

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, 2018

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

(Address of principal executive offices)

Mr. Jing Jin

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

Tel: +86-578-226-2305

Fax: +86-578-226-2360

Email: tantech@tantech.cn

(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.

Title of each class

Trading Symbol

Name of each exchange on which registered

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 stock as of the close of the period covered by the annual report was:

28,853,242

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:

US 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

A. *Selected financial data.*

In the table below, we provide you with historical selected financial data for the fiscal years ended December 31, 2018, 2017, and 2016. This information is derived from our consolidated financial statements included elsewhere in this annual report. 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:

	For the year ended December 31,		
	2018	2017	2016
Revenues	\$ 29,561	\$ 42,298	\$ 39,902
Gross profit	8,029	10,556	13,023
Operating expenses	5,679	5,984	4,372
Income from operations	2,350	4,572	8,651
Income from continuing operations before income taxes	2,028	4,476	8,333
Provision for Income taxes	1,031	1,528	1,367
Net income from continuing operations	997	2,948	6,966
Net income (loss) from discontinued operations	83	65	(2,358)
Net income	1,080	3,013	4,608
Net income (loss) attributable to the non-controlling interest	(897)	(754)	308
Net income attributable to common stockholders	\$ 1,977	\$ 3,767	\$ 4,299
Earnings from continuing operations per share	0.07	0.15	0.19
Earnings (loss) from discontinued operations per share	0.00	0.00	(0.10)

Balance sheet data:

	As of December 31,				
	2018	2017	2016	2015	2014
Working capital	\$ 48,159	\$ 62,456	\$ 49,560	\$ 49,697	\$ 43,517
Current assets	70,314	89,245	63,659	62,683	59,749
Total assets	134,194	138,487	94,303	87,075	78,709
Current liabilities	22,155	26,789	14,097	13,986	16,232
Total liabilities	24,208	28,875	14,097	13,986	16,232
Total equity	\$ 109,986	\$ 109,612	\$ 80,206	\$ 73,089	\$ 62,477

EXCHANGE RATE INFORMATION

Our financial information is presented in U.S. dollars. Our functional currency is Renminbi (“RMB”), the currency of the PRC. Transactions denominated in currencies other than RMB are translated into RMB at the exchange rate quoted by the People’s Bank of China at the dates of the transactions. Exchange gains and losses resulting from transactions denominated in a currency other than the RMB are included in statements of operations as foreign currency transaction gains or losses. Our financial statements have been translated into U.S. dollars in accordance with Statement of Financial Accounting Standard (“SFAS”) No. 52, “Foreign Currency Translation”, which was subsequently codified within 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 as to assets and liabilities and average exchange rates as to 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 (loss) in shareholders’ equity. The relevant exchange rates are listed below:

	December 31, 2018		December 31, 2017		December 31, 2016	
	Period End	\$	Period End	\$	Period End	\$
US\$:RMB exchange rate	Average	0.1513	Average	0.1537	Average	0.1440
	Average	0.1454	Average	0.1478	Average	0.1506

We make no representation that any RMB or U.S. dollar amounts could have been, or could be, converted into U.S. dollars or RMB, as the case may be, at any particular rate, or at all. The PRC government imposes control over its foreign currency reserves in part through direct regulation of the conversion of RMB into foreign exchange and through restrictions on foreign trade. We do not currently engage in currency hedging transactions.

The following table sets forth information concerning exchange rates between the RMB and the U.S. dollar for the periods indicated (www.oanda.com).

Period	Midpoint of Buy and Sell Prices for U.S. Dollar per RMB			
	Period-End	Average	High	Low
2009	6.8272	6.8310	6.8483	6.8130
2010	6.6018	6.7696	6.8344	6.6018
2011	6.3585	6.4640	6.6357	6.3318
2012	6.3086	6.3116	6.3862	6.2289
2013	6.0220	6.0720	6.2195	5.9778
2014	6.1411	6.1463	6.1758	6.0924
2015	6.4917	6.2288	6.4917	6.0933
2016	6.9448	6.6441	7.0672	6.4494
2017	6.5063	6.7569	6.9575	6.4773
2018	6.6090	6.8755	6.9737	6,2649
2019 (through May 10 , 2019)	6.8193	6.7419	6.8772	6.6868
January	6.7035	6.7917	6.8772	6.7035
February	6.6876	6.7401	6.7790	6.6868
March	6.7119	6.7129	6.7342	6.6912
April	6.7357	6.7157	6.7380	6.6931
May (through May 10, 2019)	6.8193	6.7616	6.8193	6.7346

Over the past several years, the Renminbi has moved from a period of strengthening against the dollar to a period of recent weakening against the dollar. Our primary sales outside China occur in Japan, South Korea, Taiwan, the Middle East and Europe, but all such sales outside China are made in U.S. dollars. Following is a chart showing recent changes in the exchange rates between the Renminbi and U.S. dollar.



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

A weakening of the Chinese economy (and in particular consumer spending) could hurt demand for our 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. In the past, sales have been increased as Chinese consumers have had more disposable income. Since 2010, China's GDP growth rate has slowed from more than 10% to less than 7%. If China's economy continues to slow, or if customer spending for household items decreases, demand for our products may be reduced, which would negatively affect sales of our Charcoal Doctor 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 electric vehicles and mining, we rely on our ability to predict the needs and desires of customers several months before fulfilling orders for stores. 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.

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.

We lack product and business diversification. Accordingly, our future revenues and earnings are more susceptible to fluctuations than a more diversified company.

Our primary business activities focus on bamboo-related products. Because our focus is limited in this way, any risk affecting the bamboo industry or consumers' desire for bamboo- and bamboo charcoal-related products could disproportionately affect our business. Though we are broadening our business focus to electric vehicles and an investment in marble mining, our lack of product and business diversification at this time could inhibit the opportunities for growth of our business, revenues and profits.

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 future growth of our electronic vehicle (EV) segment is dependent upon consumers' willingness to adopt EVs.

Our growth is highly dependent upon the adoption by consumers of, and we are subject to a risk of any reduced demand for, alternative fuel vehicles in general and electronic 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 EVs sales to relatively few customers may result in significant impact on our liquidity, business, results of operations and financial condition.

For the years ended December 31, 2018, 2017 and 2016, major customers (above 10% of the total revenue), in the aggregate, accounted for 100%, 88% and 98%, respectively, of EV sales for Shangchi Automobile, formerly known as Suzhou E-Motors. Due to the concentration of sales to relatively few customers, loss of one or more of these customers 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 specialty-used EVs Models are highly dependent on the approvals from Ministry of Industry and Information Technology of the People's Republic China (MIIT). A failure to obtain approval quickly or at all might cause significant delays in production and sales, results of operations and financial conditions.

Each year, we submit certain EV models' application to the Ministry of Industry and Information Technology of the People's Republic China (MIIT). The MIIT's approval of our application is the key for us to produce and sell any related EV 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 vehicles, decreased revenue and a loss of market share to competitors.

If we are unable to keep up with advances in electric vehicle 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 support policies and further delays in subsidy payments may have negative impacts on our EV operations.

The Chinese central government subsidy support policies, effective as of January 1, 2017, call for a 20% of reduction in central government subsidies per electric car in 2017 from its 2016 level and the total local government subsidy match 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 will inevitably increase the costs to the consumers to purchase our EVs, which may cause 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 any further delay in releasing subsidy payments for the EVs manufactured and sold in the prior years might also cause the potential delay in collection of the accounts receivable from our business partners, which will temporarily increase the pressure on our working capital for continuing operations. 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, our recent mining investment.

We only own 70% of Shangchi Automobile Co., Ltd. ("Shangchi Automobile"). Zhang Jia Gang Shi Jinke Chuangye Touzi Co. Ltd. ("Jinke Touzi") holds the remaining 30% equity interest in Shangchi Automobile and has significant influence on its operation. The potential for differences between us and Jinke Touzi 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. As such, we have an inability to control or significantly influence Libo Haokun's management and operations. If we believe that Libo Haokun is being managed or operated ineffectively, we have limited options.

Outstanding bank loans may reduce our available funds.

We have approximately \$7.68 million in outstanding bank loans and bank acceptance notes payable as of December 31, 2018. The loans and payables 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 \$7.75 million in cash and approximately \$70.15 million of liquid 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.

On January 27, 2016, we entered into a framework agreement to acquire Suzhou E-Motors Co., Ltd. which as of January 2019 is now known as Shangchi Automobile (“Shangchi Automobile”), a specialty electric vehicles manufacturer. Pursuant to the Purchase 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.

Our 70% equity interest in Shangchi Automobile comprises a 19% equity interest owned directly through Hangzhou Jixi Investment Management Co., Ltd (“Jixi”) and a 51% equity interest owned through a series of contractual agreements with the owners of Hanzhou Wangbo Investment Management Co., Ltd (“Wangbo”). Jixi is 100% owned through Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”), which is, in turn, wholly owned by Euroasia International Capital (“Euroasia”), a 100% owned subsidiary of the Company. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (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 Variable Interest Entity (“VIE”) under the Statement of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 810 “Consolidation.”

The Company had originally negotiated to acquire 100% of Shangchi Automobile; however, following initial discussions, Shangchi Automobile's minority shareholder, Zhangjiagang Jinke Venture Capital Co., Ltd. (Jinke Venture Capital), 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 marble mining and processing operations.

In January 2018, we made a purchase of an indirect 18% interest in Libo Haokun Stone Co., Ltd. (“Libo Haokun”), a marble mining operating company. Libo Haokun's marble 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 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 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.

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;
- 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 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 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, 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 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 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 and our operations, including Libo Haokun'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 operations, including our ability to explore or develop properties, commence production or continue operations.

Libo Haokun'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 has 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 closure processes and operations.

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 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 results of operations and financial position due to increased compliance and input costs.

Libo Haokun'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 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 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 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 business.

Libo Haokun competes with other natural resource companies to attract and retain key executives, skilled labor, contractors and other employees. It also competes with other natural resource companies for specialized equipment, components and supplies necessary for exploration and development. It 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 customers could reduce our revenues and our profitability.

Our key customers are principally third party distributors and retail stores in the PRC. For the years ended December 31, 2018, 2017 and 2016, two major customers accounted for approximately 67%, 47% and 27% of the Company's total 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 92%, 76% and 78% of our total sales in 2018, 2017 and 2016, 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, 2018, 2017 and 2016, three major suppliers accounted for approximately 60%, three major suppliers accounted for approximately 61%, and four major suppliers accounted for approximately 88% of the Company's total purchases, respectively.

In 2016, we lost one major supplier. The loss of one of the main suppliers could force us to look for alternative suppliers at higher costs and thus increase our production costs in the coming years.

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 our cash with various banks and trust companies 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 (supermarkets and chain stores) requiring us to extend net-90 day 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 substantially on our chief executive officer, Mr. Zhengyu Wang to manage our operations. Mr. Wang has been involved in the bamboo charcoal industry for more than 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 declined 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 own thirteen patents in China covering our bamboo charcoal production technology.

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. 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 trademark.

We rely on our “Charcoal Doctor” brand in the marketing and distribution of our 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 brand will be adversely affected and our customers may lose confidence in our products. This will adversely affect our sales of products, hence affecting our business and financial performance.

We may experience increased expenses renting our production properties in Shuige Industrial Zone of Lishui.

We rent our production properties to Zhejiang Apeikesi Energy Co., Ltd on Cen Shan Road in Shuige Industrial Zone of Lishui, subject to a concession of a free leasehold for the first two years. The rented space accounts for approximately half of our total facilities area in Shuige Industrial Zone of Lishui. The rental facilities may cause increased expense of building depreciation without sufficient revenue to cover. Even as buildings’ fair value appreciates in the local area, we may face increased expense during the initial few years of the arrangement.

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

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 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 shares of common stock, 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.

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. 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 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.

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, 2018, 2017 and 2016, we had adjustments of \$(949,689), \$4,341,324 and (\$5,448,209), 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 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.

While Ms. Yefang Zhang, a citizen of the Philippines, 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.

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 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 renewable bank acceptance notes of a related party; if this related party fails to pay the bank loan or bank acceptance notes, our property may be subject to foreclosure.

In July 2017, we provided a guaranty on a line of credit on behalf of a related party, Forasen Group Co., Ltd. (“Forasen Group”). Forasen Group’s outstanding line of credit of RMB 57.07 million (approximately \$8.8 million) will expire on July 23, 2020.

In connection with these guarantees, we pledged our building with carrying value at approximately \$6.4 million as collateral for Forasen Group’s loans and renewable acceptance notes.

At the time we offered these guarantees, we believed Forasen Group would be able to repay (and would in fact repay) such loans and bank acceptance notes based on the following factors:

1. Forasen Group, like our Company, is controlled by Ms. Yefang Zhang and Mr. Zhengyu Wang. For this reason, we are aware that Forasen Group has historically had a strong credit history with the banks with which it does business.
2. As of December 31, 2018, we understand that Forasen Group had approximately RMB 10.8 million in cash, RMB 1,981.9 million in current assets and RMB 2,085.2 million in total assets, compared with approximately RMB 1,996.2 million in current liabilities, RMB 20 million in loans and RMB 40 million in notes payable, resulting in a current ratio of 0.95 at such date. Moreover, for the year ended December 31, 2018, Forasen Group recorded net loss of RMB 1.8 million on revenue of RMB 78.5 million and gross loss of RMB 1.2 million.

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 45.39% of our outstanding shares as of April 30, 2019. 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 “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 Securities and Exchange Commission 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 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.

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

Mr. Wang and Ms. Zhang signed a Non-Competition Agreement with our company and Farmmi which provides that Mr. Wang and Ms. Zhang shall not vote in favor or otherwise cause our Company to engage in the business that Farmmi conducts. Although, because of these non-competition agreements, 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 these agreements may be challenged and a conflict of interest may occur.

In addition, Forasen Group currently occupies approximately 500 square meters of our Tianning Street facility. We have not historically charged Forasen Group for renting this office space, 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

We are an “emerging growth company,” and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common shares less attractive to investors.

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act, or the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years, although we could lose that status sooner if our revenues reach \$1.07 billion, if we issue more than \$1 billion in non-convertible debt in a three year period, or if the market value of our common shares held by non-affiliates exceeds \$700 million as of any June 30 before that time, in which case we would no longer be an emerging growth company as of the following December 31. We cannot predict if investors will find our common shares less attractive because we may rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and our stock price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail our company of this exemption from new or revised accounting standards and, therefore, are subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

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, beginning with this annual report on Form 20-F, 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, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting when required, 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 Securities and Exchange Commission, or 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 Securities Exchange Act of 1934, as amended, or 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 after we are no longer 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 \$1.10 to \$33.97 per common share, and the last reported trading price on May 10, 2019 was \$1.50 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;
- 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 will incur increased 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.

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. Following the establishment of the Forasen Green Energy Group, later renamed Forasen Group Ltd. ("Forasen Group"), in May 2003, 60% of THL's shares were acquired by the Forasen Group. A second subsidiary, Tantech Charcoal, was acquired in September 2006 to manage the Forasen Group's export business. In September 2008 a third subsidiary, 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.

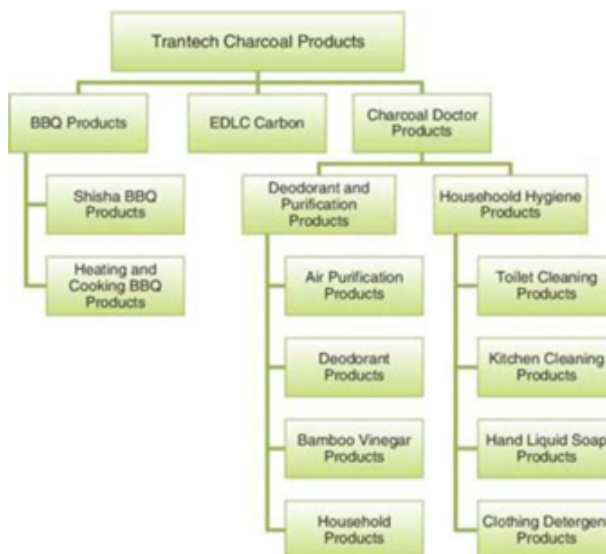
- September 2001: Tantech Charcoal is established.
- October 2002: Tantech Bamboo is established as "Lishui Zhonglin High Tech Co., Ltd." with registered capital of RMB 3.15 million.
- April 2003: Lishui Forasen Green Industry Group (the former name of Forasen Group Ltd ("Forasen Group")) was established.
- 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".
- October 2009: Forasen Group is renamed "Forasen Group".
- 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 the NASDAQ Capital Market.
- 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 Hangzhou Jixi Investment Management Co., Ltd (“Jixi”) and a 51% equity interest owned through a series of contractual agreement with the owners of Hanzhou Wangbo Investment Management Co., Ltd (“Wangbo”). Jixi is 100% owned by Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”), which is, in turn, wholly owned by Euroasia International Capital (“Euroasia”), a 100% owned subsidiary of the Company. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (collectively “VIE Agreements”). Pursuant to the VIE Agreements, Jiamu has the exclusive right to provide Wangbo consulting services related to business operations including technical and management consulting services. The VIE 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 Variable Interest Entity (“VIE”). Euroasia is incorporated in Hong Kong, PRC. Jiamu is incorporated in Shanghai, PRC. Both Jixi and Wangbo are incorporated in Hanzhou, PRC. Euroasia also has a wholly owned subsidiary, Euroasia New Energy Automotive (Jiangsu) Co., Ltd (“Euroasia New Energy”). They are all investment holding companies with no significant business activities.
- 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 (the “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 Stone Co., Ltd. (“Libo Haokun”). Following the completion of the acquisition, the Company will 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.
- On November 13, 2018, the Company established Shenzhen E-Motors New Energy Sales Co., Ltd., a sales subsidiary through Shangchi Automobile Co., Ltd. (formerly known as Suzhou E-Motors).

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. In 2017, we acquired a controlling equity interest in Suzhou E-Motors, which became known as Shangchi Automobile in 2019, and we intend to continue to grow our business to include the manufacture and sale of electric vehicles.

We provide our charcoal products in the following areas:



We oversee a national sales network that has a presence in 17 cities throughout China. We sell approximately 90% of our products in China, and the remaining 10% of products are sold internationally. We sell products 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.

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 tenth largest province in population, with 54.5 million residents, and eighth in terms of population density. 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 5.6 trillion in 2018 places it as the fourth highest in China in absolute amount.

Lishui is a prefecture-level city located in southwest Zhejiang province. Approximately 2.7 million residents live in the city, and city-wide GDP is approximately RMB 139.5 billion. 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 69% of Lishui prefecture is covered with forest, giving it the nickname "The Foliage Ocean of Zhejiang."



We have relocated all of our production, research and development (“R&D”) and management facilities a newly built production facility in the Shuige Industrial Zone, 20 kilometers from downtown Lishui. The facility covers a land area of 37,248 square meters (9.7 acres) and includes two dormitories, a large office and R&D building, two buildings housing Charcoal Doctor production and storage facilities, a five story building for charcoal briquette production, four buildings housing a complete EDLC carbon production line and one inventory warehouse for EDLC carbon raw materials. Facilities boast an array of sophisticated and automated production machinery and a water treatment plant. Gross floor area stands at 51,419 square meters (12.7 acres). In December 2017, we discontinued our EDLC business and rent our EDLC production facilities to Zhejiang Apeikesi Energy Co., Ltd.

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 six patents in China covering our bamboo charcoal production.

For the years ended December 31, 2018, 2017 and 2016, three major suppliers accounted for approximately 60%, three major suppliers accounted for approximately 61%, and four major suppliers accounted for approximately 88% 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.

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.

The total value of China's bamboo industry was approximately \$30 billion. It employs 7.75 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 40 to 45 percent by 2020 compared to 2005, we expect the bamboo technology industry to continue to be important to the country's long-term planning.

China now produces approximately 80% of the world's bamboo and consumes approximately 60% of that production. According to statistics from INBAR, China has more than 6 million hectares for bamboo production and over 500 bamboo species. In 2012, for example, the domestic industry was worth \$19.5 billion and employed more than 7.75 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
- 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 CO₂ /year, while one hectare of young forest can sequester 15 tons of CO₂ /year.

The physical and environmental properties of bamboo make it an exceptional economic resource for a wide range of uses. It grows quickly and can be harvested annually without depletion of the parent plant and without causing harvesting damage or deterioration in soil quality; in addition bamboo is very versatile and has many uses in the construction, culinary, furniture, pulp, pharmaceutical, and textiles industries. New uses for bamboo are being developed as we understand its biological, chemical and physical characteristics.

According to the United Nations' Food and Agriculture Organization the bamboo industry affects the lives of about 1.5 billion people around the world. About 2.5 billion people in the world depend economically on bamboo, and the international trade in bamboo amounts to between \$5 and \$10 billion. According to the International Network for Bamboo and Rattan (INBAR), the growth of the global bamboo market was expected to reach up to \$15-20 billion/year in 2018.

There are about 39 genera of bamboo and more than 590 species in China with 5.38 million hectares of pure bamboo forest, which accounts for 25% of the bamboo area in the world. With 5.38 million hectares of bamboo plantations and an annual increase of 100,000 hectares, 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 RMB 28 billion (\$4.5 billion) in 2010. Zhejiang province has almost one fifth of the whole bamboo forest area in China. Moreover, approximately 69% of Lishui prefecture is covered with forest, giving it the nickname "The Foliage Ocean of Zhejiang."

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 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. Traditional wood charcoals may range between 5 – 40% volatile matter free of moisture, depending on the type of wood and the temperature at which it is carbonized. Bamboo heating charcoal tends to be between 13 – 17% volatile matter free of moisture.

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 2 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 m² /g, bamboo charcoal generally ranges from 200-600 m² /g, and our company's EDLC carbon has achieved 2,200 m² /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

On December 14, 2017, the Company entered into a sale agreement and related agreements (the “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, our former CTO. After the completion of the transactions, the Company is 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 will be paid evenly over the following nine years; (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.

Electric Vehicles

Pursuant to the Purchase 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 Yimao E-Motors Co., Ltd (“Shangchi Automobile”). The 70% equity interest include a 19% equity interest owned directly by Hangzhou Jixi Investment Management Co., Ltd (“Jixi”) and a 51% equity interest owned through a series of contractual agreement with the owners of Hanzhou Wangbo Investment Management Co., Ltd (“Wangbo”). Jixi is 100% owned by Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”), which is, in turn, wholly owned by Euroasia International Capital (“Euroasia”), a 100% owned subsidiary of the Company. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (collectively “VIE Agreements”). Pursuant to the above VIE Agreements, Jiamu has the exclusive right to provide 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 Variable Interest Entity (“VIE”).

Suzhou E-Motors was established in April 2011. It changed its name to Shangchi Automobile in January 2019. It develops, manufactures, and sells specialty electric 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 Ministry of Industry and Information Technology of the People's Republic China (MIIT) as qualified to manufacture electric vehicles. It is also entitled to both central and local government subsidies with any approved EV models. As of April 17, 2018, Shangchi Automobile has ten EV models approved by MIIT.

Shangchi Automobile has to date developed a full range of electric buses and a variety of specialty vehicles. It has developed more than ten models of electric buses, electric logistics cars, and 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 2016, we sold 103 tourist buses, all in the Jiangsu Province. In 2017, we sold 100 various types of vehicles, where 10 types of vehicles directly sold to Northern China, and over 90 types of vehicles were used in Northern China. In 2018, we sold 110 logistic vehicles to Southern China. Below are examples of the specialty vehicles produced by Shangchi Automobile.

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.



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. Their fuel-saving rates are up to 50% and emissions rates are lowered 75%.



Logistic Vehicles. The logistic electric 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.





Below are the major vehicle components we purchase for assembling the electric vehicles (“EVs”):

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

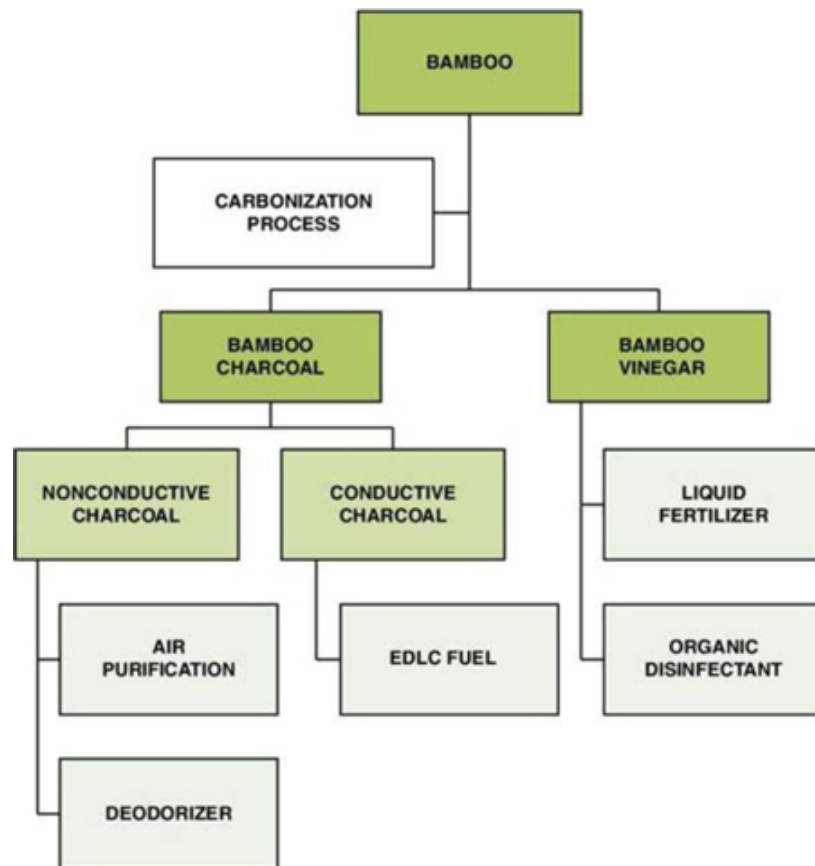
In general, the purchase of the vehicle chassis, electric motors, lithium-ion battery pack and three-in-one electric control system have covered two-thirds of EVs’ production cost. We purchase these components from four different but well-established suppliers in China.

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.

