government to guide investment direction, promote technology innovation and industrial upgrading. Pursuant to relevant laws and regulations, in line with the promotion of energy conservation and green industry initiatives, the approval authorities will strictly control energy-intensive, polluting and natural resources industries, such as projects in low-end, capacity-redundant and over-expansion projects. Environmental protection departments and other departments with jurisdiction will also review such projects for compliance with applicable criteria.

The Catalogue divided industries into three categories: “encouraged,” “restricted,” and “eliminated” for investment. Industries not listed in the Catalogue are generally deemed as falling into a fourth category, “permitted.”



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The Catalogue has been replaced by the Special Administrative Measures (Negative List) for Foreign Investment Access (2018), effective July 28, 2018, and amended and restated by the 2021 version, effective January 1, 2022 (the “Negative List”). The Negative List specifies the prohibited and non-prohibited (similar to the restricted in the Catalogue) industries for foreign investment. For the industries not covered by the Negative List, the foreign investment and the domestic investment have equal access. Foreign investors may not invest in the prohibited industries specified by the Negative List. For the non-prohibited industries on the Negative List, a foreign investor must obtain an investment permit. There are certain requirements on the equity ownership and the executive officers of the foreign invested enterprises. If PRC has certain equity requirements in certain investment fields, no foreign-invested partnership may be established.

According to the 2022 Negative List, our charcoal products and EV products do not fall under the prohibited industries.

Given the Chinese government’s move toward more environmentally friendly initiatives, we believe the bamboo industry, and in particular, the bamboo charcoal industry, are poised to grow, both for heating and cooking purposes and also for charcoal byproduct uses for cleaning, purification and deodorization.

According to the Negative List, foreign investors may invest fully in our electric vehicle products. Nevertheless, as we may also produce other automobile products, we still keep less than 50% of foreign investment in the general automobile industry.

### **Chinese Central Government Subsidy Support Policies for EV Manufacturers**

On September 13, 2013, the Chinese Ministry of Finance, the Chinese Ministry of Science and Technology, the Chinese Ministry of Industry and Information Technology, and the Chinese National Development and Reform Commission issued a joint announcement that in order to promote the development, sale and use of alternative energy vehicles, Chinese government will continue to provide a manufacturing rebate for qualifying alternative energy vehicles sold. The Chinese central government subsidy support policies, or rebate policies, have been changing every year. For example, the Chinese central government subsidy support policies effective as of January 1, 2017, called for a 20% of reduction in central government subsidies per electric car in 2017 from its 2016 level and the total local government subsidy matched to be not more than 50% of the total central government subsidies per electric car. The reduction of subsidies from both the central government and local governments inevitably increased the costs to the consumers to purchase our EVs, which caused temporary pressure for us to expand our EV sales. The change in subsidy payment methods in 2017 from paid-in-advance to paid post-sale and further delay in releasing subsidy payments for the EVs manufactured and sold in the prior years also caused the potential delay in collection of the accounts receivable from our business partners, which temporarily increased the pressure on our working capital for continuing operations. Since 2018, the rebate policies required all the EVs manufactured since 2016 to install the national platform so the government could monitor the mileage and other information. Accordingly, we installed the platform on our EVs manufactured since 2016. Since 2019, the rebate policies required the battery capacity attenuation can’t exceed 20%. The Company determined that there is remote possibility to successfully claim the manufacturing rebate under the newly implemented policy. As a result, the Company recorded 100% allowance against the manufacturing rebate receivable as of December 31, 2021.

### **Intellectual Property Rights Regulations**

The State Council and the National Copyright Administration, or the NCAC, have promulgated various rules and regulations relating to the protection of software in China. Under these rules and regulations, software owners, licensees and transferees may register their rights in software with the NCAC or its local branches and obtain software copyright registration certificates. Although such registration is not mandatory under PRC law, software owners, licensees and transferees are encouraged to go through the registration process to enjoy the better protections afforded to registered software rights.

On March 1, 2009, the MIIT promulgated the Administrative Measures on Software Products, or the Software Measures, which replaced the original Administrative Measures on Software Measures promulgated by MIIT in October 2000, to regulate software products and promote the development of the software industry in China. Pursuant to the Software Measures, software products which are developed in China and registered with the local provincial government authorities in charge of the information industry and filed with MIIT may enjoy the relevant encouragement policies. Software developers or producers may sell or license their registered software products independently or through agents. Upon registration, the software products will be granted registration certificates. Each registration certificate is valid for five years and may be renewed upon expiration.

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The PRC Trademark Law, adopted in 1982 and revised in 1993, 2001 and 2013 respectively, with its implementation rules adopted in 2002 and revised in 2014, protects registered trademarks. The PRC Trademark Office of the State Administration for Industry and Commerce, or the SAIC, handles trademark registrations and grants a protection term of ten years to registered trademarks.

The MIIT amended its Administrative Measures on China Internet Domain Names in 2004. According to these measures, the MIIT is in charge of the overall administration of domain names in China. The registration of domain names in PRC is on a “first-apply-first-registration” basis. A domain name applicant will become the domain name holder upon the completion of the application procedure.

### **Regulations on Tax**

Our business operations are governed primarily by tax laws in the PRC. A description of the material tax consequences applicable to holders of our common shares may be found in the section titled “Item 10. Additional Information.-E. Taxation.” For more information regarding the impact of the PRC Enterprise Income Tax Law, see “Risk Factors - Under the Enterprise Income Tax Law, we may be classified as a “Resident Enterprise” of China. Such classification will likely result in unfavorable tax consequences to us and our non-PRC stockholders.”

### **Foreign Exchange Regulation**

The principal regulations governing foreign currency exchange in China are the Foreign Exchange Administration Regulations. Under the PRC foreign exchange regulations, payments of current account items, such as profit distributions and trade and service-related foreign exchange transactions, may be made in foreign currencies without prior approval from SAFE by complying with certain procedural requirements. By contrast, approval from or registration with appropriate government authorities is required where RMB is to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of foreign currency-denominated loans or foreign currency is to be remitted into China under the capital account, such as a capital increase or foreign currency loans to our PRC subsidiaries.

In August 2008, SAFE issued the Circular on the Relevant Operating Issues Concerning the Improvement of the Administration of the Payment and Settlement of Foreign Currency Capital of Foreign-Invested Enterprises, or SAFE Circular 142, regulating the conversion by a foreign-invested enterprise of foreign currency-registered capital into RMB by restricting how the converted RMB may be used. In addition, SAFE promulgated Circular 45 on November 9, 2011 in order to clarify the application of SAFE Circular 142. Under SAFE Circular 142 and Circular 45, the RMB capital converted from foreign currency registered capital of a foreign-invested enterprise may only be used for purposes within the business scope approved by the applicable government authority and may not be used for equity investments within the PRC. In addition, SAFE strengthened its oversight of the flow and use of the RMB capital converted from foreign currency registered capital of foreign-invested enterprises. The use of such RMB capital may not be changed without SAFE’s approval, and such RMB capital may not in any case be used to repay RMB loans if the proceeds of such loans have not been used.

In November 2012, SAFE promulgated the Circular of Further Improving and Adjusting Foreign Exchange Administration Policies on Foreign Direct Investment, which substantially amends and simplifies the current foreign exchange procedure. Pursuant to this circular, the opening of various special purpose foreign exchange accounts, such as pre-establishment expenses accounts, foreign exchange capital accounts and guarantee accounts, the reinvestment of RMB proceeds by foreign investors in the PRC, and remittance of foreign exchange profits and dividends by a foreign-invested enterprise to its foreign shareholders no longer require the approval or verification of SAFE, and multiple capital accounts for the same entity may be opened in different provinces, which was not possible previously. In addition, SAFE promulgated the Circular on Printing and Distributing the Provisions on Foreign Exchange Administration over Domestic Direct Investment by Foreign Investors and the Supporting Documents in May 2013, which specifies that the administration by SAFE or its local branches over direct investment by foreign investors in the PRC shall be conducted by way of registration and banks shall process foreign exchange business relating to the direct investment in the PRC based on the registration information provided by SAFE and its branches.

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In July 2014, SAFE decided to further reform the foreign exchange administration system in order to satisfy and facilitate the business and capital operations of foreign invested enterprises, and issued the Circular on the Relevant Issues Concerning the Launch of Reforming Trial of the Administration Model of the Settlement of Foreign Currency Capital of Foreign-Invested Enterprises in Certain Areas, or Circular 36, on August 4, 2014. This circular suspends the application of Circular 142 in certain areas and allows a foreign-invested enterprise registered in such areas to use the Renminbi capital converted from foreign currency registered capital for equity investments within the PRC.

On March 30, 2015, SAFE released the Notice on the Reform of the Management Method for the Settlement of Foreign Exchange Capital of Foreign-invested Enterprises, or Circular 19, which has made certain adjustments to some regulatory requirements on the settlement of foreign exchange capital of foreign-invested enterprises, lifted some foreign exchange restrictions under Circular 142, and annulled Circular 142 and Circular 36. However, Circular 19 continues to, prohibit foreign-invested enterprises from, among other things, using Renminbi fund converted from its foreign exchange capitals for expenditure beyond its business scope, providing entrusted loans or repaying loans between non-financial enterprises.

On June 19, 2016, SAFE issued the Circular of the State Administration of Foreign Exchange on Reforming and Regulating Policies on the Control over Foreign Exchange Settlement of Capital Accounts, or Circular 16, which took effect on the same day. Compared to Circular 19, Circular 16 not only provides that, in addition to foreign exchange capital, foreign debt funds and proceeds remitted from foreign listings should also be subject to the discretionary foreign exchange settlement, but also lifted the restriction, that foreign exchange capital under the capital accounts and the corresponding Renminbi capital obtained from foreign exchange settlement should not be used for repaying the inter-enterprise borrowings (including advances by the third party) or repaying the bank loans in Renminbi that have been sub-lent to the third party.

### **SAFE Circular 37**

In July 2014, SAFE issued SAFE Circular 37, which supersedes SAFE Circular 75, and requires that PRC citizens or residents must register with the relevant local SAFE branch before making capital contribution to any offshore entity directly established or indirectly controlled by that PRC citizen or resident for the purpose of investment or financing and with onshore or offshore assets or equity interests legally owned by that PRC citizen or resident. In addition, the SAFE registrations are required to be updated with local SAFE branch with respect to that offshore special purpose company in connection with the change of its basic information, such as its company name, business term, shareholding by individual PRC citizens or residents, merger, or division and, with respect to the individual PRC citizens or residents in case of any increases or decreases of capital in that offshore special purpose company, or share transfers or swaps by the individual PRC citizens or residents

### **Share Option Rules**

Under the Administration Measures on Individual Foreign Exchange Control issued by the PBOC on December 25, 2006, all foreign exchange matters involved in employee share ownership plans and share option plans in which PRC citizens participate require approval from SAFE or its authorized branch. In addition, under the Notices on Issues concerning the Foreign Exchange Administration for Domestic Individuals Participating in Share Incentive Plans of Overseas Publicly-Listed Companies, or the Share Option Rules, issued by SAFE on February 15, 2012, PRC residents who are granted shares or share options by companies listed on overseas stock exchanges under share incentive plans are required to (i) register with SAFE or its local branches, (ii) retain a qualified PRC agent, which may be a PRC subsidiary of the overseas listed company or another qualified institution selected by the PRC subsidiary, to conduct the SAFE registration and other procedures with respect to the share incentive plans on behalf of the participants, and (iii) retain an overseas institution to handle matters in connection with their exercise of share options, purchase and sale of shares or interests and funds transfers. We will make efforts to comply with these requirements.

**Regulation of Dividend Distribution**

The principal laws, rules and regulations governing dividend distribution by foreign-invested enterprises in the PRC are the Company Law of the PRC, as amended, the Wholly Foreign-owned Enterprise Law and its implementation regulations and the Equity Joint Venture Law and its implementation regulations. Under these laws, rules and regulations, foreign-invested enterprises may pay dividends only out of their accumulated profit, if any, as determined in accordance with PRC accounting standards and regulations. Both PRC domestic companies and wholly-foreign owned PRC enterprises are required to set aside as general reserves at least 10% of their after-tax profit, until the cumulative amount of such reserves reaches 50% of their registered capital. A PRC company is not permitted to distribute any profits until any losses from prior fiscal years have been offset. Profits retained from prior fiscal years may be distributed together with distributable profits from the current fiscal year.

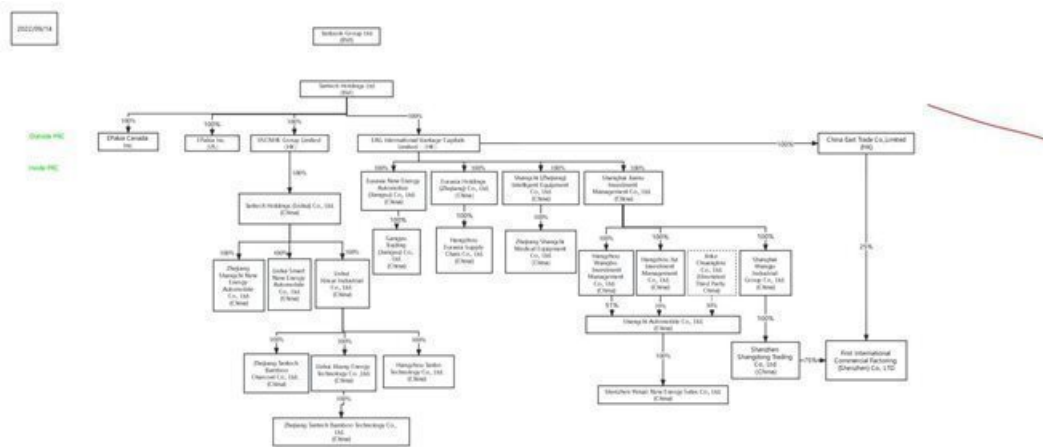
**Labor Laws and Social Insurance**

Pursuant to the PRC Labor Law and the PRC Labor Contract Law, employers must execute written labor contracts with full-time employees. All employers must comply with local minimum wage standards. Violations of the PRC Labor Contract Law and the PRC Labor Law may result in the imposition of fines and other administrative and criminal liability in the case of serious violations.

In addition, according to the PRC Social Insurance Law, employers in China must provide employees with welfare schemes covering pension insurance, unemployment insurance, maternity insurance, work-related injury insurance, medical insurance and housing funds.

**C. Organizational structure**

Below is a chart representing our current corporate structure:



In the above charts, we provide the English names of our corporate entities. As to Tantech Holdings Ltd, USCNC Group Limited, EAG International Vantage Capitals Limited, China East Trade Co., Limited, EPakia Inc., and EPakia Canada Inc., the English names are the legal names of the entities. As to the other corporate entities, their legal names are in Chinese, and the English translations are provided as courtesy translations.

Our registered agent in the British Virgin Islands is Vistra (BVI) Limited. Our registered office and our registered agent’s office in the British Virgin Islands are both located at Vistra Corporate Services Centre, Wickhams Cay 2, Road Town, Tortola, VG1110, British Virgin Islands. Our agent in the U.S. is Shangzhi Zhang, with the address of 200 Greene St., Apt#5001, Jersey City, NJ, 07311.

**Tantech Holdings Ltd (“THL”)**

THL was incorporated on November 9, 2010 under the BVI Companies Act, 2004 as a company limited by shares under the name “Sinoport Enterprises Limited 中港企業有限公司”. On April 15, 2013, Sinoport Enterprises Limited changed its name to “Tantech Holdings Ltd 炭博士控股有限公司”. On March 4, 2016, the Company’s name was changed to “Tantech Holdings Ltd”. At the time of its formation, THL was authorized to issue 50,000 common shares with a par value of \$1.00 per share. On November 19, 2010, THL issued 50,000 shares to its sole shareholder, Forasen Energy Co., Ltd, now named “Tanbsok Group Limited.”

On November 25, 2014, in contemplation of the initial public offering of its common shares, THL effected a simultaneous (a) 1,000-for-1 split of its common shares and (b) pro-rata redemption for par value and cancellation of 600 of such shares (30,000,000 in total). This transaction was accomplished in this way for several business reasons: (1) we wanted to maintain \$50,000 in aggregate share capital; (2) in anticipation of the offering, we desired to increase the total number of common shares and reduce their per-share price to a level consistent with the targeted offering price in the offering; and (3) prior to completion of the recapitalization, we had issued all of the shares we were authorized to issue and needed to create authorized but unissued shares by repurchasing a portion of such authorized and outstanding shares.

Upon completion of these transactions, THL was authorized to issue 50,000,000 common shares, \$0.001 per share, of which 20,000,000 were issued and outstanding. At formation, THL had one director, Dehong Zhang, a citizen of China. On June 21, 2013, Yefang Zhang, a citizen of the Saint Lucia, was also appointed as a director of THL. In June 2014, THL appointed three independent directors, all citizens of the PRC: Hongdao Qian, Shudong Wang and Wencai Pan.

On March 24, 2015, THL completed an initial public offering of 1,600,000 common shares.

On March 1, 2016, THL completed a private placement of 1,693,000 common shares.

On May 30, 2016, THL completed a private placement of 2,500,000 common shares.

On December 28, 2016, THL completed a private placement of 1,018,935 common shares.

On September 29, 2017, THL completed a registered direct offering and issued 1,891,307 common shares.

On September 28, 2018, THL completed an issuance of 150,000 common shares.

On March 23, 2020, THL completed an issuance of 35,592 common shares.

On November 24, 2020, THL completed a registered direct offering and issued 6,060,608 common shares.

In November 2020, THL issued 944,655 common shares upon exercise of warrants.

On May 18, 2021, THL issued to certain employees an aggregate of 1,600,000 common shares under its 2014 Share Incentive Plan.

On June 7, 2021, THL completed a private placement and issued 5,380,000 common shares at USD\$1.30 per share for USD\$6,994,000.

On August 3, 2021, THL completed dismantling our VIE structure and began controlling Wangbo, Shangchi Automobile and its subsidiary, Shenzhen Yimao New Energy Sales Co., Ltd. (“Shenzhen Yimao”) through direct equity ownership instead of a series of contractual arrangements.

On August 9, 2021, we held our annual shareholders meeting and passed a resolution, among other resolutions, to increase our authorized shares from 50,000,000 common shares each with a par value of US \$0.001 to 600,000,000 common shares each with a par value of US \$0.001.

On December 2, 2021, THL completed a registered direct offering and issued 21,120,509 common shares.

On February 28, 2022, THL completed a share consolidation of the Company’s common shares at the ratio of one-for-ten.

On March 18, 2022, THL completed an underwritten public offering and issued 20,000,000 common shares and prefunded warrants.

On October 28, 2022, THL completed a share consolidation of the Company’s common shares at the ratio of one-for-twenty-four.

On March 22, 2023, THL completed a private placement and issued 1,000,000 common shares at USD\$2.80 per share for USD\$2,800,000.

**USCNHK Group Limited (“USCNHK”)**

USCNHK was formed on October 17, 2008 under the Companies Ordinance (Chapter 32) of Hong Kong under the name “Raymond & O/B Raysuccess Co., Limited.” On December 2, 2010, Raymond & O/B Raysuccess Co., Limited changed its name to “USCNHK Group Limited.” USCNHK’s authorized share capital is HKD 10,000, and the company has issued 10,000 shares, par value HKD 1.00 per share, to its sole shareholder, THL. USCNHK has one director, Dehong Zhang, a citizen of the China. On June 21, 2013, Yefang Zhang, a citizen of the Saint Lucia, was also appointed as a director of USCNHK.

**Tantech Holdings (Lishui) Co., Ltd. (“Lishui Tantech”) (Chinese name: 碳博士控股(丽水)有限公司)**

Lishui Tantech was formed on April 7, 2016 as Lishui Tantech energy technology Co., Ltd. On May 17, 2017, it changed its name to Lishui Tantech Energy Technology Co., Ltd., and on July 7, 2017 changed its name again to Tantech Holdings (Lishui) Co., Ltd. Lishui Tantech’s authorized share capital is RMB 1 billion of which USCNHK owns 100% interest. Lishui Tantech is organized as a limited liability company under PRC law. Lishui Tantech has one director, Wangfeng Yan, who is a PRC citizen.

**Lishui Xincai Industrial Co., Ltd. (“Lishui Xincai”) (Chinese name: 丽水鑫财实业有限公司)**

Lishui Xincai was formed on December 14, 2017 by an unrelated third party. Its authorized share capital is RMB 1 billion. On December 25, 2017, the third party transferred its shares in Lishui Xincai to Lishui Tantech. Since then, Lishui Xincai has been Lishui Tantech’s wholly owned subsidiary. Lishui Xincai is organized as a limited liability company under PRC law. Lishui Xincai has one director, Wangfeng Yan, who is a PRC citizen.

**Lishui Smart New Energy Automobile Co., Ltd. (“Lishui Smart”) (Chinese name: 丽水智动新能源汽车有限公司)**

We established Lishui Smart on November 16, 2020 as a limited liability company under PRC law. Lishui Smart’s authorized share capital is RMB 20 million, of which Lishui Tantech owns 100%. Lishui Smart has one director, Wangfeng Yan, who is a PRC citizen.

**Zhejiang Shangchi New Energy Automobile Co., Ltd. (“Zhejiang Shangchi”) (Chinese name: 浙江上驰新能源汽车有限公司)**

We established Zhejiang Shangchi on November 12, 2020 as a limited liability company under PRC law. Zhejiang Shangchi’s authorized share capital is RMB 20 million, of which Lishui Tantech owns 100%. Zhejiang Shangchi has one director, Wangfeng Yan, who is a PRC citizen.

**Zhejiang Tantech Bamboo Charcoal Co., Ltd. (“Tantech Charcoal”) (Chinese name: 浙江富来森竹炭有限公司)**

Tantech Charcoal was formed on September 5, 2002. Tantech Charcoal’s authorized share capital is RMB 13.5 million, of which Lishui Xincai owns 100%. Lishui Xincai purchased the equity interest from Tantech Bamboo on December 31, 2019. Tantech Charcoal is organized as a limited liability company under PRC law. Tantech Charcoal has one directors, Fengwang Yan, who is PRC citizens.

**Lishui Jikang Energy Technology Co., Ltd. (“Jikang Energy”) (Chinese name: 丽水吉康能源科技有限公司)**

Jikang Energy was formed on January 2, 2020. Jikang Energy’s authorized share capital is RMB 5 million, of which Lishui Xincai owns 100%. Jikang Energy is organized as a limited liability company under PRC law. Jikang Energy has one director, Wangfeng Yan, who is a PRC citizen. Jikang Energy is a holding company and does not conduct any substantial business.

**Hangzhou Tanbo Technology Co., Ltd. (“Tanbo Tech”) (Chinese name: 杭州炭博科技有限公司)**

Tanbo Tech was formed on December 8, 2015 by Tantech Bamboo as a limited liability company under PRC law. Tanbo Tech’s authorized share capital is RMB 10 million. On January 3, 2020, Tantech Bamboo transferred all its equity in Tanbo Tech to Lishui Xincai. Since then, Tanbo Tech has been Lishui Xincai’s wholly owned subsidiary. Tanbo Tech has one director, Wangfeng Yan, who is a PRC citizen.

***Zhejiang Tantech Bamboo Technology Co., Ltd. (“Tantech Bamboo”) (Chinese name: 浙江富来森中竹科技有限公司)***

Tantech Bamboo was formed on October 23, 2002 under the name “Lishui Zhonglin High-Tech Co., Ltd.” (Chinese: 丽水中林高科有限公司). On December 31, 2005, Tantech Bamboo changed its name to “Zhejiang Tantech Bamboo Technology Co., Ltd.” Tantech Bamboo’s authorized share capital is RMB 80 million, of which Jikang Energy owns 100% interest. Tantech Bamboo has one director, Zhengyu Wang, who is a PRC citizen.

***EAG International Vantage Capitals Limited (“Euroasia”) (Chinese name: 欧亚通国际资本有限公司)***

Euroasia was formed on April 27, 2015. Its share capital was HKD \$10,000. It was organized as a limited company in Hong Kong, of which THL owns 100%. Euroasia has one director, Yefang Zhang, who is a citizen of Saint Lucia. In our previous reports, we called it Euroasia International Capital Co., Ltd., which is the English translation of its Chinese name 欧亚通国际资本有限公司.

***Euroasia New Energy Automotive (Jiangsu) Co., Ltd. (“Euroasia New Energy”) (Chinese name: 欧亚通新能源汽车(江苏)有限公司)***

Euroasia New Energy was formed on October 24, 2017. Its authorized share capital is USD 30.1 million, of which Euroasia owns 100%. It is organized as a limited liability company under PRC law. Euroasia New Energy has one director, Mingqin Dong, who is a PRC citizen.

***Shanghai Jiamu Investment Management Co. Ltd. (“Jiamu”) (Chinese name: 上海佳木投资管理有限公司)***

Jiamu was formed on July 14, 2015. Its authorized share capital is RMB 500,000, of which Euroasia owns 100%. It is organized as one-person limited company (Taiwan Hong Kong & Macao invested) under PRC law. Jiamu has one director, Wangfeng Yan, who is a PRC citizen.

***Hangzhou Wangbo Investment Management Co. Ltd. (“Wangbo”) (Chinese name: 杭州王博投资管理有限公司) -VIE***

Wangbo was formed on February 2, 2016. Its authorized share capital is RMB 500,000. Henglong Chen and Zhengyu Wang, as the original shareholders, held 5% and 95% shares respectively. On June 6, 2017, Henglong Chen transferred his 5% shares to Wangfeng Yan. On December 4, 2019, Zhengyu Wang transferred his 95% shares to his daughter Xinyang Wang. The legal representative is Wangfeng Yan. On August 3, 2021, Xinyang Wang and Wangfeng Yan transferred all their shares to Jiamu for free. Jiamu obtained 100% of Wangbo after the transfer.

***Hangzhou Jiye Investment Management Co. Ltd. (“Jiyi”) (Chinese name: 杭州吉益投资管理有限公司)***

Jiyi was formed on February 2, 2016. Its authorized share capital is RMB 500,000, of which Jiamu holds 100%. It is organized as a limited liability company under PRC law. It has one director, Wangfeng Yan, who is a PRC citizen.

***Shangchi Automobile Co., Ltd. (“Shangchi Automobile”) (Chinese name: 上驰汽车有限公司)***

Shangchi Automobile was established in April 2011 as Suzhou E-Motors. It changed its name to Shangchi Automobile in January 2019. It develops, manufactures, and sells vehicles. The company also offers solar cells, lithium-ion batteries, auto parts, and electric control systems in China. Its manufacturing facility, located in Zhangjiagang City, Jiangsu Province is approximately 15,000 square meters. Shangchi Automobile has been approved by Ministry of Industry and Information Technology of the People’s Republic China (MIIT) through *Road Motor Vehicle Production Enterprises and Products Announcements* as qualified to manufacture electric vehicles. It is also entitled to both central and local government subsidies with any approved EV models. As of the date of this report, Shangchi Automobile has not updated the previous ten EV models and remained seventeen fuel vehicle models approved by MIIT.

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Pursuant to the Call Option Agreement executed on May 2, 2016, Supplemental Agreement I signed on December 22, 2016 and Supplemental Agreement II signed on July 12, 2017, the Company acquired a 70% equity interest of Shangchi Automobile, formerly Suzhou E-Motors. Shangchi Automobile is a specialty electric vehicles and battery manufacturer based in Zhangjiagang City, Jiangsu Province, China. After the acquisition, the Company owns a 100% equity interest of EAG International Vantage Capitals Limited, a Hong Kong limited company (“Euroasia”) and its wholly owned subsidiary Jiamu, which further owns 100% equity interest of Jiyi. Jiyi owns a 19% of equity interest of Shangchi Automobile. In addition, Jiamu entered into a series of contractual agreements with the owners of Wangbo, which owns 51% of the equity interests of Shangchi Automobile. The latest agreements include an Exclusive Management Consulting and Technology Agreement, two Equity Pledge Agreements, two Exclusive Call Option Agreements, two Proxy Agreements and two Power of Attorney (collectively, the “VIE Agreements”).

Prior to August 3, 2021, Pursuant to the above VIE Agreements, which are described in further detail below, Jiamu had the exclusive right to provide Wangbo consulting services related to business operations including technical and management services. Taken together, the VIE Agreements obligated Jiamu to absorb a majority of the risk of loss from Wangbo’s activities and entitle Jiamu to receive a majority of their residual returns. In essence, Jiamu had gained effective control over Wangbo. Therefore, the Company believed that Wangbo should be considered as a Variable Interest Entity (“VIE”) under the Statement of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 810 “Consolidation”. As a result, the Company ultimately controlled a 70% equity interest of Shangchi Automobile and the accounts of Shangchi Automobile were consolidated into those of the Company. Euroasia, Jiamu, Jiyi and Wangbo were all investment holding companies with no significant business activities (collectively “E-Motor Holdings”).

### *Contractual Arrangements*

We had chosen to use contractual relationships in our corporate structure because direct investment by foreign-owned companies in the automobile industry was restricted to own no more than 50% of equity.

Historically, the principal regulation governing foreign ownership of businesses in the PRC was the Foreign Investment Industrial Guidance Catalogue, effective as of April 10, 2015 (the “Catalogue”). The Catalogue classified various industries into three categories: encouraged, restricted and prohibited. Tantech is engaged in business in industries where direct foreign investment over 50% was expressly prohibited: automobile industry.

Due to the previous regulations on foreign ownership of PRC businesses, Jiamu and Wangbo entered into a series of contractual arrangements, also known as VIE Agreements. The variable interest entity, or VIE, agreements were designed to provide Jiamu with the power, rights and obligations equivalent in all material respects to those it would possess as the sole equity holder of its controlled company, including absolute control rights and the rights to the assets, property and revenue of Wangbo. Our PRC counsel had advised that the VIE agreements constituted valid and binding obligations of the parties to such agreements and were enforceable and valid in accordance with the laws of the PRC.

However, the Catalogue has been replaced by the Special Administrative Measures (Negative List) for Foreign Investment Access (2018), effective July 28, 2018, and amended and restated by the 2020 version, effective July 23, 2020 (the “Negative List”). The Negative List specifies the prohibited and non-prohibited (similar to the restricted in the Catalogue) industries for foreign investment. For the industries not covered by the Negative List, the foreign investment and the domestic investment have equal access. According to the Negative List, our new energy automobile products under Shangchi Automobile are not prohibited. Nevertheless, we had decided to keep the VIE structure as Shangchi Automobile may also produce traditional automobile products.

The VIE Agreements, entered into as of July 13, 2017 and renewed effective as of December 10, 2019 because of the Wangbo shareholder change, are described below and consist of an Exclusive Management Consulting and Technology Agreement, two Equity Pledge Agreements, two Exclusive Call Option Agreements, two Proxy Agreements and two Power of Attorney. As an overview, these agreements taken together were designed to allow Jiamu to manage the operations of Wangbo and to receive all of the net income of Wangbo in return.

The following is a summary of the common contractual arrangements that provided us with effective control of our VIE and that enable us to receive substantially all of the economic benefits from its operations.



