

CHINA RECYCLING ENERGY CORP

Form 10-K

April 01, 2013

UNITED STATES

**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2012

**Commission file number: 000-12536**

China Recycling Energy Corporation

(Exact name of registrant as specified in its charter)

**Nevada**

(State or other jurisdiction of incorporation or organization)

**90-0093373**

(I.R.S. Employer Identification No.)

**12/F, Tower A**  
**Chang An International Building**  
**No. 88 Nan Guan Zheng Jie**  
**Xi'an City, Shaanxi Province**  
**China** **710068**  
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (011) 86-29-8769-1097

**Securities registered pursuant to Section 12(b) of the Act:**

<u>Title of each class</u>	<u>Name of each Exchange on which registered</u>
Common Stock, \$.001 par value	NASDAQ Global Market

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

NONE

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. 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 and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.  x

*(Cover continued from previous page)*

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "small reporting company" in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer  Accelerated filer

Non-accelerated filer  Smaller reporting company  x

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No  x

The aggregate market value of the common stock issued and outstanding and held by non-affiliates of the registrant, based upon the closing sales price for the common stock on the NASDAQ Global Market on June 29, 2012, the last business day of the registrant's second fiscal quarter, was \$30,907,534. For the purposes of this calculation, executive officers and directors are deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 25, 2013, the registrant had 50,224,350 shares of Common Stock outstanding.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the China Recycling Energy Corporation Proxy Statement regarding the 2013 Annual Meeting of Shareholders (the "Proxy Statement") are incorporated into Part III of this Annual Report on Form 10-K.

CHINA RECYCLING ENERGY CORPORATION

FORM 10-K

TABLE OF CONTENTS

PART I

Item 1. Business.	3
Item 1A. Risk Factors.	20
Item 2. Properties.	32
Item 3. Legal Proceedings.	33
Item 4. Mine Safety Disclosures	33

PART II

Item 5. Market for Common Equity, Related Shareholder Matters and Small Business Issuer Purchases of Equity Securities.	33
Item 6. Selected Financial Data.	34
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.	34
Item 7A. Quantitative and Qualitative Disclosures About Market Risk.	52
Item 8. Financial Statements and Supplementary Data.	52
Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure.	80
Item 9A. Controls and Procedures.	81
Item 9B. Other Information.	81

PART III

Item 10. Directors, Executive Officers and Corporate Governance.	81
Item 11. Executive Compensation.	82
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters.	82
Item 13. Certain Relationships and Related Transactions, Director Independence.	82
Item 14. Principal Accountant Fees and Services.	82

PART

IV

Item 15. Exhibits, Financial Statement Schedules.	82
---	----

## PART I

When we use the terms "we," "us," "our" and "the Company," we mean China Recycling Energy Corporation., a Nevada corporation, and its wholly-owned subsidiary, Sifang Holdings Co., Ltd., and Sifang Holdings Co., Ltd.'s wholly-owned subsidiary, Shanghai TCH Energy Technology Co., Ltd. and Shanghai TCH Energy Technology Co., Ltd.'s wholly-owned subsidiary, Xi'an TCH Energy Technology Co., Ltd. "China" and the "PRC" refer to the People's Republic of China, excluding, for the purposes of this Form 10-K, Hong Kong, Macau and Taiwan. Prior to March 8, 2007, China Recycling Energy Corporation's name was China Digital Wireless, Inc.

## ITEM 1. BUSINESS

### General

We currently engage in the recycling energy business, providing energy savings and recycling products and services. We are a leading developer of waste energy recycling projects for industrial applications in China, and we believe we are the only developer to use a Build-Operate-Transfer ("BOT") model to provide energy saving and recovery facilities for multiple energy intensive industries in China. Our waste energy recycling projects allow customers who use substantial amounts of electricity to recapture previously wasted pressure, heat, and gas from their manufacturing processes to generate electricity. We currently offer waste energy recycling systems to companies for use in iron and steel, nonferrous metal, cement, coal and petrochemical plants. We construct our projects at our customer's facility and the electricity produced is used on-site by the customer. While some of our competitors offer projects targeting one or two verticals, we serve multiple verticals.

We develop fully-customized projects across several verticals to better meet customer's energy recovery needs. Our waste pressure-to-energy solution primarily consists of the Blast Furnace Top Gas Recovery Turbine Unit ("TRT"), a system that utilizes high pressure gas emitted from the blast furnace top to drive turbine units and generate electricity. Our waste heat-to-energy solution primarily consists of heat power generation projects for applications in cement, steel and nonferrous metal industries, which collect the residual heat from various manufacturing processes, e.g. the entrance and exit ends of the cement rotary kilns, to generate electricity. Our waste gas-to-energy solution primarily consists of the Waste Gas Power Generation system ("WGPG") and the Combined Cycle Power Plant (the "CCPP"). A WGPG system utilizes flammable waste gas from coal mining, petroleum exploitation, refinery processing or other sources as a fuel source to generate electricity through the use of a gas turbine. A CCPP system employs more than one power generating cycle to utilize the waste gas, which not only generates electricity by burning the flammable waste gas in a gas turbine (as a WGPG) but also uses the waste heat from burning the gas to make steam to generate additional electricity via a steam turbine.

We provide a clean-technology and energy-efficient solution aimed at reducing the air pollution and energy shortage problems in China. Our projects capture industrial waste energy to produce low-cost electricity, enabling industrial manufacturers to reduce their energy costs, lower their operating costs, extend the life of primary manufacturing equipment, and generate saleable emission credits under the Kyoto Protocol. Based on the differential between the cost to our customers of buying power from China's national power grid and the cost to them of buying one of our projects, we believe our customers can recover the cost of our project within two to three years of operations. In addition, our waste energy recycling projects allow our industrial customers to reduce their reliance on China's centralized national power grid, which is prone to black-outs or brown-outs or is completely inaccessible from certain remote areas. Our projects generally produce lower carbon dioxide emissions and other pollutants, and are hence more environmentally-friendly than other forms of power generation.

Since 2007, we have primarily used the BOT model to serve our customers. For each project, we design, finance, construct and install the waste energy recycling projects for our customers, operate the projects for five to twenty years, and then transfer the projects to the owners. The BOT model creates a win-win solution for both our customers and us. We provide the capital expenditure financing in exchange for attractive returns on each project; our customers can focus their capital resources on their core businesses, do not need to invest additional capital to comply with government environmental regulations, reduce noise and emissions and reduce their energy costs. We in turn efficiently recapture our costs through the stream of lease payments.

We are headquartered in China. Our principal executive offices are located at 12/F, Tower A, Chang An International Building, No. 88 Nan Guan Zheng Jie, Xi'an City, Shaanxi Province, China, and our telephone number at this location is +86-29-8769-1097.

## **Company Overview and History**

We began operations as a Colorado corporation known as Boulder Brewing Company, or Boulder Brewing. We were incorporated in Colorado on May 8, 1980 and operated as a microbrewery of various beers. Boulder Brewing was unable to become profitable within its core business, became illiquid, and was forced to divest itself of all of its assets. Boulder Brewing became dormant without any operations or assets in 1990.

In September 2001, Boulder Brewing changed its state of incorporation from Colorado to Nevada and changed its name to Boulder Acquisitions, Inc., or Boulder Acquisitions. From the date of reincorporation until June 23, 2004, Boulder Acquisitions had no material operations or assets.

On June 23, 2004, we completed a stock exchange transaction with the stockholders of Sifang Holdings Co., Ltd. ("Sifang Holdings"). The exchange was consummated under Nevada and Cayman Islands law pursuant to the terms of a Securities Exchange Agreement, dated June 23, 2004 by and among Boulder Acquisitions, Sifang Holdings and the stockholders of Sifang Holdings. Pursuant to the Securities Exchange Agreement, we issued 13,782,636 shares of our common stock to the stockholders of Sifang Holdings, representing approximately 89.7% of our post-exchange issued and outstanding common stock, for 100% of the outstanding capital stock of Sifang Holdings.

Effective August 6, 2004, we changed our name from Boulder Acquisitions, Inc. to China Digital Wireless, Inc. From August 2004 to December 2006, we primarily engaged in pager and mobile phone distribution and provided value added information services to the customers in the PRC. We phased out and scaled down most of the business of mobile phone distribution and provision of pager and mobile phone value-added information services, and on May 10, 2007, the Company approved and announced that it halted and discontinued these businesses.

In December 2006, we began to conduct business in the energy saving and recycling industry, including purchasing certain equipment, devices, hardware and software for the construction and installation of TRT systems and other renewable energy products. TRT is an electricity generating system that utilizes the exhaust pressure and heat produced in the blast furnace of steel mills to generate electricity. It has commercial value for the steel mills by using waste heat and steam to produce electricity for the operation of the mills

On March 8, 2007, we changed our name from China Digital Wireless, Inc. to China Recycling Energy Corporation.

Our current business is primarily conducted through our wholly-owned subsidiary, Sifang Holdings, its wholly-owned subsidiaries, Huahong New Energy Technology Co., Ltd. (“Huahong”) and Shanghai TCH, Shanghai TCH’s wholly-owned subsidiary, Xi’an TCH Energy Technology Company, Ltd (“Xi’an TCH”), and Xi’an TCH’s subsidiary Erdos TCH Energy Saving Development Co., Ltd (“Erdos TCH”), in which 90% of the investment will be from Xi’an TCH, a joint venture between Xi’an TCH and Erdos Metallurgy Co., Ltd. Shanghai TCH was established as a foreign investment enterprise in Shanghai under the laws of the PRC on May 25, 2004, currently with a registered capital of \$29.80 million. Xi’an TCH was incorporated in Xi’an, Shannxi Province under the laws of the PRC on November 8, 2007. Huaxin was incorporated in Xingtai, PRC in November, 2007. Erdos TCH was incorporated in April, 2009. Huahong was incorporated in February, 2009



## **Our Projects**

We design, finance, construct, operate and eventually transfer waste energy recycling projects to meet the energy saving and recovery needs of our customers. Our waste energy recycling projects use the pressure, heat or gas, which is generated as a byproduct of a variety of industrial processes to create electricity. The residual energy from industrial processes, which was traditionally wasted, may be captured in a recovery process and utilized by our waste energy recycling projects to generate electricity without burning additional fuel and without additional emissions. Among a wide variety of waste-to-energy technologies and solutions, we primarily focus on waste pressure to energy systems, waste heat to energy systems and waste gas power generation systems. We do not manufacture the equipment and materials that are used in the construction of our waste energy recycling projects. Rather, we incorporate standard power generating equipment into a fully integrated onsite project for our customers.

### *Waste Pressure to Energy Systems*

TRT is a power generating system utilizing the exhaust pressure and heat from industrial processes in the iron, steel, petrochemical, chemical and non-ferrous metals industries, often from blast furnace gases in the metal production industries. Without TRT power systems, blast furnace gas is treated by various de-pressurizing valves to decrease its pressure and temperature before the gas is transmitted to end users. No electricity is generated during the process and noise and heat pollution is released. In a TRT system, the blast furnace gas produced during the smelting process is directed through the system to decrease its pressure and temperature. The released pressure and heat is then utilized to drive the turbine unit to generate electricity, which is then transmitted back to the producer. We believe our projects are superior to those of our competitors due to the inclusion of advanced dry-type de-dusting technology, joined turbine systems, and automatic power grid synchronization.

### *Zhongbao Project*

On September 30, 2010, Xi'an TCH delivered to Zhongbao Binhai Nickel Co., Ltd. ("Zhongbao") a set of 7MW capacity Waste Heat Power Generation ("WHPG") systems, which are integral parts of the facilities designed to produce 80,000 tons of nickel-alloy per year according to the recovery and power generation of the waste heat agreement with Zhongbao, an agreement that was transferred from China Zhonggang Binhai Enterprise Ltd. ("Zhonggang") in July 2009. Zhongbao is a nickel-alloy manufacturing joint venture between Zhonggang and Shanghai Baoshan Steel Group that was established in June 2009. Total investment in this project was approximately \$7.8 million (RMB 55 million). The Contract is for nine years and states that Xi'an TCH will recycle waste heat from the nickel-alloy rotary kilns of Zhongbao to generate power and steam, which will be supplied back to Zhongbao, and help to reduce over 20,000 tons of carbon dioxide emissions every year. By the end of the term, the system shall be transferred to Zhongbao at RMB 1. Under the Contracts, Zhongbao will pay the Company a monthly "energy-saving service fee" based on the volume of the electricity and steam generated from the WHPG system in the prior month within the first five days of each month at a pre-agreed price, but no less than the minimum monthly payment of \$238,000 (RMB 1.5 million).

Zhongbao agreed to supply Xi'an TCH the nickel-alloy rotary kilns gas, non-salty water and compressed air free of charge and salty water at \$1.00 (RMB 6.3) per ton. Zhongbao also guarantees to continuously supply not less than 6,800 heat hours per year for the WHPG, or the operating term will be extended accordingly. Xi'an TCH outsources its operation and maintenance obligations to a third party for annual payments of \$380,000 (RMB 2.4 million). In addition, Xi'an TCH is responsible for applying the Clean Development Mechanism ("CDM") and the net proceeds from CDM will be distributed between Zhongbao and Xi'an TCH at 60% and 40%, respectively. As of December 31, 2012, Xi'an TCH had not yet commenced the CDM application process.

In June 2011, the ZhongBao system was sold to and leased back from Cinda Financial Leasing Co., Ltd. (the "Cinda Financial"); the Company engaged a third party guarantee company to serve as guarantor for the loan, which was approved by the Industrial Bank on July 1, 2011.

#### *Hebei Xingtai Steel Group Project*

On April 8, 2007, our Board of Directors approved and made effective a TRT Project Joint-Operation Agreement ("Joint-Operation Agreement") which was conditionally entered into on February 1, 2007 between Shanghai TCH and Xi'an Yingfeng Science and Technology Co., Ltd. ("Yingfeng"). Under the Joint-Operation Agreement, Shanghai TCH and Yingfeng jointly pursued a project to design, construct, install and operate two TRT systems for Xingtai Iron and Steel Company, Ltd. ("Xingtai"). These two projects were completed and put into operation in February and August 2007, respectively. On October 31, 2007, Shanghai TCH entered an asset-transfer agreement with Yingfeng. The terms and conditions of this agreement required the transfer of all electricity-generating related assets owned by Yingfeng to Shanghai TCH. As a result, the contractual relationship between Shanghai TCH and Yingfeng under the TRT Project Joint-Operation Agreement was terminated. Xingtai power generation system lease term ended in January 2012, and, as a result, the system was subsequently transferred to Xingtai.

*Shanxi Zhangzhi Steel Group Project*

Under the Joint-Operation Agreement discussed above, Shanghai TCH and Yingfeng also jointly pursued a project, which was entered into between Yingfeng and Zhangzhi Iron and Steel Company, Ltd. (“Zhangzhi”) on June 22, 2006, to design, construct, install and operate a TRT system for Zhangzhi. Shanghai TCH contributed various investments and properties to the project, including cash, hardware, software, equipment, major components and devices. In return, Shanghai TCH obtained all the rights, titles, benefits and interests that Yingfeng originally had under the Project Contract, including but not limited to, the regular cash payments made by Xingtai and other property rights and interests. On October 31, 2007, Shanghai TCH acquired this contract as part of its asset-transfer agreement with Yingfeng discussed above. Per the transferred contracts, Shanghai TCH installed and owns the TRT system and leases it to Zhangzhi for 13 years, from July 25, 2007 to July 25, 2020. During the term of the lease, Zhangzhi will pay Shanghai TCH a monthly rent of \$0.16 million (RMB 1.1 million). After the lease expires and all rents owed are paid, Shanghai TCH will transfer the title of the system to Zhangzhi free of charge.

*Shengda Project*

On March 15, 2011, the Company incorporated a new wholly owned subsidiary Pingshan County Shengda Energy Technology Co., Ltd (“Shengda”). Xi’an TCH contributed cash of \$4,559,271 (RMB 30,000,000) into Shengda as initial capital. Shengda was set up to undertake waste energy recycling projects from a steel and chemical company in Pingshan County in accordance with and pursuant to a non-binding Recycling Economy Projects Cooperative Framework Agreement entered into by the parties. However, final terms for the projects were not reached, and, as a result, Shengda was not operational. In July 2012, Shengda applied for cancellation of its registration with the appropriate authorities. In September 2012, Shengda was liquidated and deregistered.

*Waste Heat to Energy Systems*

Waste heat to energy systems utilize waste heat generated in industrial production to generate electricity. The waste heat is trapped to heat a boiler to create steam and power a steam turbine. Our waste heat to energy systems have used waste heat from cement production and from metal production. We invested and have built two cement low temperature heat power generation systems. These projects can use about 35% of the waste heat generated by the cement kiln, and generate up to 50% of the electricity needed to operate the cement plant.

*Shengwei Group – Tongchuan Project*

In November 2007, Shanghai TCH signed a cooperative agreement with Shengwei Group to build two sets of 12MW cement low temperature heat power generation systems for Shengwei's two 2,500-tons-per-day cement manufacturing lines in Jing Yang and for a 5,000-tons-per-day cement manufacturing line in Tong Chuan. At the end of 2008, construction of the cement low temperature heat power generation in Tong Chuan was completed at a cost of \$6,191,000 (RMB 43,000,000) and put into operation. Under the original agreement, the ownership of the cement low temperature heat power generation systems would have belonged to Shengwei starting from the date the projects were put into service. On May 20, 2009, Shanghai TCH entered into a supplementary agreement with Shengwei Group to change the timing of title transfer to Shengwei from the date the projects put into operation to the end of the lease term. Shanghai TCH is responsible for the daily maintenance and repair of the projects, and charges Shengwei a monthly electricity fee based on the actual power generated by the projects at 0.4116 RMB per kWh for an operating period of five years, from the date that the project is put in service for power generation or eleven (11) months after the agreement date whichever comes first, with assurances from Shengwei of a properly functioning 5,000-tons-per-day cement manufacturing line and not less than 7,440 heat hours per year for the electricity generator system. Shengwei Group collateralized the cement manufacturing line in Tong Chuan to guarantee its obligations to provide the minimum electricity income from the power generator system under the agreement during the operating period. At the end of the five-year operating period, Shanghai TCH will have no further obligations under the cooperative agreement. On November 11, 2008, Shanghai TCH transferred all of its rights and obligations under the agreement to Xi'an TCH. In addition, the supplementary agreement entered into on May 20, 2009 provided that Xi'an TCH will charge Shengwei based on actual power usage subject to a minimum of \$0.31 million (RMB 2.1 million) per month during the operating period (lease term).

*Shengwei Group – Jing Yang Project*

On June 29, 2009, construction of the cement low temperature heat power generation system in Jing Yang was completed at a cost of \$7,318,000 (RMB 50,000,000) and put into operation pursuant to a waste heat power generation cooperative agreement entered into in November 2007. Shanghai TCH charges Shengwei a monthly technical service fee of \$336,600 (RMB 2,300,000) for the 60 months of the lease, starting from the date that the project is put into service for power generation or 11 months after the date of the agreement whichever comes first. Shengwei has the right to purchase the cement low temperature heat power generation system for \$29,000 (RMB 200,000) at the end of the lease. Shengwei is required to provide assurances of properly functioning two 2,500-tons-per-day cement manufacturing lines and not less than 7,440 heat hours per year for the cement low temperature heat power generation. Shengwei Group collateralized the cement manufacturing lines in Jing Yang to guarantee its obligations to provide the minimum electricity income from the waste energy power generator system under the agreement during the operating period. On November 11, 2008, Shanghai TCH transferred all of its rights and obligations under the agreement to Xi'an TCH. Effective July 1, 2009, Xian TCH started outsourcing the operation and maintenance of the cement low temperature heat power generation systems in Tong Chuan and JinYang to a third party for \$732,000 (RMB 5,000,000) per year.

*Erdos Projects*

On April 14, 2009, the Company incorporated a joint venture (“JV”) with Erdos Metallurgy Co., Ltd. (“Erdos”) to recycle waste heat from Erdos' metal refining plants to generate power and steam, which will then be sold back to Erdos. The name of the JV is Inner Mongolia Erdos TCH Energy Saving Development Co., Ltd (“Erdos TCH”) with a term of 20 years, and initial registered capital of \$2,635,000 (RMB 18,000,000). As of December 31, 2012, total registered capital was increased to \$17.55 million (RMB 120 million), of which \$16.37 million (RMB 112 million) was contributed by Xi'an TCH and \$1.18 million (RMB 8 million) was from Erdos Metallurgy. Total investment for the project is estimated at \$79 million (RMB 500 million) with an initial investment of \$17.55 million (RMB 120,000,000). As of December 31, 2012, Erdos contributed 7% of the total investment of the project, and Xi'an TCH contributed 93%. With respect to profit distribution, Xi'an TCH and Erdos will receive 80% and 20% of the profit from the JV, respectively, until Xi'an TCH has received the complete return of its investment. Xi'an TCH and Erdos will then receive 60% and 40% of the profit from the JV, respectively. The profits to be distributed will be computed based on Chinese generally accepted accounting principles. The principal difference between US GAAP and Chinese GAAP, with regards to the Erdos TCH project, is that a sales-type lease under US GAAP is treated as an operating lease under Chinese GAAP. When the term of the JV expires, Xi'an TCH will transfer its equity in the JV to Erdos at no additional cost.

On April 18, 2009, Erdos TCH signed a Cooperation Agreement with Erdos to recycle heat from groups of furnaces of Erdos Metallurgy's metal refining plants to generate power and steam, which will then be sold back to Erdos Metallurgy. According to the contract, Erdos TCH will install a group of power generation projects with a total of 70MW power capacity, which may expand up to 120MW, and 30-ton steam per hour, with an estimated total investment in excess of \$79 million (RMB 500 million). The construction of the projects was split into three phases,

two power generation systems in Phase I with a total of 18MW power capacity, three power generation systems in Phase II with a total of 27MW power capacity and one power generation system in Phase III with 25MW power capacity.

At the end of 2009, Erdos TCH completed the first 9MW power station of Phase I of the project and put it into operation. At the end of March 2010, Erdos TCH completed the construction of Phase I through completion of the second 9MW power station and delivery of the units for operation. Phase I includes two 9MW systems for a combined 18MW power capacity. Pursuant to the Co-operation Agreement and the supplement agreements signed between Erdos and Erdos TCH, Erdos shall purchase all the electricity and steam to be generated from the JV's power generation systems. Erdos TCH leased the two 9MW systems to Erdos and is responsible for their operation and maintenance. For each phase of the project, the lease term is 20 years starting from the date of completion of the phase. Erdos agreed to pay a fixed minimum of \$0.24 million (RMB 1.5 million) per month for each 9MW capacity power generation system. In addition Erdos will pay the actual amount if the actual sale of the electricity generated is more than \$0.24 million (RMB 1.5 million) monthly per unit. Effective January 2010 and April 2010 respectively, Erdos TCH outsourced to an independent third party the operation and maintenance of the two 9MW power generation projects for \$995,000 (RMB 6.27 million) each per year. After 20 years, the units will be transferred to Erdos without any charge. During the fourth quarter of 2010, Erdos power generation system Phase II, two 9MW capacity electricity power generation system, was completed and put into operation. During the first quarter of 2011, Erdos power generation system Phase II, the 3rd 9MW capacity electricity power generation system, was completed and put into operation through a sales type lease with terms similar to the Phase I project.

In September 2012, Erdos TCH, Erdos and the general contractor, Xianyang Hengfeng Energy Engineering Co., Ltd (“Hengfeng”), agreed to terminate the construction of the Phase III power generation system projects due to the fact that Erdos, as a result of a change in its business strategy, stopped construction of the refining plant. As of the termination date, Erdos TCH incurred construction costs of \$19.86 million (RMB 125.44 million). Of this amount, Hengfeng returned \$13.72 million (RMB 86.70 million) to Erdos TCH towards payments made for construction in progress and Erdos paid \$3.58 million (RMB 22.04 million) to Erdos TCH for the loss. Erdos TCH, in turn, paid \$0.32 million (RMB 2.0 million) to Hengfeng for losses resulting from the project’s termination. Erdos incurred a net loss of \$2.96 million (RMB 18.74 million) from the termination of this project.

### *Waste Gas to Energy Systems*

Our Waste Gas to Energy Systems primarily include Waste Gas Power Generation (“WGPG”) systems and Combined Cycle Power Plant (“CCPP”) systems. WGPG uses the flammable waste gases emitted from industrial production processes such as blast furnace gas, coke furnace gas, and oil gas, to power gas-fired generators to create energy. A CCPP system employs more than one power generating cycle to utilize the waste gas, which is more efficient because it not only generates electricity by burning the flammable waste gas in a gas-fired generator (WGPG) but also uses the waste heat from burning the gas to make steam to generate additional electricity via a steam generator (CCPP).

### *Shenmu Project*

On September 30, 2009, Xi’an TCH delivered to Shenmu County Jiujiang Trading Co., Ltd. (“Shenmu”) a set of three 6MW capacity waste gas power generation systems pursuant to a Cooperative Contract on Coke-oven Gas Power Generation Project (including its Supplementary Agreement) and a Gas Supply Contract for Coke-oven Gas Power Generation Project (the “Contracts”). The Contracts are for 10 years and state that Xi’an TCH will recycle coke furnace gas from the coke-oven plant of Shenmu to generate power, which will be supplied back to Shenmu. Shenmu agreed to supply Xi’an TCH the coke-oven gas free of charge. Under the Contracts, Shenmu will pay Xi’an TCH an annual “energy-saving service fee” of approximately \$5.6 million in equal monthly installments for the life of the contracts, as well as such additional amounts as may result from the supply of power to Shenmu in excess of 10.8 million kilowatt hours per month. Xi’an TCH is responsible for operating the projects, which it does through an unrelated third party. Shenmu guarantees that monthly gas supply will not be less than 21.6 million standard cubic meters. If gas supply is less, Shenmu agrees to pay Xi’an TCH the energy-saving service fee described above for up to 10.8 million kilowatt-hours per month. Xi’an TCH maintains ownership of the project throughout the term of the contracts, including the already completed investment, design, equipment, construction and installation as well as the operation and maintenance of the project. At the end of the 10-year term, ownership of the projects will be transferred to Shenmu at no charge. Shenmu provided a lien on its production line to guarantee its performance under the Contracts. Shenmu’s three major stockholders provided an unlimited joint liability guarantee to Xi’an TCH guaranteeing Shenmu’s performance under the Contracts and the Yulin Huiyuan Group, an independent third party, provides a guarantee to Xi’an TCH for Shenmu’s performance under the Contracts.

On December 31, 2011, Xi'an TCH entered into a Repurchase Agreement for the Coke-Oven Gas Power Generation Project (the "Repurchase Agreement") with Shenmu. Under the Repurchase Agreement, Shenmu will purchase the set of 18MW capacity power generating systems (the "Systems") from Xi'an TCH and pay outstanding energy saving service fees of \$3.08 million (RMB 19.44 million) to Xi'an TCH within three working days from the date of the Repurchase Agreement. Xi'an TCH will transfer the Systems to Shenmu for \$18.75 million (RMB 120 million) (the "Repurchase Price") to be paid in three installments within 180 days. In June 2012, the Company received the full payment of the outstanding energy saving service fees and system repurchase price, and, as a result, ownership of the Systems was transferred to Shenmu and the Cooperative Contract was terminated.

### ***Pucheng Biomass Project***

On January 20, 2010, Xi'an TCH entered into a Technical Reconstruction Letter of Intent with Xueyi Dong ("Dong"), a natural person with Chinese citizenship, for Xi'an TCH reconstructing and transforming a Thermal Power Generation System owned by Dong into a 12MW Biomass Power Generation Systems ("Biomass Systems" or "BMPG") for \$2.2 million (RMB 15 million); of which, \$1.03 million (RMB 7 million) was payable to Dong, and \$1.18 million (RMB 8 million) to one of the Company's shareholders, who had previously paid that amount to Dong on behalf of the Company.



After the successful transformation of the systems, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement (the "Transfer Agreement") with Dong on June 29, 2010. Under the Transfer Agreement, Dong transferred the Biomass Systems to Xi'an TCH, and Xi'an TCH agreed to pay Dong \$14,705,900 (RMB 100,000,000) for the systems, including RMB 20,000,000 in cash and RMB 80,000,000 in shares of the Company's common stock. The Company has paid the consideration (including the cash portion) in full. On November 22, 2011, our Board of Directors approved the issuance of 2,941,176 shares of the Company's common stock to Dong at \$4 per share pursuant to the terms of the agreement. The Company recorded a gain on settlement of debt of \$8.3 million. These shares have piggy back registration rights and are subject to a one year lock-up period. The shares issued to Dong were included in a Form S-3 Registration Statement, as amended, that we initially filed with the SEC on February 22, 2012 and amended on April 12, 2012 and May 7, 2012. The resale Form S-3 Registration Statement was declared effective by the SEC on May 18, 2012.

On June 29, 2010, Xi'an TCH entered into a Biomass Power Generation Project Lease Agreement with Pucheng XinHengYuan Biomass Power Generation Co., Ltd., ("XHY"). Under this lease, Xi'an TCH leased this same set of 12MW biomass power generation systems to XHY at a minimum of \$279,400 (RMB 1,900,000) per month for 15 years. The leasing fee will increase proportionately with the biomass generated electricity fee in China during the term of this lease agreement.

### ***Shanxi Datong Coal Group Power Generation Projects***

In February 2011, Xi'an TCH signed a contract with Shanxi Datong Coal Group Steel Co., Ltd (the "Shanxi Datong") to recycle gas and steam from groups of blast-furnaces and converter of Shanxi Datong's metal refining plants to generate power. According to the contract, Xi'an TCH will install two 3MW TRT, one 15MW WGPG and two 1MW steam power generation systems, with a total of 23MW power capacity for an estimated total investment of \$28.57 million (RMB 180 million). The lease term is 30 years. During the lease term, Shanxi Datong will be responsible for operating the projects and pay service fee to Xi'an TCH. The service fee is based on an average of 8,000 electricity-generating hours per year and \$0.05 (RMB 0.33) per kilowatt hour ("kWh") for the first five years from the completion of each power generation station. For each of the leases, at the 6th year, 11th year and 21st year thereafter, the rate will be RMB 0.3 kWh, 0.27 kWh and 0.25 kWh, respectively. After 30 years, the units will be transferred to Shanxi Datong without any charge.

On February 28, 2011, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for Shanxi Datong Coal projects of two 3MW TRT and one 15MW WGPG systems described above.

As of December 31, 2012, the Company had paid \$19.27 million for the Shanxi Datong Coal Group Power Generation project and is committed to paying an additional \$10.02 million. The project was previously halted due to a business reorganization of Shanxi Datong and a renegotiation of one of the power stations with Xi'an TCH to amend certain construction plans. The construction of this project was resumed in April 2012 and the Company expects to complete

one of the power stations by the middle of fiscal year 2013.

*Shenqiu Biomass Thermal Power Generation Projects*

On May 25, 2011, Xi'an TCH entered into a Letter of Intent with Shenqiu YuNeng Thermal Power Co., Ltd. (the "Shenqiu") for Xi'an TCH to reconstruct and transform a Thermal Power Generation System owned by Shenqiu into a 75T/H Biomass Power Generation System for \$3.57 million (RMB 22.5 million). The project commenced in June 2011, and was completed in the third quarter of 2011. On September 28, 2011, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement with Shenqiu. Per the Transfer Agreement, Shenqiu sold to Xi'an TCH a set of 12MW biomass power generation systems, effectuation of such sale occurring after Xi'an TCH converted the system for biomass power generation purposes. As consideration for the biomass power generation system, Xi'an TCH agreed to pay Shenqiu \$10,937,500 (RMB 70 million) in cash in three installments within six months upon the transfer of ownership of the system. By the end of fiscal year 2012, all of the consideration had been paid in full. On September 28, 2011, Xi'an TCH and Shenqiu also entered into a Biomass Power Generation Project Lease Agreement (the "Lease Agreement"). Under the Lease Agreement, Xi'an TCH agreed to lease a set of 12MW biomass power generation systems to Shenqiu for \$286,000 (RMB 1,800,000) per month for a term of 11 years. Upon completion of the Lease Agreement, ownership of this system will be transferred from Xi'an TCH to Shenqiu at no cost. Shenqiu provided one month leasing fee as security deposit to Xi'an TCH as well as personal guarantees from its legal representative.

On October 8, 2012, Xi'an TCH entered into a Letter of Intent for Technical Reformation of Shenqiu Project Phase II with Shenqiu for technical reformation to enlarge the capacity of the Shenqiu Project Phase I. After the reformation, the generation capacity of the power plant increased to 24MW. The project commenced in October 25, 2012 and is expected to be completed by the end of the first quarter of 2013. As of this report date, the completion date of this project is on schedule. The total cost of the project is \$10.82 million. During the construction period, Xi'an TCH agreed to stop charging Shenqiu rental fees until the completion of the reformation.

## **Industry and Market Overview**

### ***Overview of Waste-to-Energy Industry***

The waste energy recycling industry concentrates mostly on power-intensive manufacturing and production processes, such as iron, steel and nonferrous metal production, cement production, and coal and petrochemical plants. Our waste energy recycling projects allow customers to recapture previously wasted pressure, heat, and gas from their manufacturing and production processes and use this waste to generate electricity. Waste energy recycling projects are installed at a customer's facility and the electricity produced can be used on-site to lower energy costs and create a more efficient production process. The industry verticals at the vanguard of this trend are metallurgical production (including iron & steel), cement, coal mining, coke production and petrochemicals.

The industry also includes the conversion of biomass to electricity. For thousands of years, biomass, biological material derived from living organisms like plants and their byproducts, was burned to produce heat so as to convert it to energy. A number of non-combustion methods are now available to convert raw biomass into a variety of gaseous, liquid, or solid fuels that can be used directly in a power plant to generate electricity.

### ***Waste-to-Energy Industry Growth***

China has experienced rapid economic growth and industrialization in recent years, increasing the demand for electricity. In the PRC, growth in energy consumption has exceeded growth in gross domestic product, causing a shortage of electricity with blackouts and brownouts over much of the country. Much of the energy demand has been due to the expansion of energy intensive industrial sectors such as steel, cement, and chemicals. China's increasing modernization and industrialization has made it the world's largest consumer of energy.

One result of this massive increase in electric generation capacity has been the rise of harmful emissions. China has surpassed the United States to become the world's largest emitter of greenhouse gases, and the country faces enormous

challenges from the pollution brought about by its consumption of conventional energy. About 99% of China's 560 million city dwellers breathe unsafe air under EU standards, environmental problems have led to industrial cities where people rarely see the sun. A 2005 report by Chinese environmental experts, quoted in a New York Times article ("As China Roars, Pollution Reaches Deadly Extremes," August 26, 2007), estimated that annual premature deaths attributable to outdoor air pollution in China were likely to reach 550,000 in 2020.

***Description of WGPG (Waste Gas Power Generation)***

During the process of industrial production, some by-products, such as blast furnace gas, coke furnace gas, oil gas, and others are created with certain high intensive thermal energy. The waste gas can be collected and used as a fuel by gas turbine system to generate power energy.