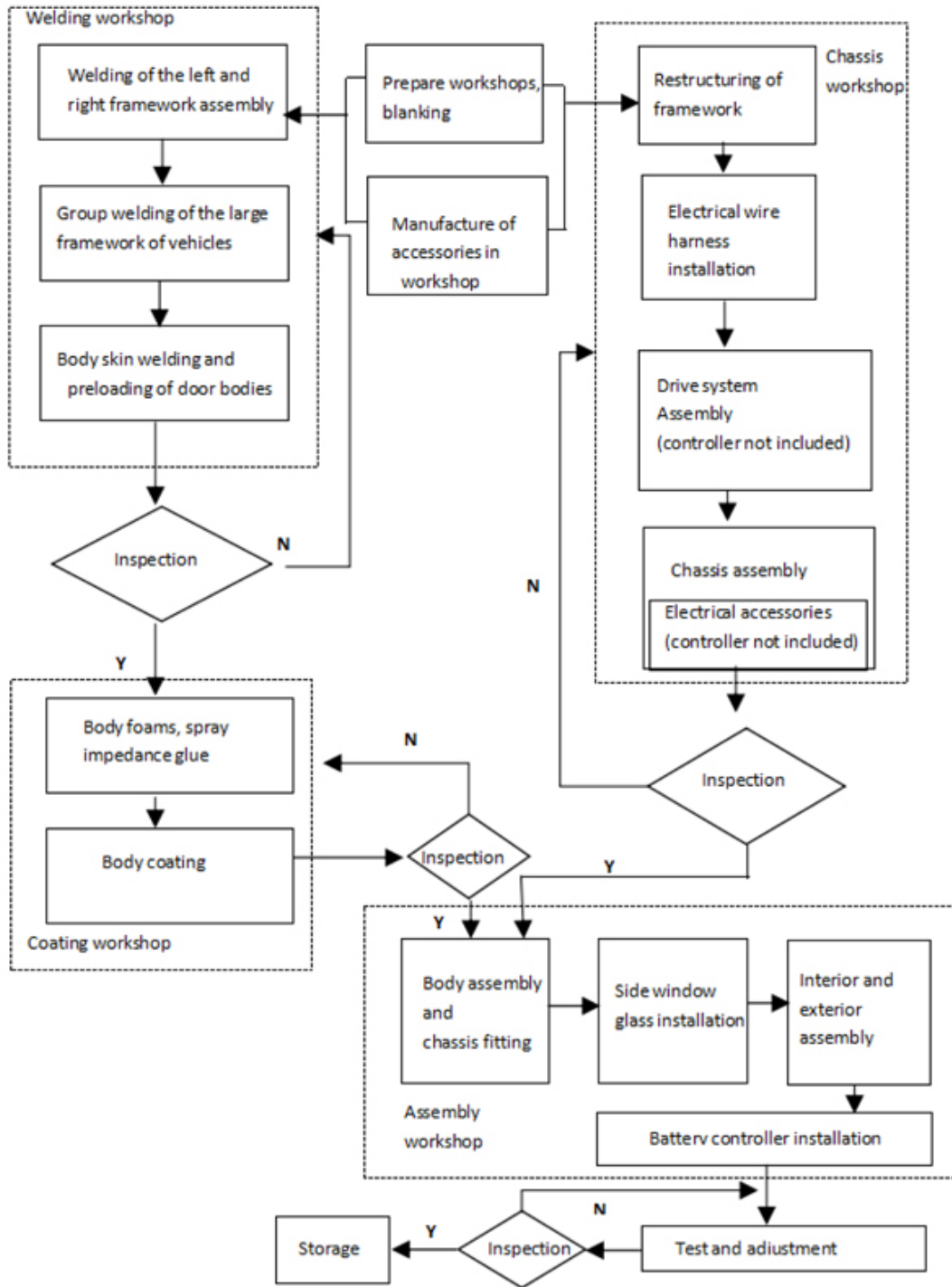
Over the years, Shangchi Automobile has had more than 20 EV core technologies and patents, including nanotechnology for raw materials for power lithium electronics, group technology of power lithium electronics and battery management technology.

Our Processing Workflow

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:



Our Products



Before acquisition of Shangchi Automobile, we primarily produced and sold three categories of products, all of which are produced from bamboo charcoal and 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 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.



BBQ Charcoal Briquettes



Hookah Coals



Refined BBQ Charcoal



Disposable BBQ Grill

Our charcoal briquettes are processed from carbonized bamboo (as to our self-produced BBQ charcoal) and wood (as to our OEM BBQ charcoal) 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 oversea 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 our 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. We seek to protect and grow our market share pricing our products aggressively, often as much as 10-15% below our competitors' prices. Our Charcoal Doctor 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:

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

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

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.



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 plan to expand 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. Given the investment required to improve brand awareness for our silver ion nano detergent, we will focus first on Zhengzhou before beginning to plan either the expansion plan or the timeline for such expansion into other cities in China. At the same time as we are selling such products under our Charcoal Doctor brand name in China, we are also in discussions to sell such products to one distributor in Dubai, who would then re-brand the products for resale in local markets in Africa and the Middle East.

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 customer stores typically invite us to apply in June or July to update the products we will offer for sale in their 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.

Raw Materials

Our primary raw material 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 four 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 are unable to purchase wood charcoal briquettes from our prior fiscal year's second largest 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 purchase wood charcoal briquettes from a supplier in Heilongjiang province for use in our OEM BBQ charcoal products. 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. However, due to tightening environmental control in local authority, we expect the cost of wood charcoal briquettes would increase in the coming years.

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.

Electric Vehicles

Shangchi Automobile does not produce major vehicles components directly from raw material. In general, Shangchi Automobile purchases major parts directly from four major suppliers. The suppliers for parts are shown below:

- Beijing National Energy Battery Technology Co., Ltd — Lithium-ion battery cells
- Dongfeng Xiangyang Travel Vehicle Co., Ltd — Vehicle chassis
- Suzhou Greencontrol Transmission Technology Co., Ltd — Electric motors
- Wuhan Hiconics Power Technology Co., Ltd — Three-in-One electric control systems

Distribution Channels and Methods of Competition

International Markets and Customers

Our bamboo charcoal and bamboo charcoal byproducts 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. After pivoting our business focus in 2017, less than 1% of our direct sales are currently international. Including business conducted with domestic distributors. However, we estimate that with respect to our household products that the percentage of goods sold for export is approximately 5%, with the majority destined for Japan, South Korea and Taiwan.

Domestic Markets and Customers

Currently, our consumer products and specialty electric vehicles are sold via our distributors' networks. In addition, we have a logistics center in Lishui and relationships with third-party warehousing companies in Hangzhou, Jinan, Shanghai and Zhengzhou. 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 sales to supermarket customers.

We are in the process of expanding our 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 a central government forecast, China's new energy vehicle sales are projected to grow to 2.1 million units in 2020, and its penetration is expected to reach 7% of vehicle sales by 2020.

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 groups of competitors: manufacturers of conventional fuel vehicles and EV manufacturers. 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 manufacturers, 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.

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., 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.

Jie Jie Gao Charcoal 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. Jie Jie Gao 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:

2004

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

2005

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

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

Research and Development

We are committed to researching and developing applications of bamboo charcoal and activated bamboo charcoal. We believe scientific and technological innovations will help our 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 focusing on Charcoal Doctor product development and applications. 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.

We regularly collaborate with a number of top domestic universities and institutions for the advancement of bamboo charcoal research and process technology. Current 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. However in December 2017, we have transferred all EDLC research project to Zhejiang Apeikesi Energy Co., Ltd, a PRC start-up company controlled by Dr. Zaihua Chen, our former Chief Technology Officer.

Project Description	Time Period	Project Level
Technological innovations to achieve productive annual capacity of 3,000 metric tons of EDLC carbon	12/08-12/17	Central Government funded high-tech industrial project
Bamboo carbonization technology R&D for tobacco product manufacturing	12/07-6/10	Zhejiang Provincial Government funded scientific agricultural project
Development of dry distillation of bamboo wood	6/07-5/09	Central government funded high-tech agricultural project
Technological innovations to be able to produce bamboo vinegar in a continuous process	4/06-4/08	Zhejiang Provincial Government funded scientific agricultural project
Technological innovations to achieve productive annual capacity of 300 metric tons of EDLC carbon	1/06-12/07	Central Government funded high-tech industrial project
Bamboo vinegar spontaneous combustion automation production technology	8/04-12/06	Central Government funded high-tech agricultural project
Bamboo R&D for lithium-ion battery anodes	8/04-2/06	Zhejiang Provincial Government funded scientific project
The research and demonstration for technology of agricultural waste carbonization and low ignition point molding charcoal fuel preparation	01/16-12/18	Zhejiang Provincial Government directly funded scientific project
Demonstration and promotion of green combustible carbon manufacturing technology using epicarps residue	15/08-12/17	Central Government funded forestry technology promotion project

During the years ended December 31, 2018, 2017 and 2016, we spent \$386,628, \$627,577 and \$136,626, respectively, on R&D. Because we discontinued our EDLC carbon business, our R&D expense has decreased accordingly.

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 six issued patents on charcoal products and thirty issued patents on electric vehicles as of April 30, 2019:

Patent Description	Holder	Patent Type	Application	Expiration	Patent Number
Methods and equipment for combustion and distillation	Tantech Bamboo	Invention	Aug. 25,2004	Aug. 24,2024	ZL 200410075047.0
Biomass acaricide with gasified tar for organic pesticides	Tantech Bamboo	Invention	Jan. 24,2006	Jan. 23, 2026	ZL 200610049234.0
Methods for water and bamboo vinegar refining	Tantech Bamboo	Invention	Nov. 13, 2003	Nov. 12, 2023	200310116248.6
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

In addition, Shangchi Automobile possesses the following patents.

Patent Description	Holder	Patent Type	Application	Expiration	Patent Number
Road Sweeper	Shangchi Automobile	Patent for Invention	Aug 28, 2012	Aug 27, 2022	ZL201210311790.6
Rear body structure of new pure electric buses	Shangchi Automobile	Utility Model	May 3, 2012	May 2, 2022	ZL201220195153.2
Electric bus defroster	Shangchi Automobile	Utility Mode	May 3, 2012	May 2, 2022	ZL201220195152.8
Axle connected hydraulic power steering pump assembly for electric cars	Shangchi Automobile	Utility Mode	May 3, 2012	May 2, 2022	ZL201220195151.3
Integrated heat dissipation system for range-extended electric vehicle	Shangchi Automobile	Utility Mode	May 3, 2012	May 2, 2022	ZL201220312584.2
Road cleaning and blowing device	Shangchi Automobile	Utility Mode	Aug 28, 2012	Aug 27, 2022	ZL201220433283.5
Multi-function diversion plate	Shangchi Automobile	Utility Mode	Aug 28, 2012	Aug 27, 2022	ZL201220433484.5
Wind blinds for blocking road cleaning	Shangchi Automobile	Utility Mode	Aug 28, 2012	Aug 27, 2022	ZL201220433284.X
Multi-function carbon dioxide welding machine moving underframe	Shangchi Automobile	Utility Mode	Mar 20, 2012	Mar 19, 2022	ZL201220103680.6
Fast battery box for pure electric buses	Shangchi Automobile	Utility Mode	Mar 20, 2012	Mar 19, 2022	ZL201220103669.X
An electric bus door	Shangchi Automobile	Utility Mode	April 13, 2016	April 12, 2026	ZL201620307365.3
An emergency brake device for electric buses	Shangchi Automobile	Utility Mode	April 13, 2016	April 12, 2026	ZL201620307444.4
Battery pack mounting rack for electric buses	Shangchi Automobile	Utility Mode	April 13, 2016	April 12, 2026	ZL201620307484.9
A battery compartment with high heat dissipation for electric buses	Shangchi Automobile	Utility Mode	April 14, 2016	April 13, 2026	ZL201620313236.5
A brake device with monitoring function for electric buses	Shangchi Automobile	Utility Mode	April 14, 2016	April 13, 2026	ZL201620313255.8
Power safety valve for electric buses	Shangchi Automobile	Utility Mode	April 14, 2016	April 13, 2026	ZL201620313387.0
Brake auxiliary system of electric vehicle	Shangchi Automobile	Utility Mode	April 14, 2016	April 13, 2026	ZL201620313368.8
A kind of brake auxiliary system of electric vehicle	Shangchi Automobile	Utility Mode	April 14, 2016	April 13, 2026	ZL201620313440.7
A kind of emergency brake device for electric buses	Shangchi Automobile	Utility Mode	July 16, 2016	April 15, 2026	ZL201620315838.4
A kind of speed limit brake device for electric buses	Shangchi Automobile	Utility Mode	April 15, 2016	April 14, 2026	ZL201620315845.4
A kind of dual use auxiliary brake board for electric buses	Shangchi Automobile	Utility Mode	April 16, 2016	April 15, 2026	ZL201620316363.0
A kind of installation device of hydraulic - power-assisted steering pump for electric buses	Shangchi Automobile	Utility Mode	April 16, 2016	April 14, 2026	ZL201620316401.2
A kind of emergency auxiliary brake for electric buses	Shangchi Automobile	Utility Mode	April 16, 2016	April 14, 2026	ZL201620316415.4
Car Break Pad	Shangchi Automobile	Utility Mode	April 1, 2017	Mar 31, 2027	ZL201720342785.X
Angle mill wrench	Shangchi Automobile	Utility Mode	June 6, 2009	June 5, 2019	ZL200920044592.1
Battery connection device	Shangchi Automobile	Utility Mode	June 6, 2009	June 5, 2019	ZL200920044586.6
An electric motor cooled by a surround temperature controlled fan	Shangchi Automobile	Utility Mode	June 6, 2009	June 5, 2019	ZL200920044588.5
Electric soldering pen	Shangchi Automobile	Utility Mode	June 6, 2009	June 5, 2019	ZL200920044590.2
A Pure Electric Express Logistics Delivery Vehicle	Shangchi Automobile	Utility Mode	May 29,2018	May 28,2028	201820864875.X
An Electric EVA Type Instrument Panel Structure	Shangchi Automobile	Utility Mode	May 29,2018	May 28,2028	201820812054.1

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 Guidance 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 divides 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.”

According to the Guidance Catalogue, development of bamboo byproducts like our products falls in the encouraged category while activated carbon production using raw material of woods or chopped roots (as opposed to our methods, which use neither) falls in the eliminated category. As a result, government initiatives favor our carbon production methods over methods using wood and wood products.

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.

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.

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.

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.

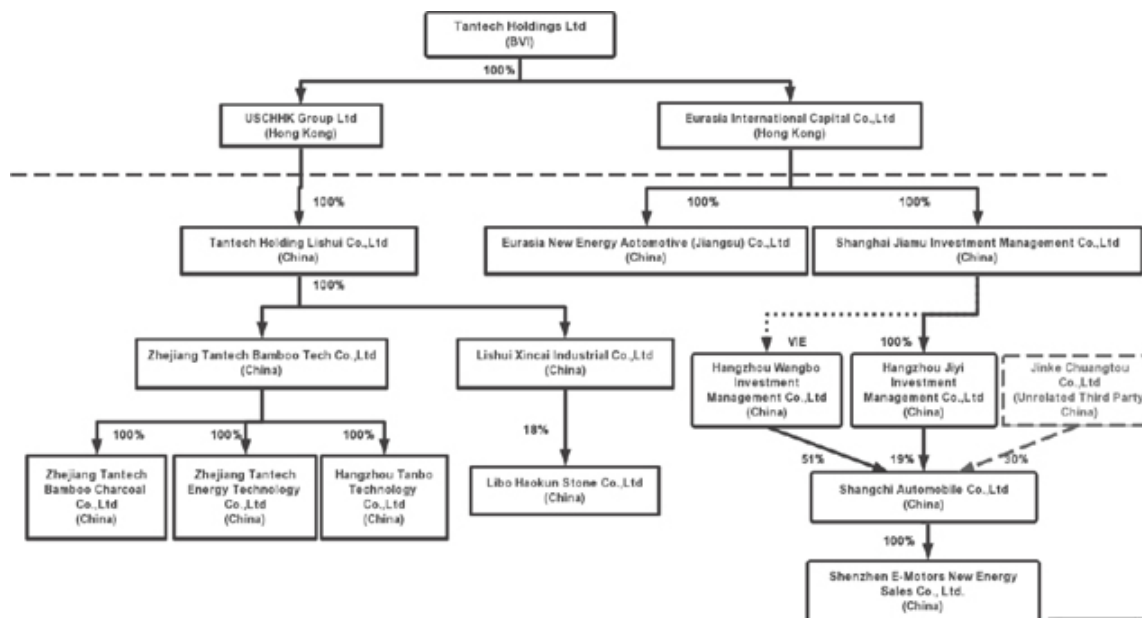
Labor Laws and Social Insurance

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 chart, we provide the English names of our corporate entities. As to THL and USCNHK, 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 Offshore Incorporations Limited. Our registered office and our registered agent's office in the British Virgin Islands are both located at P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, British Virgin Islands.

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." On April 15, 2013, Sinoport Enterprises Limited changed its name 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 "Tanboksok 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 are issued and outstanding. At formation, THL had one director, Dehong Zhang, a citizen of the Philippines. On June 21, 2013, Yefang Zhang, a citizen of the Philippines, 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 September 28, 2018, THL completed an issuance of 150,000 common shares.

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 Philippines. On June 21, 2013, Yefang Zhang, a citizen of the Philippines, was also appointed as a director of USCNHK.

Tantech Bamboo

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.” 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. Tantech Bamboo’s authorized share capital is RMB 80 million, of which Lishui Tantech owns 100% interest. Tantech Bamboo has one director, Zhengyu Wang, who is a PRC citizen.

Tantech Charcoal

Tantech Charcoal was formed on September 5, 2002. Tantech Charcoal’s authorized share capital is RMB 3.5 million, of which Tantech Bamboo owns 100%. Tantech Charcoal is organized as a limited liability company under PRC law. Tantech Charcoal has one director, Zhengyu Wang, who is a PRC citizen.

Tantech Energy

Tantech Energy was formed on September 24, 2008. Tantech Energy's authorized share capital is RMB 30 million, of which Tantech Bamboo owns 100%. Tantech Energy is organized as a limited liability company under PRC law. Tantech Energy has one director, Zhengyu Wang, who is a PRC citizen. 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, our former CTO.

Zhejiang Zhongzhu

Zhejiang Zhongzhu was formed on November 18, 2015 as Lishui Zhongzhu Charcoal Co., Ltd. It changed its name to Zhejiang Zhongzhu Tourism Development Co., Ltd. on May 17, 2017. It was closed on November 5, 2018.

Tanbo Tech.

Tanbo Tech. was formed on December 8, 2015. Tanbo Tech.'s authorized share capital is RMB 10 million, of which Tantech Bamboo owns 100%. Tanbo Tech. is organized as a limited liability company under PRC law. Tanbo Tech has one director, Zhengyu Wang, who is a PRC citizen.

Lishui Tantech

Lishui Tantech was formed on April 7, 2016. Lishui Tantech's authorized share capital is RMB 200 million, of which USCNHK owns 100%. Lishui Tantech is organized as a limited liability company under PRC law. Lishui Tantech has one director, Zhengyu Wang, who is a PRC citizen.

Shangchi Automobile, formerly known as Suzhou E-Motors

On July 12, 2017, the Company acquired 70% of the equity interest of Suzhou Yimao E-Motors Co., Ltd., which changed its name to Shangchi Automobile in January 2019 ("Shangchi Automobile") from its original shareholder. Shangchi Automobile is a specialty electric vehicles and battery manufacturer based in Zhang Jia Gang City, Jiangsu Province, China. After the acquisition, the Company owns a 100% equity interest of Euroasia International Capital Co., Ltd., a Hong Kong limited company ("Euroasia") and its wholly owned subsidiary Shanghai Jiamu Investment Management Co., Ltd, a Chinese company ("Jiamu"), which further owns 100% equity interest of Hangzhou Jixi Investment Management Co., Ltd, a Chinese company ("Jixi"). Jixi owns a 19% of equity interest of Shangchi Automobile. In addition, Jiamu entered into a series of contractual agreements with the owners of Hanzhou Wangbo Investment Management Co., Ltd, a Chinese company ("Wangbo"), which owns 51% of the equity interests of Shangchi Automobile. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (collectively, the "VIE Agreements").

Pursuant to the above VIE Agreements, which are described in further detail below, Jiamu has the exclusive right to provide Wangbo consulting services related to business operations including technical and management services. Taken together, the VIE 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 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 controls a 70% equity interest of Shangchi Automobile and the accounts of Shangchi Automobile are consolidated into those of the Company. Ouyatong, Jiamu, Jixi and Wangbo are all investment holding companies with no significant business activities. (collective "E-Motor Holdings").

Contractual Arrangements

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

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

Due to the regulations on foreign ownership of PRC businesses, Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”) and Hangzhou Wangbo Investment Management Co., Ltd (“Wangbo”) have entered into a series of contractual arrangements, also known as VIE Agreements. The variable interest entity, or VIE, agreements are 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 has advised that the VIE agreements constitute valid and binding obligations of the parties to such agreements and are enforceable and valid in accordance with the laws of the PRC.

The VIE Agreements, entered into as of July 13, 2017, are described below and consist of (a) Exclusive Purchase Agreement, (b) Equity Interest Pledge Agreement, (c) Exclusive Management Consulting and Technology Service Agreement, (d) Voting Rights Proxy Agreement and (e) Power of Attorney. As an overview, these agreements taken together are 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 provide us with effective control of our VIE and that enable us to receive substantially all of the economic benefits from its operations.

Exclusive Purchase Agreement

The Exclusive Purchase Agreement (the “Purchase Agreement”) was entered into by and among (a) Jiamu, (b) Wangbo and (c), Mr. Zhengyu Wang and Mr. Wangfeng Yan, as shareholders of Wangbo (the “Wangbo Shareholders”).

Pursuant to the Purchase 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 Interest Pledge Agreement

This Equity Interest Pledge Agreement (the “Pledge Agreement”) was made and entered into by and among Jiamu as pledgee, the Wangbo shareholders as pledgors and Wangbo. 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 Service Agreement and any supplemental agreements (if any) between Jiamu and Wangbo; (b) Exclusive Purchase Agreement and any supplemental agreements (if any) among Jiamu, Wangbo and the Wangbo Shareholders; and (c) Shareholder Voting Right Authorization Agreement and any supplemental agreements (if any) among Jiamu, Wangbo and the Wangbo Shareholders.

Exclusive Management Consulting and Technology Service Agreement

This Exclusive Management Consulting and Technology Service 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.

Voting Rights Proxy Agreement

This Voting Rights Proxy Agreement (the “Proxy Agreement”) was made and entered by and among Jiamu as trustee, the Wangbo Shareholders as trustors and Wangbo. Under the Proxy Agreement, 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 Memorandum and Articles of Association 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 Memorandum and Articles of Association; (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 Purchase Agreement take effect.

Power of Attorney

The Power of Attorney was made and entered into by Mr. Wangfeng Yan. Pursuant to the Power of Attorney, Mr. Yan designated Mr. Zhengyu Wang to exercise Mr. Yan’s rights under the Proxy Agreement on behalf of Mr. Yan.

Shenzhen Yimao New Energy Sales Co., Ltd.

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

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 between 2051 and 2058. Following is a list of our properties:

Property	Land Use Expiration	Space	Ground Floor Area
No. 10 Cen Shan Road, Shuige Industrial Zone, Lishui City, Zhejiang Province 323000, People’s Republic of China (headquarters)	September 23, 2058	51,419 m ²	37,248 m ²
No. 508 Wen San Road, Room 1106, Hangzhou City, Zhejiang Province, People’s Republic of China	June 7, 2051	357 m ²	118 m ²
No. 888 Tianning Street, Lishui City, Zhejiang Province, People’s Republic of China	December 18, 2052	15,208 m ²	13,755 m ²
No. 4 Bridge, 204 Way, Yeyu Town, Zhangjiagang City, Jiangsu Province, People’s Republic of China	Lease through May 2019	26,580 m ²	26,580 m ²
Total		93,564 m²	77,701 m²

Currently, household products are sold via our sales and distribution networks located in 17 cities (Changchun, Changsha, Chengdu, Chongqing, Fuzhou, Guangzhou, Hangzhou, Harbin, Jinan, Lanzhou, Lishui, Shanghai, Shenyang, Taiyuan, Tianjin, Yantai, and Zhengzhou). We do not own or lease locations in Shenyang, Tianjin, Yantai, Taiyuan, Zhengzhou, Changsha, Fuzhou or Lanzhou. In addition, we have logistics centers in Lishui and relationships with third-party warehousing companies in Hangzhou, Jinan, Shanghai and Zhengzhou.

The following is a list of our office, sales and distribution networks and logistic center locations.

Location	Lease Expiration	Area
Hangzhou		
Fl 9, 459 Qianmo Rd, Binjiang, District, Hangzhou City, Zhejiang Province	May 9, 2020	400 m ²
Lishui		
No 888, Tianning St., Lianduqu, Lishui	Company-owned property	6,000 m ²
Zhangjiagang City (Shangchi Automobile)		
No.4 Bridge, 204 Way, Yeyu Town, Zhangjiagang	described above	26,580 m ²

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 and for our EDLC carbon. 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 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. Tantech Energy granted the encumbrances on our land use right at our Shuige Industrial Zone facility. We have relocated our facilities from our facility on Tianning Street to a new, larger facility on Cen Shan Road. Forasen Group currently occupies approximately 500 square meters of our Tianning Street facility as its office. We have not historically charged Forasen Group for renting this office space. We have referred the matter to our corporate governance committee to determine an appropriate rental fee for this office space. We will base the rental fee on comparable rental spaces in the Lishui area. We are leaving 15,691 square meters of our Tianning Street property vacant and available for rental. The costs to maintain the Tianning property (approximately \$19,433 (RMB 121,000) per year), we have no guarantee that we will be able to rent the remainder of the property.

None of our property is affected by any environmental issues that may affect our use of the property. At present, our plans to further develop, expand or improve these properties are funded through proceeds from our initial public offering and through our operating cash flows.

Shangchi Automobile, formerly Suzhou Yimao E-Motors Co., Ltd has a manufacturing facility, located in Zhangjiagang City, Jiangsu Province, of 26,580 square meters.

Images of Shangchi Automobile's facilities are presented below:



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. Our facilities in Hangzhou and our Tianning facility in Lishui are used for general office and administration purposes.

Shuige Industrial Zone facility

The following is a map of our Shuige Industrial Zone facility, which displays the building numbers referred to in the below tables describing the productive uses of such facility.



Non-production properties:

Functional uses and location	Area (m ²)	Actual used area (m ²)	Reserved area (m ²)	Space utilization	Reserved purpose
Office administration, training, product display and so on (First through fourth floors of building No. 1)	4,478	3,359	1,120	75%	Additional offices
Research and development center (Fifth and sixth floors of building No. 1 and building 11)	4,027	1,120	2,907	27.8%	New product development team, EDLC research and development center
Employee dorms (Building No. 9, 10)	7,182	7,182	None	100%	N/A
Other (boiler room, guard room, waste water processing and so on) (Building No. 13 through 16)	218	218	None	100%	N/A

We currently reserve 4,478 m² for office administration, training and product display purposes, of which 3,359 m² are currently used. We have reserved 1,120 m² for additional office space.

Our research and development center consists of 4,027 m², of which we use 1,120 m² at present. We plan to use the additional space on the sixth floor of our Shuige Industrial Zone facility for our new product development team when our needs exceed the space provided on the fifth floor, but we do not have a specific time or plan in place for expanding such team. Until recently when we decided to divest our EDLC business, we had planned to use the balance of space devoted to this purpose to implement an EDLC research and development center.

We use 218 m² for general facility purposes, including our boiler room, guard room and other similar purposes.

Our employee dorms cover 7,182 m², all of which is in use.

Production properties:

Functional uses and location	Area (m ²)	Actual used area (m ²)	Reserved area (m ²)	Space utilization	Current capacity (metric tons) ⁽¹⁾	Actual productivity (metric tons)	Capacity utilization	Reserved purpose
Barbecue charcoal production line (Building No. 2)	11,854	5,927	5,927	50%	1,000	309	30.9%	Installation of equipment for production expansion
Solid deodorant and purification product production line (Building No. 3, half of building No. 4)	10,984	10,984	0	100%	20,000	20,949	104.7%(2)	N/A
Liquid household hygiene product and bamboo vinegar product production line (Half of building No. 4)	3,440	1,720	1,720	50%	5,000	4,091	82.0%	Installation of a new production line
EDLC carbon production line (Building No. 5, 6, 7, 8, 9)	9,098	3,473	5,625	38.2%	500	304	60.8%	Build a production line for 1,000 additional tons of EDLC carbon capacity

- (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 exceeded 100% utilization rate by operating this production line in excess of the assumed capacity rates.