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### *Exclusive Management Consulting and Technology Agreement*

This Exclusive Management Consulting and Technology Agreement (the “Service Agreement”) was made and entered into by Jiamu and Wangbo. Pursuant to terms and condition of the Service Agreement, Wangbo appointed Jiamu as its exclusive service provider providing comprehensive management consulting, technical supporting, intellectual property license and other relevant services, including all services within the primary business of Wangbo and decided necessary from time to time by Jiamu, including, (1) management consulting, (2) technical support and (3) intellectual property. Wangbo agreed to accept consulting and services provided by Jiamu and not to acquire, directly or indirectly, the same or similar consulting and/or services as set in the Service Agreement from any third party, except with Jiamu’s prior written consent. Both parties agree that Jiamu can designate other parties to provide Wangbo with services and/or support stated in the Service Agreement.

### *Exclusive Call Option Agreement*

Two Exclusive Call Option Agreements (the “Call Option Agreements”) were entered. One was entered into by and among (a) Jiamu, (b) Wangbo and (c) Xinyang Wang, 95% shareholder of Wangbo. The other one was entered into by and among (a) Jiamu, (b) Wangbo and (c) Wangfeng Yan, 5% shareholder of Wangbo. Xinyang Wang and Wangfeng Yan are Wangbo Shareholders.

Pursuant to the Call Option Agreement and as permitted by the applicable laws of the People’s Republic of China, the parties have agreed that, at the exercise of such purchase option by Jiamu, (i) the Wangbo Shareholders will transfer all of their shares of Wangbo to Jiamu, or (ii) Wangbo will transfer its assets to Jiamu. To conduct the abovementioned share transfer and assets transfer, Wangbo and the Wangbo Shareholders irrevocably grant Jiamu an exclusive and unconditional asset purchase right and share purchase right, respectively.

### *Equity Pledge Agreement*

Two Equity Pledge Agreements (the “Pledge Agreements”) were made and entered into by and among Jiamu as pledgee, Wangbo, and each of the Wangbo shareholders. The Wangbo Shareholders pledged all current and future shares of Wangbo held by such Wangbo Shareholders to Jiamu, in order to guarantee that Wangbo and/or the Wangbo Shareholders will fulfill their respective responsibilities and obligations, and will ensure that Jiamu is able to obtain all rights and interests under the (a) Exclusive Management Consulting and Technology Agreement and any supplemental agreements (if any) between Jiamu and Wangbo; (b) Exclusive Call Option Agreements and any supplemental agreements (if any) among Jiamu, Wangbo and the Wangbo Shareholders; and (c) Proxy Agreements and any supplemental agreements (if any) among Jiamu, Wangbo and the Wangbo Shareholders.

### *Proxy Agreement*

Two Proxy Agreements (the “Proxy Agreements”) were made and entered by and among Jiamu as trustee, the Wangbo Shareholders as trustors and Wangbo. Under the Proxy Agreements, the Wangbo Shareholders irrevocably authorized Jiamu or its designated person (such as director or successor or liquidator of Jiamu) to solely exercise such Wangbo Shareholders’ voting rights in Wangbo under the law and bylaws of Wangbo as representative, including, without limitation (a) convene, convoke and attend shareholders’ meeting of Wangbo as representative of the Wangbo Shareholders; (b) submit proposals to Wangbo’s board of directors as representative of the Wangbo Shareholders; (c) vote on any matters to be deliberated at the shareholders’ meeting of Wangbo; (d) sign on minutes of Wangbo’s shareholder meetings; (e) exercise other voting rights of shareholders under Wangbo’s bylaws; (f) submit relevant documents to industrial and commercial registration offices and other government authorities concerned in order to performance or guarantee this contract as representative of the Wangbo Shareholders; and (g) sign share transfer agreements or other relevant documents, deal with official documents, registration, records or other procedures in order to enable share transfer under the Call Option Agreement take effect.

### *Power of Attorney*

The Powers of Attorney were made and entered into by Wangbo Shareholders and Mr. Wangfeng Yan. Pursuant to the Powers of Attorney, Xinyang Wang and Wangfeng Yan designated Mr. Zhengyu Wang to exercise their rights under the Proxy Agreements on behalf of them.

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On August 3, 2021, we completed dismantling its VIE structure and began controlling Wangbo, Shangchi Automobile and its subsidiary, Shenzhen Yimao New Energy Sales Co., Ltd. through direct equity ownership instead of a series of contractual arrangements.

***Shenzhen Yimao New Energy Sales Co., Ltd. (Chinese name: 深圳益茂新能源销售有限公司)***

On November 13, 2018, we established Shenzhen Yimao New Energy Sales Co., Ltd., a sales subsidiary of Shangchi Automobile.

***Eurasia Holdings (Zhejiang) Co., Ltd. (Chinese name: 欧亚通控股(浙江)有限公司)***

On July 15, 2021, we established Eurasia Holdings (Zhejiang) Co., Ltd.

***Hangzhou Eurasia Supply Chain Co., Ltd. (Chinese name: 杭州欧亚供应链有限公司)***

On August 4, 2021, we established Hangzhou Eurasia Supply Chain Co., Ltd. for supply chain business.

***Gangyu Trading (Jiangsu) Co., Ltd. (Chinese name: 港誉贸易(江苏)有限公司)***

On August 10, 2021, we established Gangyu Trading (Jiangsu) Co., Ltd. for marketing and sales of electric vehicles.

***Shangchi (Zhejiang) Intelligent Equipment Co., Ltd. (Chinese name: 上驰(浙江)智能装备有限公司)***

On August 26, 2021, we established Shangchi (Zhejiang) Intelligent Equipment Co., Ltd. for manufacturing and sales of new energy vehicles.

***Shanghai Wangju Industrial Group Co., Ltd. (Chinese name: 上海旺桔实业集团有限公司)***

On September 23, 2021, we established Shanghai Wangju Industrial Group Co., Ltd. for investing in the factoring industry.

***China East Trade Co., Limited. (Chinese name: 中国上东贸易有限公司)***

On October 21, 2021, EAG International Vantage Capital Limited, a subsidiary of the Company, entered into an Equity Acquisition Agreement with Zhifan Dai, an unrelated third party, to acquire all the shares of China East Trade Co., Limited. (“China East Trade”) without any consideration. As of the date of acquisition, China East Trade had nominal operations.

***Shenzhen Shangdong Trading Co., Ltd. (Chinese name: 深圳市上东贸易有限公司)***

On October 21, 2021, Shanghai Wangju Industrial Group Co., Ltd., a subsidiary of the Company, entered into an Equity Transfer Agreement (“Shenzhen Shangdong Acquisition Agreement”) with Shenzhen Shangdong Investment Co., Ltd., an unrelated third party, to acquire all the shares of Shenzhen Shangdong Trading Co., Ltd. without any consideration. As of the date of acquisition, Shenzhen Shangdong Trading had nominal operations. As the subsidiary of Shenzhen Shangdong, First International Commercial Factoring (Shenzhen) Co., Ltd. (“First International”) became a subsidiary of the Company.

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**First International Commercial Factoring (Shenzhen) Co., Ltd. (“First International”)(Chinese name: 首保国际商业保理(深圳)有限公司)**

On October 21, 2021, First International, as a subsidiary of Shenzhen Shangdong Trading, became a subsidiary of the Company. Shenzhen Shangdong Trading and China East Trade as the shareholders, held 75% and 25% shares respectively.

**Zhejiang Shangchi Medical Equipment Co., Ltd. (Chinese name: 浙江上驰医疗装备有限公司)**

On November 13, 2021, we established Zhejiang Shangchi Medical Equipment Co., Ltd., it focuses on special medical vehicles business.

**EPakia Inc.**

On May 19, 2022, we established EPakia Inc. (“EPakia”), under the laws of the State of Delaware. Based in the Mid-Atlantic region of the United States, EPakia will be primarily focused on developing biodegradable packaging business in the United States and the international markets.

**EPakia Canada Inc.**

In July 2022, the Company formed a wholly-owned subsidiary in Canada, EPakia Canada Inc. EPakia Canada will be engaged in developing the biodegradable packaging trading business in Canada and other international markets.

**Disposal of Tantech Energy**

On June 26, 2019, our wholly-owned subsidiary Tantech Bamboo entered a share transfer agreement to sell all of its shares in its wholly-owned subsidiary Tantech Energy to an unrelated third party. The consideration is RMB 6,500,000 (approximately US\$ 941,000). The Company completed the disposition process in July 2019.

**D. Property, Plants and Equipment**

There is no private land ownership in China. Individuals and entities are permitted to acquire land use rights for specific purposes.

We were granted land use rights for our facilities in Lishui City, which extend until 2052. Following is a list of our main properties:

Location	Address	Land Use Expiration/Lease Term	Space	Ground Floor Area
Lishui, Zhejiang	No. 888 Tianning Street	December 18, 2052	15,208 m <sup>2</sup>	13,755 m <sup>2</sup>
Lishui, Zhejiang	Buildings No. 3 and No. 4, No. 10 Cen Shan Road, Shuige Industrial Zone	January 1, 2022 to December 31, 2031	12,904 m <sup>2</sup>	
Lishui, Zhejiang	Buildings No.8 , No. 10 Cen Shan Road, Shuige Industrial Zone	November 13,2021 to November 12,2025	1,000 m <sup>2</sup>	
Lishui, Zhejiang	Buildings No1 , No. 10 Cen Shan Road, Shuige Industrial Zone	November 6,2021 to November 5,2025	250 m <sup>2</sup>	
Zhangjiagang, Jiangsu	No. 4 Bridge, 204 Way, Yeyu Town	August 10, 2022 to August 9, 2023	11,688 m <sup>2</sup>	4,515 m <sup>2</sup>
Shenzhen, Guangdong	No. 1108, Tianle Building, No. 1021, Buji Road, Luohu District	January 17, 2022 to February 28, 2023	54 m <sup>2</sup>	

Currently, our charcoal products are sold via our sales and distribution networks located in 19 cities throughout China. We do not own or lease locations in these cities. In addition, we have logistics centers in Lishui and relationships with third-party warehousing companies in Jinan.

Fixed assets at our properties consist of office equipment at all of our locations and, at our Lishui properties, equipment for the carbonization and processing of charcoal, both for our household goods products. This equipment includes furnaces, boilers, mixers, kilns/ovens, jet mills, pulverizers, chemical analytic equipment, generators, briquette hydraulic powder molding machines, carbon activation and pickling tanks, belt dryers, air compressors, bamboo vinegar refining equipment, container production lines, hot acid/water washing equipment and automatic packing machines.

All or part of our real property and fixed assets are encumbered by secured loans from our creditors. Tantech Bamboo granted the encumbrances on our properties at the Tianning Industrial Zone facility. We have relocated our facilities from Tianning Street to a new, larger facility on Cen Shan Road. We have permitted Forasen Group to occupy and use 6,415.32 square meters of our Tianning Street real property as office and factory facilities. We have not historically charged Forasen Group for such usage, but plan to do so in the near future.

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None of our property is affected by any environmental issues that may affect our use of the property, except we voluntarily stopped producing BBQ charcoal products due to stricter local environmental requirements. At present, our plans to further develop, expand or improve these properties are funded through proceeds from our equity financings and through our operating cash flows.

Shangchi Automobile, formerly Suzhou Yimao, has a manufacturing facility, located in Zhangjiagang City, Jiangsu Province, of 11,688 square meters.

Images of Shangchi Automobile's facilities are presented below:



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Images of our facilities are presented below:



Carbon capacitance department workshops



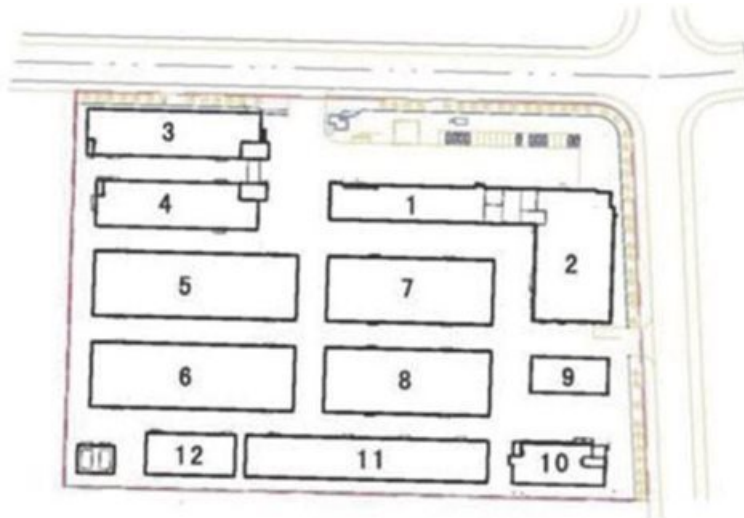
Cen Shan Road office building

**Productive Capacity**

We currently produce all of our charcoal products at our Shuige Industrial Zone facility in Lishui. We have also installed the assembly lines for driverless street sweepers at our Shuige Industrial Zone facility. Our Tianning facility in Lishui are used for general office and administration purposes.

**Shuige Industrial Zone Facility**

The following is a map of Shuige Industrial Zone facility, which displays the building numbers referred to in the below tables describing the productive uses of such facility. We rent the buildings according to our planned usage. Currently we are renting building 3rd floor of No. 1, No. 3, No. 4, No. 8 from Zhejiang Tantech Energy Tech Co., Ltd. for production, and Zhejiang Tantech Energy Tech Co., Ltd. permits us to keep using part of buildings No. 9 and 10 for free as employees' doms.



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**Non-production properties:**

Functional uses and location	Area (m <sup>2</sup> )	Actual used area (m <sup>2</sup> )	Reserved area (m <sup>2</sup> )	Space utilization	Reserved purpose
Office administration, training, product display (Fourth floor of building No. 3)	1,567	1,411	156	90%	Additional offices
Research and development center (Fourth and fifth floors of building No. 4)	2,510	1,757	753	70%	New product development team; street sweeper research and development center
Office administration, (third floor of building No.1)	250	210	40	84%	Street sweeper sales's work place
Employee dorms (part of building Nos. 9 and 10)	7,182	7,182	None	100%	N/A

We currently have 1,817 m<sup>2</sup> for office administration, training and product display purposes, of which 1,621 m<sup>2</sup> are currently used.

We have reserved 196 m<sup>2</sup> for additional office space.

Our research and development center consists of 2,510 m<sup>2</sup>, of which we use 1,757 m<sup>2</sup> at present (757m<sup>2</sup> for street sweeper R&D and 1,000 m<sup>2</sup> for charcoal products R&D). We plan to use the additional space for our new product development team, but we do not have a specific time or plan in place for expanding such team.

**Production properties:**

Functional uses and location	Area (m <sup>2</sup> )	Actual used area (m <sup>2</sup> )	Reserved area (m <sup>2</sup> )	Space utilization	Current capacity (1)	Actual productivity (metric tons)	Capacity utilization	Reserved purpose
Barbecue charcoal production line (Third floor of building No. 3)	1,568		1,568	0%	300 metric tons	0	0% <sup>(2)</sup>	Potential usage in the future
Solid deodorant and purification product production line (Part of third floor and whole second floor of building No. 4)	1,875	1,580	395	84.3%	25.0 million packages	30.2 million packages	121% <sup>(3)</sup>	
Raw material warehouse for solid deodorant and purification product (Part of third floor of building No. 4)	875	875	0	100%	N/A	N/A	N/A	
Liquid household hygiene product and bamboo vinegar product production line (First floor of building No. 3)	1,567	1,254	313	80%	4,000 units	1,780 units	45.0%	Installation of equipment for production expansion
Raw material warehouse for liquid household hygiene product and bamboo vinegar product (Second floor of building No. 3)	1,567	1,567	0	100%	N/A	N/A	N/A	
Street sweeper assembly lines (First floor of building No. 4 and building No. 8)	2,375	2,375	0	100%	3,750 units	0	0% <sup>(4)</sup>	

(1) All of our production capacity rates assume 250 working days per year, 8 hours per day. We believe we can increase the number of days worked per year or number of hours worked per day to increase our production capacities if we choose to do so in the future.

(2) We stopped producing BBQ charcoal since 2019 due to the stricter environmental requirements by the local government.

(3) We exceeded 100% utilization rate by operating this production line in excess of the assumed capacity rates. If we choose to increase our production capacity in the future, we would need to replace existing production lines with more efficient lines or to expand our space, as we have not reserved space for additional production lines.

(4) As of the date of this report, we have not started assembling any driverless street sweepers at this location yet.

**ITEM 4A. UNRESOLVED STAFF COMMENTS**

None.

## ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

*The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this report. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this report.*

### A. Operating Results

#### Overview of Company

Historically, we have been a specialized manufacturer of bamboo charcoal-based products with primary business focus in consumer products and low emission BBQ charcoal. After completing a series of re-organizations, dismantling its VIE structure on August 3, 2021 and business strategic changes, through our operating subsidiaries and entities, we are now engaging in research, development, production and distribution of various charcoal products and vehicles, as well as trading bamboo charcoal products. We also have investments in mining exploration. For more detailed information about our recent developments, please refer to Notes 1 of the footnotes accompanying the financial statements included in this report.

As the result of the business strategic changes, during years ended December 31, 2022 the Company merged its trading segment into its consumer products segment. We start to provide biodegradable packaging business during the year ended December 31, 2022. Now the Company had three reporting segments: consumer product segment, electric vehicle (“EV”) segment, and biodegradable packaging segment.

Our consumer products include purification and deodorization products, household cleaning products and barbecue charcoals designed for domestic market. Purification and deodorization products and household cleaning products are sold under the brand name “Charcoal Doctor.” Purification and deodorization products include air purification products, deodorant products and bamboo vinegar. Household cleaning products include toilet cleaning products, kitchen cleaning products, personal care products and clothing detergent products.

The largest category of our consumer products is purification and deodorization products. Made from dry distilled carbonized bamboo, our purification and deodorization products have the ability to absorb harmful substances and air-borne odors, including benzene, formaldehyde, ammonia and carbon tetrachloride. These products also come in many shapes and varieties for a multitude of purposes including pillows, cushion insoles, wrist pads, clothes hangers and other products. Bamboo vinegar is an additive that can be used in food processing, medical and hygiene products and fertilizer. Although it currently only accounts for a small portion of our revenue, bamboo vinegar products are crucial for us to maintain close ties with the agricultural industry which we believe will be a key area for growth in the coming years. Cleaning products, including disinfectants, detergents, lotions, specialized soaps and toilet cleaners are relatively new in our consumer products but provide us another opportunity for growth. Purchased from third parties and sold through our distribution channel, barbecue charcoals designed for China’s domestic market have also been a key source of revenue for us in recent years.

We are in the process to transform our business to focus more on the specialty electric vehicles (EVs) market. Our acquisition of Shangchi Automobile completed in the second quarter of 2017, and we recently established two subsidiaries in Zhejiang to shift our business strategy and focus on researching, developing and selling specialty EVs, such as electric driverless street sweepers. We are building our presence methodically, in order to maximize the impact of our R&D investments and technology advancements in specialty-use EVs rather than the more competitive, domestic general consumer EV market. We are confident in our position and remain fully committed to the EV segment, which we expect will be a key long-term growth driver for us. We expect our specialty EV business, especially driverless street sweepers, will grow with the growing sensitivity to cleaner environments and the demand for zero-emission vehicles, as well as favorable government policies and support in terms of subsidies, grants and/or tax rebates.

During year ended December 31, 2022, we have started to biodegradable packaging business. Biodegradable packaging is a type of packaging that is designed to break down naturally in the environment, without leaving behind harmful pollutants or waste. The market for biodegradable packaging has been growing rapidly in recent years, driven by increased awareness of environmental issues and the desire to reduce plastic waste. We generated approximately \$4.0 million revenue from biodegradable packaging business in fiscal 2022.

If our expansions into these new businesses are not successful, our future results of operations and growth prospects may be materially and adversely affected. There could be trends, uncertainties or events that may have a material effect on our sales or revenue of consumer products. If we cannot increase our consumer products and electric vehicle revenues or find new business opportunities to continue the growth, our total revenue may be decreasing.



## **Factors Affecting Our Results of Operations**

### **Government Policy May Impact Our Business and Operating Results**

We have seen negative impact of unfavorable government policy regarding rebates upon our EV business in recent years. In addition, our business and operating results will be affected by China's overall economic growth and government policy. Unfavorable changes in government policies could affect the demand for our products and could materially and adversely affect our results of operations. Our bamboo charcoal-based consumer products are currently not subject to such government restrictions; however, any future changes in the government's policy on the bamboo charcoal industry may have a negative effect on the supply of our raw materials.

### **Price Inelasticity of Raw Materials May Reduce Our Profit**

As a specialized manufacturer of bamboo charcoal-based products, we rely on the continuous and stable supply of bamboo charcoal to ensure our operation and expansion. Although bamboo (and as a result bamboo charcoal) is a renewable supply, price inelasticity at any given time may increase the likelihood of bidding wars, resulting in an increase in raw material prices and thus reduce our profit. In addition, as we are competing based upon low price, we will risk losing customers by increasing our selling prices.

### **Competition in Consumer Product**

Our products face competition from other producers. In our consumer product segment, we face competition from a number of companies that have similar product portfolios. Many of such competitors' products are not bamboo-based; instead, we compete based on our products' functional use. Many such competitors are able to provide functionally similar products without relying on bamboo or bamboo charcoal components.

Although our Charcoal Doctor brand is one of the largest and most famous in the charcoal bag and bamboo charcoal market, the bamboo charcoal-based consumer product industry is relatively fragmented and subject to relatively low barriers of entry.

Our Charcoal Doctor air purification products compete with products from charcoal-based competitors such as Zhejiang Maitanweng Ecological Development Co., Ltd., Zhejiang Jiejiegao Charcoal Industry Co., Ltd., and Quzhou Modern Charcoal Industry, Co., Ltd.

Our Charcoal Doctor toilet cleaner competitors include non-charcoal-based competitors such as SC Johnson & Son (Shanghai) Inc. (which makes the Mr. Muscle brand in China), Blue Moon Chinese Co., Ltd., Shanghai White Cat Group Ltd., Beijing Green Umbrella Chemical Co., Ltd. and Weilai (Guangzhou) Consumer products Co., Ltd.

### **COVID-19**

Our operations were affected by the recent and ongoing outbreak of the coronavirus disease 2019 (COVID-19) which in March 2020, was declared a pandemic by the World Health Organization. The COVID-19 outbreak is causing lockdowns, travel restrictions, and closures of businesses. The Company's business has been negatively impacted by the COVID-19 coronavirus outbreak to certain extent in fiscal 2020.

From late January 2020 to the middle of February 2020, the Company had to temporarily suspend our manufacturing activities due to government restrictions. During the temporary business closure period, our employees had very limited access to our manufacturing facilities and the shipping companies were not available and as a result, the Company experienced difficulty delivering our products to the customers on a timely basis. In addition, due to the COVID-19 outbreak, some of the customers or suppliers may experience financial distress, delay or default on their payments, reduce the scale of their business, or suffer disruptions in their business due to the outbreak. Any increased difficulty in collecting accounts receivable, delayed raw materials supply, bankruptcy of small and medium businesses, or early termination of agreements due to deterioration in economic conditions could negatively impact our results of operations.

As of the date of this filing, the COVID-19 coronavirus outbreak in China appears to be controlled and most provinces and cities have resumed business activities under the guidance and support of the government. In light of the current situation, the Company believes that the impact of the COVID-19 outbreak on the business is both temporary and limited, and that the revenues have started growing again in fiscal 2021 and fiscal 2022. However, there is still significant uncertainty regarding the possibility of another wave of infections, and the breadth and duration of business disruptions related to COVID-19, which could continue to have material impact to the Company's operations.

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**Results of Operation**

The following table summarizes the selected results of our operation during the fiscal years ended December 31, 2022 and 2021, respectively, and provides information regarding the dollar and percentage increase or (decrease) during such years.

(All amounts, other than percentages, in thousands of U.S. dollars)

Statement of Operations Data:	2022		2021		Dollar (\$) Increase (Decrease)	Percentage Increase (Decrease)
	Dollars in thousands	As a percentage of sales revenue	Dollars in thousands	As a percentage of sales revenue		
Revenues	\$ 53,490	100.0%	\$ 55,264	100.0%	\$ (1,774)	(3.2)%
Cost of revenues	43,397	81.1%	44,833	81.1%	(1,436)	(3.2)%
Gross profit	10,093	18.9%	10,431	18.9%	(338)	(3.2)%
<b>Operating expenses</b>						
Selling expenses	278	0.5%	221	0.4%	57	25.8%
General and administrative expenses	5,014	9.4%	8,832	16.0%	(3,818)	(43.2)%
Share based compensation	-	-%	1,840	3.3%	(1,840)	(100.0)%
Research and development expenses	228	0.4%	8,053	14.6%	(7,825)	(97.2)%
Total operating expenses	5,520	0.4%	18,946	34.3%	(13,426)	(70.9)%
Income (loss) from operations	4,573	8.5%	(8,515)	(15.4)%	13,088	(153.7)%
<b>Other income (expenses)</b>						
Interest income	208	0.4%	118	0.2%	90	76.3%
Interest expense	(602)	(1.1)%	(740)	(1.3)%	138	(18.6)%
Financing interest income	1,400	2.6%	-	-%	1,400	-%
Gain from sale property to a related party	-	-%	546	1.0%	(546)	(100.0)%
Rental income from related parties	89	0.2%	118	0.2%	(29)	(24.6)%
Other income (expense)	60	0.1%	209	0.4%	(149)	(71.3)%
Total other (expense) income	1,155	2.2%	251	0.5%	904	360.2%
Income (loss) before income tax expense	5,728	10.7%	(8,264)	(15.0)%	13,992	(169.3)%
Income tax expense	3,142	5.9%	2,429	4.4%	713	29.4%
Net income (loss)	2,586	4.8%	(10,693)	(19.3)%	13,279	(124.2)%
Net income(loss) attributable to common stockholders of Tantech Holdings Ltd	\$ 3,021	5.6%	\$ (8,358)	(15.1)%	\$ 11,379	(136.1)%

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The following table summarizes the selected results of our operation during the fiscal years ended December 31, 2021 and 2020, respectively, and provides information regarding the dollar and percentage increase or (decrease) during such years.

	2021		2020		Dollar (\$) Increase (Decrease)	Percentage Increase (Decrease)
	Dollars in thousands	As a percentage of sales revenue	Dollars in thousands	As a percentage of sales revenue		
<b>Statement of Operations Data:</b>						
Revenues	\$ 55,264	100.0%	\$ 42,284	100.0%	\$ 12,980	30.7%
Cost of revenues	44,833	81.1%	37,808	89.4%	7,025	18.6%
Gross profit	10,431	18.9%	4,476	10.6%	5,955	133.0%
<b>Operating expenses</b>						
Selling expenses	221	0.4%	977	2.3%	(756)	(77.4)%
General and administrative expenses	8,832	16.0%	955	2.3%	7,877	824.8%
Share based compensation	1,840	3.3%	-	-%	1,840	-%
Impairment of intangible asset	-	-	11,999	28.4	(11,999)	(100)%
Research and development expenses	8,053	14.6%	890	2.1%	7,163	804.8%
Total operating expenses	18,946	34.3%	14,821	35.1%	4,125	27.8%
Income (loss) from operations	(8,515)	(15.4)%	(10,345)	(24.5)%	1,830	(17.7)%
<b>Other income (expenses)</b>						
Interest income	118	0.2%	51	0.1%	67	131.4%
Interest expense	(740)	(1.3)%	(300)	(0.7)%	(440)	146.7%
Gain from sale property to a related party	546	1.0%	-	-%	546	-%
Rental income from related parties	118	0.2%	-	-%	118	-%
Other income (expense)	209	0.4%	(40)	(0.1)%	249	(622.5)%
Total other (expense) income	251	0.5%	(289)	(0.7)%	540	(186.9)%
Income (loss) before income tax expense	(8,264)	(15.0)%	(10,634)	(25.1)%	2,370	(22.3)%
Income tax expense	2,429	4.4%	(612)	(1.4)%	3,041	496.9%
Net income (loss)	(10,693)	(19.3)%	(10,022)	(23.7)%	(671)	6.7%
Net income(loss) attributable to common stockholders of Tantech Holdings Ltd	\$ (8,358)	(15.1)%	\$ (6,520)	(15.4)%	\$ 1,838	28.2%

Revenues: revenues decreased by approximately \$1.8 million, or 3.2%, to approximately \$53.5 million in fiscal 2022 from approximately \$55.3 million in fiscal 2021. The decrease was mainly attributable to decrease of approximately \$4.4 million in revenues from consumer products and decrease of approximately \$1.3 million in revenues from EV segment, due to weak consumer market as the result of soft economy, partially offset by increase of approximately \$4.0 million in revenues from biodegradable packaging business which we started in fiscal 2022.

Revenues: revenues increased by approximately \$13.0 million, or 30.7%, to approximately \$55.3 million in fiscal 2021 from approximately \$42.3 million in fiscal 2020. The increase was mainly attributable to the significant increase of our revenues from consumer products due to higher sales volume from existing and new customers.

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### Consumer product segment

Revenues from consumer product segment decreased by approximately \$4.4 million, or 8.2%, to approximately \$49.0 million for fiscal 2022 from approximately \$53.4 million for fiscal 2021, as a result of weak consumer demand in fiscal 2022. During the fiscal 2022, because the spread of COVID-19 has been effectively controlled in China, market demand appears to have slowed down as compared to the same period last year. We were able to increase our profit margin as compared to the same period last year by producing more of our consumer products in our own facilities rather than outsourcing to third parties.

Revenues from consumer product segment increased by approximately \$11.5 million, or 27.5%, to approximately \$53.4 million for fiscal 2021 from approximately \$41.9 million for fiscal 2020. During the fiscal 2021, in order to combat the COVID-19 pandemic, we increased our production capacity and also purchased charcoal-based products from third-party vendors to meet the surging demands of bamboo charcoal used for active charcoal masks, air purification and sanitation products.

### Electric Vehicle (“EV”) segment

On July 12, 2017, the Company completed the acquisition of 70% of the equity interest of Suzhou E-Motors, which was renamed as Shangchi Automobile in 2019, a specialty electric vehicles and power batteries manufacturer based in Zhangjiagang City, Jiangsu Province, People’s Republic of China. The Company believes that the acquisition brings new advanced technologies and economic synergies in the electric vehicle market and broadens the Company’s customer base and cross-selling opportunities.

The revenue for our EV segment was approximately \$0.5 million in fiscal 2022, as compared to sales of approximately \$1.9 million in fiscal 2021 due to we had no revenue from smart electronic sanitation vehicles in fiscal 2022.

The revenue for our EV segment was approximately \$1.9 million in fiscal 2021, as compared to sales of approximately \$0.4 million in fiscal 2020. In fiscal 2021, we had sales of approximately \$1.1 million from our smart electronic sanitation vehicles, in addition to approximately \$0.7 million income from sale of electric specialty vehicles and power batteries and \$0.1 million commission income for the electric specialty vehicles sold on behalf of other manufacturers.

### Biodegradable packaging business

In fiscal 2022, the Company started to biodegradable packaging business. The Company generated revenue of approximately \$4.0 million from biodegradable packaging business in fiscal 2022. We expect the revenue from biodegradable packaging business will continue to increase in the future.

### *Cost of revenues:*

Our cost of revenues decreased by approximately \$1.4 million or 3.2% to approximately \$43.4 million in fiscal 2022 from approximately \$44.8 million in fiscal 2021. As a percentage of revenues, the cost of revenue kept at 81.1% in fiscal 2022 and 2021.

