



SUNPOWER GROUP LTD

**Corporate Presentation
February 2016**

中聖集團

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1. Overview

20 Years of Proven Track Record

- Established since 1997, with 20 years of proven track record in the energy-saving and environmental protection sector
- Listed on Mainboard of Singapore Exchange since 2005
- 3 Core Segments
 - (a) Green Investments
 - (b) EPC Intergrated Solutions
 - (c) Environmental Equipment Manufacturing
- Customers include
 - (a) Chinese SOEs & corporations such as Sinopec ,CNPC ,CNOOC, and China Shenhua
 - (b) International customers such as BASF, BP, Shell, SABIC, and DOW Chemical

3 Core Segments

Green Investments

(Build-Operate-Transfer BOT
Transfer-operate-transfer TOT
Build-Owned-Operate BOO)

- SMOG Governance:
BOT/TOT/BOO of Centralised
Steam and Electricity Plants
- Future Plans : Evaluating to
expand into other green areas
such as sludge treatment

EPC Integrated Solutions

- EPC of BOT/TOT/BOO projects
- Flare-gas Recovery and Energy
Saving System
- Zero Liquid Discharge System
- Photovoltaic Power Generation
- Clean Energy (Petrochemical
Engineering)

Environmental Equipment Manufacturing

- High Efficient Heat Exchangers
and pressure vessels
- Heat Pipes and heat pipe
exchangers
- Reactors
- Low temperature water
preheater
- Pipeline energy saving product

(a) Green Investments

China's Biggest Environmental Problem

THE STRAITS TIMES
SUNDAY FEBRUARY 14, 2016

Bad air killing more than 5.5m people each year

Over half of such deaths in India and China; scientists urge bolder action against pollution

WASHINGTON • Air pollution kills more than 5.5 million people around the world each year, with over half of those deaths occurring in fast-growing China and India, researchers said on Friday.

And the number of premature deaths will continue to climb in the years ahead unless more aggressive measures against pollution are adopted, scientists warned at the

American Association for the Advancement of Science conference in the US capital.

"Air pollution is the fourth highest risk factor for death globally and by far the leading environmental risk factor for disease," said Dr Michael Brauer, a professor at the University of British Columbia's School of Population and Public Health in Vancouver, Canada.

Air pollution ranks behind high blood pressure, diet and smoking as the fourth greatest risk factor for fatalities worldwide, according to the Global Burden of Disease study, done by the Institute for Health Metrics.

"Reducing air pollution is an incredibly efficient way to improve the health of a population," said Dr Brauer.

China and India account for 55 per cent of yearly global deaths from air pollution. Some 1.6 million people died of air pollution in China in 2013, while India saw 1.4

million deaths.

In China, burning coal is the biggest contributor to poor air quality – and pollution from coal was found to have caused 366,000 deaths in 2013, said Ms Qiao Ma, a PhD student at the School of Environment at Tsinghua University in Beijing, China.

She projected that air pollution will cause anywhere from 990,000 to 1.3 million premature deaths in 2030 unless more ambitious targets are introduced.

"Our study highlights the urgent need for even more aggressive

strategies to reduce emissions from coal and from other sectors," said Ms Ma.

In India, the main culprit was burning wood, dung and biomass for cooking and heating. "India needs a three-pronged mitigation approach to address industrial coal burning, open burning for agriculture, and household air pollution sources," said Dr Chandra Venkataraman, professor of Chemical Engineering at the Indian Institute of Technology Bombay, in Mumbai, India.

According to the World Health Organisation (WHO) air quality guidelines, pollution should be restricted to a daily particulate matter of 25 micrograms per cubic metre. In February, Beijing and New Delhi typically see daily levels at or above 300 micrograms per cubic metre – or 1,200 per cent higher than WHO guidelines, researchers said.

More than 85 per cent of the global population live in areas where the World Health Organisation Air Quality Guideline is exceeded.

AGENCE FRANCE-PRESSE

THE GRIM FACTS

- Air pollution kills more than 5.5 million people globally each year.
- 55 per cent of those deaths occur in India and China.
- Air pollution ranks behind high blood pressure, diet and smoking as the fourth greatest risk factor for fatalities worldwide.
- More than 85 per cent of the global population lives in areas where World Health Organisation guidelines on air quality are exceeded.