Gas turbines are a set of hi-tech equipment and devices that is crucial to the energy development strategy of China. Gas turbine, which uses flammable gas as fuel and combines with recycling power generating technology, has many merits. These include high efficiency power generation, low investment, short construction periods, small land usage, water savings, environment protection and more. We believe the market prospect of the gas turbine industry is promising. An analysis report in 2008 indicated that during the Tenth Five-year Plan Period, the total volume of Chinese gas power generating was almost 10,000MW and it is expected to reach 60,000MW million by 2020. The natural gas power plants being or to be built, representing about 6% of the total equipment capability of China, most of which are newly constructed projects, provide huge market potential for gas turbine.

Through years of research, development and experimental applications, this gas-to-energy system has started to be applied into some high energy intensive industrial plants, such as in the course of iron-smelting in metallurgy plants. Metallurgical enterprises, as the biggest industrial energy user in China, consume 13%-15% of the nation's electricity. Electricity consumed by the iron-smelting industry accounts for 40% of that consumed by metallurgical enterprises. If all top furnaces in the iron-smelting industry are equipped with gas recovery systems, electricity consumption may decrease by 30-45%. Furthermore, environmental pollution will be reduced while energy efficiency is improved in those heavy industries.

### ***Stringent Environmental Standards and Increasing Government Supports***

Since energy is a major strategic issue affecting the development of the Chinese economy, the Chinese government has promoted the development of recycling and encouraged enterprises to use waste energy recycling projects of the type we sell and service. Similar to previous five year periods, the China National Environment Protection Plan, for the Twelfth five year period (2011-2015), is focused on high energy consumption industries, including specific programs to support the building of waste energy recycling projects for application in iron, steel and nonferrous metal plants and in cement production lines. Given the worsening environment and insufficient energy supply in China, the Chinese government has implemented policies to curb pollution and reduce wasteful energy usage. The Renewable Energy Law, strict administrative measures to restrict investment and force consolidation in energy wasting industries, and the requirement to install energy-saving and environment protecting equipment whenever possible are just some ways the government is emphasizing the need to reduce emissions and to maximize energy creation. Local government officials, who sometimes flout central government policies for the sake of local GDP growth, are now required to tie emission, energy usage and pollution to GDP growth. If local emissions of pollutants grow faster than the local GDP, these local officials face the risk of losing their jobs. Such determination and strict enforcement by the central and local governments provide a good backdrop and growth opportunity for CREG's business activities.

The following tables show the funds invested, or expected to be invested, in the environmental protection industry by the Chinese government.

*Source: China National Environmental Protection Plan in the Twelve Five Years (2011-2015).*

According to China's National Energy Board, recycled energy accounted for 9.6% of China's total energy consumption during 2010 and has increased steadily since then; our expectation is that this percentage will continue to increase. Because of environmental protection pressure, expanded efforts to improve infrastructure in western China with the related increase in production of cement and other heavy industrial products and emphasis on additional sources of electricity, demand for recycled energy, as a special and stable energy resource, should continue to grow in China.

*Waste-to-Energy is a Cost-Effective Means to Meet Rising Energy Needs*

According to the International Energy Agency, China will need to increase its electricity generating capacity to meet its future needs. This demand may mean price increases for electricity in China. With the need for more energy, in particular energy that does not cause additional emissions, and the relative low price of the waste-to-energy production we provide, we believe that our markets will continue to expand.

Since China has been experiencing a dramatic surge in its energy consumption as well as widespread energy shortages, recycling energy is not only an attractive alternative to other sources of energy as part of a national diversification strategy to avoid dependence on any one energy source or politically sensitive energy supplies, but also a proven solution to make the use of energy more efficient. Under current economic conditions and current tax and regulatory regimes, waste energy recycling projects generally can create price-competitive electricity compared to electricity generated from fossil fuels or other renewable sources. Our customers can reduce energy costs significantly by installing our waste energy recycling projects. Compared to electricity from the national grid, the generating cost from recycling energy is lower, which means our customers can leverage the waste-to-energy projects to generate low-cost electricity, reducing energy costs for the manufacturing process. The current national grid electricity rate ranges from RMB 0.45-0.50/kWh and our operated recycling rate ranges from 0.35-0.45/kWh subject to project type, generating scale and local situation.

Customers of our energy recycling projects may also qualify for credits from the Clean Development Mechanism ("CDM"). The CDM is an international arrangement under the Kyoto Protocol allowing industrialized countries with a greenhouse gas reduction commitment to invest in ventures that reduce emissions in developing countries as an alternative to more expensive emission reductions in their own countries. In 2005, China's government promulgated "Measures for Operation and Management of Clean Development Mechanism Projects in China" ("China CDM Measures") to facilitate the application and operation of CDM project activities in China. Our energy recycling solutions are of a kind which falls into the beneficial categories accredited by the China CDM Measures. If our customers can get approval from the Chinese government and successfully register their projects in the United Nations'

CDM Executive Board, they can receive additional revenue income through exchanging their Certified Emission Reductions (“CER”) credits with investors in industrialized countries. As of February 22, 2013, 1,128 China CDM projects received CER credits from the United Nations.

### *Trends in Industries We Principally Service*

#### *Iron, Steel and Nonferrous Metal Industry*

Despite improvements made in reducing the amount of energy consumed per ton of steel produced (from more than 900kgce/ton in 2000 to less than 750kgce/ton in 2008 according to the 2009 Report of China's Iron & Steel Association), if all furnaces in the iron-smelting industry were equipped with waste energy recycling systems to utilize the waste heat and gas pressure that are byproducts of the metal producing process, electricity consumption in the industry could decrease 30-45%. Furthermore, environmental pollution would be reduced while energy efficiency improved in those heavy industries.

China is one of the largest producers and consumers of nonferrous metals in the world. However, the global economic downturn has slowed the momentum of China's nonferrous metal industry after keeping high-speed growth for almost a decade. A detailed three-year stimulus plan to support the nonferrous metal industry was released in the beginning of 2009 by China's State Council. Its purpose is to help the nonferrous metal sector maintain steady operations in 2009 and achieve a sustainable development by 2011. China's nonferrous metal import and export value increased 3.7% in 2012 from 2011, and the output of the ten major types of nonferrous metals was 36.91 million tons in 2012, an increase of 9.3% from 2011.

Environmental pollution, shortage of resources and energy shortage have been identified in China as three major challenges for China's nonferrous metal industry. China aims to save 1.7 million tons of coal and 6 billion kWh of electricity per year, as well as reduce sulfur dioxide by 850,000 tons annually as part of the industrial upgrading for the nonferrous metallurgy sector and, at the same time, to improve the utilization efficiency for resources. In China, the utilization rate for the nonferrous metal mineral resources is 60%, which is 10 to 15% lower than developed countries. The utilization rate for associated nonferrous metals is only 40%, which is 20% lower than developed nations. In addition, parts of nonferrous mines located in different cities are disorganized with random mining, causing severe wastes of resources.

#### *Cement Industry*

The Chinese construction industry accounted for approximately 6.8% of gross domestic product (GDP), contributing RMB 3.55 trillion in 2012. In November 2008, China launched an approximately \$593 billion (RMB 4 trillion) fiscal stimulus package to bolster the economy, focusing on infrastructure projects such as new railways, roads, and airports. Against this backdrop, the cement industry experienced significant growth. According to a February 2009 article of China's *Securities News*, China's total investment in the cement industry reached \$15 billion (RMB 105 billion) in 2008, a 60% increase from 2007. Of the investment, 65% was spent on New Suspension Pre-heater Dry



Process (“NSP”) cement clinker production in 2008, a 10% increase from 2007. NSP cement clinker production can use waste energy recycling projects to utilize medium and low temperature residual heat from the cement production as a source to generate electricity.

In the traditional cement making process in China, the residual heat is released without any further processing, thus causing significant waste heat in the environment. During the period of the Chinese government’s Eleventh Five-Year Plan, the output of NSP production lines reached 70% of the total cement output. The Twelfth Five-Year plan continues to promote the NSP production line as a primary goal for the cement industry. It is estimated that the percentage of NSP production lines of the total will rise to 90% by the end of 2015. At the end of the Tenth Five-Year Plan and the start of the Eleventh Five-Year Plan, the Chinese government called for an energy saving campaign and issued a *Medium and Long-Term Plan on Special Energy-Saving* that indicated that waste energy recycling projects should be widely used, and specified that 30 waste energy recycling projects be established annually on cement production lines with an output of 2000 tons daily. The Twelve Five-Year plan indicates the continued usage and promotion of energy recycling projects. The Twelve Five-Year plan requires that, at a minimum, 65% of all cement dry process production lines installed include a waste heat power generation device by the end of 2015. The rapid development of NSP production creates a good opportunity for the development, marketing and sales of waste energy recycling projects in the cement industry.

### *Coal and Petrochemicals*

Flammable waste gases emitted from industrial production processes, such as blast furnace gas, coke furnace gas, oil or gas can be used to power gas-fired generators to create energy. Two large producers of these waste gases are coal mining and petrochemical refining. The PRC is the largest coal producer and consumer in the world. Coal is the dirtiest fossil fuel and a major cause of methane gas emissions, a greenhouse gas 21 times more potent than carbon dioxide. Methane gas is found naturally in coal beds. In the 1950s, China began recovering methane to make mines safer. Now, as then, most of the captured methane is released into the air but it could be used as a clean energy source using waste energy recycling technologies.

### *Biomass Waste to Energy Industry*

In China, agricultural waste and biogas are two main sources for biomass waste. China has more than 600 million tons of wasted straw produced every year. It also has 19 billion tons of forest biomass, of which 300 million tons can be utilized as an energy source. The straw burning power industry will grow faster in China with supportive policies, development of new technologies and the formation of raw material collection and storage systems, according to the National Development and Reform Commission. Electricity generated from straw has a preferential price of RMB 0.25 per kWh higher than coal-fueled power when sold to the state grid. In addition, straw power plants enjoy a series of preferential policies including tax exemption.

Biogas technology captures methane gases emitted from compostable materials and burns it to power a turbine to produce electricity. The waste that is usually disposed of in landfills is converted into liquid or gaseous fuels. By utilizing the resource from waste cellulosic or organic materials, biomass energy can be generated through the fermentation process.

## **Our Strategies**

### *Focus on Core Verticals to Increase Market Share in China*

We focus on waste-to-energy projects to specific verticals, such as steel, cement, nonferrous metal and coal mining. We plan to continue to focus on such core verticals and leverage our expertise to expand our market share. We intend to expand our waste-to-energy power generating capacity rapidly in order to meet the anticipated growth of demand in China's energy efficiency industrial applications and to gain market share. We continually identify potential customers in our core verticals. Based on our existing contracts and signed MOUs, we are targeting to increase our in-operation

power generating capacity from 190MW in 2013 and 230MW in 2014, respectively.

***Expand to New Verticals with Future High Growth Potentials***

We plan to pursue disciplined and targeted expansion strategies for verticals which we currently do not serve. We actively seek and explore opportunities to apply waste-to-energy technologies to new industries or segments with high growth potential, including glass, ceramics, magnesium metal and electrolytic aluminum industries. We have expanded into the biomass area, having completed our first biomass to power generation acquisition project. We believe that we have the flexibility to pursue acquisitions or develop new projects in-house through our existing research and development team. Our market entry strategy will focus on obtaining or developing new industrial applications in China as well as accesses to new market segments and customers, with the goal of using our early mover advantage to become the industry standard maker and maintain our leading position in the waste-to-energy industry.

### ***Increase Sales of Integrated Projects Targeting Large-Scale Customers***

Large-scale manufacturers have complex manufacturing processes, from multiple points of which we can collect waste pressure, heat or gas to generate electricity. In addition, we can also combine more than one power generating cycle to recycle the waste collected from such multi-point industrial processes, which results in improved overall energy efficiency. For example, the CCPP system combines both gas and steam cycles - a gas turbine generator generates electricity and the waste heat from the gas turbine is used to make steam to generate additional electricity via a steam turbine. We are targeting mid- to large-scale customers with highly intensive energy consumption, sizeable power generating capacity and substantial project investment requirement, e.g. RMB 500 million/ \$78 million or above, which can benefit from economies of scale. We believe offering large-scale integrated systems will increase overall energy efficiency and promote higher customer satisfaction and in return provide us an attractive internal rate of return and higher barrier to entry through the establishment of long-term operation contracts.

### **Continually Enhance Research and Development Efforts**

In 2012 and 2011, we invested about \$0.65 million and \$0.55 million, respectively, in research and development. We plan to devote substantial resources to research and development in order to enhance our waste-to-energy design and engineering capabilities. Our in-house design and engineering team provide additional competitive advantages, including flexibility to quickly design and evaluate new technologies or applications in response to changing market trends.

### **Selectively Acquire Waste-to-Energy Power Plants**

While we have experienced substantial organic growth, we plan to pursue a disciplined acquisition strategy to accelerate our growth. Our strategy will focus on obtaining additional power generating capacity, research and development capabilities and access to new markets and customers.

### **Our Business Models**

We have sold our products to our customers under two models: the BOT model and the operating lease model, although we emphasize the BOT model which we believe is more economically beneficial to us and to our customers.

***BOT Model***

We primarily engage in the “Build-Operate-Transfer” (the “BOT”) model to provide waste-to-energy solutions to our customers:

**“Build”**

We work directly with customers for each of our waste-to-energy projects. Our working process starts with a team of engineers that assesses and analyzes the specific needs of the customer to establish the design layout, equipment procurement list and capital expenditure budget for the project. Our sales team works closely with our engineering staff to present and negotiate the model with the customer.

After the signing of a contract, we finance the entire capital expenditure budget ourselves and commence the construction and installation of the project. We do not manufacture the equipment and materials that are used in the construction of the waste-to-energy power generation facility. Rather, we incorporate standard power generating equipment into a fully integrated on-site waste energy recycling project for our customer. The construction and installation period ranges from three to 12 months subject to the project type, size and complexity.

We usually engage an EPC general contractor, who is experienced in power plant and waste energy recycling project construction, to take charge of equipment procurement, project construction and installation. Our team of eight to 10 engineers participates in and monitors the equipment purchase process; this team also oversees the construction and installation activities to ensure that they are completed on time and meet our rigorous standards and specifications.

“Operate”

After the project has been installed at the customer site and passed a series of stringent tests, we, currently, outsource the operation to a third-party vendor. The operation period ranges from 5 to 20 years subject to the terms of each contract.

During the operation period, the customer can purchase all the electricity at a below-market price. We collect energy-saving-based lease payments from the customer; the lease term is equivalent to the operation period, ranging from five to twenty years, and the payments are based on the sale by us as lessor to our customers as lessee of energy generated by the waste energy recycling project at below-market rates. The customer’s payments are based on a minimum operation schedule agreed upon by us with our customer, and are collateralized by assets of the customer and/or third party guarantees. To reduce risk, we offer leasing services across a wide variety of industries and only target larger manufacturers or state-owned enterprises. Operation in excess of the minimum schedule enables us to receive additional revenues from the excess energy generated and sold to the customer.

“Transfer”

Based on the specific terms for each project, we eventually transfer the waste energy recycling project to the customer at no cost or a nominal cost upon the completion of the operation/lease period.

Why BOT

Waste-to-energy projects are capital intensive, which requires the manufacturers to invest a considerable amount of cash to purchase equipment during the construction period. As a BOT service provider, we fund all contracted projects on our own or jointly with our customers; such financing arrangements can help our customers by removing or reducing the heavy capital expenditure burden required by specific projects, thereby allowing them to concentrate on their core business. While technologically mature in advanced countries, waste-to-energy projects are still new to most of China’s industrial companies and require intensive technology or know-how with respect to energy recycling and power generation. It is time-consuming or not feasible for industrial manufacturers to equip themselves with adequate expertise and technicians. Our specific sector knowledge and rich project experience allow us to construct, operate and maintain the power plants efficiently and to respond to operational issues in a timely and cost-efficient manner.

In exchange for upfront capital investment, we require secured power generating capacity during the operation period and guaranteed attractive internal rates of return from each project. Our operation period ranges from 5 to 20 years,

during which we are entitled to sell the recycled electricity to those customers at a predetermined rate. Such electricity sales are secured by long-term electricity production agreements with guarantees which result in minimum annual payments. We employ a process of stringent and systematic internal scrutiny on new customer development so as to minimize operational and default risk; for some smaller or non-SOE businesses, we require property collateral, management or third party guarantees, and/or prepayment of three months. As such, our cash inflow schedule from each in-operation project is fixed and predictable providing clear financial visibility. Our payback period is generally two to three years, depending on the project size.

In our experience, this BOT model is well received by our existing and potential customers in China. The insufficient supply of BOT vendors to the market is wholly due to the funding limitations of most of the recycling energy solution providers. Not all of our competitors have the ability to access sufficient capital on a timely basis.

### *Operating Lease Model*

In the past, we also recorded rental income from two separate one-year operating leases. Under the operating leases, we leased waste-energy systems and subleased the systems to a customer for a greater amount. We choose not to renew our lease agreements, and we do not expect any revenue in the future through such model.

## **Contractor and Equipment Suppliers**

We generally conduct our project construction through an EPC general contractor. We select the EPC general contractor for each project through a bidding process; then we sign a contract with the selected contractor for that project. The general contractor may outsource parts of our project construction to subcontractors according to the complexity and economics of the project. The general contractor is responsible for purchasing equipment to satisfy the requirements of the project we design for our customer. We generally do not purchase equipment directly from the equipment suppliers, but our general contractors obtain our consent before selecting the equipment suppliers. Our engineering department is involved in the equipment supplier selection process together with our general contractors and makes sure our stringent standards and requirements have been appropriately applied in selection of the equipment. We currently have engaged Shaanxi Huaxin Energy Engineering Co., Ltd. and Xianyang Hengfeng Energy Engineering Co., Ltd. for our projects under construction, and we also maintain relationships with many other quality general contractors in China, including Wuxi Guolian, CITIC Heavy Industries Co., Ltd., A-Power Energy Generation Systems, Ltd.

As mentioned above, we do not manufacture the equipment and materials that are used in the construction of our waste energy recycling projects. Rather, we incorporate standard power generating equipment into a fully integrated onsite system. The key equipment used in our projects are the boilers and turbine generators, which represent the majority of equipment cost for each project. Though we do not place the direct procurement orders, we believe we maintain good relationships with those power generation equipment suppliers, and these relationships help provide cost-effective equipment purchasing by the general contractor for our intended projects and ensure the timely completion of these projects. We have well-established business relationships with most of the suppliers from whom our general contractors procure equipment, including Hangzhou Boiler Plant, Beijing Zhongdian Electric Machinery, Chengdu Engine Group, Shanghai Electric Group, China Aviation Gas Turbine Co. Ltd and Xuji Electric. Therefore, we believe we have a strong position and support in equipment supply and installation, which benefit us, the general contractors and our customers.

## **Main Customers**

Our customers are mainly mid- to large-size enterprises in China involving high energy-consuming businesses. Following our selection process described in the next paragraph, we conduct stringent evaluation procedures to identify and qualify potential customers and projects. To lower our investment and operational risk, we target companies with geographic or industry competitive advantages, with strong reputations and in good financial condition. Generally, our targets include steel and nonferrous metal mills with over 3 million tons of production capacity per year, cement plants with over 2 million tons of production capacity per year that utilize new-suspension-line process, and coking plants with over 600 tons production capacity per year. Our customers include Zhonggang Binhai's JV Plant (Zhongbao), which is China's largest nickel steel plant; Erdos Metallurgy Co., Ltd., which is the largest ferrosilicon alloy plant in the world, as well as other mid- to large-scale players in their specific industries or geographies, including Shengwei Cement Group, Shenmu County Jiujiang Trading Co., Ltd. Our existing customers operate in Hebei province, Shanxi province, Shaan'xi province, and the Inner Mongolia Autonomic



Region in China.

#### Marketing and Sales

We market and sell our projects nationwide through our direct sales force of 25 employees based in Xi'an, China. Our marketing programs include industrial conferences, trade fairs, sales training, and trade publication advertising. Our sales and marketing group works closely with our research and development and engineering departments to coordinate our project development activities, project launches and ongoing demand and supply planning. We market our projects directly to the industrial manufacturers who can utilize our energy recovery projects in their manufacturing processes, including steel, cement, nonferrous metal, coal and petrochemical industries.

Our management team has long-standing relationships with our existing customers and those companies that we consider to be potential customers. We also maintain relationships with municipal governments, which often sponsor or subsidize potential customers that can utilize our projects.

### **Geographic Distribution of Sales**

Sales outside the U.S. accounted for approximately 100% of revenue in 2012, 2011 and 2010.

### **Seasonality**

For the most part, the Company's business and sales is not subject to any seasonality factors.

### **Intellectual Property Rights**

#### *Service Marks*

We have applied for the service mark "TCH" in China, which will be used in all of our business operations. We also have applied for CREG and our logo for the trademark in the U.S.

#### *Patents*

As of December 31, 2011, we owned two patents: (i) A usage and design patent of High Temperature Flap Valve in China by Xi'an TCH transferred from Shanghai Bake Technology Development Co., Ltd. (Chinese Patent No. ZL 2006 2 0041958.6); and (ii) A usage and design patent of Compound Barrel Type Slag Cooler/Quencher in China by Xi'an TCH transferred from Shanghai Bake Technology Development Co., Ltd. (Chinese Patent No. ZL 2006 2 0047536.X).

#### *Licenses*

From time to time, we enter into license agreements with third parties under which we obtain or grant rights to patented or proprietary technology.

## **Research and Development**

In 2012 and 2011, we invested about \$0.65 million and \$0.55 million, respectively, in research and development. We believe that our research and development efforts are among the best in the waste heat, gas and pressure to energy industry, particularly with regards to practical usage and application. All of the individuals that comprise our research and development staff have more than 10 years of experience on heat powered energy, mechanical, furnace engineering or power generation engineering.

To develop new and practical solutions for our customers, our R&D team also has the support of our on-site and project engineers who provide feedback and numerous ideas to the R&D team from their daily experiences with installation and operation of various waste gas, heat or pressure to energy projects. Our cooperative relationship with the South China University of Technology School of Power and Electricity and Xi'an University of Architecture and Technology gives us access to the latest developments in energy and waste to energy technologies as well as technical support of the research and development teams of these universities on integrated utilization of waste heat, gas and pressure to energy.

## **Government and Environmental Management System**

We own all licenses that the Chinese governments require for our operations.

## **Competition**

In the past, waste energy recycling projects have been mainly installed by the industrial plants themselves. These plants hire general contractors to purchase waste energy recycling equipment manufactured by third parties and with design support from government design institutes, which usually charge a one-time design fee, construct the projects on-site. Pressure has increased on Chinese producers to become more energy-efficient, but many mid-sized companies do not have the special technical expertise or the capital to install and operate such waste energy recycling projects. Many companies have begun to outsource these functions to third-party providers, creating an opportunity in a growing market.

We are a leading developer of industrial waste energy recycling projects in China. To our knowledge, we are the only non-state owned enterprise primarily using a BOT model to provide energy saving and recovery systems for various energy intensive industries, such as cement, steel and metallurgy industries. We face competition from an array of market participants.

Our main competitors as third-party providers are state owned research institutes or their wholly owned construction companies; however, smaller private companies occasionally employ a BOT model to provide waste to energy systems. The state-owned enterprises include Equipment and System Engineer Co., Ltd. of Hangzhou Steam Turbine & Power Group (Hangzhou Turbine) and Energy Saving Development Co., Ltd of China National Material Group, Sinoma Development Co., Ltd. The private companies include China Senyuan Electronic Co., Ltd., Dalian East New Energy Development Co. Ltd., Top Resource Conservation Engineering Co., Ltd. and Nanjing Kaisheng Kaineng Environmental Energy.

We believe that there is a larger market in the waste-to-energy industry in China for systems constructed on the “Engineering Procurement Construction” or “EPC” model in which customers purchase the services of a contractor to construct a system for the customer at the customer’s expense. Service providers include Dalian East New Energy Development, Nanjing Kaisheng Cement Technology and Engineering Co., Ltd., Jiangxi Sifang Energy Co., Ltd., Beijing Century Benefits Co., Ltd., Beijing Shineng Zhongjin Energy Technology Co., Ltd., Kunming Sunwise Co., Ltd. and China Everbright International Ltd. We compete with EPC providers for waste-to-energy projects when potential customers are able to obtain external financing or have the necessary capital.

We believe that we offer advantages over our competitors in several ways:

- Our management team has over 20 years of industry experience and expertise;
- We have the capabilities to provide TRT, CHPG and WGPG systems, while our competitors usually concentrate on one type or another;
- We have the capabilities and experience in undertaking large scale projects; and
- We provide BOT or capital lease services to the customers, while our competitors usually use an EPC (engineering, procurement and construction) or turnkey contract model.

## **Employees**

As of December 31, 2012, we had 166 employees:

*Management:*                      10 *Employees*

*Administration:* 9 *Employees*

*Marketing:* 27 *Employees*

*Research & Development:* 36 *Employees*

*Accounting & Finance:* 12 *Employees*

*Project Officer:* 72 *Employees, including 69 operators*

All of our personnel are employed full-time and none of them are represented under collective bargaining agreements. We consider our relations with our employees to be good.

### **Costs and effects of compliance with environmental laws**

There were many new laws, regulations, rules and notices regarding the environment and energy production adopted, promulgated and put into force during past years. The Chinese government is putting more stringent requirements and urgency on reducing pollution and emissions and improving energy efficiency nationwide. Our products are designed and constructed to comply with the environmental laws and regulations of China. As our systems allow our customers to use waste heat and gases to create energy, we help reduce the overall environmental impact of our customers. Since our business focuses on recycling energy, the effect of the strengthening of environmental laws in China may be to increase demand for the products and services we offer and others like them.

### **Available Information**

We file reports with the SEC, including annual reports on Form 10-K, quarterly reports on Form 10-Q and other reports from time to time. The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The Company is an electronic filer and the SEC maintains an Internet site at <http://www.sec.gov> that contains the reports, proxy and information statements, and other information filed electronically. Our website address is [www.creg-cn.com](http://www.creg-cn.com). Please note that our website address is provided as an inactive textual reference only. The information provided on our website is not part of this report, and is therefore not incorporated by reference unless such information is otherwise specifically referenced elsewhere in this report.

## **ITEM 1A. RISK FACTORS**

### **Risks Related to our Common Stock**

*The market price for our common stock may be volatile.*

The market price for our common stock is highly volatile and subject to wide fluctuations in response to factors including the following:

· actual or anticipated fluctuations in our quarterly operating results;

announcements of new services by us or our competitors;  
changes in financial estimates by securities analysts;  
conditions in the energy recycling market;  
changes in the economic performance or market valuations of other companies involved in the same industry;  
changes in accounting standards, policies, guidance, interpretation or principles;  
loss of external funding sources;  
failure to maintain compliance with NASDAQ listing rules;  
announcements by our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;  
additions or departures of key personnel;  
potential litigation;  
conditions in the market; or  
relatively small size of shares of our common stock available for purchase.

In addition, the securities markets from time to time experience significant price and volume fluctuations that are not related to the operating performance of particular companies. These market fluctuations may also materially and adversely affect the market price of our common stock.

***Shareholders could experience substantial dilution.***

We may issue additional shares of our capital stock to raise additional cash for working capital. If we issue additional shares of our capital stock, our shareholders will experience dilution in their respective percentage ownership in the company.

*We have no present intention to pay dividends.*

We have not paid dividends or made other cash distributions on our common stock during any of the past three years, and we do not expect to declare or pay any dividends in the foreseeable future. We intend to retain any future earnings for working capital and to finance current operations and expansion of our business.

*A large portion of our common stock is controlled by a small number of shareholders.*

A large portion of our common stock is held by a small number of shareholders. As a result, these shareholders are able to influence the outcome of shareholder votes on various matters, including the election of directors and extraordinary corporate transactions including business combinations. In addition, the occurrence of sales of a large number of shares of our common stock, or the perception that these sales could occur, may affect our stock price and could impair our ability to obtain capital through an offering of equity securities. Furthermore, the current ratios of ownership of our common stock reduce the public float and liquidity of our common stock which can in turn affect the market price of our common stock.

*We may be unable to maintain compliance with NASDAQ Marketplace Rules which could cause our common stock to be delisted from the NASDAQ Global Market. This could result in the lack of a market for our common stock, cause a decrease in the value of our common stock, and adversely affect our business, financial condition and results of operations.*

Under the NASDAQ Marketplace Rules our common stock must maintain a minimum price of \$1.00 per share for continued inclusion on the NASDAQ Global Market. The per share price of our common stock has fluctuated significantly. We cannot guarantee that our stock price will remain at or above \$1.00 per share and if the price again drops below \$1.00 per share, the stock could become subject to delisting. If our common stock is delisted, trading of the stock will most likely take place on an over-the-counter market established for unlisted securities. An investor is likely to find it less convenient to sell, or to obtain accurate quotations in seeking to buy, our common stock on an over-the-counter market, and many investors may not buy or sell our common stock due to difficulty in accessing over-the-counter markets, or due to policies preventing them from trading in securities not listed on a national exchange or other reasons. For these reasons and others, delisting would adversely affect the liquidity, trading volume and price of our common stock, causing the value of an investment in us to decrease and having an adverse effect on our business, financial condition and results of operations by limiting our ability to attract and retain qualified executives and employees and limiting our ability to raise capital.

## **Risks Related to Our Business Operations**



*We depend on the waste energy of our customers to generate electricity.*

We acquire waste pressure, heat and gases from steelworks, cement, coking or metallurgy plants and use these to generate power. Therefore, our power generating capacity depends on the availability of an adequate supply of our “raw materials” from our customers. If we do not have enough supply, power generated for those customers will be impeded. Since our contracts are often structured so that we receive compensation based on the amount of energy we supply, a reduction in production may cause problems for our revenues and results of operations.

*Our revenue depends on gaining new customers and project contracts and purchase commitments from customers.*

Currently and historically, we have only had a limited number of projects in process at any time. Thus, our revenues have historically resulted, and are expected to continue in the immediate future to result, primarily from the sale and operation of our waste energy recycling projects that, once completed, typically produce ongoing revenues from energy production. Customers may change or delay orders for any number of reasons, such as force majeure or seasonality factors that are unrelated to us. As a result, in order to maintain and expand our business, we must continue to develop and obtain new orders. However, it is difficult to predict whether and when we will receive such orders or project contracts due to the lengthy process, which may be affected by factors that we do not control, such as market and economic conditions, financing arrangements, commodity prices, environmental issues and government approvals.

***We may require additional funds to run our business and may be required to raise these funds on terms which are not favorable to us or which reduce our stock price.***

We may need to complete additional equity or debt financings to fund our operations. Our inability to obtain additional financing could adversely affect our business. Financings may not be available at all or on terms favorable to us. In addition, these financings, if completed, may not meet our capital needs and could result in substantial dilution to our stockholders. In November 2011, we filed a Registration Statement on Form S-3 with the SEC for the issuance and sale of up to \$20,000,000 million of equity, proceeds from which will be used for general corporate purposes. The Form S-3 provides additional financial flexibility for the Company to sell shares as needed at any time.

***We currently rely on a small number of projects for significant portions of our revenues, and our operating results may decline significantly if we experience delay or fail to secure additional large projects.***

Currently, we rely on a few new projects to provide a substantial portion of our revenues in each year. We believe that we will continue to derive in the near future, a significant portion of our sales from a limited number of projects and transactions with customers. While we derive a stream of revenue for completed projects through the ongoing sales of power production, the majority of our annual revenues currently depend on the construction and initial leasing of our projects. Therefore, the delay of completion or cancellation of a large project or a significant reduction in scope could significantly reduce our revenues. In addition, if we fail to secure an equal number of large transactions in the future, our results could be negatively impacted.

*Changes in the economic and credit environment could have an adverse effect on demand for our projects, which would in turn have a negative impact on our results of operations, our cash flows, our financial condition, our ability to borrow and our stock price.*

Since late 2008 and continuing into 2012, global market and economic conditions have been disrupted and volatile. Concerns over increased energy costs, geopolitical issues, the availability and cost of credit, the U.S. mortgage market and a declining residential real estate market in the U.S. contributed to this increased volatility. These factors, combined with declining business and consumer confidence and increased unemployment, precipitated a global recession. It is difficult to predict how long the current economic conditions will persist or whether they will deteriorate further. As a result, these conditions could adversely affect our financial condition and results of operations.

The global economic crisis has also resulted in tighter credit conditions, which may lead to higher financing costs. Although poor market conditions can act as an incentive for our customers to reduce their energy costs, if the global economic crisis persists and has material adverse effects on our customers' business, our customers may delay or

cancel their plan of installing waste energy recycling projects.

*Decreases in the price of coal, oil and gas or a decline in popular support for “green” energy technologies could reduce demand for our waste energy recycling projects, which could materially harm our ability to grow our business.*

Higher coal, oil and gas prices provide incentives for customers to invest in “green” energy technologies such as our waste energy recycling projects that reduce their need for fossil fuels. Conversely, lower coal, oil and gas prices would tend to reduce the incentive for customers to invest in capital equipment to produce electric power or seek out alternative energy sources. Demand for our projects and services depends in part on the current and future commodity prices of coal, oil and gas. We have no control over the current or future prices of these commodities.

In addition, popular support by governments, corporations and individuals for “green” energy technologies may change. Because of the ongoing development of, and the possible change in support for, “green” energy technologies we cannot assure you that negative changes to this industry will not occur. Changes in government or popular support for “green” energy technologies could have a material adverse effect on our business, prospects and results of operations.

*Changes in the growth of demand for or pricing of electricity could reduce demand for our waste energy recycling projects, which could materially harm our ability to grow our business.*

Our revenues are dependent on the ability to provide savings on energy costs for our clients. According to the National Bureau of Statistics of the PRC, domestic electricity consumption grew at a rate of 5.5% in 2012. Clean energy power generation increased largely in 2012. The clean energy consumption increased 28.5% to 1066.2 billion kWh, which is 21.4% of the total amount of electricity, an increase of 3.9% from 2011. The China Electricity Council has forecasted that the rate of growth in China's electricity demand will continue to increase in 2013 as the growth in electricity consumption increases due to the continued development of the Chinese economy. However, such growth is unpredictable and depends on general economic conditions and consumer demand, both of which are beyond our control. Furthermore, pricing of electricity in the PRC is set in advance by the state or local electricity administration and may be artificially depressed by governmental regulation or influenced by supply and demand imbalances. If these changes reduce the cost of electricity from traditional sources of supply, the demand for our waste energy recycling projects could be reduced, and therefore, could materially harm our ability to grow our business.

*Our insurance may not cover all liabilities and damages.*

Our industry can be dangerous and hazardous. The insurance we carry might not be enough to cover all the liabilities and damages that may be caused by potential accidents.

*A downturn in the Chinese economy may slow down our growth and profitability.*

The growth of the Chinese economy has been uneven across geographic regions and economic sectors. There is no assurance that growth of the Chinese economy will be steady or that any downturn will not have a negative effect on our business. Our profitability will decrease if less energy is consumed due to a downturn in the Chinese economy.

*Our heavy reliance on the experience and expertise of our management may cause adverse impacts on us if a management member departs.*

We depend on key personnel for the success of our business. Our business may be severely disrupted if we lose the services of our key executives and employees or fail to add new senior and middle managers to our management.