Our cost of revenues increased by approximately \$7.0 million or 18.6% to approximately \$44.8 million in fiscal 2021 from approximately \$37.8 million in fiscal 2020. As a percentage of revenues, the cost of revenue decreased to 81.1% in fiscal 2021 from 89.4% in fiscal 2020.

The decrease in cost of revenues as a percentage of revenues in fiscal 2021 was mainly attributable to the increase of revenues from our consumer product segment due to higher average selling price and lower average unit cost because we were able to produce the charcoal-based products in our own facilities.

### *Gross profit:*

Our gross profit decreased by approximately \$0.3 million, or 3.2% to approximately \$10.1 million in fiscal 2022 from approximately \$10.4 million in fiscal 2021. The gross profit margin both were 18.9% in fiscal 2022 and 2021. On segment basis, gross margins for consumer product segment, EV segment, and biodegradable packaging business were 20.4%, (3.4)% and 2.7%, respectively, in fiscal 2022, compared to 18.7%, 24.2 %, and nil, respectively, in fiscal 2021.

Our gross profit increased by approximately \$6.0 million, or 133.0% to approximately \$10.4 million in fiscal 2021 from approximately \$4.5 million in fiscal 2020. The gross profit margin was 18.9% in fiscal 2021, as compared to 10.6% in fiscal 2020. On segment basis, gross margins for consumer product and EV segments were 18.7% and 24.2%, respectively, for fiscal 2021, compared to 10.7% and (3.0) %, respectively, for fiscal 2020. The increase in overall gross margin was primarily attributable to the higher selling price and lower unit cost related to consumer product segment and EV segment.

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### *Selling expenses:*

Selling expenses were approximately \$0.3 million in fiscal 2022 and approximately \$0.2 million in fiscal 2021. As a percentage of sales, our selling expenses were 0.5% of revenues in fiscal 2022, as compared to 0.4% of revenues in fiscal 2021. The increase was mainly due to more promotion expenses in fiscal 2022 for our new business segments.

Selling expenses were approximately \$0.2 million in fiscal 2021 and approximately \$1.0 million in fiscal 2020. As a percentage of sales, our selling expenses were 0.4% of revenues in fiscal 2021, as compared to 2.3% of revenues in fiscal 2020. The decrease was mainly due to less promotion expenses in fiscal 2021 because the COVID-19 has been effectively controlled in China.

### *General and administrative expenses:*

Our general and administrative expenses decreased by approximately \$3.8 million or 43.2%, to approximately \$5.0 million in fiscal 2022 from approximately \$8.8 million in fiscal 2021. As a percentage of revenues, general and administrative expenses decreased to 9.1% in fiscal 2022, compared to 16.0% in fiscal 2021. The decrease was primarily attributable to decrease of approximately \$4.8 million in allowance of receivables, offset by increase of approximately \$0.5 million in employee compensations due to business expansion and increase of approximately \$0.3 million in professional consultant fee.

Our general and administrative expenses increased by approximately \$7.9 million or 824.8%, to approximately \$8.8 million in fiscal 2021 from approximately \$1.0 million in fiscal 2020. As a percentage of revenues, general and administrative expenses increased to 16.0% in fiscal 2021, compared to 2.3% in fiscal 2020. The increase was primarily attributable to approximately \$5.8 million wrote off the manufacturing rebate receivable in fiscal year 2021.

### *Impairment of intangible asset*

For the year ended December 31, 2020, the Company recorded an impairment of approximately \$12.0 million for the licenses and permit resulted from the acquisition of Shangchi Automobile in fiscal 2017. Electric vehicle manufacturing license and patents on specialty electric vehicles resulted from the acquisition of Shangchi Automobile (formerly known as Suzhou E-Motors). During the year 2020, due to the impact of COVID-19, Shangchi Automobile was unable to maintain normal operations and all sales and marketing events were disrupted due to travel restrictions and other government regulations. While the spread of COVID-19 has gradually been under control in China, it could adversely affect the Company's business for the future. Shangchi Automobile has no immediate business plan to start manufacturing the electric vehicles. Management determined that the electric vehicle manufacturing license should be impaired. The Company recorded an impairment of \$11,998,606 for the year ended December 31, 2020, because the carrying amount was not recoverable and it exceeded its fair value based on the management's assessment for the electric vehicle manufacturing license.

### *Research and development expenses*

Research and development expenses decreased by approximately \$7.8 million, or 97.2%, to approximately \$0.2 million in fiscal 2022 from approximately \$8.1 million in fiscal 2021. The decrease was primarily due to less R&D activities in connection with our EV segment in fiscal 2022.

Research and development expenses increased by approximately \$7.2 million, or 804.8%, to approximately \$8.1 million in fiscal 2021 from approximately \$0.9 million in fiscal 2020. The increase was primarily due to the R&D activities in connection with our EV segment. During fiscal 2021, we increased our investment significantly for smart electric sanitation vehicles designed to be used in closed industrial parks and residential communities. We have successfully manufactured sanitation vehicles and generated revenue approximately \$1.9 million from EV sales in fiscal year 2021.

### *Share based compensation*

In fiscal 2021, the Company recorded share-based compensation of approximately \$1.8 million. The Company issued 1,600,000 common shares to its employees under the Company's 2014 Share Incentive Plan in May 2021.

### *Total operating expenses*

Total operating expenses decreased by approximately \$13.4 million, or 70.9%, to approximately \$5.5 million in fiscal 2022 from approximately \$18.9 million in fiscal 2021, which was mainly due to decreased approximately \$7.8 million in research and development expenses, decrease of approximately \$3.8 million in general and administrative expense and decrease of approximately \$1.8 million in share-based compensation in fiscal 2022 compared to fiscal 2021.

Total operating expenses increased by approximately \$4.1 million, or 27.8%, to approximately \$18.9 million in fiscal 2021 from approximately \$14.8 million in fiscal 2020, which was mainly due to increased approximately \$7.9 million in general and administrative expense, research and development expenses of approximately \$7.2 million and increased share-based compensation expenses of approximately \$1.8 million, offset by a decrease of approximately \$12.0 million in impairment of intangible assets for fiscal 2021 compared to fiscal 2020.

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### *Interest expenses*

Our interest expenses decreased by approximately \$0.1 million, or 18.6%, to approximately \$0.6 million in fiscal 2022 from approximately \$0.7 million in fiscal 2021. The decrease was mainly due to decrease of approximately \$0.3 million interest accrued for the lawsuit filed by Mr. Hengwei Chen, offset by increase of approximately \$0.3 million interest accrued for the third parties loan payables.

Our interest expenses increased by approximately \$0.4 million, or 146.7%, to approximately \$0.7 million in fiscal 2021 from approximately \$0.3 million in fiscal 2020. The increase was mainly due to the accrue of interest because of the lawsuit filed by Mr. Hengwei Chen on March 23, 2021 against Shangchi Automobile and the Company for a debt dispute of approximately \$1.8 million (RMB 11.35 million). Mr. Chen was the former general manager of Shangchi Automobile before the Company acquired Shangchi Automobile in 2017. On December 15, 2021, the court judged Shangchi Automobile to pay Mr. Hengwei Chen approximately \$1.4 million (RMB 8.95 million). The Company filed an appeal on January 4, 2022. This case is still in appeal period as of the date of this filing. The Company has recorded the disputed amount and further accrued interest of approximately \$0.5 million (RMB3.5 million) in the accrued liabilities based on the best estimate of the management and our legal counsel as of December 31, 2021.

### *Financing interest income*

Starting in June 2022, we provided commercial factoring services to customers who seek financing from their receivables. For the year ended December 31, 2022, the Company recognized financing interest income of approximately \$1.4 million.

### *Gain from sale property to a related party*

In fiscal 2021, Tantech Bamboo entered into a sales agreement with Xigema Holding Hangzhou Co., Ltd. (“Xigema”) to sale part of its real property to Xigema. Xigema is controlled by Aihong Wang, who is a relative of Mr. Zhengyu Wang. We recorded a gain approximately \$0.2 million from this deal in fiscal 2021.

### *Rental income from related parties*

Since fiscal 2021, we signed some lease agreements with related parties to lease a part of production facilities to related parties, rent income was approximately \$0.1 million in fiscal 2022 and 2021.

### *Other income (expense)*

Other income was approximately \$0.1 million in fiscal 2022 compared to approximately \$0.2 million in fiscal 2021. Other income was primarily related to the government subsidy income and material disposal.

Other income was approximately \$0.2 million in fiscal 2021 compared to other expense approximately \$0.04 million in fiscal 2020. Other income was primarily related to the government subsidy income.

### *Income (loss) before income taxes*

Our income before income tax was approximately \$5.7 million in fiscal 2022, an increase of approximately \$14.0 million compared to loss of approximately \$8.3 million in fiscal 2021. The increase was primarily attributable to a decrease of approximately \$13.4 million in operating expenses compared to fiscal 2021.

Our loss before income tax was approximately \$8.3 million in fiscal 2021, a decrease of approximately \$2.4 million compared to loss of approximately \$10.6 million in fiscal 2020. The decrease was primarily attributable to an increase of approximately \$6.0 million in gross profit compared to fiscal 2020.

### *Income taxes provision (benefit)*

Our income taxes expense was approximately \$3.1 million in fiscal 2022, an increase of approximately \$0.7 million or 29.4% from approximately \$2.4 million in fiscal 2021. The increased income tax provision was in line with increased taxable income in fiscal 2022 comparing to fiscal 2021.

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Our income taxes expense was approximately \$2.4 million in fiscal 2021, an increase of approximately \$3.0 million or (496.9%) from income tax benefit of approximately \$0.6 million in fiscal 2020. The increased income tax provision was in line with increased taxable income from continuing operations in fiscal 2021 comparing to fiscal 2020.

### Net income (loss) attributable to common shareholders

Our net income attributable to common stockholders was approximately \$3.0 million in fiscal 2022, an increase of approximately \$11.4 million from net loss attributable to common stockholders approximately \$8.4 million in fiscal 2021. The increase of net income was attributable to the factors described above.

Our net loss attributable to common stockholders was approximately \$8.4 million in fiscal 2021, an increase of approximately \$1.8 million from approximately 6.5 million in fiscal 2020. The increase of net loss was attributable to the factors described above.

## **B. Liquidity and Capital Resources**

We are a holding company incorporated in the British Virgin Islands. We may need dividends and other distributions on equity from our PRC subsidiaries to satisfy our liquidity requirements. Current PRC regulations permit our PRC subsidiaries to pay dividends to us only out of their accumulated profits, if any, determined in accordance with PRC accounting standards and regulations. In addition, our PRC subsidiaries are required to set aside at least 10% of their respective accumulated profits each year, if any, to fund certain reserve funds until the total amount set aside reaches 50% of their respective registered capital. Our PRC subsidiaries may also allocate a portion of their after-tax profits based on PRC accounting standards to employee welfare and bonus funds at their discretion. These reserves are not distributable as cash dividends.

As of December 31, 2022, we had cash and restricted cash of approximately \$19.0 million. Our current assets were approximately \$106.8 million and our current liabilities were approximately \$13.5 million, which resulted in a current ratio of 7.9:1. Total shareholders' equity as of December 31, 2022 was approximately \$115.9 million.

Our accounts receivable turnover in days were 290 days and 262 days for the year ended December 31, 2022 and 2021, respectively. Although we typically do not grant special payment terms to our customers, some of our customers, who are large retailers and wholesale chains, tend to require longer payment terms but are unlikely to default. The instances of slow payments and long-aging receivables may have negative impact on our short-term operating cash flow and future liquidity. We periodically review our accounts receivable and allowance level in order to ensure our methodology used to determine allowances is reasonable and accrued additional allowances if necessary. We have recently put a lot of efforts into accounts receivable collection through tightening our customer credit policy and strengthening monitoring of uncollected receivables. If the Company has difficulty collecting, the following steps will be taken, including but not limited to: cease any additional shipments to the customers, visit the customers to request payments on past due invoices, and if necessary, take legal recourse. If all of these steps are unsuccessful, management will determine whether or not the receivable will be reserved or written off.

For the accounts receivable, the Company provided bad debt allowance of approximately \$4.2 million against the aged accounts receivable balances. Subsequent to December 31, 2022 and through April 23, 2023, the Company collected approximately \$9.6 million or 22% of the accounts receivable balance as of December 31, 2022.

As of December 31, 2022 and 2021, the Company had significant advances to suppliers of approximately \$1.3 million and \$3.4 million, respectively. In order to ensure a steady supply of raw materials, the Company is required from time to time to make cash advances when placing its purchase orders. Due to recent tightened environmental protection policies in China, many smaller suppliers have gone out of business. The Company monitors the advances to suppliers account and the allowance level periodically in order to ensure the related allowance is reasonable. We have since enhanced our collections or realization on advance to suppliers through tightening vendor prepayment policy and strengthening monitoring of unrealized prepayment. If the Company has difficulty collecting, the following steps will be taken: cease additional purchases from these suppliers, visit the suppliers to request return of the prepayments promptly, and if necessary, take legal recourse. If all of these steps are unsuccessful, management will determine whether or not the prepayment will be reserved or written off.

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The following table sets forth summary of our cash flows for the periods indicated:

(All amounts in thousands of U.S. dollars)

	2022	2021	2020
Net cash provided by (used in) operating activities	\$ 8,293	\$ (8,090)	\$ 14,171
Net cash (used in) provided by investing activities	(44,999)	524	(123)
Net cash provided by financing activities	15,292	12,805	8,940
Effect of exchange rate changes on cash	(3,171)	989	1,705
Net (decrease) increase in cash, restricted cash and cash equivalents	(24,585)	6,228	24,693
Cash, restricted cash and cash equivalents, beginning of year	43,567	37,339	12,646
Cash, restricted cash and cash equivalents, end of year	\$ 18,982	\$ 43,567	\$ 37,339

### Operating Activities

Net cash provided by operating activities was approximately \$8.3 million in fiscal 2022, compared to approximately \$8.1 million in fiscal 2021. The change in net cash used in operating activities was primarily attributable to the following factors:

A net income of approximately \$2.6 million in fiscal 2022.

A decrease of approximately \$1.9 million in advance to suppliers.

An increase of approximately \$1.6 million in accrued liabilities and other payables.

An increase of approximately \$1.5 million in taxes payable.

Offset by the impacts from the following factors:

A decrease of approximately \$1.5 million in customers deposits because we provided inventories to customers;

Net cash used in operating activities was approximately \$8.1 million in fiscal 2021, compared to cash provided by operating activities of approximately \$14.2 million in fiscal 2020. The change in net cash used in operating activities was primarily attributable to the following factors:

A net loss of approximately \$10.7 million in fiscal 2021;

An increase of approximately \$9.6 million in account receivable due to slowly collection;

Offset by the impacts from the following factors:

Noncash adjustment of approximately \$8.8 million, which primarily consisted of approximately \$5.8 million wrote off manufacturing rebate receivable and approximately \$1.8 million share base compensation;

A decrease of \$5.2 million in advance to suppliers;

### Investing Activities

Net cash used in investing activities was approximately \$45.0 million in fiscal 2022, compared to net cash provided by investing activities of approximately \$0.5 million in fiscal 2021. The net cash used in investing activities in fiscal 2022 was primarily attributable to approximately \$45.0 million in financing receivable due to commencement of our new commercial factoring business.

Net cash provided by investing activities was approximately \$0.5 million in fiscal 2021, compared to net cash used in investing activities of approximately \$0.1 million in fiscal 2020. The net cash provided by investing activities in fiscal 2021 was primarily attributable to approximately \$0.7 million received from disposal of property, plant and equipment, offset by approximately \$0.2 million paid for purchase of property, plant and equipment.

### Financing Activities

Net cash provided by financing activities was approximately \$15.2 million in fiscal 2022, compared to approximately \$12.8 million in fiscal 2021. Net cash provided by financing activities in fiscal 2022 was primarily due to one offering of 953,333 common shares, which resulted in net proceeds of approximately \$10.1 million in fiscal 2022 and net repayment from related parties of approximately \$9.0 million, offset by net repayment of approximately \$3.5 million to third parties loans and net repayment of approximately \$0.7 million to bank loans.

Net cash provided by financing activities was approximately \$12.8 million in fiscal 2021, compared to net cash used in financing activities of approximately \$8.9 million in fiscal 2020. Net cash provided by financing activities for fiscal 2021 was primarily due to two offerings of 110,419 common shares, which resulted in net proceeds of approximately \$19.4 million in fiscal 2021. In addition, we also had net proceeds of approximately \$6.6 million from third party loan, offset by net payment of approximately \$10.4 million to related party. In October 2021, an aggregated of \$10,354,051 (RMB65,991,404) funds was transferred to an Entrusted Bank Account under Mr. Zhengyu Wang, the Chairman and previous CEO of the Company, for general business-related purpose. Both the fund balance of \$10,354,051 (or RMB65,991,404) and the related banking interest of \$144,851 (or RMB923,079) were remitted back to the Company by April 6, 2022 and the funds was under full custody and control by the Company's treasurer during the above period.



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Our primary source of cash is currently generated from the sales of our products and bank borrowings, as well as equity financings. In the coming years, we are planning to continue to raise additional capital by issuing common shares to meet our cash needs. While facing uncertainties in regards to the size and timing of capital raise, we expect to be able to meet our working capital and capital expenditure requirements by using our cash on hand, cash flows from operations and bank borrowings in the next twelve months.

### Loan Facilities

As of December 31, 2022, the balance of our bank loans was approximately \$3.6 million, the details of all our short-term bank loans are as follows:

No.	Type	Contracting Party	Valid Date	Duration	Amount
1	Short-term bank loan	Shanghai Pudong Development Bank	September 29, 2022	12 months	\$ 1,305,000
2	Short-term bank loan	Bank of China	December 22, 2022	12 months	\$ 2,331,591

On September 29, 2022, Tantech Bamboo entered into a short-term loan agreement with SPD (Lishui Branch) to borrow \$1,450,000 (RMB10.0 million) for one year with fixed annual interest rate 3.90%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by three related parties, Zhengyu Wang and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang, and one unrelated third party, Lishui Zhongyun Mitai Industrial Co., Ltd.. The loan was also collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.2 million (RMB29,090,000). As of December 31, 2022, the outstanding balance was \$1,305,000 (RMB9.0 million).

On December 22, 2022, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2,331,591 (RMB 16,079,936) for one year with fixed annual interest rate of 4.35%. The purpose of the loan was for purchasing bamboo charcoal materials. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.8 million (RMB25,960,000). Zhengyu Wang and his wife, Yefang Zhang pledged personal property as collateral to secure the loan with maximum guaranteed amount up to approximately \$0.2 million (RMB1,140,000). The loan was also guaranteed by two related parties, Lishui Juanju Commercial Trade Co., Ltd. ("LJC"), and Forasen Group Co., Ltd., one unrelated third party, Zhejiang Meifeng Tea Industry Co., Ltd., and other three related individuals, Zhengyu Wang, Chairman of the Board and previous CEO of the Company, his wife, Yefang Zhang, and his relative, Aihong Wang.

During the year ended December 31, 2022, the Company also borrowed and repaid the following loans:

On December 22, 2021, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2,550,044 (RMB 17,080,000) for six months with fixed annual interest rate of 4.5%. The purpose of the loan was for purchasing bamboo charcoal materials. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.9 million (RMB25,960,000). The loan was also guaranteed by two related parties, Lishui Juanju Commercial Trade Co., Ltd. ("LJC"), and Forasen Group Co., Ltd., one unrelated third party, Zhejiang Meifeng Tea Industry Co., Ltd., and other three related individuals, Zhengyu Wang, Chairman of the Board and previous CEO of the Company, his wife, Yefang Zhang, and his relative, Aihong Wang. The loan was fully repaid upon maturity.

On April 1, 2022, Tantech Bamboo entered into a short-term loan agreement with SPD Bank (Lishui Branch) to extend the remaining loan \$1,740,000 (RMB12 million) to March 30, 2023 with fixed interest rate of 3.9%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by three related parties, Zhengyu Wang and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang; a third party, Lishui Zhongyun Mitai Industrial Co., Ltd. The loan was also collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.2 million (RMB29,250,000). The extended loan was fully repaid on September 27, 2022.

Although we currently do not have any material unused sources of liquidity, giving effect to the foregoing bank loans and other financing activities, we believe that our currently available working capital should be adequate to sustain our operations at our current levels through at least for the next twelve months. We will consider additional borrowing or public offering based on our working capital needs and capital expenditure requirements. There is no seasonality of our borrowing activities.

## Statutory Reserves

Under PRC regulations, all our subsidiaries in the PRC may pay dividends only out of their accumulated profits, if any, determined in accordance with PRC GAAP. In addition, these companies are required to set aside at least 10% of their after-tax net profits each year, if any, to fund the statutory reserves until the balance of the reserves reaches 50% of their registered capital. The statutory reserves are not distributable in the form of cash dividends to the Company and can be used to make up cumulative prior year losses.

Restrictions on net assets also include the conversion of local currency into foreign currencies, tax withholding obligations on dividend distributions, the need to obtain State Administration of Foreign Exchange approval for loans to a non-PRC consolidated entity. We did not have these restrictions on our net assets as of December 31, 2022 and 2021. We are also a party to certain debt agreements that are secured with pledges on our real property in Tianning located in Lishui, China. But such debt agreements do not restrict our net assets and instead only impose restrictions on the pledged property.

The following table provides the amount of our statutory reserves, the amount of restricted net assets, consolidated net assets, and the amount of restricted net assets as a percentage of consolidated net assets, as of December 31, 2022 and 2021.

	As of December 31, 2022	As of December 31, 2021
Statutory Reserves	\$ 7,490,398	\$ 6,874,614
Total Restricted Net Assets	\$ 7,490,398	\$ 6,874,614
Consolidated Net Assets	\$ 115,935,394	\$ 112,536,711
Restricted Net Assets as Percentage of Consolidated Net Assets	6.5%	6.1%

Total restricted net assets accounted for approximately 6.5% and 6.1% of our consolidated net assets as of December 31, 2022 and 2021 respectively. As our subsidiaries usually set aside only 10% of after-tax net profits each year to fund the statutory reserves and are not required to fund the statutory reserves when they incur losses, we believe the potential impact of such restricted net assets on our liquidity is limited.

## Capital Expenditures

We had capital expenditures of approximately \$0.08 million, \$0.2 million and \$0.1 million for the years ended December 31, 2022, 2021 and 2020, respectively for the addition and renovation of our workshops and office buildings, purchasing of equipment in connection with our business activities and purchasing of long-term investment.

We expect that our capital expenditures will increase in the future as our business continues to develop and expand. We have used cash generated from our subsidiaries' operations to fund our capital commitments in the past and anticipate using such funds and proceeds received from our offerings through issuance of common stocks and other sources to fund capital expenditure commitments in the future.

## C. Research and Development, Patents and Licenses, etc.

We are committed to researching and developing applications of bamboo charcoal, activated bamboo charcoal and EVs such as street sweepers. We believe scientific and technological innovations will help the Company achieve its long-term strategic objectives. R&D is an integral part of our operations and the crux of its competitive advantage and differentiation strategy.

Our R&D team is well educated and has far-reaching research capabilities. The R&D team has 3 dedicated researchers and analysts, with one focusing on Charcoal Doctor product development and applications, and two focusing on developing vehicle products such as street sweepers. Quality control is an important aspect of the team's work and ensuring quality at every stage of the process has been a key driver in maintaining and developing brand value for the Company.

## Our Intellectual Property

We rely on trademarks and service marks to protect our branding. As of the date of this report, we hold over 38 registered trademarks about or related to "Charcoal Doctor" and "Shangchi" in different applicable trademark categories in China. We also own a domain name of tantech.cn, the registration of which will expire on March 11, 2023. This website is not part of this report and is not incorporated by reference herein.

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We rely on our technology patents to protect our domestic business interests and ensure our position as a bamboo carbon technology pioneer in our industry. However, we do not believe that our business, as a whole, is dependent on, or that its profitability would be materially affected by the revocation, termination, expiration or infringement upon any particular patent. We currently hold three patents on charcoal products and five patents on vehicles. Since the filing of our annual report for the year ended December 31, 2020 in July 2022, we have obtained the following patents, which are effective as of the date of application.

Recent Renewed Patents on Vehicles

Patent Description	Holder	Patent Type	Application	Expiration	Patent Number
Energy-absorbing and anti-collision equipment on side of fuel tank	Shangchi Automobile	Utility Mode	November 26,2020	November 25,2030	ZL202022776533.2
Variable light front windshield	Shangchi Automobile	Utility Mode	November 26,2020	November 25,2030	ZL202022779980.3
Sound insulation and noise prevention hood with reinforcing ribs for front engine	Shangchi Automobile	Utility Mode	November 12,2020	November 15,2030	ZL202022605348.7
Multifunctional expanding bucket for sweeping vehicle	Shangchi Automobile	Utility Mode	November 12,2020	November 15,2030	ZL202022601008.7

**D. Trend Information**

**Market Trends**

Other than as disclosed elsewhere in this financial report, we are not aware of any trends, uncertainties, demands, commitments or events for the year ended December 31, 2022 that are reasonably likely to have a material and adverse effect on our net revenues, income, profitability, liquidity or capital resources, or that would cause the disclosed financial information to be not necessarily indicative of future results of operations or financial condition.

**E. Off-balance Sheet Arrangements**

Except for the above-mentioned guaranty, we have not entered into any other financial guarantees or other commitments to guarantee the payment obligations of any third parties. In addition, we have not entered into any derivative contracts that are indexed to our own shares and classified as shareholder's equity, or that are not reflected in our consolidated financial statements.

**Critical Accounting Policies**

We prepare our financial statements in conformity with accounting principles generally accepted by the United States of America ("U.S. GAAP"), which requires us to make judgments, estimates and assumptions that affect our reported amount of assets, liabilities, revenue, costs and expenses, and any related disclosures. Although there were no material changes made to the accounting estimates and assumptions in the past three years, we continually evaluate these estimates and assumptions based on the most recently available information, our own historical experience and various other assumptions that we believe to be reasonable under the circumstances. Since the use of estimates is an integral component of the financial reporting process, actual results could differ from our expectations as a result of changes in our estimates.

We believe that the following accounting policies involve a higher degree of judgment and complexity in their application and require us to make significant accounting estimates. Accordingly, these are the policies we believe are the most critical to understanding and evaluating our consolidated financial condition and results of operations.

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### Use of Estimates

In preparing the consolidated financial statements in conformity with U.S. GAAP, management makes estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the dates of the consolidated financial statements, as well as the reported amounts of revenues and expenses during the reporting year. Significant items subject to such estimates and assumptions include the fair value estimates used in the useful lives of property and equipment and intangible assets, allowances pertaining to the allowance for doubtful accounts of accounts receivable, advance to suppliers and other receivables, the valuation of inventories, the impairment of long-lived assets, and the realizability of deferred tax assets.

### Research and development costs

Research and development expenses include costs directly attributable to the conduct of research and development projects, including the cost of salaries and other employee benefits, testing expenses, consumable equipment and consulting fees. All costs associated with research and development are expensed as incurred.

### Revenue Recognition

The Company adopted ASC Topic 606 Revenue from Contracts with Customers ("ASC 606") on January 1, 2018 using the modified retrospective approach. There is no adjustment to the opening balance of retained earnings at January 1, 2018 since there was no change to the timing and pattern of revenue recognition upon adoption of ASC 606. Under ASC 606, revenue is recognized when control of promised goods or services is transferred to the Company's customers in an amount of consideration to which an entity expects to be entitled to in exchange for those goods or services. The Company's revenues are primarily derived from the following sources:

**Sales of products:** The Company recognizes sales revenue, net of sales taxes and estimated sales returns, at the time the product is delivered to the customer and control is transferred (point of sale).

For the Company's electric vehicles sales contracts, the Company provides a warranty for 12 months from the products are delivered. The Company determines such product warranty is an assurance-type warranty and is not a separated performance obligation in revenue recognition, because the nature of warranty is to provide assurance that a product will function as expected and in accordance with customer's specification. The Company estimates the warranty costs when the promised good is delivered to the customer and accrues as warranty liabilities.

**Commission income:** The Company acts as an agent without assuming the risks and rewards of ownership of the goods and reports the revenue on a net basis. Revenue is recognized based on the completion of the contracted service.

**Government manufacturing rebate income:** The Company sells electric vehicles in China and is eligible for a government manufacturing rebate on each qualifying electric vehicle sold. The government manufacturing rebates are recognized as part of revenue when sales are finalized, amount of rebates can be reasonably estimated and collection is assured. The collectability of rebates can be assured as long as the sales are deemed qualifying based on the criteria set by the government.

Revenue is reported net of all value added taxes. The Company does not routinely permit customers to return products and historically, customer returns have been immaterial.

### Long-term investments

The Company accounts for investment in equity investees over which it has significant influence but does not own a majority of the equity interest or lack of control using the equity method. For investment in equity investees over which the Company does not have significant influence or the underlying shares the Company invested in are not considered in-substance common stock and have no readily determinable fair value, the cost method accounting is applied.

The Company records the equity method investments at historical cost and subsequently adjusts the carrying amount each period for share of the earnings or losses of the investee and other adjustments required by the equity method of accounting. Dividends received from the equity method investments are recorded as reductions in the cost of such investments. The Company records the cost method investments at cost minus impairment adjusted by observable price changes in orderly transactions for the identical or a similar investment of the same issuer as of the date that the observable transaction occurred, and subsequently record any dividends received from the net accumulated earnings of the investee as income. Dividends received in excess of earnings are considered a return of investment and are recorded as reductions in the cost of the investments.

Investment in equity investees is evaluated for impairment when facts or circumstances indicate that the fair value of the investment is less than its carrying value. An impairment is recognized when a decline in fair value is determined to be other-than-temporary. The Company reviews several factors to determine whether a loss is other-than-temporary. These factors include, but are not limited to, the: (i) nature of the investment; (ii) cause and duration of the impairment; (iii) extent to which fair value is less than cost; (iv) financial condition and near term prospects of the investments; and (v) ability to hold the security for a period of time sufficient to allow for any anticipated recovery in fair value.

Impairment of Long-Lived Assets

The Company evaluates its long-lived assets for impairment whenever events or changes in circumstances, such as a significant adverse change to market conditions that will impact the future use of the assets, indicate that the carrying amount of an asset may not be fully recoverable. When these events occur, the Company evaluates the recoverability of long-lived assets by comparing the carrying amount of the assets to the future undiscounted cash flows expected to result from the use of the assets and their eventual disposition. If the sum of the expected undiscounted cash flows is less than the carrying amount of the assets, the Company recognizes an impairment loss based on the excess of the carrying amount of the assets over their fair value. Fair value is generally determined by discounting the cash flows expected to be generated by the assets, when the market prices are not readily available.

Recent accounting pronouncements

The Company considers the applicability and impact of all accounting standards updates (“ASUs”). Management periodically reviews new accounting standards that are issued.