We have reserved 11,854 m² of our Shuige Industrial Zone facility for our barbecue charcoal production line, and currently use 5,927 m² of this area. The remaining 5,927 m² is reserved for a future production line. In our existing barbecue charcoal production line, we have a current capacity of approximately 1,000 tons per year, and we produced 340 tons of BBQ charcoal in 2015, a capacity utilization rate of 34%.

We have reserved 10,984 m² of our Shuige Industrial Zone facility for our solid deodorant and purification product production line. We currently use all of the space. In our existing Charcoal Doctor solid product production line, we have a current capacity of approximately 20,000 tons per year, and we produced 21,500 tons of Charcoal Doctor solid product in 2015, a capacity utilization rate of 107.5%. We exceeded 100% utilization 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.

We have reserved 3,440 m² of our Shuige Industrial Zone facility for our liquid household hygiene product and bamboo vinegar product production line, of which we currently use 1,720 m². The remaining 1,720 m² is reserved for installation of a new production line. In the existing production line, we have a current capacity of approximately 5 million units per year, and we produced 3.6 million units of our liquid products in 2015, a capacity utilization rate of 72%.

Until our recent decision to divest our EDLC business, we had reserved 9,098 m² of our Shuige Industrial Zone facility for an EDLC carbon production line, of which we currently use 3,473 m². The remaining 5,625 m² was reserved for building another production line to increase capacity by 1,000 tons of EDLC carbon per year. 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, our former CTO. We expect to lease these facilities to Zhejiang Apeikesi Energy Co., Ltd., the buyer of our EDLC line of business.

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 annual report on Form 20-F. 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 annual report on Form 20-F, particularly in “Risk Factors.”

A. Operating Results

Overview of Company

Traditionally, we have been a specialized manufacturer of bamboo charcoal based products with primary business focus in consumer products and low emission BBQ charcoal. We conduct our operations in China through our wholly owned subsidiary, USCNHK in Hong Kong and its majority-owned Chinese subsidiary, Tantech Bamboo. Tantech Bamboo is engaged in the production and distribution of consumer products.

Through Tantech Bamboo’s wholly-owned Chinese subsidiaries, Tantech Charcoal and Tantech Babiku, we conduct trading business, including the export of charcoal products; and through Tantech Bamboo’s wholly-owned Chinese subsidiary, Tantech Energy, we manufacture low emission BBQ charcoal. Our subsidiary Tantech Energy was engaged in the manufacturing of Electric Double-Layer Capacitor (“EDLC”) carbon. 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, our former CTO.

In the fourth quarter of 2015, we registered two Chinese subsidiary companies, Lishui Zhongzhu Charcoal Co., Ltd. (“Lishui Zhongzhu” or “Zhongzhu”) and Hangzhou Tanbo Tech Co., Ltd. (“Tanbo Tech” or “Tanbo”). Lishui Zhongzhu is engaged in the production and sales of active charcoal and other products. Tanbo Tech explores business opportunities outside Lishui area.

As of December 31, 2018, we closed Lishui Zhongzhu and Tantech Babiku, and we are planning to sell Tantech Energy because of a business strategy change. As a result, the assets and liabilities for these discontinued entities were reported as components of total assets and liabilities separate from those balances of the continuing operations. At the same time, the results of all these discontinued operations, less applicable income taxes (benefit), were reported as components of net income (loss) separate from the net income (loss) of continuing operations in accordance with ASC 205-20-45.

On July 12, 2017, the Company acquired 70% of the equity interest of Suzhou Yimao E-Motors Co., Ltd., which became known as Shangchi Automobile in 2019 (“Shangchi Automobile”) from its original shareholder. Shangchi Automobile is a specialty electric vehicles and battery manufacturer based in Zhang Jia Gang City, Jiangsu Province, China. After the acquisition, the Company owns a 100% equity interest of Euroasia International Capital Co., Ltd., a Hong Kong limited company (“Euroasia”) and its wholly owned subsidiary Shanghai Jiamu Investment Management Co., Ltd, a Chinese company (“Jiamu”), which further owns 100% equity interest of Hangzhou Jixi Investment Management Co., Ltd, a Chinese company (“Jixi”). Jixi owns a 19% of equity interest of Shangchi Automobile. In addition, Jiamu entered into a series of contractual agreements with the owners of Hanzhou Wangbo Investment Management Co., Ltd, a Chinese company (“Wangbo”), which owns 51% of the equity interests of Shangchi Automobile. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (collectively, the “VIE Agreements”).

Pursuant to the above VIE Agreements, which are described in further detail below, Jiamu has the exclusive right to provide Wangbo consulting services related to business operations including technical and management services. Taken together, the VIE 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 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 controls a 70% equity interest of Shangchi Automobile and the accounts of Shangchi Automobile are consolidated into those of the Company. Ouyatong, Jiamu, Jixi and Wangbo are all investment holding companies with no significant business activities (collective "E-Motor Holdings").

As of December 31, 2018, the Company had three reporting segments including consumer product segment, trading segment and electric vehicle segment.

Our consumer products include purification and deodorization products, cleaning products and barbecue charcoals designed for domestic market. Purification and deodorization products and cleaning products are sold under the brand name "Charcoal Doctor" and include air purification products, deodorizer and bamboo vinegar. Cleaning products include kitchen and bathroom cleaning products, personal care products and liquid detergents. Consumer products accounted for 70.9%, 81.6% and 83.9% of the total revenue for the years ended December 31, 2018, 2017 and 2016, respectively.

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.

Our trading business was mainly related to the export of charcoal products. We established Tantech Charcoal as a trading company for the export of our charcoal products in order to avoid mixing our export sales and our production businesses. Production businesses that are combined with export businesses typically have a higher tax rate than we pay by separating these businesses. By separating the trading business from the production business, we enjoy tax incentives and more streamlined operations. Because of our experience in trading charcoal and in order to improve our cash flows, we also engaged in rubber trading through this entity until September 2013. The profit of our trading business has been relatively low, and in September 2013, we started phasing out our trades of rubber. While we may have sporadic trades of rubber in the future and while we are still authorized to engage in rubber trading, it will not be a focus of our Company.

We are in the process to transform our business to specialty electric vehicles (EVs) market. However, we expect our sales of consumer products will stabilize in the coming years with the brand awareness and establishment for our bamboo charcoal products. Our acquisition of Shangchi Automobile completed in the second quarter of 2017 and we will focus on developing and selling specialty EVs. 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 otherwise unaware of any specific known trends, uncertainties or events that are reasonably likely to have a material effect on our sales or revenue of consumer products. Our revenue from our trading segment is unlikely to increase significantly in future years. If we cannot increase our consumer products and Electronic 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 not seen any impact of unfavorable government policy upon our business in recent years. However, 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 the government restrictions, however, any future changes in the government's policy upon 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.

Our BBQ charcoals also face competition from similar products that are not made of bamboo-based charcoal. For example, our Algold grand shisha charcoal competes with Shaxian Jinlu Charcoal Factory. While our shisha charcoal is a popular bamboo-charcoal based product, the competitor product is more popular but not bamboo-charcoal based. Our other key international competitors in this area include Haiwan International Trading Co., Ltd., Nanxiong Guizhu Charcoal Co., Ltd. and Shaoguan Libao Daily Sundry Co., Ltd. In addition to these companies, we compete domestically with Fujian Zhuhai Charcoal Co., Ltd., Jiangshan Green Charcoal Co., Ltd., Pujiang Fuli Bamboo & Wood Co., Ltd. and Sanhe Senyuan Charcoal Co., Ltd.

Some of our Products are Subject to Cyclical Sales.

Our BBQ charcoal products and solid bamboo charcoal products are subject to cyclical sales. We typically see our highest sales of BBQ charcoal products in April and May and then again between August and October. The first peak marks our customers' preparation for the summer outdoor barbeque season, and the second peak is related to their purchase of our BBQ charcoal products for heating and cooking indoors in the colder months.

The peak season for our solid bamboo charcoal products is between October and November, and sales are lowest in February and March as a result of Chinese New Year, as consumers tend to purchase such products prior to the holiday, rather than after.

While we have seen higher sales near the end of the year for our liquid products, we believe our sales volume for such products is too low to consider such fluctuations cyclical. As such products are primarily for export, demand for our liquid products is most likely to be affected by seasonal and other fluctuations in the purchasing country rather than in China.

Notwithstanding the effects of seasonality, we believe the key drivers for us to maintain a competitive position in the market and positive financial performance continue to be brand recognition, product innovation and the application of new technology.

Results of Operation

The following table summarizes the selected results of our operation during the fiscal years ended December 31, 2018 and 2017, 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:	2018		2017		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	\$ 29,561	100%	\$ 42,298	100%	\$ (12,737)	(30.1)%
Cost of revenues	21,532	72.8%	31,742	75.0%	(10,210)	(32.2)%
Gross profit	8,029	27.2%	10,556	25.0%	(2,527)	(23.9)%
Operating expenses						
Selling expenses	320	1.1%	731	1.7%	(411)	(56.2)%
General and administrative expenses	4,972	16.8%	4,626	10.9%	346	7.5%
Research and development expenses	387	1.3%	628	1.5%	(241)	(38.4)%
Total operating expenses	5,679	19.2%	5,985	14.1%	(306)	(5.1)%
Income from operations	2,350	7.9%	4,571	10.8%	(2,221)	(48.6)%
Other income (expenses)						
Interest income	57	0.2%	19	-%	38	200%
Interest expense	(626)	(2.1)%	(551)	(1.3)%	(75)	13.6%
Other income	247	0.8%	436	1.0%	(189)	(43.3)%
Total other income (expense)	(322)	(1.1)%	(96)	(0.2)%	(226)	235.4%
Income before income taxes	2,028	6.9%	4,475	10.6%	(2,447)	(54.7)%
Provision for income taxes	1,031	3.5%	1,528	3.6%	(497)	(32.5)%
Net income from continuing operations	997	3.4%	2,947	7.0%	(1,950)	(66.2)%
Net income from discontinued operations	83	0.3%	66	0.2%	17	25.8%
Net income	1,080	3.7%	3,013	7.1%	(1,933)	(64.2)%
Net income attributable to common stockholders of Tantech Holding Inc.	\$ 1,977	6.7%	\$ 3,767	8.9%	\$ (1,790)	(47.5)%

The following table summarizes the results of our operation during the fiscal years ended December 31, 2017 and 2016, 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:	2017		2016		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	\$ 42,298	100%	\$ 39,902	100.0%	\$ 2,395	6.0%
Cost of revenues	31,742	75.0%	26,879	67.4%	4,863	18.1%
Gross profit	10,556	25.0%	13,023	32.6%	(2,467)	(18.9)%
Operating expenses						
Selling expenses	731	1.7%	622	1.6%	109	17.5%
General and administrative expenses	4,626	10.9%	3,613	9.1%	1,013	28.0%
Research and development expenses	628	1.5%	137	0.3%	491	358.4%
Total operating expenses	5,985	14.1%	4,372	11.0%	1,613	36.9%
Income from operations	4,571	10.8%	8,651	21.7%	(4,080)	(47.2)%
Other income (expenses)						
Interest income	19	0%	1	0%	18	1800%
Interest expense	(551)	(1.3)%	(471)	(1.2)%	(80)	17.0%
Government subsidy income	-	-	53	0.1%	(53)	(100)%
Other income	436	1.0%	99	0.2%	337	340.4%
Total other income (expense)	(96)	(0.2)%	(318)	(0.8)%	222	(69.8)%
Income before income taxes	4,475	10.6%	8,333	20.9%	(3,858)	(46.3)%
Provision for income taxes	1,528	3.6%	1,367	3.4%	161	11.8%
Net income from continuing operations	2,947	7.0%	6,966	17.5%	(4,019)	(57.7)%
Net income (loss) from discontinued operations	66	0.2%	(2,358)	(5.9)%	2,424	(102.8)%
Net income	3,013	7.1%	4,608	11.5%	(1,595)	(34.6)%
Net income attributable to common stockholders of Tantech Holding Inc.	\$ 3,767	8.9%	\$ 4,300	10.8%	\$ (533)	(12.4)%

Revenues: revenues decreased by approximately \$12.7 million, or 30.1%, to approximately \$29.6 million in fiscal 2018 from approximately \$42.3 million in fiscal 2017. The decrease was mainly attributable to the significant decrease of our consumer products due to change of our business strategy. The revenue from our trading segment was increase due to higher demands. We also had less revenue from electronic vehicle (“EV”) segment compare to 2017.

Revenues: revenues increased by approximately \$2.4 million, or 6.0%, to approximately \$42.3 million in fiscal 2017 from approximately \$39.9 million in fiscal 2016. The increase was mainly attributable to approximately \$8.6 million revenue from electronic vehicle (“EV”) segment and approximately \$1.3 million increase in revenue from trading segment, offset by a \$7.7 million decrease in revenue from consumer product segment.

Decrease in revenue from consumer product segment

Our consumer product segment is the largest among our three segments. Our revenue from consumer products was primarily generated through the sales of our purification and deodorization products and cleaning products and barbecue charcoals designed for the domestic market. Our consumer products are considered to be environmentally friendly not only because of the lifespan and fast growth rate of bamboo, but also the minimum waste in the process of producing our products. In addition, our products feature a high raw material utilization rate and have met the standards set for designation of “environmentally friendly” enterprises by the Chinese Society for Environmental Sciences. Moreover, our facilities have received ISO 14001:2004 certification, which reflects our focus on measuring and managing our environmental impact.

A study conducted in Shanghai’s Lianhua Supermarket found that, given equivalent products, 85% of the consumers preferred environmentally friendly products and were willing to pay prices up to 5% higher than traditional products. We anticipate that growing consumer preferences for environmentally friendly products over traditional household cleaning products and increasing consumer awareness of our brand as an “environmentally friendly” enterprise will drive revenue from our consumer products in the coming years.

Revenues from consumer product segment decreased by \$9.5 million, or 29.8%, to \$22.4 million for fiscal 2018 from \$31.9 million for the prior fiscal year. The gross margin of consumer product segment increased from 25.7% in fiscal 2017 to 35.9% in fiscal 2018. The decrease in our revenue from consumer product segment in 2018 was due to the following reasons. First, as a result of the increasing competition from E-commerce and change of shopping habits among younger consumers, people are increasingly buying consumer products online with unknown brands in order to save money. Therefore, orders from the Company’s customers for its consumer products decreased considerably. Second, in 2018, the Company reduced the cooperation with certain supermarket customers with low selling price and unfavorable profit margin. And third, in response to market competition, the Company also reduced the selling for non-popular products with lower gross margin. The overall decrease in the Company’s revenue from consumer product segments reflected the above factors.

Revenues from consumer product segment decreased by \$7.5 million, or 19%, to \$31.9 million for fiscal 2017 from \$39.3 million for the prior fiscal year. The gross margin of consumer product segment also decreased from 31.8% in fiscal 2016 to 25.7% in fiscal 2017. The decrease in our revenue from consumer product segment in 2017 was due to the following reasons. First, as a result of increasing competition from E-commerce and online shopping. Second, in 2017, the Company gradually reduced the cooperation with certain supermarket customers with low selling price and unfavorable profit margin. Total number of supermarket customers decreased from 12 in 2016 to 8 in 2017, and revenue from supermarket customers decreased by 95%, from \$28 million (RMB 186.2 million) in 2016 to only \$1.4 million (RMB 9.4 million) in 2017. On the other hand, the Company increased sales to distributors during the current period. Revenue from distributors and specialty shop customers increased by 156%, from \$12.9 million in 2016 to \$33.1 million in 2017. Total number of distributors and specialty shop customers increased from 42 in 2016 to 48 in 2017. And third, in response to market competition, the Company also reduced the average selling price by approximately 3% to 5% to satisfy customers’ demand in 2017 as compared to 2016. The overall decrease in the Company’s revenue from consumer product segments reflected the above factors.

Trading segment

Revenue from our trading segment was approximately \$3.8 million in fiscal 2018, an increase of 106% from \$1.9 million in fiscal 2017. Starting in fiscal 2017, the Company focused on promoting “Charcoal Doctor” products in the market. As a result, our domestic sales of “Charcoal Doctor” products increased significantly. The decline in gross margin in fiscal 2018 comparing to fiscal 2017 was due to the fact that almost all our sales were made to domestic market which have lower margins.

Revenue from our trading segment was approximately \$1.8 million in fiscal 2017, an increase of 230% from \$0.6 million in fiscal 2016. In fiscal 2016, we dropped the trading business of non-“Charcoal Doctor” products, since those products disrupted our own branded charcoal products sale. The change in marketing strategy caused low sales volume and revenue in fiscal 2016. Starting in fiscal 2017, the Company focused on promoting “Charcoal Doctor” products in the market. As a result, our domestic sales of “Charcoal Doctor” products increased from \$0.1 million in fiscal 2016 to \$1.4 million in fiscal 2017, while the export sales remained around \$0.4 million in both years. The gross margin in export sales is generally higher than the domestic sales. The decline in gross margin in fiscal 2017 was due to the fact that approximately 76% of sales in fiscal 2017 were made to domestic market with lower margins, compared to only 19% sales to domestic market in fiscal 2016.

Electronic Vehicle (“EV”) segment

On July 12, 2017 (the “Closing Date”), the Company completed the acquisition of 70% of the equity interest of Suzhou E-Motors Co., Ltd, which became known as Shangchi Automobile in 2019 (“Shangchi Automobile”), a specialty electric vehicles and power batteries manufacturer based in Zhang Jia Gang City, Jiangsu Province, People’s Republic of China. The Company believes that the acquisition brings new advanced technologies and economic synergies in electric vehicle market and broaden the Company’s customer base and cross-selling opportunities.

The revenue for our EV segment was approximately \$3.4 million in fiscal 2018 with negative gross margin of 14.7%. The Company sold 110 electronic logistic electronic cars in fiscal 2018. The revenue for our EV segment was approximately \$8.6 million in fiscal 2017 with gross margin of 22.6%. The Company sold 100 electronic cars in fiscal 2017.

Cost of revenues:

Our cost of revenues decreased by approximately \$10.2 million or 32.2% to approximately \$21.5 million in fiscal 2018 from approximately \$31.7 million in fiscal 2017. As a percentage of revenues, the cost of revenue decreased to 73% in fiscal 2018 from 75% in fiscal 2017.

The decrease in cost of revenues as a percentage of revenues in fiscal 2018 was mainly attributable to the lower cost of revenues from our consumer products and EV segment due to lower sales. On the other side, the cost of revenue for trading segment increased to inline with the increased sales.

Our cost of revenues increased by approximately \$4.9 million or 18.1% to approximately \$31.7 million in fiscal 2017 from approximately \$26.9 million in fiscal 2016. As a percentage of revenues, the cost of revenue increased to 75.0% in fiscal 2017 from 67.4% in fiscal 2016. The increase in cost of revenues was mainly attributable to the approximately \$6.6 million cost of revenue for our EV segment. The cost of revenue for our trading segment increased by \$1.4 million compared to fiscal 2016 due to higher revenue in fiscal 2017. On the other side, the cost of revenue for consumer product segment decreased by 13% or approximately \$3.7 million compared to fiscal 2016 due to an 18% decrease in revenue in fiscal 2017. The increase in cost of revenues as a percentage of revenues in fiscal 2017 was primarily attributable to the increased material costs of our air purification, deodorizer and bamboo vinegar products.

Gross profit:

Our gross profit decreased by approximately \$2.5 million, or 23.9% to approximately \$8.0 million in fiscal 2018 from approximately \$10.5 million in fiscal 2017. The gross profit margin was 27.2% in fiscal 2018, as compared to 25.0% in fiscal 2017. On segment basis, gross margins for consumer product, Trading and EV segment were 35.9%, 12.9%, and (14.7)%, respectively, for fiscal 2018, compared to 25.7%, 22.8% and 22.6%, respectively, for fiscal 2017. The decrease in gross margin was primarily attributable to the lower selling price related trading segment and our EV segment in fiscal 2018.

Our gross profit decreased by approximately \$2.5 million, or 18.9% to approximately \$10.5 million in fiscal 2017 from approximately \$13.0 million in fiscal 2016. The gross profit margin was 25.0% in fiscal 2017, as compared to 32.6% in fiscal 2016. On segment basis, gross margins for consumer product and trading were 25.7% and 22.8%, respectively, for fiscal 2017, compared to 31.3%, and 95.4%, respectively, for fiscal 2016. The decrease in gross margin was primarily attributable to the lower selling price related our consumer products and trading segment in fiscal 2017.

Selling expenses:

Selling expenses decreased by approximately 0.4 million to approximately \$0.3 million in fiscal 2018 compared to approximately \$0.7 million in fiscal 2017. As a percentage of sales, our selling expenses was 1.1% of revenues in fiscal 2018, as compared to 1.7% of revenues in fiscal 2017. The decrease of the selling expenses was mainly attribute to the decreased sales.

Selling expenses increased by approximately \$0.1 million to approximately \$0.7 million in fiscal 2017 compared to approximately \$0.6 million in fiscal 2016. As a percentage of sales, our selling expenses increased to 1.7% of revenues in fiscal 2017, as compared to 1.6% of revenues in fiscal 2016. The increase in selling expenses was primarily attributable to \$0.3 million of selling expense in our EV segment, which is our new business segment acquired in fiscal 2017.

General and administrative expenses:

Our general and administrative expenses increased by approximately \$0.3 million or 7.5%, to approximately \$4.9 million in fiscal 2018 from approximately \$4.6 million in fiscal 2017. As a percentage of revenues, general and administrative expenses increased to 16.8% in fiscal 2018, compared to 10.9% in fiscal 2017. The slight increase was primarily attributable to the following factors:

- We recorded approximately \$2.1 million as bad debt expenses for accounts receivable, advances to suppliers and other receivable. In fiscal 2017, we recorded bad debt expense related to accounts receivable by approximately \$2.6 million, but decreased the bad debt expenses related to advance to suppliers by \$1.0 million; and
- We also recorded approximately \$0.7 million as inventory reserve.

Our general and administrative expenses increased by approximately \$1.0 million or 28.0%, to approximately \$4.6 million in fiscal 2017 from approximately \$3.6 million in fiscal 2016. As a percentage of revenues, general and administrative expenses increased to 10.9% in fiscal 2017, compared to 9.1% in fiscal 2016. The increase was primarily attributable to the following factors:

- Our bad debt expense related to accounts receivable increased by approximately \$2.6 million. Based on the results of aging analysis performed, we set aside approximately \$3.9 million and \$0.9 million as allowance for potentially uncollectable accounts receivable balances as of December 31, 2017 and 2016, respectively. As a percentage of accounts receivable, our reserve balance increased to 7% as of December 31, 2017 from 2.3% as of December 31, 2016; and
- Our bad debt expense related to advance to suppliers decreased by \$1.0 million compared to fiscal 2016, due to our continuous efforts on collection.

Research and development expenses:

Research and development expenses decreased by \$0.2 million, or 38.4%, to \$0.4 million in fiscal 2018 from \$0.6 million in fiscal 2017. The decrease was primarily due to less R&D activities during fiscal 2018 due to change of business strategies. We intended to spend more resources on R&D for our electric vehicle segment going forward.

Research and development expenses increased by \$0.5 million, or 358.4%, to \$0.6 million in fiscal 2017 from \$0.1 million in fiscal 2016. The increase was primarily due to our R&D efforts in our EV segment during the second half of fiscal 2017.

Total operating expenses

Total operating expenses decreased by \$0.3 million, or 5.1%, to \$5.7 million for fiscal 2018 from \$6.0 million in fiscal 2017, which was mainly due to a decrease of approximately \$0.2 million in general and administrative expenses and approximately \$0.2 million on R&D expenses, and offset by the increase of selling expenses of approximately \$0.1 million for fiscal 2018 compared to fiscal 2017.

Total operating expenses increased by \$1.6 million, or 36.9%, to \$6.0 million for fiscal 2017 from \$4.4 million in fiscal 2016, which was mainly due to an increase of approximately \$1.0 million in general and administrative expenses for fiscal 2017 compared to fiscal 2016.

Interest expenses:

Our interest expenses increased by approximately \$0.08 million, or 13.6% to approximately \$0.63 million in fiscal 2018, from approximately \$0.55 million in fiscal 2017. As the outstanding days of short-term bank loans in fiscal 2018 are more than that in fiscal 2017, we had more interest expenses accrued for bank loans in fiscal 2018 compared to fiscal 2017.

Our interest expenses increased by approximately \$0.08 million, or 17% to approximately \$0.55 million in fiscal 2017, from approximately \$0.47 million in fiscal 2016, because our short-term loan balance reduced by approximately \$1.5 million in fiscal 2017, compared to fiscal 2016.

Other Income:

Other income was approximately \$0.2 million in fiscal 2018 and \$0.4 million in fiscal 2017. Other income was primarily related to the consulting fee that we charged to a third party company using our patent in its production of doors with air treatment functionality.

Other income was approximately \$0.4 million in fiscal 2017 and \$0.1 million in fiscal 2016. Other income was primarily related to the consulting fee that we charged to a third party company using our patent in its production of doors with air treatment functionality.

Government subsidy income:

Our government subsidy income was approximately \$53,000 in fiscal 2016, granted by local governments in recognizing our achievements in different areas. All subsidies we received were one-time grants and we did not receive any subsidy in fiscal 2017 and fiscal 2018.

Income before income taxes from continuing operations:

Our income before income tax from continuing operations was approximately \$2.0 million in fiscal 2018, a decrease of approximately \$2.5 million compared to income of approximately \$4.5 million in fiscal 2017. The decrease was primarily attributable to a decrease of approximately 2.5 million in gross profit compared to fiscal 2017.

Our income before income tax from continuing operations was approximately \$4.5 million in fiscal 2017, a decrease of approximately \$3.8 million compared to approximately \$8.3 million in fiscal 2016. The decrease was primarily attributable to a decrease of approximately 2.5 million in gross profit, an increase of approximately \$1.6 million in operating expense compared to fiscal 2016.

Provision for income taxes:

Our provision for income taxes was approximately \$1.0 million in fiscal 2018, a decrease of approximately \$0.5 million or 32.5% from approximately \$1.5 million in fiscal 2017. The decrease was mainly due to lower income before income taxes from continuing operations in fiscal 2018 comparing to fiscal 2017. The Company provided full valuation allowance in fiscal 2018 on bad debt reserves due to uncertainties in realizing those tax benefits in future.

Our provision for income taxes was approximately \$1.5 million in fiscal 2017, an increase of approximately \$0.2 million or 11.2% from approximately \$1.4 million in fiscal 2016. Even though the Company had a lower income before income tax from continuing operations, the Company provided full valuation allowance on bad debt reserves due to uncertainties in realizing those tax benefits in future, which resulted in higher income tax provision in fiscal 2017.