Our future success is heavily dependent upon the continued service of our key executives. We also rely on a number of key technology staff for the operation of our company. Our future success is also dependent upon our ability to attract and retain qualified senior and middle managers to our management team. If one or more of our current or future key executives or employees are unable or unwilling to continue in their present positions, we may not be able to easily replace them, and our business may be severely disrupted. In addition, if any of these key executives or employees joins a competitor or forms a competing company, we could lose customers and suppliers and incur additional expenses to recruit and train personnel. We do not maintain key-man life insurance for any of our key executives.

***We may need more capital for the operation and failure to raise the capital we need may delay the development plan and reduce the profits.***

If we don't have adequate income or our capital can't meet the requirement for expansion of operations, we will need to seek financing to continue our business development. If we fail to acquire adequate financial resources at acceptable terms, we might have to postpone our proposed business development plans and reduce projections of our future incomes.

*Our use of a “Build-Operate-Transfer” model requires us to invest substantial financial and technical resources in a project before we deliver a waste energy recycling project.*

We use a “Build-Operate-Transfer” model to provide our waste energy recycling projects to our customers. This process requires us to provide significant capital at the beginning of each project. The design, construction and completion of a waste energy recycling project is highly technical and the time necessary to complete a project can take three to 12 months without any delays, including delays outside our control such as from the result of customer’s operations, and we incur significant expenses as part of this process. Our initial cash outlay and the length of the delivery time makes us particularly vulnerable to the loss of a significant customer or contract because we may be unable to quickly replace the lost cash flow.

*Our BOT model and the accounting for our projects as sales-type leases could result in a difference between our revenue recognition and our cash flows.*

While we recognize a large portion of the revenue from each project when it goes on-line, all of the cash flow from the project is received in even monthly payments across the term of the lease. Although our revenues may be high, the initial cash outlay required for each project is substantial and even with the recovery of this cost in the early years of each lease, we may need to raise additional capital resulting in a dilution in your holdings. This discrepancy between revenue recognition and cash flow could also contribute to volatility in our stock price.

*There is collection risk associated with payments to be received over the terms of agreements with customers of our waste energy recycling projects.*

We are dependent in part on the viability of our customers for collections under our BOT model. Customers may experience financial difficulties that could cause them to be unable to fulfill their contractual payment obligations to us. Although our customers usually provide collateral or other guarantees to secure their obligations to provide the minimum electricity income from the waste energy recycling projects, there is no guarantee that such collateral will be sufficient to meet all obligations under the respective contract. As a result, our future revenues and cash flows could be adversely affected.

*We may not be able to assemble and deliver our waste energy recycling projects as quickly as customers may require which could cause us to lose sales and could harm our reputation.*

We may not be able to assemble our waste energy recycling projects and deliver them to our customers at the times they require. Manufacturing delays and interruptions can occur for many reasons, including, but not limited to

- the failure of a supplier to deliver needed components on a timely basis or of acceptable quality;
  - equipment failures;
  - personnel shortage;
  - labor disputes; or
  - transportation disruptions.

Assembly of our waste energy recycling projects is complex. If we fail to assemble and deliver our waste energy recycling projects in a timely fashion, our reputation may be harmed, we may jeopardize existing orders and lose potential future sales, and we may be forced to pay penalties to our customers.

*We operate in an emerging competitive industry and if we are unable to compete successfully our revenue and profitability will be adversely affected.*

Currently, the PRC waste energy recycling market is fragmented but competitive. As the industry evolves, we anticipate that competition will increase. We currently face competition primarily from companies that focus on one type of waste energy recycling project or one industry in the waste energy recycling market, some of which may have more expertise in their area of focus than we do. We also compete against companies that have substantial competitive advantage because of longer operating histories and larger marketing budgets, as well as substantially greater financial and other resources than us. Our largest potential clients may choose to build their own systems. National or global competitors could enter the market with more substantial financial and workforce resources, stronger existing customer relationships, and greater name recognition or could choose to target medium to small companies in our traditional markets. Competitors could focus their substantial resources on developing a more attractive solution set than ours or products with technologies that reduce demand for energy beyond what our solutions can provide and at cheaper prices. Competition also places downward pressure on our contract prices and profit margins, which presents us with significant challenges in our ability to maintain strong growth rates and acceptable profit margins. If we are unable to meet these competitive challenges, we could lose market share to our competitors and experience an overall reduction in our profits.

*If we infringe the rights of third parties, we could be prevented from selling products, forced to pay damages and compelled to defend against litigation.*

If our waste energy recycling projects, methods, processes and other technologies infringe proprietary rights of other parties, we may have to obtain licenses (which may not be available on commercially reasonable terms, if at all), redesign our waste energy recycling projects or processes, stop using the subject matter claimed in the asserted patents, pay damages, or defend litigation or administrative proceedings, which may be costly whether we win or lose. All of the above could result in a substantial diversion of valuable management resources and we could incur substantial costs.

We believe we have taken reasonable steps, including prior patent searches, to ensure we have the freedom to operate under our intellectual property rights, and that our development and commercialization efforts can be carried out as planned without infringing others' proprietary rights. However, a third-party patent may have been filed or will be filed that may contain subject matter of relevance to our development, causing a third-party patent holder to claim infringement. Resolution of such issues sometimes results in lengthy and costly legal proceedings, the outcome of which we cannot predict accurately.

*We may not be able to adequately respond to changes in technology affecting the waste energy recycling industry.*

Our industry could experience rapid technological changes and new product introductions. Current competitors or new market entrants could introduce new or enhanced products with features which render the systems used in our projects obsolete or less marketable. Our future success will depend, in part, on our ability to respond to changing technology and industry standards in a timely and cost-effective manner. We may not be successful in effectively using new technologies, developing new systems or enhancing our existing systems and technology on a timely basis. Our new technologies or enhancements may not achieve market acceptance. Our pursuit of new technologies may require substantial time and expense. We may need to license new technologies to respond to technological change. These licenses may not be available to us on terms that we can accept. Finally, we may not succeed in adapting our projects to new technologies as they emerge.

*We are dependent on third parties for manufacturing key components and delays by third parties may cause delays in assembly and increased costs to us.*

We rely upon third parties for the manufacture of key components. Delays and difficulties in the manufacturing of our waste energy recycling projects could substantially harm our revenues. There are limited sources of supply for some



key waste energy recycling project components. Business disruptions, financial difficulties of the manufacturers or suppliers of these components, or raw material shortages could increase our costs, reduce the availability of these components or delay our delivery of projects to customers. To date, we have been able to obtain adequate supplies of these key components. If we are unable to obtain a sufficient supply of required components, we could experience significant delays in construction, which could result in the loss of orders and customers, and could materially and adversely affect our business, financial condition and results of operations. If the cost of components increases, we may not be able to pass on price increases to our customers if we are to remain competitively priced. This would reduce profit, which in turn would reduce the value of your investment.

## Risks Related to the People's Republic of China

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

Currently, all of our operations are conducted in China. Accordingly, our business, financial condition, results of operations and prospects are affected significantly by economic, political and legal developments in China. The PRC economy differs from the economies of most developed countries in many respects, including:

the amount of government involvement;  
the level of development;  
the growth rate;  
the control of foreign exchange; and  
the allocation of resources.

While the PRC economy has grown significantly since the late 1970s, the growth has been uneven, both geographically and among various sectors of the economy. The PRC government has implemented various measures to encourage economic growth and guide the allocation of resources. Some of these measures benefit the overall PRC economy, but may also have a negative effect on us. For example, our financial condition and results of operations may be adversely affected by government control over capital investments or changes in tax regulations that are applicable to us.

The PRC economy has been transitioning from a planned economy to a more market-oriented economy. Although the PRC government has in recent years implemented measures emphasizing the utilization of market forces for economic reform, the reduction of state ownership of productive assets and the establishment of sound corporate governance in business enterprises, a substantial portion of the productive assets in China is still owned by the PRC government. The continued control of these assets and other aspects of the national economy by the PRC government could materially and adversely affect our business. The PRC government also exercises significant control over economic growth in China through the allocation of resources, controlling payment of foreign currency-denominated obligations, setting monetary policy and providing preferential treatment to particular industries or companies. Efforts by the PRC government to slow the pace of growth of the PRC economy could result in decreased capital expenditure by energy users, which in turn could reduce demand for our products. In addition, the PRC government, which regulates the power industry in China, has adopted laws related to renewable energy, and has adopted policies for the accelerated development of renewable energy as part of a Development Plan promulgated on August 31, 2007.

Any adverse change in the economic conditions or government policies in China could have a material adverse effect on the overall economic growth and the level of energy investments and expenditures in China, which in turn could lead to a reduction in demand for our products and consequently have a material adverse effect on our business and prospects.

*Restrictions under PRC law on our subsidiaries' ability to make dividends and other distributions could materially and adversely affect our ability to grow, make investments or acquisitions that could benefit our business, pay dividends to you, and otherwise fund and conduct our business.*

We conduct all of our business through our consolidated subsidiaries and affiliated companies operating in the PRC. We rely on dividends paid by these consolidated subsidiaries for our cash needs, including the funds necessary to pay any dividends and other cash distributions to our stockholders, to service any debt we may incur and to pay our operating expenses. The payment of dividends by entities established in the PRC is subject to limitations imposed by government regulations. Regulations in the PRC currently permit payment of dividends only out of accumulated profits as determined in accordance with accounting standards and regulations in the PRC, subject to certain statutory procedural requirements and these may not be calculated in the same manner as US GAAP. In addition, each of our subsidiaries in China is required to set aside a certain amount of its after-tax profits each year, if any, to fund certain statutory reserves. These reserves are not distributable as cash dividends. Furthermore, if our subsidiaries in China incur debt on their own behalf in the future, the instruments governing the debt may restrict their ability to pay dividends or make other payments to us. Any limitations on the ability of our PRC subsidiaries to transfer funds to us could materially and adversely limit our ability to grow, make investments or acquisitions that could be beneficial to our business, pay dividends and otherwise fund and conduct our business.

*Fluctuation in the value of the Renminbi may have a material adverse effect on your investment.*

The value of the Renminbi (“RMB”) against the U.S. dollar and other currencies may fluctuate and is affected by, among other things, changes in China’s political and economic conditions. The conversion of RMB into foreign currencies, including U.S. dollars, has historically been set by the People’s Bank of China. On July 21, 2005, the PRC government changed its policy of pegging the value of the RMB to the U.S. dollar. Under the new policy, the RMB is permitted to fluctuate within a band against a basket of certain foreign currencies, determined by the Bank of China, against which it can rise or fall by as much as 0.3% each day. Since the adoption of this new policy, the value of the RMB against the U.S. dollar has fluctuated on a daily basis within narrow ranges, but overall has strengthened against the U.S. dollar. There remains significant international pressure on the PRC government to further liberalize its currency policy, which could result in a further and more significant appreciation in the value of the RMB against the U.S. dollar. Appreciation or depreciation in the value of the RMB relative to the U.S. dollar would affect our financial results reported in U.S. dollar terms even if there is no underlying change in our business or results of operations. In addition, if we decide to convert our RMB into U.S. dollars for the purpose of making payments for dividends on our common stock 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.

*The PRC currency is not a freely convertible currency, which could limit our ability to obtain sufficient foreign currency to support our business operations in the future. In addition, changes in foreign exchange regulations in the PRC may affect our ability to pay dividends in foreign currency or conduct other foreign exchange business.*

The PRC government imposes controls on the convertibility of RMB into foreign currencies and, in certain cases, the remittance of currency out of the PRC. We receive substantially all of our revenues in RMB, which is currently not a freely convertible currency. Shortages in the availability of foreign currency may restrict our ability to remit sufficient foreign currency to pay dividends, or otherwise satisfy foreign currency-denominated obligations. Under existing PRC foreign exchange regulations, payments of current account items, including profit distributions, interest payments and expenditures from the transaction, can be made in foreign currencies without prior approval from the PRC State Administration of Foreign Exchange, or the SAFE, by complying with certain procedural requirements. However, approval from appropriate governmental authorities is required where RMB are to be converted into foreign currency and remitted out of China to pay capital expenses such as the repayment of bank 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 certain of our expenses as they come due.

*There are significant uncertainties under the Enterprise Income Tax Law regarding our PRC enterprise income tax liabilities, such as tax on dividends paid to us by our PRC subsidiaries and tax on any dividends we pay to our*

*non-PRC stockholders.*

The Enterprise Income Tax Law, also known as the EIT Law, provides that enterprises established outside of the PRC whose “de facto management bodies” are located in the PRC are considered as a “tax-resident enterprise” and are generally subject to the uniform 25.0% enterprise income tax rate on global income. Under the implementation regulations to EIT Law, “de facto management body” refers to a managing body that in practice exercises overall management control over the production and business, personnel, accounting and assets of an enterprise. In addition, on April 22, 2009, the State Administration of Taxation of the PRC issued the *Notice on the Issues Regarding Recognition of Overseas Incorporated Enterprises that are Domestically Controlled as PRC Resident Enterprises Based on the De Facto Management Body Criteria*, which was retroactively effective as of January 1, 2008. This notice provides that an overseas incorporated enterprise that is controlled domestically will be recognized as a “tax-resident enterprise” if it satisfies all of the following conditions: (i) the senior management responsible for daily production/business operations are primarily located in the PRC, and the location(s) where such senior management execute their responsibilities are primarily in the PRC; (ii) strategic financial and personnel decisions are made or approved by organizations or personnel located in the PRC; (iii) major properties, accounting ledgers, company seals and minutes of board meetings and stockholder meetings, etc, are maintained in the PRC; and (iv) 50.0% or more of the board members with voting rights or senior management habitually reside in the PRC.

In addition, dividends paid by us to our non-PRC stockholders as well as gains realized by such stockholders from the sale or transfer of our stock may be subject to a PRC tax under the EIT Law, and we may be required to withhold PRC tax on dividends paid to our non-PRC stockholders.

*We face uncertainty from China's Circular on Strengthening the Administration of Enterprise Income Tax on Non-Resident Enterprises' Share Transfer (Circular 698) which was released in December 2009 with retroactive effect from January 1, 2008.*

The State Administration of Taxation ("SAT") issued Circular 698 on December 10, 2009, which reinforced taxation on transfer of non-listed shares by non-resident enterprises through overseas holding vehicles. Circular 698 applies retroactively and was deemed effective as of January 1, 2010. Pursuant to Circular 698, where (i) a foreign investor who indirectly holds equity interest in a PRC resident enterprise through an offshore holding company indirectly transfers equity interests in a PRC resident enterprise by selling the shares of the offshore holding company, and (ii) the offshore holding company is located in a jurisdiction where the effective tax rate is lower than 12.5% or where the offshore income of its residents is not taxable, the foreign investor is required to provide the tax authority in charge of that PRC resident enterprise with certain relevant information within 30 days of the transfer. The tax authorities in charge will evaluate the offshore transaction for tax purposes. In the event the tax authorities determine that such transfer is abusing forms of business organization and there is no reasonable commercial purpose other than avoidance of PRC enterprise income tax, the tax authorities will have the power to conduct a substance-over-form re-assessment of the nature of the equity transfer. A reasonable commercial purpose may be established when the overall offshore structure is set up to comply with the requirements of supervising authorities of international capital markets. If the SAT's challenge of a transfer is successful, they will deny the existence of the offshore holding company that is used for tax planning purposes. Since Circular 698 has a short history, there is uncertainty as to its application. We and our foreign investors may become at risk of being taxed under Circular 698 and may be required to expend resources to comply with Circular 698 or to establish that we or our foreign investors should not be taxed under Circular 698, which could have a material adverse effect on our or our foreign investors' financial condition and results of operations.

*PRC regulation of loans to and direct investment by offshore holding companies in PRC entities may delay or prevent us from making loans or additional capital contributions to our PRC operating companies, which could materially and adversely affect our liquidity and ability to fund and expand our business.*

As an offshore holding company of PRC operating companies, we may make loans or additional capital contributions to our PRC operating companies. Any loans to our PRC operating companies are subject to PRC regulations. For example, loans to our operating companies in China to finance their activities may not exceed statutory limits and must be registered with SAFE. If we decide to make capital contributions to our operating entities in the PRC, the PRC Ministry of Commerce, or MOFCOM, (or MOFCOM's local counterpart, depending on the amount involved) must approve these capital contributions. We cannot assure you that we will be able to obtain these government approvals on a timely basis, if at all, with respect to any such capital contributions. If we fail to receive such approvals, our ability to use the proceeds of this offering and to capitalize our PRC operations may be negatively

affected, which could adversely affect our ability to fund and expand our business.

*We may face PRC regulatory risks relating to our equity incentive plan.*

On March 28, 2007, the SAFE promulgated a notice requiring PRC individuals who are granted stock options and other types of stock-based awards by an overseas publicly-listed company to obtain approval from the local SAFE branch through an agent of the overseas publicly-listed company (generally its PRC subsidiary or a financial institution).

We urged our PRC management personnel, directors, employees and consultants who were granted stock options under our 2007 Plan to register them with the local SAFE pursuant to the said regulation. However, we cannot ensure that each of these individuals have carried out all of the required registration procedures.

If we, or any of these persons, fail to comply with the relevant rules or requirements, we may be subject to penalties, and may become subject to more stringent review and approval processes with respect to our foreign exchange activities, such as our PRC subsidiaries' dividend payment to us or borrowing foreign currency loans, all of which may adversely affect our business and financial condition.

*The Chinese government exerts substantial influence over the manner in which we must conduct our business activities.*

The Chinese government has exercised and continues to exercise substantial control over virtually every sector of the Chinese economy through regulation and state ownership. Our ability to operate in China may be harmed by changes in its laws and regulations, including those relating to taxation, environmental regulations, land use rights, property and other matters. The central or local governments of these jurisdictions may impose new, stricter regulations or interpretations of existing regulations that would require additional expenditures and efforts on our part to ensure our compliance with such regulations or interpretations. Accordingly, government actions in the future, including any decision not to continue to support recent economic reforms and to return to a more centrally planned economy or regional or local variations in the implementation of economic policies, could have a significant effect on economic conditions in China or particular regions thereof, and could require us to divest ourselves of any interest we then hold in Chinese properties.

*Uncertainties with respect to the PRC legal system could adversely affect us and we may have limited legal recourse under PRC law if disputes arise under our contracts with third parties.*

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 non-binding 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 some time after violation.

The Chinese government has enacted some laws and regulations dealing with matters such as corporate organization and governance, foreign investment, commerce, taxation and trade. However, their experience in implementing, interpreting and enforcing these laws and regulations is limited, and our ability to enforce commercial claims or to resolve commercial disputes is unpredictable. The resolution of these matters may be subject to the exercise of considerable discretion by agencies of the Chinese government, and forces unrelated to the legal merits of a particular matter or dispute may influence their determination. Any rights we may have to specific performance, or to seek an injunction under PRC law, in either of these cases, are severely limited, and without a means of recourse by virtue of



the Chinese legal system, we may be unable to prevent others from violating our rights. The occurrence of any such events could have a material adverse effect on our business, financial condition and results of operations.

*We must comply with the Foreign Corrupt Practices Act and Chinese anti-corruption laws.*

We are required to comply with the United States Foreign Corrupt Practices Act, or FCPA, which prohibits U.S. companies from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. Foreign companies, including some of our competitors, are not subject to these prohibitions. The PRC also strictly prohibits bribery of government officials. Certain of our suppliers are owned by the PRC government and our dealings with them are likely to be considered to be with government officials for these purposes. Corruption, extortion, bribery, pay-offs, theft and other fraudulent practices occur from time-to-time in China. It is our policy to prohibit our employees and to discourage our agents, representatives and consultants from engaging in such practices. If our competitors engage in these practices, they may receive preferential treatment from personnel of some companies, giving our competitors an advantage in securing business or from government officials who might give them priority in obtaining new licenses, which would put us at a disadvantage. Our employees, agents, representatives and consultants may not always be subject to our control. If any of them violates FCPA or other anti-corruption law, we might be held responsible. We could suffer severe penalties in that event. In addition, the U.S. government may seek to hold us liable for successor liability FCPA violations committed by companies in which we invest or which we acquire.

*We may have difficulty maintaining adequate management, legal and financial controls in the PRC.*

The PRC historically has been deficient in western style management and financial reporting concepts and practices, as well as in modern banking, and other control systems. We may have difficulty in hiring and retaining a sufficient number of qualified employees to work in the PRC. As a result of these factors, and especially since we are a publicly listed company in the U.S. and subject to regulation as such, we may experience difficulty in maintaining management, legal and financial controls, collecting financial data and preparing financial statements, books of account and corporate records and instituting business practices that meet western standards. We may have difficulty establishing adequate management, legal and financial controls in the PRC. Therefore, we may, in turn, experience difficulties in implementing and maintaining adequate internal controls as required under Section 404 of the Sarbanes-Oxley Act of 2002, or SOX 404, and other applicable laws, rules and regulations. This may result in significant deficiencies or material weaknesses in our internal controls which could impact the reliability of our financial statements and prevent us from complying with SEC rules and regulations and the requirements of the Sarbanes-Oxley Act of 2002. Any such deficiencies, weaknesses or lack of compliance could have a materially adverse effect on our business and the market price of our stock.

***If we fail to maintain an effective system of internal control over financial reporting, our ability to accurately and timely report our financial results or prevent fraud may be adversely affected and investor confidence and the market price of our ordinary shares may be adversely impacted.***

As directed by SOX 404, the SEC adopted rules requiring public companies to include a report of management on the company's internal controls over financial reporting in their annual reports. Our management may conclude that our internal controls over our financial reporting are not effective, which could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our reporting processes, which could adversely impact the market price of our common stock.

*Your ability to bring an action against us or against our directors and officers, or to enforce a judgment against us or them, will be limited because we conduct substantially all of our operations in the PRC and because the majority of our directors and officers reside outside of the United States.*

We are a Nevada corporation but nearly all of our assets are located outside of the U.S.. Most of our current operations are conducted in the PRC. In addition, most of our directors and officers are nationals and residents of the PRC. A substantial portion of the assets of these persons is located outside the U.S. As a result, it may be difficult for you to effect service of process within the United States upon these persons. It may also be difficult for you to enforce in U.S. courts judgments on the civil liability provisions of the U.S. federal securities laws against us and our officers and directors. In addition, there is uncertainty as to whether the courts of the PRC would recognize or enforce judgments of U.S. courts. The recognition and enforcement of foreign judgments are provided for under the *PRC Civil Procedures Law*. Courts in the PRC may recognize and enforce foreign judgments in accordance with the

requirements of the *PRC Civil Procedures Law* based on treaties between the PRC and the country where the judgment is made or on reciprocity between jurisdictions. The PRC does not have any treaties or other arrangements that provide for the reciprocal recognition and enforcement of foreign judgments with the United States. In addition, according to the *PRC Civil Procedures Law*, courts in the PRC will not enforce a foreign judgment against us or our directors and officers if they decide that the judgment violates basic principles of PRC law or national sovereignty, security or the public interest. So it is uncertain whether a PRC court would enforce a judgment rendered by a court in the U.S.

*A failure by our stockholders or beneficial owners who are PRC residents to comply with certain PRC foreign exchange regulations could restrict our ability to distribute profits, restrict our overseas and cross-border investment activities or subject us to liability under PRC laws, which could adversely affect our business and financial condition.*

On October 21, 2005, SAFE issued the Notice on Relevant Issues Concerning Foreign Exchange Administration for PRC Residents Engaging in Financing and Roundtrip Investments via Offshore Special Purpose Vehicles, or SAFE Circular 75. SAFE Circular 75 states that PRC residents (including both legal persons and natural persons) must register with SAFE or its local branch in connection with their establishment or control of an offshore entity established for the purpose of overseas equity financing involving a roundtrip investment whereby the offshore entity acquires or controls onshore assets or equity interests held by the PRC residents. In addition, such PRC residents must update their SAFE registrations when the offshore SPV undergoes material events relating to increases or decreases in investment amount, transfers or exchanges of shares, mergers or divisions, long-term equity or debt investments, external guarantees, or other material events that do not involve roundtrip investments. To further clarify the implementation of SAFE Circular 75, the General Affairs Department of SAFE issued SAFE Circular 106 on May 29, 2007. Under SAFE Circular 106, PRC subsidiaries of an offshore company governed by SAFE Circular 75 are required to coordinate and supervise the filing of SAFE registrations in a timely manner by the offshore holding company's shareholders who are PRC residents. If these shareholders fail to comply, the PRC subsidiaries are required to report to the local SAFE authorities. If our shareholders who are PRC residents do not complete their registration with the local SAFE authorities, our PRC subsidiaries will be prohibited from distributing their profits and proceeds from any reduction in capital, share transfer or liquidation to us, and we may be restricted in our ability to contribute additional capital to our PRC subsidiaries.

We are committed to complying, and to ensuring that our shareholders, who are PRC residents, comply with the SAFE Circular 75 requirements. We believe that all of our PRC resident shareholders and beneficial owners have completed their required registrations with SAFE, or are otherwise in the process of registering. However, we may not at all times be fully aware or informed of the identities of all our beneficial owners who are PRC residents, and we may not always be able to compel our beneficial owners to comply with the SAFE Circular 75 requirements. As a result, we cannot assure you that all of our shareholders or beneficial owners who are PRC residents will at all times comply with, or in the future make or obtain any applicable registrations or approvals required by, SAFE Circular 75 or other related regulations. Failure by any such shareholders or beneficial owners to comply with SAFE Circular 75 could subject us to fines or legal sanctions, restrict our overseas or cross-border investment activities, limit our subsidiaries' ability to make distributions or pay dividends or affect our ownership structure, which could adversely affect our business and prospects.

*PRC regulations involve complex procedures for acquisitions conducted by foreign investors that could make our restructuring or an offering subject to government approval.*

Pursuant to the Regulations on Mergers and Acquisitions of Domestic Enterprises by Foreign Investors ("M&A Rule"), effective as of September 8, 2006 and revised as of June 22, 2009, additional procedures and requirements were established that are expected to make merger and acquisition activities in China by foreign investors more

time-consuming and complex, including requirements in some instances that MOFCOM be notified in advance of any change-of-control transaction in which a foreign investor takes control of a PRC domestic enterprise, or that the approval from MOFCOM be obtained in circumstances where overseas companies established or controlled by PRC enterprises or residents acquire affiliated domestic companies and special anti-monopoly submissions for parties meeting certain reporting thresholds.

The M&A Rules require offshore companies formed for overseas listing purposes through acquisitions of PRC domestic companies and controlled by PRC companies or individuals to obtain the approval of MOFCOM prior to a cross-border share swap and the CSRC prior to the public listing of their securities on an overseas stock exchange through share swap. On September 21, 2006, pursuant to the M&A Rule and other PRC Laws, the CSRC published on its official website relevant guidance with respect to the listing and trading of PRC domestic enterprises' securities on overseas stock exchanges ("Related Clarifications"), including a list of application materials regarding the listing on overseas stock exchange by special purpose vehicles, however, the CSRC currently has not issued any definitive rule concerning whether an offering, such as an offering under the previously described registration statement of Form S-3, is subject to the M&A Rule and Related Clarifications.

There are substantial uncertainties regarding the interpretation and application of the above rules, and MOFCOM and CSRC have yet to promulgate any written provisions or formally to declare or state whether the overseas listing of a PRC related company similar to us will be subject to approvals from MOFCOM and CSRC with respect to any offering or a failure to maintain an offering. If MOFCOM and CSRC approvals are required in connection with our previous restructuring and this offering, our failure to obtain or delay in obtaining such approval could result in penalties imposed by MOFCOM, CSRC and other PRC regulatory agencies. These penalties could include fines and penalties on our operations in China, restriction or limitation on remitting dividends outside of China, and other forms of sanctions that may cause a material and adverse effect on our business, operations and financial conditions.

Notwithstanding those provisions, we are advised by our PRC counsel, Kang Da Law Firm, that MOFCOM and CSRC approvals are not required in the context of our previous restructuring, because our previous restructuring does not constitute a cross-border share swap contemplated by the M&A Rule. However, we cannot assure you that the relevant PRC government agencies, including MOFCOM and CSRC, would reach the same conclusion, and we still cannot rule out the possibility that MOFCOM and CSRC may deem our listing structure as circumventing the M&A Rule and Related Clarifications, in particular in consideration of the fact that our restructuring was completed through several steps. Please refer to the Company History section about our restructuring.

*PRC regulations also involve complex procedures for acquisitions conducted by foreign investors that could make it more difficult for us to grow through acquisitions.*

We may grow our business in part by acquiring other companies in the PRC. Complying with the requirements of the M&A Rule to complete such transactions could be time-consuming, and any required approval processes, including approval from MOFCOM, may delay or inhibit our ability to complete such transactions, which could affect our ability to expand our business or maintain our market share.

*Our labor costs may increase due to the implementation of the new PRC Labor Contract Law.*

The PRC Labor Contract Law was adopted by the Standing Committee of the National People's Congress of PRC in June 2007 and became effective on January 1, 2008 and was recently amended on December 28, 2012, such amendment effective starting July 31, 2013. The Implementation Rules of the PRC Labor Contract Law were passed by the PRC State Council in September 2008 and became effective that same month. The implementation of the new law and its Implementation Rules, particularly the following provisions, may increase our labor costs: (a) an employer shall make monetary compensation, which shall be based on the number of an employee's working years with the employer at the rate of one month's wage for each year, to the employee upon termination of an employment contract with certain exceptions (for example, in circumstances where the term of a fixed-term employment contract expires and the employee does not agree to renew the contract even though the conditions offered by the employer are the same as or better than those stipulated in the current contract); (b) the wages of an employee who is on probation may not be less than the lowest wage level for the same job with the employer or less than 80% of the wage agreed upon in the employment contract, and may not be less than the local minimum wage rate; (c) if an employee has been working for the employer for a consecutive period of not less than 10 years, or if a fixed-term employment contract with an employee was entered into on two consecutive occasions, generally the employer should enter into an open-ended employment contract with such employee, unless the employee requests a fixed-term employment contract; (d) if an employer fails, in violation of the related provisions, to enter into an open-ended employment contract with an employee, it shall in each month pay to the employee twice his wage, starting from the date on which an open-ended employment contract should have been entered into; (e) if an employer fails to enter into a written employment contract with an employee more than one month but less than one year after the date on which it started employing him, it shall in each month pay to the employee twice his wage; and (f) if an employer hires an employee whose employment contract with another employer has not yet been terminated or ended, causing the other employer to suffer a loss, the later hiring employer shall be jointly and severally liable with the employee for the compensation for

such loss. Our labor costs may increase due to the implementation of the new PRC Labor Contract Law and the Implementation Rules of the PRC Labor Contract Law and our business and results of operations may be materially and adversely affected.

#### ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

#### ITEM 2. PROPERTIES

We currently lease three office spaces, one in Xi'an, one in Shanghai and one in Beijing. On February 1, 2010, we expanded and moved our leased office space in Xi'an within the Chang'an Metropolis Center where we previously occupied part of a floor in Tower B. Our leased space in Xi-an is now the 12<sup>th</sup> Floor of Tower A at Chang'an Metropolis Center, No. 88, Nanguanzheng Street, Xi'an, PRC. Our leased office space in Shanghai is located at Room 3163, Floor 31, Jinmao Plaza, No.88 Century Avenue, Pudong New District, Shanghai, PRC. Our leased office space in Beijing is located at Apt 101, Unit 7, Building C, Fenghuahaojing, Xuanwu District, Beijing, PRC. Average monthly rent for all locations was \$17,503 in 2011 and \$20,000 in 2012.

ITEM 3. LEGAL PROCEEDINGS

The Company is not a party to any legal proceedings that it believes will have a material adverse effect upon the conduct of its business or its financial position.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND SMALL BUSINESS ISSUER PURCHASES OF EQUITY SECURITIES.

Our common stock is currently traded on the NASDAQ Global Market under the symbol “CREG.” Prior to March 22, 2010, our common stock was traded on FINRA’s Over-the-Counter Bulletin Board under the symbol “CREG”. On August 6, 2004 we changed our name from Boulder Acquisitions, Inc. to China Digital Wireless, Inc. and changed our symbol from “BAQI” to “CHDW.” On March 8, 2007, we changed our name from China Digital Wireless, Inc. to China Recycling Energy Corporation, and changed our symbol from “CHDW” to “CREG”. On March 13, 2013, the last reported sales price for our common stock was \$1.08 per share. As of March 13, 2013, there were 50,224,350 shares of our common stock outstanding held by approximately 2,752 shareholders of record.

The table below provides information with respect to the Company’s quarterly stock prices during 2012 and 2011:

	2012				2011			
	4Q	3Q	2Q	1Q	4Q	3Q	2Q	1Q
High	\$1.21	\$1.20	\$3.30	\$1.34	\$1.47	\$2.10	\$2.81	\$3.22
Low	0.80	0.78	0.91	1.12	1.12	.90	1.77	2.26



***Dividend Policy***

We did not pay any cash dividends on our common stock in 2011 or 2012. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. We currently intend to retain future earnings, if any, to finance operations and the expansion of our business.

***Recent Sales of Unregistered Securities***

As disclosed on a Form 8-K, filed September 17, 2012, on September 17, 2012, the Company issued 3,750,000 shares of Common Stock of the Company to Great Essential, upon receipt of Great Essential's conversion notice of the Company's 8% Secured Convertible Promissory Note, dated April 29, 2009 in the principal amount of \$3,000,000, at the stated conversion price per share of \$0.8.

The issuance of shares to Great Essential was made in reliance on the exemptions from registration provided by (i) Section 4(2) of the Securities Act as a transaction by an issuer not involving any public offering and (ii) Regulation S under the Securities Act.

***Issuer Purchases of Equity Securities***

There were no common stock purchases by the Company during the quarter ended December 31, 2012.

***Equity Compensation Plan Information***

Information about our equity compensation plans at December 31, 2012 that were either approved or not approved by our shareholders is as follows:

Plan Category	Number of securities to be issued upon exercise of outstanding options	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders	3,733,333	\$ 1.36	0
Equity compensation plans not approved by security holders	-	\$ -	
Total	3,733,333	\$ 1.36	0

**ITEM 6. SELECTED FINANCIAL DATA.**

Not applicable.

**ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.****Note Regarding Forward-Looking Statements**

*This annual report on Form 10-K and other reports filed by the Company from time to time with the SEC (collectively the “Filings”) contain or may contain forward-looking statements and information that are based upon beliefs of, and information currently available to, Company’s management as well as estimates and assumptions made by Company’s management. Readers are cautioned not to place undue reliance on these forward-looking statements, which are only predictions and speak only as of the date hereof. When used in the filings, the words “anticipate”, “believe”, “estimate”, “expect”, “future”, “intend”, “plan”, or the negative of these terms and similar expressions as they relate to the Company or Company’s management identify forward-looking statements. Such statements reflect the current view of the Company with respect to future events and are subject to risks, uncertainties, assumptions, and other factors (including the risks contained in Item 1A. “Risk Factors” and the section “results of operations” below). Should one or more of these risks or uncertainties materialize, or should the underlying assumptions prove incorrect, actual results may differ significantly from those anticipated, believed, estimated, expected, intended, or planned.*

*Although the Company believes that the expectations reflected in the forward-looking statements are based on reasonable assumptions, the Company cannot guarantee future results, levels of activity, performance, or achievements. Except as required by applicable law, including the securities laws of the United States, the Company does not intend to update any of the forward-looking statements to conform these statements to actual results. Readers are urged to carefully review and consider the various disclosures made throughout the entirety of this annual report, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations, and prospects.*

*Our financial statements are prepared in US Dollars and in accordance with accounting principles generally accepted in the United States. See “Foreign Currency Translation and Comprehensive Income (Loss)” below for information concerning the exchange rates at which Renminbi (“RMB”) were translated into US Dollars (“USD”) at various pertinent dates and for pertinent periods.*

## **OVERVIEW OF BUSINESS BACKGROUND**

The Company was incorporated on May 8, 1980 as “Boulder Brewing,” under the laws of the State of Colorado. On September 6, 2001, the Company re-domiciled its state of incorporation from Colorado to Nevada. On March 8, 2007, the Company changed its name to “China Recycling Energy Corporation.” The Company, through its subsidiaries Shanghai TCH Energy Technology Co., Ltd. (“Shanghai TCH”) and Huahong New Energy Technology Co, Ltd, sells and leases energy saving systems and equipment to its customers.