In June 2016, the FASB issued ASU No. 2016-13, “Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments,” which requires the Company to measure and recognize expected credit losses for financial assets held and not accounted for at fair value through net income. In November 2018, April 2019 and May 2019, the FASB issued ASU No. 2018-19, “Codification Improvements to Topic 326, Financial Instruments - Credit Losses,” “ASU No. 2019-04, Codification Improvements to Topic 326, Financial Instruments - Credit Losses,” “Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments,” and “ASU No. 2019-05, Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief,” which provided additional implementation guidance on the previously issued ASU. The ASU is effective for fiscal years beginning after Dec. 15, 2019 for public business entities that meet the definition of an SEC filer, excluding entities eligible to be SRCs as defined by the SEC. All other entities, ASU No. 2016-13 is effective for fiscal years beginning after December 15, 2022. The Company adopted on January 1, 2023 and no material impact on the Company’s consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, “Income Taxes” (Topic 740): Simplifying the Accounting for Income Taxes (“ASU 2019-12”). ASU 2019-12 will simplify the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. The amendments also improve consistent application of and simplify GAAP for other areas of Topic 740 by clarifying and amending existing guidance. For public business entities, the amendments in this Update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In January 2020, the FASB issued ASU 2020-01, Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) (“ASU 2020-01”), which is intended to clarify the interaction of the accounting for equity securities under Topic 321 and investments accounted for under the equity method of accounting in Topic 323 and the accounting for certain forward contracts and purchased options accounted for under Topic 815. ASU 2020-01 is effective for the Company beginning January 1, 2021. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In May 2021, the FASB issued ASU 2021-04, Earnings Per Share (Topic 260), Debt - Modifications and Extinguishments (Subtopic 470-50), Compensation - Stock Compensation (Topic 718), and Derivatives and Hedging - Contracts in Entity’s Own Equity (Subtopic 815-40): Issuer’s Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options (“ASU 2021-04”). ASU 2021-04 provides guidance as to how an issuer should account for a modification of the terms or conditions or an exchange of a freestanding equity-classified written call option (i.e., a warrant) that remains classified after modification or exchange as an exchange of the original instrument for a new instrument. An issuer should measure the effect of a modification or exchange as the difference between the fair value of the modified or exchanged warrant and the fair value of that warrant immediately before modification or exchange and then apply a recognition model that comprises four categories of transactions and the corresponding accounting treatment for each category (equity issuance, debt origination, debt modification, and modifications unrelated to equity issuance and debt origination or modification). ASU 2021-04 is effective for all entities for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. An entity should apply the guidance provided in ASU 2021-04 prospectively to modifications or exchanges occurring on or after the effective date. Early adoption is permitted for all entities, including adoption in an interim period. If an entity elects to early adopt ASU 2021-04 in an interim period, the guidance should be applied as of the beginning of the fiscal year that includes that interim period. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In October 2021, the FASB issued ASU No. 2021-08, “Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers” (“ASU 2021-08”). This ASU requires entities to apply Topic 606 to recognize and measure contract assets and contract liabilities in a business combination. The amendments improve comparability after the business combination by providing consistent recognition and measurement guidance for revenue contracts with customers acquired in a business combination and revenue contracts with customers not acquired in a business combination. The amendments are effective for the Company beginning after December 15, 2023, and are applied prospectively to business combinations that occur after the effective date. The Company does not expect the adoption of ASU 2021-04 to have a material effect on the consolidated financial statements.

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Except for the above-mentioned pronouncements, there are no new recent issued accounting standards that will have material impact on the consolidated financial statements.

**F. Tabular Disclosure of Contractual Obligations**

Below is a table setting forth all of our contractual obligations as of December 31, 2022, which consists of our short-term loan agreements and due to related parties:

Contractual Obligations	Payment Due by Period				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Short-Term Debt Obligations	\$ 3,636,591	\$ 3,636,591	\$ -	\$ -	\$ -
Due to related parties	1,047,512	1,047,512	-	-	-
Loan payable to third parties	3,395,861	-	3,395,861	-	-
Operating lease commitment	1,694,913	218,774	398,398	359,248	718,493
<b>Total</b>	<b>\$ 9,774,877</b>	<b>\$ 4,902,877</b>	<b>\$ 3,794,259</b>	<b>\$ 359,248</b>	<b>\$ 718,493</b>

**G. Safe Harbor**

See “Special Note Regarding Forward-Looking Statements.”

**ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES**

**A. Directors and Senior Management**

The following table provides information regarding our executive officers and directors as of the date of this annual report:

Name	Age	Position(s)
Wangfeng Yan	47	Chief Executive Officer
Weilin Zhang	56	Chief Financial Officer
Mingqin Dong	34	Chief Operating Officer
Zhengyu Wang	56	Chairman of Board of Directors
Yefang Zhang	58	Director
Mengqi Liao	30	Director (Independent)
Hongdao Qian	61	Director (Independent)
Shudong Wang	74	Director (Independent)

**Wangfeng Yan** has served as our Chief Executive Officer since December 2019. He was our Chief Operating Officer from March 2018 to December 2019. Mr. Yan joined Tantech Holdings (Lishui) Co., Ltd. (formerly Zhejiang Tantech Bamboo Technology Co., Ltd.) (“Tantech Bamboo”) as a member of the production staff in August 2010 and rose to serve as the head of production managers. Prior to being appointed as Chief Operating Officer, Mr. Yan was in charge of production management for Tantech Bamboo and Tantech Energy. In these capacities, Mr. Yan contributed to the “Dr. Charcoal” brand sales channel development. Mr. Yan is a 6.29% shareholder of CN ENERGY GROUP, INC., another Nasdaq listed company. In June 2010, Mr. Yan earned a Bachelor’s Degree in Engineering from Zhejiang Sci-tech University in Hangzhou.

**Weilin Zhang** has served as our Chief Financial Officer since July 2019. Prior to being appointed as CFO, Mr. Zhang has been serving as the CFO of Forasen Group since October 2018 and was its CFO from March 2008 to June 2013. From July 2013 to September 2018, he was the general manager of Zhejiang Juma Valve Co., Ltd. He graduated from Zhejiang Province Finance Institute in 1989 and studied accounting at Beijing Industry and Commerce College from 2004 to 2008.

**Mingqin Dong** has served as our Chief Operating Officer since December 2019. He has been the Chairman and the general manager of Shangchi Automobile, our 70% owned subsidiary, since June 2017. From August 2013 to June 2017, Mr. Dong was a project manager of us. In June 2013, Mr. Dong earned his Bachelor’s Degree in Computer and Science Technology from Heilongjiang International University.

**Zhengyu Wang** has served as our Chairman since July 2014 and was our CEO from July 2014 to December 2019. Mr. Wang is a seasoned veteran in business and high-tech agricultural products. He founded Tantech Bamboo in October 2002 (then known as Lishui Zhonglin High Tech Co., Ltd.) and he has served as Chairman and CEO ever since. From November 1998 until April 2003, he was General Manager of Lishui Forasen Foodstuff Co., Ltd. Prior to that, from 1994 to 1997, he served as General Manager of Lishui Jingning Huali, Co., Ltd. From 1990 to 1994, he served as a board member of the Lishui Farmer's Economic Committee. In addition to his efforts with our Company, Mr. Wang also manages the business operations of Forasen Group, a company he owns with his wife and our director, Ms. Yefang Zhang. Forasen Group is a PRC company with several subsidiaries that are engaged in a variety of businesses, including without limitation rubber trading, mushroom sales, biomass power generation, and marketing. In addition, since February 2017, Mr. Wang has served as a director of Famm, Inc., another Nasdaq listed company since February 2018. He has been the executive director and/or general manager of various subsidiary companies under us and charcoal business related companies. Mr. Wang was the Chairman of Daxing'anling Hualin Investment Management Ltd. Co. from November 2011 to June 2020 and Daxing'anling Forasen Energy Technology Ltd. Co. from March 2009 to December 2019, and the executive director and general manager of Harbin Forasen Energy Technology Ltd. Co. from December 2013 to March 2020, and of Hangzhou Xinying Industrial Co., Ltd. since December 2013. He earned his Bachelor's Degree in Biology from Zhejiang University in Hangzhou, China in June 1990. He has been appointed as a director because, as our founder, he has significant experience in leading and advising our Company and understands our industry.

**Yefang Zhang** has been our director since 2013. Ms. Zhang has been in leadership roles for over a dozen years. She then helped to found Forasen Group Co., Ltd in October 2002 and has served as a Board member since then. Since July 2015, she has been Chairwoman and CEO of Famm, Inc., another Nasdaq listed company. From 1997 until 2002, she worked as General Manager at Zhejiang Forasen Food Co., Ltd. From 1994 to 1997, she served as Vice General Manager of Lishui Jingning Huali Co., Ltd. From 1991 to 1994, she was a teacher at Wenzhou Huangtan Middle School. From 1990 to 1994, she served on the board of Lishui Farmer's Economic Committee. In addition to her efforts with our Company, Ms. Zhang also manages the business operations of Forasen Group, a company she owns with her husband and our Chairman, Mr. Zhengyu Wang. Forasen Group is a PRC company with several subsidiaries that are engaged in a variety of businesses, including without limitation rubber trading, mushroom sales, biomass power generation, and marketing. Ms. Zhang is a 13.09% shareholder of CN ENERGY GROUP, INC., another Nasdaq listed company. She earned her Bachelor's Degree in Geography from Wenzhou Teacher's College in July 1991. We have appointed Ms. Zhang to be a director due to her strong understanding of our industry and business.

**Mengqi Liao** has been our director since June 19, 2022. Ms. Liao is a senior engagement manager at Pan-China Certified Public Accountants where she serves on the audit teams in the audits of financial statements of various public companies listed both in China and foreign stock exchanges. She was a manager with Da Hua Certified Public Accountants from July 2018 to March 2022. From January 2016 to June 2018, she was an auditor at Ruihua Certified Public Accountants. Ms. Liao is a certified public accountant and a certified tax agent in China. She also received the Chinese intermediate level accountant qualifications. Ms. Liao has participated in the audits of the financial statements of a number of public companies in connection with their financial reporting compliance with U.S. and Chinese stock exchange rules and IPOs in Hong Kong and Korea stock exchanges. Ms. Liao earned a Bachelor's degree in Management from Chongqing Technology and Business University in 2016. We've chosen Ms. Liao to serve as a director because of her knowledge and experience in accounting, U.S. GAAP and SEC financial reporting matters.

**Hongdao Qian** has been our director since 2014. He has been a Professor on the faculty of the Guanghua Law School at Zhejiang University since September 2005. His research, writing and teaching focuses on corporate governance, economic analysis of law and Western jurisprudence. Prior to joining Guanghua Law School, Mr. Qian was a Professor at the Institute of Law, China Academy of Social Sciences; a Lecturer in Economics at Peking University and a Prosecutor in the People's Procuratorate of Zhejiang Province. Mr. Qian was a visiting scholar at Waseda University in Japan, Stanford University in California and both Oxford and Cambridge Universities in England. Since July 2017, he has been an independent director of Famm, Inc, another Nasdaq listed company. He currently serves as Vice Chairman of the Chinese Society of Comparative Law, Executive Subeditor of the China Academic Yearbook and President of the China Rule of Law Research Institute, where he has organized a team of scholars to create China's first Rule of Law index using empirical methods. Mr. Qian earned his bachelor of law from Jilin University in 1986, his master of law from North-West University of Politics and Law in 1994 and his doctor of law from Peking University in 1997. We have chosen Mr. Qian to serve on our Board of Directors because of his expertise in economics and law.

**Shudong Wang** has been our director since 2014. He was the department director at the China National Bamboo Research Center from 1996 through his retirement in 2012. He earned his bachelor's degree in forestry from Northeast Forestry University in Heilongjiang in 1976. He once served as deputy director of Bamboo Branch of the Academic Committee of China Forestry. He has also served as executive director of South-South Cooperation Association and the Center of China International Exchange. He is a science advisor to the State Forestry Bureau. We selected Mr. Wang to serve on our Board of Directors because of his expertise in the bamboo industry in China.

## B. Compensation

### EXECUTIVE COMPENSATION

Our compensation committee approves our salary and benefit policies. Before our initial public offering, our board of directors determined the compensation to be paid to our executive officers based on our financial and operating performance and prospects, and contributions made by the officers' to our success. Each of the named officers are measured by a series of performance criteria by the board of directors, or the compensation committee on a yearly basis. Such criteria are set forth based on certain objective parameters such as job characteristics, required professionalism, management skills, interpersonal skills, related experience, personal performance and overall corporate performance.

The board of directors makes an independent evaluation of appropriate compensation to key employees, with input from management. The board of directors has oversight of executive compensation plans, policies and programs.

#### Summary Compensation Table

The following table presents summary information regarding the total compensation awarded to, earned by, or paid to each of the named executive officers for services rendered to us for the years ended December 31, 2022, 2021 and 2020.

	Fiscal Year	Salary (\$)	Bonus (\$) (1)	All Other Compensation (\$) (2)	Total (\$)
Wangfeng Yan <sup>(3)</sup>	2022	29,720	-	1,070	30,790
<i>Former Chief Operating Officer and current Chief Executive Officer</i>	2021	30,061	-	939	31,000
	2020	28,082	-	878	28,960
Zhengyu Wang <sup>(4)</sup>	2022	35,664	-	1,783	37,447
<i>Former Chief Executive Officer</i>	2021	37,200	-	1,860	39,060
	2020	34,752	-	1,738	36,490
Weilin Zhang <sup>(5)</sup>	2022	44,580	-	446	45,026
<i>Current Chief Financial Officer</i>	2021	45,091	-	1,409	46,500
	2020	42,124	-	1,316	43,440
Mingqin Dong <sup>(6)</sup>	2022				
<i>Current Chief Operating Officer</i>	2021	27,054	-	846	27,900
	2020	25,274	-	790	26,064

(1) No officer received a bonus in 2022, 2021 and 2020.

(2) Consists of social security payments required under Chinese law. Although we also reimburse the referenced individuals for reasonable expenses, such reimbursements do not, in the aggregate, exceed \$10,000 for any individual in any year presented and are not considered perquisites because they are integrally and directly related to the performance of such recipients' jobs.

(3) Effective December 6, 2019, Wangfeng Yan resigned as Chief Operating Officer and was appointed as Chief Executive Officer.

(4) Effective December 6, 2019, Zhengyu Wang resigned as Chief Executive Officer.

(5) Effective July 1, 2019, Weilin Zhang was appointed as Chief Financial Officer.

(6) Effective December 6, 2019, Mingqin Dong was appointed as Chief Operating Officer.



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**Director Compensation**

The following section presents information regarding the compensation paid during fiscal 2022 to members of our Board of Directors who are not also our employees (referred to herein as “Non-Employee Directors”). As of December 31, 2022, we had four such directors, Ms. Yefang Zhang, Ms. Mengqi Liao, Mr. Shudong Wang and Mr. Hongdao Qian.

We may also provide stock, option or other equity-based incentives to our directors for their service. We also plan to reimburse our directors for any out-of-pocket expenses incurred by them in connection with their services provided in such capacity.

The following table presents information regarding the compensation of our non-employee directors for fiscal 2022. Compensation for our Chairman and former Chief Executive Officer, Mr. Zhengyu Wang, is reflected above in the Summary Compensation Table rather than below.

Name	Fees earned or paid in cash (\$)	Stock Awards (\$)	Option Awards (\$)	Non-equity Incentive Plan Compensation (\$)	Changes in Pension Value and		All other Compensation (\$)	Total (\$)
					Nonqualified Deferred Compensation (\$)			
Yefang Zhang	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Mengqi Liao	\$ 5,333	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 5,333
Shudong Wang	\$ 8,916	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 8,916
Hongdao Qian	\$ 8,916	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 8,916

**C. Board Practices**

See information provided in response to Item 6.A. above as to the current directors.

**Election of Officers**

Our executive officers are elected by, and serve at the discretion of, our board of directors. Our chairman of the Board of Directors, Zhengyu Wang is married to one of our other directors, Yefang Zhang. Other than this relationship, there are no familial relationships among any members of the Board of Directors.

**Board of Directors and Board Committees**

Our board of directors currently consists of five (5) directors. A majority of our Board of Directors is independent, as such term is defined by NASDAQ.

A director may vote in respect of any contract or transaction in which he is interested, provided, however that the nature of the interest of any director in any such contract or transaction shall be disclosed by him at or prior to its consideration and any vote on that matter. A general notice or disclosure to the directors or otherwise contained in the minutes of a meeting or a written resolution of the directors or any committee thereof of the nature of a director's interest shall be sufficient disclosure and after such general notice it shall not be necessary to give special notice relating to any particular transaction. A director may be counted for a quorum upon a motion in respect of any contract or arrangement which he shall make with our company, or in which he is so interested and may vote on such motion.

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Mr. Wangfeng Yan currently holds the position of Chief Executive Officer. Mr. Zhengyu Wang currently holds the position of Chair of the Board. The board of directors believes that separating the roles of Chief Executive Officer and Chairman of the board of directors is in the best interests of the Company and its shareholders. Separating such roles allows our Chief Executive Officer to focus completely on operations and corporate strategy execution. We do not have a lead independent director, and we do not anticipate having a lead independent director because we will encourage our independent directors to freely voice their opinions on a relatively small company board. The Board of Directors makes all relevant Company decisions. As a smaller company with a small board of directors, we believe it is appropriate to have the involvement and input of all of our directors in risk oversight matters.

### **Board Committees**

We have established three standing committees under the board: the audit committee, the compensation committee and the nominating committee. The audit committee is responsible for overseeing the accounting and financial reporting processes of our company and audits of the financial statements of our company, including the appointment, compensation and oversight of the work of our independent auditors. The compensation committee of the board of directors reviews and makes recommendations to the board regarding our compensation policies for our officers and all forms of compensation, and also administers our incentive compensation plans and equity-based plans (but our board will retain the authority to interpret those plans). The nominating committee of the board of directors is responsible for the assessment of the performance of the board, considering and making recommendations to the board with respect to the nominations or elections of directors and other governance issues. The nominating committee considers diversity of opinion and experience when nominating directors.

Mengqi Liao qualifies as an audit committee financial expert and is the chair of the audit committee. Shudong Wang is the chair of the compensation committee. Hongdao Qian is the chair of the nominating committee. Mengqi Liao, Shudong Wang and Hongdao Qian serve on all three committees, and each is an independent director.

### **Duties of Directors**

Under British Virgin Islands law, our directors have a duty to act honestly, in good faith and with a view to our best interests. Our directors also have a duty to exercise the care, diligence and skills that a reasonably prudent person would exercise in comparable circumstances. In fulfilling their duty of care to us, our directors must ensure compliance with our amended and restated memorandum and articles of association. We have the right to seek damages if a duty owed by our directors is breached.

The functions and powers of our board of directors include, among others:

- appointing officers and determining the term of office of the officers;
- authorizing the payment of donations to religious, charitable, public or other bodies, clubs, funds or associations as deemed advisable;
- exercising the borrowing powers of the company and mortgaging the property of the company;
- executing checks, promissory notes and other negotiable instruments on behalf of the company; and
- maintaining or registering a register of mortgages, charges or other encumbrances of the company.

### **Interested Transactions**

A director may vote, attend a board meeting or sign a document on our behalf with respect to any contract or transaction in which he or she is interested. We require directors to promptly disclose the interest to all other directors after becoming aware of the fact that he or she is interested in a transaction we have entered into or are to enter into. A general notice or disclosure to the board or otherwise contained in the minutes of a meeting or a written resolution of the board or any committee of the board that a director is a shareholder, director, officer or trustee of any specified firm or company and is to be regarded as interested in any transaction with such firm or company will be sufficient disclosure, and, after such general notice, it will not be necessary to give special notice relating to any particular transaction.

## **Remuneration and Borrowing**

The directors may receive such remuneration as our board of directors may determine from time to time. Each director is entitled to be repaid or prepaid all traveling, hotel and incidental expenses reasonably incurred or expected to be incurred in attending meetings of our board of directors or committees of our board of directors or shareholder meetings or otherwise in connection with the discharge of his or her duties as a director. The compensation committee will assist the directors in reviewing and approving the compensation structure for the directors. Our board of directors may exercise all the powers of the company to borrow money and to mortgage or charge our undertakings and property or any part thereof, to issue debentures, debenture stock and other securities whenever money is borrowed or as security for any debt, liability or obligation of the company or of any third party.

## **Qualification**

There are no membership qualifications for directors. Further, there are no share ownership qualifications for directors unless so fixed by us in a general meeting. There are no other arrangements or understandings pursuant to which our directors are selected or nominated.

## **Director Compensation**

All directors hold office until the next annual meeting of shareholders at which directors are re-elected or until their successors have been duly elected and qualified. Our Chairman, Zhengyu Wang, is married to our Director, Yefang Zhang. Officers are elected by and serve at the discretion of the Board of Directors. Employee directors do not receive any compensation for their services. Non-employee directors are entitled to receive up to \$30,000 per year for serving as directors and may receive incentive security grants from our company. In addition, non-employee directors are entitled to receive reimbursement of their actual travel expenses for each Board of Directors meeting attended.

## **Limitation of Director and Officer Liability**

Under British Virgin Islands law, each of our directors and officers, in performing his or her functions, is required to act honestly and in good faith with a view to our best interests and exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances. British Virgin Islands law does not limit the extent to which a company's memorandum and articles of association may provide for indemnification of officers and directors, except to the extent any such provision may be held by the British Virgin Islands courts to be contrary to public policy, such as to provide indemnification against civil fraud or the consequences of committing a crime.

Under our memorandum and articles of association, we may indemnify our directors, officers and liquidators against all expenses, including legal fees, and against all judgments, fines and amounts paid in settlement and reasonably incurred in connection with civil, criminal, administrative or investigative proceedings to which they are party or are threatened to be made a party by reason of their acting as our director, officer or liquidator. To be entitled to indemnification, these persons must have acted honestly and in good faith with a view to the best interest of the company and, in the case of criminal proceedings, they must have had no reasonable cause to believe their conduct was unlawful. Such limitation of liability does not affect the availability of equitable remedies such as injunctive relief or rescission. These provisions will not limit the liability of directors under United States federal securities laws.

We may indemnify any of our directors or anyone serving at our request as a director of another entity against all expenses, including legal fees, and against all judgments, fines and amounts paid in settlement and reasonably incurred in connection with legal, administrative or investigative proceedings. We may only indemnify a director if he or she acted honestly and in good faith with the view to our best interests and, in the case of criminal proceedings, the director had no reasonable cause to believe that his or her conduct was unlawful. The decision of our board of directors as to whether the director acted honestly and in good faith with a view to our best interests and as to whether the director had no reasonable cause to believe that his or her conduct was unlawful, is in the absence of fraud sufficient for the purposes of indemnification, unless a question of law is involved. The termination of any proceedings by any judgment, order, settlement, conviction or the entry of no plea does not, by itself, create a presumption that a director did not act honestly and in good faith and with a view to our best interests or that the director had reasonable cause to believe that his or her conduct was unlawful. If a director to be indemnified has been successful in defense of any proceedings referred to above, the director is entitled to be indemnified against all expenses, including legal fees, and against all judgments, fines and amounts paid in settlement and reasonably incurred by the director or officer in connection with the proceedings.

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We may purchase and maintain insurance in relation to any of our directors or officers against any liability asserted against the directors or officers and incurred by the directors or officers in that capacity, whether or not we have or would have had the power to indemnify the directors or officers against the liability as provided in our amended and restated memorandum and articles of association.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for our directors, officers or persons controlling our company under the foregoing provisions, we have been informed that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

**Involvement in Certain Legal Proceedings**

To the best of our knowledge, none of our directors or officers has been convicted in a criminal proceeding, excluding traffic violations or similar misdemeanors, nor has any been a party to any judicial or administrative proceeding during the past five years that resulted in a judgment, decree or final order enjoining the person from future violations of, or prohibiting activities subject to, federal or state securities laws, or a finding of any violation of federal or state securities laws, except for matters that were dismissed without sanction or settlement. Except as set forth in our discussion below in "Related Party Transactions," our directors and officers have not been involved in any transactions with us or any of our affiliates or associates which are required to be disclosed pursuant to the rules and regulations of the SEC.

**D. Employees**

**OUR EMPLOYEES**

As of December 31, 2022, we employ a total of 51 full-time employees in the following functions (excluding the employees at Shangchi Automobile):

**Lishui & Hangzhou**

Department	Number of Employees			
	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019
Senior Management	5	5	5	5
Human Resource & Administration	7	7	7	7
Finance	11	7	7	6
Research & Development	3	3	3	3
Production & Procurement	22	14	14	14
Sales & Marketing	3	3	3	4
<b>Total</b>	<b>51</b>	<b>39</b>	<b>39</b>	<b>39</b>

Below is information specifically for our Shangchi Automobile subsidiary.

**Shangchi Automobile**

Department	Number of Employees	
	December 31, 2022	December 31, 2021
Senior Management	3	3
Human Resource & Administration	6	6
Finance	2	2
Research & Development	6	6
Production & Procurement	28	14
Sales & Marketing	3	2
<b>Total</b>	<b>48</b>	<b>33</b>

Our employees are not represented by a labor organization or covered by a collective bargaining agreement. We have not experienced any work stoppages.

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We are required under PRC law to make contributions to employee benefit plans at specified percentages of our after-tax profit. In addition, we are required by PRC law to cover employees in China with various types of social insurance. In 2022, 2021, and 2020, we contributed approximately \$134,000, \$96,000, and \$31,000, respectively, to the employee benefit plans and social insurance. The effect on our liquidity by the payments for these contributions is immaterial. We believe that we are in material compliance with the relevant PRC employment laws.

### **Employment Agreements**

Each employee is required to enter into an employment agreement. Accordingly, all of our employees, including management, have executed their employment agreements. Our employment agreements with our executives provide the amount of each executive officer's salary and establish their eligibility to receive a bonus.

Our employment agreements with our executive officers generally provide for a salary to be paid monthly. The agreements also provide that executive officers are to work full time for our company and are entitled to all legal holidays as well as other paid leave in accordance with PRC laws and regulations and our internal work policies. The employment agreements also provide that we will pay for all mandatory social security programs for our executive officers in accordance with PRC regulations. Our executive officers are subject to keep trade secrets confidential. In addition, our employment agreements with our executive officers prevent them from rendering services for our competitors for so long as they are employed.

Other than the salary, bonuses, equity grants and necessary social benefits required by the government, which are defined in the employment agreements, we currently do not provide other benefits to the officers. Our executive officers are not entitled to severance payments upon the termination of their employment agreement or following a change in control.

We have not provided retirement benefits (other than a state pension scheme in which all of our employees in China participate) or severance or change of control benefits to our named executive officers.

Under Chinese law, we may terminate an employment agreement without penalty by providing the employee thirty days' prior written notice or one month's wages in lieu of notice if the employee is incompetent or remains incompetent after training or adjustment of the employee's position in other limited cases. If we wish to terminate an employment agreement in the absence of cause, then we are obligated to pay the employee one month's salary for each year we have employed the employee. We are, however, permitted to terminate an employee for cause without penalty to our company, where the employee has committed a crime or the employee's actions or inactions have resulted in a material adverse effect to us.

### **Wangfeng Yan**

We entered into an employment agreement with our Chief Executive Officer, Mr. Wangfeng Yan, effective December 6, 2019.

Under the terms of that employment agreement, Mr. Yan is entitled to the following:

- Base compensation of RMB 200,000 payable in 12 equal monthly installments of RMB 15,000 each and RMB 20,000 year-end bonus.
- Reimbursement of reasonable expenses incurred by Mr. Yan.

Mr. Yan's employment agreement has been renewed and is scheduled to expire on December 5, 2025.

### **Weilin Zhang**

We entered into an employment agreement with our chief financial officer, Mr. Weilin Zhang, effective July 1, 2019. Under the terms of that employment agreement, Mr. Zhang is entitled to the following:

- Base compensation of RMB 300,000 payable in 12 equal monthly installments of RMB 25,000 each.
- Reimbursement of reasonable expenses incurred by Mr. Zhang.

Mr. Zhang's employment agreement has been renewed and is scheduled to expire on June 30, 2025.

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**Mingqin Dong**

We entered into an employment agreement with our Chief Operating Officer, Mr. Mingqin Dong, effective December 6, 2019. Under the terms of that employment agreement, Mr. Dong is entitled to the following:

- Base compensation of RMB 180,000 payable in 12 equal monthly installments of RMB 15,000 each.
- Reimbursement of reasonable expenses incurred by Mr. Dong.

Mr. Dong's employment agreement has been renewed and is scheduled to expire on December 5, 2025.

**E. Share ownership**

The following table sets forth information with respect to beneficial ownership of our common shares as of April 11, 2023 by:

- Each of our directors and named executive officers; and
- All directors and named executive officers as a group.

The number and percentage of common shares beneficially owned are based on 2,217,906 common shares outstanding as of April 11, 2023. Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of 5% or more of our common shares. Beneficial ownership is determined in accordance with the rules of the SEC and generally requires that such person have voting or investment power with respect to securities. In computing the number of common shares beneficially owned by a person listed below and the percentage ownership of such person, common shares underlying options, warrants or convertible securities held by each such person that are exercisable or convertible within 60 days of April 11, 2023 are deemed outstanding, but are not deemed outstanding for computing the percentage ownership of any other person. Except as otherwise indicated in the footnotes to this table, or as required by applicable community property laws, all persons listed have sole voting and investment power for all common shares shown as beneficially owned by them. Unless otherwise indicated in the footnotes, the address for each principal shareholder is in the care of our Company at Tantech Holdings (Lishui) Co., Ltd., No. 10 Cen Shan Road, Shuige Industrial Zone, Lishui City, Zhejiang Province 323000, People's Republic of China. As of April 11, 2023, we had six shareholders of record.

<b>Named Executive Officers and Directors</b>	<b>Amount of Beneficial Ownership<sup>(1)</sup></b>	<b>Percentage Ownership<sup>(2)</sup></b>
<b>Directors and Named Executive Officers:</b>		
Wangfeng Yan, CEO <sup>(3)</sup>	78	0.004%
Weilin Zhang, CFO	-	0.0%
Mingqin Dong, COO	-	0.0%
Zhengyu Wang <sup>(4)</sup> , Chairman	45,748	2.063%
Yefang Zhang <sup>(4)</sup> , director	45,748	2.063%
Mengqi Liao, independent director	-	0.0%
Shudong Wang, independent director	-	0.0%
Hongdao Qian, independent director	-	0.0%
<b>All directors and executive officers as a group (eight (8) persons)</b>	<b>45,826</b>	<b>2.067%</b>

- (1) Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the common shares.
- (2) The number of our common shares outstanding used in calculating the percentage for each listed person includes the common shares underlying options held by such person to the extent such options are exercisable within 60 days of the date hereof.
- (3) Mr. Wangfeng Yan holds 78 shares of the Company through a company he wholly owns.
- (4) Tanboksok Group Ltd holds 45,748 common shares of the Company. The sole shareholder of Tanboksok Group Ltd is Ms. Yefang Zhang, who is the director of our company and the spouse of our Chairman and founder, Mr. Zhengyu Wang. By virtue of this relationship, Mr. Wang may be deemed to share beneficial ownership of the shares of our company held by Tanboksok Group Ltd with Ms. Zhang.

## Options

### Incentive Securities Pool

We have established a pool for shares and share options for our employees. As of April 11, 2023, this pool contain shares and options to purchase 169,000 of our common shares, equal more than 10% of the number of common shares outstanding.