AGENCE FRANCE-PRESSE



"Some 1.6 million people died of air pollution in China in 2013, while India saw 1.4 million deaths. In China, burning coal is the biggest contributor to poor air quality. Beijing sees daily particulate matter levels at or above 300 micrograms per cubic metre - or 1,200 per cent higher than WHO guidelines." (Reporter: AGENCE FRANCE-PRESSE)

China's Environmental Strategies



Smog Governance (雾霾治理)

- One of key culprits for China's SMOG & air pollution:
 - inefficient small coal-fired boilers in industrial parks, where each manufacturing plant generate its own steam requirements through inefficient burning of coal.
- China's 2013 Air Pollution Prevention Action Plan (the "**Action Plan**") requires:
 - Closure of small coal-fired boilers with hourly production of 10 tons or less and 35 tons or less, by the end of 2015 and 2017, respectively;
 - Promote efficient industrial boilers; and
 - Accelerate centralised steam technology in the industrial parks



Circular Economy (循环经济)

- A sustainable strategy based on concept of Reduce, Reuse and Recycle
- One of the key measures in the **Action Plan** places emphasis on the development of Circular Economy through acceleration of industrial technology transformation and improvement in innovation capability.



Energy Conservation & Emissions Reduction (节能减排)

- Environmental policies and laws implemented by the Chinese government, such as New Environmental Protection Law and the Water Pollution Prevention Plan, aim to reduce emission of pollutants and energy consumptions.
- For example, the Chinese government targets to reduce carbon dioxide emission by 60%-65% and increase the consumption of non-fossil energy from 7.4% to 20% out of total energy consumption between 2005 and 2030.

Sources : The State Council of the People's Republic of China

Some of China's Regulatory Policies

September 2013

- Air Pollution Prevention Action Plan ~ The State Council of the People's Republic of China
《关于印发大气污染防治行动计划的通知》~ 中国国务院
- Air Pollution Prevention Plan ~ General Office of People's Government of Bao Ding City
《保定市人民政府办公厅关于印发保定市大气污染防治总体工作方案的通知》~ 保定市人民政府

October 2014

- Integrated Upgrades of the Energy-Saving and Environmental Standard of Coal-Fired Boilers ~ Jointly by NDRC, Environmental Protection Department of People's Republic of China, Ministry of Finance, General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, Ministry of Industry and Information Technology, Government Offices Administration of the State Council and National Energy Commission
《关于印发燃煤锅炉节能环保综合提升工程实施方案的通知》~ 国家发展改革委, 环境保护部, 财政部, 国家质检总局, 工业和信息化部, 国管局及国家能源局

March 2015

- Implementation and Operation of Coal-Fired Boilers in Hebei ~ General Office of People's Government of He Bei Province
《河北省燃煤锅炉治理实施方案》~ 河北省人民政府

August 2015

- Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution", Clause 41 ~ Mr Xi Jinping, President of the People's Republic of China
《中华人民共和国大气污染防治法》第四十一条 ~ 中华人民共和国主席 习近平

Eliminate Small Coal-Fired Boilers



Disadvantage of Small Coal-Fired Boilers

- Low capacity
- Low coal quality
- Combustion inefficiency
- Produce energy waste
- No control of emission
- High pollution emission

The “Boiler Action Plan” 《燃煤锅炉节能环保综合提升工程实施方案》

In October 2014, the Chinese government released the Boiler Action Plan. It emphasises that as at the end of 2012:

- they were 46.7 million coal-fired boilers in China with a total capacity of 1.8 million tonnes of steam production per hour.
- annual pollution in the form of Dust, Sulphur Dioxide and Nitrogen Oxide represents 33%, 27% and 9% of China’s annual emission output

The Boiler Action Plan targets to:

- promote high energy-efficiency boiler with a total capacity of 500,000 tonnes of steam production per hour
- increase the share of high-efficiency coal-fired boilers from less than 5% to 40% in the market by 2018.
- eliminate obsolete coal-fired boilers with a total capacity of 400,000 tonnes/hour by 2018

Market Value for Replacing Obsolete Coal-fired Boilers : S\$108B

Estimation by tonnes per hour

Information statistics from the Boiler Action Plan:

- Total Capacity in 2012: approx. 1,800,000 tonnes/hour
- To eliminate obsolete coal-fired boilers with total capacity of 400,000 tonnes of steam production per hour by the end of 2018