### *Historical Overview*

In September 2001, Boulder Brewing changed its state of incorporation from Colorado to Nevada and its name to Boulder Acquisitions, Inc., or Boulder Acquisitions. From the date of reincorporation until June 23, 2004, Boulder Acquisitions had no material operations or assets.

On June 23, 2004, Boulder Acquisitions completed a stock exchange with the stockholders of Sifang Holdings Co., Ltd. (“Sifang Holdings”). The exchange was consummated under Nevada and Cayman Islands law pursuant to the terms of a Securities Exchange Agreement, dated June 23, 2004 by and among Boulder Acquisitions, Sifang Holdings and the stockholders of Sifang Holdings. Pursuant to the Securities Exchange Agreement, Boulder Acquisitions issued 13,782,636 shares of its common stock to the stockholders of Sifang Holdings, 89.7% of its post-exchange issued and outstanding common stock, for 100% of the outstanding capital stock of Sifang Holdings.

Effective August 6, 2004, we changed our name from Boulder Acquisitions, Inc. to China Digital Wireless, Inc. From August 2004 to December 2006, we primarily engaged in pager and mobile phone distribution and provided value added information services to the customers in the People’s Republic of China (“PRC”). We phased out and scaled down our operations in the mobile phone distribution business and the pager and mobile phone value-added information services, and, on May 10, 2007, the Company approved and announced it discontinued these businesses.

In December 2006, we began to conduct business in the energy saving and recycling industry, including purchasing equipment, devices, hardware and software for the construction and installation of TRT systems and other renewable energy products. TRT is an electricity generating system that utilizes the exhaust pressure and heat produced in the blast furnace of steel mills to generate electricity. TRT has commercial value, because TRT allows steel mills to use waste heat and steam to produce electricity for the operation of the mills.

### *Current Business*

Our current business is primarily conducted through our wholly-owned subsidiary, Sifang Holdings, its wholly-owned subsidiaries, Huahong New Energy Technology Co., Ltd. (“Huahong”) and Shanghai TCH, Shanghai TCH’s wholly-owned subsidiaries, Xi’an TCH Energy Technology Company, Ltd (“Xi’an TCH”), and Xi’an TCH’s subsidiary Erdos TCH Energy Saving Development Co., Ltd (“Erdos TCH”), in which 93% of the investment will be from Xi’an TCH, a joint venture between Xi’an TCH and Erdos Metallurgy Co., Ltd. Shanghai TCH was established as a foreign investment enterprise in Shanghai under the laws of the PRC on May 25, 2004, currently with registered capital of \$29.80 million. Xi’an TCH was incorporated in Xi’an, Shaanxi Province under the laws of the PRC on November 8, 2007. Erdos TCH was incorporated in April 2009. Huahong was incorporated in February 2009.

*Hebei Xingtai Steel Group Project*

On April 8, 2007, our Board of Directors approved and made effective a TRT Project Joint-Operation Agreement (“Joint-Operation Agreement”) which was conditionally entered into on February 1, 2007 between Shanghai TCH and Xi’an Yingfeng Science and Technology Co., Ltd. (“Yingfeng”). Under the Joint-Operation Agreement, Shanghai TCH and Yingfeng jointly pursued a project to design, construct, install and operate two TRT systems for Xingtai Iron and Steel Company, Ltd. (“Xingtai”). These two projects were completed and put into operation in February and August 2007, respectively. On October 31, 2007, Shanghai TCH entered an asset-transfer agreement with Yingfeng. The terms and conditions of this agreement required the transfer of all electricity-generating related assets owned by Yingfeng to Shanghai TCH. As a result, the contractual relationship between Shanghai TCH and Yingfeng under the TRT Project Joint-Operation Agreement was terminated. Xingtai power generation system lease term ended in January 2012, and, as a result, the system was subsequently transferred to Xingtai.

*Shengda Project*

On March 15, 2011, the Company incorporated a new wholly owned subsidiary Pingshan County Shengda Energy Technology Co., Ltd (“Shengda”). Xi’an TCH contributed cash of \$4,559,271 (RMB 30,000,000) into Shengda as initial capital. Shengda was set up to undertake waste energy recycling projects from a steel and chemical company in Pingshan County in accordance with and pursuant to a non-binding Recycling Economy Projects Cooperative Framework Agreement entered into by the parties. However, final terms for the projects were not reached, and, as a result, Shengda was not operational. In July 2012, Shengda applied for cancellation of its registration with the appropriate authorities. In September 2012, Shengda was liquidated and deregistered.

*Shanxi Zhangzhi Steel Group Project*

Under the Joint-Operation Agreement discussed above, Shanghai TCH and Yingfeng also jointly pursued a project, which was entered into between Yingfeng and Zhangzhi Iron and Steel Company, Ltd. (“Zhangzhi”) on June 22, 2006, to design, construct, install and operate a TRT system for Zhangzhi. Shanghai TCH contributed various investments and properties to the project, including cash, hardware, software, equipment, major components and devices. In return, Shanghai TCH obtained all the rights, titles, benefits and interests that Yingfeng originally had under the Project Contract, including but not limited to, the regular cash payments made by Xingtai and other property rights and interests. On October 31, 2007, Shanghai TCH acquired this contract as part of its asset-transfer agreement with Yingfeng discussed above. Per the transferred contracts, Shanghai TCH installed and owns the TRT system and leases it to Zhangzhi for 13 years, from July 25, 2007 to July 25, 2020. During the term of the lease, Zhangzhi will pay Shanghai TCH a monthly rent of \$0.16 million (RMB 1.1 million). After the lease expires and all rents owed are paid, Shanghai TCH will transfer the title of the system to Zhangzhi free of charge.

*Shengwei Group – Tong Chuan*

In November 2007, Shanghai TCH signed a cooperative agreement with Shengwei Group to build two sets of 12MW cement low temperature heat power generation systems for Shengwei's two 2,500-tons-per-day cement manufacturing lines in Jing Yang and for a 5,000-tons-per-day cement manufacturing line in Tong Chuan. At the end of 2008, construction of the cement low temperature heat power generation in Tong Chuan was completed at a cost of \$6,191,000 (RMB 43,000,000) and put into operation. Under the original agreement, the ownership of the cement low temperature heat power generation systems would have belonged to Shengwei starting from the date the projects were put into service. On May 20, 2009, Shanghai TCH entered into a supplementary agreement with Shengwei Group to change the timing of title transfer to Shengwei from the date the projects put into operation to the end of the lease term. Shanghai TCH is responsible for the daily maintenance and repair of the projects, and charges Shengwei a monthly electricity fee based on the actual power generated by the projects at 0.4116 RMB per kWh for an operating period of five years, from the date that the project is put in service for power generation or eleven (11) months after the agreement date whichever comes first, with assurances from Shengwei of a properly functioning 5,000-tons-per-day cement manufacturing line and not less than 7,440 heat hours per year for the electricity generator system. Shengwei Group collateralized the cement manufacturing line in Tong Chuan to guarantee its obligations to provide the minimum electricity income from the power generator system under the agreement during the operating period. At the end of the five-year operating period, Shanghai TCH will have no further obligations under the cooperative agreement. On November 11, 2008, Shanghai TCH transferred all of its rights and obligations under the agreement to Xi'an TCH. In addition, the supplementary agreement entered into on May 20, 2009 provided that Xi'an TCH will charge Shengwei based on actual power usage subject to a minimum of \$0.31 million (RMB 2.1 million) per month during the operating period (lease term).

*Shengwei Group – Jing Yang Project*

On June 29, 2009, construction of the cement low temperature heat power generation system in Jing Yang was completed at a cost of \$7,318,000 (RMB 50,000,000) and put into operation pursuant to a waste heat power generation cooperative agreement entered into in November 2007. Shanghai TCH charges Shengwei a monthly technical service fee of \$336,600 (RMB 2,300,000) for the 60 months of the lease, starting from the date that the project is put into service for power generation or 11 months after the date of the agreement whichever comes first. Shengwei has the right to purchase the cement low temperature heat power generation system for \$29,000 (RMB 200,000) at the end of the lease. Shengwei is required to provide assurances of properly functioning two 2,500-tons-per-day cement manufacturing lines and not less than 7,440 heat hours per year for the cement low temperature heat power generation. Shengwei Group collateralized the cement manufacturing lines in Jing Yang to guarantee its obligations to provide the minimum electricity income from the waste energy power generator system under the agreement during the operating period. On November 11, 2008, Shanghai TCH transferred all of its rights and obligations under the agreement to Xi'an TCH. Effective July 1, 2009, Xi'an TCH started outsourcing the operation and maintenance of the cement low temperature heat power generation systems in Tong Chuan and JingYang to a third party for \$732,000 (RMB 5,000,000) per year.

*Shenmu Project*

On September 30, 2009, Xi'an TCH delivered to Shenmu County Jiujiang Trading Co., Ltd. ("Shenmu") a set of three 6MW capacity waste gas power generation systems pursuant to a Cooperative Contract on Coke-oven Gas Power Generation Project (including its Supplementary Agreement) and a Gas Supply Contract for Coke-oven Gas Power Generation Project (the "Contracts"). The Contracts are for 10 years and state Xi'an TCH will recycle coke furnace gas from the coke-oven plant of Shenmu to generate power, which will be supplied back to Shenmu. Shenmu agreed to supply Xi'an TCH the coke-oven gas free of charge. Under the Contracts, Shenmu will pay Xi'an TCH an annual "energy-saving service fee" of approximately \$5.6 million in equal monthly installments for the life of the contracts, as well as such additional amounts as may result from the supply of power to Shenmu in excess of 10.8 million kilowatt hours per month. Xi'an TCH is responsible for operating the projects, which it does through an unrelated third party. Shenmu guarantees that monthly gas supply will not be less than 21.6 million standard cubic meters. If gas supply is less, Shenmu agrees to pay Xi'an TCH the energy-saving service fee described above for up to 10.8 million kilowatt-hours per month. Xi'an TCH maintains ownership of the project throughout the term of the contracts, including the already completed investment, design, equipment, construction and installation as well as the operation and maintenance of the project. At the end of the 10-year term, ownership of the projects will be transferred to Shenmu at no charge. Shenmu provided a lien on its production line to guarantee its performance under the Contracts. Shenmu's three major stockholders provided an unlimited joint liability guarantee to Xi'an TCH guaranteeing Shenmu's performance under the Contracts and the Yulin Huiyuan Group, an independent third party, provides a guarantee to Xi'an TCH for Shenmu's performance under the Contracts.

On December 31, 2011, Xi'an TCH entered into a Repurchase Agreement for the Coke-Oven Gas Power Generation Project (the "Repurchase Agreement") with Shenmu. Under the Repurchase Agreement, Shenmu will purchase the set of



18MW capacity power generating systems (the “Systems”) from Xi’an TCH and pay outstanding energy saving service fees of \$3.08 million (RMB 19.44 million) to Xi’an TCH within three working days from the date of the Repurchase Agreement. Xi’an TCH will transfer the Systems to Shenmu for \$18.75 million (RMB 120 million) (the “Repurchase Price”) to be paid in three installments within 180 days. In June 2012, the Company received the full payment of the outstanding energy saving service fees and system repurchase price, and, as a result, ownership of the Systems was transferred to Shenmu and the Cooperative Contract was terminated.

### *Erdos Projects*

On April 14, 2009, the Company incorporated a joint venture (“JV”) with Erdos Metallurgy Co., Ltd. (“Erdos”) to recycle waste heat from Erdos' metal refining plants to generate power and steam, which will then be sold back to Erdos. The name of the JV is Inner Mongolia Erdos TCH Energy Saving Development Co., Ltd (“Erdos TCH”) with a term of 20 years, and initial registered capital of \$2,635,000 (RMB 18,000,000). As of December 31, 2012, total registered capital was increased to \$17.55 million (RMB 120 million), of which \$16.37 million (RMB 112 million) was contributed by Xi’an TCH and \$1.18 million (RMB 8 million) was from Erdos Metallurgy. Total investment for the project is estimated at \$79 million (RMB 500 million) with an initial investment of \$17.55 million (RMB 120,000,000). As of December 31, 2012, Erdos contributed 7% of the total investment of the project, and Xi’an TCH contributed 93%. With respect to profit distribution, Xi’an TCH and Erdos will receive 80% and 20% of the profit from the JV, respectively, until Xi’an TCH has received the complete return of its investment. Xi’an TCH and Erdos will then receive 60% and 40% of the profit from the JV, respectively. The profits to be distributed will be computed based on Chinese generally accepted accounting principles. The principal difference between US GAAP and Chinese GAAP, with regards to the Erdos TCH project, is that a sales-type lease under US GAAP is treated as an operating lease under Chinese GAAP. When the term of the JV expires, Xi’an TCH will transfer its equity in the JV to Erdos at no cost.

On April 18, 2009, Erdos TCH signed a Cooperation Agreement with Erdos to recycle heat from groups of furnaces of Erdos Metallurgy's metal refining plants to generate power and steam, which will then be sold back to Erdos Metallurgy. According to the contract, Erdos TCH will install a group of power generation projects with a total of 70MW power capacity, which may expand up to 120MW, and 30-ton steam per hour, with an estimated total investment in excess of \$79 million (RMB 500 million). The construction of the projects was split into three phases, two power generation systems in Phase I with a total of 18MW power capacity, three power generation systems in Phase II with a total of 27MW power capacity and one power generation system in Phase III with 25MW power capacity.

At the end of 2009, Erdos TCH completed the first 9MW power station of Phase I of the project and put it into operation. At the end of March 2010, Erdos TCH completed the construction of Phase I through completion of the second 9MW power station and delivery of the units for operation. Phase I includes two 9MW systems for a combined 18MW power capacity. Pursuant to the Co-operation Agreement and the supplement agreements signed between Erdos and Erdos TCH, Erdos shall purchase all the electricity and steam to be generated from the JV's power generation systems. Erdos TCH leased the two 9MW systems to Erdos and is responsible for their operation and maintenance. For each phase of the project, the lease term is 20 years starting from the date of completion of the phase. Erdos agreed to pay a fixed minimum of \$0.24 million (RMB 1.5 million) per month for each 9MW capacity power generation system. In addition Erdos will pay the actual amount if the actual sale of the electricity generated is more than \$0.24 million (RMB 1.5 million) monthly per unit. Effective January 2010 and April 2010 respectively, Erdos TCH outsourced to an independent third party the operation and maintenance of the two 9MW power generation projects for \$995,000 (RMB 6.27 million) each per year. After 20 years, the units will be transferred to Erdos without charge. During the fourth quarter of 2010, Erdos power generation system Phase II, two 9MW capacity electricity power generation system, was completed and put into operation. During the first quarter of 2011, Erdos power generation system Phase II, the 3rd 9MW capacity electricity power generation system, was completed and put into operation through a sales type lease with terms similar to the Phase I project. At the end of 2009, Erdos TCH completed the first 9MW power station of Phase I of the project and put it into operation. At the end of March 2010, Erdos TCH completed the construction of Phase I through completion of the second 9MW power station and delivery of the units for operation. Phase I includes two 9MW systems for a combined 18MW power capacity. Pursuant to the Co-operation Agreement and the supplement agreements signed between Erdos and Erdos TCH, Erdos shall purchase all the electricity and steam to be generated from the JV's power generation systems. Erdos TCH leased the two 9MW systems to Erdos and is responsible for their operation and maintenance. For each phase of the project, the lease term is 20 years starting from the date of completion of the phase. Erdos agreed to pay a fixed minimum of \$0.24 million (RMB 1.5 million) per month for each 9MW capacity power generation system. In addition Erdos will pay the actual amount if the actual sale of the electricity generated is more than \$0.24 million (RMB 1.5 million) monthly per unit. Effective January 2010 and April 2010 respectively, Erdos TCH outsourced to an independent third party the operation and maintenance of the two 9MW power generation projects for \$995,000 (RMB 6.27 million) each per year. After 20 years, the units will be transferred to Erdos without charge. During the fourth quarter of 2010, Erdos power generation system Phase II, two 9MW capacity electricity power generation system, was completed and put into operation. During the first quarter of 2011, Erdos power generation system Phase II, the 3rd 9MW capacity electricity power generation system, was completed and put into operation through a sales type lease with terms similar to the Phase I project.

In September 2012, Erdos TCH, Erdos and the general contractor, Xianyang Hengfeng Energy Engineering Co., Ltd ("Hengfeng"), agreed to terminate the construction of the Phase III power generation system projects due to the fact that

ErDOS, as a result of a change in its business strategy, stopped construction of the refining plant. As of the termination date, ErDOS TCH incurred construction costs of \$19.86 million (RMB 125.44 million). Of this amount, Hengfeng returned \$13.72 million (RMB 86.70 million) to ErDOS TCH towards payments made for construction in progress and ErDOS paid \$3.58 million (RMB 22.04 million) to ErDOS TCH for the loss. ErDOS TCH, in turn, paid \$0.32 million (RMB 2.0 million) to Hengfeng for losses resulting from the project's termination. ErDOS incurred a net loss of \$2.96 million (RMB 18.74 million) from the termination of this project.

### *Pucheng Biomass Project*

On January 20, 2010, Xi'an TCH entered into a Technical Reconstruction Letter of Intent with Xueyi Dong ("Dong"), a natural person with Chinese citizenship, for Xi'an TCH reconstructing and transforming a Thermal Power Generation System owned by Dong into a 12MW Biomass Power Generation Systems ("Biomass Systems" or "BMPG") for \$2.2 million (RMB 15 million); of which, \$1.03 million (RMB 7 million) was payable to Dong, and \$1.18 million (RMB 8 million) to one of the Company's shareholders, who had previously paid that amount to Dong on behalf of the Company.

After the successful transformation of the systems, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement (the "Transfer Agreement") with Dong on June 29, 2010. Under the Transfer Agreement, Dong transferred the Biomass Systems to Xi'an TCH, and Xi'an TCH agreed to pay Dong \$14,705,900 (RMB 100,000,000) for the systems, including RMB 20,000,000 in cash and RMB 80,000,000 in shares of the Company's common stock. The Company has paid the consideration (including the cash portion) in full. On November 22, 2011, our Board of Directors approved the issuance of 2,941,176 shares of the Company's common stock to Dong at \$4 per share pursuant to the terms of the agreement. The Company recorded a gain on settlement of debt of \$8.3 million. These shares have piggy back registration rights and were subject to a one year lock-up period. The shares issued to Dong were included in a Form S-3 Registration Statement, as amended, that we initially filed with the SEC on February 22, 2012 and amended on April 12, 2012 and May 7, 2012. The resale Form S-3 Registration Statement was declared effective by the SEC on May 18, 2012.

On June 29, 2010, Xi'an TCH entered into a Biomass Power Generation Project Lease Agreement with Pucheng XinHengYuan Biomass Power Generation Co., Ltd., ("XHY"). Under this lease, Xi'an TCH leased this same set of 12MW biomass power generation systems to XHY at a minimum of \$279,400 (RMB 1,900,000) per month for 15 years. The leasing fee will increase proportionately with the biomass generated electricity fee in China during the term of this lease agreement.

### *Zhongbao Project*

On September 30, 2010, Xi'an TCH delivered to Zhongbao Binhai Nickel Co., Ltd. ("Zhongbao") a set of 7MW capacity Waste Heat Power Generation ("WHPG") systems, which are integral parts of the facilities designed to produce 80,000 tons of nickel-alloy per year according to the recovery and power generation of the waste heat agreement with Zhongbao, an agreement that was transferred from China Zhonggang Binhai Enterprise Ltd. ("Zhonggang") in July 2009. Zhongbao is a nickel-alloy manufacturing joint venture between Zhonggang and Shanghai Baoshan Steel Group established in June 2009. Total investment in this project was approximately \$7.8 million (RMB 55 million). The Contract is for nine years and states that Xi'an TCH will recycle waste heat from the nickel-alloy rotary kilns of Zhongbao to generate power and steam, which will be supplied back to Zhongbao, and help to reduce over 20,000 tons of carbon dioxide emissions every year. By the end of the term, the system shall be transferred to Zhongbao at

RMB 1. Under the Contracts, Zhongbao will pay the Company a monthly “energy-saving service fee” based on the volume of the electricity and steam generated from the WHPG system in the prior month within the first five days of each month at a pre-agreed price, but no less than the minimum monthly payment of \$238,000 (RMB 1.5 million). Zhongbao agreed to supply Xi’an TCH the nickel-alloy rotary kilns gas, non-salty water and compressed air free of charge and salty water at \$1.00 (RMB 6.3) per ton. Zhongbao also guarantees to continuously supply not less than 6,800 heat hours per year for the WHPG, or the operating term will be extended accordingly. Xi’an TCH outsources its operation and maintenance obligations to a third party for annual payments of \$380,000 (RMB 2.4 million). In addition, Xi’an TCH is responsible for applying the Clean Development Mechanism (“CDM”) and the net proceeds from CDM will be distributed between Zhongbao and Xi’an TCH at 60% and 40%, respectively. As of December 31, 2012, Xi’an TCH had not yet commenced the CDM application process.

In June 2011, the ZhongBao system was sold to and leased back from Cinda Financial Leasing Co., Ltd. (the “Cinda Financial”); the Company engaged a third party guarantee company to serve as guarantor for the loan, which was approved by the Industrial Bank on July 1, 2011.

*Shanxi Datong Coal Group Power Generation Projects*

In February 2011, Xi'an TCH signed a contract with Shanxi Datong Coal Group Steel Co., Ltd (the "Shanxi Datong") to recycle gas and steam from groups of blast-furnaces and converter of Shanxi Datong's metal refining plants to generate power. According to the contract, Xi'an TCH will install two 3MW TRT, one 15MW WGPG and two 1MW steam power generation systems, with a total of 23MW power capacity for an estimated total investment of \$28.57 million (RMB 180 million). The lease term is 30 years. During the lease term, Shanxi Datong will be responsible for operating the projects and pay service fee to Xi'an TCH. The service fee is based on an average of 8,000 electricity-generating hours per year and \$0.05 (RMB 0.33) per kilowatt hour ("kWh") for the first five years from the completion of each power generation station. For each of the leases, at the 6th year, 11th year and 21st year thereafter, the rate will be RMB 0.3 kWh, 0.27 kWh and 0.25 kWh, respectively. After 30 years, the units will be transferred to Shanxi Datong without charge.

On February 28, 2011, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for Shanxi Datong Coal projects of two 3MW TRT and one 15MW WGPG systems described above.

As of December 31, 2012, the Company had paid \$19.27 million for the Shanxi Datong Coal Group Power Generation project and is committed to paying an additional \$10.02 million. The project was previously halted due to a business reorganization of Shanxi Datong and a renegotiation of one of the power stations with Xi'an TCH to amend certain construction plans. The construction of this project was resumed in April 2012 and the Company expects to complete one of the power stations by the middle of fiscal year 2013.

*Shenqiu Yuneng Biomass Power Generation Projects*

On May 25, 2011, Xi'an TCH entered into a Letter of Intent with Shenqiu YuNeng Thermal Power Co., Ltd. (the "Shenqiu") for Xi'an TCH to reconstruct and transform a Thermal Power Generation System owned by Shenqiu into a 75T/H Biomass Power Generation System for \$3.57 million (RMB 22.5 million). The project commenced in June 2011, and was completed in the third quarter of 2011. On September 28, 2011, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement with Shenqiu. Per the Transfer Agreement, Shenqiu sold to Xi'an TCH a set of 12 MW biomass power generation systems, effectuation of such sale occurring after Xi'an TCH converted the system for biomass power generation purposes. As consideration for the biomass power generation system, Xi'an TCH agreed to pay Shenqiu \$10,937,500 (RMB 70 million) in cash in three installments within six months upon the transfer of ownership of the system. By the end of fiscal year 2012, all of the consideration was paid in full. On September 28, 2011, Xi'an TCH and Shenqiu also entered into a Biomass Power Generation Project Lease Agreement (the "Lease Agreement"). Under the Lease Agreement, Xi'an TCH agreed to lease a set of 12MW biomass power generation systems to Shenqiu for \$286,000 (RMB 1,800,000) per month for 11 years. Upon completion of the Lease Agreement, ownership of this system will be transferred from Xi'an TCH to Shenqiu at no cost. Shenqiu provided one month leasing fee as security deposit to Xi'an TCH as well as personal guarantees from its legal representative.

On October 8, 2012, Xi'an TCH entered into a Letter of Intent for Technical Reformation of Shenqiu Project Phase II with Shenqiu for technical reformation to enlarge the capacity of the Shenqiu Project Phase I. After the reformation, the generation capacity of the power plant increased to 24MW. The project commenced in October 25, 2012 and is expected to be completed by the end of the first quarter of 2013. As of this report date, the completion date of this project is on schedule. The total cost of the project is \$10.82 million. During the construction period, Xi'an TCH agreed to stop charging Shenqiu rental fees until the completion of the reformation.

### **Related Party Transactions**

Erdos TCH sold all power generation stations through sales type leases to Erdos Metallurgy Co., Ltd., the non-controlling interest holder. Total sales and interest income for this non-controlling interest was \$0.78 million and \$7.37 million for the year ended December 31, 2012, and \$11.88 million and \$6.94 million for the year ended December 31, 2011, respectively.

## **Critical Accounting Policies and Estimates**

Our management's discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which were prepared in accordance with US GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements as well as the reported net sales and expenses during the reporting periods. On an ongoing basis, we evaluate our estimates and assumptions. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our consolidated financial statements, we believe the following accounting policies are the most critical to aid you in fully understanding and evaluating this management discussion and analysis.

## **Basis of Presentation**

These accompanying consolidated financial statements were prepared in accordance with US GAAP and pursuant to the rules and regulations of the SEC for financial statements.

## **Basis of Consolidation**

The consolidated financial statements include the accounts of CREG and, its subsidiary, Sifang Holdings; Sifang Holdings' wholly owned subsidiaries, Huahong and Shanghai TCH; Shanghai TCH's subsidiaries Xi'an TCH and Huaxin (deregistered in October 2012); and Xi'an TCH's subsidiary, Shengda (deregistered in September 2012) and Erdos TCH, in which 93% of Erdos TCH's investment is from Xi'an TCH. Substantially all of the Company's revenues are derived from the operations of Shanghai TCH and its subsidiaries, which represent substantially all of the Company's consolidated assets and liabilities as of December 31, 2012 and 2011, respectively. All significant inter-company accounts and transactions were eliminated in consolidation.

## **Use of Estimates**



In preparing the consolidated financial statements, management makes estimates and assumptions that affect the reported amounts of assets and liabilities in the balance sheets as well as revenues and expenses during the year reported. Actual results may differ from these estimates.

### **Concentration of Credit Risk**

Cash includes cash on hand and demand deposits in accounts maintained within China. Balances at financial institutions within China are not covered by insurance. The Company has not experienced any losses in such accounts.

Certain other financial instruments, which subject the Company to concentration of credit risk, consist of accounts and other receivables. The Company does not require collateral or other security to support these receivables. The Company conducts periodic reviews of its customers' financial condition and customer payment practices to minimize collection risk on accounts receivable.

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.

## **Revenue Recognition**

### *Sales-type Leasing and Related Revenue Recognition*

The Company constructs and then leases waste energy recycling power generating projects to its customers. The Company usually transfers ownership of the waste energy recycling power generating projects to its customers at the end of each lease. Investment in these projects is recorded as investment in sales-type leases in accordance with Statement of Financial Accounting Standards (“SFAS”) No. 13, “Accounting for Leases” (codified in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 840) and its various amendments and interpretations. The Company manufactures and constructs the waste energy recycling power generating projects and finances its customers for the price of the projects. The sales and cost of sales are recognized at the time of sale or inception of the lease. The investment in sales-type leases consists of the sum of the total minimum lease payments receivable less unearned interest income and estimated executory cost. Unearned interest income is amortized to income over the lease term so as to produce a constant periodic rate of return on the net investment in the lease. While a portion of revenue is recognized at the inception of the lease, the cash flow from the sales-type lease occurs over the course of the lease. Revenue is net of Value Added Tax.

### *Contingent Rental Income*

The Company records the income from actual electricity usage in addition to minimum lease payment of each project as contingent rental income in the period earned. Contingent rent is not part of minimum lease payments.

## **Foreign Currency Translation and Comprehensive Income (Loss)**

The Company’s functional currency is the Renminbi (“RMB”). For financial reporting purposes, RMB were translated into United States dollars (“USD”) as the reporting currency. Assets and liabilities are translated at the exchange rate in effect at the balance sheet date. Revenues and expenses are translated at the average rate of exchange prevailing during the reporting period. Translation adjustments arising from the use of different exchange rates from period to period are included as a component of stockholders’ equity as “Accumulated other comprehensive income”. Gains and losses from foreign currency transactions are included in income. There has been no significant fluctuation in exchange rate for the conversion of RMB to USD after the balance sheet date.

The Company uses SFAS 130 “Reporting Comprehensive Income.” Comprehensive income is comprised of net income and all changes to the statements of stockholders’ equity, except those due to investments by stockholders, changes in

paid-in capital and distributions to stockholders.

### **Recent Accounting Pronouncements**

In July 2012, the FASB issued ASU 2012-02, Intangibles-Goodwill and Other (Topic 350) - Testing Indefinite-Lived Intangible Assets for Impairment. The ASU provides entities with an option to first assess qualitative factors to determine whether events or circumstances indicate that it is more likely than not that the indefinite-lived intangible asset is impaired. If an entity concludes that it is more than 50% likely that an indefinite-lived intangible asset is not impaired, no further analysis is required. However, if an entity concludes otherwise, it would be required to determine the fair value of the indefinite-lived intangible asset to measure the amount of actual impairment, if any, as currently required under US GAAP. The ASU is effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012. The adoption of this pronouncement will not have a material impact on our financial statements.

As of December 31, 2012, there were no other recently issued accounting standards not yet adopted by the Company that would have a material effect on the Company's consolidated financial statements.

**RESULTS OF OPERATIONS****Comparison of Years Ended December 31, 2012 and 2011**

The following table sets forth the results of our operations for the periods indicated as a percentage of net sales:

	2012		2011	
	\$	% of Sales	\$	% of Sales
Sales	\$1,245,805	100	\$31,197,812	100
Sales of systems	-	-	30,106,354	97
Contingent rental income	1,245,805	100	1,091,458	3
Cost of sales	-	-	22,921,755	73
Cost of systems	-	-	22,921,755	73
Gross profit	1,245,805	100	8,276,057	27
Interest income on sales-type lease	18,234,020	1,464	22,104,162	71
Total operating income	19,479,825	1,564	30,380,219	97
Total operating expenses	(5,662,212)	(455)	(4,738,266)	(15)
Income from operations	13,817,613	1109	25,641,953	82
Total non-operating income (expenses), net	(7,672,856)	(616)	989,032	3
Income before income tax	6,144,757	493	26,630,985	85
Income tax expense	2,922,253	235	4,232,945	14
Less: net income (loss) attributable to noncontrolling interest	(184,491)	(15)	948,161	3
Net income attributable to China Recycling Energy Corp	\$3,406,995	273	\$21,449,879	68

**SALES.** Net sales of systems for the year ended December 31, 2012 were \$1.25 million and our net sales for the year ended December 31, 2011 were \$31.19 million, a decrease of \$29.95 million. This decrease was primarily due to no power stations being completed and sold, and the fact that we only received \$1.25 million from contingent rental income during the year ended December 31, 2012. During the year ended December 31, 2011, we had (1) the completion and sale of the 3rd 9MW capacity power station of Erdos Phase II project through sales-type leasing arrangements, (2) the completion and sale of the 12MW Shenqiu biomass power generation system, and (3) \$1.09 million from contingent rental income. Sales-type lease, sales and cost of sales are recorded at the time of lease. In addition to sales revenue, interest income from the sales-type leases is our other major revenue source.

**COST OF SALES.** Cost of sales for the year ended December 31, 2012 was \$0 and our cost of sales for the year ended December 31, 2011 was \$22.92 million, a decrease of \$22.92 million. No projects were completed and sold in 2012. In comparison, during the year ended December 31, 2011, the 3rd 9MW capacity power station of Erdos Phase II project and the 12MW Shenqiu biomass power generation system were completed and sold.

*GROSS PROFIT.* Gross profit was \$1.25 million for the year ended December 31, 2012 compared to \$8.28 million for the year ended December 31, 2011. This decrease was mainly due to no gross profit for systems sold in 2012; while in 2011, we had \$7.18 million gross profit or 24% gross margin for systems sold.

*INTEREST INCOME ON SALES TYPE LEASES.* Interest income on sales-type leases for the year ended December 31, 2012 was \$18.23 million, a \$3.87 million decrease from \$22.10 million for the year ended December 31, 2011. During the year ended December 31, 2012, interest income was derived from 11 systems: one TRT systems, two CHPG systems, two systems with Erdos Phase I project and three systems of Erdos Phase II project, the Pucheng biomass power generation system, Shenqiu biomass power generation system and Zhongbao WHPG system. In comparison, during the year ended December 31, 2011, interest income was derived from 12 systems: two TRT systems, two CHPG systems, one WGPG system, two waste heat power generating systems associated with our Erdos Phase I project and two systems of Erdos Phase II project, the Pucheng biomass power generation system, Shenqiu biomass power generation system and Zhongbao WHPG system, and the 3rd 9MW waste heat power generating system of Erdos Phase II project. Xingtai power generation system reached maturity of the lease term in January, 2012, and the system was transferred to Xingtai.

*OPERATING EXPENSES.* Operating expenses consisted of selling, general and administrative expenses totaling \$5.66 million for the year ended December 31, 2012 compared to \$4.74 million for the year ended December 31, 2011, an increase of \$0.92 million or 19%. The increase was mainly due to \$2.97 million loss resulting from the termination of the Erdos TCH Phase III power generation projects. Our regular G&A expenses decreased by \$2.04 million in 2012 as a result of our efforts relating to operational efficiency and expense control.

*NON-OPERATING INCOME (EXPENSES).* Non-operating expenses consisted of non sales-type lease interest income, interest expense, bank charges and some miscellaneous expenses. For the year ended December 31, 2012, net non-operating expense was \$7.67 million compared to net non-operating income of \$0.99 million for the year ended December 31, 2011. In the year ended December 31, 2012, we had \$9.25 million interest expense on loans and \$1.13 million non-cash income from changes in fair value of BCF of the convertible note from China Cinda, and \$349,300 net subsidy income from Xi'an City Science and Technology Bureau and Xi'an City Finance Bureau under Xi'an Hi-Tech Industry Development Special Project Fund. In the year ended December 31, 2011 we had \$12.57 million interest expense on loans and \$11.77 million non-cash income from changes in the fair value of the conversion feature liability of the convertible note from China Cinda, a \$6.70 million loss on extinguishment of Cinda Notes, and an \$8.25 million gain on settlement of debt from the issuance of the shares to a third party for equipment purchase.