Any options granted will vest at a rate of 20% per year for five years and have a per share exercise price equal to the fair market value of one of our common shares on the date of grant. We expect to grant shares and/or options under this pool to certain employees. We have not yet determined the recipients of any such grants.

### ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

The following table sets forth information with respect to beneficial ownership of our common shares as of April 11, 2023 by:

- Each person who is known by us to beneficially own 5% or more of our outstanding common shares.

The number and percentage of common shares beneficially owned are based on 2,217,906 common shares outstanding as of April 11, 2023. Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of 5% or more of our common shares. Beneficial ownership is determined in accordance with the rules of the SEC and generally requires that such person have voting or investment power with respect to securities. In computing the number of common shares beneficially owned by a person listed below and the percentage ownership of such person, common shares underlying options, warrants or convertible securities held by each such person that are exercisable or convertible within 60 days of April 11, 2023 are deemed outstanding, but are not deemed outstanding for computing the percentage ownership of any other person. Except as otherwise indicated in the footnotes to this table, or as required by applicable community property laws, all persons listed have sole voting and investment power for all common shares shown as beneficially owned by them. Unless otherwise indicated in the footnotes, the address for each principal shareholder is in the care of our Company at Tantech Holdings (Lishui) Co., Ltd., No. 10 Cen Shan Road, Shuijue Industrial Zone, Lishui City, Zhejiang Province 323000, People's Republic of China.

Shareholders	Amount of Beneficial Ownership <sup>(1)</sup>	Percentage Ownership <sup>(2)</sup>
Tanbsok Group Ltd <sup>(2)</sup>	45,748	2.063%

(1) Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the common shares.

(2) Tanbsok Group Ltd held one hundred percent of our issued and outstanding shares prior to our initial public offering. The sole shareholder of Tanbsok Group Ltd is Ms. Yefang Zhang, who is a director of our company and the spouse of our Chairman and founder, Mr. Zhengyu Wang. By virtue of this relationship, Mr. Wang may be deemed to share beneficial ownership of the shares of our company held by Tanbsok Group Ltd with Ms. Zhang.

### B. Related party transactions

Our Audit Committee of our Board of Directors (which consists solely of independent directors) approves and ratifies all related party transactions.

In addition to the executive officer and director compensation arrangements discussed in "Executive Compensation," below we describe transactions since January 1, 2019, to which we have been a participant, in which the amount involved in the transactions is material to us or the related party.

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Since the beginning of 2019, we have had transactions with the following related parties:

- Zhengyu Wang
- Yefang Zhang
- Wangfeng Yan
- Hengwei Chen
- LiShui JiuAnJu Commercial Trade Co., Ltd.
- Forasen Group
- Zhejiang Forasen Food Co., Ltd.

In addition to the executive officer and director compensation arrangements, Tantech entered the following related party transactions for the year ended December 31, 2022, 2021 and 2020 to which it was a participant, in which the amount involved in the transactions is material to Tantech or the related party.

### Due from a related party

In October 2021, an aggregated of \$9,852,517 (RMB65,991,404) funds was transferred to an Entrusted Bank Account under Mr. Zhengyu Wang, the Chairman and previous CEO of the Company, for general business-related purpose. Both the fund balance of \$9,852,517 (or RMB65,991,404) and the related banking interest of \$137,816 (or RMB923,079) were transferred back to the Company by April 6, 2022 and the funds was under full custody and control by the Company's treasurer during the above period.

### Due to related parties

The balances due to related parties were as follows:

	December 31, 2022	December 31, 2021
Mr. Hengwei Chen and his affiliates *	\$ -	\$ 902,141
Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and previous CEO of the Company until December 6, 2019	857,746	806,556
Mr. Wangfeng Yan, the CEO of the Company since December 7, 2019 and his affiliates	189,766	138,724
Total	<u>\$ 1,047,512</u>	<u>\$ 1,847,421</u>

\*Mr. Hengwei Chen was the former general manager of Shangchi Automobile (formerly known as Suzhou E-Motors). The Company acquired 70% equity interest in Shangchi Automobile and issued 2,500,000 restricted shares of Tantech's common stock the Henglong Chen in connection with the acquisition of Shangchi Automobile. As of December 31, 2021, the amount due to Mr. Hengwei Chen and his affiliates were \$902,141. Mr. Hengwei is no longer considered as a related party and the amount due to Mr. Mr. Hengwei is recorded in the accrued liabilities as of December 31, 2022.

As of December 31, 2022 2021, the Company borrowed \$857,746 and \$806,556 from Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and previous CEO of the Company, for working capital purpose.

Mr. Wangfeng Yan, the CEO of the Company, and his affiliates, also made advances to the Company. The balance due to Mr. Wangfeng Yan and his affiliates was \$189,766 and \$138,724 as of December 31 2021, respectively. All balances of due to the related parties were unsecured, interest-free and due upon demand.

### Disposal of fixed asset to related party

On July 29, 2021, Tantech Bamboo entered into a sales agreement with Xigema Holding Hangzhou Co., Ltd. ("Xigema") to sale part of its real property for an amount of approximately \$0.8 million (RMB4,923,564). Xigema is controlled by Aihong Wang, who is a relative of Mr. Zhengyu Wang.

### Lease arrangement with related party

On July 6, 2020, Tantech Bamboo signed a lease agreement with Zhejiang Forasen Food Co., Ltd. ("Forasen Food") to lease part of its production facilities of approximately 1,914 square meters to Forasen Food for ten years with monthly rent of approximately \$5,900 (RMB38,280). Forasen Food is controlled by Ms. Yefang Zhang who is the director of the Company. For the year ended December 31, 2021, the Company recorded rent income of \$68,540 from Forasen Food. This lease agreement was terminated on July 13, 2021.

On July 13, 2021, Tantech Bamboo signed a lease agreement with Zhejiang Nongmi Food Co., Ltd. ("Nongmi Food") to lease part of its production facilities of approximately 1,180 square meters to Nongmi Food for ten years with monthly rent of approximately \$2,300 (RMB15,338). Nongmi Food is controlled by Ms. Yefang Zhang who is the director of the Company. For the years ended December 31, 2022 and 2021, the Company recorded rent income of \$23,001 and \$13,086 from Nongmi Food.

## **C. Interests of experts and counsel**

Not applicable for annual reports on Form 20-F.



## **ITEM 8. FINANCIAL INFORMATION**

### **A. Consolidated Statements and Other Financial Information**

See information provided in response to Item 18 below.

We incorporate by reference in the Registration Statements on Form F-3 (File No. 333- 213240, 333-248197 and 333-251509) and on Form S-8 (File No. 333-205821) our consolidated balance sheets as of December 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2022, which appears in this Annual Report on Form 20-F.

### **Legal and Administrative Proceedings**

We may be involved from time to time in litigation, claims or other disputes in the ordinary course of business regarding, among other things, contract disputes with our customers, copyright, trademark and other intellectual property infringement claims, consumer protection claims, employment related cases and other matters in the ordinary course of our and disputes between our merchants and consumers. We may also be involved in litigation, regulatory investigations or inquiries and administrative proceedings that may not necessarily arise from our ordinary course of business, such as securities class action lawsuits and investigations or inquiries by securities regulators.

On March 23, 2021, Mr. Hengwei Chen filed a lawsuit against Shangchi Automobile and us for a debt dispute of total RMB 11.35 million (approximately \$1.8 million). Mr. Chen was the former general manager of Shangchi Automobile before the Company acquired Shangchi Automobile in 2017.

The People's Court of Pudong District, Shanghai, China, after trial, ruled on December 15, 2021 that the defendant Shangchi Automobile Co., Ltd. should pay Mr. Hengwei Chen the principal of RMB5.5 million, interest and overdue interest of RMB3,065,497.17 within ten days from the date when the judgment came into effect. The lawyer's fee is RMB 300,000, and the case acceptance fee is RMB 88,626, and the plaintiff's other claims are rejected.

On January 4, 2022, Shangchi Automobile Co., Ltd. appealed to the appellate court. The Court made the final judgement to maintain the original ruling on June 29, 2022. The Company recorded the disputed amount and further accrued interest of \$0.6 million (RMB4.3 million) in the accrued liabilities based on the best estimate of the management as of December 31, 2022. On September 7, 2022, the Court issued an order to freeze the disputed amount of total \$1.3 million (RMB8.7 million) in the Company's certain bank accounts to enforce the execution. As of the date of this filing, the Company has paid \$23,760 (RMB163,862).

### **Dividend Policy**

Since our inception, we have not declared or paid any dividends on our ordinary shares. We have no present plan to pay any dividends on our ordinary shares in the foreseeable future. We intend to retain most, if not all, of our available funds and any future earnings to operate and expand our business.

Any future determination to pay dividends will be made at the discretion of our board of directors and may be based on a number of factors, including our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors that the board of directors may deem relevant.

### **B. Significant Changes**

We have not experienced any significant changes since the date of our audited consolidated financial statements included in this annual report.

## **ITEM 9. THE OFFER AND LISTING.**

### **A. Offer and listing details**

Our common shares have been listed on Nasdaq since March 24, 2015 under the symbol "TANH."

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**B. Plan of distribution**

Not applicable for annual reports on Form 20-F.

**C. Markets**

Our common shares are listed on Nasdaq under the symbol “TANH.”

**D. Selling shareholders**

Not applicable for annual reports on Form 20-F.

**E. Dilution**

Not applicable for annual reports on Form 20-F.

**F. Expenses of the issue**

Not applicable for annual reports on Form 20-F.

**ITEM 10. ADDITIONAL INFORMATION.**

**A. Share capital**

Not applicable for annual reports on Form 20-F.

**B. Memorandum and articles of association**

We incorporate by reference the description of our Memorandum and Articles of Association, as currently in effect in the British Virgin Islands, set forth in our registration statement on Form F-1, declared effective on March 18, 2015 (File No. 333-198788).

**C. Material contracts**

Other than as otherwise disclosed previously, we did not have any other material contracts.

**D. Exchange controls**

**Foreign Currency Exchange** The principal regulations governing foreign currency exchange in China are the Foreign Exchange Administration Regulations. Under the PRC foreign exchange regulations, payments of current account items, such as profit distributions and trade and service-related foreign exchange transactions, may be made in foreign currencies without prior approval from SAFE by complying with certain procedural requirements. By contrast, approval from or registration with appropriate government authorities is required where RMB is to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of foreign currency-denominated loans or foreign currency is to be remitted into China under the capital account, such as a capital increase or foreign currency loans to our PRC subsidiaries.

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In August 2008, SAFE issued the Circular on the Relevant Operating Issues Concerning the Improvement of the Administration of the Payment and Settlement of Foreign Currency Capital of Foreign-Invested Enterprises, or SAFE Circular 142, regulating the conversion by a foreign-invested enterprise of foreign currency-registered capital into RMB by restricting how the converted RMB may be used. In addition, SAFE promulgated Circular 45 on November 9, 2011 in order to clarify the application of SAFE Circular 142. Under SAFE Circular 142 and Circular 45, the RMB capital converted from foreign currency registered capital of a foreign-invested enterprise may only be used for purposes within the business scope approved by the applicable government authority and may not be used for equity investments within the PRC. In addition, SAFE strengthened its oversight of the flow and use of the RMB capital converted from foreign currency registered capital of foreign-invested enterprises. The use of such RMB capital may not be changed without SAFE's approval, and such RMB capital may not in any case be used to repay RMB loans if the proceeds of such loans have not been used.

In November 2012, SAFE promulgated the Circular of Further Improving and Adjusting Foreign Exchange Administration Policies on Foreign Direct Investment, which substantially amends and simplifies the current foreign exchange procedure. Pursuant to this circular, the opening of various special purpose foreign exchange accounts, such as pre-establishment expenses accounts, foreign exchange capital accounts and guarantee accounts, the reinvestment of RMB proceeds by foreign investors in the PRC, and remittance of foreign exchange profits and dividends by a foreign-invested enterprise to its foreign shareholders no longer require the approval or verification of SAFE, and multiple capital accounts for the same entity may be opened in different provinces, which was not possible previously. In addition, SAFE promulgated the Circular on Printing and Distributing the Provisions on Foreign Exchange Administration over Domestic Direct Investment by Foreign Investors and the Supporting Documents in May 2013, which specifies that the administration by SAFE or its local branches over direct investment by foreign investors in the PRC shall be conducted by way of registration and banks shall process foreign exchange business relating to the direct investment in the PRC based on the registration information provided by SAFE and its branches.

We typically do not need to use our offshore foreign currency to fund our PRC operations. In the event we need to do so, we will apply to obtain the relevant approvals of SAFE and other PRC government authorities as necessary.

### **SAFE Circular 37**

In July 2014, SAFE issued SAFE Circular 37, which supersedes SAFE Circular 75, and requires that PRC citizens or residents must register with the relevant local SAFE branch before making capital contribution to any offshore entity directly established or indirectly controlled by that PRC citizen or resident for the purpose of investment or financing and with onshore or offshore assets or equity interests legally owned by that PRC citizen or resident. In addition, the SAFE registrations are required to be updated with local SAFE branch with respect to that offshore special purpose company in connection with the change of its basic information, such as its company name, business term, shareholding by individual PRC citizens or residents, merger, or division and, with respect to the individual PRC citizens or residents in case of any increases or decreases of capital in that offshore special purpose company, or share transfers or swaps by the individual PRC citizens or residents.

### **Regulation of Dividend Distribution**

The principal laws, rules and regulations governing dividend distribution by foreign-invested enterprises in the PRC are the Company Law of the PRC, as amended, the Wholly Foreign-owned Enterprise Law and its implementation regulations and the Equity Joint Venture Law and its implementation regulations. Under these laws, rules and regulations, foreign-invested enterprises may pay dividends only out of their accumulated profit, if any, as determined in accordance with PRC accounting standards and regulations. Both PRC domestic companies and wholly-foreign owned PRC enterprises are required to set aside as general reserves at least 10% of their after-tax profit, until the cumulative amount of such reserves reaches 50% of their registered capital. A PRC company is not permitted to distribute any profits until any losses from prior fiscal years have been offset. Profits retained from prior fiscal years may be distributed together with distributable profits from the current fiscal year.

## **E. Taxation**

The following sets forth the material British Virgin Islands, Chinese and U.S. federal income tax consequences related to an investment in our common shares. It is directed to U.S. Holders (as defined below) of our common shares and is based upon laws and relevant interpretations thereof in effect as of the date of this annual report, all of which are subject to change. This description does not deal with all possible tax consequences relating to an investment in our common shares, such as the tax consequences under state, local and other tax laws.

The following brief description applies only to U.S. Holders (defined below) that hold common shares as capital assets and that have the U.S. dollar as their functional currency. This brief description is based on the tax laws of the United States in effect as of the date of this annual report and on U.S. Treasury regulations in effect or, in some cases, proposed, as of the date of this annual report, as well as judicial and administrative interpretations thereof available on or before such date. All of the foregoing authorities are subject to change, which change could apply retroactively and could affect the tax consequences described below. The brief description below of the U.S. federal income tax consequences to "U.S. Holders" will apply to you if you are a beneficial owner of shares and you are, for U.S. federal income tax purposes,

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate whose income is subject to U.S. federal income taxation regardless of its source; or
- a trust that (1) is subject to the primary supervision of a court within the United States and the control of one or more U.S. persons for all substantial decisions or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

**WE URGE POTENTIAL PURCHASERS OF OUR SHARES TO CONSULT THEIR OWN TAX  
ADVISORS CONCERNING THE U.S. FEDERAL, STATE, LOCAL AND NON-U.S. TAX  
CONSEQUENCES OF PURCHASING, OWNING AND DISPOSING OF OUR SHARES.**

### **People's Republic of China Enterprise Taxation**

The following brief description of Chinese enterprise laws is designed to highlight the enterprise-level taxation on our earnings, which will affect the amount of dividends, if any, we are ultimately able to pay to our shareholders. Our company pays a 13% value added tax and EIT rates of 15% for Shangchi and 25% for Tantech Charcoal. Shangchi pays a lower EIT rate than Tantech Charcoal because Shangchi has been certified as high technology companies and thus enjoys a preferable rate. If this favorable EIT rate were to be terminated or Shangchi was to fail to qualify to receive these rates, they would be subject to taxation at the standard EIT rate of 25% for enterprise income taxes, unless we were otherwise to qualify for a decreased tax rate.

### **British Virgin Islands Taxation**

Under the BVI Act as currently in effect, a holder of common shares who is not a resident of the British Virgin Islands is exempt from British Virgin Islands income tax on dividends paid with respect to the common shares and all holders of common shares are not liable to the British Virgin Islands for income tax on gains realized during that year on sale or disposal of such shares. The British Virgin Islands does not impose a withholding tax on dividends paid by a company incorporated or re-registered under the BVI Act.

There are no capital gains, gift or inheritance taxes levied by the British Virgin Islands on companies incorporated or re-registered under the BVI Act. In addition, shares of companies incorporated or re-registered under the BVI Act are not subject to transfer taxes, stamp duties or similar charges.

There is no income tax treaty or convention currently in effect between the United States and the British Virgin Islands or between China and the British Virgin Islands.

## **United States Federal Income Taxation**

The following does not address the tax consequences to any particular investor or to persons in special tax situations such as:

- banks;
- financial institutions;
- insurance companies;
- regulated investment companies;
- real estate investment trusts;
- broker-dealers;
- traders that elect to mark-to-market;
- U.S. expatriates;
- tax-exempt entities;
- persons liable for alternative minimum tax;
- persons holding our common shares as part of a straddle, hedging, conversion or integrated transaction;
- persons that actually or constructively own 10% or more of our voting shares;
- persons who acquired our common shares pursuant to the exercise of any employee share option or otherwise as consideration; or
- persons holding our common shares through partnerships or other pass-through entities.

Prospective purchasers are urged to consult their tax advisors about the application of the U.S. Federal tax rules to their particular circumstances as well as the state, local, foreign and other tax consequences to them of the purchase, ownership and disposition of our common shares.

### **Taxation of Dividends and Other Distributions on our Common Shares**

Subject to the passive foreign investment company rules discussed below, the gross amount of distributions made by us to you with respect to the common shares (including the amount of any taxes withheld therefrom) will generally be includable in your gross income as dividend income on the date of receipt by you, but only to the extent that the distribution is paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). The dividends will not be eligible for the dividends-received deduction allowed to corporations in respect of dividends received from other U.S. corporations.

With respect to non-corporate U.S. Holders, including individual U.S. Holders, dividends are taxed at the lower capital gains rate applicable to qualified dividend income, provided that (1) the common shares are readily tradable on an established securities market in the United States, or we are eligible for the benefits of an approved qualifying income tax treaty with the United States that includes an exchange of information program, (2) we are not a passive foreign investment company (as discussed below) for either our taxable year in which the dividend is paid or the preceding taxable year, and (3) certain holding period requirements are met. Under U.S. Internal Revenue Service authority, common shares are considered for purpose of clause (1) above to be readily tradable on an established securities market in the United States if they are listed on Nasdaq. You are urged to consult your tax advisors regarding the availability of the lower rate for dividends paid with respect to our common shares, including the effects of any change in law after the date of this annual report.

Dividends will constitute foreign source income for foreign tax credit limitation purposes. If the dividends are taxed as qualified dividend income (as discussed above), the amount of the dividend taken into account for purposes of calculating the foreign tax credit limitation will be limited to the gross amount of the dividend, multiplied by the reduced rate divided by the highest rate of tax normally applicable to dividends. The limitation on foreign taxes eligible for credit is calculated separately with respect to specific classes of income. For this purpose, dividends distributed by us with respect to our common shares will constitute "passive category income" but could, in the case of certain U.S. Holders, constitute "general category income."

To the extent that the amount of the distribution exceeds our current and accumulated earnings and profits (as determined under U.S. federal income tax principles), it will be treated first as a tax-free return of your tax basis in your common shares, and to the extent the amount of the distribution exceeds your tax basis, the excess will be taxed as capital gain. We do not intend to calculate our earnings and profits under U.S. federal income tax principles. Therefore, a U.S. Holder should expect that a distribution will be treated as a dividend even if that distribution would otherwise be treated as a non-taxable return of capital or as capital gain under the rules described above.

#### **Taxation of Dispositions of Common Shares**

Subject to the passive foreign investment company rules discussed below, you will recognize taxable gain or loss on any sale, exchange or other taxable disposition of a share equal to the difference between the amount realized (in U.S. dollars) for the share and your tax basis (in U.S. dollars) in the common shares. The gain or loss will be capital gain or loss. If you are a non-corporate U.S. Holder, including an individual U.S. Holder, who has held the common shares for more than one year, you will generally be eligible for reduced tax rates. If capital gains preferential rates are amended, such gains would be taxable at the personal income rates then in place. The deductibility of capital losses is subject to limitations. Any such gain or loss that you recognize will generally be treated as United States source income or loss for foreign tax credit limitation purposes.

#### **Passive Foreign Investment Company**

We believe that we are not a passive foreign investment company for U.S. federal income tax purposes for the year ended December 31, 2021, but we cannot be certain whether we will be treated as a passive foreign investment company for any future taxable year. PFIC status is a factual determination for each taxable year which cannot be made until the close of the taxable year. A non-U.S. corporation is considered a PFIC for any taxable year if either:

- at least 75% of its gross income is passive income; or
- at least 50% of the value of its assets (based on an average of the quarterly values of the assets during a taxable year) is attributable to assets that produce or are held for the production of passive income (the "asset test").

We will be treated as owning our proportionate share of the assets and earning our proportionate share of the income of any other corporation in which we own, directly or indirectly, at least 25% (by value) of the stock.

We must make a separate determination each year as to whether we are a PFIC. As a result, our PFIC status may change. In particular, because the value of our assets for purposes of the asset test will generally be determined based on the market price of our common shares, our PFIC status will depend in large part on the market price of our common shares. Accordingly, fluctuations in the market price of the common shares may cause us to become a PFIC. If we are a PFIC for any year during which you hold common shares, we will continue to be treated as a PFIC for all succeeding years during which you hold common shares.

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However, if we cease to be a PFIC, you may avoid some of the adverse effects of the PFIC regime by making a “deemed sale” election with respect to the common shares.

If we are a PFIC for any taxable year during which you hold common shares, you will be subject to special tax rules with respect to any “excess distribution” that you receive and any gain you realize from a sale or other disposition (including a pledge) of the common shares, unless you make a “mark-to-market” election as discussed below. Distributions you receive in a taxable year that are greater than 125% of the average annual distributions you received during the shorter of the three preceding taxable years or your holding period for the common shares will be treated as an excess distribution. Under these special tax rules:

- the excess distribution or gain will be allocated ratably over your holding period for the common shares;
- the amount allocated to the current taxable year, and any taxable year prior to the first taxable year in which we were a PFIC, will be treated as ordinary income, and
- the amount allocated to each other year will be subject to the highest tax rate in effect for that year and the interest charge generally applicable to underpayments of tax will be imposed on the resulting tax attributable to each such year.

The tax liability for amounts allocated to years prior to the year of disposition or “excess distribution” cannot be offset by any net operating losses for such years, and gains (but not losses) realized on the sale of the common shares cannot be treated as capital, even if you hold the common shares as capital assets.

A U.S. Holder of “marketable stock” (as defined below) in a PFIC may make a mark-to-market election for such stock to elect out of the tax treatment discussed above. If you make a mark-to-market election for the common shares, you will include in income each year an amount equal to the excess, if any, of the fair market value of the common shares as of the close of your taxable year over your adjusted basis in such common shares. You are allowed a deduction for the excess, if any, of the adjusted basis of the common shares over their fair market value as of the close of the taxable year. However, deductions are allowable only to the extent of any net mark-to-market gains on the common shares included in your income for prior taxable years. Amounts included in your income under a mark-to-market election, as well as gain on the actual sale or other disposition of the common shares, are treated as ordinary income. Ordinary loss treatment also applies to the deductible portion of any mark-to-market loss on the common shares, as well as to any loss realized on the actual sale or disposition of the common shares, to the extent that the amount of such loss does not exceed the net mark-to-market gains previously included for such common shares. Your basis in the common shares will be adjusted to reflect any such income or loss amounts. If you make a valid mark-to-market election, the tax rules that apply to distributions by corporations which are not PFICs would apply to distributions by us, except that the lower applicable capital gains rate for qualified dividend income discussed above under “- Taxation of Dividends and Other Distributions on our Common shares” generally would not apply.

The mark-to-market election is available only for “marketable stock”, which is stock that is traded in other than de minimis quantities on at least 15 days during each calendar quarter (“regularly traded”) on a qualified exchange or other market (as defined in applicable U.S. Treasury regulations), including Nasdaq. If the common shares are regularly traded on Nasdaq and if you are a holder of common shares, the mark-to-market election would be available to you were we to be or become a PFIC.

Alternatively, a U.S. Holder of stock in a PFIC may make a “qualified electing fund” election with respect to such PFIC to elect out of the tax treatment discussed above. A U.S. Holder who makes a valid qualified electing fund election with respect to a PFIC will generally include in gross income for a taxable year such holder’s pro rata share of the corporation’s earnings and profits for the taxable year. However, the qualified electing fund election is available only if such PFIC provides such U.S. Holder with certain information regarding its earnings and profits as required under applicable U.S. Treasury regulations. We do not currently intend to prepare or provide the information that would enable you to make a qualified electing fund election. If you hold common shares in any year in which we are a PFIC, you will be required to file U.S. Internal Revenue Service Form 8621 regarding distributions received on the common shares and any gain realized on the disposition of the common shares.

You are urged to consult your tax advisors regarding the application of the PFIC rules to your investment in our common shares and the elections discussed above.

## **Information Reporting and Backup Withholding**

Dividend payments with respect to our common shares and proceeds from the sale, exchange or redemption of our common shares may be subject to information reporting to the U.S. Internal Revenue Service and possible U.S. backup withholding. Backup withholding will not apply, however, to a U.S. Holder who furnishes a correct taxpayer identification number and makes any other required certification on U.S. Internal Revenue Service Form W-9 or who is otherwise exempt from backup withholding. U.S. Holders who are required to establish their exempt status generally must provide such certification on U.S. Internal Revenue Service Form W-9. U.S. Holders are urged to consult their tax advisors regarding the application of the U.S. information reporting and backup withholding rules.

Backup withholding is not an additional tax. Amounts withheld as backup withholding may be credited against your U.S. federal income tax liability, and you may obtain a refund of any excess amounts withheld under the backup withholding rules by filing the appropriate claim for refund with the U.S. Internal Revenue Service and furnishing any required information.

## **F. Dividends and Paying Agents**

Not applicable.

## **G. Statement by Experts**

Not applicable.

## **H. Documents on display**

The Company is subject to the informational requirements of the Exchange Act, and will file reports, registration statements and other information with the SEC. The Company's reports, registration statements and other information can be inspected on the SEC's website at [www.sec.gov](http://www.sec.gov) and such information can also be inspected and copies ordered at the public reference facilities maintained by the SEC at the following location: 100 F Street NE, Washington, D.C. 20549. You may also visit us on the World Wide Web at <http://www.tantech.cn>. However, information contained on our website does not constitute a part of this annual report.

## **I. Subsidiary Information**

Not applicable.

## **ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

### **Interest Rate Risk**

Our exposure to interest rate risk primarily relates to excess cash invested in short-term instruments with original maturities of less than a year and long-term held-to-maturity securities with maturities of greater than a year. Investments in both fixed rate and floating rate interest earning instruments carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates, or we may suffer losses in principal if we have to sell securities that have declined in market value due to changes in interest rates. We have not been, and do not expect to be, exposed to material interest rate risks, and therefore have not used any derivative financial instruments to manage our interest risk exposure.

As of December 31, 2022, if interest rates increased/decreased by 1%, with all other variables having remained constant, and assuming the amount of bank borrowings outstanding at the end of the year was outstanding for the entire year, profit attributable to equity owners of our company would have been RMB250,799 (\$37,269) lower/higher, respectively, mainly as a result of higher/lower interest income from our cash and cash equivalents and loan receivables.

We had no short-term investments and long-term held-to-maturity investments as of December 31, 2022.



### **Foreign Exchange Risk**

Our functional currency is the RMB, and our financial statements are presented in U.S. dollar. The Renminbi has fluctuated against the U.S. dollar, at times significantly and unpredictably. Any appreciation or depreciation in the value of RMB relative to the U.S. dollar may affect our financial results reported in the U.S. dollar terms without giving effect to any underlying change in our business or results of operation.

Currently, our assets, liabilities, revenues and costs are mainly denominated in RMB. However, we may generate revenues denominated in U.S. dollar, and our offering was in U.S. dollar. Therefore, a portion of our cash and cash equivalents and short-term financial assets are denominated in U.S. dollar. Our exposure to foreign exchange risk primarily relate to those financial assets denominated in U.S. dollars. Any significant revaluation of RMB against U.S. dollar may materially affect our earnings and financial position, and the value of, and any dividends payable on, our common shares in U.S. dollars in the future. We reflect the impact of currency translation adjustments in our financial statements under the heading “accumulated other comprehensive income (loss).” For years ended December 31, 2022, 2021 and 2020, we had adjustments of \$(9,303,340), \$2,535,599 and \$5,892,311, respectively, for foreign currency translations. See “Risk Factors - Risks Related to Doing Business in China - Fluctuations in exchange rates could adversely affect our business and the value of our securities.”

### **Commodity Risk**

As a developer and manufacturer of bamboo-based charcoal products, our Company is exposed to the risk of an increase in the price of raw bamboo and, as a result, bamboo charcoal. We historically have lacked an ability to pass on price increases to customers, but we have not entered into any contract to hedge any specific commodity risk. Moreover, our Company does not purchase or trade on commodity instruments or positions; instead, it purchases commodities (bamboo charcoal and wood-based charcoal) for use.

In summer 2012, we faced a supply shortage based on local government initiatives to reduce the risk of fire caused by charcoal. As a result, the local government in Daxing Anlin, where one of our main wood-based OEM BBQ charcoal suppliers is located, restricted the production of charcoal during June, July and August 2012. At that time, our stock of OEM BBQ charcoal was insufficient to avoid demand pressures. We have viewed this temporary shortage as an isolated event and do not expect it to recur in the future. If, however, this belief is incorrect, the absence of hedging could exacerbate our commodity risk.

### **ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES.**

With the exception of Items 12.D.3 and 12.D.4, this Item 12 is not applicable for annual reports on Form 20-F. As to Items 12.D.3 and 12.D.4, this Item 12 is not applicable, as the Company does not have any American Depositary Shares.

**PART II**

**ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES.**

We do not have any material defaults in the payment of principal, interest, or any installments under a sinking or purchase fund.

**ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS.**

See “Item 10.B-Additional Information-Memorandum and Articles of Association” for a description of the rights of securities holders, which remain unchanged.

**ITEM 15. CONTROLS AND PROCEDURES.**

(a) Evaluation of Disclosure Controls and Procedures.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Disclosure controls and procedures are controls and procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’ rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to management, including our principal executive officer and our principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this report were not effective as of December 31, 2022.