Net income (loss) from discontinued operations:

As of December 31, 2018, we closed Tantech Babiku and Lishui Zhongzhu, and we are planning to sell Tantech Energy because of business strategy change. The net income for these discontinued operations was approximately \$0.08 million in fiscal 2018 compared to \$0.07 million in fiscal 2017. There was a net loss of approximately \$2.4 million from discontinued operations in fiscal 2016.

Net income attributable to common stockholders:

Our net income attributable to common stockholders was approximately \$2.0 million in fiscal 2018, a decrease of approximately \$1.8 million from approximately \$3.8 million in fiscal 2017. The decrease was attributable to the factors described above.

Our net income attributable to common stockholders was approximately \$3.8 million in fiscal 2017, a decrease of approximately \$0.5 million from approximately \$4.3 million in fiscal 2016. The decrease 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 its 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.

We have relied on direct payments of expenses by our subsidiaries (which generate revenues), to meet our obligations to date.

For the years ended December 31, 2018, the Company had a significant decrease in revenue from its consumer product segment and EV segment due to stiff competition. To react to this competition, the Company closed Liushui Zhongzhu and Tantech Babiku during Fiscal 2018 and has the plan to sell Tantech Energy as one of the moves for business strategy changes. All of these events had and will continue to have significant impact on the Company's operations.

For its consumer product sector, the Company significantly cut its sales to supermarket customers because of long-aged accounts receivable from these supermarket customers as online shopping has become increasingly popular. The Company has been experiencing longer sales and collection periods while pushing back on the delivery of raw materials for production. That leads to higher balances of accounts receivable and advances to suppliers as compared to prior years. Meanwhile, the newly acquired EV sector is also experiencing delays of government rebate processing time and reduction of the amount of government rebates on eligible vehicles due to recent policy changes.

Due to a successful equity financing which resulted in net proceeds of \$5.6 million in September 2017, the Company still had approximately \$7.7 million cash on hand as of December 31, 2018. Although the Company maintains a positive working capital as of December 31, 2018 and generated positive cash flows from its continued operations during the year ended December 31, 2018, the future operations of the Company depend on whether or not the Company can successfully collect its accounts receivable and utilize its advances, as well as how the change of government policies affect its new EV business. Without additional equity financing, the Company may heavily rely on bank borrowings or shareholder/related party loans to fund its working capital needs. As of December 31, 2018 and 2017, the Company had a short-term loan balance of approximately \$7.7 million and \$5.2 million, respectively. In addition, the Company had bank acceptance note payable balance of \$2.1 million and \$7.0 million as of December 31, 2018 and 2017, respectively. Any failure to renew these bank borrowings upon their maturities could have an adverse impact on the Company's operations.

The Company currently plans to fund its operations mainly through cash flow from its operations, renewal of bank borrowings, additional equity financing and the continuing financial support by its shareholders and its affiliates controlled by its principal shareholder, if necessary, in the near future to ensure sufficient working capital. The Company has implemented a stricter policy on sales to supermarkets and less credible customers and continues to improve its collection efforts on accounts with outstanding balances. The Company is actively working with other customers and suppliers and expects to fully collect or utilize the rest of prepayment balance in 2018.

The Company is also working closely with the local government to speed up the government rebate process and expects the outstanding rebate receivable being fully collected in 2019. With disposal of its EDLC business and placing focus on manufacturing of more marketable consumer products, the Company is shifting its strategy to cut back costs and ensure profitability. Although the Company is currently not generating net income from its EV sector, it has been focusing on reducing the costs and expenses and developing other non-rebate alternative energy products. The Company plans to fund this sector through additional private placement and continued support from the parent company even without timely receipt of government rebate. The principal shareholder of the Company, along with the affiliated entity, Forasen Group, has made pledges to provide financial support to the Company whenever necessary.

Based on its current operating plan, management believes that the above-mentioned measures collectively will provide sufficient liquidity for the Company to meet its future liquidity and capital requirements for at least next twelve months from the date of this report.

Further, although instruments governing the current debts incurred by our PRC subsidiaries do not have restrictions on their abilities to pay dividend or make other payments to us, the lender may impose such restriction in the future. As a result, our ability to distribute dividends largely depends on earnings from our PRC subsidiaries and its ability to pay dividends out of its earnings. We cannot assure you that our PRC subsidiaries will generate sufficient earnings and cash flows in the near future to pay dividends or otherwise distribute sufficient funds to enable us to meet our obligations, pay interest and expenses or declare dividends.

As of December 31, 2018, we had cash and cash equivalents of approximately \$7.7 million. Our current assets were approximately \$70.3 million and our current liabilities were approximately \$22.1 million, which resulted in a current ratio of 3.2:1, decreased from 3.3:1 in fiscal 2017. Total shareholders' equity as of December, 31 2018 was approximately \$102.1 million.

Our accounts receivable turnover in days were 285 days and 391 days for fiscal 2018 and 2017, 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 from continuing operations, the Company provided bad debt allowance of \$0.9 million against the aged accounts receivable balances. Subsequent to December 31, 2018 and through May 10, 2019, the Company collected \$15.6 million or 48% of the accounts receivable balance from continuing businesses as of December 31, 2018.

For the accounts receivable from discontinued operations, the Company provided bad debt allowance of \$0.3 million against the aged accounts receivable balances. The Company has subsequently as of May 10, 2019, collected back aggregate accounts receivable balance of approximately \$0.43 million from discontinued operations. As a result, remaining accounts receivable from discontinued operations is immaterial as of this Report Date.

As of December 31, 2018 and 2017, the Company had significant advances to suppliers of approximately \$14.4 million and 17.5 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 tighten 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.

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

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

	2018	2017	2016
Net cash provided by (used in) operating activities	\$ 14,665	\$ 2,151	\$ (7,069)
Net cash used in investing activities	(17,995)	(3,493)	(1,878)
Net cash provided by (used in) financing activities	(810)	8,336	9,400
Effect of exchange rate changes on cash	391	424	(492)
Net increase (decrease) in cash	(3,749)	7,418	(39)
Cash, beginning of year	13,619	6,201	6,240
Cash, end of year	\$ 9,870	\$ 13,619	\$ 6,201

Operating Activities

Net cash provided by operating activities was approximately \$14.7 million in fiscal 2018, compared to cash provided by operating activities of approximately 2.3 million in fiscal 2017. The increase in net cash provided by operating activities was primarily attributable to the following factors:

- a reduction in accounts receivable of approximately \$10.3 million due to collection efforts.
- In fiscal 2018, the Company provided bad debt reserve for accounts receivable of approximately \$0.9 million, bad debt reserve for advance to supplier of approximately \$0.8 million, and bad debt reserve for other receivables and due from related parties of approximately \$0.4 million. The Company also had an inventory reserve of approximately \$0.7 million in fiscal 2018.

Offset by the impacts from the following factors:

- the Company had a net income of \$1.1 in fiscal 2018, decreased by \$1.9 million compared to fiscal 2017.
- a reduction of accounts payable of approximately \$2.8 million and an increase of advance to suppliers of approximately \$2.0 million in fiscal 2018.

Net cash provided by operating activities was approximately \$2.1 million in fiscal 2017, compared to cash used in operating activities of approximately \$7.0 million in fiscal 2016. The increase in net cash provided by operating activities was primarily attributable to the following factors:

- a reduction in advance to suppliers of approximately \$4.1 million due to better utilization or refund of advance to suppliers in fiscal 2017, compared to \$11.4 million increase in payment of advances to suppliers for fiscal 2016.
- the bad debt reserve for fiscal 2017 was approximately \$2.6 million, compared to approximately \$0.2 million bad debt reserve for accounts receivable in fiscal 2016.

Offset by the impacts from the following factors:

- the Company had a net income of \$3.0 in fiscal 2017, decreased by \$1.6 million from fiscal 2016.
- an increase of government rebate receivable of \$2.9 million from our EV segment in fiscal 2017.
- a reduction of tax payable of approximately \$3.0 million in fiscal 2017 due to payment of taxes, compared to an increase of tax payable of \$87,175 in fiscal 2016.

Net cash used in investing activities was \$18.0 million for fiscal 2018, compared to net cash used in investing activities of \$3.5 million in fiscal 2017. The increase in net cash used in investing activities in fiscal 2018 was primarily attributable the payment of \$17.4 million paid for acquisition of all of the shares of Lishui Xincui Industrial Co., Ltd. (“Lishui XinCai”), a wholly-owned subsidiary of Shanghai Shicai, The net cash used in investing activities in fiscal 2017 was primarily attributable to \$4.5 million paid for acquisition of Shangchi Automobile.

Net cash used in investing activities was \$3.5 million for fiscal 2017, compared to net cash used in investing activities of \$1.9 million in fiscal 2016. The increase in net cash used in investing activities in fiscal 2017 was primarily attributable the payment of \$4.5 million paid for acquisition of Shangchi Automobile. The net cash used in investing activities in fiscal 2016 was primarily attributable to \$3.4 million deposit made for business acquisition of E-Motor, offset by a refund of \$1.5 million by a supplier due to the cancellation of an asset purchase.

Net cash provided by financing activities was \$0.8 million for fiscal 2018, compared to net cash provided by financing activities of \$8.3 million for fiscal 2017. Net cash provided by financing activities for fiscal 2018 primarily due to net proceeds of approximately \$2.4 million received from bank loans, proceeds of approximately \$2.4 million from third party, offset by net repayment of \$4.6 million of bank acceptance note payable.

Net cash provided by financing activities was \$8.3 million for fiscal 2017, compared to net cash provided by financing activities of \$9.4 million for fiscal 2016. Net cash provided by financing activities for fiscal 2017 primarily due to proceeds of approximately \$6.0 million received from September 2017 private placement and \$4.9 million increase in bank acceptance note payable, offset by net repayment of \$1.9 million in bank loans. The net cash provided by financing activities for fiscal 2016 was primarily attributable to the proceeds received from our private placement of approximately \$8.0 million in 2016 and net proceeds from bank acceptance note payable of \$1.8 million, offset by net repayment on bank loans of \$1.2 million.

Our primary source of cash is currently generated from the sales of our products and bank borrowings. In the coming years, we will be looking to other sources, such as raising additional capital by issuing shares of our common stock 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, 2018, the balance of our bank loans was approximately \$7.6 million. Our outstanding balance of bank acceptance notes was \$2.1 million as of December 31, 2018.

As of December 31, 2018, the details of all our short-term bank loans are as follow:

No	Type	Contracting Party	Valid Date	Duration	Amount
1	Short-term bank loan	Bank of China	August 16, 2018	7 months	\$ 1,513,000
2	Short-term bank loan	Bank of China	August 20, 2018	7 months	1,328,414
3	Short-term bank loan	Bank of China	August 01, 2018	7 months	1,966,900
4	Short-term bank loan	Shanghai Pudong Development Bank	November 23, 2018	1 year	\$ 2,874,700

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, 2017 and December 31, 2016. We are also a party to certain debt agreements that are secured with pledges on our real property in Shuige Industrial Zone facility 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, 2018 and December 31, 2017.

	As of December 31, 2018	As of December 31, 2017
Statutory Reserves	\$ 6,461,788	\$ 6,461,788
Total Restricted Net Assets	\$ 6,461,788	\$ 6,461,788
Consolidated Net Assets	\$ 109,985,014	\$ 109,612,378
Restricted Net Assets as Percentage of Consolidated Net Assets	5.9%	8.1%

Total restricted net assets accounted for approximately 5.9% of our consolidated net assets as of December 31, 2018. 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.

Total restricted net assets accounted for approximately 8.1% of our consolidated net assets as of December 31, 2017. 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 \$18.3 million, \$5.4 million and \$3.4 million for the years ended December 31, 2018, 2017 and 2016, respectively for the addition and renovation of our workshops and office buildings; purchasing of equipment in connection with our business activities.

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 initial public offering, our secondary offering and other sources to fund capital expenditure commitments in the future.

E. Off-balance Sheet Arrangements

We provided a guaranty on behalf of Forasen Group's outstanding line of credit of RMB 57,070,000 (equivalent to \$8,771,659) by pledging our building with a net book value of approximately \$6.4 million as the collateral for the loan and notes. The guaranty will be expired on July 23, 2020. As of today, no additional guarantee was made by the Company.

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 was 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.

Discontinued operation

In accordance with ASU No. 2014-08, Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity, a disposal of a component of an entity or a group of components of an entity is required to be reported as discontinued operations if the disposal represents a strategic shift that has (or will have) a major effect on an entity's operations and financial results when the components of an entity meets the criteria in paragraph 205-20-45-1E to be classified as held for sale. When all of the criteria to be classified as held for sale are met, including management, having the authority to approve the action, commits to a plan to sell the entity, the major current assets, other assets, current liabilities, and noncurrent liabilities shall be reported as components of total assets and liabilities separate from those balances of the continuing operations. At the same time, the results of all discontinued operations (which we presented as operations to be disposed and operations disposed), less applicable income taxes (benefit), shall be reported as components of net income (loss) separate from the net income (loss) of continuing operations in accordance with ASC 205-20-45.

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 purchase price allocation, the useful lives of property and equipment; allowances pertaining to the allowance for doubtful accounts and advances to related parties and suppliers; the valuation of inventories; and the realizability of deferred tax assets.

Business Combinations

Business combinations are accounted for under the purchase method of accounting. Under the purchase method, assets and liabilities of the business acquired are recorded at their estimated fair values as of the date of acquisition with any excess of the cost of the acquisition over the fair value of the net tangible and intangible assets acquired recorded as goodwill. Results of operations of the acquired business are included in the income statement from the date of acquisition.

Revenue Recognition

The Company adopted ASC Topic 606 Revenue from Contracts with Customers (“ASC 606”) on January 1, 2018 using the modified retrospective approach. Revenues for the year ended December 31, 2018 were presented under ASC 606, and revenues for the years ended December 31, 2017 and 2016 were not adjusted and continue to be presented under ASC Topic 605, Revenue Recognition. 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 revenue when the products are delivered and control is transferred. The delivery of goods either occurs when (a) goods leave the Company’s warehouse or production facilities or (b) goods are delivered and accepted by customer, usually at a location outside the Company. For sales under free on board (“FOB”) warehouse or production facilities term, the Company recognizes revenue when product leaves the Company’s warehouse or production facility. Product delivery is evidenced by warehouse shipping log as well as signed shipping bills from the shipping company. For sales under FOB destination term, the Company recognizes revenue when product is delivered and accepted by customer. Product delivery is evidenced by signed receipt document upon delivery.

Revenue from the rendering of services: Revenue from electric vehicle assembly services are recognized upon performance of services as stipulated in the underlying contract. Service revenue generated is currently minimum and insignificant.

Government manufacturing rebate income: The Company is eligible for a government manufacturing rebate on each qualifying electric bus 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.

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 February 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-02, *Leases* (“ASU 2016-02”). ASU 2016-02 specifies the accounting for leases. For operating leases, ASU 2016-02 requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. ASU 2016-02 is effective for public business entities for annual reporting periods and interim periods within those years beginning after December 15, 2018. The Company does not expect this guidance will have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* (“ASU 2016-13”) which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss methodology, which will result in more timely recognition of credit losses. ASU 2016-13 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019. The Company is currently in the process of evaluating the impact of the adoption of ASU 2016-13 on its consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, which allows a reclassification from accumulated other comprehensive income to retained earnings for adjustments to tax effects that were originally recorded in other comprehensive income due to changes in the U.S. federal corporate income tax rate resulting from the enactment of the U.S. tax reform legislation, commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Company does not expect this guidance will have a material impact on its consolidated financial statements.

In March 2018, the FASB issued ASU 2018-05— Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118 (“ASU 2018-05”), which amends the FASB Accounting Standards Codification and XBRL Taxonomy based on the Tax Cuts and Jobs Act (the “Act”) that was signed into law on December 22, 2017 and Staff Accounting Bulletin No. 118 (“SAB 118”) that was released by the Securities and Exchange Commission. The Act changes numerous provisions that impact U.S. corporate tax rates, business-related exclusions, and deductions and credits and may additionally have international tax consequences for many companies that operate internationally. The Company does not believe this guidance will have a material impact on its consolidated financial statements.

On June 20, 2018, the FASB issued ASU No. 2018-07, Compensation—Stock Compensation (Topic 718) - Improvements to Nonemployee Share-Based Payment Accounting, which aligns the accounting for share-based payment awards issued to employees and nonemployees. Under ASU No. 2018-07, the existing employee guidance will apply to nonemployee share-based transactions (as long as the transaction is not effectively a form of financing), with the exception of specific guidance related to the attribution of compensation cost. The cost of nonemployee awards will continue to be recorded as if the grantor had paid cash for the goods or services. In addition, the contractual term will be able to be used in lieu of an expected term in the option-pricing model for nonemployee awards. The new standard is effective for us on January 1, 2019. Early adoption is permitted, including in interim periods, and should be applied to all new awards granted after the date of adoption. The Company does not expect this guidance will have a material impact on its consolidated financial statements.

In August 2018, the FASB Accounting Standards Board issued ASU No. 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework Changes to the Disclosure Requirements for Fair Value Measurement” (“ASU 2018-13”). ASU 2018-13 modifies the disclosure requirements on fair value measurements. ASU 2018-13 is effective for public entities for fiscal years beginning after December 15, 2019, with early adoption permitted for any removed or modified disclosures. The removed and modified disclosures will be adopted on a retrospective basis and the new disclosures will be adopted on a prospective basis. The Company does not expect this guidance will have a material impact on its 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 position, statements of operations and cash flows.

F. Tabular Disclosure of Contractual Obligations

Below is a table setting forth all of our contractual obligations as of December 31, 2018, which consists of our short-term loan agreements, loans from third parties 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	\$ 7,683,014	\$ 7,683,014	\$ -	\$ -	\$ -
Bank Acceptance Notes Payable	2,121,377	2,121,377	-	-	-
Due to third parties	3,253,253	3,253,253	-	-	-
Due to related parties	1,723,105	1,723,105	-	-	-
Total	\$ 14,780,749	\$ 14,780,749	\$ -	\$ -	\$ -

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 May 15, 2019:

Name	Age	Position(s)
Zhengyu Wang	50	Chairman of Board of Directors and Chief Executive Officer
Wangfeng Yan	42	Chief Operating Officer
Jing Jin	37	Chief Financial Officer
Yefang Zhang	52	Director
Wencai Pan	41	Director (Independent)
Hongdao Qian	55	Director (Independent)
Shudong Wang	68	Director (Independent)

Zhengyu 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 Farmmi, Inc., another Nasdaq listed company since February 2018. 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.

Wangfeng Yan was appointed as our Chief Operating Officer on March 1, 2018. 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 Zhejiang Tantech Energy Tech Co., Ltd. (“Tantech Energy”). In these capacities, Mr. Yan contributed to the “Dr. Charcoal” brand sales channel development. In June 2010, Mr. Yan earned a Bachelor’s Degree in Engineering from Zhejiang Sci-tech University in Hangzhou.

Jing Jin joined Tantech Holdings in May 2016 and has since served as Chief Financial Officer. Prior to joining our company, Mr. Jin served as Senior Adviser for AAIC (Shanghai) Co., Ltd responsible for M&A transaction deals from January 2014 – February 2016. In the meantime, he also served as Project Advisor and Lecturer for Shanghai Golden Education Group. Prior to 2014, he worked in Can-Access Int’l Financial Consultants Ltd, Vancouver as Senior Financial Adviser, responsible for small-medium enterprises’ financing both in private and public. Mr. Jin graduated from Simon Fraser University in June 2008 in Burnaby, Canada with a Bachelor’s degree of Business Administration. He has been a licensed CPA in the state of New Hampshire since 2014.

Yefang 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 Farmmi, 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 GM 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 director and Chief Executive Officer, 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. 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.

Wencai Pan has been our director since 2014. He has served as the CFO of Shandong Xiangrui Pharmacy Co. Ltd., which was listed in the US under SMSA Treemont Acquisition Corp. from 2011 through present. From 2007 through 2010, Mr. Pan was the China controller for Aramex Express Logistics Services (Shanghai) Co. Ltd., a global logistics and transportation company from 2007 to 2010, as controller for its China operations and was based out of Shanghai. During 2006, Mr. Pan had been employed as a consultant by the Centergate Securities Bankruptcy Committee, which was set up by the China Securities Regulatory Commission, where he assisted on bankruptcy audits on Centergate Securities Ltd. Co. Previously, Mr. Pan served as the finance manager for SHERA International Limited, a technology product development, production and distribution company, from 2004 until the end of 2005 and was based out of Shanghai. Mr. Pan was employed as an internal auditor by Valley National Bank, located in Wayne, New Jersey, U.S., from 2003 to 2004. None of Mr. Pan's previous employers is a parent, subsidiary or other affiliate of the Company. Mr. Pan obtained a Masters in Professional Accountancy from The University of Utah, in 2003. In 1998, Mr. Pan received a bachelor's degree in Economics from The University of International Business & Economics, Beijing, China. Mr. Pan passed the Chinese CPA exam in 1997 and passed the Uniform CPA exam in the United States in 2002. We have chosen Mr. Pan to serve as a director because of his experience with US GAAP and with United States compliance issues.

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 Farmmi, 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, 2018 and 2017.

	Fiscal Year	Salary (\$)	Bonus (\$)⁽¹⁾	All Other Compensation (\$)⁽²⁾	Total (\$)
Zhengyu Wang	2018	35,054	—	1,084	36,138
<i>Chief Executive Officer</i>	2017	35,054	—	1,084	36,138
Wangfeng Yan ⁽³⁾	2018	21,911	—	678	22,589
<i>Chief Operating Officer</i>	2017	—	—	—	—
Jing Jin ⁽⁴⁾	2018	48,000	—	—	48,000
<i>Chief Financial Officer</i>	2017	48,000	—	—	48,000
Zaihua Chen ⁽⁵⁾	2018	—	—	—	—
<i>Chief Technical Officer</i>	2017	26,291	—	813	27,104

(1) No officer received a bonus in 2018 and 2017.

(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 March 1, 2018, Jianming Wu resigned as Chief Operating Officer. Wangfeng Yan was appointed as the Registrant's new Chief Operating Officer.

(4) Mr. Jing Jin joined Tantech Holdings Ltd. on May 3, 2016 as Chief Financial Officer by replacing Mr. Qingsong Dong.

(5) Effective December 31, 2017, Zaihua Chen resigned as our Chief Technical Officer.

Director Compensation

The following section presents information regarding the compensation paid during fiscal 2017 to members of our Board of Directors who are not also our employees (referred to herein as "Non-Employee Directors"). As of December 31, 2018, we had four such directors, Ms. Yefang Zhang, Mr. Wencai Pan, 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 2018. Compensation for our 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		All other Compensation (\$)	Total (\$)
					Value and Nonqualified Deferred Compensation (\$)			
Yefang Zhang	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Wencai Pan	\$ 10,800	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,200	\$ 12,000
Shudong Wang	\$ 7,835	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,200	\$ 9,035
Hongdao Qian	\$ 7,835	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,200	\$ 9,035

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 CEO and 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 The NASDAQ Capital Market.

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.

Mr. Zhengyu Wang currently holds both the positions of Chief Executive Officer and Chair of the Board. These two positions have not been consolidated into one position; Mr. Wang simply holds both positions at this time. 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. We believe this leadership structure is appropriate because we are a relatively small company listed on a public exchange; as such we deem it appropriate to be able to benefit from the guidance of Mr. Wang as both our principal executive officer and Chair of the Board. Our Board of Directors plays a key role in our risk oversight. 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.

Wencai Pan qualifies as an audit committee financial expert and is the chair of the audit committee. Shudang Wang is the chair of the compensation committee. Hongdao Qian is the chair of the nominating committee. Wencai Pan, 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 CEO, 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.

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 May 10, 2019, we employ a total of 99 full-time employees in the following functions:

Lishui & Hangzhou

Department	Number of Employees			
	May 10, 2019	December 31, 2018	December 31, 2017	December 31, 2016
Senior Management	5	5	5	5
Human Resource & Administration	10	10	14	23
Finance	8	8	12	12
Research & Development	3	3	3	14
Production & Procurement	32	36	42	57
Sales & Marketing	5	5	7	19
Total	67	67	83	130

Below is information specifically for our Shangchi Automobile subsidiary.

Shangchi Automobile

Department	Number of Employees	
	May 10, 2019	December 31, 2018
Senior Management	3	3
Human Resource & Administration	8	9
Finance	3	3
Research & Development	2	5
Production & Procurement	19	21
Sales & Marketing	1	4
Total	36	45

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

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 2018 and 2017, we contributed approximately \$47,000 and \$123,000, 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.

Zhengyu Wang

We entered into an employment agreement with our chief executive officer, Mr. Zhengyu Wang, effective January 1, 2011. Under the terms of Mr. Wang's employment, Mr. Wang is entitled to the following:

- Base compensation of approximately RMB 240,000 per year.
- Reimbursement of reasonable expenses incurred by Mr. Wang.

Mr. Wang's employment has no expiration date but may be terminated at any time by either party upon presentation of 30 days' prior notice or immediately for cause.

Wangfeng Yan

We entered into an employment agreement with our Chief Operating Officer, Mr. Wangfeng Yan, effective March 1, 2018. Under the terms of that employment agreement, Mr. Yan 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. Yan.

Mr. Yan's employment agreement is scheduled to expire on February 28, 2021.

Jing Jin

We entered into an employment agreement with our chief financial officer, Mr. Jing Jin, effective May 3, 2016. Under the terms of that employment agreement, Mr. Jin is entitled to the following:

- Base compensation of \$48,000 payable in 12 equal monthly installments of \$4,000 each.
- Reimbursement of reasonable expenses incurred by Mr. Jin.

Mr. Jin's employment agreement is scheduled to expire on January 31, 2020. Mr. Jin's agreement may be terminated at any time by either party upon presentation of 30 days' prior notice or immediately for cause.

E. Share ownership

The following table sets forth information with respect to beneficial ownership of our common shares as of May 15, 2019 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 28,853,242 common shares outstanding as of May 15, 2019. 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 May 15, 2019 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 May 10, 2019, we had thirteen shareholders of record.

Named Executive Officers and Directors	Amount of Beneficial Ownership(1)	Percentage Ownership(2)
Directors and Named Executive Officers:		
Zhengyu Wang ⁽²⁾	11,780,000	40.83%
Wangfeng Yan	—	0.0%
Yefang Zhang ⁽²⁾	11,780,000	40.83%
Wencai Pan	—	0.0%
Shudong Wang	—	0.0%
Hongdao Qian	—	0.0%
Jing Jin	—	0.0%
All directors and executive officers as a group (seven (7) persons)	—	0.0%

- (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. The sole shareholder of Tanboksok Group Ltd is Ms. Yefang Zhang, who is the director of our company and the spouse of our Chief Executive Officer 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 the date of this report, this pool contain shares and options to purchase 2,160,000 of our common shares, equal to 10% of the number of common shares outstanding as of the public offering.

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 May 15, 2019 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 28,853,242 common shares outstanding as of May 15, 2019. 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 May 15, 2019 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.

Shareholders	Amount of Beneficial Ownership(1)	Percentage Ownership(2)
Tanbsok Group Ltd ⁽²⁾	11,780,000	40.835%

(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 holds 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 Chief Executive Officer 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

In addition to the executive officer and director compensation arrangements discussed in “Executive Compensation,” below we describe transactions since January 1, 2013, to which we have been a participant, in which the amount involved in the transactions is material to us or the related party.