*INCOME TAX EXPENSE.* Income tax expense was \$2.92 million for the year ended December 31, 2012, a decrease of \$1.31 million from \$4.23 million of income tax expense for the year ended December 31, 2011. This decrease was mainly due to a decrease in taxable income. The consolidated effective income tax rate for the year ended December 31, 2012 and 2011 was 47.6% and 15.8%, respectively. The increase in effective income tax rate was due to the valuation allowance on PRC NOL which mainly resulted from losses resulting from the termination of the Erdos TCH Phase III power generation projects. The income tax rate for Shanghai TCH was 25% and 24% for 2012 and 2011, respectively. Xi'an TCH's effective income tax rate for 2012 is 15% from January to July, and 25% from August to December, and for 2011 is 15% as a result of its high tech enterprise status. Xingtai Huaxin's effective income tax rate for 2012 and 2011 is 25%. Huahong, Erdos TCH and Shengda's effective income tax rate for 2012 is 25%.

*NET INCOME.* Our net income for the year ended December 31, 2012 was \$3.41 million compared to \$21.45 million for the year ended December 31, 2011, a decrease of \$18.04 million. This decrease in net income was mainly due to decreased total revenue and interest income, increased operating expenses and increased non-operating expenses as explained above.

## **Liquidity and Capital Resources**

### **Comparison of the years ended December 31, 2012 and 2011**

As of December 31, 2012, the Company had cash and cash equivalents of \$45.00 million, other current assets of \$14.80 million, current liabilities of \$59.98 million, working capital of \$(178,275), and a debt-to-equity ratio of 0.56:1.

The following is a summary of cash provided by or used in each of the indicated types of activities during the year ended December 31, 2012 and 2011:

	2012	2011
Cash provided by (used in):		
Operating Activities	\$42,391,405	\$(17,233,832)
Investing Activities	(2,398,265 )	1,888,938
Financing Activities	(10,067,101)	18,481,843

Net cash provided by operating activities was \$42.39 million during the year ended December 31, 2012, compared to \$17.23 million used in the year ended December 31, 2011. The increase in net cash inflow was mainly from increases in collection on accounts receivable from the sale of the Shenmu system, and collections on payment for sales type leases, as well as cash received from Erdos and general contractor to compensate and return previous payments made in connection with constructing the Erdos TCH Phase III power generating systems due to a termination of the project by Erdos, despite the fact that those inflows were partially offset by decreased net income. During year ended December 31, 2011, the Erdos Phase II project, which commenced construction in 2010, was completed and the Shenqiu project, which commenced in June 2011, was completed, which resulted in cash inflows of \$7.07 million and \$3.46 million, respectively. These items were offset by payments of \$5.60 million for construction related to the Shanxi Datong Coal Group Power Generation Projects and the Erdos Phase III project. The construction was considered an operating activity because it is similar in nature to producing inventory for sale. Cash received from collection of principal on sales type leases was \$8.19 million in the year ended December 31, 2012 compared with \$7.46 million in the year ended December 31, 2011, an increase of \$0.73 million.

Net cash used in investing activities was \$2.40 million for the year ended December 31, 2012, compared to \$1.89 million inflow in the year ended December 31, 2011. The increase of net cash used in investing activities was mainly due to the deposit of \$2.40 million into our bank as restricted cash. In the year ended December 31, 2011, the cash inflow was due to the release of \$1.90 million restricted cash from banks.

Net cash used in financing activities was \$10.07 million for the year ended December 31, 2012 compared to net cash provided by financing activities of \$18.48 million for the year ended December 31, 2011. The cash outflow in the year ended December 31, 2012 included the repayment of a bank loan of \$10.3 million, repayment of a long-term payable of \$1.19 million, and a \$2.94 million repayment to related parties, which was partially offset by the proceeds of a bank loan of \$4.75 million. In the year ended December 31, 2011, we had \$7.58 million in proceeds from convertible notes from China Cinda, \$24.77 million in proceeds from a bank loan and \$6.03 million increase in long term payable, which was offset by a repayment on convertible notes from China Cinda of \$11.55 million, notes payable (bank acceptances) of \$2.32 million, repayment of a bank loan of \$7.07 million and \$0.39 million in prepaid loan fees.

We believe we have sufficient cash to continue our current business through 2013 due to recurring receipts from sales-type leases in place. As of December 31, 2012, we have one TRT system, two CHPG systems, five recycling waste heat power generating systems from the Erdos projects, two BMPG systems and one WHPG system of Zhongbao generating net cash inflow. In addition, we have access to bank loans in case of an immediate need for working capital. We believe we have sufficient cash resources to cover our anticipated capital expenditures in 2013.

On May 25, 2011, the Company filed a Registration Statement on Form S-3, as amended, with the SEC to register an indeterminate number of shares of common stock with an aggregate initial offering price not to exceed \$200,000,000. The registration statement went effective on November 10, 2011; however, the Company has not yet determined the size or timing of any potential future offering. We intend to use the net proceeds we receive from the sale of shares of our common stock for general corporate purposes, which may include, among other things, repayment of debt, repurchases of common stock, capital expenditures, the financing of possible acquisitions or business expansions, increasing our working capital and/or the financing of ongoing operating expenses and overhead.

We do not believe inflation had a significant negative impact on our results of operations in 2012 and 2013.

### **Transfers of Cash To and From our Subsidiaries**

The Company is able to transfer cash (U.S. dollars) to its PRC subsidiaries by: (i) investment – increasing the Company's registered capital in a PRC subsidiary or (ii) a shareholder loan. Other than as follows, to date, its PRC subsidiaries have not transferred any earnings / cash to the Company. The Company's business is primarily conducted through its subsidiaries. The Company is a holding company and its material assets consist solely of the ownership interests held in its PRC subsidiaries. The Company relies on dividends paid by its subsidiaries for its working capital / cash needs, including: (i) the funds necessary to pay dividends/cash distributions to its shareholders, (ii) to service any debt obligations and (iii) to pay operating expenses. As a result of PRC laws and regulations (noted below) that require annual appropriations of 10% of after-tax income to be set aside in a general reserve fund prior to payment of dividends, the Company's PRC subsidiaries are restricted to that extent, as well as the others noted below, in their ability to transfer a portion of their net assets to the Company as a dividend.



PRC has currency and capital transfer regulations that require us to comply with regulations for the movement of capital.

With respect to transferring cash from the Company to its subsidiaries, increasing the Company's registered capital in a PRC subsidiary requires the pre-approval of the local commerce department, and a shareholder loan requires a filing with the state administration of foreign exchange or its local bureau.

With respect to the payment of dividends:

PRC regulations currently permit the payment of dividends only out of accumulated profits, as determined in  
1. accordance with accounting standards and PRC regulations (an in-depth description of the PRC regulations is set forth below);

our PRC subsidiaries are required to set aside, at a minimum, 10% of their net income after taxes, based on PRC  
2. accounting standards, each year as statutory surplus reserves until the cumulative amount of such reserves reaches 50% of their registered capital;

3. these reserves may not be distributed as cash dividends;

our PRC subsidiaries may also allocate a portion of their after-tax profits to fund their staff welfare and bonus funds; except in the event of a liquidation, these funds may also not be distributed to shareholders; as disclosed in Note 18, the Company does not participate in a Common Welfare Fund; and

the incurrence of debt, specifically the instruments governing such debt, may restrict a subsidiary's ability to pay shareholder dividends or make other cash distributions; the Company is subject to covenants and consent requirements (presently, the Company has all consents necessary).

If, for the reasons noted above, our subsidiaries are unable to pay shareholder dividends and / or make other cash payments to the Company when needed, the Company's ability to conduct operations, make investments and/or acquisitions, or undertake other activities requiring working capital may be materially and adversely affected. However, our operations and business, including investment and/or acquisitions by our subsidiaries within China, will not be affected as long as the capital is not transferred in or out of the PRC.

#### *PRC Regulations*

In accordance with PRC regulations on Enterprises with Foreign Investment and their articles of association, a foreign-invested enterprise ("FIE") established in the PRC is required to provide statutory reserves, which are appropriated from net profit, as reported in the FIE's PRC statutory accounts. FIEs are required to allocate at least 10% of its annual after-tax profit to the surplus reserve until such reserve has reached 50% of its respective registered capital (based on the FIE's PRC statutory accounts). The aforementioned reserves may only be used for specific purposes and may not be distributed as cash dividends. In the event that the FIE's statutory accounts are insufficient to satisfy this requirement, the FIE's shareholders are required to contribute capital required to satisfy the registered capital requirement. Until such contribution of capital is satisfied, the FIE is not allowed to repatriate profits to its shareholders, unless approved by the State Administration of Foreign Exchange. After satisfaction of this requirement, the remaining funds may be appropriated at the discretion of the FIE's board of directors. Our subsidiary, Shanghai TCH, qualifies as an FIE and is therefore subject to the above-mandated regulations on distributable profits.

Additionally, in accordance with PRC Company Law, a domestic enterprise is required to maintain a surplus reserve of at least 10% of its annual after-tax profit until such reserve has reached 50% of its respective registered capital based on the enterprise's PRC statutory accounts. A domestic enterprise is also required to provide discretionary surplus reserve, at the discretion of the board of directors, from the profits determined in accordance with the enterprise's PRC statutory accounts. The aforementioned reserves can only be used for specific purposes and may not be distributed as cash dividends. Xi'an TCH, Xingtai Huaxin (dissolved in 2012), Huahong, Pingshan Shengda (dissolved in 2012) and Erdos TCH were established as domestic enterprises; therefore, each is subject to the above-mentioned restrictions on distributable profits.

As a result of PRC laws and regulations that require annual appropriations of 10% of after-tax income to be set aside, prior to payment of dividends, in a general reserve fund, the Company's PRC subsidiaries are restricted in their ability to transfer a portion of their net assets to the Company as a dividend or otherwise.

*Chart of the Company's Statutory Reserve*

Pursuant to PRC corporate law, effective on January 1, 2006, the Company is now required to maintain a statutory reserve by appropriating from its after-tax profit before declaration or payment of dividends. The statutory reserve represents restricted retained earnings. Our restricted and unrestricted retained earnings under US GAAP are set forth below:

	As at December 31,	
	2012	2011
Unrestricted retained earnings	\$37,107,107	\$34,414,271
Restricted retained earnings (surplus reserve fund)	7,766,002	7,051,843
Retained earnings (including surplus reserve fund)	\$44,873,109	\$41,466,114

## **Off-Balance Sheet Arrangements**

We have not entered into any financial guarantees or other commitments to guarantee the payment obligations of any third parties. We have not entered into any derivative contracts that are indexed to our shares and classified as stockholders' equity or that are not reflected in our consolidated financial statements. Furthermore, we do not have any retained or contingent interest in assets transferred to an unconsolidated entity that serves as credit, liquidity or market risk support to such entity. We do not have any variable interest in any unconsolidated entity that provides financing, liquidity, market risk or credit support to us or engages in leasing, hedging or research and development services with us.

## **Contractual Obligations**

### *Convertible Notes Payable – Carlyle*

On April 29, 2009, we issued an 8% Secured Convertible Promissory Note of \$3 million (the "Note") to Carlyle Asia Growth Partners III, L.P. ("CAGP") and CAGP III Co-Investment, L.P., (CAGP III and together with CAGP, the "Carlyle") with an original maturity date of April 29, 2012. The note holder had the right to convert all or any part of the outstanding principal amount of this note, together with interest, if any, into shares of our common stock, at any time on or after March 10, 2010 and prior to the maturity date (or such later date on which this note is paid in full), at a conversion price per share of common stock equal to \$0.80. On May 11, 2012, Carlyle, Great Essential Investment, Ltd., ("Great Essential") and the Company entered into a Convertible Promissory Note Transfer Agreement (the "Agreement") dated April 28, 2012, in which Great Essential agreed to pay \$3 million to Carlyle for its entire right, title and interest in the Note. All interest due and payable on the Note as of April 29, 2012 was paid by the Company to Carlyle. The transfer of the Note took effect after the payment of the \$3 million transfer price and interest accrued after April 29, 2012 was paid in full by the Great Essential. On July 24, 2012, Carlyle, Great Essential and the Company entered into a First Amendment to Convertible Promissory Note Transfer Agreement, effective, June 30, 2012, in which all parties agreed to amend and extend the termination date of the Agreement from June 30, 2012 to August 30, 2012, and extended the maturity date of the 8% Secured Promissory Note, in the principal amount of \$3,000,000, from July 28, 2012 to September 26, 2012. In September 2012, Great Essential paid Carlyle in full for the note, including accrued interest and, after the note was transferred to Great Essential, Great Essential converted the note into 3,750,000 shares of the Company's common stock at \$0.80 per share in accordance with the terms of the transfer agreement.

### *Loan Payable – Collective Capital Trust Plan*

On December 3, 2009, the Company and Beijing International Trust Co., Ltd. (“Beijing Trust”) formed a Low Carbon Fortune-Energy Recycling No. 1 Collective Capital Trust Plan (“Plan”) pursuant to the Capital Trust Loan Agreement (the “Agreement”) entered into by Erdos TCH Energy Saving Development Co., Ltd and Beijing Trust dated November 19, 2009. All amounts raised under the Plan were loaned to Erdos TCH in connection with its waste heat power generation projects Phase II and Phase III construction and operation.

Under the Agreement, the annual base interest rate was 9.94% for A1 preferred trust fund units with a term of two years, 11% for A2 preferred trust fund units with a term of three years, 12.05% for A3 preferred trust fund units and 8.35% for the category B secondary trust fund units, each with a term of four years. Erdos TCH provided a lien on its equipment, assets and accounts receivable to guarantee the loans under the Agreement. Xi’an TCH and Mr. Guohua Ku, the CEO, the Chairman of the Company’s Board of Directors and a major shareholder, provided unconditional and irrevocable joint liability guarantees to Beijing Trust for Erdos TCH’s performance under the Agreement. Erdos (the minority shareholder and customer of Erdos TCH) provided a commitment letter on minimum power purchase from Erdos TCH.

The Trust Plan raised \$44.1 million (RMB 300,000,000) through a series of capital raises in 2009 and 2010, of which, 13,750,000 B1 units (\$2.0 million) were purchased by the management of Erdos TCH; 1,600,000 (\$235,600) A1 units and 46,250,000 B2 units (\$7.4 million) were purchased by Xi'an TCH, the amount was considered as an investment by Xi'an TCH into Erdos TCH and, accordingly, was eliminated in the consolidated financial statements. Portion of category A units (RMB 35,250,000) were due and paid in full on December 3, 2011, of which, RMB 1,600,000 was purchased by Xi'an TCH. As of December 31, 2012, the entire outstanding trust loan will be due within one year. The net loan payable under this trust plan was \$31.4 million (RMB 197,500,000) and \$34.6 million (RMB 218,500,000) as of December 31, 2012 and 2011. During fiscal year 2012, the Company repaid \$3.33 million (RMB 21,000,000) for the Beijing Trust.

In addition to the above, under the Loan Agreement, Erdos TCH must pay a management incentive benefit to Beijing Trust upon maturity of the category A3 and category B trust units in December 2013 if the ratio of Erdos TCH's profit to its registered capital exceeds a base amount. If this criterion is met, the amount of the management incentive benefit is calculated based on a formula tied to Erdos TCH's net profit and the average registered capital for the 2012 fiscal year. Under this formula the management incentive benefit could range between 0% and 100% of the net profit of Erdos TCH in the 2012 fiscal year.

The management incentive benefit was structured to provide an incentive to management to make the joint venture profitable. Under the Plan, Beijing Trust will distribute the entire management incentive benefit it receives to the holders of the category B trust units. As previously disclosed, the holders of the category B trust units are the management of Erdos TCH and Xi'an TCH. Category B trust units receive a lower base interest rate than the category A trust units but the economic return to the holders of category B trust units will be enhanced by any management incentive benefit.

Erdos TCH also will share the benefits from Clean Development Mechanism ("CDM") under the Kyoto Protocol equally with Beijing Trust during the term of the loan. Any benefit received from CDM will be paid to Erdos Metallurgy first. Under the agreement with Xi'an TCH, Erdos Metallurgy agrees to deliver to Xi'an TCH 50% of the benefit Erdos Metallurgy receives. Xi'an TCH agrees to share 50% of the benefit it receives from Erdos Metallurgy with Erdos TCH. Under the Capital Trust Loan Agreement between Erdos TCH and Beijing Trust, Erdos TCH agrees that 50% of any benefit it receives will be delivered to Beijing Trust. Pursuant to the Plan, Beijing Trust will distribute 70% of the CDM benefit it receives to the holders of the category B trust units. The receipt of any CDM benefit is subject to a process of evaluation and certification of the project by the CDM Executive Board and is under the guidance of the Conference of the Parties of the United Nations Framework Convention on Climate Change. The first stages of the certification process have been completed successfully.

#### *Bank Long Term Loans*

Xi'an TCH entered an agreement with Industrial Bank Co., Ltd., Xi'an Branch (the "Lender") for a loan designed for energy saving and emission reduction projects, whereby the Lender agreed to loan \$4.74 million (RMB 30,000,000) to Xi'an TCH for three years from April 6, 2010 to April 6, 2013. The proceeds of the loan are required to be used in payment for equipment for Xi'an TCH's energy saving and emission reduction projects. The loan has a floating interest rate that resets at the beginning of each quarter at 110% of the national base interest rate for the same term and same level loan (then 6.77%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning six months after the date of the release of the funds, to make minimum quarterly principal payments of \$474,000 (RMB 3,000,000). The loan agreement contains standard representations, warranties and covenants, and is guaranteed by Xi'an TCH, Shaanxi Shengwei Construction Material Group and Mr. Guohua Ku. As of December 31, 2012, this loan had an outstanding balance of \$0.48 million which is to be repaid within one year and, as such, is classified as a current liability.

Xi'an TCH entered another loan agreement with the same Industrial Bank for energy saving and emission reduction projects, whereby the Lender agreed to loan \$4.74 million (RMB 30,000,000) to Xi'an TCH for three years to March 30, 2014. The proceeds of the loan are required to be used in payment for construction and equipment purchase for Xi'an TCH's energy saving and emission reduction projects. The loan agreement has a floating interest rate that resets at the beginning of each quarter at 115% of the national base interest rate for the same term and same level loan (then 7.07%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning six months after the date of the release of the funds, to make minimum quarterly principal payments of \$474,000 (RMB 3,000,000). The loan agreement contains standard representations, warranties and covenants, and the loan is guaranteed by Xi'an TCH, Mr. Guohua Ku and Ms. Chaoying Zhang. As of December 31, 2012, this loan had an outstanding balance of \$2.86 million, of which, \$1.91 million is to be repaid within one year and is classified as current liability and \$0.95 million is to be repaid after one year and is classified as a noncurrent liability.

On November 8, 2011, Xi'an TCH entered the third loan agreement with the same Industrial Bank, for its energy saving and emission reduction projects, whereby the Lender agreed to loan \$20.55 million (RMB 130,000,000) to Xi'an TCH for a term of four years, ending on November 27, 2015. The proceeds of the loan are required to be used to make payments on construction and equipment purchases relating to Xi'an TCH's energy saving and emission reduction projects. The loan agreement has a floating interest rate that resets at the beginning of each quarter at 115% of the national base interest rate for the same term and same level loan (then 7.35%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning nine months after the date of the release of the funds, to make minimum quarterly principal payments of \$1.58 million (RMB 10,000,000). For the first nine months, the loan was in a grace period and there were no repayment requirements. The loan is guaranteed by the accounts receivable of Xi'an TCH, Pucheng and Shenqiu BMPG systems and Mr. Guohua Ku, individually. As of December 31, 2012, this loan had an outstanding balance of \$17.50 million, of which, \$6.36 million is to be repaid within one year and is classified as a current liability, and \$11.14 million is to be repaid after one year and is classified as noncurrent liability.

*Bank Loan – Bank of Xi'an*

During the first quarter of 2012, Xi'an TCH entered into an agreement with Bank of Xi'an, whereby the Lender agreed to loan \$4,743,158 (RMB 30,000,000) to Xi'an TCH for one year with maturity on March 1, 2013. The proceeds of the loan are required to be used in payment for power generation equipment purchases. The monthly interest rate of the Loan is 0.60133%. Under the loan, Xi'an TCH is required to make monthly interest payments and the principal will be repaid at maturity. The Company repaid all principle at maturity. The loan was guaranteed by a third party guarantee company and Mr. Guohua Ku. The Company paid a third party \$119,322 (RMB 750,000) as a re-guarantee service fee.

*Convertible note agreement with China Cinda and its affiliate*

On August 18, 2010, the Company and its wholly-owned subsidiaries Sifang, Shanghai TCH and Xi'an TCH entered into a Notes Purchase Agreement (the "Note Agreement") with China Cinda (HK) Asset Management Co., Ltd, a company organized under the laws of the Hong Kong Special Administrative Region of China (the "Cinda"). Under the terms of the Note Agreement, the Company issued to Cinda two tranches of convertible notes (the "Notes"), each having a principal amount equal to the US Dollar equivalent of \$7.8 million (RMB 50 million). Also on August 18, 2010, Xi'an TCH and China Jingu International Trust Co. Ltd. ("Jingu"), an affiliate of Cinda, entered into a Capital Trust Loan Agreement (the "Trust Loan Agreement"), in which Jingu raised \$15.5 million (RMB100 million) under a Jingu CREG Recycling Economy No. 1 Collective Fund Trust Plan (the "Trust Plan") and lend such amount under the Trust Plan to Xi'an TCH (the "Loans"). If the Loans under the Trust Loan Agreement do not occur, then under the Note Agreement the principal amount of the Notes to be issued in each tranche will be the US dollar equivalent of \$15.5 million (RMB 100 million). All proceeds from the Notes and the Loans will be used to complete Phases IV and V of the Erdos TCH Energy Saving Development Co., Ltd. (the "Erdos TCH") project, a joint venture between Xi'an TCH and Erdos Metallurgy Co., Ltd. to recycle waste heat from Erdos Metallurgy's refining plants to generate power and steam and sell them back to Erdos Metallurgy, as well as other working capital needs.



The term of the Loans with Jingu is for three years from the date of the first draw. The interest rate for the Loans is the People's Bank of China's ("PBOC") three year loan base interest rate plus 2%. If the Loans are not exchanged for shares of the Common Stock of the Company as described below prior to maturity, Xi'an TCH will pay the difference between the interest rate described above and 18% on the outstanding amount. Under the Trust Loan Agreement and separate agreements entered by Jingu, Erdos TCH, Shanghai TCH, Xi'an TCH and Mr. Guohua Ku on August 18, 2010, Erdos TCH shall pledge the accounts receivable, equipment and assets of its Phases IV and V projects to Jingu as a guarantee to the Loans, Xi'an TCH shall pledge its 80% equity in Erdos TCH to Jingu as a guarantee to the Loans, Shanghai TCH shall provide a joint liability guarantee to Jingu for the Loans, and Mr. Guohua Ku shall provide his personal joint liability to Jingu for the Loans.

Under the Note Agreement with Cinda, the Notes were issued on or before August 18, 2011. The Notes have a three year maturity date from the date of the issuance of the first tranche. The exchange rate between RMB and US Dollar for each issue of Notes is the middle rate published by the PBOC for the second business day prior to each issuance. Each Note bears interest at a rate equal to that of PBOC base interest rate for the relevant interest period (the period commencing on and including January 1 of each year and ending on and including December 31 of such year) plus two percent (2%). If Cinda does not convert or fully convert the Notes to shares prior to maturity, the Company will pay the difference between the interest rate described above and 18% on the outstanding amount.

As collateral for the Notes, Mr. Guohua Ku, the Chairman, CEO and a major shareholder of the Company, entered into a Share Pledge Agreement with Cinda, on August 18, 2010, to pledge 4,500,000 shares of the Company's common stock held by him to secure the first Note. The Agreement also calls for an additional 4,500,000 shares of the Company's common stock held by Mr. Ku to secure the second Note before its issuance. On December 30, 2010, the Company received \$7,533,391 (RMB 50,000,000) from the first tranche of the Jingu Loans. On January 30, 2011, the Company received another \$7,533,391 (RMB 50,000,000) from the first tranche convertible Note of Cinda.

On December 9, 2011, the Company, Cinda and Mr. Guohua Ku, the Chairman, CEO and a major shareholder of the Company entered into a Supplemental Agreement (the "Supplemental Agreement"). Under the terms of the Supplemental Agreement, the Company and Cinda terminated their respective obligations to sell and purchase the second tranche of convertible note under the Note Agreement which has a principal amount equal to the US Dollar equivalent of RMB 50 million. The Company and Cinda also agreed that the Company will redeem the outstanding convertible notes at the amount equivalent to RMB 25 million each on December 30, 2011 and November 30, 2012, respectively, plus accrued interest at 18% (the "Redemption Interest Rate") up to the applicable Redemption Date, minus any interest already accrued and paid (together with the Redemption Principal Amount, the "Redemption Price"). For any default in payment of the Redemption Price, the interest rate on the Redemption Principal Amount will be the Redemption Interest Rate plus an additional 5% due on demand. The interest on the Redemption Principal Amount due on November 30, 2012 (the "*Second Redemption Principal Amount*") accrued at 18%. Half of the amount owed was paid by the Company on June 20, 2012 and the remaining half was due on November 30, 2012; however, upon request from Cinda, the November 30, 2012 date was extended to a future date. Xi'an TCH redeemed \$3.97 million (RMB 25 million) and paid interest of \$1.13 million (RMB 7.14 million) on December 30, 2011. The repayment of the Cinda loan for the remaining \$3.97 million and unpaid interest of \$383,939 was, upon request from Cinda and per an oral agreement, extended from November 30, 2012 to a future date.

In connection with the Supplementary Agreement, the Company, Xi'an TCH, Mr. Ku, Cinda and Kent International Industrial (Shenzhen) Limited ("Kent International"), an affiliate of Cinda also entered into an Agreement on Overseas' Financial Payment on December 9, 2011, pursuant to which Xi'an TCH will make the two RMB 25 million (\$3.97 million) payments to Kent International before December 31, 2011 and November 30, 2012 respectively if the Company cannot acquire equivalent U.S. Dollar currency to pay back the note to Cinda after its best efforts. If the Company is able to acquire U.S. Dollar currency to repay the Cinda note within one year of their due dates under Supplementary Agreement, it shall wire the U.S. Dollar payment to Cinda and Kent International shall return the equivalent RMB to Xi'an TCH at the exchange rate of the middle rate published by the People's Bank of China on the date when Cinda receives such dollar payment. Shanghai TCH and Mr. Ku will provide joint liability guarantees to Kent International for payment obligations of the Company and Xi'an TCH. Shanghai TCH and Mr. Ku also entered

into Guarantee Agreements with Kent International, respectively.

On December 9, 2011, Mr. Ku executed a Certificate for additional collateral to pledge an additional 1.5 million shares of the common stock of the Company that he owns as collateral to Cinda to secure the unpaid note. In addition, on December 9, 2011, Xi'an TCH and China Jingu International Trust Co. Ltd. ("Jingu"), also entered into a Supplemental Agreement (the "Jingu Agreement") to the Capital Trust Loan Agreement. Under the terms of the Jingu Agreement, Xi'an TCH repaid the entire outstanding RMB 50 million loan principal amount plus interests at 18% and related fees to Jingu by December 16, 2011.

*Financial Leasing*

*Financing Agreement- - Sale Lease-back transaction*

On June 28, 2011, Xi'an TCH entered into a Financing Agreement with Cinda Financial Leasing Co., Ltd. (the "Cinda Financial"), an affiliate of China Cinda (HK) Asset Management Co., Ltd. (the "Cinda HK").

Under the Agreement, Xi'an TCH transferred its ownership of a set of 7MW steam turbine waste heat power generation systems (the "WHPG system currently used by Zhongbao") and four furnaces and ancillary apparatus (the "Assets") to Cinda Financial for \$6.72 million (RMB 42.50 million), and Cinda Financial, in turn, leased the Assets to Xi'an TCH for five years with an overall leasing fee of \$8.15 million (RMB 51.54 million), which is based upon the transfer cost and the benchmark interest rate for a five-year loan made by the People's Bank of China ("PBOC") (then 6.65%) plus 15% of that rate (which was 7.6475%). The interest rate will increase if the PBOC five-year benchmark interest rate increases but will remain the same if the benchmark rate decreases in the future. Xi'an TCH shall make pro rata quarterly payments to Cinda Financial for the leasing fees. Upon the completion of the leasing term, and the full payment of all leasing fees and other fees, Xi'an TCH can pay \$672 (RMB 4,250) to acquire ownership of the Assets. The quarterly minimum payment is \$410,283 (RMB 2,594,998). In addition to the leasing fees, Xi'an TCH prepaid a one-time non-refundable leasing service charge of \$401,265 (RMB 2,550,000), which was amortized over five years, and a refundable security deposit of \$334,388 (RMB 2,125,000) to Cinda Financial. As of December 31, 2012, the Company had made repayments of \$2,476,828 to Cinda Financial.

## Commitments

### *Shanxi Datong Coal Group Power Generation Projects*

In February 2011, Xi'an TCH signed a contract with Shanxi Datong Coal Group Steel Co., Ltd (the "Shanxi Datong") to recycle gas and steam from groups of blast-furnaces and converter of Shanxi Datong's metal refining plants to generate power. According to the contract, Xi'an TCH will install two 3MW TRT, one 15MW WGPG and two 1MW steam power generation systems, with a total of 23MW power capacity for an estimated total investment of \$27.45 million (RMB 180 million). The lease term is 30 years. During the lease, Shanxi Datong will be responsible for operating the projects and pay service fee to Xi'an TCH. The service fee is based on an average of 8,000 electricity-generating hours per year and \$0.05 (RMB 0.33) per kilowatt hour ("kWh") for the first five years from the completion of each power generation station. For each of the leases, at the 6th year, 11th year and 21st year thereafter, the rate will be RMB 0.3 kWh, 0.27 kWh and 0.25 kWh, respectively. After 30 years, the units will be transferred to Shanxi Datong without any charge.

On February 28, 2011, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for the Shanxi Datong Coal projects of two 3MW TRT systems and one 15 MW WGPG systems as described above. The project was scheduled to be completed 12 months after construction commencement.

As of December 31, 2012, the Company had paid \$19.27 million for the Shanxi Datong Coal Group Power Generation project. The Company is committed to pay an additional \$10.02 million for the Shanxi Datong Coal Group Power Generation project. This project was previously halted due to a business reorganization of Shanxi Datong and a renegotiation of the power stations with Xi'an TCH to amend certain construction plans. The construction was resumed in April 2012 and the Company expects to complete one of the power stations by the middle of fiscal year 2013.

*Shenqiu Project Phase II*

In October 2012, Xi'an TCH signed a contract with Shenqiu to reform Shenqiu power generation station to enlarge the capacity of Shenqiu Project Phase I to 24 MW. The project commenced in October 25, 2012 and is expected to be completed by the end of the first quarter of 2013. As of the filing date of this annual report, the project completion date is on schedule. During the construction period, Xi'an TCH stopped charging Shenqiu with rental fees until completion of the reformation. After the completion, Shenqiu will rent the station and pay a monthly rent of \$238,644 (RMB 1,500,000) for 9 and half years (114 months).

On October 15, 2012, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for Shenqiu Project Phase II described above. The total cost of the project is \$10.82 million (RMB 68,000,000). As of December 31, 2012, the Company had paid \$3.72 million to Xi'an Huaxin Energy Tech Co., Ltd. The Company is committed to pay an additional \$7.10 million for Shenqiu Project Phase II.

#### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

#### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders of

China Recycling Energy Corporation

We have audited the accompanying consolidated balance sheets of China Recycling Energy Corporation and Subsidiaries (the "Company" or "CREG") as of December 31, 2012 and 2011 and the related consolidated statements of income and other comprehensive income (loss), shareholders' equity, and cash flows for the years ended December 31, 2012 and 2011. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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. The Company is not required to have, nor were we engaged to perform, an audit of internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, 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. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of China Recycling Energy Corporation and Subsidiaries as of December 31, 2012 and 2011 and the consolidated results of their operations and their consolidated cash flows for the years ended December 31, 2012 and 2011, in conformity with U.S. generally accepted accounting principles.

/s/ Goldman Kurland and Mohidin, LLP  
Encino, California  
March 19, 2013

**CHINA RECYCLING ENERGY CORPORATION AND SUBSIDIARIES****CONSOLIDATED BALANCE SHEETS****AS OF DECEMBER, 31, 2012 AND 2011**

	2012	2011
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash & equivalents	\$45,004,304	\$14,949,253
Restricted cash	2,725,002	317,415
Notes receivable	-	82,528
Accounts receivable	81,819	19,113,812
Current portion of investment in sales type leases, net	10,389,028	8,725,345
Interest receivable on sales type leases	912,467	2,423,184
Prepaid expenses	49,581	145,615
Other receivables	121,109	530,283
Advance to related party	440,987	-
Prepaid loan fees - current	81,139	80,941
Total current assets	59,805,436	46,368,376
<b>NON-CURRENT ASSETS</b>		
Prepaid interest on trust loans	816,164	814,169
Prepaid loan fees - noncurrent	202,848	283,293
Investment in sales type leases, net	118,021,435	127,576,695
Long term deposit	388,508	387,559
Property and equipment, net	68,305	116,815
Construction in progress	22,993,905	32,466,242
Total non-current assets	142,491,165	161,644,773
<b>TOTAL ASSETS</b>	<b>\$202,296,601</b>	<b>\$208,013,149</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	\$239,722	\$3,907,854
Notes payable - bank acceptances	3,659,216	634,830
Taxes payable	1,372,535	2,943,034
Accrued liabilities and other payables	1,534,829	1,279,558
Advance from related parties	-	2,981,977
Deferred tax liability	2,471,925	1,624,665
Accrued interest on convertible notes - current	383,929	168,000
Bank loans payable - current	13,523,188	6,983,129



Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

Trust loans payable - current	31,421,526	3,174,150
Interest payable on trust loans	317,962	345,311
Convertible notes, net of discount due to beneficial conversion feature	3,766,694	4,626,645
Conversion feature liability on convertible notes	-	1,127,401
Current portion of long term payable	1,292,185	1,183,516
<b>Total current liabilities</b>	<b>59,983,711</b>	<b>30,980,070</b>
<b>NONCURRENT LIABILITIES</b>		
Deferred tax liability, net	6,565,618	6,388,537
Refundable deposit from customers for systems leasing	588,656	587,218
Long term payable	3,711,658	4,999,718
Bank loans payable	12,091,321	20,790,681
Trust loans payable	-	31,503,436
<b>Total noncurrent liabilities</b>	<b>22,957,253</b>	<b>64,269,590</b>
<b>Total liabilities</b>	<b>82,940,964</b>	<b>95,249,660</b>
<b>CONTINGENCIES AND COMMITMENTS</b>	<b>-</b>	<b>-</b>
<b>STOCKHOLDERS' EQUITY</b>		
Common stock, \$0.001 par value; 100,000,000 shares authorized, 50,224,350 and 46,474,350 shares issued and outstanding as of December 31, 2012 and 2011 respectively	50,225	46,475
Additional paid in capital	58,501,642	55,416,140
Statutory reserve	7,766,002	7,051,843
Accumulated other comprehensive income	11,554,225	11,284,190
Retained earnings	37,107,107	34,414,271
<b>Total Company stockholders' equity</b>	<b>114,979,201</b>	<b>108,212,919</b>
Noncontrolling interest	4,376,436	4,550,570
<b>Total equity</b>	<b>119,355,637</b>	<b>112,763,489</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$202,296,601</b>	<b>\$208,013,149</b>

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

**CHINA RECYCLING ENERGY CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME (LOSS)**

	YEARS ENDED DECEMBER 31,	
	2012	2011
Revenue		
Sales of systems	\$ -	\$ 30,106,354
Contingent rental income	1,245,805	1,091,458
Total revenue	1,245,805	31,197,812
Cost of sales		
Cost of systems	-	22,921,755
Total cost of sales	-	22,921,755
Gross profit	1,245,805	8,276,057
Interest income on sales-type leases	18,234,020	22,104,162
Total operating income	19,479,825	30,380,219
Operating expenses		
General and administrative	2,693,248	4,738,266
Loss on project termination	2,968,964	-
Total operating expenses	5,662,212	4,738,266
Income from operations	13,817,613	25,641,953
Non-operating income (expenses)		
Interest income	199,301	110,843
Interest expense	(9,246,975)	(12,572,025)
Changes in fair value of conversion feature liability	1,127,400	11,772,065
Loss on extinguishment of Cinda notes	-	(6,699,949)
Gain on settlement of debt through share issuance	-	8,251,060
Other income, net	253,178	133,347
Financial expenses	(5,760)	(6,309)
Total non-operating income (expenses), net	(7,672,856)	989,032
Income before income tax	6,144,757	26,630,985
Income tax expense	2,922,253	4,232,945
Income before noncontrolling interest	3,222,504	22,398,040

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

Less: Income (loss) attributable to noncontrolling interest	(184,491 )	948,161
Net income attributable to China Recycling Energy Corp	3,406,995	21,449,879
Other comprehensive items		
Foreign currency translation gain attributable to China Recycling Energy Corp	270,035	5,200,350
Foreign currency translation gain attributable to noncontrolling interest	10,357	197,649
Comprehensive income attributable to China Recycling Energy Corp	\$ 3,677,030	\$ 26,650,229
Comprehensive income (loss) attributable to noncontrolling interest	\$ (174,134 )	\$ 1,145,810
Basic weighted average shares outstanding	47,560,416	42,454,304
Diluted weighted average shares outstanding *	51,037,255	56,055,390
Basic earnings per share	\$ 0.07	\$ 0.51
Diluted earnings per share *	\$ 0.07	\$ 0.39

\* Interest expense accrued on convertible notes is added back to net income for the computation of diluted EPS.