(b) Management's Annual Report on Internal Control Over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) under the Securities Exchange Act of 1934, as amended). Our management evaluated the effectiveness of our internal control over financial reporting based on criteria established in the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management has concluded that our internal control over financial reporting was not effective as of December 31, 2022, due to the material weaknesses in our internal control over financial reporting described below.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses in our internal control over financial reporting identified as of December 31, 2022 were (i) lack of skilled financial reporting personnel with adequate U.S. GAAP and SEC reporting experience, (ii) lack of appropriate approval procedures for certain material transactions; and (iii) lack of segregation of duties in financial reporting function.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of our internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

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We reviewed the result of management's assessment with the Audit Committee of our Board of Directors.

- (c) Attestation report of the registered public accounting firm. Not applicable.
- (d) Changes in internal control over financial reporting.

There have been no changes in the Company's ICFR identified in connection with the above evaluation that occurred during the last fiscal year that have materially affected, or are reasonably likely to materially affect, the Company's ICFR, other than the following:

1. We continued to enforce the plan for remediation of the material weaknesses in ICFR as outlined in the Form 20-F for the year ended December 31, 2016, continued to improve internal control over financial reporting and conducted timely self-assessment.
2. We completed a thorough review of the processes and procedures in the Company's financial reporting related to the areas where the material weaknesses existed and made necessary changes to streamline our processes.

The management plans to remediate material weaknesses in internal control over financial reporting identified by implementing the following measures:

1. Recruit qualified accounting personnel with sufficient knowledge and experience to: (a) address complex U.S. GAAP accounting issues and prepare and review financial statements and related disclosures under U.S. GAAP, and (b) resolve the issue of lack of segregation of duties.
2. Hire additional credentialed professional staff and consulting professionals with greater knowledge and experience of U.S. GAAP and related regulatory requirements to oversee our financial reporting process in order to ensure our compliance with U.S. GAAP and financial reporting requirements. Until such time as we hire qualified accounting personnel with the requisite U.S. GAAP knowledge and experience and train our current accounting personnel, we have engaged an outside CPA with U.S. GAAP knowledge and experience to supplement our current internal accounting personnel and assist us in the preparation of our financial statements to ensure that our financial statements are prepared in accordance with U.S. GAAP.
3. Improve the communication between management and board of directors and establish appropriate approval procedures for all material and non-routine transactions.
4. Develop and conduct internal control training to executive officers, management personnel, and finance and accounting departments, so that management and key personnel understand the requirements of internal control over financial reporting under the SEC rules.

The Company has posted the advertisement for recruiting an internal control manager on online recruiting platforms and is in the recruitment process. Given that there is a limited candidate pool for accounting personnel with U.S. GAAP and internal control compliance experience, it may take several months to find a suitable candidate to fill the position. The Company currently estimates the associated material costs expected to incur will be approximately \$100,000 per year.

**ITEM 15T. CONTROLS AND PROCEDURES.**

Not applicable.

**ITEM 16. [RESERVED]**

**ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT**

The Company's Board of Directors has determined that Mengqi Liao qualifies as an "audit committee financial expert" in accordance with applicable NASDAQ standards. The Company's Board of Directors has also determined that Mengqi Liao and the other members of the Audit Committee are all "independent" in accordance with the applicable NASDAQ standards.

**ITEM 16B. CODE OF ETHICS.**

We have adopted a Code of Ethics and have attached it as an exhibit to this annual report. A copy of the Code of Ethics may be found on our company website.

**ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES .**

YCM CPA Inc. was appointed by the Company to serve as its independent registered public accounting firm from fiscal 2019 to fiscal 2022. Audit services provided by YCM CPA for fiscal 2022, 2021 and 2020 included the examination of the consolidated financial statements of the Company and services related to periodic filings made with the SEC. Prager Metis CPAs, LLC was appointed by the Company to serve as its independent registered public accounting firm for fiscal 2020 and 2019. Audit services provided by Prager Metis for fiscal 2020 and 2019 included the examination of the consolidated financial statements of the Company and services related to periodic filings made with the SEC.

**Fees Paid to Independent Registered Public Accounting Firm**

*Audit Fees*

The following table represents the approximate aggregate fees for services rendered by YCM CPA Inc. and Prager Metis CPAs, LLC for the periods indicated:

	Years ended December 31,		
	2022	2021	2020
Audit Fees			
YCM CPA Inc.	\$ 270,000	\$ 470,000	\$ -
Prager Metis CPAs	-	250,000	250,000
Total	<u>\$ 270,000</u>	<u>\$ 720,000</u>	<u>\$ 250,000</u>

*Audit-Related Fees*

The Company has not paid YCM CPA Inc. for audit-related services in fiscal 2022, 2021, and 2020.

The Company has paid Prager Metis CPAs, LLC \$60,000 for audit-related services in fiscal 2022, 2021 and 2020.

*Tax Fees*

The Company has not paid YCM CPA for tax services in fiscal 2022, 2021 and 2020.

The Company has not paid Prager Metis CPAs, LLC for tax services in fiscal 2022, 2021, and 2020.

*All Other Fees*

The Company has not paid YCM CPA for any other services in fiscal 2022, 2021, and 2020.

The Company has not paid Prager Metis CPAs, LLC other fees in fiscal 2022, 2021, and 2020.

*Audit Committee Pre-Approval Policies*

Before YCM CPA and Prager Metis were engaged by the Company to render audit or non-audit services, the engagement was approved by the Company's audit committee. All services rendered by YCM CPA and Prager Metis have been so approved.

**ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES.**

Not applicable.

**ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS.**

Neither the Company nor any affiliated purchaser has purchased any shares or other units of any class of the Company's equity securities registered by the Company pursuant to Section 12 of the Securities Exchange Act during the fiscal year ended December 31, 2022.

**ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT.**

On May 27, 2022, the Company's Audit Committee approved the proposed appointment of YCM CPA Inc ("YCM") as the Company's independent registered public accounting firm, dismissing the Company's previous independent auditors, Prager Metis CPAs, LLC ("Prager Metis"), on the same date.

During the Company's three fiscal years ended December 31, 2020, 2019 and 2018 through the dismissal of Prager Metis on May 27, 2022, there were no disagreements between us and Prager Metis on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of Prager Metis, would have caused it to make reference to the subject matter of the disagreements in connection with its report on the Company's consolidated financial statements for such periods. In addition, Prager Metis's reports on the financial statements as of and for the years ended December 31, 2020, 2019 and 2018 did not contain an adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles. During the Company's years ended December 31, 2020, 2019 and 2018 through the dismissal of Prager Metis on May 27, 2022, there were no "reportable events" as that term is defined in Item 16F(a)(1)(v) of Form 20-F.

During the three fiscal years ended December 31, 2020, 2019 and 2018 and any subsequent interim period prior to engaging YCM, neither the Company nor anyone on its behalf consulted YCM regarding either (i) the application of accounting principles to any proposed or completed transaction, or the type of audit opinion that might be rendered on the Company's financial statements, and neither a written report nor oral advice was provided to the Company that YCM concluded was an important factor considered by the Company in reaching a decision as to any accounting, auditing or financial reporting issue; or (ii) any matter that was either the subject of a disagreement (as defined in Item 16F(a)(1)(iv) of Form 20-F and the related instructions to Item 16F of Form 20-F) or a reportable event.

**ITEM 16G. CORPORATE GOVERNANCE**

Other than as described in this section, our corporate governance practices do not differ from those followed by domestic companies listed on the Nasdaq. NASDAQ Listing Rule 5635 generally provides that shareholder approval is required of U.S. domestic companies listed on Nasdaq prior to issuance (or potential issuance) of securities (i) equaling 20% or more of the company's common stock or voting power for less than the greater of market or book value (ii) resulting in a change of control of the company; and (iii) which is being issued pursuant to a stock option or purchase plan to be established or materially amended or other equity compensation arrangement made or materially amended. Notwithstanding this general requirement, NASDAQ Listing Rule 5615(a)(3)(A) permits foreign private issuers to follow their home country practice rather than these shareholder approval requirements. The British Virgin Islands do not require shareholder approval prior to any of the foregoing types of issuances. The Company, therefore, is not required to obtain such shareholder approval prior to entering into a transaction with the potential to issue securities as described above. The Board of Directors of the Company has elected to follow the Company's home country rules as to such issuances and will not be required to seek shareholder approval prior to entering into such a transaction.

**ITEM 16H. MINE SAFETY DISCLOSURE**

Not applicable.

**ITEM 16I. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS**

Not applicable.

**PART III**

**ITEM 17. FINANCIAL STATEMENTS.**

See Item 18.

**ITEM 18. FINANCIAL STATEMENTS.**

The consolidated financial statements of Tantech Holdings Ltd are included at the end of this annual report, beginning with page F-1.

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**ITEM 17. MATERIAL**

**ITEM 19. EXHIBITS.**

<u>1.1</u>	<u>(1)</u>	<u>Articles of Association of Tantech Holdings Ltd</u>
<u>1.2.1</u>	<u>(1)</u>	<u>Memorandum of Association of Tantech Holdings Ltd</u>
<u>1.2.2</u>	<u>(1)</u>	<u>First Amended and Restated Memorandum of Association of Tantech Holdings Ltd</u>
<u>2.1</u>	<u>(1)</u>	<u>Specimen Common Share Certificate</u>
<u>2.2</u>	<u>(6)</u>	<u>Form of Warrant issued on September 29, 2017</u>
<u>2.3</u>	<u>(3)</u>	<u>Form of Registered Investor Warrant issued on November 24, 2020</u>
<u>2.4</u>	<u>(3)</u>	<u>Form of Unregistered Investor Warrant issued November 24, 2020</u>
<u>2.5</u>	<u>(3)</u>	<u>Form of Placement Agent Warrant issued November 24, 2020</u>
<u>4.1</u>	<u>(4)</u>	<u>Translation of Employment Agreement between the Registrant and Wangfeng Yan as the CEO dated December 6, 2019</u>
<u>4.2</u>	<u>(4)</u>	<u>Translation of Employment Agreement between the Registrant and Weilin Zhang as the CFO dated June 26, 2019</u>
<u>4.3</u>	<u>(4)</u>	<u>Translation of Employment Agreement between the Registrant and Mingqin Dong as the COO dated December 6, 2019</u>
<u>4.4</u>	<u>(10)</u>	<u>Summary Translation of the Lease Agreement between Zhejiang Tantech Energy Technology Co., Ltd and Zhejiang Tantech Bamboo Charcoal Co., Ltd. dated December 10, 2021</u>
<u>4.5</u>	<u>(10)</u>	<u>Translation of the Lease Agreement between Zhangjiagang Jinmao Investment Development Co. LTD and Shangchi Automobile Co., Ltd. dated August 10, 2021</u>
<u>4.6</u>	<u>(10)</u>	<u>Summary Translation of the Lease Agreement between Shenzhen Xinrui Commercial Property Co., Ltd and Shenzhen Yimao New Energy Sales Co., Ltd. dated January 17, 2022</u>
<u>4.7</u>	<u>(3)</u>	<u>Placement Agency Agreement, dated November 20, 2020, by and between the Company and Univest Securities, LLC</u>
<u>4.8</u>	<u>(5)</u>	<u>Amendment No. 1 to Placement Agency Agreement, dated December 8, 2020, by and between the Company and Univest Securities, LLC</u>
<u>4.9</u>	<u>(3)</u>	<u>Securities Purchase Agreement, dated as of November 20, 2020, by and between the Company and the Investors</u>
<u>4.10</u>	<u>(3)</u>	<u>Registration Rights Agreement, dated as of November 20, 2020, by and between the Company and the Investors</u>
<u>4.11</u>	<u>(7)</u>	<u>Non-competition Agreement by and among Zhengyu Wang, Yefang Zhang, Fammi, Inc., Tantech Holdings Ltd and CN Energy Group, Inc., dated March 29, 2021</u>
<u>4.12</u>	<u>(8)</u>	<u>Securities Purchase Agreement, dated May 27, 2021, by and between Tantech Holdings Ltd and the Purchasers</u>
<u>4.13</u>	<u>(9)</u>	<u>Underwriting Agreement by and between Tantech Holdings Ltd and Aegis Capital Corp. dated December 2, 2021</u>
<u>4.14</u>	<u>(10)</u>	<u>English Translation of Termination Agreement re VIE Structure</u>
<u>8.1</u>	<u>(10)</u>	<u>List of subsidiaries</u>
<u>11.1</u>	<u>(2)</u>	<u>Code of Ethics</u>



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<a href="#">12.1*</a>	<a href="#">Certification of the principal executive officer of the Registrant pursuant to Rule 13a-14(a) or 15(d)-14(a) under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
<a href="#">12.2*</a>	<a href="#">Certification of the principal financial officer of the Registrant pursuant to Rule 13a-14(a) or 15(d)-14(a) under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
<a href="#">13.1*</a>	<a href="#">Certification of the principal executive officer of the Registrant pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
<a href="#">13.2*</a>	<a href="#">Certification of the principal financial officer of the Registrant pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
<a href="#">15.1<sup>(1)</sup></a>	<a href="#">2014 Equity Incentive Plan</a>
<a href="#">23.1*</a>	<a href="#">Consent Letter of YCM CPA Inc.</a>
<a href="#">99.1*</a>	<a href="#">Press release dated May 1, 2023 titled “Tantech Announces Full Year 2022 Financial Results”</a>
<a href="#">104*</a>	Cover Page Interactive Data File (embedded within the Inline XBRL document)
<a href="#">101.INS</a>	Inline XBRL Instance Document.
<a href="#">101.SCH</a>	Inline XBRL Taxonomy Extension Schema Document.
<a href="#">101.CAL</a>	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
<a href="#">101.DEF</a>	Inline XBRL Taxonomy Extension Definition Linkbase Document.
<a href="#">101.LAB</a>	Inline XBRL Taxonomy Extension Label Linkbase Document.
<a href="#">101.PRE</a>	Inline XBRL Taxonomy Extension Presentation Linkbase Document.

- (1) Previously filed with the registration statement on Form F-1, File no. 333-198788, filed on September 16, 2014, as amended and incorporated herein by reference.
- (2) Previously filed on Form 6-K, dated May 2, 2016 and incorporated by reference.
- (3) Previously filed on Form 6-K, dated November 20, 2020 and incorporated by reference.
- (4) Previously filed with our annual report on Form 20-F, File no. 001-36885, filed on June 30, 2020 and incorporated herein by reference.
- (5) Previously filed on Form 6-K/A, dated December 8, 2020 and incorporated by reference.
- (6) Previously filed on Form 6-K, dated September 27, 2017 and incorporated by reference.
- (7) Previously filed with our annual report on Form 20-F, File no. 001-36885, filed on April 27, 2021 and incorporated herein by reference.
- (8) Previously filed on Form 6-K, dated May 27, 2021 and incorporated by reference.
- (9) Previously filed on Form 6-K, dated December 6, 2021 and incorporated by reference.
- (10) Previously filed on Form 20-F on July 18, 2022 and incorporated by reference.

\* Filed herewith.

**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

**Tantech Holdings Ltd**

By: /s/ Wangfeng Yan

Name: Wangfeng Yan

Title: Chief Executive Officer

Date: May 1, 2023

TANTECH HOLDINGS LTD AND SUBSIDIARIES

FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM



To the Board of Directors and  
Shareholders of Tantech Holdings, Ltd.

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Tantech Holdings, Ltd. and subsidiaries (collectively, the “Company”) as of December 31, 2022, 2021 and 2020, and the related consolidated statements of operations and comprehensive income (loss), changes in stockholders’ equity, and cash flows for the years ended December 31, 2022, 2021 and 2020, and the related notes (collectively referred to as the “financial statements”).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022, 2021 and 2020 and the results of its operations and its cash flows for years ended December 31, 2022, 2021 and 2020, in conformity with accounting principles generally accepted in the United States of America.

**Basis for Opinion**

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

**Critical Audit Matters**

Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or are required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved especially challenging, subjective, or complex judgments.

*Estimates of reserves on financing receivables*

As described in Note 2 and Note 4 to the consolidated financial statements, as of December 31, 2022, the Company’s consolidated net book value of the financing receivables was \$43,864,192, representing receivables arising from the Company’s factoring business. The Company’s management estimates the reserves as well as assessing the recoverability of the pledged receivables. There are uncertainties in estimating reserves and recoverability of these receivables. Reserves estimates depend on the historical collection on the financing activities, related future net cash flows, and other economic factors.

In order to address the matter above, our audit procedures included, among others, conducting background research of the clients and their customers. We have reviewed and assessed the related factoring agreements and the publicly released certificates of chattel security registration to verify the pledge process of the accounts receivables of the clients’ customers. The procedures performed also included reviewing the Company’s due diligence and internal review procedures to identify any corroboratory or contrary evidence.

/s/ YCM CPA, Inc.

We have served as the Company’s auditor since 2022.

PCAOB ID 6781  
Irvine, California  
May 1, 2023

**Tantech Holdings Ltd and Subsidiaries**  
**Consolidated Balance Sheets**

	<u>December 31,</u> <u>2022</u>	<u>December 31,</u> <u>2021</u>
<b>Assets</b>		
Current Assets		
Cash and cash equivalents	\$ 18,976,684	\$ 43,144,049
Restricted cash	4,827	422,832
Accounts receivable, net	40,174,332	44,962,926
Financing receivable	43,864,192	-
Inventories, net	898,686	1,069,698
Due a from related party	-	10,354,051
Advances to suppliers, net	1,291,998	3,420,628
Prepaid taxes	494,467	1,609,466
Prepaid expenses and other receivables, net	1,051,631	824,239
<b>Total Current Assets</b>	<u>106,756,817</u>	<u>105,807,889</u>
<b>Other Assets</b>		
Property, plant and equipment, net	1,656,442	2,103,947
Intangible assets, net	184,822	205,971
Right of use assets	1,417,088	313,172
Long-term investment	24,116,835	26,096,079
<b>Total Non-current Assets</b>	<u>27,375,187</u>	<u>28,719,169</u>
<b>Total Assets</b>	<u>\$ 134,132,004</u>	<u>\$ 134,527,058</u>
<b>Liabilities and Stockholders' Equity</b>		
Current Liabilities		
Short-term bank loans	\$ 3,636,591	\$ 4,719,552
Accounts payable	2,118,705	1,563,787
Due to related parties	1,047,512	1,847,421
Customer deposits	1,826,996	3,580,622
Taxes payable	1,251,975	823,701
Loan payable to third parties	-	7,002,385
Lease liabilities-current	161,480	115,330
Accrued liabilities and other payables	3,497,532	2,114,258
<b>Total Current Liabilities</b>	<u>13,540,791</u>	<u>21,767,056</u>
Due to third parties-long term	3,395,861	-
Lease liabilities-non-current	1,259,958	223,291
<b>Total Liabilities</b>	<u>18,196,610</u>	<u>21,990,347</u>
<b>Stockholders' Equity</b>		
Common stock, \$0.24 par value, 6,000,000 shares authorized, 1,217,906 and 266,640 shares issued and outstanding as of December 31, 2022 and 2021, respectively*	292,299	63,995
Additional paid-in capital	79,454,309	69,566,786
Statutory reserves	7,490,398	6,874,614
Retained earnings	39,090,079	36,684,794
Accumulated other comprehensive (loss) income	(8,242,727)	1,071,149
<b>Total Stockholders' Equity attributable to the Company</b>	<u>118,084,358</u>	<u>114,261,338</u>
Noncontrolling interest	(2,148,964)	(1,724,627)
<b>Total Stockholders' Equity</b>	<u>115,935,394</u>	<u>112,536,711</u>
<b>Total Liabilities and Stockholders' Equity</b>	<u>\$ 134,132,004</u>	<u>\$ 134,527,058</u>

\*Retroactively restated for one-for-twenty-four reverse split with effective date of November 9, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

**Tantech Holdings Ltd and Subsidiaries**  
**Consolidated Statements of Income (Loss) and Comprehensive Loss**

	For the Years Ended December 31,		
	2022	2021	2020
<b>Revenues</b>	\$ 53,490,294	\$ 55,263,673	\$ 42,283,670
Cost of revenues	43,397,756	44,832,347	37,807,297
<b>Gross Profit</b>	<u>10,092,538</u>	<u>10,431,326</u>	<u>4,476,373</u>
<b>Operating expenses</b>			
Selling expenses	278,013	221,364	977,201
General and administrative expenses	5,013,933	8,831,407	955,210
Share based compensation	-	1,840,000	-
Impairment of goodwill and intangible asset	-	-	11,998,606
Research and development expenses	227,829	8,053,400	890,316
<b>Total operating expenses</b>	<u>5,519,775</u>	<u>18,946,171</u>	<u>14,821,333</u>
<b>Income (loss) from operations</b>	<u>4,572,763</u>	<u>(8,514,845)</u>	<u>(10,344,960)</u>
<b>Other income (expenses)</b>			
Interest income	208,142	117,735	50,732
Interest expense	(602,037)	(740,400)	(300,125)
Financing interest income	1,400,227	-	-
Rental income from related party	89,039	117,958	-
Gain from sale property to a related party	-	545,874	-
Other income (loss), net	60,031	210,176	(39,530)
<b>Total other (expenses) income</b>	<u>1,155,402</u>	<u>251,343</u>	<u>(288,923)</u>
<b>Income (loss) before income tax</b>	5,728,165	(8,263,502)	(10,633,883)
<b>Income tax provision (benefit)</b>	3,141,969	2,429,480	(611,655)
<b>Net income (loss)</b>	2,586,196	(10,692,982)	(10,022,228)
Less: net loss attributable to noncontrolling interest	(434,873)	(2,334,853)	(3,501,808)
<b>Net income (loss) attributable to common stockholders of Tantech Holdings Ltd</b>	<u>\$ 3,021,069</u>	<u>\$ (8,358,129)</u>	<u>\$ (6,520,420)</u>
<b>Net income (loss)</b>	2,586,196	(10,692,982)	(10,022,228)
<b>Other comprehensive income (loss):</b>			
Foreign currency translation adjustment	(9,303,340)	2,535,599	5,892,311
<b>Comprehensive loss</b>	(6,717,144)	(8,157,383)	(4,129,917)
Less: Comprehensive loss attributable to noncontrolling interest	(424,337)	(2,363,473)	(3,707,370)
<b>Comprehensive loss attributable to common stockholders of Tantech Holdings Ltd</b>	<u>\$ (6,292,807)</u>	<u>\$ (5,793,910)</u>	<u>\$ (422,547)</u>
<b>Earnings (loss) per share - Basic and Diluted*</b>			
Basic	\$ 3.03	\$ (48.35)	\$ (52.93)
Diluted	\$ 3.00	\$ (48.35)	\$ (52.93)
<b>Weighted Average Shares Outstanding</b>			
Basic	996,934	172,864	123,193
Diluted	<u>1,006,169</u>	<u>172,864</u>	<u>123,193</u>

\*Retroactively restated for one-for-twenty-four reverse split with effective date of November 9, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

**Tantech Holdings Ltd and Subsidiaries**  
**Consolidated Statements of Stockholders' Equity**

	Common Stock		Additional Paid in Capital	Accumulated Other Comprehensive Income (loss)	Statutory Reserves	Retained Earnings	Non Controlling Interest	Total Stockholders' Equity
	Shares*	Amount						
<b>Balance at January 1, 2020</b>	120,218	\$ 28,853	\$ 39,310,178	\$ (7,590,943)	\$ 6,379,276	\$ 52,058,681	\$ 4,346,216	\$ 94,532,261
Issuance of common stock for private placement	25,253	6,061	9,048,939	-	-	-	-	9,055,000
Exercise of 2017 warrants	3,935	945	(713)	-	-	-	-	232
Issuance of common stock for service	148	35	33,777	-	-	-	-	33,812
Foreign currency translation adjustment	-	-	-	6,097,873	-	-	(205,562)	5,892,311
Appropriation of retained earnings to statutory reserve fund	-	-	-	-	58,230	(58,230)	-	-
Net loss	-	-	-	-	-	(6,520,420)	(3,501,808)	(10,022,228)
<b>Balance at December 31, 2020</b>	149,554	\$ 35,894	\$ 48,392,181	\$ (1,493,070)	\$ 6,437,506	\$ 45,480,031	\$ 638,846	\$ 99,491,388
Issuance of common stock for private placement	110,419	26,501	19,336,205	-	-	-	-	19,362,706
Issuance of common stock for compensation	6,667	1,600	1,838,400	-	-	-	-	1,840,000
Appropriation of retained earnings to statutory reserve fund	-	-	-	-	437,108	(437,108)	-	-
Foreign currency translation adjustment	-	-	-	2,564,219	-	-	(28,620)	2,535,599
Net loss	-	-	-	-	-	(8,358,129)	(2,334,853)	(10,692,982)
<b>Balance at December 31, 2021</b>	266,640	\$ 63,995	\$ 69,566,786	\$ 1,071,149	\$ 6,874,614	\$ 36,684,794	\$ (1,724,627)	\$ 112,536,711
Issuance of common stock for private placement	953,333	228,800	9,891,600	-	-	-	-	10,120,400
Cancellation of common stock due to reverse split	(2,067)	(496)	(4,077)	-	-	-	-	(4,573)
Foreign currency translation adjustment	-	-	-	(9,313,876)	-	-	10,536	(9,303,340)
Appropriation of retained earnings to statutory reserve fund	-	-	-	-	615,784	(615,784)	-	-
Net income	-	-	-	-	-	3,021,069	(434,873)	2,586,196
<b>Balance at December 31, 2022</b>	<b>1,217,906</b>	<b>\$ 292,299</b>	<b>\$ 79,454,309</b>	<b>\$ (8,242,727)</b>	<b>\$ 7,490,398</b>	<b>\$ 39,090,079</b>	<b>\$ (2,148,964)</b>	<b>\$ 115,935,394</b>

\*Retroactively restated for one-for-twenty-four reverse split with effective date of November 9, 2022.

The accompanying notes are an integral part of these consolidated financial statements.

**Tantech Holdings Ltd and Subsidiaries**  
**Consolidated Statements of Cash Flows**

	For the Years Ended December 31,		
	2022	2021	2020
<b>Cash flows from operating activities</b>			
Net income (loss)	\$ 2,586,196	\$ (10,692,982)	\$ (10,022,228)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Allowance (reversal of) for doubtful accounts - accounts receivable	738,922	(52,789)	(845,416)
Allowance for (reversal of) doubtful accounts - advance to suppliers	49,038	(142,799)	(378,233)
Write off manufacturing rebate receivable	-	5,819,059	-
Reversal of for doubtful accounts - other receivables	-	-	(84,573)
Share based compensation	-	1,840,000	-
Inventory reserve	51,676	359,501	92,064
Impairment of goodwill and intangible asset	-	-	11,998,606
Decrease in deferred tax liability	-	-	(1,799,791)
Depreciation expense	344,852	444,462	436,427
Amortization of intangible asset	8,356	472,140	441,489
Amortization of right of use assets	347,127	44,964	-
(Gain) Loss from disposal of property, plant and equipment	(6,291)	(545,844)	68,614
Issuance of common stock for service	-	-	33,812
Contingent liability	-	535,389	-
<b>Changes in operating assets and liabilities:</b>			
Accounts receivable - non-related party	673,738	(9,573,463)	8,024,036
Advances to suppliers	1,885,042	3,694,066	7,093,022
Advances to suppliers - related party	-	1,550,000	(1,448,000)
Inventory	43,811	(737,552)	(125,492)
Prepaid expenses and other receivables	(296,077)	(768,288)	133,768
Manufacturing rebate receivable	-	-	2,374,720
Accounts payable	671,669	(16,266)	(206,261)
Accrued liabilities and other payables	1,560,046	(323,441)	313,552
Customer deposits	(1,518,851)	318,875	(3,792,409)
Lease liabilities	(366,772)	(19,824)	-
Taxes payable	1,520,519	(295,666)	1,863,853
<b>Net cash provided by (used in) operating activities</b>	<b>8,293,001</b>	<b>(8,090,458)</b>	<b>14,171,560</b>
<b>Cash flows from investing activities</b>			
Acquisition of property, plant and equipment	(79,273)	(220,308)	(144,806)
Proceeds from disposal of property, plant and equipment	35,792	748,612	21,842
Additions to intangible assets	(2,692)	(4,220)	-
Financing receivable	(44,953,234)	-	-
<b>Net cash (used in) provided by investing activities</b>	<b>(44,999,407)</b>	<b>524,084</b>	<b>(122,964)</b>
<b>Cash flows from financing activities</b>			
Proceeds from loans from third parties	-	6,917,589	-
Repayment of loans from third parties	(3,151,786)	(310,000)	-
Bank acceptance notes payable, net of repayment	-	(1,772,550)	1,448,667
Cancellation of common stock due to reverse split	(4,573)	-	-
Proceeds from bank loans	3,875,478	7,774,800	9,568,384
Repayment of bank loans	(4,618,488)	(8,738,900)	(11,230,688)
Proceeds from (repayment of) loans from related parties, net	9,071,272	(10,428,196)	98,474
Proceeds from issuance of common stock and warrants	10,120,400	19,362,706	9,055,232
<b>Net cash provided by financing activities</b>	<b>15,292,303</b>	<b>12,805,449</b>	<b>8,940,069</b>
Effect of exchange rate changes on cash, restricted cash and cash equivalents	(3,171,267)	988,502	1,704,662
<b>Net (decrease) increase in cash, restricted cash and cash equivalents</b>	<b>(24,585,370)</b>	<b>6,227,577</b>	<b>24,693,327</b>
<b>Cash, restricted cash and cash equivalents, beginning of year</b>	<b>43,566,881</b>	<b>37,339,304</b>	<b>12,645,977</b>
<b>Cash, restricted cash and cash equivalents, end of year</b>	<b>\$ 18,981,511</b>	<b>\$ 43,566,881</b>	<b>\$ 37,339,304</b>
<b>Supplemental disclosure information:</b>			
Income taxes paid	\$ 2,590,282	\$ 2,278,134	\$ 436,566
Interest paid	\$ 474,579	\$ 265,248	\$ 308,690

The accompanying notes are an integral part of these consolidated financial statements.