Since the beginning of 2013, we have had transactions with the following related parties:

- Zhengyu Wang
- Yefang Zhang
- Wangfeng Yan
- LiShui JiuAnJu Commercial Trade Co., Ltd.
- Forasen Group Co., Ltd.

- Zhejiang Forasen Food Co., Ltd.
- Hangzhou Sigma Trading Co., Ltd.
- Hong Kong Clean Energy Ltd.

Summary of Status of Related Party Transactions

Given the number of related transactions, we believe it is helpful to provide an overview of the largest amount outstanding for each of the related party transactions described here during the periods covered that is material to us or the related party. For more details, please refer to note 15 of the financial statements for the years ended December 31, 2018 and 2017. As described in more details below, as of the date of this filing, there is no related party balance outstanding.

As to all related party transactions that are loans, we disclose them below without regard to whether such loans is material. All such related party loans carried no interest and were repayable upon demand, with no periodic payments required. The other details regarding such loans are described for each such loan.

These related parties fall within two categories: those who are shareholders, officers and directors of THL and/or Tantech Bamboo, and those who are related to Forasen Group Co., Ltd. All amounts described in this section are unsecured, interest-free and due on demand.

Shareholders, Officers, Directors and Employees of THL and Tantech Bamboo

Before the IPO, THL was owned entirely by Tanbso Group Ltd., the sole shareholder of which is Ms. Yefang Zhang, the spouse of our Chief Executive Officer and the Chairman of our Board of Directors, Mr. Zhengyu Wang.

THL owns 100% of USCNHK, and USCNHK owns 100% of Lishui Tantech which in turn owns 100% of Tantech Bamboo.

In June 24, 2016, Lishui Tantech has entered into an equity purchase agreement with the previous holders of 5% interest of Tantech Bamboo, to purchase the 5% interest of Tantech Bamboo for 1,018,935 shares of THL. The purchase was completed in December 2016.

The largest outstanding amount Zhengyu Wang owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil and approximately RMB 1.5 million (approximately \$245,000), respectively, representing loans made to Mr. Wang for his business related expenses. As of December 31, 2018, all such amounts have been repaid.

The largest outstanding amount Yefang Zhang owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil and approximately RMB 2.7 million (approximately \$430,000), respectively, representing loans made to Ms. Zhang for her business related expenses. As of December 31, 2018, all such amounts have been repaid.

The largest outstanding amount Wangfeng Yan owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil and approximately RMB 576,000 (approximately \$93,000), respectively, representing loans made to Mr. Yan for his business related expenses. As of December 31, 2018, all such amounts have been repaid.

Lishui JiuAnJu Commercial Trade Co., Ltd.

Wangfeng Yan and Dexian Zhang (Yefang Zhang's brother) each own 50% of the equity of Lishui JiuAnJu Commercial Trade Co., Ltd. ("LJC"). Although LJC's name shares "JiuAnJu" in common with a third-party debtor, ZheJiang JiuAnJu Environment Protection Co., Ltd., this entity is unrelated to LJC or its shareholders. Prior to September 11, 2011, LJC was an unrelated party owned by Yonghong Wu. At that time, LJC was a customer of our company and distributed our products for sale. Although the terms of such sales were generally interest-free 60 days net payment, LJC became delinquent in its payments to our company and accrued a significant account payable to our company. In order to protect our company from the risk of default by LJC, Zhengyu Wang personally loaned Mr. Zhang and Mr. Yan RMB 10 million to purchase all of the equity of LJC from Ms. Wu and assume the liabilities of LJC. In the event Mr. Zhang and Mr. Yan fail to repay Mr. Wang upon demand, Mr. Wang has the right to obtain ownership of LJC.

The largest outstanding amount LJC owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil and approximately RMB 44.0 million (approximately \$7.1 million), respectively, representing trade accounts receivable for sales made to LJC by our company and further loans from our company to LJC for its operational needs. As of December 31, 2018, all such amounts have been repaid.

Forasen Companies

Mr. Zhengyu Wang and Ms. Yefang Zhang each own 50% of the equity of Forasen Group Co., Ltd. ("Forasen Group"). Moreover, 95% of Tantech Bamboo was previously owned by Forasen Group, rather than USCNHK. Forasen Group owns part of the equity of Zhejiang Forasen Food Co., Ltd. ("ZFF") and Forasen Group previously owned all of the equity of Hangzhou Sigma Trading Co., Ltd. ("HST").

The largest outstanding amount Forasen Group owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil, approximately RMB 21.0 million (approximately \$3.4 million) and approximately RMB 83.8 million (approximately \$13.6 million), respectively, representing loans made to support the rubber and mushroom trading activities of Forasen Group. As of December 31, 2018, all such amounts have been repaid. In the years ended December 31, 2014 and 2013, we purchased \$839,059 and \$3,622,905, respectively in raw materials from Forasen Group based on market terms to use in our normal production process. The raw materials purchased from Forasen Group were primarily charcoal powder used in our EDLC carbon production, and market terms were set at prevailing commodity rates. Purchases were made on credit, without an interest rate and were due on demand.

The largest outstanding amount ZFF owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil, nil and approximately RMB 19.0 million (approximately \$3.1 million), respectively, representing loans made to support the rubber and mushroom trading activities of Forasen Group. We understand that ZFF made such funds available to Forasen Group. As of December 31, 2018, all such amounts have been repaid.

The largest outstanding amount HST owed our company in 2018, 2017, 2016, 2015, 2014 and 2013 was nil, nil, nil, nil and RMB 169,192, respectively, representing loans made to pay for working capital needs of HFE. As of December 31, 2018, all such amounts have been repaid.

Other Related Parties

Hong Kong Clean Energy Ltd. ("HKCE") is a company registered in Hong Kong and is wholly owned by Mr. Zhengyu Wang. Before December 2014, our company owed HKCE \$120,000, representing the payment made by HKCE on the company's behalf.

Settlement of Related Party Balances

On March 20, 2013, USCNHK paid RMB 115,520,000 (approximately \$18.5 million) to Forasen Group for the acquisition of Tantech Bamboo. Among the amount being paid, RMB 37,635,136 (equivalent of approximately \$6.1 million) was borrowed from Mr. Zhengyu Wang. On September 20, 2013, USCNHK, Mr. Wang and Forasen Group reached an agreement in which Mr. Wang forgave the borrowing from USCNHK and the Company agreed to offset such borrowing against the receivables from Forasen Group for RMB 37,635,136 (equivalent of approximately \$6.1 million). The settlement decreased the Company's "due from related parties" balances by approximately \$6.1 million and decreased its additional paid-in capital account by the same amount.

As of December 31, 2014, the Company settled all related party balances. As of the date of this filing, no related party balances remain outstanding.

Future Related Party Transactions

Our Corporate Governance Committee of our Board of Directors (which consists solely of independent directors) will approve all future related party transactions.

C. Interests of experts and counsel

Not applicable for annual reports on Form 20-F.

ITEM 8. FINANCIAL INFORMATION

See information provided in response to Item 18 below.

We incorporate by reference in the Registration Statement on Form F-3 (File No. 333- 213240) our consolidated balance sheets as of December 31, 2018 and 2017, 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, 2018, which appears in this Annual Report on Form 20-F.

ITEM 9. THE OFFER AND LISTING.

A. Offer and listing details

Our common shares have been listed on the NASDAQ Capital Market since March 24, 2015 under the symbol "TANH." The table below shows, for the periods indicated, the high and low market prices for our shares.

	Market Price Per Share	
	High	Low
Annually:		
2015	\$ 31.09	\$ 3.12
2016	\$ 5.89	\$ 1.88
2017	\$ 4.37	\$ 1.15
2018	\$ 3.72	\$ 1.25
Quarterly:		
2017		
First Quarter	\$ 2.18	\$ 1.45
Second Quarter	\$ 2.88	\$ 1.15
Third Quarter	\$ 4.37	\$ 2.39
Fourth Quarter	\$ 3.16	\$ 2.58
2018		
First Quarter	\$ 2.80	\$ 2.45
Second Quarter	\$ 3.72	\$ 2.72
Third Quarter	\$ 2.87	\$ 1.25
Fourth Quarter	\$ 1.85	\$ 1.55
2019		
First Quarter	\$ 1.83	\$ 1.50
Monthly:		
2018	\$	\$
December	\$ 1.85	\$ 1.58
2019 (through May 10 2019)		
January	\$ 1.83	\$ 1.67
February	\$ 1.69	\$ 1.55
March	\$ 1.63	\$ 1.50
April	\$ 1.56	\$ 1.51
May (through May 10, 2019)	\$ 1.55	\$ 1.50

B. Plan of distribution

Not applicable for annual reports on Form 20-F.

C. Markets

Our common shares are listed on the NASDAQ Capital Market 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 materials 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.

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 17% value added tax and EIT rates of 15% for Tantech Bamboo and Tantech Energy and 25% for Tantech Charcoal. Tantech Bamboo and Tantech Energy pay a lower EIT rate than Tantech Charcoal because Tantech Bamboo and Tantech Energy have been certified as high technology companies and thus enjoy a preferable rate. If this favorable EIT rate were to be terminated or Tantech Bamboo or Tantech Energy were 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 the NASDAQ Capital Market. 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, 2017, 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.

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 the NASDAQ Capital Market. If the common shares are regularly traded on the NASDAQ Capital Market 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.

H. Documents on display

We are subject to the information requirements of the Exchange Act. In accordance with these requirements, the Company files reports and other information with the SEC. You may read and copy any materials filed with the SEC at the Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site at <http://www.sec.gov> that contains reports and other information regarding registrants that file electronically with the SEC.

I. Subsidiary Information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET 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.

We had no short-term investments and long-term held-to-maturity investments as of December 31, 2018.

Foreign Exchange Risk

Our functional currency is the RMB, and our financial statements are presented in U.S. dollar. The RMB depreciated from 2014 through the end of 2016, but has appreciated approximately 20% against the U.S. dollar since the beginning of 2017. 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. 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—Common Shares” 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 Securities Exchange Act of 1934, as amended (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 Securities and Exchange Commission’s 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, 2017.

(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) and 15d-15(f) under the Exchange Act. The Company’s internal control over financial reporting (“ICFR”) is a process that is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States and includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness 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 or procedures may deteriorate.

Under the supervision and with the participation of our management, we conducted an assessment of the effectiveness of our system of ICFR as of December 31, 2017, the last day of our fiscal year of 2017. This assessment was based on the framework established in the Internal Control Integrated Framework issued by the committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on such evaluation, our management, including the CEO and CFO, has concluded that the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act of 1934) were not effective as of December 31, 2018.

Management's assessment of the ineffective internal control over financial reporting as of December 31, 2018 considered the following factors:

- the number of inadequate skilled accounting personnel who are either qualified as Certified Public Accountants in the U.S. or who have received education from U.S. institutions or other educational programs that would provide enough relevant education relating to U.S. GAAP;
- lack of adequate knowledge of SEC rules; and
- the impact of adjustments proposed by our independent auditors during our review and annual audit processes that, if not posted, may have on the overall financial statements.

Based on the above factors, management concluded that our lack of knowledge of US GAAP and SEC rules are material weaknesses in the Company's internal control over financial reporting as of December 31, 2018. These material weaknesses existed as of December 31, 2017 and had not yet been fully remediated as of December 31, 2018.

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:

- We implemented 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.
- 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.
- We reengineered the process and procedures of U.S. GAAP-based period financial consolidation and SEC reporting through improved working models with added controls over the areas such as related party transactions, cash flows and equity investments to ensure the completeness and accuracy and regulatory compliance of our financial statements.

Despite the material weaknesses and deficiencies reported above, our management believes that our consolidated financial statements included in this report fairly present in all material respects our financial condition, results of operations and cash flows for the periods presented and that this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.

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 Mr. Wencai Pan qualifies as an "audit committee financial expert" in accordance with applicable NASDAQ Capital Market standards. The Company's Board of Directors has also determined that Mr. Pan and the other members of the Audit Committee are all "independent" in accordance with the applicable NASDAQ Capital Market 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 .

Prager Metis CPAs, LLC was appointed by the Company on August 21, 2018 to serve as its independent registered public accounting firm for fiscal 2018. Audit services provided by Prager Metis for fiscal 2018 included the examination of the consolidated financial statements of the Company; and services related to periodic filings made with the SEC. Friedman LLP was appointed by the Company to serve as its independent registered public accounting firm for fiscal 2017. Audit services provided by Friedman LLP for fiscal 2017 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

During fiscal 2018, Prager Metis's fees for the annual audit of our financial statements and the periodic reviews of the financial statements were \$215,000. During fiscal 2017, Friedman LLP's fees for the annual audit of our financial statements and the periodic reviews of the financial statements were \$250,000.

Audit-Related Fees

The Company has not paid Prager Metis for audit-related services in fiscal 2018. The Company has not paid Friedman LLP for audit-related services in fiscal 2017 and 2016.

Tax Fees

The Company has not paid Prager Metis for tax services in fiscal 2018. The Company has not paid Friedman LLP for tax services in fiscal 2017 and 2016.

All Other Fees

The Company has not paid Prager Metis other fees in fiscal 2018. The Company has not paid Friedman LLP's other fees in fiscal 2017 or 2016.

Audit Committee Pre-Approval Policies

Before Prager Metis was 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 Prager Metis have been so approved.

Percentage of Hours

The percentage of hours expended on the principal accountants' engagement to audit our consolidated financial statements for 2018 that were attributed to work performed by persons other than Prager Metis's full-time permanent employees was [●]%.

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, 2018.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT.

Not applicable.

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 Capital Market. NASDAQ Listing Rule 5635 generally provides that shareholder approval is required of U.S. domestic companies listed on the NASDAQ Capital Market prior to issuance (or potential issuance) of securities equaling 20% or more of the company's common stock or voting power for less than the greater of market or book value.

Notwithstanding this general requirement, NASDAQ Listing Rule 5615(a)(3)(A) permits foreign private issuers like the Company to follow their home country practice rather than this shareholder approval requirement. 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.

ITEM 16H. MINE SAFETY DISCLOSURE

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.

ITEM 19. EXHIBITS.

- [1.1](#)⁽¹⁾ [Articles of Association of Tantech Holdings Ltd](#)
- [1.2.1](#)⁽¹⁾ [Memorandum of Association of Tantech Holdings Ltd](#)
- [1.2.2](#)⁽¹⁾ [First Amended and Restated Memorandum of Association of Tantech Holdings Ltd](#)
- [2.1](#)⁽¹⁾ [Specimen Common Share Certificate](#)
- [4.1](#)⁽⁴⁾ [Purchase Agreement by and among Registrant, Henglong Chen and Suzhou Yimao E-Motors Co., Limited filed under Form 6-K dated May 2, 2016 is incorporated by reference.](#)
- [4.2](#)⁽⁴⁾ [Long Term Supply Agreement between Registrant and Zhejiang Longquanzhixin Trading Co., Limited, filed under Form 6-K dated December 19, 2016 is incorporated by reference.](#)
- [8.1](#)⁽³⁾ [List of subsidiaries.](#)
- [10.1](#)⁽⁴⁾ [Exclusive Purchase Agreement among Shanghai Jiamu Investment Management Co., Ltd, Zhengyu Wang, Wangfeng Yan and Hangzhou Wangbo Investment Management Co., Ltd, dated July 13, 2017.](#)
- [10.2](#)⁽⁴⁾ [Equity Pledge Agreement among Shanghai Jiamu Investment Management Co., Ltd, Zhengyu Wang, Wangfeng Yan and Hangzhou Wangbo Investment Management Co., Ltd, dated July 13, 2017.](#)
- [10.3](#)⁽⁴⁾ [Exclusive Management Consulting and Technology Service Agreement between Shanghai Jiamu Investment Management Co., Ltd and Hangzhou Wangbo Investment Management Co., Ltd, dated July 13, 2017.](#)
- [10.4](#)⁽⁴⁾ [Shareholder Voting Right Authorization Agreement among Shanghai Jiamu Investment Management Co., Ltd, Zhengyu Wang, Wangfeng Yan and Hangzhou Wangbo Investment Management Co., Ltd, dated July 13, 2017.](#)
- [10.5](#)⁽⁴⁾ [Power of Attorney between Wangfeng Yan and Zhengyu Wang dated July 13, 2017.](#)
- [10.6](#)⁽⁴⁾ [Summary Translation of Share Purchase Agreement between Zhejiang Apeikesi Energy Co., Ltd and Tantech Energy Technology Co., Ltd](#)
- [10.7](#)⁽⁴⁾ [Summary Translation of Lease Agreement between Zhejiang Apeikesi Energy Co., Ltd and Tantech Energy Technology Co., Ltd](#)
- [10.8](#)⁽⁴⁾ [Summary Translation of Lishui Xincai Share Purchase Agreement between Shanghai Shicai Minerals Co., Ltd and Tantech Holdings Ltd](#)
- [11.1](#)⁽²⁾ [Code of Ethics](#)
- [12.1](#)⁽³⁾ [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](#)
- [12.2](#)⁽³⁾ [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](#)
- [13.1](#)⁽³⁾ [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](#)

- [13.2](#)⁽³⁾ [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](#)
- [15.1](#)⁽³⁾ [Consent Letter of Prager Metis CPAs, LLC](#)
- [15.2](#)⁽³⁾ [Consent Letter of Friedman LLP](#)
- [15.3](#)⁽¹⁾ [Incentive Securities Plan](#)
- [15.4](#)⁽³⁾ [Press Release](#)
- 101.INS (3) XBRL Instance Document.
- 101.SCH (3) XBRL Taxonomy Extension Schema Document.
- 101.CAL (3) XBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF (3) XBRL Taxonomy Extension Definition Linkbase Document.

101.LAB⁽³⁾ XBRL Taxonomy Extension Label Linkbase Document.

101.PRE⁽³⁾ XBRL Taxonomy Extension Presentation Linkbase Document.

(1) Incorporated by reference to the registrant's registration statement on Form F-1, File no. 333-198788, filed on September 16, 2014, as amended.

(2) Incorporated by reference to the registrant's annual report on Form 20-F, File no. 001-36885, filed on April 30, 2015.

(3) Filed herewith.

(4) Filed previously.

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/ Zhengyu Wang

Name: Zhengyu Wang

Title: Chief Executive Officer

Date: May 15, 2019

TANTECH HOLDINGS LTD AND SUBSIDIARIES
CONSOLIDATED FINANCIAL STATEMENTS
YEARS ENDED DECEMBER 31, 2018 AND 2017
AND
REPORTS OF INDEPENDENT REGISTERED
PUBLIC ACCOUNTING FIRMS

TANTECH HOLDINGS LTD AND SUBSIDIARIES

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and the stockholders of
Tantech Holdings Ltd.

Opinion on the Financial Statements

We have audited, before the effects of the adjustments to retrospectively apply the change in accounting related to the discontinued operation of Zhejiang Tantech Energy Tech Co., Ltd. (“Tantech Energy”), Lishui Zhongzhu Charcoal Co., Ltd. (“Lishui Zhongzhu”) and Zhejiang Babiku Charcoal Co., Ltd. (“Tantech Babiku”) as described in Note 5, the accompanying consolidated balance sheets of Tantech Holdings Ltd. and subsidiaries (collectively, the “Company”) as of December 31, 2017 and 2016, and the related consolidated statements of income and comprehensive income (loss), changes in equity, and cash flows for each of the three years in the period ended December 31, 2017, 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, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s 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 consolidated 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 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 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 statement. We believe that our audits provide a reasonable basis for our opinion.

We were not engaged to audit, review or apply any procedures to the adjustments retrospectively apply the change in accounting related to the discontinued operations of Zhejiang Tantech Energy Tech Co., Ltd. (“Tantech Energy”), Lishui Zhongzhu Charcoal Co., Ltd. (“Lishui Zhongzhu”) and Zhejiang Babiku Charcoal Co., Ltd. (“Tantech Babiku”) as described in Note 5, accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by other auditors.

/s/ Friedman LLP

We have served as the Company’s auditor since 2012.

New York, New York
May 11, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To Stockholders and the Board of Directors of
Tantech Holdings, Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Tantech Holdings, Ltd. and subsidiaries (the “Company”) as of December 31, 2018, and the related consolidated statements of comprehensive income (loss), stockholders’ equity, and cash flows for the year ended December 31, 2018 and related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018, and the results of its operations and its cash flows for the year ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

As part of our audit of the financial statements as of December 31, 2018 and for the year then ended, we also audited the adjustments to the consolidated balance sheet as of December 31, 2017 and the related consolidated statements of comprehensive income (loss) and cash flows for the years ended December 2017 and 2016 to retroactively apply the effects of the discontinued operations that occurred in 2018 as described in Note 5. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the Company’s consolidated financial statements as of and for the years ended December 31, 2017 and 2016 other than with respect to the adjustments. The 2017 and 2016 financial statements were audited by other auditors. Accordingly, we do not express an opinion or any other form of assurance on the consolidated financial statements for the years ended December 31, 2017 and 2016 as whole.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s 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 audit 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 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 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.

/s/ Prager Metis CPAs, LLC

We have served as the Company’s auditor since 2018

Hackensack, New Jersey
May 15, 2019

Tantech Holdings Ltd and Subsidiaries
Consolidated Balance Sheets

	December 31, 2018	December 31, 2017
Assets		
Current Assets		
Cash and cash equivalents	\$ 7,748,416	\$ 9,717,909
Restricted cash	2,121,377	3,901,526
Notes receivable	-	15,370
Accounts receivable, net	32,495,361	44,832,946
Inventories, net	1,957,058	2,572,558
Advances to suppliers, net	14,387,228	11,217,764
Prepaid value-added taxes	2,136,988	2,969,656
Prepaid expenses and other receivables, net	954,362	1,685,120
Current assets from discontinued operations	8,513,154	12,332,035
Total current assets	<u>70,313,944</u>	<u>89,244,884</u>
Property, plant and equipment, net	3,240,620	3,374,879
Other Assets		
Advances to suppliers - non-current	-	2,109,005
Manufacturing rebate receivable	9,795,512	9,269,118
Intangible assets, net	15,268,062	15,976,144
Long-term Investment	18,156,000	-
Goodwill	8,861,361	9,001,924
Non-current assets from discontinued operations	8,558,515	9,511,772
Total Assets	<u>\$ 134,194,014</u>	<u>\$ 138,487,726</u>
Liabilities and Stockholders' Equity		
Current Liabilities		
Short-term bank loans	\$ 7,683,014	\$ 5,208,893
Bank acceptance notes payable	2,121,377	6,975,526
Accounts payable	2,524,462	5,335,363
Due to related parties	2,102,175	2,995,228
Customer deposits	865,615	1,001,726
Taxes payable	344,563	542,392
Due to third parties	3,253,253	708,864
Accrued liabilities and other payables	1,598,104	1,564,336
Liabilities from discontinued operations	1,662,252	2,456,934
Total Current Liabilities	<u>22,154,815</u>	<u>26,789,262</u>
Deferred tax liability	2,053,512	2,086,086
Total Liabilities	<u>24,208,327</u>	<u>28,875,348</u>
Stockholders' Equity		
Common stock, \$0.001 par value, 50,000,000 shares authorized, 28,853,242 and 28,703,242 shares issued and outstanding as of December 31, 2018 and 2017, respectively	28,853	28,703
Additional paid-in capital	39,310,178	39,067,328
Statutory reserves	6,461,788	6,461,788
Retained earnings	58,333,136	56,356,369
Accumulated other comprehensive loss	(2,066,364)	(1,101,270)
Total Stockholders' Equity attributable to the Company	<u>102,067,591</u>	<u>100,812,918</u>
Noncontrolling interest	7,918,096	8,799,460
Total Stockholders' Equity	<u>109,985,687</u>	<u>109,612,378</u>
Total Liabilities and Stockholders' Equity	<u>\$ 134,194,014</u>	<u>\$ 138,487,726</u>

The accompanying notes are an integral part of these consolidated financial statements.

Tantech Holdings Ltd and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)

	For the Years Ended December 31,		
	<u>2018</u>	<u>2017</u>	<u>2016</u>
Revenues	\$ 29,561,399	\$ 42,297,612	\$ 39,902,342
Cost of revenues	21,532,319	31,741,753	26,879,316
Gross Profit	<u>8,029,080</u>	<u>10,555,859</u>	<u>13,023,026</u>
Operating expenses			
Selling expenses	320,479	730,834	621,818
General and administrative expenses	4,971,804	4,625,563	3,613,289
Research and development expenses	386,628	627,577	136,626
Total operating expenses	<u>5,678,911</u>	<u>5,983,974</u>	<u>4,371,733</u>
Income from operations	<u>2,350,169</u>	<u>4,571,885</u>	<u>8,651,293</u>
Other income (expenses)			
Interest income	56,894	18,648	571
Interest expense	(626,343)	(551,044)	(470,656)
Government subsidy income	-	-	52,597
Other income, net	247,069	436,095	99,025
Total other income (expenses)	<u>(322,380)</u>	<u>(96,301)</u>	<u>(318,463)</u>
Income before provision for income taxes	2,027,789	4,475,584	8,332,830
Provision for income taxes	1,031,158	1,528,003	1,367,270
Net income from continuing operations	996,631	2,947,581	6,965,560
Discontinued operation:			
Net income (loss) from discontinued operations, net of tax	83,367	65,550	(2,357,867)
Net income	1,079,998	3,013,131	4,607,693
Less: net income (loss) attributable to the noncontrolling interest from continuing operations	(896,769)	(754,084)	308,442
Net income attributable to common stockholders of Tantech Holdings Ltd.	<u>\$ 1,976,767</u>	<u>\$ 3,767,215</u>	<u>\$ 4,299,251</u>
Net income	1,079,998	3,013,131	4,607,693
Other comprehensive income (loss):			
Foreign currency translation adjustment	(949,689)	4,341,324	(5,448,209)
Comprehensive income (loss)	130,309	7,354,455	(840,516)
Less: Comprehensive income (loss) attributable to noncontrolling interest	(881,364)	(784,186)	70,029
Comprehensive income (loss) attributable to common stockholders of Tantech Holdings Ltd.	<u>\$ 1,011,673</u>	<u>\$ 8,138,641</u>	<u>\$ (910,545)</u>
Earnings (loss) per share - Basic and Diluted			
Continuing operations	\$ 0.07	\$ 0.15	\$ 0.19
Discontinued operations	\$ 0.00	\$ 0.00	\$ (0.10)
Weighted Average Shares Outstanding - Basic and diluted			
Continuing operations and discontinued operations	<u>28,745,571</u>	<u>25,971,912</u>	<u>23,019,185</u>

The accompanying notes are an integral part of these consolidated financial statements.