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

**CHINA RECYCLING ENERGY CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY****YEARS ENDED DECEMBER 31, 2012 AND 2011**

	Common stock		Paid in capital	Statutory reserves	Accumulated comprehensive income	Retained earnings	Total	Noncontrolling interest
	Shares	Amount						
Balance at January 1, 2011	39,198,982	\$39,200	\$44,666,824	\$5,203,605	\$6,083,840	\$14,812,630	\$70,806,099	\$3,404,760
Shares issued to settle debt	2,941,176	2,941	3,526,470	-	-	-	3,529,411	-
Conversion of convertible note	4,334,192	4,334	5,767,733	-	-	-	5,772,067	-
Compensation related to stock options and warrants	-	-	1,455,113	-	-	-	1,455,113	-
Net income for year	-	-	-	-	-	21,449,879	21,449,879	948,161
Transfer to statutory reserves	-	-	-	1,848,238	-	(1,848,238)	-	-
Foreign currency translation gain	-	-	-	-	5,200,350	-	5,200,350	197,649
Balance at December 31, 2011	46,474,350	46,475	55,416,140	7,051,843	11,284,190	34,414,271	108,212,919	4,550,570
Conversion of convertible note	3,750,000	3,750	2,996,250	-	-	-	3,000,000	-

Compensation related to stock options and warrants	-	-	89,252	-	-	-	89,252	-
Net income for year	-	-	-	-	-	3,406,995	3,406,995	(184,491 )
Transfer to statutory reserves	-	-	-	714,159	-	(714,159 )	-	-
Foreign currency translation gain	-	-	-	-	270,035	-	270,035	10,357
Balance at December 31, 2012	50,224,350	\$50,225	\$58,501,642	\$7,766,002	\$11,554,225	\$37,107,107	\$114,979,201	\$4,376,436

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

**CHINA RECYCLING ENERGY CORPORATION AND SUBSIDIARIES****CONSOLIDATED STATEMENTS OF CASH FLOWS**

	YEARS ENDED DECEMBER 31,	
	2012	2011
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Income including noncontrolling interest	\$ 3,222,504	\$ 22,398,040
Adjustments to reconcile income including noncontrolling interest to net cash provided by (used in) operating activities:		
Changes in sales type leases receivables	-	(30,106,354 )
Loss on project termination	2,968,964	-
Depreciation and amortization	50,339	57,767
Amortization of prepaid loan fees	80,792	39,481
Gain on settlement of debt	-	(8,251,090 )
Amortization of discount related to beneficial conversion feature of convertible note	2,140,050	12,116,481
Interest expense from changes in fair value of conversion feature liability	(1,127,400 )	(11,772,065 )
Stock options and warrants expenses	89,252	1,455,113
Changes in deferred tax	1,000,411	6,352
(Increase) decrease in assets and liabilities:		
Interest receivable on sales type lease	1,510,166	(1,794,931 )
Collection of principal on sales type leases	8,190,346	7,457,187
Prepaid expenses	95,979	(107,937 )
Accounts receivable	18,997,219	(579,047 )
Other receivables	412,918	(114,331 )
Construction in progress	6,542,060	(5,650,550 )
Deposit	-	(378,084 )
Accounts payable	(652,075 )	(1,327,523 )
Taxes payable	(1,570,961 )	1,197,773
Interest payable	(28,075 )	(53,311 )
Refundable deposit from customers	-	572,862
Accrued liabilities and other payables	252,987	(1,967,836 )
Accrued interest on convertible notes	215,929	(431,829 )
Net cash provided by (used in) operating activities	42,391,405	(17,233,832 )
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Changes of restricted cash	(2,396,515 )	1,896,637
Acquisition of property & equipment	(1,750 )	(7,699 )
Net cash provided by (used in) investing activities	(2,398,265 )	1,888,938
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Issuance of convertible notes	-	7,583,801

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

Repayment of convertible note	-	(11,551,457 )
Notes receivable - bank acceptances	82,376	(80,510 )
Notes payable - bank acceptances	-	(2,322,413 )
Proceeds from loans	4,752,475	24,772,404
Repayment of loans	(10,297,030 )	(7,067,876 )
Long term payable	(1,189,431 )	6,032,071
Prepaid loan fees	-	(394,810 )
Advance to related parties	(479,686 )	-
Advance from related parties	(2,935,805 )	1,510,633
Net cash provided by (used in) financing activities	(10,067,101 )	18,481,843
EFFECT OF EXCHANGE RATE CHANGE ON CASH & EQUIVALENTS	129,012	740,054
NET INCREASE IN CASH & EQUIVALENTS	30,055,051	3,877,003
CASH & EQUIVALENTS, BEGINNING OF YEAR	14,949,253	11,072,250
CASH & EQUIVALENTS, END OF YEAR	\$ 45,004,304	\$ 14,949,253
Supplemental cash flow data:		
Income tax paid	\$ 3,427,582	\$ 3,471,124
Interest paid	\$ 9,754,133	\$ 9,373,650
Supplemental disclosure of non-cash financing activities		
Conversion of convertible debt into common shares	\$ 3,000,000	\$ -

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

## **CHINA RECYCLING ENERGY CORPORATION AND SUBSIDIARIES**

### **NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**DECEMBER 31, 2012 AND 2011**

#### **1. ORGANIZATION AND DESCRIPTION OF BUSINESS**

China Recycling Energy Corporation (the “Company” or “CREG”) was incorporated on May 8, 1980, under the laws of the State of Colorado. On September 6, 2001, the Company re-domiciled its state of incorporation to Nevada. The Company, through its subsidiaries, Shanghai TCH Energy Technology Co., Ltd (“Shanghai TCH”) and Huahong New Energy Technology Co, Ltd (Huahong), provides energy saving solution and services, including selling and leasing energy saving systems and equipment to customers. On March 8, 2007, the Company changed its name to “China Recycling Energy Corporation” from “China Digital Wireless, Inc.”

On February 1, 2007, the Company’s subsidiary, Shanghai TCH, conditionally entered into two top gas recovery turbine systems (the “TRT”) projects, each evidenced by a joint-operation agreement, with Xi’an Yingfeng Science and Technology Co., Ltd. (the “Yingfeng”). TRT is an electricity generating system that utilizes exhaust pressure and heat produced in the blast furnace of a steel mill to generate electricity.

Under these two Joint-Operation Agreements, Shanghai TCH and Yingfeng jointly pursued a top gas recovery turbine project (the "TRT Project") that was to design, construct, install and operate a TRT Project for Zhangzhi Iron and Steel Holdings Ltd. (the “Zhangzhi”) and Xingtai Iron and Steel Company, Ltd. (the “Xingtai”), respectively. These two projects were completed and put into operation in February and August 2007, respectively. Xingtai power generation system reached maturity of the lease term in January 2012, and the system was transferred to Xingtai.

On October 31, 2007, Shanghai TCH entered an asset-transfer agreement with Yingfeng. The terms and conditions of this agreement required the transfer of all electricity-generating related assets owned by Yingfeng to Shanghai TCH. As a result, the contractual relationships between Shanghai TCH and Yingfeng under the TRT Project Joint-Operation Agreement on April 8, 2007 were terminated.

In November 2007, Shanghai TCH signed a cooperative agreement with Shengwei Group to build two sets of 12MW pure low temperature cement waste heat powered generator systems (“CHPG”) for Shengwei’s two 2,500-tons-per-day cement manufacturing lines in Jing Yang and for a 5,000-tons-per-day cement manufacturing line in Tong Chuan. At the end of 2008, construction of the CHPG in Tong Chuan was completed and put into operation. On June 29, 2009, construction of the CHPG in Jing Yang was completed and put into operation.



On April 14, 2009, the Company incorporated a joint venture (the “JV”) with Erdos Metallurgy Co., Ltd. (the “Erdos”) to recycle waste heat from Erdos’ metal refining plants to generate power and steam, which will then be sold back to Erdos. The name of the JV is Inner Mongolia Erdos TCH Energy Saving Development Co., Ltd (the “Erdos TCH”) with a term of 20 years. Total investment for the project is estimated at \$79 million (RMB 500 million) with an initial investment of \$17.55 million (RMB 120,000,000). As of December 31, 2012, Erdos contributed 7% of the total investment of the project, and Xi’an TCH contributed 93%. According to Xi’an TCH and Erdos’ agreement on profit distribution, Xi’an TCH and Erdos will receive 80% and 20% of the profit from the JV, respectively, until Xi’an TCH receives the complete return of its investment. Xi’an TCH and Erdos will then receive 60% and 40% of the profit from the JV, respectively. When the JV expires, Xi’an TCH will transfer its equity in the JV to Erdos at no cost.

On April 18, 2009, Erdos TCH signed a Cooperation Agreement with Erdos to recycle heat from furnaces of Erdos Metallurgy’s metal refining plants to generate power and steam, which will then be sold back to Erdos Metallurgy. According to the contract, Erdos TCH will install a group of power generation projects with a total of 70MW power capacity, which may expand up to 120MW, and 30-ton steam per hour, with an estimated total investment of \$79 million (RMB 500 million). The construction of the projects was split into three phases, two power generation systems in Phase I with a total of 18MW power capacity, three power generation systems in Phase II with a total of 27MW power capacity and one power generation system in Phase III with 25MW power capacity.

At the end of 2009, Erdos TCH completed the first 9MW power station of Phase I of the project and put it into operation. Phase I includes two 9MW units for a combined 18MW power capacity. In March of 2010, the Company completed the second 9MW capacity power station and put it into operation. Pursuant to the Co-operation Agreement and the supplement agreements signed between Erdos and Erdos TCH, Erdos shall purchase all the electricity and steam to be generated from the JV’s power generation projects.

On December 10, 2010, Erdos TCH entered into a supplementary agreement with Xi'an Huaxin Energy Tech Co., Ltd (the construction contractor) to change the Erdos Phase II project of four 9MW waste heat generation systems to three 9MW systems, and to move the fourth 9MW waste heat generation system into Phase III of the project; as a result of entering into this supplementary agreement, the construction costs decreased from \$37.4 million (RMB248 million) to \$28.1 million (RMB186 million) for Phase II. In the first quarter of 2011, the Company completed all three 9MW power stations of Phase II and put them into operation. On September 13, 2012, the Company terminated the Phase III power generation system construction due to termination of refining plant construction by Erdos as a result of changing business development strategy (See Note 6).

On September 30, 2009, Xi'an TCH delivered three 6MW capacity Waste Gas Power Generation ("WGPG") systems to Shenmu County Jiujiang Trading Co., Ltd. ("Shenmu") pursuant to a Cooperative Contract on Coke-oven Gas Power Generation Project (including its Supplementary Agreement) ("Cooperative Agreement") and a Gas Supply Contract for Coke-oven Gas Power Generation Project. The terms of these contracts are for 10 years, and state Xi'an TCH will recycle coke furnace gas from the coke-oven plant of Shenmu to generate power, which will be supplied back to Shenmu.

On December 31, 2011, Xi'an TCH entered into a Repurchase Agreement for the Coke-Oven Gas Power Generation Project (the "Repurchase Agreement") with Shenmu. Under the Repurchase Agreement, Shenmu will purchase the set of 18MW capacity power generating systems (the "Systems") from Xi'an TCH and pay outstanding energy saving service fees of \$3.08 million (RMB 19.44 million) to Xi'an TCH within three working days from the date of the Repurchase Agreement. Xi'an TCH will transfer the Systems to Shenmu for \$18.75 million (RMB 120 million) (the "Repurchase Price") to be paid in three installments within 180 days. In June 2012, the Company received the full payment of outstanding energy saving service fees and system repurchase price, and, as a result, ownership of the Systems was transferred to Shenmu and the Cooperative Contract was terminated.

On January 20, 2010, Xi'an TCH entered into a Technical Reconstruction Letter of Intent with Xueyi Dong ("Dong") a natural person with Chinese citizenship for Xi'an TCH reconstructing and transforming a Thermal Power Generation Systems owned by Dong into a 12MW Biomass Power Generation System (the "Biomass Systems" or "BMPG") for \$2.2 million (RMB 15 million), which was paid by Xi'an TCH to Dong. After the transformation of the system, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement with Dong on June 29, 2010. Under the Transfer Agreement, Dong transferred the Biomass Systems to Xi'an TCH, and Xi'an TCH was to pay Dong \$14,705,900 (RMB 100,000,000) for the systems, including RMB 20,000,000 in cash and RMB 80,000,000 in shares of the Company's common stock. The exchange rate between U.S. Dollar and Chinese RMB in connection with the stock issuance was 1:6.8. During 2011, the Company had paid the cash portion and issued 2,941,176 shares of common stock for payment of RMB 80,000,000 in shares, in connection with this transaction, the Company, recorded a gain on settlement of the debt of \$8.3 million.

On June 29, 2010, Xi'an TCH entered into a Biomass Power Generation Project Lease Agreement with Pucheng XinHengYuan Biomass Power Generation Co., Ltd. ("XHY"). Under this lease agreement, Xi'an TCH leased this same set of 12MW biomass power generation systems to XHY at a minimum of \$279,400 (RMB 1,900,000) per month for

15 years.

On September 30, 2010, Xi'an TCH delivered to Zhongbao Binhai Nickel Co., Ltd. ("Zhongbao") a 7MW capacity Waste Heat Power Generation ("WHPG") system, an integral part of the facilities designed to produce 80,000 tons of nickel-alloy per year according to the recovery and power generation of waste heat agreement with Zhongbao, a nickel-alloy manufacturing joint venture between Zhonggang and Shanghai Baoshan Steel Group established in June 2009. Total investment in this project was \$7.8 million (RMB 55 million). The waste heat agreement with Zhongbao has a term of nine years and provides that Xi'an TCH will recycle waste heat from the nickel-alloy rotary kilns of Zhongbao to generate power and steam, which will be supplied back to Zhongbao. In addition, Xi'an TCH is responsible for applying for the Clean Development Mechanism ("CDM") under the Kyoto Protocol. Net proceeds from any CDM credit will be distributed between Zhongbao and Xi'an TCH at 60% and 40%, respectively. As of December 31, 2012, Xi'an TCH had not yet commenced the CDM application process.

On March 15, 2011, the Company incorporated a new wholly owned subsidiary Pingshan County Shengda Energy Technology Co., Ltd ("Shengda"). Xi'an TCH was required to contribute cash of \$4,559,271 (RMB 30 million) into Shengda as initial registered capital. In accordance with and pursuant to a Recycling Economy Projects Cooperative Framework Agreement entered into by the Company and Xi'an TCH, Shengda was organized for the purpose of undertaking waste energy recycling projects from a steel and chemical company located in Pingshan County. However, final terms for the projects were not reached, and, as a result, Shengda is not currently operational. In September 2012, Shengda was liquidated and deregistered.

58

On May 25, 2011, Xi'an TCH entered into a Letter of Intent with Shenqiu YuNeng Thermal Power Co., Ltd. ("Shenqiu") for Xi'an TCH to reconstruct and transform a Thermal Power Generation System owned by Shenqiu into a 75T/H Biomass Power Generation System for \$3.5 million (RMB 22.5 million). The project commenced in June 2011, and was completed in the third quarter of 2011. On September 28, 2011, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement with Shenqiu. Per the Transfer Agreement, Shenqiu sold to Xi'an TCH a set of 12MW biomass power generation systems, effectuation of such sale occurring after Xi'an TCH converted the system for biomass power generation purposes. As consideration for the biomass power generation system, Xi'an TCH agreed to pay Shenqiu \$10,937,500 (RMB 70 million) in cash in three installments within six months upon the transfer of ownership of the system. As of December 31, 2012, all of the consideration had been paid. On September 28, 2011, Xi'an TCH and Shenqiu also entered into a Biomass Power Generation Project Lease Agreement (the "Lease Agreement"). Under the Lease Agreement, Xi'an TCH agreed to lease the set of 12MW biomass power generation systems to Shenqiu for \$286,000 (RMB 1,800,000) per month for 11 years. Upon completion of the Lease Agreement, ownership of this system will be transferred from Xi'an TCH to Shenqiu at no cost.

On October 8, 2012, Xi'an TCH entered into a Letter of Intent for Technical Reformation of Shenqiu Project Phase II with Shenqiu for technical reformation to enlarge the capacity of the Shenqiu Project Phase I. After the reformation, the generation capacity of the power plant is increased to 24MW. The project commenced in October 25, 2012 and expected to be completed by the end of the first quarter of 2013. The total cost of the project is \$10.82 million. During the construction period, Xi'an TCH stopped charging Shenqiu rental fees.

On June 13, 2012, Huahong, a subsidiary of the Company, obtained preliminary approval from Department of Commerce of Shaanxi Province to reduce its investment from \$10 million to \$5 million and its registered capital from \$10 million to \$2.5 million.

In October 2012, the Company deregistered its subsidiary Huaxin due to its inactivity.

## **2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

### **Basis of Presentation**

These accompanying consolidated financial statements have been prepared in accordance with United States Generally Accepted Accounting Principles ("US GAAP") and pursuant to the rules and regulations of the SEC for annual financial statements.

## **Basis of Consolidation**

The consolidated financial statements include the accounts of CREG and, its subsidiary, Sifang Holdings, its wholly owned subsidiaries, Huahong New Energy Technology Co., Ltd. (“Huahong”) and Shanghai TCH, Shanghai TCH’s subsidiaries Xi’an TCH Energy Tech Co., Ltd. (“Xi’an TCH”) and Xingtai Huaxin Energy Tech Co., Ltd. (“Huaxin”) (Huaxin was liquidated and deregistered in October 2012) and Xi’an TCH’s subsidiary, Pingshan Shengda Energy Technology Co., Ltd. (“Shengda”) (deregistered in September 2012) and Erdos TCH Energy Saving Development Co., Ltd (“Erdos TCH”), in which 93% of the investment is from Xi’an TCH. Substantially all of the Company’s revenues are derived from the operations of Shanghai TCH and its subsidiaries, which represent substantially all of the Company’s consolidated assets and liabilities as of December 31, 2012 and 2011, respectively. All significant inter-company accounts and transactions were eliminated in consolidation.

## **Use of Estimates**

In preparing these consolidated financial statements in accordance with US GAAP, management makes estimates and assumptions that affect the reported amounts of assets and liabilities in the balance sheets as well as revenues and expenses during the period reported. Actual results may differ from these estimates.

## **Revenue Recognition**

### *Sales-type Leasing and Related Revenue Recognition*

The Company constructs and leases waste energy recycling power generating projects to our customers. The Company usually transfers ownership of the waste energy recycling power generating projects to its customers at the end of the lease. The investment in these projects is recorded as investment in sales-type leases in accordance with Statement of Financial Accounting Standards (“SFAS”) No. 13, “Accounting for Leases” (codified in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 840) and its various amendments and interpretations. The Company finances construction of waste energy recycling power generating. The sales and cost of sales are recognized at the inception of lease. The investment in sales-type leases consists of the sum of the minimum lease payments receivable less unearned interest income and estimated executory cost. Minimum lease payments are part of the lease agreement between the Company (lessor) and the customer (lessee). The discount rate implicit in the lease is used to calculate the present value of minimum lease payments. The minimum lease payment consists of the gross lease payments net of executory costs and contingent rentals, if any. Unearned interest income is amortized to income over the lease term to produce a constant periodic rate of return on net investment in the lease. While revenue is recognized at the inception of the lease, the cash flow from the sales-type lease occurs over the course of the lease, which results in interest income and reduction of receivables. Revenue is recognized net of sales tax.

### *Contingent Rental Income*

The Company records income from actual electricity usage in addition to minimum lease payments of each project as contingent rental income in the period contingent rental income is earned. Contingent rent is not part of minimum lease payments.

## **Cash and Equivalents**

Cash and equivalents includes cash on hand, demand deposits placed with banks or other financial institutions and all highly liquid investments with an original maturity of three months or less as of the purchase date of such investments.

## **Accounts Receivable**

As of December 31, 2012, the Company had accounts receivable of \$81,819 from sales of extra electricity. As of December 31, 2011, the Company had accounts receivable of \$19.11 million arising, in part, from the transfer of a set of 18MW capacity power generating systems to Shenmu by Xi'an TCH for \$18.75 million (RMB 120 million) (the "Repurchase Price"). Shenmu paid 30% of the Repurchase Price within five working days of the Repurchase Agreement date, another 30% within 90 days of the Repurchase Agreement date and the remaining 40% within 180 days of the Repurchase Agreement date. Ownership of the Systems was transferred by the Company to Shenmu upon full payment of the Repurchase Price, which occurred in June 2012.

### **Concentration of Credit Risk**

Cash includes cash on hand and demand deposits in accounts maintained within China. Balances at financial institutions within China are not covered by insurance. The Company has not experienced any losses in such accounts.

Certain other financial instruments, which subject the Company to concentration of credit risk, consist of accounts and other receivables. The Company does not require collateral or other security to support these receivables. The Company conducts periodic reviews of its customers' financial condition and customer payment practices to minimize collection risk on accounts receivable.

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.

### **Property and Equipment**

Property and equipment are stated at cost, net of accumulated depreciation. Expenditures for maintenance and repairs are expensed as incurred; additions, renewals and betterments are capitalized. When property and equipment are retired or otherwise disposed of, the related cost and accumulated depreciation are removed from the respective accounts, and any gain or loss is included in operations. Depreciation of property and equipment is provided using the straight-line method over the estimated lives as follows:

Building	20 years
Vehicle	2 - 5 years
Office and Other Equipment	2 - 5 years
Software	2 - 3 years





### **Impairment of Long-life Assets**

In accordance with SFAS 144 (codified in FASB ASC Topic 360), the Company reviews its long-lived assets, including property, plant and equipment, for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be fully recoverable. If the total of the expected undiscounted future net cash flows is less than the carrying amount of the asset, a loss is recognized for the difference between the fair value and carrying amount of the asset. There was no impairment as of December 31, 2012 or 2011.

### **Cost of Sales**

Cost of sales consists primarily of the direct material of the power generating system and expenses incurred directly for project construction for sales-type leasing.

### **Income Taxes**

The Company utilizes SFAS No. 109, "Accounting for Income Taxes," (codified in FASB ASC Topic 740), which requires recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax basis of assets and liabilities and their financial reporting amounts at each period end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

The Company follows FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes, ("FIN 48"), codified in FASB ASC Topic 740. When tax returns are filed, it is likely some positions taken would be sustained upon examination by the taxing authorities, while others are subject to uncertainty about the merits of the position taken or the amount of the position that would be ultimately sustained. The benefit of a tax position is recognized in the financial statements in the period during which, based on all available evidence, management believes it is more likely than not that the position will be sustained upon examination, including the resolution of appeals or litigation processes, if any. Tax positions taken are not offset or aggregated with other positions. Tax positions that meet the more-likely-than-not recognition threshold are measured as the largest amount of tax benefit that is more than 50% likely of being realized upon settlement with the applicable taxing authority. The portion of the benefits associated with tax positions taken that exceeds the amount measured as described above is reflected as a liability for unrecognized tax benefits in the accompanying balance sheets along with any associated interest and penalties that would be payable to the taxing authorities upon examination. Interest associated with unrecognized tax benefits is classified as interest expense and penalties are classified in selling, general and administrative expenses in the

statements of income. As of December 31, 2012 and 2011, the Company had not taken any uncertain positions that would necessitate recording of tax related liability.

### **Non-Controlling Interest**

The Company follows FASB ASC Topic 810, "Consolidation," which established new standards governing the accounting for and reporting of non-controlling interests (NCIs) in partially owned consolidated subsidiaries and the loss of control of subsidiaries. Certain provisions of this standard indicate, among other things, that NCIs (previously referred to as minority interests) be treated as a separate component of equity, not as a liability (as was previously the case), that increases and decreases in the parent's ownership interest that leave control intact be treated as equity transactions rather than as step acquisitions or dilution gains or losses, and that losses of a partially owned consolidated subsidiary be allocated to the NCI even when such allocation might result in a deficit balance.

The net income (loss) attributed to the NCI was separately designated in the accompanying statements of income and other comprehensive income. Losses attributable to the NCI in a subsidiary may exceed the NCI's interests in the subsidiary's equity. The excess attributable to the NCI is attributed to those interests. The NCI shall continue to be attributed its share of losses even if that attribution results in a deficit NCI balance.

## Statement of Cash Flows

In accordance with SFAS No. 95, "Statement of Cash Flows" (codified in FASB ASC Topic 230), 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 statement of cash flows may not necessarily agree with changes in the corresponding balances on the balance sheet.

## Fair Value of Financial Instruments

For certain of the Company's financial instruments, including cash and equivalents, restricted cash, accounts receivable, other receivables, accounts payable, accrued liabilities and short-term debt, the carrying amounts approximate their fair values due to their short maturities. Receivables on sales-type leases are based on interest rates implicit in the lease.

ASC Topic 820, "Fair Value Measurements and Disclosures," requires disclosure of the fair value ("FV") of financial instruments held by the Company. ASC Topic 825, "Financial Instruments," defines FV, and establishes a three-level valuation hierarchy for disclosures of FV measurement that enhances disclosure requirements for FV measures. The carrying amounts reported in the consolidated balance sheets for receivables and current liabilities each qualify as financial instruments and are a reasonable estimate of their FV because of the short period of time between the origination of such instruments and their expected realization and their current market rate of interest. The three levels of valuation hierarchy 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, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3 inputs to the valuation methodology are unobservable and significant to the FV measurement.

The Company analyzes all financial instruments with features of both liabilities and equity under ASC 480, "Distinguishing Liabilities from Equity," and ASC 815.

The following are the considerations with respect to disclosures of fair value of long-term debt obligations:

As of December 31, 2012, the Company's long term debt obligations consisted of the following: (i) bank loans payable of \$12.09 million, (ii) a long term payable for a sale-leaseback transaction of \$3.71 million.

Fair value measurements / approximations, for certain financial instruments, are based on what a reporting entity would likely have to pay to transfer the financial obligation to an entity with a comparable credit rating. The Company's bank loans and trust loans payable are privately held (i.e., nonpublic) debt; therefore, pricing inputs are not observable. For this reason, the Company classified bank loans and trust loans payable as a Level 3 FV measurement in the valuation hierarchy.

For each of the Company's long term debt obligations noted above, the Company believes the carrying amounts approximate their FV. The following reasons support this determination.

*Bank Loans Payables of \$12.09 Million (noncurrent portion)*

As of December 31, 2012, the Company had two loans with the same Chinese commercial bank with terms of 3 and 4 years, respectively. Each loan was for the subsidiary's (Xi'an TCH's) energy saving and emission reduction projects and had a floating interest rate that both reset at the beginning of each quarter at 115% of the national base interest rate for the same term and same level loan. Each of these loans was guaranteed by Xi'an TCH (along with a pledge of its accounts receivables) and by certain executive officers of the Company, and a pledge of certain BMPG (Biomass Power Generation) systems. Based on the Company's understanding of the credit markets, the Company's business is in a sector (energy-saving green) that is supported by the PRC government and the lending bank, the Company believes it could have obtained similar loans on similar terms and interest rates. In addition, in connection with the FV measurement, the Company considered nonperformance risk (including credit risk) relating to the debt obligations, including the following: (i) the Company is considered a low credit risk customer to the lending bank and its creditors; (ii) the Company has a good history of making timely payments and have never defaulted on any loans; and (iii) the Company has a stable and continuous cash inflow from collections from its sales-type lease of energy saving projects.

*Sale-Leaseback Transaction of \$3.71 Million*

The Company recorded the sale-lease back transaction at FV, which is the present value of the total future cash outflow including principal and interest payments.

As of December 31, 2012 and 2011, the Company did not identify any assets and liabilities that are required to be presented on the balance sheet at FV other than the sale-lease back transaction of \$3.71 million described above.

**Stock Based Compensation**

The Company accounts for its stock-based compensation in accordance with SFAS No. 123R, "Share-Based Payment, an Amendment of FASB Statement No. 123" (codified in FASB ASC Topic 718 and 505). The Company recognizes in its statement of operations the grant-date FV of stock options and other equity-based compensation issued to employees and non-employees.

**Basic and Diluted Earnings per Share**

The Company presents net income (loss) per share ("EPS") in accordance with SFAS No. 128, "Earnings per Share" (codified in FASB ASC Topic 740). Accordingly, basic income (loss) per share is computed by dividing income (loss) available to common shareholders by the weighted average number of shares outstanding, without consideration for common stock equivalents. Diluted EPS is computed by dividing the net income by the weighted-average number of common shares outstanding as well as common share equivalents outstanding for the period determined using the treasury-stock method for stock options and warrants and the if-converted method for convertible notes. The Company made an accounting policy election to use the if-converted method for convertible securities that are eligible to receive common stock dividends, if declared. Diluted EPS reflect the potential dilution that could occur based on the exercise of stock options or warrants or conversion of convertible securities using the if-converted method. The following table presents a reconciliation of basic and diluted EPS:

The following table presents a reconciliation of basic and diluted EPS for the years ended December 31, 2012 and 2011:

2012	2011
------	------

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

Net income for common shares	\$3,406,995	\$21,449,879
Interest accrued on convertible notes*	383,929	168,000
Net income for diluted shares	\$3,622,924	\$21,617,879
Weighted average shares outstanding – basic	47,560,416	42,454,304
Effect of dilutive securities:		
Convertible notes	2,663,934	11,976,692
Options granted	812,905	1,612,614
Warrants granted	-	11,780
Weighted average shares outstanding – diluted	51,037,255	56,055,390
Earnings (loss) per share – basic	\$0.07	\$0.51
Earnings (loss) per share – diluted	\$0.07	\$0.39

\* Interest expense on convertible notes was added back to net income for the computation of diluted EPS.

### **Foreign Currency Translation and Comprehensive Income (Loss)**

The Company's functional currency is the Renminbi ("RMB"). For financial reporting purposes, RMB were translated into United States Dollars ("USD" or "\$") as the reporting currency. Assets and liabilities are translated at the exchange rate in effect at the balance sheet date. Revenues and expenses are translated at the average rate of exchange prevailing during the reporting period. Translation adjustments arising from the use of different exchange rates from period to period are included as a component of stockholders' equity as "Accumulated other comprehensive income." Gains and losses resulting from foreign currency transactions are included in income. There was no significant fluctuation in the exchange rate for the conversion of RMB to USD after the balance sheet date.

The Company uses SFAS 130 "Reporting Comprehensive Income" (codified in FASB ASC Topic 220). Comprehensive income is comprised of net income and all changes to the statements of stockholders' equity, except those due to investments by stockholders, changes in paid-in capital and distributions to stockholders.

### **Segment Reporting**

SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information" (codified in FASB ASC Topic 280) requires use of the "management approach" model for segment reporting. The management approach model is based on the way a company's management organizes segments within the company for making operating decisions and assessing performance. Reportable segments are based on products and services, geography, legal structure, management structure, or any other manner in which management disaggregates a company. SFAS 131 has no effect on the Company's financial statements as substantially all of the Company's operations are conducted in one industry segment. All of the Company's assets are located in the PRC.

### **Reclassifications**

Certain prior year amounts were reclassified to conform to the manner of presentation in the current period. The Company reclassified loss on extinguishment of Cinda Notes of \$6,699,949 from interest expense for the year ended December 31, 2011.

### **New Accounting Pronouncements**

In July 2012, the FASB issued ASU 2012-02, Intangibles-Goodwill and Other (Topic 350) - Testing Indefinite-Lived Intangible Assets for Impairment. The ASU provides entities with an option to first assess qualitative factors to determine whether events or circumstances indicate it is more likely than not that the indefinite-lived intangible asset is impaired. If an entity concludes it is more than 50% likely that an indefinite-lived intangible asset is not impaired, no further analysis is required. However, if an entity concludes otherwise, it would be required to determine the FV of the indefinite-lived intangible asset to measure the amount of actual impairment, if any, as currently required under US GAAP.

The ASU is effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012. Early adoption is permitted. The adoption of this pronouncement will not have a material impact on our financial statements.

As of December 31, 2012, there were no other recently issued accounting standards not yet adopted by the Company that would have a material effect on the Company's consolidated financial statements.