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**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1 - Organization and Nature of Business**

Tantech Holdings Ltd (“Tantech” or “Tantech BVI”) is a holding company established under the laws of the British Virgin Islands on November 9, 2010. Tantech engages in the research and development, production and distribution of various products made from bamboo, manufacture and selling electric vehicles and non-electric vehicles, as well as investment in mining exploration. On August 3, 2021, Tantech completed dismantling its VIE structure. As of December 31, 2022, details of the subsidiaries of the Company and their principal business activities are set out below:

Name of Entity	Date of Incorporation	Place of Incorporation	% of Ownership	Principal Activities
Tantech Holdings Ltd (“Tantech” or “Tantech BVI”)	November 9, 2010	BVI	Parent	Holding Company
USCNHK Group Limited (“USCNHK”)	October 17, 2008	Hong Kong	100% by the Parent	Holding Company
EAG International Vantage Capitals Limited (“Euroasia”)	April 27, 2015	Hong Kong	100% by the Parent	Holding Company
EPakia Inc. (“EPakia”)	May 19, 2022	United States	100% by the Parent	Biodegradable packaging business
EPakia Canada Inc. (“EPakia Canada”)	July 12, 2022	Canada	100% by the Parent	Biodegradable packaging business
Tantech Holdings (Lishui) Co. Ltd. (“Lishui Tantech”)	April 7, 2016	Lishui, Zhejiang Province, China	100% by USCNHK	Holding Company
Euroasia New Energy Automotive (Jiangsu) Co. Ltd. (“Euroasia New Energy”)	October 24, 2017	Zhangjia Gang, Jiangsu Province, China	100% by Euroasia	Holding Company
Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”)	July 14, 2015	Shanghai, China	100% by Euroasia	Holding Company
Hangzhou Wangbo Investment Management Co., Ltd (“Wangbo”)	February 2, 2016	Hangzhou, Zhejiang Province, China	100% by Jiamu	Holding Company
Hangzhou Jiye Investment Management Co., Ltd (“Jiye”)	February 2, 2016	Hangzhou, Zhejiang Province, China	100% by Jiamu	Holding Company
Shangchi Automobile Co., Ltd. (“Shangchi Automobile”)	Acquired on July 12, 2017	Zhangjia Gang, Jiangsu Province, China	51% by Wangbo and 19% by Jiye	Manufacturing and sale of specialty electric and non-electric vehicles and power batteries
Shenzhen Yimao New Energy Sales Co., Ltd. (“Shenzhen Yimao”)	November 13, 2018	Shenzhen, Guangdong Province, China	100% by Shangchi Automobile	Electric vehicles sales
Lishui Xincai Industrial Co., Ltd. (“Lishui Xincai”)	December 14, 2017	Lishui, Zhejiang Province, China	100% by Lishui Tantech	Holding Company
Zhejiang Tantech Bamboo Charcoal Co., Ltd. (“Tantech Charcoal”)	September 5, 2002	Lishui, Zhejiang Province, China	100% by Lishui Xincai	Manufacturing, selling and trading various products made from bamboo and charcoal
Lishui Jikang Energy Technology Co., Ltd. (“Jikang Energy”)	January 2, 2020	Lishui, Zhejiang Province, China	100% by Lishui Xincai	Holding Company
Hangzhou Tanbo Tech Co., Ltd. (“Tanbo Tech”)	December 8, 2015	Hangzhou, Zhejiang Province, China	100% by Lishui Xincai	Exploring business opportunities outside Lishui area
Zhejiang Tantech Bamboo Technology Co., Ltd. (“Tantech Bamboo”)	December 31, 2005	Lishui, Zhejiang Province, China	100% by Jikang Energy	Manufacturing and sale of various products made from bamboo
Zhejiang Shangchi New Energy Automobile Co., Ltd. (“Zhejiang Shangchi”)	November 12, 2020	Lishui, Zhejiang Province, China	100% by Lishui Tantech	Sales of automobiles
Lishui Smart New Energy Automobile Co., Ltd. (“Lishui Smart”)	November 16, 2020	Lishui, Zhejiang Province, China	100% by Lishui Tantech	Research, development and manufacturing new energy automobiles
Gangyu Trading (Jiangsu) Co., Ltd. (“Gangyu Trading”)	August 10, 2021	Zhangjiagang Jiangsu Province, China	100% by Euroasia New Energy	Marketing and selling electric vehicles
Shangchi (Zhejiang) Intelligent Equipment Co., Ltd. (“Shangchi Intelligent Equipment”)	August 26, 2021	Pinghu Zhejiang Province, China	100% by Euroasia	Manufacturing and sales company focusing on new energy vehicles
Shanghai Wangju Industrial Group Co., Ltd. (“Shanghai Wangju”)	September 23, 2021	Shanghai, China	100% by Jiamu	Investing in the factoring industry
Eurasia Holdings (Zhejiang) Co., Ltd. (“Eurasia Holdings”)	July 15, 2021	Hangzhou Zhejiang province, China	100% by Euroasia	Marketing and selling electric vehicles

Hangzhou Eurasia Supply Chain Co., Ltd. ("Eurasia Supply")	August 4 2021	Hangzhou Zhejiang province, China	100% by Eurasia Holdings	Supply chain business
Zhejiang Shangchi Medical Equipment Co., Ltd. ("Shangchi Medical")	November 13, 2021	Pinghu Zhejiang Province, China	100% by Shangchi Intelligent Equipment	Manufacturing and sales company focusing on new energy vehicles
Shenzhen Shangdong Trading Co., Ltd. ("Shenzhen Shangdong")	July 13, 2016	Shenzhen Guangdong Province, China	100% by Shanghai Wangju	Investing in the factoring industry
China East Trade Co., Ltd. ("China East")	February 15, 2018	Hong Kong	100% by Euroasia	Investing in the factoring industry
First International Commercial Factoring (Shenzhen) Co., Ltd. ("First International")	July 27, 2017	Shenzhen Guangdong Province, China	75% by Shenzhen Shangdong 25% by China East	Investing in the factoring industry

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**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies**

Principal of Consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"). The consolidated financial statements include the financial statements of Tantech BVI and its subsidiaries (collectively, the "Company"). All significant inter-company balances and transactions are eliminated upon consolidation.

Non-controlling interest

Non-controlling interest represents 30% of the equity interest in Shangchi Automobile and its subsidiary Shenzhen Yimao owned by Zhangjiagang Jinke Chuangtou Co., Ltd., which is not under the Company's control.

Use of Estimates

In preparing the consolidated financial statements in conformity with US GAAP, management makes estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the dates of the consolidated financial statements, as well as the reported amounts of revenues and expenses during the reporting year. Significant items subject to such estimates and assumptions include the fair value estimates used in the useful lives of property and equipment and intangible assets, allowances pertaining to the allowance for doubtful accounts of accounts receivable, advance to suppliers and other receivables, the valuation of inventories, the impairment of long-lived assets, the realizability of deferred tax assets, right-of-use assets and lease liabilities.

Fair Value of Financial Instruments

The Financial Accounting Standards Board's ("FASB") Accounting Standards Codification ("ASC") Topic 820, "Fair Value Measurements", defines fair value, establishes a three-level valuation hierarchy for fair value measurements and enhances disclosure requirements.

The three levels are defined as follows:

Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted market prices for identical or similar assets in markets that are not active, inputs other than quoted prices that are observable, and inputs derived from or corroborated by observable market data.

Level 3 - inputs to the valuation methodology are unobservable.

Unless otherwise disclosed, the fair value of the Company's financial instruments including cash, restricted cash, accounts receivable, advances to suppliers, other receivables, accounts payable, customer deposits, accrued expenses, short term bank loans and bank acceptance notes payable approximates their recorded values due to their short-term maturities.

Cash and cash equivalents

For purposes of the statements of cash flows, the Company considers all highly liquid instruments purchased with an original maturity of three months or less and money market accounts to be cash equivalents. All cash balances are in bank accounts in PRC and are not insured by the Federal Deposit Insurance Corporation or other programs.

Restricted Cash

As of December 31, 2022 and 2021, the Company's restricted cash represents the cash of \$4,827 and \$422,832 remains frozen in the bank accounts of one of the Company's subsidiaries as the result of the ongoing lawsuit filed by Mr. Hengwei Chen to against the Company (see Note 12).

**TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Concentrations of credit risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist principally of cash, trade accounts receivable and advances to suppliers. All of the Company's cash is maintained with banks within the People's Republic of China of which no deposits are covered by insurance. The Company has not experienced any losses in such accounts. A significant portion of the Company's sales are credit sales which are primarily to customers whose ability to pay is dependent upon the industry economics prevailing in these areas. The Company also makes cash advances to certain suppliers to ensure the stable supply of key raw materials. The Company performs ongoing credit evaluations of its customers and key suppliers to help further reduce credit risk.

Accounts receivable

Accounts receivable are presented at invoiced amount net of an allowance for doubtful accounts. The Company maintains an allowance for doubtful accounts for estimated losses. The Company reviews its accounts receivable on a periodic basis and makes general and specific allowances when there is doubt as to the collectability of individual balances. In evaluating the collectability of individual receivable balances, the Company considers many factors, including the age of the balance, customer's payment history, its current credit-worthiness and current economic trends. Accounts are written off after efforts at collection prove unsuccessful.

Financing receivable

Financing receivables represent receivables arising from the Company's factoring business. Financing receivables are measured at amortized cost and reported on the consolidated balance sheets based on the outstanding principal adjusted for any write-off, and the allowance. Amortized cost of a financing receivables is equal to the unpaid principal balance plus interest receivable. The Company recognizes financial interest income over the terms of the financing receivables using the effective interest rate method.

Inventory

The Company values its inventories at the lower of cost, determined on a weighted average basis, or net realizable value. The Company reviews its inventories periodically to determine if any markdown is necessary for potential obsolescence or if a write-down is necessary if the carrying value exceeds net realizable value.

Advances to suppliers

In order to ensure a steady supply of raw materials, the Company is required from time to time to make cash advances when placing its purchase orders. The Company reviews its advances to suppliers on a periodic basis and makes general and specific allowances when there is doubt as to the ability of a supplier to refund an advance or provide supplies to the Company.

Property and Equipment and Construction in Progress

Property and equipment are stated at cost less accumulated depreciation. The cost of an asset comprises its purchase price and any directly attributable costs of bringing the asset to its present working condition and location for its intended use.

Depreciation is computed on a straight-line basis over the estimated useful lives of the related assets. The estimated useful lives for significant property and equipment are as follows:

Buildings	20 years
Machinery and equipment	5 - 10 years
Transportation equipment	4 - 5 years
Office equipment	4 - 5 years
Electronic equipment	3 - 5 years

Repairs and maintenance costs are normally charged to earnings in the year in which they are incurred. In situations where it can be clearly demonstrated that the expenditure has resulted in an increase in the future economic benefits expected to be obtained from the use of the asset, the expenditure is capitalized as an additional cost of the asset.

Construction in progress includes direct costs of construction or acquisition of equipment, interest expense associated with the loans used for the construction and design fees incurred. Capitalization of these costs ceases and the construction in progress is transferred to plant and equipment when substantially all the activities necessary to prepare the assets for their intended use are completed. No depreciation is provided until it is completed and ready for its intended use.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Intangible assets

Intangible assets are acquired individually or as part of a group of assets, and are initially recorded at cost. The cost of a group of assets acquired in a transaction is allocated to the individual assets based on their relative fair values. Intangible assets are carried at cost less accumulated amortization and any recorded impairment. Intangible assets with finite useful lives are amortized using a straight-line method over the period of estimated useful life. The estimated useful lives of the Company's intangible assets are as follows:

	<u>Estimated Useful Life</u>
Licenses and permits	Indefinite
Software	5 - 10 years
Land use right	50 years
Patents	10 years

The Company evaluates intangible assets for impairment whenever events or changes in circumstances indicate that the assets might be impaired.

Long term investments

The Company accounts for investment in equity investees over which it has significant influence but does not own a majority of the equity interest or lack of control using the equity method. For investment in equity investees over which the Company does not have significant influence or the underlying shares the Company invested in are not considered in-substance common stock and have no readily determinable fair value, the cost method accounting is applied.

The Company records the equity method investments at historical cost and subsequently adjusts the carrying amount each period for share of the earnings or losses of the investee and other adjustments required by the equity method of accounting. Dividends received from the equity method investments are recorded as reductions in the cost of such investments. The Company records the cost method investments at cost minus impairment adjusted by observable price changes in orderly transactions for the identical or a similar investment of the same issuer as of the date that the observable transaction occurred, and subsequently record any dividends received from the net accumulated earnings of the investee as income. Dividends received in excess of earnings are considered a return of investment and are recorded as reductions in the cost of the investments.

Investment in equity investees are evaluated for impairment when facts or circumstances indicate that the fair value of the investment is less than its carrying value. An impairment is recognized when a decline in fair value is determined to be other-than-temporary. The Company reviews several factors to determine whether a loss is other-than-temporary. These factors include, but are not limited to, the: (i) nature of the investment; (ii) cause and duration of the impairment; (iii) extent to which fair value is less than cost; (iv) financial condition and near term prospects of the investments; and (v) ability to hold the security for a period of time sufficient to allow for any anticipated recovery in fair value.

Impairment of Long-Lived Assets

The Company evaluates its long-lived assets for impairment whenever events or changes in circumstances, such as a significant adverse change to market conditions that will impact the future use of the assets, indicate that the carrying amount of an asset may not be fully recoverable. When these events occur, the Company evaluates the recoverability of long-lived assets by comparing the carrying amount of the assets to the future undiscounted cash flows expected to result from the use of the assets and their eventual disposition. If the sum of the expected undiscounted cash flows is less than the carrying amount of the assets, the Company recognizes an impairment loss based on the excess of the carrying amount of the assets over their fair value. Fair value is generally determined by discounting the cash flows expected to be generated by the assets, when the market prices are not readily available.

Customer Deposits

Customer deposits represent amounts received from customers in advance of shipments relating to the sales of the Company's products.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Loan Payable to Third Parties

Loan payable to third parties represent amounts the Company borrowed from third parties for working capital purpose. On December 17, 2021, the Company borrowed \$7.0 million from two third parties, the amounts are unsecured with interest rate 6% per annum and with one year term from December 17, 2021 to December 16, 2022, the balance was \$3,395,861 as of December 16, 2022, the remaining balance was extended to December 15, 2024 interest rate 6% per annum. If the Company fails to repay the debt, the Company shall pay the third parties for the liquidated damages at the rate of thousandths of the amount in arrears per day, and also compensate the legal costs, execution fees, etc. incurred in realizing the creditor's rights.

Leases

In February 2016, the Financial Accounting Standards Board ("FASB") issued ASU No. 2016-02, Leases (Topic 842). The standard requires lessees to recognize lease assets and lease liabilities on the balance sheet and requires expanded disclosures about leasing arrangements. The new standard establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than 12 months.

The Company adopted ASC 842 on January 1, 2019 on a modified retrospective basis and elected the practical expedients permitted under the transition guidance, which allows the Company to carryforward the historical lease classification, the assessment on whether a contract is or contains a lease, and the initial direct costs for any leases that exist prior to adoption of the new standard. Leases with an initial term of 12 months or less are not recognized on the balance sheet and the associated lease payments are included in the consolidated statements of comprehensive income (loss) on a straight-line basis over the lease term. The standard did not materially impact our consolidated net earnings and cash flows.

Revenue Recognition

The Company adopted ASC Topic 606 Revenue from Contracts with Customers ("ASC 606") on January 1, 2018 using the modified retrospective approach. There is no adjustment to the opening balance of retained earnings at January 1, 2018 since there was no change to the timing and pattern of revenue recognition upon adoption of ASC 606. Under ASC 606, revenue is recognized when control of promised goods or services is transferred to the Company's customers in an amount of consideration to which an entity expects to be entitled to in exchange for those goods or services. The Company's revenues are primarily derived from the following sources:

**Sales of products:** The Company recognizes sales revenue, net of sales taxes and estimated sales returns, at the time the product is delivered to the customer and control is transferred (point of sale).

For the Company's electric vehicles sales contracts, the Company provides a warranty for 12 months from the products are delivered. The Company determines such product warranty is an assurance-type warranty and is not a separated performance obligation in revenue recognition, because the nature of warranty is to provide assurance that a product will function as expected and in accordance with customer's specification. The Company estimates the warranty costs when the promised good is delivered to the customer and accrues as warranty liabilities.

**Commission income:** The Company acts as an agent without assuming the risks and rewards of ownership of the goods and reports the revenue on a net basis. Revenue is recognized based on the completion of the contracted service.

**Government manufacturing rebate income:** The Company sells electric vehicles in China and is eligible for a government manufacturing rebate on each qualifying electric vehicle sold. The government manufacturing rebates are recognized as part of revenue when sales are finalized, amount of rebate can be reasonably estimated and collection is assured. The collectability of rebates can be assured as long as the sales are deemed qualifying based on the criteria set by the government.

Revenue is reported net of all value added taxes. The Company does not routinely permit customers to return products and historically, customer returns have been immaterial.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Cost of Revenues

Cost of revenues includes cost of raw materials purchased, inbound freight cost, cost of direct labor, depreciation expense and other overhead. Write-down of inventory for lower of cost or net realizable value adjustments is also recorded in cost of revenues.

Shipping and Handling

Shipping and handling costs are expensed as incurred and included in selling expenses.

Subsidy Income

The Company periodically receives various government grants such as “High Technology Projects Subsidy” and “Scientific Research Grant”. There is no guarantee the Company will continue to receive such grants in the future.

Foreign Currency Translation

The Company’s financial information is presented in U.S. dollars. The functional currency of the Company’s subsidiaries in the PRC is the RMB, the currency of the PRC. Any subsidiary transactions, which are denominated in currencies other than RMB, are translated into RMB at the exchange rate quoted by the People’s Bank of China prevailing at the dates of the transactions, and exchange gains and losses are included in the statements of comprehensive income (loss) as foreign currency transaction gain or loss. The consolidated financial statements of the Company have been translated into U.S. dollars in accordance with ASC 830, “Foreign Currency Matters”. The financial information is first prepared in RMB and then is translated into U.S. dollars at period-end exchange rates for assets and liabilities and average exchange rates for revenue and expenses. Capital accounts are translated at their historical exchange rates when the capital transactions occurred. The effects of foreign currency translation adjustments are included as a component of accumulated other comprehensive income in stockholders’ equity. Cash flows from the Company’s operations are calculated based upon the local currencies using the average translation rate. As a result, amounts related to assets and liabilities reported on the statements of cash flows will not necessarily agree with changes in the corresponding balances on the balance sheets.

The following table outlines the currency exchange rates that were used in creating the consolidated financial statements in this report:

	December 31, 2022		December 31, 2021		December 31, 2020	
US\$: RMB exchange rate	Period End	\$ 0.1450	Period End	\$ 0.1569	Period End	\$ 0.1533
	Average	\$ 0.1486	Average	\$ 0.1550	Average	\$ 0.1448

Research and development costs

Research and development expenses include costs directly attributable to the conduct of research and development projects, including the cost of salaries and other employee benefits, testing expenses, consumable equipment and consulting fees prior to the establishment of technological feasibility. All costs associated with research and development are expensed as incurred.

Comprehensive Income (loss)

Comprehensive income (loss) consists of two components, net income (loss) and other comprehensive income (loss). Other comprehensive income (loss) refers to revenue, expenses, gains and losses that under GAAP are recorded as an element of stockholders’ equity but are excluded from net income (loss). Other comprehensive income (loss) consists of foreign currency translation adjustment from those subsidiaries not using the U.S. dollar as their functional currency.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Income Taxes

The Company's subsidiaries in China are subject to the income tax laws of the PRC. No taxable income was generated outside the PRC as of December 31, 2022. The Company accounts for income taxes in accordance with ASC 740, "Income Taxes". ASC 740 requires an asset and liability approach for financial accounting and reporting for income taxes and allows recognition and measurement of deferred tax assets based upon the likelihood of realization of tax benefits in future years. Under the asset and liability approach, deferred taxes are provided for the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. A valuation allowance is provided for deferred tax assets if it is more likely than not these items will either expire before the Company is able to realize their benefits, or future deductibility is uncertain.

ASC 740-10-25 prescribes a more-likely-than-not threshold for financial statement recognition and measurement of a tax position taken (or expected to be taken) in a tax return. It also provides guidance on the recognition of income tax assets and liabilities, classification of current and deferred income tax assets and liabilities, accounting for interest and penalties associated with tax positions, years open for tax examination, accounting for income taxes in interim periods and income tax disclosures. The statute of limitation on the PRC tax authority's audit or examination of previously filed tax returns expires three years from the date they were filed. There were no material uncertain tax positions as of December 31, 2022 and 2021.

Value Added Tax ("VAT")

The Company is subject to VAT for selling merchandise. The applicable VAT rate is 11% or 13% or 17% (depending on the type of goods involved) for products sold in the PRC. The applicable VAT rate of 17% and 11% decreased to 16% and 10% starting from May 2018, and further decreased to 13% and 9% from April 1, 2019. The amount of VAT liability is determined by applying the applicable tax rate to the invoiced amount of goods sold (output VAT) less VAT paid on purchases made with the relevant supporting invoices (input VAT). Under the commercial practice of the PRC, the Company pays VAT based on tax invoices issued. The tax invoices may be issued subsequent to the date on which revenue is recognized, and there may be a considerable delay between the date on which the revenue is recognized and the date on which the tax invoice is issued. In the event the PRC tax authorities dispute the date on which revenue is recognized for tax purposes, the PRC tax office has the right to assess a penalty based on the amount of taxes which is determined to be late or deficient, with any penalty being expensed in the period when a determination is made by the tax authorities that a penalty is due. During the reporting periods, the Company had no dispute with PRC tax authorities and there was no tax penalty incurred.

Earnings (loss) per Share ("EPS")

The Company computes earnings (loss) per share ("EPS") in accordance with ASC 260, "Earnings per Share" ("ASC 260"), and SEC Staff Accounting Bulletin No. 98 ("SAB 98"). ASC 260 requires companies with complex capital structures to present basic and diluted EPS. Basic EPS is measured as net income divided by the weighted average common shares outstanding for the period. Diluted EPS is similar to basic EPS but presents the dilutive effect on a per share basis of potential common shares (e.g., convertible securities, options and warrants) as if they had been converted at the beginning of the periods presented, or issuance date, if later. Potential common shares that have an anti-dilutive effect (i.e., those that increase income per share or decrease loss per share) are excluded from the calculation of diluted EPS. As of December 31, 2022 and 2021, the total number of registered and unregistered warrants outstanding both were 27,322 (including 557 were expired on September 27, 2022). For the year ended December 31, 2022, 9,235 warrants were included in diluted income per share since the exercise prices for the warrants were lower than the average market price. For the years ended December 31, 2021 and 2020, no warrants were included in the diluted loss per share as they would be anti-dilutive.

Statement of Cash Flows

In accordance with ASC 230, "Statement of Cash Flows," cash flows from the Company's operations are calculated based upon the local currencies. As a result, amounts related to assets and liabilities reported on the statements of cash flows will not necessarily agree with changes in the corresponding balances on the balance sheets.



**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Risks and Uncertainties

The operations of the Company are located in the PRC. Accordingly, the Company's business, financial condition, and results of operations may be influenced by the political, economic, and legal environments in the PRC, in addition to the general state of the PRC economy. The Company's operating results may be adversely affected by changes in the political and social conditions in the PRC, and by changes in governmental policies with respect to laws and regulations, anti-inflationary measures, currency conversion and remittance abroad, and rates and methods of taxation, among other things.

The Company's sales, purchases and expense transactions are denominated in RMB, and primarily all of the Company's assets and liabilities are also denominated in RMB. The RMB is not freely convertible into foreign currencies under the current law. In China, foreign exchange transactions are required by law to be transacted only by authorized financial institutions at exchange rates set by the People's Bank of China, the central bank of China. Remittances in currencies other than RMB may require certain supporting documentation in order to affect the remittance.

The Company does not carry any business interruption insurance, products liability insurance or any other insurance policy except for a limited property insurance policy. As a result, the Company may incur uninsured losses, increasing the possibility that investors would lose their entire investment in the Company.

COVID-19

The Company's operations were affected by the recent and ongoing outbreak of the coronavirus disease 2019 (COVID-19) which in March 2020, was declared a pandemic by the World Health Organization. The COVID-19 outbreak is causing lockdowns, travel restrictions, and closures of businesses. The Company's business has been negatively impacted by the COVID-19 coronavirus outbreak to certain extent in fiscal 2020.

From late January 2020 to the middle of February 2020, the Company had to temporarily suspend our manufacturing activities due to government restrictions. During the temporary business closure period, our employees had very limited access to our manufacturing facilities and the shipping companies were not available and as a result, the Company experienced difficulty delivering our products to the customers on a timely basis. In addition, due to the COVID-19 outbreak, some of the customers or suppliers may experience financial distress, delay or default on their payments, reduce the scale of their business, or suffer disruptions in their business due to the outbreak. Any increased difficulty in collecting accounts receivable, delayed raw materials supply, bankruptcy of small and medium businesses, or early termination of agreements due to deterioration in economic conditions could negatively impact our results of operations.

As of the date of this filing, the COVID-19 coronavirus outbreak in China appears to be controlled and most provinces and cities have resumed business activities under the guidance and support of the government. In light of the current situation, the Company believes that the impact of the COVID-19 outbreak on the business is both temporary and limited, and that the revenues have started growing again in fiscal 2021 and fiscal 2022. However, there is still significant uncertainty regarding the possibility of another wave of infections, and the breadth and duration of business disruptions related to COVID-19, which could continue to have material impact to the Company's operations.

Recent accounting pronouncements

The Company considers the applicability and impact of all accounting standards updates ("ASUs"). Management periodically reviews new accounting standards that are issued.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments," which requires the Company to measure and recognize expected credit losses for financial assets held and not accounted for at fair value through net income. In November 2018, April 2019 and May 2019, the FASB issued ASU No. 2018-19, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," "ASU No. 2019-04, Codification Improvements to Topic 326, Financial Instruments - Credit Losses," "Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments," and "ASU No. 2019-05, Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief," which provided additional implementation guidance on the previously issued ASU. The ASU is effective for fiscal years beginning after Dec. 15, 2019 for public business entities that meet the definition of an SEC filer, excluding entities eligible to be SRCs as defined by the SEC. All other entities, ASU No. 2016-13 is effective for fiscal years beginning after December 15, 2022. The adoption of this guidance will not have a material impact on the Company's consolidated financial statements.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 2 - Summary of Significant Accounting Policies (continued)**

Recent accounting pronouncements (continued)

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes" (Topic 740): Simplifying the Accounting for Income Taxes ("ASU 2019-12"). ASU 2019-12 will simplify the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. The amendments also improve consistent application of and simplify GAAP for other areas of Topic 740 by clarifying and amending existing guidance. For public business entities, the amendments in this Update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In January 2020, the FASB issued ASU 2020-01, Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) ("ASU 2020-01"), which is intended to clarify the interaction of the accounting for equity securities under Topic 321 and investments accounted for under the equity method of accounting in Topic 323 and the accounting for certain forward contracts and purchased options accounted for under Topic 815. ASU 2020-01 is effective for the Company beginning January 1, 2021. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In May 2021, the FASB issued ASU 2021-04, Earnings Per Share (Topic 260), Debt - Modifications and Extinguishments (Subtopic 470-50), Compensation - Stock Compensation (Topic 718), and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options ("ASU 2021-04"). ASU 2021-04 provides guidance as to how an issuer should account for a modification of the terms or conditions or an exchange of a freestanding equity-classified written call option (i.e., a warrant) that remains classified after modification or exchange as an exchange of the original instrument for a new instrument. An issuer should measure the effect of a modification or exchange as the difference between the fair value of the modified or exchanged warrant and the fair value of that warrant immediately before modification or exchange and then apply a recognition model that comprises four categories of transactions and the corresponding accounting treatment for each category (equity issuance, debt origination, debt modification, and modifications unrelated to equity issuance and debt origination or modification). ASU 2021-04 is effective for all entities for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. An entity should apply the guidance provided in ASU 2021-04 prospectively to modifications or exchanges occurring on or after the effective date. Early adoption is permitted for all entities, including adoption in an interim period. If an entity elects to early adopt ASU 2021-04 in an interim period, the guidance should be applied as of the beginning of the fiscal year that includes that interim period. The Company adopted this guidance and this guidance did not have a material impact on the consolidated financial statements.

In October 2021, the FASB issued ASU No. 2021-08, "Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" ("ASU 2021-08"). This ASU requires entities to apply Topic 606 to recognize and measure contract assets and contract liabilities in a business combination. The amendments improve comparability after the business combination by providing consistent recognition and measurement guidance for revenue contracts with customers acquired in a business combination and revenue contracts with customers not acquired in a business combination. The amendments are effective for the Company beginning after December 15, 2023, and are applied prospectively to business combinations that occur after the effective date. The Company does not expect the adoption of ASU 2021-04 to have a material effect on the consolidated financial statements.

Except for the above-mentioned pronouncements, there are no new recent issued accounting standards that will have material impact on the consolidated financial statements.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****TES TO CONSOLIDATED FINANCIAL STATEMENTS****Note 3 - Accounts Receivable**

Accounts receivable consisted of the following:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Accounts receivable	\$ 44,331,093	\$ 48,680,634
Allowance for doubtful accounts	(4,156,761)	(3,717,708)
Accounts receivable, net	<u>\$ 40,174,332</u>	<u>\$ 44,962,926</u>

The movement of allowance for doubtful accounts are as follows:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Balance at beginning of period	\$ 3,717,708	\$ 3,699,890
Change of allowance for doubtful accounts	738,922	(53,436)
Write off	-	(15,631)
Translation adjustments	(299,869)	86,885
Balance at end of period	<u>\$ 4,156,761</u>	<u>\$ 3,717,708</u>

**Note 4 - Financing Receivable**

The Company's financing receivable was \$43,864,192 and nil as of December 31, 2022 and 2021, respectively. Starting in June, 2022, the Company provided factoring financing service. The financing receivable is secured by pledged accounts receivable with stated owned entities and reputable companies, which has carrying value of \$46,159,268 and is in excess of the financing provided. The term of the financing receivables is generally within 12 months with annual interest of 6.5%. The interest and principal of financing are due upon maturity. The principal and interest receivable of the financing amounted to \$42,412,500 and \$1,451,692 as of December 31, 2022, respectively. For the year ended December 31, 2022, the Company recognized net financing interest income of \$1,400,227.

**Note 5 - Inventory**

Inventory consisted of the following:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Raw materials	\$ 158,093	\$ 542,062
Finished products	351,867	231,836
Work in process	388,726	295,800
Total Inventory	<u>\$ 898,686</u>	<u>\$ 1,069,698</u>

For the years ended December 31, 2022, 2021 and 2020, the Company recorded inventory markdown in the amounts of \$51,676, \$359,501 and \$92,064, respectively.

**Note 6 - Advances to Suppliers**

Advances to Suppliers consisted of the following:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Advances to suppliers	\$ 1,357,625	\$ 3,459,374
Allowance for doubtful accounts	(65,627)	(38,746)
Advances to suppliers, net	<u>\$ 1,291,998</u>	<u>\$ 3,420,628</u>

The movement of allowance for doubtful accounts are as follows:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Balance at beginning of period	\$ 38,746	\$ 179,095
Change of allowance for doubtful accounts	49,038	(144,549)
Write off	(18,030)	(5)
Translation adjustments	(4,127)	4,205
Balance at end of period	<u>\$ 65,627</u>	<u>\$ 38,746</u>

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**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 7 - Property, Plant and Equipment, net**

Property, plant and equipment stated at cost less accumulated depreciation consisted of the following:

	<b>December 31,</b> <b>2022</b>	<b>December 31,</b> <b>2021</b>
Building	\$ 4,831,806	\$ 5,228,347
Machinery and Production equipment	1,214,709	1,307,356
Electronic equipment	193,652	203,305
Office equipment	49,899	48,440
Automobiles	292,251	545,006
Construction in progress	377,300	343,401
Subtotal	6,959,617	7,675,855
Less: Accumulated depreciation	(5,303,175)	(5,571,908)
Property, plant and equipment, net	<u>\$ 1,656,442</u>	<u>\$ 2,103,947</u>

Depreciation expense was \$344,852, \$444,462 and \$436,427 for the years ended December 31, 2022, 2021 and 2020, respectively. As of December 31, 2022 and 2021, building with net book value of \$351,128 and \$588,063 respectively, were pledged as collateral for bank loans (Note 10).