Tantech Holdings Ltd and Subsidiaries
Consolidated Statements of Stockholders' Equity
For the Years Ended December 31, 2018, 2017 and 2016

	Common Stock		Additional Paid in Capital	Accumulated Other Comprehensive Income (loss)	Statutory Reserves	Retained Earnings	Non Controlling Interest	Total Stockholders' Equity
	Shares	Amount						
Balance at December 31, 2015	21,600,000	\$ 21,600	\$ 15,134,752	\$ (262,900)	\$ 6,401,235	\$ 48,350,456	\$ 3,444,342	\$ 73,089,485
Issuance of common stock	1,693,000	1,693	7,955,407	-	-	-	-	7,957,100
Appropriation of retained earnings to statutory reserve fund	-	-	-	-	60,553	(60,553)	-	-
Foreign currency translation adjustment	-	-	-	(5,209,796)	-	-	(238,413)	(5,448,209)
Net income	-	-	-	-	-	4,299,251	308,442	4,607,693
Stock issuance for minority interest buyback	1,018,935	1,019	2,159,123	-	-	-	(2,160,142)	-
Gain on minority interest buyback	-	-	1,354,229	-	-	-	(1,354,229)	-
Balance at December 31, 2016	24,311,935	\$ 24,312	\$ 26,603,511	\$ (5,472,696)	\$ 6,461,788	\$ 52,589,154	\$ -	\$ 80,206,069
Issuance of common stock for acquisition	2,500,000	2,500	6,497,500	-	-	-	-	6,500,000
Issuance of common stock for private placement	1,891,307	1,891	5,966,317	-	-	-	-	5,968,208
Foreign currency translation adjustment	-	-	-	4,371,426	-	-	(30,102)	4,341,324
Net income (loss)	-	-	-	-	-	3,767,215	(754,084)	3,013,131
Noncontrolling interest through acquisition	-	-	-	-	-	-	9,583,646	9,583,646
Balance at December 31, 2017	28,703,242	\$ 28,703	\$ 39,067,328	\$ (1,101,270)	\$ 6,461,788	\$ 56,356,369	\$ 8,799,460	\$ 109,612,378
Issuance of common stock for service	150,000	150	242,850	-	-	-	-	243,000
Foreign currency translation adjustment	-	-	-	(965,094)	-	-	15,405	(949,689)
Net income (loss)	-	-	-	-	-	1,976,767	(896,769)	1,079,998
Balance at December 31, 2018	<u>28,853,242</u>	<u>\$ 28,853</u>	<u>\$ 39,310,178</u>	<u>\$ (2,066,364)</u>	<u>\$ 6,461,788</u>	<u>\$ 58,333,136</u>	<u>\$ 7,918,096</u>	<u>\$ 109,985,687</u>

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,

	2018	2017	2016
Cash flows from operating activities			
Net income	\$ 1,079,998	\$ 3,013,131	\$ 4,607,693
Net (income) loss from discontinued operations	(83,367)	(65,550)	2,357,867
Net income from continuing operations	996,631	2,947,581	6,965,560
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Allowance for doubtful accounts - accounts receivable	910,811	2,632,813	239,487
Allowance for doubtful accounts - advance to suppliers	777,848	(45,507)	927,218
Allowance for doubtful accounts – other receivables	66,305	(16,827)	59,742
Allowance for doubtful accounts - due from related party	364,288	-	-
Inventory reserve (recovery)	700,379	13,908	(84,414)
Depreciation expense	628,144	576,953	497,970
Amortization of intangible asset	443,318	201,647	6,842
Amortization of prepaid consulting expense	102,263	-	-
Gain from disposal of property, plant and equipment	(44,814)	(1,875,493)	-
Changes in operating assets and liabilities:			
Accounts receivable - non-related party	7,023,546	(1,001,613)	(6,272,566)
Accounts receivable - related party	3,249,359	-	-
Advances to suppliers	(3,555,851)	2,826,316	(7,354,381)
Advances to supplier non current	1,558,916	6,839,953	(451,731)
Inventory	(147,485)	804,763	(317,545)
Other receivables	767,849	(829,716)	9,424
Government rebate receivable	(644,959)	(2,942,190)	-
Accounts payable	(2,621,226)	(532,039)	(893,016)
Accrued liabilities and other payables	49,492	(1,489,128)	362,212
Customer deposits	(115,771)	(247,059)	58,122
Taxes payable	573,660	(1,927,737)	174,817
Deferred tax liability	-	-	(98,473)
Net cash provided by (used in) continuing operations	11,082,703	5,936,625	(6,170,732)
Net cash provided by (used in) discontinued operations	3,582,177	(3,785,614)	(898,699)
Net cash provided by (used in) operating activities	14,664,880	2,151,011	(7,069,431)
Cash flows from investing activities			
Acquisition of property, plant and equipment	(559,038)	(1,302,721)	(8,282)
Proceeds from disposal of property, plant and equipment	54,089	662,144	-
Additions to intangible assets	(2,585)	-	-
Payment for business acquisition	-	(4,552,240)	(3,372,925)
Payment for investment	(17,448,000)	-	-
Cash acquired from business acquisition	-	35,707	-
Changes in deposit for asset acquisition	-	443,400	-
Net cash used in continuing operations	(17,955,534)	(4,713,710)	(3,381,207)
Net cash provided by (used in) discontinued operations	(39,976)	1,220,458	1,503,233
Net cash used in investing activities	(17,995,510)	(3,493,252)	(1,877,974)
Cash flows from financing activities			
Proceeds from (repayment of) loans from third party	2,455,806	(187,706)	885,694
Note receivable	14,540	(14,780)	-
Bank acceptance notes payable, net of repayment	(4,560,185)	4,911,990	1,806,924
Proceeds from bank loans	10,291,412	10,093,262	7,001,831
Repayments of bank loans	(7,835,606)	(11,957,020)	(8,251,620)
Repayment of loans from related parties	(1,175,971)	(477,565)	-
Proceeds from issuance of common stocks	-	5,968,208	7,957,100
Net cash provided by (used in) continuing operations	(810,004)	8,336,389	9,399,929
Net cash provided by discontinued operations	-	-	-
Net cash provided by (used in) financing activities	(810,004)	8,336,389	9,399,929
Effect of exchange rate changes on cash, restricted cash and cash equivalents	390,992	424,298	(491,196)
Net increase (decrease) in cash, restricted cash and cash equivalents	(3,749,642)	7,418,446	(38,672)
Cash, restricted cash and cash equivalents, beginning of year	13,619,435	6,200,989	6,239,661
Cash, restricted cash and cash equivalents, end of year	\$ 9,869,793	\$ 13,619,435	\$ 6,200,989
Supplemental disclosure information:			
Income taxes paid	\$ 1,044,480	\$ 1,156,976	\$ 696,435
Interest paid	\$ 608,048	\$ 479,358	\$ 261,625

Supplemental non-cash activities:

Common shares issued for service	\$ 243,000	\$ -	\$ -
Common shares issued for Minority interest buyback	\$ -	\$ -	\$ 2,160,142
Common shares issued for acquisition of Shangchi Automobile	\$ -	\$ 6,500,000	\$ -
Net book value of assets and liabilities of Shangchi Automobile acquired	\$ -	\$ 11,122,410	\$ -

The accompanying notes are an integral part of these consolidated financial statements.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 – Organization and nature of business

Tantech Holdings Ltd. (“Tantech” or “Tantech BVI” or the “Company”) is a holding company established under the laws of the British Virgin Islands on November 19, 2010. Through its 100% owned subsidiary in Hong Kong, USCNHK Group Limited (“USCNHK”), its 100% owned operating subsidiaries located in the People’s Republic of China (“China” or “PRC”), Zhejiang Tantech Bamboo Technology Co., Ltd. (“Tantech Bamboo” or “Bamboo”), Tantech is engaged in the research and development, production and distribution of various products made from bamboo.

In addition, Tantech Bamboo also has the five wholly-owned subsidiaries: Zhejiang Tantech Bamboo Charcoal Co., Ltd. (“Tantech Charcoal” or “Charcoal”) was established on September 5, 2002, and is engaged in the trading business, including the export of charcoal products. Zhejiang Babiku Charcoal Co., Ltd. (“Tantech Babiku” or “Babiku”), established by Tantech Bamboo on October 20, 2015, and is engaged in the production and sales of low emission BBQ charcoal. Lishui Zhongzhu Charcoal Co., Ltd. (“LishuiZhongzhu” or “Zhongzhu”), established by Tantech Bamboo on November 18, 2015. It changed its name to Zhejiang Zhongzhu Tourism Development Co., Ltd. on May 17, 2017. Zhejiang Tantech Energy Tech Co., Ltd. (“Tantech Energy” or “Energy”), was established on September 24, 2008. Hangzhou Tanbo Tech Co., Ltd. (“Tanbo Tech” or “Tanbo”), established by Tantech Bamboo on December 8, 2015, is exploring business opportunities outside Lishui area.

Tantech Energy was engaged in the manufacturing of Electric Double-Layer Capacitor (“EDLC”) carbon. 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 Registrant’s former Chief Technology Officer (the “CTO”).

As of December 31, 2018, the Company closed Lishui Zhongzhu and Tantech Babiku, and is planning to close Tantech Energy due to business strategy change. As a result, the assets and liabilities for these discontinued entities were reported as components of total assets and liabilities separate from those balances of the continuing operations. At the same time, the results of all these discontinued operations, less applicable income taxes (benefit), were reported as components of net income (loss) separate from the net income (loss) of continuing operations in accordance with ASC 205-20-45.

On August 19, 2015, the Board of Directors of the Company authorized USCNHK to form a wholly-owned subsidiary, LishuiTantech Energy Tech Co., Ltd. (“LishuiTantech”), as a holding company to hold its 95% equity interest in Tantech Bamboo. On April 7, 2016, LishuiTantech was registered in Lishui, China under the PRC law. On June 24, 2016, Tantech BVI, through LishuiTantech, entered into an equity purchase agreement with the five individual holders of the remaining 5% interest of Tantech Bamboo, to acquire the 5% interest of Tantech Bamboo for 1,018,935 shares of the Company’s common stock. The transfer of the 5% equity interest was completed on December 28, 2016.

On July 12, 2017, the Company acquired 70% of the equity interest of Shangchi Automobile Co., Ltd. (“Shangchi Automobile”), formerly known as Suzhou E-Motors Co., Ltd. (“Suzhou E-Motors”) from its original shareholder (Note 4). Shangchi Automobile is a specialty electric vehicles and power batteries manufacturer based in Zhang Jia Gang City, Jiangsu Province, People’s Republic of China (“China” or “PRC”). The 70% equity interest include 19% equity interest owned directly through Hangzhou Jiyi Trading Co., Ltd (“Jiyi”) and 51% equity interest owned through a series of contractual agreement with the owners of Hanzhou Wangbo Investment Management Co., Ltd (“Wangbo”). Jiyi is 100% owned through Shanghai Jiamu Investment Management Co., Ltd (“Jiamu”), who is, in turn, wholly owned by Euroasia International Capital (“Euroasia”), a 100% owned subsidiary of the Company. These agreements include a Technical Consultation and Services Agreement, a Business Cooperation Agreement, an Equity Pledge Agreement, a Share Disposal Agreement and a Voting Rights Proxy Agreement (collectively “VIE Agreements”). Pursuant to the above VIE Agreements, Jiamu has the exclusive right to provide 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 Variable Interest Entity (“VIE”) under the Statement of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 810 “Consolidation”.

On November 13, 2018, the Company established Shenzhen E-Motors New Energy Sales Co., Ltd. (“Shenzhen E-Motors”), a sales subsidiary through Shangchi Automobile (formerly known as Suzhou E-Motors).

As a result, the Company ultimately controls 70% equity interest of Shangchi Automobile and its subsidiary Shenzhen E-Motors and accounts of Shangchi Automobile and Shenzhen E-Motors are consolidated into those of the Company. Euroasia is incorporated in Hong Kong, PRC. Jiamu is incorporated in Shanghai, PRC. Both Jiyi and Wangbo are incorporated in Hanzhou, PRC. Euroasia also has a fully owned subsidiary Euroasia New Energy Automotive (Jiangsu) Co., Ltd (“Euroasia New Energy”). They are all investment holding companies with no significant business activities. (Collective “E-Motor Holdings”).

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, and entities controlled through a series of agreements known as variable interest agreements <“VIE”> (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 (formerly known as Suzhou E-Motors) owned by Jinke Chuangtuo Co., Ltd., which is not under the Company’s control.

Consolidation of variable interest entities

In accordance with accounting standards regarding consolidation of variable interest entities, VIEs are generally entities that lack sufficient equity to finance their activities without additional financial support from other parties or whose equity holders lack adequate decision making ability. The VIEs with which the Company is involved must be evaluated to determine the primary beneficiary of the risks and rewards of the VIE. The primary beneficiary is required to consolidate the VIE for financial reporting purposes.

The following assets and liabilities of the consolidated VIE are included in the accompanying consolidated financial statements of the Company as of December 31, 2018 and 2017.

	<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Current assets	\$ 6,415,138	\$ 16,760,444
Non-current assets	35,102,432	36,352,228
Total assets	<u>\$ 41,517,570</u>	<u>\$ 53,112,672</u>
Current liabilities	\$ (13,724,904)	\$ (21,695,054)
Non-current liabilities	(2,053,512)	(2,086,086)
Total liabilities	<u>\$ 15,778,416</u>	<u>\$ (23,781,140)</u>

Business Combinations

Business combinations are accounted for under the purchase method of accounting. Under the purchase method, assets and liabilities of the business acquired are recorded at their estimated fair values as of the date of acquisition with any excess of the cost of the acquisition over the fair value of the net tangible and intangible assets acquired recorded as goodwill. Results of operations of the acquired business are included in the income statement from the date of acquisition.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies

Discontinued operation

In accordance with ASU No. 2014-08, Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity, a disposal of a component of an entity or a group of components of an entity is required to be reported as discontinued operations if the disposal represents a strategic shift that has (or will have) a major effect on an entity's operations and financial results when the components of an entity meets the criteria in paragraph 205-20-45-1E to be classified as held for sale. When all of the criteria to be classified as held for sale are met, including management, having the authority to approve the action, commits to a plan to sell the entity, the major current assets, other assets, current liabilities, and noncurrent liabilities shall be reported as components of total assets and liabilities separate from those balances of the continuing operations. At the same time, the results of all discontinued operations (which we presented as operations to be disposed and operations disposed), less applicable income taxes (benefit), shall be reported as components of net income (loss) separate from the net income (loss) of continuing operations in accordance with ASC 205-20-45.

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 purchase price allocation, the useful lives of property and equipment; allowances pertaining to the allowance for doubtful accounts and suppliers; the valuation of inventories; and the realizability of deferred tax assets.

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 banker's 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 Hong Kong and are not insured by the Federal Deposit Insurance Corporation or other programs.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies - continued

Restricted Cash

Restricted cash represents required cash deposits as a part of collateral for bank acceptance notes payable and letters of credit. The Company is required to maintain 0% to 100% of the balance of the bank acceptance notes payable in restricted cash to ensure future credit availability. The Company earns interest at a variable rate per month on this restricted cash.

In November 2016, the FASB issued Accounting Standards Update No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, which requires companies to include amounts generally described as restricted cash and restricted cash equivalents in cash and cash equivalents when reconciling beginning-of-period and end-of-period total amounts presented in the statement of cash flows. The Company adopted the new standard effective January 1, 2018, using the retrospective transition method.

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 and Hong Kong 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 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 historical payment history, its current credit-worthiness and current economic trends. Accounts are written off after efforts at collection prove unsuccessful.

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 reserves are 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.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies - continued

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.

Intangibles including goodwill

Intangible assets are acquired individually or as part of a group of assets, and are initially recorded at their fair value. The cost of a group of assets acquired in a transaction is allocated to the individual assets based on their relative fair values.

The estimated useful lives of the Company's intangible assets are as follows:

	<u>Estimated Useful Life</u>
Goodwill	Indefinite
Licenses and permit	Indefinite
Software	5 - 10 years
Land use right	50 years
Patents	10 years

The Company evaluates intangible assets for impairment other than goodwill whenever events or changes in circumstances indicate that the assets might be impaired.

The Company evaluates goodwill and licenses and permits for impairment at least annually or whenever indicators of impairment are present. There was no intangible assets impairment as of December 31, 2018 and 2017.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies – continued

Long term investment

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 historical cost 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 Group 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.

Customer Deposits

Customer deposits represent amounts received from customers in advance of shipments relating to the sales of the Company's products.

Due to third parties

Due to third parties represent amounts the Company borrowed from third parties for working capital purpose. The due to third parties balance are unsecured, interest-free and due upon demand. As of December 31, 2018 and 2017, the due to third parties balance amounted to \$3,253,253 and \$708,864, respectively.

Leases

Leases are classified as either capital or operating leases. Leases that transfer substantially all the benefits and risks incidental to the ownership of assets are accounted for as capital leases as if there was an acquisition of an asset and incurrence of an obligation at the inception of the lease. All other leases are accounted for as operating leases wherein rental payments 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. Revenues for the year ended December 31, 2018 were presented under ASC 606, and revenues for the years ended December 31, 2017 and 2016 were not adjusted and continue to be presented under ASC Topic 605, Revenue Recognition. 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.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies – continued

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). The Company records shipping and handling costs in cost of sales.

Government manufacturing rebate income: The Company is eligible for a government manufacturing rebate on each qualifying electric bus 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.

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 market adjustments is also recorded in cost of revenues.

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 operations 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:

US\$:RMB exchange rate	December 31, 2018		December 31, 2017		December 31, 2016	
	Period End	\$	Period End	\$	Period End	\$
	Average	0.1513	Average	0.1537	Average	0.1440
		0.1454		0.1478		0.1506

Comprehensive Income (loss)

Comprehensive income (loss) consists of two components, net income 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 shareholder’s equity but are excluded from net income. 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 for the years ended December 31, 2018, 2017 and 2016. 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. There were no material uncertain tax positions as of December 31, 2018 and 2017. All tax returns since the Company's inception are subject to examination by tax authorities.

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. 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, 2018 and 2017, there were 1,078,045 warrants not 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

Reclassification

For the year ended December 31, 2018, the Company closed Lishui Zhongzhu and Tantech Babiku, and is planning to sell Tantech Energy's remaining operation, due to business strategy change. In connection with the discontinued operations of the business, certain prior period amounts have been reclassified to conform to the current period presentation.

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 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 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.

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 February 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 specifies the accounting for leases. For operating leases, ASU 2016-02 requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. ASU 2016-02 is effective for public business entities for annual reporting periods and interim periods within those years beginning after December 15, 2018. The Company does not expect this guidance will have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13") which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss methodology, which will result in more timely recognition of credit losses. ASU 2016-13 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019. The Company is currently in the process of evaluating the impact of the adoption of ASU 2016-13 on its consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, which allows a reclassification from accumulated other comprehensive income to retained earnings for adjustments to tax effects that were originally recorded in other comprehensive income due to changes in the U.S. federal corporate income tax rate resulting from the enactment of the U.S. tax reform legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act. The Company does not expect this guidance will have a material impact on its consolidated financial statements.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 2 – Summary of significant accounting policies - continued

Recent accounting pronouncements

In March 2018, the FASB issued ASU 2018-05 — Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118 (“ASU 2018-05”), which amends the FASB Accounting Standards Codification and XBRL Taxonomy based on the Tax Cuts and Jobs Act (the “Act”) that was signed into law on December 22, 2017 and Staff Accounting Bulletin No. 118 (“SAB 118”) that was released by the Securities and Exchange Commission. The Act changes numerous provisions that impact U.S. corporate tax rates, business-related exclusions, and deductions and credits and may additionally have international tax consequences for many companies that operate internationally. The Company does not believe this guidance will have a material impact on its consolidated financial statements.

On June 20, 2018, the FASB issued ASU No. 2018-07, Compensation—Stock Compensation (Topic 718) - Improvements to Nonemployee Share-Based Payment Accounting, which aligns the accounting for share-based payment awards issued to employees and nonemployees. Under ASU No. 2018-07, the existing employee guidance will apply to nonemployee share-based transactions (as long as the transaction is not effectively a form of financing), with the exception of specific guidance related to the attribution of compensation cost. The cost of nonemployee awards will continue to be recorded as if the grantor had paid cash for the goods or services. In addition, the contractual term will be able to be used in lieu of an expected term in the option-pricing model for nonemployee awards. The new standard is effective for us on January 1, 2019. Early adoption is permitted, including in interim periods, and should be applied to all new awards granted after the date of adoption. The Company does not expect this guidance will have a material impact on its consolidated financial statements.

In August 2018, the FASB Accounting Standards Board issued ASU No. 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework Changes to the Disclosure Requirements for Fair Value Measurement” (“ASU 2018-13”). ASU 2018-13 modifies the disclosure requirements on fair value measurements. ASU 2018-13 is effective for public entities for fiscal years beginning after December 15, 2019, with early adoption permitted for any removed or modified disclosures. The removed and modified disclosures will be adopted on a retrospective basis and the new disclosures will be adopted on a prospective basis. The Company does not expect this guidance will have a material impact on its 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 position, statements of operations and cash flows.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 3 — Liquidity

For the years ended December 31, 2018 and 2017, the Company had a significant decrease in revenue from its consumer product segment due to stiff competition; disposed its EDLC business as a result of operating losses and outdated technology; completed the acquisition of Shangchi Automobile (formerly known as Suzhou E-Motors) to enter into the electric vehicle (“EV”) business; closed Babiku and Zhongzhu and propose to close Energy due to business strategic changes. All of these events had and will continue to have significant impact on the Company’s operations.

For its consumer product sector, the Company significantly cut its sales to supermarket customers because of long-aged accounts receivable from these supermarket customers as online shopping has become increasingly popular. The Company has been experiencing longer sales and collection periods while pushing back on the delivery of raw materials for production. That leads to higher balances of accounts receivable and advances to suppliers as compared to prior years. Meanwhile, the newly acquired EV sector is also experiencing delays of government rebate processing time and reduction of the amount of government rebates on eligible vehicles due to recent policy changes.

Due to a successful equity financing which resulted in net proceeds of \$5.6 million in September 2017, the Company still had approximately \$7.7 million cash on hand as of December 31, 2018. Although the Company maintains a positive working capital as of December 31, 2018 and generated positive cash flows from its continued operations during the year ended December 31, 2018, the future operations of the Company depend on whether or not the Company can successfully collect its accounts receivable and utilize its advances, as well as how the change of government policies affect its new EV business. Without additional equity financing, the Company may heavily rely on bank borrowings or shareholder/related party loans to fund its working capital needs. As of December 31, 2018 and 2017, the Company had a short-term loan balance of approximately \$7.7 million and \$5.2 million, respectively. In addition, the Company had bank acceptance note payable balance of approximately \$2.1 million and \$7.0 million as of December 31, 2018 and 2017, respectively. Any failure to renew these bank borrowings upon their maturities could have an adverse impact on the Company’s operations.

The Company currently plans to fund its operations mainly through cash flow from its operations, renewal of bank borrowings, additional equity financing and the continuing financial support by its shareholders and its affiliates controlled by its principal shareholder, if necessary, in the near future to ensure sufficient working capital. The Company has implemented a stricter policy on sales to supermarkets and less credible customers and continues to improve its collection efforts on accounts with outstanding balances. The Company is actively working with other customers and suppliers and expects to fully collect or utilize the rest of prepayment balance in 2018.

The Company is also working closely with the local government to speed up the collection process of the outstanding government rebate balance in 2019. With disposal of its EDLC business and placing focus on manufacturing of more marketable consumer products, the Company is shifting its strategy to cut back costs and ensure profitability. Although the Company is currently not generating net income from its EV sector, it has been focusing on reducing the costs and expenses and developing other non-rebate alternative energy products. The Company plans to fund this sector through additional private placement and continued support from the parent company even without timely receipt of government rebate. The principal shareholder of the Company, along with the affiliated entity, Forasen Group, has made pledges to provide financial support to the Company whenever necessary.

Based on its current operating plan, management believes that the above-mentioned measures collectively will provide sufficient liquidity for the Company to meet its future liquidity and capital requirements for at least next twelve months from the date of this report.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 5 – Discontinued operations

On December 14, 2017, the Company entered into a sale agreement and related agreements (the “EDLC Agreements”) to transfer its Electric Double-Layer Capacitor (“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 Registrant’s former CTO. Pursuant to the EDLC Agreements, total purchase price was approximately \$2.5 million (RMB 16 million) (the “Purchase Price”). The purchase price is payable in ten years with initial payment of approximately \$0.7 million (RMB 4.48 million) due in fiscal 2017. The remaining purchase price shall be paid in nine equal installments in the following nine years. The Buyer is required to pay annual interest on the remaining purchase price at the PRC prime borrowing rate.

During the year ended December 31, 2018, the Company further closed the business operation of Lishui Zhongzhu and Tantech Babiku, and is planning to sell Tantech Energy’s remaining operation, due to business strategy change. In connection with the discontinued operations of the above businesses, certain assets and liabilities as of December 31, 2017 and 2016, the revenue and expenses for the years ended December 31, 2017 and 2016 have been retrospectively reclassified as discontinued operations.

The aggregated financial results of the discontinued business are set forth below.

	December 31	December 31
	2018	2017
Cash and cash equivalent	\$ 32,919	\$ 223,131
Accounts receivable	5,257,684	5,422,031
Inventory	475,827	218,157
Advances to suppliers	2,647,415	6,303,201
Prepaid value-added taxes	72,742	162,010
Other receivables	26,567	3,505
Total current assets from discontinued operations	8,513,154	12,332,035
Accounts receivable from EDLC business	1,235,489	1,502,518
Property, plant and equipment, net	6,012,285	6,508,968
Intangible assets, net	1,310,741	1,500,286
Total non-current assets from discontinued operations	8,558,515	9,511,772
Total assets from discontinued operations	17,071,669	21,843,807
Accounts payable	1,038,888	1,851,442
Customer deposits	337,743	196,935
Taxes payable	140,212	253,790
Accrued liabilities and other payables	145,409	154,767
Total current liabilities from discontinued operations	1,662,252	2,456,934
Total liabilities from discontinued operations	\$ 1,662,252	\$ 2,456,934

	Years ended December 31,		
	2018	2017	2016
Revenue	\$ 9,107,922	\$ 4,189,190	\$ 7,763,332
Cost of revenues	9,116,707	2,097,436	7,242,578
Gross profit (loss)	(8,785)	2,091,754	520,754
Operating expenses	1,687,287	4,187,168	2,876,556
Loss from operations	(1,696,072)	(2,095,414)	(2,355,802)
Other income (expense), net	1,779,439	2,168,132	(2,065)
Net income (loss) before tax	83,367	72,718	(2,357,867)
Income taxes	-	7,168	-
Net income (loss) from discontinued operations, net of tax	\$ 83,367	\$ 65,550	\$ (2,357,867)

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 6 – Accounts receivable

Accounts receivable consisted of the following:

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Accounts receivable – non-related parties	\$ 37,177,953	\$ 45,192,166
Accounts receivable – related parties *	-	3,434,845
Subtotal	37,177,953	48,627,011
Allowance for doubtful accounts	(4,682,592)	(3,794,065)
Accounts receivable, net	<u>\$ 32,495,361</u>	<u>\$ 44,832,946</u>

* As of December 31, 2017, the Company had total accounts receivable balances of \$3,434,845 due from the two affiliates of the original shareholders of Shangchi Automobile (formerly known as Suzhou E-Motors). Shangchi Automobile did not have related party's sales to these two related parties after being acquired by the Company on July 12, 2017. The Company collected back approximately \$3.3 million (RMB 21.8 million) from one of the two related parties during the year ended December 31, 2018. In addition, the balance of the other related party of approximately 77,000 (RMB506,725) was included in the balance of accounts receivable – non-related parties as of December 31, 2018 as this customer was no longer a related party for the year ended December 31, 2018.