### 3. NET INVESTMENT IN SALES-TYPE LEASES

Under sales-type leases, Xi'an TCH leased TRT systems to Zhangzhi with terms of 5 and 13 years, respectively; and leased CHPG systems to Tong Chuan, Shengwei, and Jing Yang Shengwei respectively for 5 years, BMPG systems to Pucheng for 15 years, BMPG systems to Shenqiu for 11 years, and a power and steam generating system from waste heat from metal refining to Erdos (five projects) for 20 years. The components of the net investment in sales-type leases as of December 31, 2012 and 2011 are as follows:

	2012	2011
Total future minimum lease payments receivable	\$380,608,263	\$415,796,738
Less: Executory cost	(113,529,216)	(121,384,498)
Less: Unearned interest income	(138,668,584)	(158,110,200)
Net investment in sales - type leases	128,410,463	136,302,040
Current portion	10,389,028	8,725,345
Noncurrent portion	\$118,021,435	\$127,576,695



As of December 31, 2012, the future minimum rentals to be received on non-cancelable sales-type leases by years are as follows:

2013	\$36,607,448
2014	28,769,009
2015	26,385,338
2016	26,385,338
2017	26,385,338
Thereafter	236,075,792
Total	\$380,608,263

#### **4. RESTRICTED CASH, NOTES PAYABLE – BANK ACCEPTANCES**

Restricted cash as of December 31, 2012 and 2011 was \$2,725,002 (of which, \$954,578 was deposited as a principal-guaranteed financial investment product with a term of six months) and \$317,415, respectively, held by the bank as collateral to issue bank acceptances. The Company endorses bank acceptances to Shenqiu and Xi'an Huaxin Energy Engineer Co., Ltd. ("Huaxin Energy") as payment of its own obligations. Most of the bank acceptances have maturities of less than six months.

#### **5. PREPAID EXPENSES**

Prepaid expenses mainly consisted of prepayment for supplies, office rental, parking space, insurance and legal fees.

#### **6. CONSTRUCTION IN PROGRESS**

Construction in progress was paid for constructing power generation systems. As of December 31, 2012, the Company had construction in progress of \$19.27 million for the Shanxi Datong Coal Group Power Generation project (See Note 20) and \$3.72 million for the Shenqiu Project Phase II (See Note 20). As of December 31, 2011, the Company had construction in progress of \$19.77 million for Phase III of the Erdos TCH power generation system projects; however, this construction was terminated in September 2012 due to Erdos stopped construction of the refining plant; and \$12.70 million for the Shanxi Datong Coal Group Power Generation project. As of December 31, 2012, the Company was committed to pay an additional \$10.02 million for the Shanxi Datong Coal Group Power Generation project and \$7.10 million for Shenqiu Project Phase II.

In September 2012, Erdos TCH, Erdos and general contractor Xianyang Hengfeng Energy Engineering Co., Ltd (“Hengfeng”) terminated the construction of Phase III of the power generation system projects due to Erdos stopped construction of the refining plant as a result of a change in business strategy. Cost of construction in progress which Erdos TCH paid for Phase III of the project was \$19.86 million (RMB 125.44 million) at termination date, Hengfeng returned \$13.72 million (RMB 86.70 million) to Erdos TCH towards payments made for construction in progress; and Erdos compensated \$3.58 million (RMB 22.04 million) to Erdos TCH for the loss, Erdos TCH in turn paid \$0.32 million (RMB 2.0 million) to Hengfeng for the loss from the project termination; accordingly, Erdos incurred a net loss of \$2.96 million (RMB 18.74 million) from termination of this project.

## 7. TAXES PAYABLE

Taxes payable consisted of the following as of December 31, 2012 and 2011:

	2012	2011
Income	\$689,532	\$2,205,337
Business	257,378	305,141
VAT arising from transfer WPGG to Shenmu	381,832	380,898
Other	34,793	51,658
	\$1,372,535	\$2,943,034

**8. ACCRUED LIABILITIES AND OTHER PAYABLES**

Accrued liabilities and other payables consisted of the following as of December 31, 2012 and 2011:

	2012	2011
Employee training, labor union expenditure and social insurance payable	\$372,521	\$305,800
Consulting, auditing, and legal expenses	618,957	439,731
Accrued payroll and welfare	291,310	284,011
Accrued system maintenance expense	47,729	76,107
Other	204,312	173,909
Total	\$1,534,829	\$1,279,558

**9. RELATED PARTY TRANSACTIONS**

As of December 31, 2012, advances to related parties totaled \$440,987, including \$481,863 to Erdos Metallurgy Co., Ltd. (the minority shareholder of Erdos TCH), as a receivable for maintenance fee and tax expense, and net of a \$40,876 advance from the Company's management, which bore no interest, and is payable on demand. As of December 31, 2011, advances from related parties totaled \$2,981,977, including \$2,941,043 from Erdos Metallurgy Co., Ltd., as an advance for the capital needs of Erdos TCH, and \$40,934 advance from the Company's management, respectively, which bore no interest, payable on demand.

Erdos TCH sold all power generation stations through sales type leases to Erdos Metallurgy Co., Ltd., the non-controlling interest holder. Total sales and interest income for this non-controlling interest was \$0.78 million (contingent rental income) and \$7.37 million for the year ended December 31, 2012, and \$11.88 million and \$6.94 million for the year ended December 31, 2011, respectively.

On September 27, 2011, David Chong, the Company's Chief Financial Officer and Secretary, in a private transaction exempt from registration under the Securities Act, became the sole stockholder of Sino Way Limited, an entity that owns 100,000 shares of our Common Stock. The 100,000 shares of our Common Stock directly owned by Sino Way Limited, and beneficially owned by Mr. Chong were included in the resale Form S-3 Registration Statement, as amended, initially filed by the Company with the SEC on February 22, 2012 and amended on April 12, 2012 and May 7, 2012. The resale Form S-3 Registration Statement was declared effective by the SEC on May 18, 2012.

**10. NONCONTROLLING INTEREST**

“Non-controlling interest” was a 7% equity interest of Erdos TCH owned by Erdos Metallurgy Co., Ltd. According to Xi’an TCH and Erdos’ agreement on profit distribution, Xi’an TCH and Erdos will receive 80% and 20% of the profit from the JV, respectively, until Xi’an TCH has received the complete return of its investment. Xi’an TCH and Erdos will then receive 60% and 40% of the profit from the JV, respectively.

As of December 31, 2012, the total registered capital of Erdos TCH is \$17.55 million (RMB 120,000,000), of which, \$16.37 million (RMB 112 million) was contributed by Xi’an TCH, and \$1.18 million (RMB 8 million) was from Erdos. Erdos TCH engages in a business similar to that of Xi’an TCH.

Erdos TCH allocates its income to Xi’an TCH and Erdos at a proportion of 80% and 20% based on net income calculated under PRC GAAP. The main difference between US GAAP and PRC GAAP with respect to Erdos TCH is that the Erdos agreement is treated as a sales-type lease under US GAAP and as an operating lease under PRC GAAP. The following is an unaudited profit and loss statement of Erdos TCH, prepared under PRC GAAP for the years ended December 31, 2012 and 2011 (note: Erdos TCH’s US GAAP basis financial statements are part of the Company’s consolidated financial statements discussed in Note 2 – Basis for Consolidation):

	2012	2011
Net Revenue	\$15,041,035	\$13,664,259
Cost of Revenue	(8,425,034 )	(7,818,027 )
Gross Profit	6,616,001	5,846,232
Operating expenses	64,695	29,990
Income from operations	6,551,306	5,816,242
Non-operating income (expense)	(11,275,169)	10,473
Income tax expense	(327,524 )	(1,456,679 )
Net Income (loss)	\$(5,051,386 )	\$4,370,036

The following is a reconciliation of net income per PRC GAAP to net income per US GAAP for the years ended December 31, 2012 and 2011:

	2012	2011
Net income (loss) per PRC GAAP	\$(5,051,386 )	\$4,370,036
Adjustments under US GAAP:		
Revenue per sales-type lease	(14,257,426)	(1,788,667)
Cost of revenue	8,374,023	(1,044,251)
Loss from operations	(5,883,403 )	(2,832,918)
Operating expense	(3,587,774 )	-
Interest income	7,369,626	3,331,647
Income before income tax	5,073,997	498,729
Deferred income tax expense	(945,064 )	(127,958 )
Net adjustments	4,128,933	370,771
Net income (loss) per US GAAP	\$(922,453 )	\$4,740,807

The following is an unaudited balance sheet of Erdos TCH, prepared under PRC GAAP as of December 31, 2012 and 2011:

	2012	2011
Assets		
Cash and equivalents	\$12,411	\$78,243
Other current assets	12,774,129	-
Property and equipment	46,558,041	49,069,745
Construction in process	-	23,481,662
Total Assets	\$59,344,581	\$72,629,650
Liabilities		
Accounts payable	\$39,774	\$442,080
Other current liabilities	376,649	5,009,894
Long term loan	38,779,731	42,017,808
Total liabilities	39,196,154	47,469,782
Equity		

Paid in capital	17,573,578	17,573,578
Statutory reserve	570,094	570,094
Other comprehensive income	1,753,959	1,714,014
Retained earnings	250,796	5,302,182
Total stockholders' equity	20,148,427	25,159,868
Total liabilities and stockholders' equity	\$59,344,581	\$72,629,650

## 11. DEFERRED TAX

Deferred tax asset resulted from accrued maintenance cost on power generation systems that can be deducted for tax purposes in the future; and difference between tax and accounting basis of cost of fixed assets which was capitalized for tax purposes and expensed as part of cost of systems in the book. Deferred tax liability arose from the difference between tax and accounting basis of net investment in sales-type leases.

As of December 31, 2012 and 2011, deferred tax liability consisted of the following:

	2012	2011
Deferred tax asset — noncurrent (accrual of system maintenance cost)	\$48,453	\$33,146
Deferred tax asset — noncurrent (depreciation of fixed assets)	22,933,886	25,527,126
Deferred tax liability — noncurrent (net investment in sales-type leases)	(29,547,957)	(31,948,809)
Deferred tax liability, net of deferred tax asset – noncurrent	\$(6,565,618 )	\$(6,388,537 )
Deferred tax liability — current (net investment in sales-type leases)	\$(2,471,925 )	\$(1,624,665 )

## 12. INCOME TAX

The Company's Chinese subsidiaries are governed by the Income Tax Law of the PRC concerning privately-run enterprises, which are generally subject to tax at 25% on income reported in the statutory financial statements after appropriate tax adjustments. Under the Chinese tax law, the tax treatment of finance and sales-type leases is similar to US GAAP. However, the local tax bureau continues to treat CREG sales-type leases as operating leases. Accordingly, the Company recorded deferred income taxes.

The Company's subsidiaries generate all of their net income from their PRC operations. Shanghai TCH's effective income tax rates for 2012 and 2011 are 25% and 24%, respectively. Xi'an TCH's effective income tax rate for 2012 and 2011 is 15% as a result of its high tech enterprise status that was approved by the taxing authority. The 2012 rate expired in August 2012 and after its expiration the effective rate is 25%. Xingtai Huaxin's effective income tax rate for 2012 and 2011 is 25% (deregistered in October 2012). Huahong and Erdos TCH's effective income tax rate for 2012 and 2011 is 25%. Pingshan Shengda's effective income tax rate for 2012 and 2011 is 25% (deregistered in September 2012). Shanghai TCH, Xi'an TCH, Xingtai Huaxin, Huahong, Pingshan Shengda and Erdos TCH file separate income tax returns. If Xi'an TCH had not been granted high tech enterprise status, income tax expense for the year ended December 31, 2012, would have been increased by \$465,983, and EPS would have been reduced by \$0.01.

There is no income tax for companies domiciled in the Cayman Islands. Accordingly, the Company's consolidated financial statements do not present any income tax provisions related to Cayman Islands tax jurisdiction where Sifang Holding is domiciled.

The parent company, China Recycling Energy Corporation, is taxed in the U.S. and, as of December 31, 2012, had net operating loss ("NOL") carry forwards for income taxes of \$10.26 million, which may be available to reduce future years' taxable income as NOLs can be carried forward up to 20 years from the year the loss is incurred. Our management believes the realization of benefits from these losses may be uncertain due to the Company's limited operating history and continuing operating losses. Accordingly, a 100% deferred tax asset valuation allowance was

provided.

Consolidated foreign pretax earnings approximated \$9.1 million and \$23.6 million for the years ended December 31, 2012 and 2011, respectively. Pretax earnings of a foreign subsidiary are subject to U.S. taxation when repatriated. The Company provides income taxes on the undistributed earnings of non-U.S. subsidiaries except to the extent that such earnings are indefinitely invested outside the United States. As of December 31, 2012, \$68.8 million of accumulated undistributed earnings of non-U.S. subsidiaries were indefinitely invested. At the existing U.S. federal income tax rate, additional taxes of approximately \$13.4 million would have to be provided if such earnings were remitted currently.

The following table reconciles the U.S. statutory rates to the Company's effective tax rate for years ended December 31, 2012 and 2011, respectively:

	2012	2011
U.S. statutory rates	34.0 %	34.0 %
Tax rate difference – current provision	(13.4)%	(8.0 )%
Effective tax holiday	(8.3 )%	(6.5 )%
Non tax-deductible expense	5.6 %	(10.0)%
Valuation allowance on PRC NOL	18.7 %	- %
Valuation allowance on US NOL	10.9 %	6.3 %
Tax per financial statements	47.6 %	15.8 %



Non-tax deductible expenses represented permanent non-tax deductible interest expense resulting from an amortization of a beneficial conversion feature for a convertible note and changes in FV of conversion feature liability.

The provision for income taxes for the years ended December 31, 2012 and 2011 consisted of the following:

	2012	2011
Income tax expense - current	\$1,921,842	\$4,226,593
Income tax expense - deferred	1,000,411	6,352
Total income tax expenses	\$2,922,253	\$4,232,945

### 13. MAJOR CUSTOMERS

We had no major customers for the year ended December 31, 2012. Two customers accounted for 37% and 35% of our sales during the year ended December 31, 2011.

### 14. LOANS PAYABLE

#### *Collective Capital Trust Plan*

On December 3, 2009, the Company and Beijing International Trust Co., Ltd. (“Beijing Trust”) formed a Low Carbon Fortune-Energy Recycling No. 1 Collective Capital Trust Plan (“Plan”) pursuant to the Capital Trust Loan Agreement (the “Agreement”) entered into by Erdos TCH Energy Saving Development Co., Ltd and Beijing Trust dated November 19, 2009. All amounts raised under the Plan were loaned to Erdos TCH in connection with its waste heat power generation projects Phase II and Phase III construction and operation.

Under the Agreement, the annual base interest rate was 9.94% for A1 preferred trust fund units with a term of two years, 11% for A2 preferred trust fund units with a term of three years, 12.05% for A3 preferred trust fund units and 8.35% for the category B secondary trust fund units, each with a term of four years. Erdos TCH provided a lien on its equipment, assets and accounts receivable to guarantee the loans under the Agreement. Xi’an TCH and Mr. Guohua Ku, the CEO, the Chairman of the Company’s Board of Directors and a major shareholder, provided unconditional and irrevocable joint liability guarantees to Beijing Trust for Erdos TCH’s performance under the Agreement. Erdos (the minority shareholder and customer of Erdos TCH) provided a commitment letter on minimum power purchase from

ErDOS TCH.

The Trust Plan raised \$44.1 million (RMB 300,000,000) through a series of capital raises in 2009 and 2010, of which, 13,750,000 B1 units (\$2.0 million) were purchased by the management of ErDOS TCH; 1,600,000 (\$235,600) A1 units and 46,250,000 B2 units (\$7.4 million) were purchased by Xi'an TCH, the amount was considered as an investment by Xi'an TCH into ErDOS TCH and, accordingly, was eliminated in the consolidated financial statements. Portion of category A units (RMB 35,250,000) were due and paid in full on December 3, 2011, of which, RMB 1,600,000 was purchased by Xi'an TCH. As of December 31, 2012, the entire outstanding trust loan is due within one year. The net loan payable under this trust plan was \$31.4 million (RMB 197,500,000) and \$34.6 million (RMB 218,500,000) as of December 31, 2012 and 2011.

In addition to the above, under the Loan Agreement, ErDOS TCH must pay a management incentive benefit to Beijing Trust upon maturity of the category A3 and category B trust units in December 2013 if the ratio of ErDOS TCH's profit to its registered capital exceeds a base amount. If this criterion is met, the amount of the management incentive benefit is calculated based on a formula tied to ErDOS TCH's net profit and the average registered capital for the 2012 fiscal year. Under this formula the management incentive benefit could range between 0% and 100% of the net profit of ErDOS TCH in the 2012 fiscal year.

The management incentive benefit was structured to provide an incentive to management to make the joint venture profitable. Under the Plan, Beijing Trust will distribute the entire amount of the management incentive benefit it receives to the holders of the category B trust units. As previously disclosed, the holders of the category B trust units are the management of Erdos TCH and Xi'an TCH. Category B trust units receive a lower base interest rate than the category A trust units but the economic return to the holders of category B trust units will be enhanced by any management incentive benefit.

For the year ended December 31, 2012, Erdos TCH incurred a net loss both under PRC GAAP and US GAAP (See note 10).

Erdos TCH also will share the benefits from Clean Development Mechanism ("CDM") under the Kyoto Protocol equally with Beijing Trust during the term of the loan. Any benefit received from CDM will be paid to Erdos Metallurgy first. Under the agreement with Xi'an TCH, Erdos Metallurgy agrees to deliver to Xi'an TCH 50% of the benefit Erdos Metallurgy receives. Xi'an TCH agrees to share 50% of the benefit it receives from Erdos Metallurgy with Erdos TCH. Under the Capital Trust Loan Agreement between Erdos TCH and Beijing Trust, Erdos TCH agrees that 50% of any benefit it receives will be delivered to Beijing Trust. Pursuant to the Plan, Beijing Trust will distribute 70% of the CDM benefit it receives to the holders of the category B trust units. The receipt of any CDM benefit is subject to a process of evaluation and certification of the project by the CDM Executive Board and is under the guidance of the Conference of the Parties of the United Nations Framework Convention on Climate Change. The first stages of the certification process have been completed successfully.

#### *Bank Long Term Loans - Industrial Bank*

Xi'an TCH entered into an agreement with Industrial Bank Co., Ltd., Xi'an Branch (the "Lender") for a loan designed for energy saving and emission reduction projects, whereby the Lender agreed to loan \$4.74 million (RMB 30,000,000) to Xi'an TCH for three years from April 6, 2010 to April 6, 2013. The proceeds of the loan are required to be used in payment for equipment for Xi'an TCH's energy saving and emission reduction projects. The loan has a floating interest rate that resets at the beginning of each quarter at 110% of the national base interest rate for the same term and same level loan (then 6.77%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning six months after the date of the release of the funds, to make minimum quarterly principal payments of \$477,000 (RMB 3,000,000). The loan agreement contains standard representations, warranties and covenants, and is guaranteed by Xi'an TCH, Shaanxi Shengwei Construction Material Group and Mr. Guohua Ku. As of December 31, 2012, this loan had outstanding balance of \$0.48 million which was to be repaid within one year, and was classified as a current liability.

The loan had the following covenants: (i) maintain the current assets and net assets at not less than \$79 million (RMB 500 million); (ii) assets to liability ratio must not be less than 80%; and (iii) the current ratio must not be less than 2.5. On March 28, 2011, the Company received a waiver letter from the Lender waiving all covenants.

Xi'an TCH entered another loan agreement with the same Industrial Bank for energy saving and emission reduction projects, whereby the Lender agreed to loan \$4.77 million (RMB 30,000,000) to Xi'an TCH for three years to March 30, 2014. The proceeds of the loan are required to be used in payment for construction and equipment purchase for Xi'an TCH's energy saving and emission reduction projects. The loan agreement has a floating interest rate that resets at the beginning of each quarter at 115% of the national base interest rate for the same term and same level loan (then 7.07%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning six months after the date of the release of the funds, to make minimum quarterly principal payments of \$477,000 (RMB 3,000,000). The loan agreement contains standard representations, warranties and covenants, and the loan is guaranteed by Xi'an TCH, Mr. Guohua Ku and Ms. Chaoying Zhang. As of December 31, 2012, this loan had an outstanding balance of \$2.86 million, of which, \$1.91 million was to be repaid within one year and was classified as current liability, and \$0.95 million will be repaid after one year and was classified as noncurrent liability.

The loan was originally pledged with the system and revenue of the project ZhongBao. In June 2011, the system of the project ZhongBao was sold to and leased back from Cinda Financial Leasing Co., Ltd. (the "Cinda Financial"), the Company engaged a third party guarantee company as the guarantor for the loan, which was approved by the Industrial Bank in July 1, 2011. The loan had the following covenants: (i) maintain the current assets and net assets not less than \$79 million (RMB 500 million); (ii) assets to liability ratio not less than 80%; and (iii) the current ratio not less than 1. In the first quarter of 2011, the Company received a waiver letter from the Lender waiving all covenants.

On November 8, 2011, Xi'an TCH entered the third loan agreement with the same Industrial Bank for energy saving and emission reduction projects, whereby the Lender agreed to loan \$20.68 million (RMB 130,000,000) to Xi'an TCH for four years to November 27, 2015. The proceeds of the loan are required to be used in payment for construction and equipment purchase for Xi'an TCH's energy saving and emission reduction projects. The loan agreement has a floating interest rate that resets at the beginning of each quarter at 115% of the national base interest rate for the same term and same level loan (then 7.36%). Under the loan, Xi'an TCH is required to make quarterly interest payments and, beginning nine months after the date of the release of the funds, to make minimum quarterly principal payments of \$1,590,963 (RMB 10,000,000). For the first nine months, the loan was in a grace period and there was no repayment requirement. The loan is guaranteed by accounts receivable of Xi'an TCH, Pucheng and Shenqiu BMPG systems and Mr. Guohua Ku. As of December 31, 2012, this loan had outstanding balance of \$17.50 million, of which, \$6.36 million was to be repaid within one year and was classified as current liability, and \$11.14 million will be repaid after one year and was classified as noncurrent liability.

*Bank Loan – Bank of Xi'an*

During the first quarter of 2012, Xi'an TCH entered into an agreement with Bank of Xi'an, whereby Bank of Xi'an agreed to loan \$4.77 million (RMB 30,000,000) to Xi'an TCH for one year with maturity on March 1, 2013. The proceeds of the loan are required to be used in payment for power generation equipment purchases. The monthly interest rate of the Loan is 0.60133%. Under the terms of the loan, Xi'an TCH is required to make monthly interest payments and the principal is to be repaid at maturity. The Company repaid all principle at maturity. The loan is guaranteed by a third party guarantee company and Mr. Guohua Ku. The Company paid a third party \$119,322 (RMB 750,000) as a re-guarantee service fee.

As of December 31, 2012, the future minimum repayment of all the bank loans to be made by years is as follows:

2013	\$13,523,188
2014	7,318,431
2015	4,772,890
Total	\$25,614,509

*Financing Agreement- - Sale Lease-Back Transaction (Long Term Payable)*

On June 28, 2011, Xi'an TCH entered into a Financing Agreement (the "Agreement") with Cinda Financial Leasing Co., Ltd. (the "Cinda Financial"), an affiliate of China Cinda (HK) Asset Management Co., Ltd. (the "Cinda HK").

Under the Agreement, Xi'an TCH transferred its ownership of a set of 7MW steam turbine waste heat power generation system (the "WHPG system currently used by Zhongbao") and four furnaces and ancillary apparatus (the "Assets") to Cinda Financial for \$6.72 million (RMB 42.50 million), and Cinda Financial leased the Assets to Xi'an TCH for 5 years for \$8.15 million (RMB 51.54 million) based upon the transfer cost and the benchmark interest rate for five year loans by People's Bank of China ("PBOC") (then 6.65%) plus 15% of that rate (7.6475%). The interest rate will increase if the five-year benchmark interest rate of PBOC increases but will remain the same if the benchmark rate decreases in the future. Xi'an TCH shall make pro rata quarterly payments to Cinda Financial for the leasing fees. Upon the completion of the lease term and full payment of all leasing fees and other fees, Xi'an TCH can pay \$676 (RMB 4,250) to acquire the ownership of the Assets from Cinda Financial. The quarterly minimum leasing payment to Cinda Financial is \$412,855 (RMB 2,594,998).

In addition to the leasing fees, Xi'an TCH prepaid a one-time non-refundable leasing service charge of \$405,696 (RMB 2,550,000) and a refundable security deposit of \$338,079 (RMB 2,125,000) to Cinda Financial. The prepaid leasing service fee: amortized over five years. For the years ended December 31, 2012 and 2011, \$80,792 (RMB 510,000) and \$39,481 (RMB 255,000) was amortized. The unamortized portion was recorded as prepaid loan fees of \$81,139 and \$202,848 into current and non-current portions, respectively, as of December 31, 2012.

In accordance with ASC 840-10-25-4, since CREG retains substantially all of the benefits and risks relating to the property, this transaction was a financing and was recorded as such. The proceeds of this financing were not received prior to June 30, 2011; therefore, this transaction was recorded in the third quarter of 2011. As of December 31, 2012, the Company made repayments of \$2,476,828 to Cinda Financial.

As of December 31, 2012, the future minimum payment to be made by years is as follows:

2013	\$1,651,419
2014	1,651,419
2015	1,651,419
2016	825,709
Total	\$5,779,966
Unamortized interest	(776,123 )
Total long term payable	5,003,843
Current portion	1,292,185
Noncurrent portion	\$3,711,658

## 15. CONVERTIBLE NOTES PAYABLE AND REVOLVING FINANCING AGREEMENT

### *Convertible Notes from Carlyle*

On April 29, 2008, the Company issued and sold to the Investors a 5% Secured Convertible Promissory Note of \$5,000,000 with an interest rate of 5% and maturity date of April 29, 2011. On April 29, 2009, CREG and the Investors amended and restated the 5% secured convertible promissory note. Accordingly, the Conversion Rights and Conversion Price were amended so that the holder of the Second Note had the right, but not the obligation, to convert all or any part of the outstanding principal amount of the Second Note, together with interest, into shares of the Company's common stock, at any time on or after March 30, 2010 (or such earlier date if the audited consolidated financial statements of the Company for the fiscal year ending December 31, 2009 are available on a date prior to March 30, 2010) and prior to the maturity date (or such later date on which this Note is paid in full), at the following conversion price: (a) an amount equal to (i) the Company's net profit, adjusted in accordance with the Second Note, multiplied by (ii) 5.5, and less (iii) the principal amount of the Second Note, together with accrued interest, divided by (b) the then total shares of the Company's common stock outstanding on a fully-diluted basis. This note was considered to have a BCF starting from January 1, 2010 because the conversion price for this note was \$1.154 as of April 29, 2011. Accordingly, the BCF of \$3.15 million was recorded separately as unamortized BCF based on the intrinsic value method and the Second Note was recorded in the balance sheet at face value less the unamortized BCF. In June 2011, Carlyle converted the Second Note into 4,334,192 shares of the Company's common stock at \$1.154 per share. The effective date of the conversion was April 29, 2011.

On April 29, 2009, CREG issued an 8% Secured Convertible Promissory Note of \$3 million to CAGP with an original maturity date of April 29, 2012. The note holder has the right to convert all or any part of the outstanding principal amount of this note, together with interest, if any, into shares of the Company's common stock, at any time on or after March 30, 2010 (or such earlier date if the audited consolidated financial statements of the Company for the fiscal year ending December 31, 2009 are available on a date prior to March 30, 2010) and prior to the maturity date (or

such later date on which this note is paid in full), at a conversion price per share of common stock equal to \$0.80.

On May 11, 2012, Carlyle, Great Essential Investment, Ltd., (“Great Essential”) and the Company entered into a Convertible Promissory Note Transfer Agreement (the “Agreement”) dated April 28, 2012, in which Great Essential agreed to pay \$3 million to Carlyle for its entire right, title and interest in the Note. All interest due and payable on the Note as of April 29, 2012 was paid by the Company to Carlyle. The transfer of the Note took effect after the payment of the \$3 million transfer price and interest accrued after April 29, 2012 was paid in full by the Great Essential. In the Agreement, Carlyle and Great Essential agreed to extend the maturity date on the Note for 60 days following the effective date of the transfer. On July 24, 2012, Carlyle, Great Essential and the Company entered into a First Amendment to Convertible Promissory Note Transfer Agreement, effective June 30, 2012, in which all parties agreed to extend the termination date of the Agreement from June 30, 2012 to August 30, 2012, and the maturity date of the 8% Secured Promissory Note of \$3,000,000, from July 28, 2012 to September 26, 2012. In September 2012, Great Essential paid Carlyle in full for the note, including accrued interest and, after the note was transferred to Great Essential, Great Essential converted the note into 3,750,000 shares of the Company’s common stock at \$0.80 per share in accordance with the terms of the transfer agreement.



*Convertible Note and Loan Agreement with China Cinda and its Affiliate*

On August 18, 2010, the “Company and its wholly-owned subsidiaries Sifang, Shanghai TCH and Xi’an TCH entered into a Notes Purchase Agreement (the “Note Agreement”) with China Cinda (HK) Asset Management Co., Ltd, a company organized under the laws of the Hong Kong Special Administrative Region of China (“Cinda”). Under the terms of the Note Agreement, the Company will issue Cinda two tranches of convertible notes (the “Notes”), each having a principal amount equal to the US Dollar equivalent of RMB 50 million.

Under the Note Agreement, the Notes shall be issued before August 18, 2011. The Notes have a three-year maturity date from the date of the issuance of the first tranche. The exchange rate between RMB and US Dollar for each issue of Notes is the middle rate published by the People’s Bank of China (the “PBOC”) for the second business day prior to each issuance. Each Note bears interest at a rate equal to that of PBOC base interest rate for the relevant interest period (the period commencing on and including January 1 of each year and ending on and including December 31 of such year) plus 2%. If Cinda does not convert or fully convert the Notes to shares prior to maturity, the Company will pay the difference between the interest rate described above and 18% on the outstanding amount. As collateral for the notes, Mr. Ku, CEO of the Company entered into a Share Pledge Agreement with Cinda on August 18, 2010, to pledge each 4,500,000 shares of the Company’s common stock held by him to secure the first Note and the second note before its issuance, respectively.

Each Note has a conversion price at the lower of (i) \$2.46 per share or (ii) an amount equal to the Company’s EPS based upon the consolidated earnings of the Company for 2010 on a weighted average fully diluted basis, multiplied by seven. The Notes will have a contingent BCF which will be recorded when the contingency is resolved.

Also on August 18, 2010, Xi’an TCH and China Jingu International Trust Co. Ltd. (“Jingu”), an affiliate of Cinda also entered into a Capital Trust Loan Agreement (“Trust Loan Agreement”), in which Jingu will raise 100 million RMB under a Jingu CREG Recycling Economy No. 1 Collective Fund Trust Plan (“Trust Plan”) and lend such amount under the Trust Plan to Xi’an TCH (the “Loans”). If the Loans under the Trust Loan Agreement do not occur, then under the Note Agreement the principal amount of the Notes to be issued in each tranche will be the US dollar equivalent of RMB 100 million. In connection with the Trust Loan Agreement, the Company also entered into an Exchange Rights Agreement pursuant to which the Loans can be exchanged (on the same terms as the Notes can be converted) for shares of the Company’s common stock which can in turn be registered under the Registration Rights Agreement. All proceeds from the Notes and the Loans will be used to complete the Phases IV and V of the Erdos TCH Energy Saving Development Co., Ltd. (“Erdos TCH”) project.

The term of the Loans is for three years from the date of the first draw. The interest rate for the Loans is the People’s Bank of China’s (“PBOC”) three year loan base interest rate plus two percent (2%). If the Loans are not exchanged for shares of the Common Stock of the Company as described below prior to maturity, Xi’an TCH will pay the difference between the interest rate described above and 18% on the outstanding amount. Under the Trust Loan Agreement and

separate agreements entered by Jingu, Erdos TCH, Shanghai TCH, Xi'an TCH and Mr. Guohua Ku on August 18, 2010, Erdos TCH shall pledge the accounts receivable, equipment and assets of its Phases IV and V projects to Jingu as a guarantee to the Loans, Xi'an TCH shall pledge its 80% equity in Erdos TCH to Jingu as a guarantee to the Loans, Shanghai TCH shall provide a joint liability guarantee to Jingu for the Loans, and Mr. Guohua Ku shall provide his personal joint liability to Jingu for the Loans.

On December 30, 2010, the Company received \$7,533,391 (RMB 50,000,000) from the first tranche of the Loans. On January 30, 2011, the Company received another \$7,533,391 (RMB 50,000,000) from the first tranche convertible Note. Under ASC 815 – Derivatives and Hedging, the FV of the conversion option is a derivative that was bifurcated and treated as liability at the date of inception. The conversion feature was accounted for at December 31, 2011 and 2010 using the conversion price of \$2.46. The conversion feature is akin to a call option, therefore, the Black-Scholes option pricing model was used by using the maximum conversion price of \$2.46 as the strike price. Since the conversion option is an embedded derivative and is bifurcated from the host contract, BCF analysis is not required. The FV of the conversion feature was recorded as a liability and will be marked to market until the conversion rate is set. As the loan has a reset clause in the event the Company issues shares below the conversion price, it will be treated as a liability as long as the loan is outstanding. The unamortized discount due to conversion feature will continue to be amortized over the term of the loan; during the year ended December 31, 2011, the Company amortized \$10,747,493 due to BCF including the remaining unamortized portion as a result of repayment of the loans as described below.

On December 9, 2011, the Company, Cinda and Mr. Guohua Ku, the Chairman, CEO and a major shareholder of the Company entered into a Supplemental Agreement (the "Supplemental Agreement") to the Notes Purchase Agreement which was dated August 18, 2010. Pursuant to the terms of the Supplemental Agreement, the Company and Cinda terminated the transaction of the second tranche of RMB 50 million of the convertible note under the Note Agreement. The Company and Cinda also agreed that the Company will redeem the outstanding convertible note at the U.S. Dollar amount equivalent to RMB 25 million each on December 30, 2011 and November 30, 2012, respectively, plus accrued interest at 18% (the "*Redemption Interest Rate*") up to the applicable Redemption Date, minus any interest already accrued and paid (together with the Redemption Principal Amount, the "*Redemption Price*"). There was an additional 5% interest rate on any default in payment of the Redemption Price and due on demand. The interest on the Redemption Principal Amount due on November 30, 2012 (the "*Second Redemption Principal Amount*") accrued at 18%. Half of the amount owed was paid by the Company on June 20, 2012 and the remaining half was due on November 30, 2012; however, upon request from Cinda, the November 30, 2012 date was extended to a future date.

Xi'an TCH redeemed \$3.97 million (RMB 25 million) and interest of \$1.13 million (RMB 7.14 million) on December 30, 2011 per the Supplemental Agreement described above. During the year ended December 31, 2012, the Company amortized \$2,140,050 from the unamortized discount due to the conversion feature of the remaining RMB 25 million. As of December 31, 2012, there was no derivative liability as the Company redeemed half of the outstanding convertible notes at December 30, 2011 and will redeem the remaining half at a future date, plus accrued interest at 18%. During the year ended December 31, 2012, the Company recorded interest expense of \$746,599 on the \$3.97 million (the remaining RMB 25 million) of Cinda loan at 18%. The repayment of the Cinda loan for the remaining \$3.97 million and unpaid interest of \$383,939 was, upon request from Cinda and per an oral agreement, extended from November 30, 2012 to a future date.

On December 9, 2011, Mr. Ku executed a Certificate for additional collateral to pledge an additional 1.5 million shares of common stock of the Company that he owns as collateral to Cinda to secure the unpaid note. In addition, on December 9, 2011, Xi'an TCH and Jingu, an affiliate of Cinda also entered into a Supplemental Agreement (the "Jingu Agreement") to the Capital Trust Loan Agreement. Pursuant to the terms of the Jingu Agreement, Xi'an TCH repaid \$7.94 million (RMB 50 million) and interest of \$1.00 million (RMB 6.45 million) to Jingu on December 16, 2011.