Estimated Steam Revenue for 1 tonne/hour = RMB 1,250,000

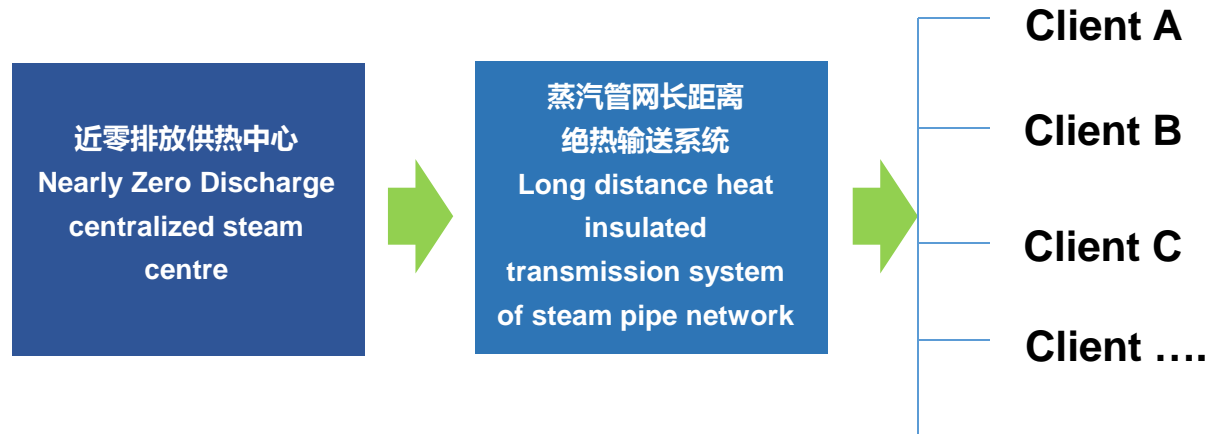
(Source : Company's estimates)

Estimated Market Value for replacement of obsolete coal-fired boilers in China:

400,000t/h x RMB 1,250,000 = **RMB 500,000,000,000 = S\$108 Billion**

(Source : Company's estimates)

Centralised Steam & Electricity Plant



- Nearly 20 years of track record
- Own proprietary technology
- Pipelines distance up to maximum 20-30km

- ✓ **Reduce Emissions:** Effectively reduce discharge of pollutants
- ✓ **Energy Conservation:** Reduce coal consumption and minimise operation costs of power plants
- ✓ **Sustainable development of industrial parks:** improve infrastructure, environment and sustainability of industrial parks



Outstanding Emission Control Capability

Emission Type	National Emission Standard for coal-fired boiler	Regional Emission Standard for coal-fired boiler	National Emission Standard for Natural Gas	Emission Standard for State-Targeted Regions	SP Emission Capability
Dust	50mg/m ³	30mg/m ³	20mg/m ³	20mg/m ³	Less than 5mg/m ³
SOx	300mg/m ³	200mg/m ³	50mg/m ³	50mg/m ³	Less than 35mg/m ³
NOx	300mg/m ³	200mg/m ³	200mg/m ³	150mg/m ³	Less than 50mg/m ³

Source: .emission standard of air pollutants for boiler (GB 13271-2014)

As compared to Natural Gas, Sunpower is capable to deliver:

- ✓ Same or even lower emission standard
- ✓ Much more competitive pricing

Projects-on-hand

Project Name	Nature	Annual designed capacity	Date Announced	Estimated Investment Size (RMB million)	Target Completion
Hebei Changrun Phase 1 Steam	30 years BOO/BOT of centralised steam plant at industrial park	2*220 t/h	23-Dec-2015	817	1QFY2017
Hebei Changrun Phase 1 Electricity	30 years BOO/BOT of centralised electricity plant at industrial park	2*25mv/h	23-Dec-2015	(Integral part of Steam plant)	1QFY2017
Jiangsu LianShui Steam	Less than 30 years BOT of centralised steam plant at industrial park	2*40 t/h	18-Jan- 2016	95	2 nd FY2016
Anhui Quanjiao Phase 1 Steam	30 years BOT of centralised steam plant at industrial park	1*40 t/h	18-Feb- 2016	54	3QFY2016

Source: Company's announcements

Projects-on-hand (con't)