The movement of allowance for doubtful accounts are as follows for the years ended December 31, 2018 and 2017:

	<u>Years ended December 31,</u>	
	<u>2018</u>	<u>2017</u>
Balance at beginning of year	\$ 3,794,065	\$ 881,359
Addition to allowance for doubtful accounts	947,770	2,853,147
Translation adjustments	(59,243)	59,559
Balance at end of year	<u>\$ 4,682,592</u>	<u>\$ 3,794,065</u>

Note 7 – Inventory

Inventory consisted of the following:

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Raw materials	\$ 1,619,504	\$ 1,513,306
Finished products	261,283	876,003
Work in process	76,271	183,249
Total Inventory	<u>\$ 1,957,058</u>	<u>\$ 2,572,558</u>

For the years ended December 31, 2018, 2017 and 2016, the Company recorded inventory write-offs in the amounts of \$700,379, \$13,908 and a recovery of \$84,414, respectively.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 8 – Advances to suppliers

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Advances to suppliers	\$ 15,813,997	\$ 13,953,920
Allowance for doubtful accounts	(1,426,769)	(627,151)
Advances to suppliers, net	<u>14,387,228</u>	<u>13,326,769</u>
Less: Advances to suppliers, non-current	-	(2,109,005)
Advances to suppliers, current	<u>\$ 14,387,228</u>	<u>\$ 11,217,764</u>

The movement of allowance for doubtful accounts are as follows for the years ended December 31, 2018 and 2017:

	<u>Years ended December 31,</u>	
	<u>2018</u>	<u>2017</u>
Balance at beginning of year	\$ 627,151	\$ 611,033
Addition to allowance for doubtful accounts	809,411	58,791
Deduction – utilization or return of advances	-	(83,963)
Translation adjustments	(9,793)	41,290
Balance at end of year	<u>\$ 1,426,769</u>	<u>\$ 627,151</u>

Advances to suppliers – non-current

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Zhejiang Longquanzhixin Commercial & Trade Co., Ltd *	\$ -	\$ 1,647,905
Zhibo Jieli Special Battery Material Co., Ltd **	453,900	461,100
Subtotal	<u>453,900</u>	<u>2,109,005</u>
Allowance for doubtful accounts	(453,900)	-
Advances to suppliers – non-current, net	<u>\$ -</u>	<u>\$ 2,109,005</u>

* representing the prepayments made to ensure continuous high-quality supply and favorable purchase prices. On December 15, 2016, the Company entered into a long-term supply agreement with Zhejiang Longquanzhixin Commercial & Trade Co., Ltd. (“ZLCT”) to make an advance payment of \$8,638,260 million (RMB 60,000,000) as of December 31, 2016. The purpose of the prepayment is to support ZLCT to purchase local bamboo forests (approximately 1,650 acres) and expand its operations. Meanwhile, the Company is guaranteed to receive steady supplies from ZLCT of minimum 13,000 tons of charcoal raw material annually with a fixed purchase price for the next three years. As of December 31, 2018, the advances were fully utilized.

** representing the prepayments made to acquire machinery.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 9 – Manufacturing rebate receivable

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 government rebate is paid to the Company on behalf of our customer for a portion of selling price, for which, our customer does not need to pay at the time of purchase. The government manufacturing rebates are typically provided to eligible alternative energy automobile manufacturers within two years period after sales are finalized and paperwork is submitted. Based on the criteria listed, Shangchi Automobile (formerly known as Suzhou E-Motors) is eligible for approximately \$6,000, \$29,400 and \$60,200 in government manufacturing rebates for each of the qualifying electric buses sold during the years ended December 31, 2018, 2017 and 2016, respectively.

The Company applied 109 and 100 qualified electric buses sold during the year ended December 31, 2018 and the period from July 1, 2017 to December 31, 2017, respectively for government manufacture rebate and recognized \$644,959 and \$2,942,190 manufacturing rebate income as part of revenue and corresponding receivable for the years ended December 31, 2018 and 2017, respectively, because the management believes that the electric buses sold met all the criteria set by the government and the collection of these manufacturing rebates is reasonably assured. As of December 31, 2018, the manufacturing rebate receivable was \$9,795,512, including \$6,112,520 (RMB40,400,000) of manufacturing rebate receivable related to qualified electric buses sold in fiscal 2016, \$3,011,862 (RMB 19,906,560) of manufacturing rebate receivable related to qualified electric buses sold in fiscal 2017 and \$671,130 (RMB4,435,755) of manufacturing rebate receivable related to qualified electric buses sold in fiscal 2018. Shangchi Automobile has received the full payment of the eligible government rebates for the qualifying electric buses sold in fiscal 2015. The Company has not received any payment of those eligible government rebates for the sales made in the fiscal year 2016 due to the recent slower processing of rebates. The Company is also working closely with the local government to speed up the collection process of the outstanding government rebate balance in 2019.

Note 10 – Property, plant and equipment, net

Property, plant and equipment stated at cost less accumulated depreciation consisted of the following:

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Building	\$ 5,473,555	\$ 5,089,190
Machinery and Production equipment	2,012,061	2,167,877
Electronic equipment	203,491	201,731
Office equipment	55,407	55,467
Automobiles	527,485	550,577
Construction in progress	121,255	11,943
Subtotal	<u>8,393,254</u>	<u>8,076,785</u>
Less: Accumulated depreciation	(5,152,634)	(4,701,906)
Property, plant and equipment, net	<u>\$ 3,240,620</u>	<u>\$ 3,374,879</u>

Depreciation expense was \$1,049,274, \$613,296 and \$534,252 for the years ended December 31, 2018, 2017 and 2016, respectively, among which \$628,144, \$576,953 and \$497,970 were for continuing operations.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 11 – Intangible assets, net

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Software	\$ 25,619	\$ 23,292
Electronic vehicle registered license (Note 4)	13,690,078	13,907,238
Land use rights*	303,232	308,042
Patents**	4,539,000	4,611,000
Subtotal	<u>18,557,929</u>	<u>18,849,572</u>
Less: Accumulated amortization	(3,289,867)	(2,873,428)
Intangible assets, net	<u>\$ 15,268,062</u>	<u>\$ 15,976,144</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 two land use rights from the local government in December 2002 and September 2008 for periods of 50 years. As of December 31, 2018, and 2017, land use rights with net book value of \$1,521,993 (among which \$211,252 from continuing operations and \$1,310,741 from discontinued operations) and \$1,585,794 (among which \$220,764 from continuing operations and \$1,365,030 from discontinued operations), respectively, were pledged as collateral for bank loans. The land use rights are amortized over 50 years and the software is amortized over 5 years. Amortization expense for intangible assets totaled \$602,959, \$201,647 and \$39,659 for the years ended December 31, 2018, 2017 and 2016, respectively, among which \$443,318, \$201,647 and \$6,842 were for continuing operations.

** Patents on specialty electric vehicles resulted from the acquisition of Shangchi Automobile (formerly known as Suzhou E-Motors) (Note 4).

Note 12 – Short-term bank loans

The Company's short-term bank loans consist of the following:

	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Loan payable to Bank of China Lishui Branch	\$ 4,808,314	\$ 5,208,893
Loan payable to SPD bank	<u>2,874,700</u>	<u>-</u>
Total	<u>\$ 7,683,014</u>	<u>\$ 5,208,893</u>

On August 16, 2018 and August 20, 2018, Tantech Bamboo entered into two short-term loan agreements with Bank of China (Lishui Branch) to borrow \$1,513,000 (RMB 10 million) and \$1,328,414 (RMB 8.78 million) for seven months with a fixed annual interest rate of 6.01% and 6.06%, respectively. The purpose of the loans is to fund working capital needs. The loans were collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.9 million (RMB25,570,000) as of December 31, 2018. These two loans were also guaranteed by two individual related parties, Zhengyu Wang, CEO of the Company and his wife, Yefang Zhang. In addition, loan principal of \$1,513,000 (RMB 10 million) was further guaranteed by a related party, Lishui Jiuanju Trading Co., Ltd., the president of which was also the COO of the Company. These two loans were fully repaid upon maturity in March 2019.

On November 23, 2018, Tantech Bamboo entered into a short-term loan agreement with Shanghai Pudong Development Bank to borrow \$2,874,700 (RMB 19 million) for a year with fixed annual interest rate of 6.96%. The purpose of the loan is to fund working capital needs. The loan was collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.4 million (RMB29,250,000) as of December 31, 2018. The loan was also guaranteed by three related parties, Zhengyu Wang, CEO and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang.

On July 25, 2018, Tantech Bamboo entered into a short-term loan agreement with Shanghai Pudong Development Bank to borrow \$3,026,000 (RMB 20 million) for four months due on November 24, 2018 with fixed annual interest rate of 6.525%. The purpose of the loan is to fund working capital needs. The loan was collateralized by building and land use right of Tantech Energy with maximum guaranteed amount up to approximately \$4.4 million (RMB29,170,000). The loan was also guaranteed by three related parties, Zhengyu Wang, CEO and his wife, Yefang Zhang and Forasen Group Co., Ltd., a company owned by Zhengyu Wang and Yefang Zhang. The loan was fully repaid upon maturity in November 2018.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 12 – Short-term bank loans - continued

On August 1, 2018, Tantech Charcoal entered into a short term loan agreement with Bank of China (Lishui Branch) to borrow \$1,966,900 (RMB 13 million) for seven months with a fixed annual interest rate of 6.1%. The purpose of the loan was for working capital needs. The loan was guaranteed by Tantech Bamboo, two individual related parties, Zhengyu Wang and Yefang Zhang and a third party, Zhejiang Meifeng Tea Industry Co., Ltd. The loan was also collateralized by a property owned by Zhengyu Wang and Yefang Zhang. The loan was fully repaid upon maturity in February 2019.

As of December 31, 2018, total bank loans payable amounted to \$7,683,014.

On September 26, 2017, Tantech Bamboo entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow \$3,057,093 (RMB 19.89 million) for a year with a fixed annual interest rate of 5.83%. The purpose of the loan was to fund working capital needs. The loan was collateralized by building and land use right of Tantech Bamboo with maximum guaranteed amount up to approximately \$3.9 million (RMB25,570,000). The loan was also guaranteed by three related parties, Zhengyu Wang, CEO of the Company and his wife, Yefang Zhang and Lishui Jiuanju Trading Co., Ltd., the president of which was also the COO of the Company. The loan was fully repaid upon maturity in August 2018.

On September 26, 2017, Tantech Charcoal entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow \$2,151,800 (RMB 14 million) for a year with a fixed annual interest rate of 6.10%. The purpose of the loan was to fund working capital needs. The loan was guaranteed by Tantech Bamboo, two individual related parties, Zhengyu Wang and Yefang Zhang and a third party, Zhejiang Meifeng Tea Industry Co., Ltd. The loan was also collateralized by a property owned by Zhengyu Wang and Yefang Zhang. The loan was fully repaid upon maturity in August 2018.

On March 30, 2017, Bamboo entered into a short term loan agreement with Bank of China (Lishui Branch) to borrow \$3,074,000 (RMB 20 million) for half year period with a fixed annual interest rate of 5.66%. The purpose of the loan was for working capital purpose. The loan was guaranteed by a related party, Lishui Jiuanju Trading Co., Ltd. and the Company's CEO Mr. Zhengyu Wang and his wife Ms. Yefang Zhang. The loan was fully repaid upon maturity on September 29, 2017.

On March 30, 2017, the Company entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow \$2,213,280 (RMB 14.4 million) for half a year due on September 29, 2017 with fixed annual interest rate of 5.66%. The purpose of the borrowing was for working capital purpose. The loan was guaranteed by the Company's CEO Mr. Zhengyu Wang and his wife Ms. Yefang Zhang. The loan was fully repaid upon maturity on September 29, 2017.

On August 16, 2016, the Company entered into a short-term loan agreement with Shanghai Pudong Development Bank to borrow \$1,439,710 (RMB 10 million) for a year with fixed annual interest rate of 5.046%. The purpose of the loan is to fund working capital needs. The loan was guaranteed by Tantech Energy and three related parties, Yefang Zhang, Zhengyu Wang and Forasen Group. The loan was repaid on maturity date in 2017.

As of December 31, 2017, total bank loans payable amounted to \$5,208,893.

For the years ended December 31, 2018, 2017 and 2016, the interest expense related to bank loans was \$378,857, \$479,358 and \$388,007, respectively.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 13 – Bank acceptance notes payable

Bank acceptance notes payable do not carry a stated interest rate but have a specific due date usually for a period of one year. These notes are negotiable documents issued by financial institutions on the Company’s behalf to vendors. These notes can either be endorsed by the vendor to other third parties as payment or can be factored to other financial institutions before becoming due. These notes are short-term in nature. As collateral security for financial institutions’ undertakings, the Company is required to maintain deposits with such financial institutions in restricted cash amounts of 0% to 100% of the balances of the bank acceptance notes. As of December 31, 2018, and 2017, deposits of \$2,121,377 and \$3,901,526 were reported as restricted cash on balance sheet.

Bank acceptance notes payable consisted of the following:

		<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Letter of credit issued by Shanghai Pudong Development Bank Lishui Branch	(a)	\$ -	\$ 3,074,000
Bank acceptance notes payable issued by Bank of Zhang Jiagang Yule Branch	(b)	<u>2,121,377</u>	<u>3,901,526</u>
Total		<u>\$ 2,121,377</u>	<u>\$ 6,975,526</u>

(a) Letter of credit of \$3,074,000 (RMB20,000,000) was issued on August 15, 2017 and due on August 14, 2018. The letter of credit is guaranteed by a land use right and a building with a total carrying value approximately of \$4.5 million and three related parties, Forasen Group, Zhengyu Wang, and Yefang Zhang.

(b) Bank acceptance notes payable of \$2,121,377 (RMB14,021,000) issued by Bank of Zhang Jiagang Yule Branch with due dates from February 7, 2019 to June 28, 2019. The Company is required to maintain restricted cash deposits at 100% of the notes payable with the bank, in order to ensure future credit availability.

Bank acceptance notes payable of \$3,901,526 (RMB 25,384,032) issued by Bank of Zhang Jiagang Yule Branch with due dates from April 20, 2018 to July 3, 2018. The Company is required to maintain restricted cash deposits at 100% of the notes payable with the bank, in order to ensure future credit availability. The bank acceptance notes were paid in full upon maturity.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 14 – Convertible Note

On February 9, 2017, the Company entered into a Convertible Note Agreement with ARC Capital Ltd. to secure a loan for \$2,000,000, which can be converted into the Company’s common stock after six months following the effective date, at a conversion price which is 85% of the 15 trading day average closing price of the Company’s common stock prior to the date of Tantech receiving Notice of Conversion by Note Holder. The conversion price shall, under no circumstances, be lower than the average closing price of the 10 trading days prior to the date of signing of this Agreement. The term of the loan is one year, and the interest rate is 7% per annum payable at the maturity date, which rate can be increased to 10% per annum subject to the agreement stated. On September 27, 2017, the parties mutually agreed to terminate the Convertible Note Agreement, effective immediately. From the date the parties entered into the Convertible Note Agreement through the dated of termination, no funds were advanced under the Convertible Note Agreement, and no amounts were due.

Note 15 – Related Party Transactions

The balances due to related parties were as follows:

	<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Dr. Henglong Chen and its affiliates *	\$ 1,227,773	\$ 240,462
Mr. Yulong Chen, a shareholder of the Company	-	1,537,000
Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and CEO of the Company	874,402	1,217,766
Total	<u>\$ 2,102,175</u>	<u>\$ 2,995,228</u>

* Dr. Henglong Chen is the original shareholder of Shangchi Automobile (formerly known as Suzhou E-Motors) (Note 4). The Company acquired his 70% equity interest in Shangchi Automobile and issued 2,500,000 restricted shares of Tantech’s common stock to him in connection with the acquisition of Shangchi Automobile. As of December 31, 2018 and 2017, Dr. Henglong Chen and its affiliates advanced \$1,227,773 and \$240,462 to the Company for its working capital purpose, respectively.

As of December 31, 2018 and 2017, the Company also borrowed \$874,402 and \$1,217,766 from Forasen Group and its affiliates, controlled by Mr. Zhengyu Wang, Chairman and CEO of the Company, for working capital purpose. For the year ended December 31, 2017, the Company borrowed \$1,537,000 from Mr. Yulong Chen, a shareholder of the Company for working capital purpose. The balance was fully repaid during the year ended December 31, 2018.

All balances of due to the related parties were unsecured, interest-free and due upon demand.

As of December 31, 2018 and 2017, the Company had total accounts receivable balances of \$0 and \$3,434,845 due from the affiliates of the original shareholders of Shangchi Automobile (see Note 5).

The Company’s major shareholder Mr. Zhengyu Wang and his wife Ms. Yefang Zhang, as well as related party entities controlled by Mr. Wang, provided guarantees to the Company’s bank loans and bank acceptance notes payables (Note 11 and 12).

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 16 – Commitments and Contingencies

Guaranty provided for related party

As of December 31, 2017, the Company provided a guaranty on behalf of Forasen Group's outstanding line of credit of \$8,771,659 (RMB 57,070,000) by pledging the Company's building with carrying value approximately of \$8.8 million as the collateral for the loan and notes. The guaranty will expire on July 23, 2020. As of December 31, 2016, the Company provided a guaranty on behalf of Forasen Group's outstanding line of credit of \$8,645,459 (RMB 60,050,000) by pledging the Company's building with a net book value of approximately \$4.0 million as the collateral for the loan and notes. The guaranty on the line of credit expired on April 8, 2017.

Operating lease

Shangchi Automobile leased certain factory facilities under operating leases through May 2019. The annual rent under operating lease agreement was approximately \$150,000 (RMB 1 million). Shenzhen E-Motors leased office space under operating leases for one year from November 12, 2018 to November 11, 2019 with annual rent of approximately \$14,000 (RMB93,600).

The rental expense for the years ended December 31, 2018 and 2017 were \$139,507 and \$73,184, respectively.

Note 17 – Stockholders' equity

On March 4, 2016, the Company issued a total of 1,693,000 shares of its common stock at \$4.70 per share for \$7,957,100 to various purchasers in a private placement transaction.

On December 28, 2016, the Company issued 1,018,935 shares of the Company's common stock to acquire the 5% minority interest of Tantech Bamboo from five individual holders. Please refer to Note 18.

On July 12, 2017, in connection of the acquisition of Shangchi Automobile (formerly known as Suzhou E-Motors), the Company issued 2,500,000 shares of its common stock to the original shareholder of Shangchi Automobile. These shares are restricted for minimum twelve months after the completion of the acquisition. The fair value of these shares was \$6,500,000 based on the share price of \$2.6 on July 12, 2017.

On September 27, 2017, the Company and certain institutional investors entered into a securities purchase agreement in connection with the September 2017 Offering, pursuant to which the Company agreed to sell an aggregate of 1,891,307 common shares and warrants to initially purchase an aggregate of 1,078,045 common shares, consisting of 945,654 investor warrants and 132,391 placement agent warrants. The common share purchase price was \$3.45 per common share. On September 29, 2017, the Company completed the September 2017 Offering. After deducting offering expenses, the Company received \$5,968,208 in net proceeds from the sale of the common shares.

On September 19, 2018, the Company issued 150,000 shares of common stock to three individuals for consulting services to be provided for the period from September 19, 2018 to May 18, 2019, which were valued at \$243,000 based on the quoted market price at issuance. The entire cost of \$243,000 was amortized over the 8-month service period using straight line method.

Warrants registered in September 2017 Offering

In connection with the September 2017 offering, the Company registered and issued warrants to purchase an aggregate of 1,078,045 common shares, consisting of 945,654 investor warrants (the "Investor Warrants") and 132,391 placement agent warrants (the "Placement Agent Warrants"). All warrants carry a term of 5 years. The Investor Warrants are exercisable at \$4.25 per share and the Placement Agent Warrants are exercisable at \$4.675 per share. 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.

Management determined that these warrants are equity instruments because the warrants are indexed to its own stock. The warrants were recorded at their fair value on the date of grant as a component of stockholders' equity. As of December 31, 2018, the total number of warrants outstanding was 1,078,045 with weighted average remaining life of 4 years. No warrants were exercisable as of December 31, 2018.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 18 – Noncontrolling Interests

A reconciliation of non-controlling interest as of December 31, 2018 and 2017 is as follows:

	<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Beginning Balance	\$ 8,799,460	\$ -
Noncontrolling interest through acquisition of Shangchi Automobile (Note 4)	-	9,583,646
Proportionate shares of net income (loss)	(896,769)	(754,084)
Foreign currency translation adjustment	15,405	(30,102)
Total	<u>\$ 7,918,096</u>	<u>\$ 8,799,460</u>

On June 24, 2016, Tantech BVI, through its wholly owned subsidiary, Lishui Tantech, entered into an equity purchase agreement with the five individuals who holds the 5% equity interest of Tantech Bamboo. Pursuant to the equity purchase agreement, Tantech BVI issued 1,018,935 shares of the Company's common stock in consideration for the 5% equity interest of Tantech Bamboo. The transaction was consummated on December 28, 2016. Upon the completion of the acquisition, Tantech BVI's equity interest in Tantech Bamboo increased from 95% to 100%. Since Tantech BVI retains its control over Tantech Bamboo before and after the acquisition of minority interest, this change in the parent's ownership interest shall be accounted for as an equity transaction in accordance with FASB ASC 810-10-45. No gain or loss was recognized in the consolidated net income or comprehensive income. The carrying amount of the previous non-controlling interest was adjusted to reflect the change in its ownership interest in Tantech Bamboo. The difference between the fair value of the common stocks issued and the amount by which the minority interest was adjusted was recorded as additional paid in capital.

As of December 31, 2018 and 2017, the noncontrolling interests balances represented the noncontrolling shareholder's 30% equity interests in Shangchi Automobile (formerly known as Suzhou E-Motors) (see Note 4).

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 19 – Taxes

Taxes Payable

Taxes payable as of December 31, 2018 and 2017 consist of the following:

	<u>December 31,</u> <u>2018</u>	<u>December 31,</u> <u>2017</u>
Corporation income tax payable	\$ 227,386	\$ 416,579
Other tax payable	117,177	125,813
Total	<u>\$ 344,563</u>	<u>\$ 542,392</u>

Corporation Income Tax (“CIT”)

Tantech BVI was incorporated in the BVI and is not subject to income taxes under the current laws of BVI.

USCNHK and Euroasia are holding companies registered in Hong Kong and has no operating profit for tax liabilities.

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 Energy was registered in the PRC and is also subject to corporate income tax at a reduced rate of 15% starting from 2013 when it was approved by local government as a high-tech company. Lishui Tantech Energy, Jiamu, Jiye, Wangbo, Bamboo Tourism, Tantech Charcoal, Tantech Babiku and Tanbo Tech are all subject to income tax at unified rate of 25%. Shangchi Automobile was approved by local government as a high-Tech company on December 7, 2017 and was subject to income tax rate of 15%.

The impact of the tax holidays noted above decreased foreign taxes by \$158,424, \$899,503 and \$906,131 for the years ended December 31, 2018, 2017 and 2016, respectively. The benefit of the tax holidays on net income per share (basic and diluted) was \$0.01, \$0.03 and \$0.03 for the years ended December 31, 2018, 2017 and 2016, respectively.

The following table reconciles PRC statutory rates to the Company’s effective tax rates for the years ended December 31, 2018, 2017 and 2016:

	<u>Years ended December 31,</u>		
	<u>2018</u>	<u>2017</u>	<u>2016</u>
Statutory PRC income tax rate	25%	25%	25%
Favorable tax rate impact ^(a)	(8)%	(10)%	(10)%
Permanent difference and others	(1)%	2%	1%
Changes of deferred tax assets valuation allowances	35%	17%	-%
Total	<u>51%</u>	<u>34%</u>	<u>16%</u>

(a) Three of the Company’s subsidiaries, Tantech Bamboo, Shangchi Automobile and Tantech Energy are subject to tax rate of 15%.

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 19 – Taxes - continued

The provision for income tax consisted of the following:

	Years ended December 31,		
	2018	2017	2016
Current	\$ 1,031,158	\$ 1,334,254	\$ 1,465,744
Deferred	-	193,749	(98,474)
Total	\$ 1,031,158	\$ 1,528,003	\$ 1,367,270

Significant components of deferred tax assets and liabilities are as follows:

	December 31, 2018	December 31, 2017
Deferred tax assets:		
Allowance for doubtful accounts and other reserves	\$ 2,389,719	\$ 1,682,706
Valuation allowance	(2,389,719)	(1,682,706)
Total	\$ -	\$ -
Deferred tax liability:		
Increase in fair value of intangible assets acquired through acquisition	\$ 2,053,512	\$ 2,086,086
Total	\$ 2,053,512	\$ 2,086,086

At December 31, 2018 and 2017, 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, 2018, and 2017, the valuation allowance was \$2,389,719 and \$1,682,706, respectively. The net change in the valuation allowance was an increase of \$707,013, \$1,212,303 and \$73,516 for the years ended December 31, 2018, 2017 and 2016, 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 20 – 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 years ended December 31, 2018, 2017 and 2016, two major customers accounted for approximately 49%, 47% and 27% of the Company’s total sales, respectively. As of December 31, 2018, three customers accounted for approximately 45%, 13% and 11% of the Company’s accounts receivable balance. As of December 31, 2017, one customer accounted for approximately 43% 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, 2018, three major suppliers accounted for more than 73% of the Company’s total purchases. For the year ended December 31, 2017, three major suppliers accounted for more than 61% of the Company’s total purchases. For the year ended December 31, 2016, four major suppliers accounted for approximately 88% of the Company’s total purchases, respectively.

Note 21 – 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. Management, including the chief operating decision maker, reviews operation results of consumer products, trading and electronic vehicles separately. The Company has determined that it has three operating segments as defined by ASC 280, “Segment Reporting”: consumer products, electronic vehicles, and trading. Consumer products segment manufactures and sells Charcoal Doctor branded products and BBQ charcoal in China. Trading segment conducts rubber and other trading businesses. Electronic Vehicle segment (“EV”) was acquired in July 2017 (Note 4).

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, 2018, 2017 and 2016, respectively.