## 16. STOCK-BASED COMPENSATION PLAN

### *Options to Employees*

On August 4, 2008, the Company granted certain employees stock options under the Company's 2007 Non-Statutory Stock Option Plan, which was later amended and restated in 2010, to acquire 3,000,000 shares of the Company's common stock, par value \$0.001, at \$0.80 per share. The options vest over three years and have a life of five years.

Based on the FV method under SFAS No. 123 (Revised) “Share Based Payment” (“SFAS 123(R)”), codified in FASB ASC Topic 718, the FV of each stock option granted is estimated on the date of the grant using the Black-Scholes option pricing model (“BSOPM”). The BSOPM has assumptions for risk free interest rates, dividends, stock volatility and expected life of an option grant. The risk free interest rate is based upon market yields for United States Treasury debt securities at a maturity near the term remaining on the option. Dividend rates are based on the Company’s dividend history. The stock volatility factor is based on the historical volatility of the Company’s stock price. The expected life of an option grant is based on management’s estimate as no options have been exercised in the Plan to date. The FV of each option granted to employees is recognized as compensation expense over the vesting period of each stock option award. The FV of the options was calculated using the following assumptions, estimated life of five years, volatility of 100%, risk free interest rate of 2.76%, and dividend yield of 0%. No estimate of forfeitures was made as the Company has a short history of granting options. The options were accounted for as a modification of the options cancelled on June 25, 2008. The grant date FV of options was \$5.04 million.

On November 9 and 11, 2009, the Company and three option holders agreed to cancel vested but unexercised options for 87,000 vested but unexercised shares and forfeit unvested options for 203,000 unvested shares. On November 11, 2009, the Company granted options to two other employees for 290,000 shares of the Company’s common stock at \$2.35 per share. The options vest over three years and have a life of 5 years. The FV of the options was calculated using the following assumptions, estimated life of five years, volatility of 100%, risk free interest rate of 3.84%, and dividend yield of 0%. The grant date FV of options was \$518,513.

On August 13, 2010, the Company granted 2,200,000 options to acquire the Company's common stock at \$3.05 per share to 36 managerial and non-managerial employees as new equity awards pursuant to the Corporation's Amended and Restated 2007 plan. According to the vesting terms, the options granted were divided into three tranches, (i) 1/3 (one third) of the total number of shares subject to the options shall vest and become exercisable if the Company meets its minimum revenue and earnings goals in the Company's guidance for 2010 as delivered in its earnings releases and/or conference calls in the first quarter of 2010, such vesting to occur immediately upon completion of the annual audit confirming the financial results for 2010; and (ii) an additional 1/3 (one third) of the total number of shares subject to the options shall vest and become exercisable if the Company meets certain financial goals of 2011 which will be set out and decided by the Compensation Committee, such vesting to occur immediately upon Compensation Committee's determination that the Company has met such goals for 2011; and (iii) the remaining 1/3 (one third) of the total number of shares subject to the options shall vest and become exercisable if the Company meets certain financial goals of 2012 which is set out and decided by the Compensation Committee, such vesting is to occur immediately upon Compensation Committee's determination that the Company has met such goals for 2012. The Option may only be exercised to the extent that the Option has become vested and exercisable. The management used its estimates for determining the probability of achieving each year's financial goals; these goals were 100%, 50% and 50% for 2010, 2011 and 2012, respectively.

As of December 31, 2012 and 2011, the Company did not meet the financial goals of 2012 and 2011; accordingly, the second and third tranche (two thirds of the total number of 2,200,000 options) was forfeited.

The options have a life of five years. The FV of the options was calculated using the following assumptions; estimated life of five years, volatility of 92%, risk free interest rate of 3.54%, and dividend yield of 0%. Each tranche of the options was deemed independent of the others; therefore, the fair value of each tranche of the options will be fully expensed within each year.

The following table summarizes activity for employees in the Company's Plan:

	Number of Shares	Average Exercise Price per Share	Weighted Average Remaining Contractual Term in Years
Outstanding at January 1, 2011	5,200,000	\$ 1.84	3.52
Exercisable at January 1, 2011	2,255,000	0.86	2.59
Granted	-	-	-
Exercised	-	-	-
Forfeited	733,333	-	3.61
Outstanding at December 31, 2011	4,466,667	1.64	2.34
Exercisable at December 31, 2011	3,675,333	1.35	2.07

Granted	-	-	-
Exercised	-	-	-
Forfeited	733,334	-	-
Outstanding at December 31, 2012	3,733,333	1.36	1.09
Exercisable at December 31, 2012	3,733,333	\$ 1.36	1.09

In July 2011, the Compensation Committee of the Board of Directors of the Company approved and provided the employees cashless exercise elections to the stock Options granted by the Board of Directors on August 4, 2008.

The Company recorded \$89,252 and \$1,411,138 compensation expense for stock options to employees during the year ended December 31, 2012 and 2011, respectively. There were no options exercised during the years ended December 31, 2012 and 2011, respectively.

Options that were vested and exercisable at December 31, 2012 were 3,733,333 shares, weighted average exercise price of \$1.36, no intrinsic value, and weighted-average remaining contractual term of 1.09 years. Options that were expected to vest at December 31, 2012 were 0 shares.

*Options to Independent Directors*

On October 30, 2009, the Company granted stock options for 130,000 shares of the Company's common stock, at \$1.85 per share to three independent directors. The options vested and became exercisable on the six-month anniversary of the grant date with a life of five years. The FV of the options was calculated using the following assumptions: estimated life of five years, volatility of 100%, risk free interest rate of 3.54%, and dividend yield of 0%. The grant date FV of options was \$183,000.

On January 20, 2010, the Company granted stock options for 40,000 shares of the Company's common stock, at \$4.68 per share to another independent director. The options vested and became exercisable on the six-month anniversary of the grant date with a life of five years. The FV of the options was calculated using the following assumptions: estimated life of five years, volatility of 100%, risk free interest rate of 3.54%, and dividend yield of 0%. The grant date FV of options was \$142,000.

On October 7, 2010, our Board of Directors approved the increase in its size from seven to nine members as a result of entering the Loan and Note agreements with China Cinda and its affiliate on August 18, 2010. At the same time, our Board of Directors appointed Mr. Yilin Ma and Mr. Chungui Shi as new members of our Board of Directors to fill the director vacancies until their successors have been duly elected and qualified. In connection with the appointment, our Board of Directors has authorized the Company to provide Mr. Shi with (i) compensation of \$2,000 per month and (ii) the grant of an option to purchase 40,000 shares of the Company's Common Stock, at an exercise price equal to the closing price per share of the Company's Common Stock on October 7, 2010. The options vested and became exercisable on the six-month anniversary of the grant date with a life of 5 years. The FV of the options was calculated using the following assumptions: estimated life of five years, volatility of 87%, risk free interest rate of 3.54%, and dividend yield of 0%. The grant date FV of options was \$83,000.

The following table summarizes option activity with respect to the independent directors:

	Number of Shares	Average Exercise Price per Share	Weighted Average Remaining Contractual Term in Years
Outstanding at January 1, 2011	210,000	\$ 2.60	4.05
Exercisable at January 1, 2011	170,000	2.52	3.89
Granted	-	-	-
Exercised	-	-	-
Forfeited	-	-	-

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

Outstanding at December 31, 2011	210,000	2.60	3.05
Exercisable at December 31, 2011	210,000	2.60	3.05
Granted	-	-	-
Exercised	-	-	-
Forfeited	-	-	-
Outstanding at December 31, 2012	210,000	2.60	2.05
Exercisable at December 31, 2012	210,000	\$ 2.60	2.05

The Company recorded \$0 and \$43,975 compensation expense for stock options to independent directors during the years ended December 31, 2012 and 2011, respectively. No options were exercised during the years ended December 31, 2012 and 2011.

Options that were vested and exercisable at December 31, 2012 were 210,000 shares, weighted average exercise price of \$2.60, no intrinsic value, and weighted-average remaining contractual term of 2.05 years.



*Warrants to Investor Relation Firms*

On October 1, 2009, the Company granted warrants to acquire 200,000 shares of the Company's common stock, at \$1.50 per share to certain investor relations firms. The warrants are exercisable, in whole or in part, at any time from July 1, 2010 (the "Vesting Date") to October 1, 2014 (the "Expiration Date"). The Company accounted for warrants issued to investor relations firms based on ASC 505-50 at each balance sheet and expense recorded based on the period elapsed at each balance sheet date, which is the date at which the counterparty's performance is deemed to be completed for the period. The FV of each warrant granted is estimated on the date of the grant using the BSOPM under ASC 505-30-11 and is recognized as compensation expense over the service term of the investor relations agreement as it is a better matching of cost with services received. Under that Agreement, the issuance of the warrants was irrevocable and the Company agreed to take no action to cause the warrants to be void or revoked or their issuance to be otherwise terminated. The warrants are classified as equity instruments and are exercisable into a fixed number of common shares. There is no commitment or requirement to change the quantity or terms based on conditions to the counterparty's performance or market conditions. The FV of the warrants was calculated using the following assumptions: estimated life of five years, volatility of 100%, risk free interest rate of 3.54%, and dividend yield of 0%.

The following table summarizes activity for the warrants to certain investor relations IR firms:

	Number of Shares	Average Exercise Price per Share	Weighted Average Remaining Contractual Term in Years
Outstanding at January 1, 2011	50,000	\$ 1.50	3.75
Exercisable at January 1, 2011	50,000	1.50	3.75
Granted	-	-	-
Exercised	-	-	-
Forfeited	-	-	-
Outstanding at December 31, 2011	50,000	1.50	2.75
Exercisable at December 31, 2011	50,000	1.50	2.75
Granted	-	-	-
Exercised	-	-	-
Forfeited	-	-	-
Outstanding at December 31, 2012	50,000	1.50	1.75
Exercisable at December 31, 2012	50,000	\$ 1.50	1.75

The Company recorded \$0 compensation expense for warrants to the IR firms for the years ended December 31, 2012 and 2011. There were no warrants exercised during the years ended December 31, 2012 and 2011.

Warrants that were vested and exercisable at December 31, 2012 were 50,000 shares, weighted average exercise price of \$1.50, no aggregate intrinsic value, and weighted-average remaining contractual term of 1.75 years.

## 17. SHAREHOLDERS' EQUITY

### *Shares Issued for Asset Transfer*

On June 29, 2010, Xi'an TCH entered into a Biomass Power Generation Asset Transfer Agreement (the "Transfer Agreement") with Xueyi Dong ("Dong"), a natural person with Chinese citizenship. Under the Transfer Agreement, Dong transferred a set of biomass systems (the "Biomass Systems") to Xi'an TCH, and Xi'an TCH agreed to pay Dong \$14,705,900 (RMB 100,000,000) for the systems, including RMB 20,000,000 in cash and RMB 80,000,000 in shares of the Company's common stock. On November 22, 2011, our BOD approved the issuance of 2,941,176 shares of the Company's common stock to Dong at \$4 per share to settle outstanding balance of RMB 80,000,000. The exchange rate between U.S. Dollar and Chinese RMB in connection with the stock issuance was 1:6.8. The Company paid the consideration (including both the cash and stock portion) in full in 2011.

As of December 31, 2011, the Company recorded a gain of \$8.3 million from issuance of the shares to Dong, the difference between the amount payable to Dong of \$11.78 million and the FV of \$3,529,411 for the 2,941,176 shares issued on November 22, 2011 by using the stock price on issuance date.

### *ARC Settlement*

The Company and investment relationship company ARC China, Inc. (“ARC”) entered into a Share Purchase Binding Letter of Intent dated as of July 17, 2009 regarding ARC’s purchase of certain Preferred Stock Units of the Company (the “LOI”). Disputes arose between the Parties regarding the LOI, and a lawsuit was pending in federal court. On September 27, 2010, the Company approved the settlement of the lawsuit and the related disputes, claims or disagreements regarding the LOI and the Preferred Stock Units. Pursuant to the settlement, the Company was to issue to ARC up to 520,000 shares of the Company's Common Stock at \$1.23 per share. The Company issued 350,000 of these shares upon the execution of the settlement agreement. Upon satisfaction of certain conditions of the settlement agreement, the Company may issue to ARC or its affiliates up to an additional 170,000 shares at \$1.23 per share. ARC agreed to provide consulting and investor relations services from November 1, 2010 to February 28, 2011. The Company received \$430,500 from issuance of 350,000 shares in October 2010, which was recorded as subscription receivable. The difference between the stock price at the settlement date and the issuance price for the 350,000 settlement shares was recorded as stock compensation expense for investor relations services of \$602,000. A copy of the dismissal of the lawsuit with prejudice was filed by ARC in a Nevada federal court on November 10, 2010. The conditions for the issuance of the additional 170,000 shares were not met; consequently, 150,000 of those shares, which had been issued and delivered to an escrow agent, were returned to the Company and cancelled on March 29, 2011.

## **18. STATUTORY RESERVES**

Pursuant to the corporate law of the PRC effective January 1, 2006, the Company is only required to maintain one statutory reserve by appropriating from its after-tax profit before declaration or payment of dividends. The statutory reserve represents restricted retained earnings.

### *Surplus Reserve Fund*

The Company’s Chinese subsidiaries are required to transfer 10% of their net income, as determined under PRC accounting rules and regulations, to a statutory surplus reserve fund until such reserve balance reaches 50% of the Company’s registered capital. The Company’s Chinese subsidiaries are not required to make appropriation to other reserve funds and do not have any intentions to make appropriations to any other reserve funds. There are no legal requirements in the PRC to fund these reserves by transfer of cash to restricted accounts, and the Company’s Chinese subsidiaries do not intend to do so.

The surplus reserve fund is non-distributable other than during liquidation and can be used to fund previous years' losses, if any, and may be utilized for business expansion or converted into share capital by issuing new shares to existing shareholders in proportion to their shareholding or by increasing the par value of the shares currently held by them, provided that the remaining reserve balance after such issue is not less than 25% of the registered capital.

#### *Common Welfare Fund*

The common welfare fund is a voluntary fund to which the Company can transfer 5% to 10% of its net income. This fund can only be utilized on capital items for the collective benefit of the Company's employees, such as construction of dormitories, cafeteria facilities, and other staff welfare facilities. This fund is non-distributable other than upon liquidation. The Company does not participate in this fund.

The maximum statutory reserve amount has not been reached for any subsidiary. The table below discloses the statutory reserve amount in the currency type registered for each Chinese subsidiary as of December 31, 2012.

Name of Chinese Subsidiaries	Registered Capital	Maximum Statutory Reserve Amount	Statutory reserve at December 31, 2012
Shanghai TCH	\$ 29,800,000	\$ 14,900,000	¥ 6,564,303 (\$ 959,387)
Xi'an TCH	¥ 202,000,000	¥ 101,000,000	¥ 36,413,838 (\$5,377,245)
ErDOS TCH	¥ 120,000,000	¥ 60,000,000	¥ 9,780,018 (\$1,429,370)
Shaanxi Huahong	\$ 2,500,300	\$ 1,250,150	Did not accrue yet due to accumulated deficit
Xingtai Huaxin	¥ 550,000	¥ 275,000	Did not accrue yet due to accumulated deficit

## 19. CONTINGENCIES

The Company's operations in the PRC are subject to specific considerations and significant risks not typically associated with companies in North America and Western Europe. These include risks associated with, among others, the political, economic and legal environments and foreign currency exchange. The Company's results may be adversely affected 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. Remittances in currencies other than RMB may require certain supporting documentation in order to make the remittance.

The Company sells electricity to its customers and receives commercial notes (bank acceptance) from them in lieu of payments for accounts receivable. The Company discounts the commercial notes with the bank or endorses the commercial notes to vendors for payment of their own obligations or to get cash from third parties. Most of the commercial notes have a maturity of less than six months. As of December 31, 2012 and 2011, Xi'an TCH had outstanding notes receivable of \$0 and RMB 520,000 (\$82,528), respectively.

Xi'an TCH was granted a subsidy by Xi'an City Science and Technology Bureau and Xi'an City Finance Bureau under Xi'an Hi-Tech Industry Development Special Project Fund. The special project fund for Xi'an TCH is for a 3 year period, from January 1, 2012 to December 31, 2014, with two criteria established to measure the performance of Xi'an TCH: (i) total accumulated sales in 3 years should be RMB 320 million (\$50.8 million), and (ii) total accumulated taxable income should be RMB 56.9 million (\$ 9.0 million). In 2012, Xi'an TCH's total sales were RMB 129 million (\$20.5 million) and total taxable income was RMB 59.8 million (\$9.5 million) under PRC GAAP. Xian TCH achieved total accumulated taxable income target of RMB 56.9 (\$9.0 million) in 2012 under PRC GAAP. The probability of achieving total accumulated sales of RMB 320 million (\$50.8 million) for the 3 years period was evaluated by the management. Based on management's evaluation, Xi'an had six projects in operation with minimum monthly lease payments of RMB 9.3 million (\$1.5 million) under PRC GAAP; as a result, management believes that achieving total accumulated sales target of RMB 320 million (\$50.8 million) over a period of 3 years is probable and therefore recognized the subsidy income in 2012. Total subsidy income for 3 years was \$499,000 (RMB 3,150,000) and Xi'an TCH paid third party consulting company fees of \$149,700 (RMB 945,000), for services relating to project evaluation and audit, application document preparation, assembling and compiling and net subsidy received was \$349,300 (RMB 2,205,000), which was recorded as part of other income. Xi'an TCH will return the funds to the authority if they do not meet the sales target.

## 20. COMMITMENTS

*Lease Commitment*

On March 5, 2010, Xi'an TCH leased its office under a two year operating lease that expired March 4, 2012. The Company renewed the lease for two years until March 4, 2014, and it can be renewed with the monthly payment increasing by 8% after March 5, 2014. Currently, the monthly rental payment is \$18,000. For the years ended December 31, 2012 and 2011, the annual rental expense was \$213,000 and \$209,000.

ShangHai TCH entered into a one-year renewable rental agreement to lease a virtual office effective April 1, 2011. The lease will be automatically renewed when expires. The monthly payment is \$260. For the years ended December 31, 2012 and 2011, the rental expense was \$3,120 and \$2,340, respectively.

In November 2012, Sifang Holding renewed its office in Beijing for monthly rent of \$1,900 expiring on December 18, 2013. Sifang was required to pay in advance for the first six months rent for \$11,450 at the beginning of the lease. The lease will be automatically renewed when it expires.

Future minimum annual rental payments required under operating leases as of December 31, 2012 are as below (by year):

2013	\$242,000
2014	256,000
2015	275,000
2016	295,000
2017	\$316,000
Total	\$1,384,000

*Shanxi Datong Coal Group Power Generation Projects*

In February 2011, Xi'an TCH signed a contract with Shanxi Datong Coal Group Steel Co., Ltd (the "Shanxi Datong") to recycle gas and steam from groups of blast-furnaces and converter of Shanxi Datong's metal refining plants to generate power. According to the contract, Xi'an TCH will install two 3MW TRT, one 15MW WGPG and two 1MW steam power generation systems, with a total of 23MW power capacity for an estimated total investment of \$27.45 million (RMB 180 million). The lease term is 30 years. During the lease term, Shanxi Datong will be responsible for operating the projects and pay service fee to Xi'an TCH. The service fee is based on an average of 8,000 electricity-generating hours per year and \$0.05 (RMB 0.33) per kilowatt hour ("kWh") for the first 5 years from the completion of each power generation station. For each of the leases, at the 6th year, 11th year and 21st year thereafter, the rate will be RMB 0.3 kWh, 0.27 kWh and 0.25 kWh, respectively. After 30 years, the units will be transferred to Shanxi Datong without any charge.

On February 28, 2011, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for Shanxi Datong Coal projects of two 3MW TRT and one 15 MW WGPG systems described above. The project was scheduled to be completed 12 months from construction commencement.

As of December 31, 2012, the Company had paid \$19.27 million for Shanxi Datong Coal Group Power Generation project. The Company is committed to pay an additional \$10.02 million for the Shanxi Datong Coal Group Power Generation project. This project was previously halted due to business reorganization of Shanxi Datong and a renegotiation of one of the power stations with Xi'an TCH to amend certain construction plans. The Company resumed the construction in April 2012 and expects to complete one of the power stations by the middle of fiscal year 2013.

*Shenqiu Project Phase II*

In October 2012, Xi'an TCH signed a contract with Shenqiu to reform Shenqiu power generation station to enlarge the capacity of Shenqiu Project Phase I to 24 MW. The project was commenced on October 25, 2012 and is expected to be completed by the end of the first quarter of 2013. During the construction period, Xi'an TCH stopped charging Shenqiu with rental fees until completion of the reformation.

On October 15, 2012, Xi'an TCH entered into an agreement with Xi'an Huaxin Energy Tech Co., Ltd (the contractor for construction) for Shenqiu Project Phase II described above. The total cost of the project is \$10.82 million. As of December 31, 2012, the Company had paid \$3.72 million to Xi'an Huaxin Energy Tech Co., Ltd. The Company is committed to pay an additional \$7.10 million for Shenqiu Project Phase II.

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.**

None.

80



ITEM 9A. CONTROLS AND PROCEDURES.

*Disclosure Controls and Procedures*

As of the end of the period covered by this report, we conducted an evaluation under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer of our disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(f) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Based on this evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2012 our disclosure controls and procedures were effective to ensure that information required to be disclosed in our periodic reports filed or submitted under the Securities Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission’s rules and forms, and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures will prevent or detect all errors and all fraud. Disclosure controls and procedures, no matter how well designed, operated and managed, can provide only reasonable assurance that the objectives of the disclosure controls and procedures are met. Because of the inherent limitations of disclosure controls and procedures, no evaluation of such disclosure controls and procedures can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

*Internal Control over Financial Reporting*

Our management is responsible for establishing and maintaining a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. All internal control systems, no matter how well designed, have inherent limitations.

We conducted an assessment of the effectiveness of our system of internal control over financial reporting as of December 31, 2012, the last day of our fiscal year. This assessment was based on criteria established in the framework *Internal Control—Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission and included an evaluation of elements such as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment. Based on our assessment, management has concluded that our internal control over financial reporting was effective as of the end of the fiscal year to provide reasonable assurance regarding the reliability of financial reporting and the preparation of

financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. We reviewed the results of management's assessment with the Audit Committee of our Board of Directors.

This annual report on Form 10-K does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm.

*Changes in internal control over financial reporting*

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2012 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

Not applicable.

PART III

The information required by Part III of this Annual Report on Form 10-K, pursuant to General Instruction G(3) of Form 10-K, will be set forth in the Company's definitive Proxy Statement to be filed pursuant to Regulation 14A relating to the Company's Annual Meeting of Shareholders and is incorporated herein by reference.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

Information regarding our directors and executive officers required by this Item will be set forth under the captions "Proposal 1 — Election of Directors," "Executive Officers," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Information About Our Board of Directors and Corporate Governance" in the Company's definitive Proxy Statement and is incorporated by reference into this Annual Report on Form 10-K.

**ITEM 11. EXECUTIVE COMPENSATION.**

Information required by this Item will be set forth in the Company's definitive Proxy Statement under the captions "Information About Our Board of Directors and Corporate Governance," "Executive Compensation" and "Director Compensation" and is incorporated by reference into this Annual Report on Form 10-K.

**ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS.**

Information required by this Item will be set forth in the Company's definitive Proxy Statement under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" and is incorporated by reference into this Annual Report on Form 10-K.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.**

Information required by this Item will be set forth in the Company's definitive Proxy Statement under the captions "Certain Relationships and Related Party Transactions" and "Information About Our Board of Directors and Corporate Governance" and is incorporated by reference into this Annual Report on Form 10-K.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.**

Information required by this Item will be set forth in the Company's definitive Proxy Statement under the caption "Information about Our Independent Registered Public Accounting Firm" and is incorporated by reference into this Annual Report on Form 10-K.

**ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.**

(a) Financial Statements and Schedules

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

- (1) The following Financial Statements are filed as a part of this report:
  - (i) Report of Independent Registered Public Accounting Firm.
  - (ii) Consolidated Balance Sheets as of December 31, 2012 and December 31, 2011.
  - (iii) Consolidated Statements of Income for the years ended December 31, 2012 and December 31, 2011.
  - (iv) Consolidated Statements of Shareholders' Equity for the years ended December 31, 2012 and December 31, 2011.
  - (v) Consolidated Statements of Cash Flows for the years ended December 31, 2012 and December 31, 2011.
  - (vi) Notes to Consolidated Financial Statements.

(2) All schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and, therefore, have been omitted.

(3) Exhibits. Please see the list of exhibits set forth on our Exhibit Index, which is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**China Recycling  
Energy Corporation**

Date: April 1, 2013 By: /s/ Guohua Ku  
Guohua Ku  
Chairman of the  
Board and Chief  
Executive Officer

Date: April 1, 2013 By: /s/ David Chong  
David Chong  
Secretary, Principal  
Financial Officer and  
Principal Accounting  
Officer

Pursuant to the requirements of the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on April 1, 2013.

Each person whose signature appears below constitutes and appoints Guohua Ku as his true and lawful attorney-in-fact and agent, acting alone, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with all exhibits thereto, and other documents in connection therewith, with the U.S. Securities and Exchange Commission, granting unto said attorney-in-fact and agent, acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all said attorney-in-fact and agent, acting alone, or his substitute, may lawfully do or cause to be done by virtue thereof.

<b><u>Signature</u></b>	<b><u>Title</u></b>
<u>/s/ Guohua Ku</u> Guohua Ku	Chairman of the Board of Directors and Chief Executive Officer
<u>/s/ David Chong</u>	Secretary, Principal Financial Officer and

David Chong	Principal Accounting Officer
<u>/s/ Lanwei Li</u> Lanwei Li	Director and Vice President and Director of Business
<u>/s/ Timothy Driscoll</u> Timothy Driscoll	Director
<u>/s/ Julian Ha</u> Julian Ha	Director
<u>/s/ Albert McLelland</u> Albert McLelland	Director
<u>/s/ Yilin Ma</u> Yilin Ma	Director
<u>/s/ Chungui Shi</u> Chungui Shi	Director

EXHIBIT INDEX

The following documents listed below that have been previously filed with the SEC (1934 Act File No. 000-12536 unless otherwise stated) are incorporated herein by reference:

Exhibit	Description
No.	
3.1	Articles of Incorporation (filed as Exhibit 3.05 to the Company's Form 10-KSB for the fiscal year ended December 31, 2001).
3.2	Fourth Amended and Restated Bylaws (filed as Exhibit 3.1 to the Company's Current Report on Form 8-K dated November 25, 2009).
4.1	Common Stock Specimen (filed as Exhibit 4.1 to the Company's Registration Statement on Form SB-2 dated November 12, 2004; 1934 Act File No. 333-120431).
10.1	Securities Exchange Agreement by and among Boulder Acquisitions, Inc., Sifang Holdings Co., Ltd. and the stockholders of Sifang Holdings Co., Ltd., dated effective as of June 23, 2004 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 23, 2004).
10.2	Share Purchase Agreement, dated January 24, 2007, between individual purchasers and shareholders of China Digital Wireless, Inc. (filed as Exhibit 11.1 to the Company's Current Report on Form 8-K dated January 26, 2007).
10.3	TRT Project Joint Operation Agreement by and between Shanghai TCH Energy Technology Co. Ltd. and Xi'an Yingfeng Science and Technology Co. Ltd., dated February 1, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 8, 2007).
10.4	Share Exchange Agreement by and among Hanqiao Zheng, Guohua Ku and a group of individual purchasers all of whom are stockholders of Xi'an Yingfeng Science and Technology Co. Ltd, dated February 22, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 21, 2007).
10.5	Share Exchange Agreement by and among Guohua Ku and a group of individual purchasers all of whom are stockholders of Xi'an Yingfeng Science and Technology Co. Ltd, dated on August 22, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated August 21, 2007).
10.6	Share Purchase Agreement by and between Guohua Ku and Hanqiao Zheng, dated on August 23, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated August 23, 2007).
10.7	Assets Transfer and Share Issuance Agreement between the Company and Hanqiao Zheng, dated November 14, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated

November 14, 2007).

- 10.8 Share Purchase Agreement between Company and Hanqiao Zheng on November 16, 2007 (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated November 16, 2007).
- 10.9 Stock and Notes Purchase Agreement by and among the Company, Sifang Holdings Co., Ltd., Shanghai TCH Energy Technology Co., Ltd., Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated November 16, 2007 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated November 16, 2007).
- 10.10 Amendment to Stock and Notes Purchase Agreement by and among the Company, Sifang Holdings Co., Ltd., Shanghai TCH Energy Technology Co., Ltd., Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated April 29, 2008 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 29, 2008).
- 10.11 Form of 10% Secured Convertible Promissory Note issued by the Company to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P. (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated November 16, 2007).



10.12 Form of 5% Secured Convertible Promissory Note issued by the Company to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P. (filed as Exhibit 10.3 to the Company's Current Report on Form 8-K dated November 16, 2007).

10.13 5% Secured Convertible Promissory Note in the aggregate principal amount of \$5,000,000 issued by the Company to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P. (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated April 30, 2008).

10.14 Form of 5% Secured Convertible Promissory Note in the aggregate principal amount of \$10,000,000 issued by the Company to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P. (filed as Exhibit 10.3 to the Company's Current Report on Form 8-K dated April 30, 2008).

10.15 Registration Rights Agreement by and among the Company, Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated November 16, 2007 (filed as Exhibit 10.6 to the Company's Current Report on Form 8-K dated November 16, 2007).

10.16 Stockholders Agreement by and among the Company, Carlyle Asia Growth Partners III, L.P., CAGP III Co-Investment, L.P., Hanqiao Zheng and Ping Sun, dated November 16, 2007 (filed as Exhibit 10.5 to the Company's Current Report on Form 8-K dated November 16, 2007).

10.17 Form of Nonstatutory Stock Option Agreement - Manager Employee (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated August 4, 2008).

10.18 2007 Nonstatutory Stock Option Plan (filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 dated November 13, 2007).\*

10.19 Form of Nonstatutory Stock Option Agreement - Non-Manager Employee (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated August 8, 2008).

10.20 Stock Purchase Agreement by and among the Company, Sifang Holdings Co., Ltd., Shanghai TCH Energy Technology Co., Ltd. and Great Essential Investment, Ltd., dated April 15, 2009 (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 20, 2009).

10.21 Registration Rights Agreement by and between the Company and Great Essential Investment, Ltd., dated April 15, 2009 (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated April 20, 2009).

10.22 Note Subscription and Amendment Agreement between the Company and Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P. (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 29, 2009).

10.23 Form of 8% Secured Convertible Promissory Note for the aggregate principal amount of \$3,000,000 issued to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated April 29, 2009 (filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated April 29, 2009).

10.24 Form of Amended and Restated 5% Secured Convertible Promissory Note for the aggregate principal amount of \$5,000,000 issued to Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated April 29, 2009 (filed as Exhibit 10.3 to the Company's Current Report on Form 8-K dated April 29, 2009).

Edgar Filing: CHINA RECYCLING ENERGY CORP - Form 10-K

10.25 Amended and Restated Registration Rights Agreement by and among the Company, Carlyle Asia Growth Partners III, L.P. and CAGP III Co-Investment, L.P., dated April 29, 2009 (filed as Exhibit 10.4 to the Company's Current Report on Form 8-K dated April 29, 2009).

10.26 Supplementary Agreement by and between Inner Mongolia Erdos TCH Energy Saving Development Co., Ltd. and Inner Mongolia Erdos Metallurgy Co., Ltd., dated December 1, 2009 (filed as Exhibit 10.27 to the Company's Form 10-K for the year ended December 31, 2009).

10.27 Joint Operation Agreement by and between Xi'an TCH Energy Technology Co., Ltd., a wholly owned subsidiary of the Company, and Inner Mongolia Erdos Metallurgy Co., Ltd., dated January 20, 2009 (filed as Exhibit 10.1 to the Company's Form 10-Q for the quarterly period ended June 30, 2009).

- 10.28 Short Term Loan Contract by and between Xi'an TCH Energy Technology Co., Ltd., a wholly owned subsidiary of the Company, and Industrial Bank Co., Ltd., Xi'an Branch, dated April 13, 2009 (filed as Exhibit 10.2 to the Company's Form 10-Q for the quarterly period ended June 30, 2009).
- 10.29 Capital Trust Loan Contract by and between Inner Mongolia Erdos TCH Energy Conservation Development Co., Ltd. and Beijing International Trust Co., Ltd. (filed as Exhibit 10.29 to the Company's Form 10-K for the year ended December 31, 2009).
- 10.30 Non-Promissory Short-Term Revolving Financing Agreement by and between Citi Bank (China) Limited, Shanghai Branch, Xi'an TCH Energy Technology Co., Ltd., a wholly owned subsidiary of the Company, and Inner Mongolia Erdos TCH Energy-Saving Development Co., Ltd., dated October 12, 2009 (filed as Exhibit 10.30 to the Company's Form 10-K for the year ended December 31, 2009).
- 10.31 Form of Independent Director Agreement. (filed as Exhibit 10.28 on the Company's Registration Statement on Form 10, filed on February 5, 2010)\*
- 10.32 Employment Agreement between the Company and Guohua Ku (filed as Exhibit 10.29 on the Company's Registration Statement on Form 10, filed on February 5, 2010).\*
- 10.33 Employment Agreement between the Company and Xinyu Peng (filed as Exhibit 10.30 on the Company's Registration Statement on Form 10, filed on February 5, 2010).\*
- 10.34 Form of Employment Agreement between the Company and David Chong. (filed as Exhibit 10.34 on the Company's Form 10-K, for the year ended December 31, 2010)
- 10.35 Loan Agreement for Energy Saving and Emission Reduction between Xi'an TCH and Industrial Bank Co., Ltd., Xi'an Branch (filed as Exhibit 10.1 on the Company's Form 10-Q for the quarter ended June 30, 2010).
- 10.36 First Amendment to Convertible Promissory Note Transfer Agreement, dated July 24, 2012 (filed as Exhibit 10.1 on the Company's Form 10-Q for the quarter ended June 30, 2012)
- 14.1 Code of Ethics (filed as Exhibit 14.1 to the Company's Current Report on Form 8-K dated December 2, 2009).
- 21.1 Subsidiaries (filed as Exhibit 21.1 on the Company's Registration Statement on Form SB-2 dated November 12, 2004).
- 23.1 Consent of Independent Registered Public Accounting Firm. †
- 23.2 Consent of Independent Registered Public Accounting Firm. †
- 31.1 Rule 13a-14(a)/15d-14(a) certification of the Chief Executive Officer. †
- 31.2 Rule 13a-14(a)/15d-14(a) certification of the Chief Financial Officer. †
- 32.1 Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350. †
- 32.2 Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350. †

101.INS XBRL Instance Document

101.SCH XBRL Taxonomy Extension Schema Document

101.CAL XBRL Taxonomy Extension Calculation Linkbase Document

101.LAB XBRL Taxonomy Extension Label Linkbase Document

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

101.DEF XBRL Taxonomy Extension Definition Linkbase Document

\* Management contract, compensatory plan or arrangement.

† Exhibits filed herewith.