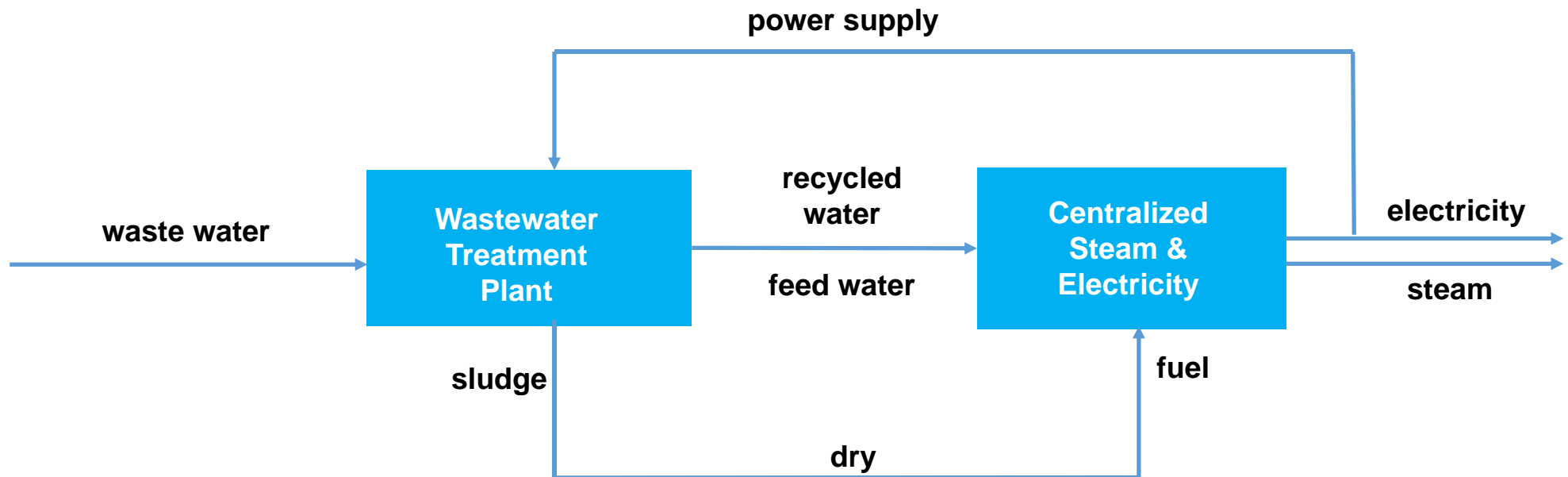
Project	Changrun		Quanjiao		Lianshui	
Emission Standard	Current Standard (tonnes/annum)	SP Standard (tonnes/annum)	Current Standard (tonnes/annum)	SP Standard (tonnes/annum)	Current Standard (tonnes/annum)	SP Standard (tonnes/annum)
Dust	14,080	22	960	5.4	1,280	7.3
SOx	4,064	158	280	8.2	373	18.2
NOx	3,520	225	240	13.1	320	36.5
No. of Small Coal-Fired Boilers that will be shutdown and replaced by our plants for steam production	73 sets		16 sets		18 sets	

Source: Company

Changrun : How Circular Economy Works

Our **Changrun Project** is located at Gaoyang Circular Economy Industrial Park which falls into one of the 18 National Circular Economy Demonstration City.

The following diagram is a illustration of the system used in Changrun Project that incorporates the concept of Circular Economy:



Using recycled water as feed water and dried sludge as fuel for centralized steam and electricity center to supply steam and electricity for customers, while part of the electricity are used for wastewater treatment plant.

(b) EPC Integrated Solutions

Flare-gas & Flare-gas Recovery System

We specialized in flare gas and flare gas recovery system, solving complex problems for different customers. Sunpower design and install flare gas recovery system that can achieve near zero emission of normal flare gas, limiting emissions to only emergency releases. Flare gas can be cycled and then be reused as fuel or chemical materials. Flare gas recycle system makes profits from reducing emissions, which can quickly return on the environmental investment.