**Note 8 - Intangible Assets, net**

Intangible assets stated at cost less accumulated depreciation amortization consisted of the following:

	<b>December 31,</b> <b>2022</b>	<b>December 31,</b> <b>2021</b>
Software	\$ 31,126	\$ 30,838
Land use rights*	290,606	314,456
Patents	4,350,000	4,707,000
Subtotal	4,671,732	5,052,294
Less: Accumulated amortization	(4,486,910)	(4,846,323)
Intangible assets, net	<u>\$ 184,822</u>	<u>\$ 205,971</u>

\*There is no private ownership of land in China. Land is usually owned by the local government and the government grants land use rights for specified terms. The Company acquired land use rights from the local government in December 2002 for period of 50 years. As of December 31, 2022 and 2021, land use rights with net book value of \$179,207 and \$200,204, respectively, were pledged as collateral for bank loans (Note 10). Amortization expense for intangible assets totaled \$8,356, \$472,140 and \$441,489 for the years ended December 31, 2022, 2021 and 2020, respectively.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 9 - Leases**

Effective January 1, 2019, the Company adopted ASC 842, the new lease accounting standard using a modified retrospective transition method which allowed the Company not to recast comparative periods presented in its consolidated financial statements. In addition, the Company elected the package of practical expedients, which allowed the Company to not reassess whether any existing contracts contain a lease, to not reassess historical lease classification as operating or finance leases, and to not reassess initial direct costs. The Company has not elected the practical expedient to use hindsight to determine the lease term for its leases at transition. The Company combines the lease and non-lease components in determining the ROU assets and related lease obligation. Adoption of this standard resulted in the recording of operating lease ROU assets and corresponding operating lease liabilities as disclosed below and had no impact on retained earnings as of December 31, 2022. ROU assets and related lease obligations are recognized at commencement date based on the present value of remaining lease payments over the lease term.

Supplemental balance sheet information related to operating leases was as follows:

	<b>December 31, 2022</b>	<b>December 31, 2021</b>
Right-of-use assets, net	\$ 1,417,088	\$ 313,172
Operating lease liabilities - current	161,480	115,330
Operating lease liabilities - non-current	1,259,958	223,291
Total operating lease liabilities	<u>\$ 1,421,438</u>	<u>\$ 338,621</u>

The weighted average remaining lease terms and discount rates for all of operating leases were as follows as of December 31, 2022:

Remaining lease term and discount rate:	
Weighted average remaining lease term (years)	8.74
Weighted average discount rate	4.50%

The following is a schedule of maturities of lease liabilities as of December 31, 2022:

Twelve months ending December 31,	
2023	\$ 218,774
2024	205,724
2025	192,674
2026	179,624
2027	179,624
Thereafter	718,493
Total future minimum lease payments	1,694,913
Less: imputed interest	273,475
Total	<u>\$ 1,421,438</u>

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****Note 10 - Short-term Bank Loans**

The Company's short-term bank loans consist of the following:

	December 31, 2022	December 31, 2021
Loan payable to Bank of China Lishui Branch	\$ 2,331,591	\$ 2,679,852
Loan payable to Shanghai Pudong Development ("SPD") Bank Lishui Branch	1,305,000	2,039,700
Total	<u>\$ 3,636,591</u>	<u>\$ 4,719,552</u>

On December 22, 2021, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2,550,044 (RMB17,080,000) for six months with fixed annual interest rate of 4.5%. The purpose of the loan was for purchasing bamboo charcoal materials. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.9 million (RMB25,960,000). The loan was also guaranteed by two related parties, Lishui Juanju Commercial Trade Co., Ltd. ("LJC"), and Forasen Group Co., Ltd., one unrelated third party, Zhejiang Meifeng Tea Industry Co., Ltd., and other three related individuals, Zhengyu Wang, Chairman of the Board and previous CEO of the Company, his wife, Yefang Zhang, and his relative, Aihong Wang. The loan was fully repaid upon maturity.

On December 22, 2022, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2,331,591 (RMB 16,079,936) for one year with fixed annual interest rate of 4.35%. The purpose of the loan was for purchasing bamboo charcoal materials. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.8 million (RMB25,960,000). Zhengyu Wang and his wife, Yefang Zhang pledged personal property as collateral to secure the loan with maximum guaranteed amount up to approximately \$0.2 million (RMB1,140,000). The loan was also guaranteed by two related parties, Lishui Juanju Commercial Trade Co., Ltd. ("LJC"), and Forasen Group Co., Ltd., one unrelated third party, Zhejiang Meifeng Tea Industry Co., Ltd., and other three related individuals, Zhengyu Wang, Chairman of the Board and previous CEO of the Company, his wife, Yefang Zhang, and his relative, Aihong Wang.

On April 1, 2022, Tantech Bamboo entered into a short-term loan agreement with SPD Bank (Lishui Branch) to extend the remaining loan \$1,740,000 (RMB12 million) to March 30, 2023 with fixed interest rate of 3.9%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by three related parties, Zhengyu Wang and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang; a third party, Lishui Zhongyun Mitai Industrial Co., Ltd. The loan was also collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.2 million (RMB29,250,000). The extended loan was fully repaid on September 27, 2022

On September 29, 2022, Tantech Bamboo entered into a short-term loan agreement with SPD (Lishui Branch) to borrow \$1,450,000 (RMB10.0 million) for one year with fixed annual interest rate 3.90%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by three related parties, Zhengyu Wang and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang., and one unrelated third party, Lishui Zhongyun Mitai Industrial Co., Ltd., The loan was also collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.2 million (RMB29,090,000). As of December 31, 2022, the outstanding balance was \$1,305,000 (RMB9.0 million).

As of December 31, 2022, total bank loans payable amounted to \$3,636,591.

On July 2, 2021, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2,679,852 (RMB 17,080,000) for six months with fixed annual interest rate of 4.65%. The purpose of the loan was for purchasing bamboo charcoal materials. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$4.1 million (RMB25,960,000). The loan was also guaranteed by two related parties, Lishui Juanju Commercial Trade Co., Ltd. ("LJC"), and Forasen Group Co., Ltd., one unrelated third party, Zhejiang Meifeng Tea Industry Co., Ltd., and other three related individuals, Zhengyu Wang, Chairman of the Board and previous CEO of the Company, his wife, Yefang Zhang, and his relative, Aihong Wang. The loan was renewed for one year from December 22, 2021 with fixed annual interest rate of 4.5%.

On April 7, 2021, Tantech Bamboo entered into a short-term loan agreement with SPD Bank (Lishui Branch) to borrow \$2,510,400 (RMB 16 million) for one year with fixed annual interest rate of 5.65%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by three related parties, Zhengyu Wang and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang. The loan was also collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.6 million (RMB29,250,000). The Company repaid \$470,700 (RMB 3.0 million) as required during years ended December 31, 2021. The company further repaid \$156,900 (RMB 1 million) subsequently. And the remaining loan was subsequently renewed for another year with new maturity date of March 30, 2023, at a fixed annual interest rate of 3.90%. The renewed loan was guaranteed by one more unrelated third party, Lishui Zhongyun Mitai Industrial Co., Ltd.

As of December 31, 2021, total bank loans payable amounted to \$4,719,552.

For the years ended December 31, 2022, 2021 and 2020, the interest expense related to bank loans was \$188,717, \$265,248 and \$300,125, respectively.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 11 - Related Party Balances and Transactions**

Due from a related party

In October 2021, an aggregated of \$9,852,517 (RMB65,991,404) funds was transferred to an Entrusted Bank Account under Mr. Zhengyu Wang, the Chairman and previous CEO of the Company, for general business-related purpose. Both the fund balance of \$9,852,517 (or RMB65,991,404) and the related banking interest of \$137,816 (or RMB923,079) were transferred back to the Company by April 6, 2022 and the funds was under full custody and control by the Company's treasurer during the above period.

Due to related parties

The balances due to related parties were as follows:

	December 31, 2022	December 31, 2021
Mr. Hengwei Chen and his affiliates *	\$ -	\$ 902,141
Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and previous CEO of the Company until December 6, 2019	857,746	806,556
Mr. Wangfeng Yan, the CEO of the Company since December 7, 2019 and his affiliates	189,766	138,724
Total	<u>\$ 1,047,512</u>	<u>\$ 1,847,421</u>

\*Mr. Hengwei Chen was the former general manager of Shangchi Automobile (formerly known as Suzhou E-Motors). The Company acquired 70% equity interest in Shangchi Automobile and issued 2,500,000 restricted shares of Tantech's common stock the Henglong Chen in connection with the acquisition of Shangchi Automobile. As of December 31, 2021, the amount due to Mr. Hengwei Chen and his affiliates were \$902,141. Mr. Hengwei is no longer considered as a related party and the amount due to Mr. Mr. Hengwei is recorded in the accrued liabilities as of December 31, 2022 (See Note 12).

As of December 31, 2022 2021, the Company borrowed \$857,746 and \$806,556 from Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and previous CEO of the Company, for working capital purpose.

Mr. Wangfeng Yan, the CEO of the Company, and his affiliates, also made advances to the Company. The balance due to Mr. Wangfeng Yan and his affiliates was \$189,766 and \$138,724 as of December 31 2021, respectively. All balances of due to the related parties were unsecured, interest-free and due upon demand.

Disposal of fixed asset to related party

On July 29, 2021, Tantech Bamboo entered into a sales agreement with Xigema Holding Hangzhou Co., Ltd. ("Xigema") to sale part of its real property for an amount of approximately \$0.8 million (RMB4,923,564). Xigema is controlled by Aihong Wang, who is a relative of Mr. Zhengyu Wang.

Lease arrangement with related party

On July 6, 2020, Tantech Bamboo signed a lease agreement with Zhejiang Forasen Food Co., Ltd. ("Forasen Food") to lease part of its production facilities of approximately 1,914 square meters to Forasen Food for ten years with monthly rent of approximately \$5,900 (RMB38,280). Forasen Food is controlled by Ms. Yefang Zhang who is the director of the Company. For the year ended December 31, 2021, the Company recorded rent income of \$68,540 from Forasen Food. This lease agreement was terminated on July 13, 2021.

On July 13, 2021, Tantech Bamboo signed a lease agreement with Zhejiang Nongmi Food Co., Ltd. ("Nongmi Food") to lease part of its production facilities of approximately 1,180 square meters to Nongmi Food for ten years with monthly rent of approximately \$2,300 (RMB15,338). Nongmi Food is controlled by Ms. Yefang Zhang who is the director of the Company. For the years ended December 31, 2022 and 2021, the Company recorded rent income of \$23,001 and \$13,086 from Nongmi Food.

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TANTECH HOLDINGS LTD AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

**Note 11 - Related Party Balances and Transactions (continued)**

On July 13, 2021, Tantech Bamboo signed a lease agreement with Zhejiang Nongmi Biotechnology Co., Ltd. (“Nongmi Biotechnology”) to lease part of its production facilities of approximately 1,914 square meters to Nongmi Biotechnology for ten years with monthly rent of approximately \$5,700 (RMB38,280). Nongmi Biotechnology is controlled by Ms. Yefang Zhang who is the director of the Company. For the years ended December 31, 2022 and 2021, the Company recorded rent income of \$66,038 and \$36,332 from Nongmi Biotechnology.

Guaranty provided by related parties

The Company’s major shareholder Mr. Zhengyu Wang, his wife Ms. Yefang Zhang and his relative Ms. Aihong Wang, as well as related party entities controlled by Mr. Wang, and LJC the company controlled by the CEO, Mr. Wangfeng Yan provided guarantees to the Company’s bank loans (See Note 10).

Guaranty provided for related parties

In July 2020, Tantech Bamboo provided a guarantee with Bank of China Lishui Branch for Forasen Food for maximum amount of approximately \$1.5 million (RMB10 million) by pledging certain land and building as the collateral for the loan. The guarantee will expire on July 8, 2023. Forasen Food is controlled by Ms. Yefang Zhang who is the Company’s director.

**Note 12 - Commitments and Contingencies**

Operating leases

On November 13, 2020, Luishui Smart leased factory facilities and office space from Tantech Energy under operating leases for five years from November 13, 2020 to November 12 2025 with annual rent of approximately \$26,700 (RMB180,000).

Shangchi Automobile leased certain factory facilities under operating leases through August 9, 2022. The annual rent under operating lease agreement was approximately \$149,000 (RMB1 million). On August 10, 2022, Shangchi Automobile renewed the operating lease agreement with the landlord to January 31, 2023, with annual rent of approximately \$71,000 (RMB476,712).

Shenzhen Yimao signed operating lease agreement for office space for one year from November 23, 2020 to November 22, 2021 with annual rent of approximately \$6,600 (RMB44,352). On January 17, 2022, the lease agreement was renewed for another year until January 16, 2023 with annual rent of approximately \$68,600 (RMB44,352), this agreement was terminated on January 16, 2023

On October 15, 2021, Jiamu signed a new operating lease agreement for office space for one year from October 20, 2021 to October 19, 2024 with annual rent of approximately \$88,000 (RMB594,895). the lease agreement was terminated on November 4, 2022

Tantech Charcoal leased factory facilities and office space from Tantech Energy under operating leases for ten years from January 1, 2022 to December 31, 2031 with annual rent of approximately \$184,000 (RMB1,238,784).

On April 18, 2022, Tantech signed a new operating lease agreement for office space for one year from April 18, 2022 to April 30, 2023, with annual rent of \$76,680.

The rental expense for the years ended December 31, 2022 2021 and 2020 were \$420,235, \$427,493 and \$299,562, respectively.

Contingencies

On March 23, 2021, Mr. Hengwei Chen filed a lawsuit against Shangchi Automobile and the Company for a debt dispute of approximately \$1.6 million (RMB11.35 million). Mr. Chen was the former general manager of Shangchi Automobile before the Company acquired Shangchi Automobile in 2017. On December 15, 2021, the Court ordered Shangchi Automobile to pay Mr. Hengwei Chen approximately \$1.3 million (RMB8.95 million). The Company filed an appeal on January 4, 2022, but the Court made the final judgement to maintain the original ruling on June 29, 2022. The Company recorded the disputed amount and further accrued interest of \$0.6 million (RMB4.3 million) in the accrued liabilities based on the best estimate of the management as of December 31, 2022. On September 7, 2022, the Court issued an order to freeze the disputed amount of total \$1.3 million (RMB8.7 million) in the Company’s certain bank accounts to enforce the execution. As of the date of this filing, the Company has paid \$23,760 (RMB163,862)



**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 13 - Stockholders' Equity**

Share Consolidation

On February 24, 2022, the Company's Board approved a share consolidation of the Company's common shares at the ratio of one-for-ten reverse split with the effective date of February 25, 2022. The objective of the share consolidation is to enable the company to regain compliance with NASDAQ Marketplace Rule 5550(a) (2) and maintain its listing on Nasdaq.

As a result of the share consolidation, each 10 common shares outstanding automatically combines and converts to one issued and outstanding common share without any action on the part of the shareholder. The share consolidation reduces the number of common shares issued and outstanding from 63,994,606 to 6,399,460. The authorized number of common shares will be reduced by the same one-for-ten ratio from 600 million to 60 million.

On October 28, 2022, the Company's Board approved a share consolidation of the Company's common shares at the ratio of one-for-twenty-four reverse split with the effective date of November 9, 2022. The objective of the share consolidation is to enable the company to regain compliance with NASDAQ Marketplace Rule 5550(a)(2) and maintain its listing on Nasdaq.

As a result of the share consolidation, each 24 common shares outstanding automatically combines and converts to one issued and outstanding common share without any action on the part of the shareholder. The share consolidation reduces the number of common shares issued and outstanding from 29,278,601 to 1,219,937. The authorized number of common shares will be reduced by the same one-for-twenty-four ratio from 60 million to 2.5 million.

All share information included in the consolidated financial statements and notes thereto have been retroactively adjusted for the one-for-ten reverse split and one-for-twenty-four reverse split occurred on the first day of the first period presented.

Issuance of common shares

On March 23, 2020, the Company issued 148 common shares to an individual for consulting services provided for the period from September 2019 to February 2020, which were valued at \$33,812 based on the quoted market price at issuance.

On November 24, 2020, the Company completed an offering of 25,253 common shares at an offering price of \$396.0 per share. The gross proceeds were approximately \$10 million before deducting placement agent's commission and other offering expenses, resulting in net proceeds of approximately \$9.1 million.

On May 18, 2021, the Company issued 6,667 common shares to its employees under the Company's 2014 Share Incentive Plan, which were valued at \$1.84 million based on the quoted market price at issuance.

On June 7, 2021, the Company completed an offering of 22,417 common shares at an offering price of \$312.0 per share for total net proceeds of \$6,939,000 after deducting legal costs related to the offering.

On July 15, 2021, the Company increased its authorized shares from 208,333 to 2,500,000 shares.

On December 6, 2021, the Company completed an offering of 88,002 common shares at an offering price of \$156.0 per share for total net proceeds of \$12,423,706 after deducting legal costs related to the offering.

On March 14, 2022, the Company paid cash to certain minor shareholders and cancelled 36 shares due to reverse split reconciliation.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 13 - Stockholders' Equity (continued)**

On March 18, 2022, the Company completed an offering of 833,333 common shares at an offering price of \$12.0 per share for total net proceeds of \$8,825,000 after deducting legal costs related to the offering. In addition, the Company granted the underwriters a 45-day option to purchase an additional 15% of common shares at the public offering price to cover over-allotments, if any. On March 22, 2022, the underwriter of the Offering exercised its Over-allotment Option to purchase an additional 120,000 common shares at a price of \$12.0 per common share, for total net proceeds of \$1,295,400 after deducting legal costs related to the offering.

September 2017 Offering Warrants

In connection with the offering closed in September 2017, the Company registered and issued warrants to purchase an aggregate of 4,492 common shares, consisting of 3,940 common shares exercisable underlying investor warrants and 552 common shares exercisable underlying placement agent warrants. All warrants carry a term of 5 years. The initial exercise price of the investor warrants and the placement agent warrants was \$1,020.0 per share and \$1,122.0 per share, respectively. The investor warrants can be exercisable immediately as of the date of issuance. The placement agent warrants are not exercisable for a period of 180 days after the effective date of the offering. A holder of the warrants also will have the right to exercise its warrants on a cashless basis if the registration statement or prospectus contained therein is not available for the issuance of the common shares issuable upon exercise thereof. The exercisability of the warrants may be limited if, upon exercise, the holder or any of its affiliates would beneficially own more than 4.99% of the Company's common shares.

During the year ended December 31, 2020, 3,936 common shares were issued upon exercise of investor warrants at \$0.24 per share. The exercise price of such warrants was reduced from \$1,020.0 per share to \$0.24 per share by virtue of the Company's entry into a securities purchase agreement on November 20, 2020.

November 2020 Offering Warrants

In connection with and upon closing of the offering on November 24, 2020, the Company issued registered warrants to purchase up to 11,477 common shares and unregistered warrants to purchase up to 13,773 common shares. Such registered and unregistered warrants are immediately exercisable, expire five years from the date of issuance and have an exercise price of \$12.0 per share. The exercise price of such warrants was reduced from \$434.4 per share to \$12.0 per share by virtue of the Company's entry into a securities purchase agreement on March 18, 2022. The placement agent also received unregistered warrants in connection with this offering exercisable for up to 1,515 common shares at \$435.6 per share, exercisable between May 24, 2021 to November 24, 2023.

Management determined that these warrants meet the requirements for equity classification under ASC 815-40 because they are indexed to its own stock. The warrants were recorded at their fair value on the date of issuance as a component of shareholders' equity.

As of December 31 2022, the total number of common shares underlying registered and unregistered warrants outstanding was 27,322 (including 557 were expired on September 27, 2022). These warrants have weighted average of remaining life of 2.79 years and weighted average exercise price of \$35.98.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****Note 14 - Non-controlling Interests**

A reconciliation of non-controlling interest as of December 31, 2022 and 2021 is as follows:

	December 31, 2022	December 31, 2021
Beginning Balance	\$ (1,724,627)	\$ 638,846
Proportionate shares of net loss	(434,873)	(2,334,853)
Foreign currency translation adjustment	10,536	(28,620)
Total	<u>\$ (2,148,964)</u>	<u>\$ (1,724,627)</u>

As of December 31, 2022 and 2021, the non-controlling interests balances represented the noncontrolling shareholder's 30% equity interests in Shangchi Automobile (formerly known as Suzhou E-Motors) and its subsidiary Shenzhen Yimao.

**Note 15 - Long Term Investments**

On January 10, 2018, the Company invested approximately \$17.4 million (or RMB120 million) to acquire 18% equity interest in Libo Haokun Stone Co., Ltd. ("Libo Haokun"). Libo Haokun holds a government-issued permit and has the exclusive right to mine a 0.11-square-kilometer marble quarry in the central area of Guizhou province, China. Libo Haokun obtained the permit to mine the quarry from the local government in September 2016. The permit was renewed in July 2020 and is further renewable by July 2023.

On November 29, 2019, the Company entered into an investment agreement (the "Investment Agreement") with Jingning Zhonggang Mining Co., Ltd. ("Jingning Zhonggang") through Lishui Tantech to acquire 18% of the equity interest of Fuquan Chengwang Mining Co., Ltd. ("Fuquan Chengwang"), a wholly-owned subsidiary of Jingning Zhonggang, at a price of \$6.7 million (RMB46.32 million). The consideration equals 18% of RMB257.35 million, the value of the mining right under a permit being renewed by Fuquan Chengwang according to an evaluation report. Fuquan Chengwang is a basalt mining company.

Pursuant to the Investment Agreement, Tantech is obligated to pay the consideration within 30 days after Fuquan Chengwang completes the recording process with the local industrial and commerce administration for transfer of the share ownership. Pursuant to the Investment Agreement, after the transfer of the 18% share ownership, if the value of Fuquan Chengwang is lower than RMB 257.35 million according to the financial statements audited by an accounting firm approved by the Tantech, Jingning Zhonggang will be obligated to refund to Tantech the overpaid amount. The payment could be in the form of cash, shares, or other assets with the same value, as selected by Tantech.

After a series of transactions and reorganization, as of December 31, 2019, the Company and Jingning Zhonggang owns 18% and 82% of Libo Haokun, respectively, through Jingning Meizhongkuang Industry Co., Ltd. ("Jingning Meizhongkuang"). Jingning Meizhongkuang owns 100% of Fuquan Chengwang. The Agreements would enable Tantech to indirectly hold a 18% stake in Fuquan Chengwang through holding 18% of the equity interest of Jingning Meizhongkuang.

On April 3, 2020, Lishui Ansheng Energy Technology Co., a third party, signed an investment agreement with Jingning Meizhongkuang to invest in Fuquan Chengwang by paying \$6.7 million (RMB46.5 million) to exchange 18% of the interest of Fuquan Chengwang. After the transaction, the Company's indirect interest in Fuquan Chengwang was diluted from 18% to 14.76% through holding 18% of the equity interest of Jingning Meizhongkuang.

Fuquan Chengwang received the renewed mining permit in March 2021, and expiration date is March 2024. The mining permit provides it the right to mine a 0.2607-square-kilometer basalt quarry in Fuquan City, Guizhou Province, China.

Due to the fact that the Company did not have significant influence over the equity investees, the investments were accounted for using the cost method. For the years ended December 31, 2022, 2021 and 2020, the Company did not recognize any impairment losses for the long-term investments.

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**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 16 - Taxes**

Prepaid taxes

Prepaid taxes as of December 31, 2022 and 2021 consist of the following:

	December 31, 2022	December 31, 2021
Prepaid value-added tax	\$ 491,772	\$ 1,609,466
Others	2,695	-
<b>Total</b>	<b>\$ 494,467</b>	<b>\$ 1,609,466</b>

Taxes Payable

Taxes payable as of December 31, 2021 and 2020 consist of the following:

	December 31, 2022	December 31, 2021
Corporation income tax payable	\$ 987,169	\$ 578,445
Other tax payable	264,806	245,256
<b>Total</b>	<b>\$ 1,251,975</b>	<b>\$ 823,701</b>

Corporation Income Tax ("CIT")

Tantech BVI was incorporated in the BVI and is not subject to income taxes under the current laws of BVI. EPakia was incorporated in Delaware, United States and is subject to a combine U.S. federal and state statutory income tax rate at 28%. EPakia Canada was incorporated in Alberta, Canada and is subject to a combined federal and provincial statutory income tax rate at 23%. USCNHK, China East and Euroasia are holding companies registered in Hong Kong and has no operating profit for tax liabilities.

The Group's subsidiaries in the PRC are subject to the statutory rate of 25%, in accordance with the Enterprise Income Tax law (the "EIT Law"), which was effective since January 1, 2008 Tantech Bamboo was registered in the PRC and is subject to corporate income tax at a reduced rate of 15% starting from 2008 when it was approved by local government as a high-tech company. Tantech Bamboo did not renew the high-tech certificate for fiscal 2020 and subject to corporate tax rate of 25% for the year 2020. Shangchi Automobile was approved by local government as a high-tech company on December 7, 2017 and renewed on December 2, 2020, which valid for three calendar years of 2020 to 2022. Shangchi Automobile was subject to income tax rate of 15%.

The following table reconciles PRC statutory rates to the Company's effective tax rates for the years ended December 31, 2022, 2021 and 2020:

	Years ended December 31,			
	2022	2021		2020
Statutory PRC income tax rate	25%	25%	25%	25%
Favorable tax rate impact	9%	(17)%	(14)%	
Permanent difference and others	9%	1%		(5)%
Changes of deferred tax assets valuation allowances	12%	(38)%		0%
<b>Total</b>	<b>55%</b>	<b>(29)%</b>		<b>6%</b>

The income tax expense (credit) consisted of the following:

	Years ended December 31,		
	2022	2021	2020
Current	\$ 3,141,969	\$ 2,429,480	\$ 1,188,136
Deferred	-	-	(1,799,791)
<b>Total</b>	<b>\$ 3,141,969</b>	<b>\$ 2,429,480</b>	<b>\$ (611,655)</b>

Significant components of deferred tax assets and liabilities are as follows:

	December 31, 2022	December 31, 2021
<b>Deferred tax assets:</b>		
Allowance for doubtful accounts and other markdown and impairments	\$ 8,230,237	\$ 7,622,322
Valuation allowance	(8,230,237)	(7,622,322)
<b>Total</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Deferred tax liability:</b>		
Increase in fair value of intangible assets acquired through acquisition	\$ 1,968,005	\$ 2,129,517
Impairment of intangible assets acquired through acquisition	(1,968,005)	(2,129,517)
<b>Total</b>	<b>\$ -</b>	<b>\$ -</b>

At December 31, 2022 and 2021, the Company has provided full valuation allowance for deferred tax assets that the Company estimated the Company could not realize due to expected future operating loss in certain entities. As of December 31, 2022 and 2021, the valuation allowance was \$8,230,237 and \$7,622,322, respectively. The Company's management reviews this valuation allowance periodically and makes adjustments as necessary.

**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 17 - Segment Information**

The Company uses the “management approach” in determining reportable operating segments. The management approach considers the internal organization and reporting used by the Company’s chief operating decision maker for making operating decisions and assessing performance as the source for determining the Company’s reportable segments. Due to business strategic changes, the Company merged consumer products segment and trading segment, and we start to provided biodegradable packaging business during year ended December 31, 2022. As a result, the Company has determined that it has three operating segments as defined by ASC 280, “Segment Reporting”: consumer products, electric vehicles (“EV”) and biodegradable packaging. Consumer products segment manufactures, sell and trade Charcoal Doctor branded products and BBQ charcoal in China. The EV segment manufactures and sell electric vehicles. Biodegradable packaging segment provided biodegradable packaging business. Management, including the chief operating decision maker, reviews operation results of consumer products, electric vehicles, and biodegradable packaging separately.

Adjustments and eliminations of inter-company transactions were not included in determining segment (loss) profit, as they are not used by the chief operating decision maker. The following table presents summary information by segment for the years ended December 31, 2022, 2021 and 2020, respectively.

	Consumer product			EV			Biodegradable packaging			Total		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020
Revenue from external customers	\$ 49,010,849	\$ 53,411,271	\$ 41,899,677	\$ 520,625	\$ 1,852,402	\$ 383,993	\$ 3,958,820	\$ -	\$ -	\$ 53,490,294	\$ 55,263,673	\$ 42,283,670
Cost of revenue	39,009,243	43,427,306	37,411,824	538,226	1,405,041	395,473	3,850,287	-	-	43,397,756	44,832,347	37,807,297
Gross profit	10,001,606	9,983,965	4,487,853	(17,601)	447,361	(11,480)	108,533	-	-	10,092,538	10,431,326	4,476,373
Interest expenses	476,173	265,248	300,125	125,864	475,152	-	-	-	-	602,037	740,400	300,125
Depreciation & amortization	237,334	271,536	244,601	115,874	645,066	633,315	-	-	-	353,208	916,602	877,916
Capital expenditure	4,264	11,417	2,489	77,701	213,111	142,317	-	-	-	81,965	224,528	144,806
Segment assets	128,554,402	128,727,344	106,775,636	4,623,550	5,799,714	9,519,609	954,052	-	-	134,132,004	134,527,058	116,295,245
Segment profit	\$ 4,627,986	\$ 4,810,563	\$ 2,216,371	\$(1,713,698)	\$(15,503,545)	\$(12,238,599)	\$(328,092)	\$ -	\$ -	2,586,196	\$(10,692,982)	\$(10,022,228)

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**TANTECH HOLDINGS LTD AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 17 - Segment Information (continued)**

All of the Company's long-lived assets are located in the PRC. Geographic information about the revenues, which are classified based on customers, is set out as follows:

	Years ended December 31		
	2022	2021	2020
Revenue from China	\$ 53,475,870	\$ 55,263,673	\$ 42,283,670
Revenue directly from foreign countries	14,424	-	-
Total Revenue	\$ 53,490,294	\$ 55,263,673	\$ 42,283,670

**Note 18 - Major Customers and Suppliers**

The Company had certain customers whose revenue individually represented 10% or more of the Company's total revenue, or whose accounts receivable balances individually represented 10% or more of the Company's total accounts receivable, as follows:

For the year ended December 31, 2022, three major customers accounted for approximately 26%, 21% and 18% of the Company's total sales, respectively. For the year ended December 31, 2021, four major customers accounted for approximately 21%, 19%, 19% and 13% of the Company's total sales, respectively. For the year ended December 31, 2020, five major customers accounted for approximately 28%, 20%, 14%, 12% and 10% of the Company's total sales, respectively.

As of December 31, 2022, three customers accounted for approximately 33%, 25% and 25% of the Company's accounts receivable balance.

As of December 31, 2021, four customers accounted for approximately 29%, 26%, 25% and 12% of the Company's accounts receivable balance.

The Company also had certain major suppliers whose purchases individually represented 10% or more of the Company's total purchases. For the year ended December 31, 2022, three major suppliers accounted for approximately 31%, 26%, and 11% of the Company's total purchases, respectively. For the year ended December 31, 2021, two major suppliers accounted for approximately 46% and 19% of the Company's total purchases, respectively. For the year ended December 31, 2020, two major suppliers accounted for approximately 53% and 17% of the Company's total purchases, respectively.

**Note 19 - Subsequent Events**

On February 21, 2023, the Company entered into a securities purchase agreement with nine individual purchasers, pursuant to which the Company agreed to sell an aggregate of 1,000,000 common shares at a price of \$2.80 per share for aggregate gross proceeds of \$2,800,000. The transaction was closed on March 22, 2023.