	Consumer product			Trading			EV		Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2018	2017	2016
Revenue from external customers	\$ 22,388,827	\$ 31,889,149	\$ 39,348,649	\$ 3,776,842	\$ 1,829,475	\$ 553,693	\$ 3,395,730	8,578,988	29,561,399	\$ 42,297,612	\$ 39,902,342
Revenue from inter segment	(7,790,931)	(2,736,204)	576,302	-	(24,550)	12,345	-	-	(7,790,931)	(2,760,754)	588,647
Cost of revenue	14,347,896	23,693,289	26,853,812	3,290,089	1,412,062	25,504	3,894,334	6,636,402	21,532,319	31,741,753	26,879,316
Gross profit	8,040,931	8,195,860	12,494,837	486,753	417,413	528,189	(498,604)	1,942,586	8,029,080	10,555,859	13,023,026
Interest Expenses	292,996	290,383	341,464	126,030	124,587	129,192	207,317	136,162	626,343	551,044	470,656
Depreciation & amortization	420,301	454,178	453,671	-	25,345	51,141	526,725	299,075	947,026	778,598	504,812
Capital expenditure	13,512,820	74,202	10,819	209,721	-	-	792,981	8,061	14,515,522	82,263	10,819
Segment assets	116,847,478	83,024,439	92,878,334	5,756,612	5,988,364	1,424,333	11,589,924	49,474,923	134,194,014	138,487,726	94,302,667
Segment profit	\$ 4,135,969	\$ 5,258,037	\$ 7,109,315	\$ (134,511)	\$ 203,157	\$ (149,755)	\$ (3,004,827)	(2,513,613)	996,631	\$ 2,947,581	\$ 6,959,560

TANTECH HOLDINGS LTD AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 21 – 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,		
	2018	2017	2016
Revenue from China	\$ 29,561,399	\$ 42,297,612	\$ 39,346,217
Revenue directly from foreign countries	-	-	556,125
Total Revenue	<u>\$ 29,561,399</u>	<u>\$ 42,297,612</u>	<u>\$ 39,902,342</u>

Note 22 – Long term investment

On January 10, 2018, the Company invested approximately \$18.2 million (or RMB 120 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 southwestern province of Guizhou province, China. Libo Haokun obtained the permit to mine the quarry from the local government in September 2016.

As the Company did not have significant influence over the equity investee, the investment was accounted for using the cost method. For the year ended December 31, 2018, the Company did not recognize any impairment losses for the long term investment.

Note 23 – Subsequent events

On February 26, 2019, Tantech Charcoal entered into a short term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$1.5 million (RMB 10 million) for one year with annual interest rate of 4.35%. The purpose of the loan was for working capital needs. The loan was guaranteed by Tantech Bamboo, two individual related parties, Zhengyu Wang and Yefang Zhang and a third party, Zhejiang Meifeng Tea Industry Co., Ltd. The loan was also collateralized by two properties owned by Zhengyu Wang and Yefang Zhang.

On March 18, 2019, Tantech Bamboo entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2.8 million (RMB 18.78 million) with annual interest rate of 6.05%. Principal of approximately \$150,000 (RMB 1 million) will be due on January 14, 2020 and the remaining principal of approximately \$2.7 million (RMB17,780,000) will be due on March 17, 2020. The purpose of the loan was to fund working capital needs. 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 three related parties, Zhengyu Wang, CEO of the Company and his wife, Yefang Zhang and Lishui JUANJU Trading Co., Ltd., the president of which was also the COO of the Company.

TANTECH HOLDINGS LTD

List of Subsidiaries and Consolidated Affiliated Entities

<i>Company Name</i>	<i>Country of Incorporation/Formation</i>	<i>Ownership</i>
USCNHK Group Limited	Hong Kong	Wholly owned subsidiary of Tantech Holdings Ltd
Eurasia International Capital Co., Ltd.	Hong Kong	Wholly owned subsidiary of Tantech Holdings Ltd
Tantech Holdings (Lishui) Co., Ltd.	People's Republic of China	Wholly owned subsidiary of USCNHK Group Limited
Eurasia New Energy Automotive (Jiangsu) Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Eurasia International Capital Co., Ltd.
Shanghai Jiamu Investment Management Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Eurasia International Capital Co., Ltd.
Lishui Xincai Industrial Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Tantech Holdings (Lishui) Co., Ltd.
Zhejiang Tantech Bamboo Technology Co., Ltd	People's Republic of China	Wholly owned subsidiary of Tantech Holdings (Lishui) Co., Ltd.
Zhejiang Tantech Bamboo Charcoal Co., Ltd	People's Republic of China	Wholly owned subsidiary of Zhejiang Tantech Bamboo Technology Co., Ltd
Zhejiang Tantech Energy Technology Co., Ltd	People's Republic of China	Wholly owned subsidiary of Zhejiang Tantech Bamboo Technology Co., Ltd
Hangzhou Tanbo Technology Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Zhejiang Tantech Bamboo Technology Co., Ltd
Hangzhou Wangbo Investment Management Co., Ltd.	People's Republic of China	Consolidated affiliated variable interest entity controlled solely by Shanghai Jiamu Investment Management Co., Ltd.
Hangzhou Jixi Investment Management Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Shanghai Jiamu Investment Management Co., Ltd.
Shangchi Automobile Co., Ltd. (previously called Suzhou Yimao E-Motors Co., Ltd.)	People's Republic of China	51%-owned subsidiary of Hangzhou Wangbo Investment Management Co., Ltd., with the remaining equity interest of 19% and 30% owned, respectively, by Hangzhou Jixi Investment Management Co., Ltd. and an unrelated third party.
Shenzhen E-Motors New Energy Sales Co., Ltd.	People's Republic of China	Wholly owned subsidiary of Shangchi Automobile Co., Ltd.

CERTIFICATION

I, Zhengyu Wang, certify that:

1. I have reviewed this annual report on Form 20-F of Tantech Holdings Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: May 15, 2019

By: /s/ Zhengyu Wang

Name: Zhengyu Wang

Title: Chief Executive Officer

CERTIFICATION

I, Jing Jin, certify that:

1. I have reviewed this annual report on Form 20-F of Tantech Holdings Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: May 15, 2019

By: /s/ Jing Jin

Name: Jing Jin

Title: Chief Financial Officer

CERTIFICATION

In connection with the Annual Report of Tantech Holdings Ltd. (the "Company") on Form 20-F for the fiscal year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Zhengyu Wang, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 15, 2019

By: /s/ Zhengyu Wang

Name: Zhengyu Wang

Title: Chief Executive Officer

CERTIFICATION

In connection with the Annual Report of Tantech Holdings Ltd. (the "Company") on Form 20-F for the fiscal year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jing Jin, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 15, 2019

By: /s/ Jing Jin

Name: Jing Jin

Title: Chief Financial Officer

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement of Tantech Holdings Ltd on Form F-3 (File No. 333-213240) of our report dated May 15, 2019 relating to the consolidated balance sheet of Tantech Holdings, Ltd and subsidiaries as of December 31, 2018 and the related consolidated statements of comprehensive income (loss), shareholders' equity and cash flows for the year then ended, which appears in this Annual Report on Form 20-F.

/s/ Prager Metis CPAs, LLC

Hackensack, New Jersey
May 15, 2019

FRIEDMAN LLP[®]

ACCOUNTANTS AND ADVISORS

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement of Tantech Holdings Ltd. (the “Company”) on Form F-3 of our report dated May 11, 2018, which contains an explanatory paragraph regarding the effects of the adjustments to retrospectively apply the change in accounting related to the discontinued operations as described in Note 5, which were audited by other auditors, relating to the consolidated balance sheets of the Company as of December 31, 2017, and the related consolidated statements of income and comprehensive income (loss), changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2017, which appears in such Registration Statement. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Friedman LLP

New York, New York
May 15, 2019

Tantech Holdings Ltd. Announces Fiscal Year 2018 Financial Results

LISHUI, China, May 15, 2019 /PRNewswire/ -- Tantech Holdings Ltd. (NASDAQ: TANH), ("Tantech" or the "Company"), an alternative energy company with diversified operations, including the manufacturing of bamboo-based charcoal products and Electric Vehicles (EVs), today announced its financial results for its fiscal year ended December 31, 2018.

Financial Highlights (All Figures Approximated)

- Total revenues decreased by approximately \$12.7 million, or 30.1%, to approximately \$29.6 million
- Total gross profit from the following segments decreased by 23.9%, or approximately \$2.5 million, to \$8.0 million
 - Gross profit from the Company's consumer products segment decreased by 1.9%, or \$0.15 million, to \$8.04 million
 - Gross profit from the Company's trading segment increased by 17.0%, or \$0.1 million, to \$0.5million
 - Gross profit from the Company's electronic vehicle segment decreased by 126%, or \$2.4 million, to \$0.50 million
- Despite the overall decline in revenues and gross profit, the Company was still able to achieve net income attributable to common stockholders of \$2.0 million, or \$0.07 per share, for fiscal year 2018.

Mr. Zhengyu Wang, Chairman and CEO of Tantech said: "Tantech's overall performance in 2018 did not meet our expectations due to a much more competitive business environment, which led to lower sales of certain products. However, as the Company further streamlined its business lines in 2018, we have reduced the supply chain risks and made some breakthroughs in business, laying down a solid foundation for future growth. As such, we expect that both revenue and earnings growth will be improved this year compared with 2018."

"This year and beyond, the company will focus on manufacturing and selling bamboo charcoal-based consumer products and environment-friendly electric motor vehicles. Since 2019, the Chinese government has further reduced its subsidy for electric motor vehicles. As a result, we expect to receive fewer subsidies from the government going forward. In the past years, during which the Company's sales of electric motor vehicles were subsidized by the government, it took the Company two to three years to recover the subsidies, which contributed to a large accounts receivable balance. As a specialist in the electric logistics vehicle market, the Company expects to continue to improve its competitiveness so as to reach more customers and improve the Company's cash management. Also, the Company expects to expand into the auto parts sector, capitalizing on its rich customer resources in the automotive industry to build a strong brand image in the industry. In addition, assuming sufficient cash flow, the Company expects to increase investment in the mining sector. In 2018, the Company's 18% equity interest in Libo Haokun, a marble mining company, saw an increase in book value, which to some extent improved shareholder returns. " Mr. Wang concluded.

Full Year 2018 Financial Results*Revenues*

Revenues decreased by approximately \$12.7 million, or 30.1%, to approximately \$29.6 million in fiscal 2018 from approximately \$42.3 million in fiscal 2017. The decrease was mainly attributable to the significant decrease of our consumer products and electronic vehicle ("EV") segments due to a change of our business strategy and less customer demand. The revenue from our trading segment increased due to higher demands.

For the Twelve Months Ended December 31,

	2018		2017			
	Revenues	Gross Profit	Gross Margin	Revenues	Gross Profit	Gross Margin
	(\$'000)	(\$'000)	(%)	(\$'000)	(\$'000)	(%)
Consumer product	22,388	8,040	35.9%	31,889	8,196	25.7%
Trading	3,777	487	12.9%	1,829	417	22.8%
Electric Vehicles	3,396	(498)	(14.7)%	8,579	1,943	22.6%
Total	29,561	8,029	27.2%	40,297	10,556	25%

Revenues from the Company's consumer product segment decreased by \$9.5 million, or 29.8%, to \$22.4 million for fiscal 2018 from \$31.9 million for the prior fiscal year. The gross margin of the Company's consumer product segment increased from 25.7% in fiscal 2017 to 35.9% in fiscal 2018. The decrease in revenue from the consumer product segment in 2018 was due to the following reasons. First, as a result of increasing competition from E-commerce retailers and the change of shopping habits among younger consumers, potential customers are increasingly buying consumer products online with unknown brands in order to save money. Therefore, orders from the Company's customers for its consumer products decreased considerably. Second, in 2018, the Company reduced its cooperation with certain supermarket customers with low selling prices and unfavorable profit margins. And third, in response to market competition, the Company also reduced sales of less popular products with lower gross margin. The overall decrease in the Company's revenue from its consumer product segments reflected the above factors.

Revenue from the Company's trading segment was approximately \$3.8 million in fiscal 2018, an increase of 106% from \$1.9 million in fiscal 2017. Starting in fiscal 2017, the Company focused on promoting its "Charcoal Doctor" products in the market. As a result, domestic sales of "Charcoal Doctor" products have increased significantly. The decline in gross margin in fiscal 2018 compared to fiscal 2017 was due to the fact that almost all the Company's sales were made to the Chinese domestic market which have lower margins.

In July 2017, the Company completed the acquisition of a 70% equity interest of Suzhou E-Motors Co., Ltd, which became known as Shangchi Automobile in 2019 ("Shangchi Automobile"), a specialty electric vehicles and power batteries manufacturer based in Jiangsu Province, China. The revenue for this EV segment was approximately \$3.4 million in fiscal 2018 with negative gross margin of 14.7%. The Company sold 110 types of logistic electronic cars in fiscal 2018 with average price of approximately \$15,000, and the Company expects sales growth in fiscal 2019.

Cost of revenues

Cost of revenues decreased by approximately \$10.2 million, or 32.2%, to approximately \$21.5 million in fiscal 2018 from approximately \$31.7 million in fiscal 2017. As a percentage of revenues, the cost of revenue decreased to 73% in fiscal 2018 from 75% in fiscal 2017. The decrease in cost of revenues as a percentage of revenues in fiscal 2018 was mainly attributable to the lower cost of revenues from the consumer products and EV segments due to lower sales. On the other hand, the cost of revenue for trading segment increased to in line with the increased sales.

Gross profit

Gross profit decreased by approximately \$2.5 million, or 23.9%, to approximately \$8.0 million in fiscal 2018 from approximately \$10.5 million in fiscal 2017. The gross profit margin was 27.2% in fiscal 2018, as compared to 25.0% in fiscal 2017. On a segment-by-segment basis, gross margins for consumer product, trading and EV were 35.9%, 12.9%, and (14.7%), respectively, for fiscal 2018, compared to 25.7%, 22.8% and 22.6%, respectively, for fiscal 2017. The decrease in gross margin was primarily attributable to lower selling prices in the trading segment and EV segment in fiscal 2018.

Selling expenses

Selling expenses decreased by approximately \$0.4 million to approximately \$0.3 million in fiscal 2018 compared to approximately \$0.7 million in fiscal 2017. As a percentage of sales, selling expenses were 1.1% of revenues in fiscal 2018, as compared to 1.7% of revenues in fiscal 2017. The decrease of the selling expenses was mainly attribute to decreased sales.

General and administrative expenses

General and administrative expenses increased by approximately \$0.3 million, or 7.5%, to approximately \$4.9 million in fiscal 2018 from approximately \$4.6 million in fiscal 2017. As a percentage of revenues, general and administrative expenses increased to 16.8% in fiscal 2018, compared to 10.9% in fiscal 2017. The slight increase was primarily attributable to the fact that \$0.2 million more bad debt and inventory impairment provision was recorded in fiscal 2018.

Research and development expenses

Research and development expenses decreased by \$0.2 million, or 38.4%, to \$0.4 million in fiscal 2018 from \$0.6 million in fiscal 2017. The decrease was primarily due to less R&D activity during fiscal 2018 due to a change of business strategies. We intend to spend more resources on R&D for our electric vehicle segment going forward.

Provision for income taxes

Provision for income taxes was approximately \$1.0 million in fiscal 2018, a decrease of approximately \$0.5 million or 32.5%, from approximately \$1.5 million in fiscal 2017. The decrease was mainly due to lower income before income taxes from continuing operations in fiscal 2018 compared to fiscal 2017. The Company provided full valuation allowance in fiscal 2018 on bad debt reserves due to uncertainties in realizing those tax benefits in the future.

Net income attributable to common stockholders

Net income attributable to common stockholders was approximately \$2.0 million in fiscal 2018, a decrease of approximately \$1.8 million from approximately \$3.8 million in fiscal 2017. The decrease was attributable to a general overall decline of revenue and gross profits. As of December 31, 2018, the Company ceased operating Tantech Babiku and Lishui Zhongzhu, and it is planning to sell the remaining operations of Tantech Energy because of a business strategy change. The net income for these discontinued operations was approximately \$0.08 million in fiscal 2018 compared to \$0.07 million in fiscal 2017.

Recent Updates

On February 26, 2019, Tantech Charcoal entered into a short term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$1.5 million (RMB 10 million) for one year with an annual interest rate of 4.35%. The purpose of the loan was for working capital needs. The loan was guaranteed by Tantech Bamboo, two individual related parties, Zhengyu Wang and Yefang Zhang and a third party, Zhejiang Meifeng Tea Industry Co., Ltd. The loan was also collateralized by two properties owned by Zhengyu Wang and Yefang Zhang.

On March 18, 2019, Tantech Bamboo entered into a short-term loan agreement with Bank of China (Lishui Branch) to borrow approximately \$2.8 million (RMB 18.78 million) with an annual interest rate of 6.05%. Repayment of principal of approximately \$150,000 (RMB 1 million) will be due on January 14, 2020 and the repayment of the remaining principal of approximately \$2.7 million (RMB17,780,000) will be due on March 17, 2020. The purpose of the loan was to fund working capital needs. 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 three related parties, Zhengyu Wang, CEO of the Company and his wife, Yefang Zhang and Lishui Jiuanju Trading Co., Ltd., the president of which was also the COO of the Company.

About Tantech Holdings Ltd.

Established in 2001 and headquartered in Lishui City, Zhejiang Province, China, Tantech Holdings Ltd., together with its subsidiaries, develops and manufactures bamboo-based charcoal products in China and internationally. It operates through three segments: Consumer Products, Trading, and electronic vehicle. The Company provides its products for industrial energy applications, as well as household cooking, heating, purification, agricultural, and cleaning uses. The company also exports its bamboo vinegar, bamboo charcoal purification, and EDLC carbon products. For more information about Tantech Holdings Ltd., please visit: <http://www.tantech.cn/en/index.asp>

Forward-Looking Statements

This news release contains forward-looking statements as defined by the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements concerning plans, objectives, goals, strategies, future events or performance, and underlying assumptions and other statements that are other than statements of historical facts. These statements are subject to uncertainties and risks including, but not limited to, product and service demand and acceptance, changes in technology, economic conditions, the impact of competition and pricing, government regulations, and other risks contained in reports filed by the company with the Securities and Exchange Commission. All such forward-looking statements, whether written or oral, and whether made by or on behalf of the Company, are expressly qualified by this cautionary statement and any other cautionary statements which may accompany the forward-looking statements. In addition, the Company disclaims any obligation to update any forward-looking statements to reflect events or circumstances after the date hereof.

For more information please contact:

Tantech Holdings Ltd.

Ms. Ye Ren
IR Manager
+86-578-261-2869
ir@tantech.cn

Tantech Holdings Ltd and Subsidiaries
Consolidated Balance Sheets

	December 31, 2018	December 31, 2017
Assets		
Current Assets		
Cash and cash equivalents	\$ 7,748,416	\$ 9,717,909
Restricted cash	2,121,377	3,901,526
Notes receivable	-	15,370
Accounts receivable, net	32,495,361	44,832,946
Inventories, net	1,957,058	2,572,558
Advances to suppliers, net	14,387,228	11,217,764
Prepaid value-added taxes	2,136,988	2,969,656
Prepaid expenses and other receivables, net	954,362	1,685,120
Current assets from discontinued operations	8,513,154	12,332,035
Total current assets	70,313,944	89,244,884
Property, plant and equipment, net	3,240,620	3,374,879
Other Assets		
Advances to suppliers	-	2,109,005
Manufacturing rebate receivable	9,795,512	9,269,118
Intangible assets, net	15,268,062	15,976,144
Long-term Investment	18,156,000	-
Goodwill	8,861,361	9,001,924
Non-current assets from discontinued operations	8,558,515	9,511,772
Total Assets	\$ 134,194,014	\$ 138,487,726
Liabilities and Stockholders' Equity		
Current Liabilities		
Short-term bank loans	\$ 7,683,014	\$ 5,208,893
Bank acceptance notes payable	2,121,377	6,975,526
Accounts payable	2,524,462	5,335,363
Due to related parties	2,102,175	2,995,228
Customer deposits	865,615	1,001,726
Taxes payable	344,563	542,392
Due to third parties	3,253,253	708,864
Accrued liabilities and other payables	1,598,104	1,564,336
Liabilities from discontinued operations	1,662,252	2,456,934
Total Current Liabilities	22,154,815	26,789,262
Deferred tax liability	2,053,512	2,086,086
Total Liabilities	24,208,327	28,875,348
Stockholders' Equity		
Common stock, \$0.001 par value, 50,000,000 shares authorized, 28,853,242 and 28,703,242 shares issued and outstanding as of December 31, 2018 and 2017, respectively	28,853	28,703
Additional paid-in capital	39,310,178	39,067,328
Statutory reserves	6,461,788	6,461,788
Retained earnings	58,333,136	56,356,369
Accumulated other comprehensive loss	(2,066,364)	(1,101,270)
Total Stockholders' Equity attributable to the Company	102,067,591	100,812,918
Noncontrolling interest	7,918,096	8,799,460
Total Stockholders' Equity	109,985,687	109,612,378
Total Liabilities and Stockholders' Equity	\$ 134,194,014	\$ 138,487,726

Tantech Holdings Ltd and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)

	For the Years Ended December 31,		
	2018	2017	2016
Revenues	\$ 29,561,399	\$ 42,297,612	\$ 39,902,342
Cost of revenues	21,532,319	31,741,753	26,879,316
Gross Profit	8,029,080	10,555,859	13,023,026
Operating expenses			
Selling expenses	320,479	730,834	621,818
General and administrative expenses	4,971,804	4,625,563	3,613,289
Research and development expenses	386,628	627,577	136,626
Total operating expenses	<u>5,678,911</u>	<u>5,983,974</u>	<u>4,371,733</u>
Income from operations	<u>2,350,169</u>	<u>4,571,885</u>	<u>8,651,293</u>
Other income (expenses)			
Interest income	56,894	18,648	571
Interest expense	(626,343)	(551,044)	(470,656)
Government subsidy income	-	-	52,597
Other income, net	247,069	436,095	99,025
Total other income (expenses)	<u>(322,380)</u>	<u>(96,301)</u>	<u>(318,463)</u>
Income before provision for income taxes	2,027,789	4,475,584	8,332,830
Provision for income taxes	1,031,158	1,528,003	1,367,270
Net income from continuing operations	996,631	2,947,581	6,965,560
Discontinued operation:			
Net income (loss) from discontinued operations, net of tax	83,367	65,550	(2,357,867)
Net income	1,079,998	3,013,131	4,607,693
Less: net income (loss) attributable to the noncontrolling interest from continuing operations	(896,769)	(754,084)	308,442
Net income attributable to common stockholders of Tantech Holdings Ltd.	<u>\$ 1,976,767</u>	<u>\$ 3,767,215</u>	<u>\$ 4,299,251</u>
Net income	1,079,998	3,013,131	4,607,693
Other comprehensive income (loss):			
Foreign currency translation adjustment	(949,689)	4,341,324	(5,448,209)
Comprehensive income (loss)	130,309	7,354,455	(840,516)
Less: Comprehensive income (loss) attributable to noncontrolling interest	(881,364)	(784,186)	70,029
Comprehensive income (loss) attributable to common stockholders of Tantech Holdings Ltd.	<u>\$ 1,011,673</u>	<u>\$ 8,138,641</u>	<u>\$ (910,545)</u>
Earnings (loss) per share - Basic and Diluted			
Continuing operations	\$ 0.07	\$ 0.15	\$ 0.19
Discontinued operations	\$ 0.00	\$ 0.00	\$ (0.10)
Weighted Average Shares Outstanding - Basic and diluted			
Continuing operations and discontinued operations	<u>28,745,571</u>	<u>25,971,912</u>	<u>23,019,185</u>

Tantech Holdings Ltd and Subsidiaries
Consolidated Statements of Cash Flows

	For the Years Ended December 31,		
	2018	2017	2016
Cash flows from operating activities			
Net income	\$ 1,079,998	\$ 3,013,131	\$ 4,607,693
Net (income) loss from discontinued operations	(83,367)	(65,550)	2,357,867
Net income from continuing operations	996,631	2,947,581	6,965,560
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Allowance for doubtful accounts - accounts receivable	910,811	2,632,813	239,487
Allowance for doubtful accounts - advance to suppliers	777,848	(45,507)	927,218
Allowance for doubtful accounts – other receivables	66,305	(16,827)	59,742
Allowance for doubtful accounts - due from related party	364,288	-	-
Inventory reserve (recovery)	700,379	13,908	(84,414)
Depreciation expense	628,144	576,953	497,970
Amortization of intangible asset	443,318	201,647	6,842
Amortization of prepaid consulting expense	102,263	-	-
Gain from disposal of property, plant and equipment	(44,814)	(1,875,493)	-
Changes in operating assets and liabilities:			
Accounts receivable - non-related party	7,023,546	(1,001,613)	(6,272,566)
Accounts receivable - related party	3,249,359	-	-
Advances to suppliers	(3,555,851)	2,826,316	(7,354,381)
Advances to supplier non current	1,558,916	6,839,953	(451,731)
Inventory	(147,485)	804,763	(317,545)
Other receivables	767,849	(829,716)	9,424
Government rebate receivable	(644,959)	(2,942,190)	-
Accounts payable	(2,621,226)	(532,039)	(893,016)
Accrued liabilities and other payables	49,492	(1,489,128)	362,212
Customer deposits	(115,771)	(247,059)	58,122
Taxes payable	573,660	(1,927,737)	174,817
Deferred tax liability	-	-	(98,473)
Net cash provided by (used in) continuing operations	11,082,703	5,936,625	(6,170,732)
Net cash provided by (used in) discontinued operations	3,582,177	(3,785,614)	(898,699)
Net cash provided by (used in) operating activities	14,664,880	2,151,011	(7,069,431)
Cash flows from investing activities			
Acquisition of property, plant and equipment	(559,038)	(1,302,721)	(8,282)
Proceeds from disposal of property, plant and equipment	54,089	662,144	-
Additions to intangible assets	(2,585)	-	-
Payment for business acquisition	-	(4,552,240)	(3,372,925)
Payment for investment	(17,448,000)	-	-
Cash acquired from business acquisition	-	35,707	-
Changes in deposit for asset acquisition	-	443,400	-
Net cash used in continuing operations	(17,955,534)	(4,713,710)	(3,381,207)
Net cash provided by (used in) discontinued operations	(39,976)	1,220,458	1,503,233
Net cash used in investing activities	(17,995,510)	(3,493,252)	(1,877,974)
Cash flows from financing activities			
Proceeds from (repayment of) loans from third party	2,455,806	(187,706)	885,694
Note receivable	14,540	(14,780)	-
Bank acceptance notes payable, net of repayment	(4,560,185)	4,911,990	1,806,924
Proceeds from bank loans	10,291,412	10,093,262	7,001,831
Repayments of bank loans	(7,835,606)	(11,957,020)	(8,251,620)
Repayment of loans from related parties	(1,175,971)	(477,565)	-
Proceeds from issuance of common stocks	-	5,968,208	7,957,100
Net cash provided by (used in) continuing operations	(810,004)	8,336,389	9,399,929
Net cash provided by discontinued operations	-	-	-
Net cash provided by (used in) financing activities	(810,004)	8,336,389	9,399,929
Effect of exchange rate changes on cash, restricted cash and cash equivalents	390,992	424,298	(491,196)
Net increase (decrease) in cash, restricted cash and cash equivalents	(3,749,642)	7,418,446	(38,672)
Cash, restricted cash and cash equivalents, beginning of year	13,619,435	6,200,989	6,239,661
Cash, restricted cash and cash equivalents, end of year	\$ 9,869,793	\$ 13,619,435	\$ 6,200,989

Supplemental disclosure information:

Income taxes paid	\$ 1,044,480	\$ 1,156,976	\$ 696,435
Interest paid	\$ 608,048	\$ 479,358	\$ 261,625
Supplemental non-cash activities:			
Common shares issued for service	\$ 243,000	\$ -	\$ -
Common shares issued for Minority interest buyback	\$ -	\$ -	\$ 2,160,142
Common shares issued for acquisition of Shangchi Automobile	\$ -	\$ 6,500,000	\$ -
Net book value of assets and liabilities of Shangchi Automobile acquired	\$ -	\$ 11,122,410	\$ -