Related Industries:

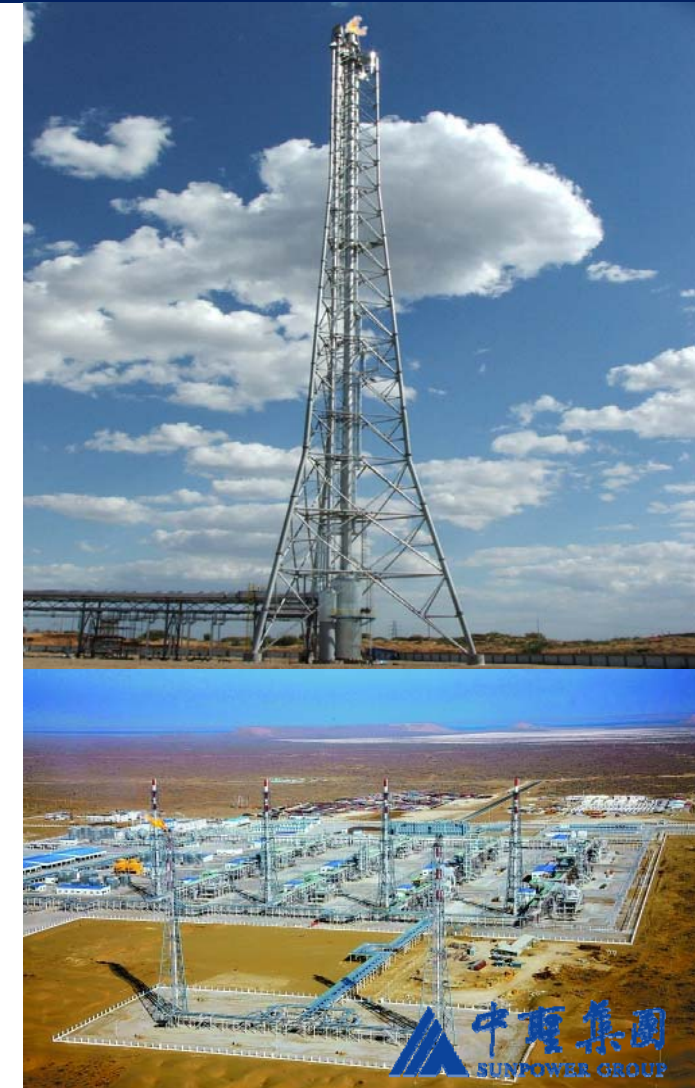
Petrochemical, Coal Chemical, Natural Gas, Metallurgy, refinery , etc

Our Competitive Advantages:

- ✓ 20 years of track record
- ✓ Enterprise Framework Agreement with SHELL
- ✓ Expansion to international market
- ✓ Achieve energy saving and environmental protection
- ✓ One of the leading market players in China

Source: Company

Our Clients:



High salt waste water treatment - Zero Liquid Discharge System

Since the first installation of Zero Liquid Discharge plant in China, Sunpower has been leading in engineering and construction of waste water evaporation and crystallization system in China. Highly integrated with various pretreatments, Sunpower evaporation and crystallization systems recover valuable salts and by-products, reuse/recycle valuable water resources, and reduce effluent volume to reach Zero Liquid Discharge.

Related Industries

Petrochemical, Chemical, Coal Chemical, Power Plant, Paper Pulp, steel, oil sand, etc

Competitive Advantages

- ✓ Own proprietary technology with 10 patents (1 out of 4 in the world, one & only in China)
- ✓ Experienced and professional EPC services
- ✓ Mechanical Vapor Compression Technology 机械压缩降膜蒸发
- ✓ Forced Circulation Flashing Evaporation Technology 强制循环闪蒸结晶
- ✓ Seed Slurry Technology 盐种技术

Clients

Shenhua Group, Sinopec , ChinaCoal

Source: Company



Photovoltaic Power Generation

We rely on our excellent engineering capabilities and integrated turnkey system to provide comprehensive solutions to the investment, technology, design, construction, commissioning of solar photovoltaic power plants.

Competitive Advantages:

- ✓ Excellent design team
- ✓ Sophisticated supply chain management
- ✓ International project experience
- ✓ Comprehensive solution
- ✓ Multi-industrial flexible mind
- ✓ Experienced EPC management team

Clients

GCL Group

Wind-Solar Hybrid



Photovoltaic Greenhouse



Photovoltaic Roof



Fishing-Solar Hybrid



Mountain Photovoltaic



EPC- Petrochemical Engineering



Applications

- ✓ Methanol dosing system
- ✓ Polyethylene system
- ✓ PTA system
- ✓ Polycrystalline manufacturing system
- ✓ Sulfur recovery system

Our Competitive Advantages:

- ✓ Experienced EPC management team
- ✓ Client loyalty
- ✓ Sophisticated supply chain management
- ✓ Comprehensive solution
- ✓ Multi-industrial flexible mind
- ✓ In-house equipment fabrication with controlled quality and schedule

Clients

Sinopec, PetroChina, GCL Group

(c) Environmental Equipment Manufacturing

Environmental Equipment Manufacturing

- Includes the manufacture of heat pipes, heat pipe exchangers, heat exchangers, pressure vessels, reactors and GGH-Gas gas heater, and the provision pipe supports services
- International standard, competitive cost, and short delivery time
- Broad application fields in Petrochemical, Chemical, Oil Gas, Coal Industry, Clean Energy (polysilicon, LNG), Pharmacy, Paper Pulp, Mine, Oil Sand, etc
- Nearly 20 years track record and brand reputation
- Experienced professional team
- Strong R&D Capacity Energy-saving Technology
- World-class clients
- Stable profit



Two-pronged Income Strategy

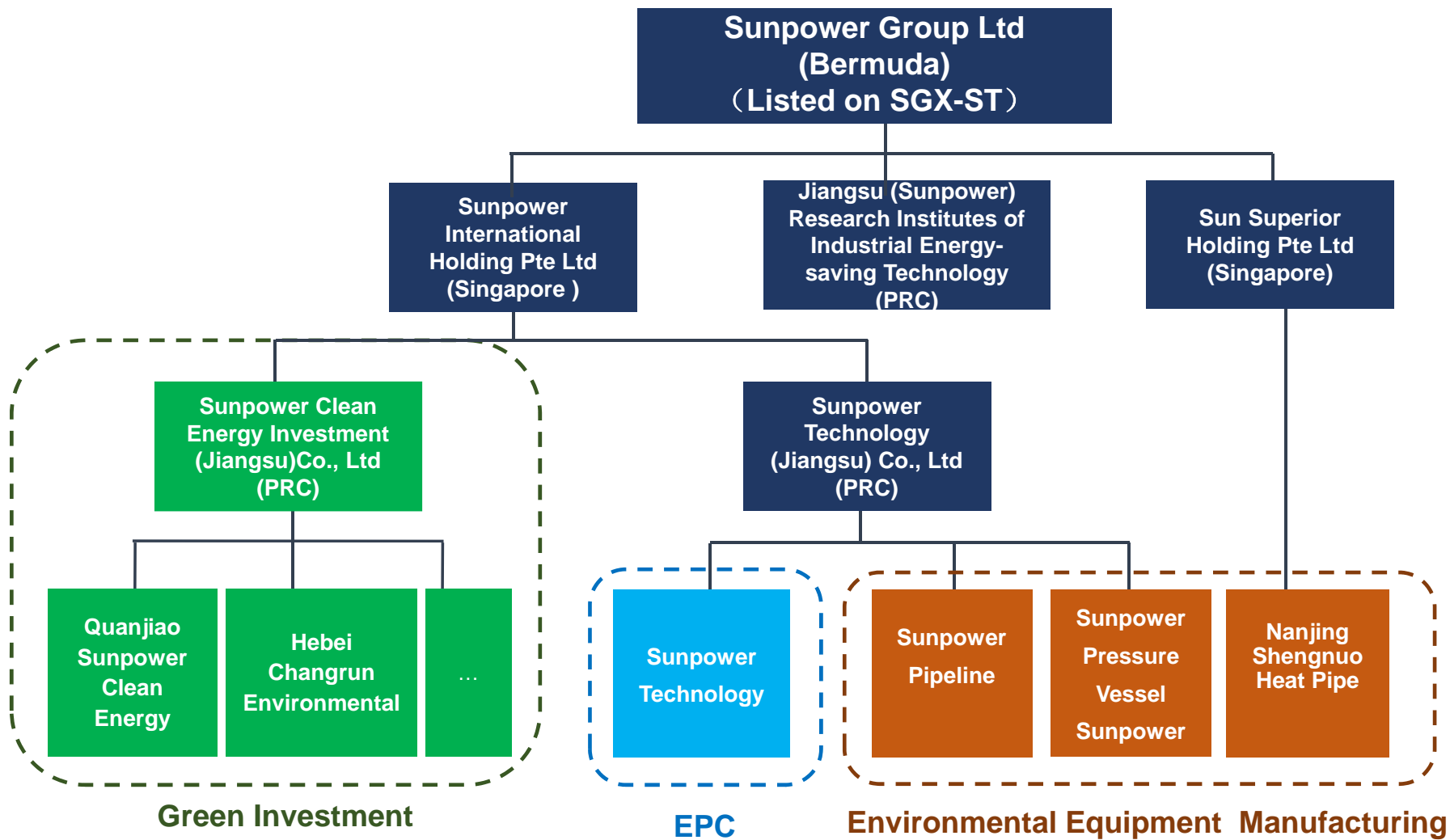
Growth Income

- EPC revenue from BOT/BOO/TOT projects in Green Investments
- EPC revenue from supply of energy related solutions and products to both domestic and international customers

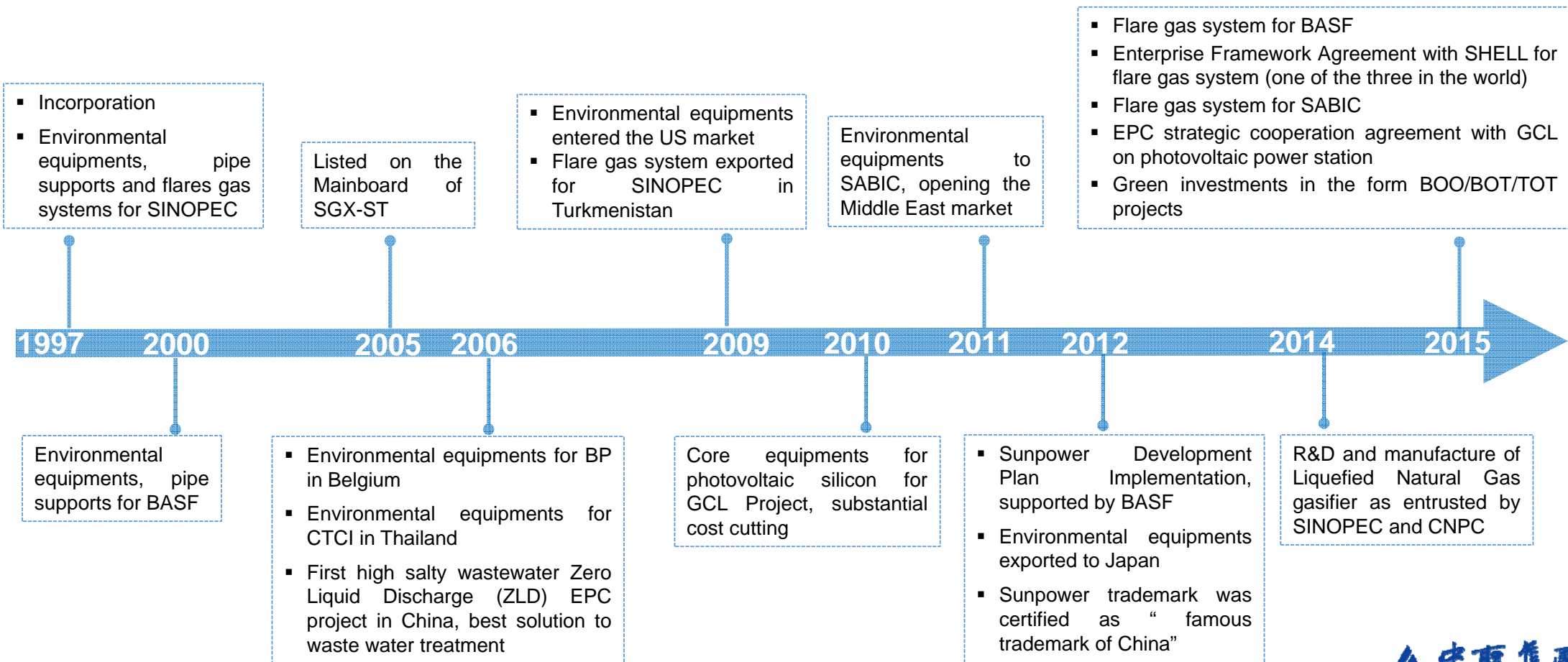
Recurring Income

Achieve recurring income through BOT/ BOO/TOT projects over long term concessions, supplying centralized steam and electricity to customers

Group Structure



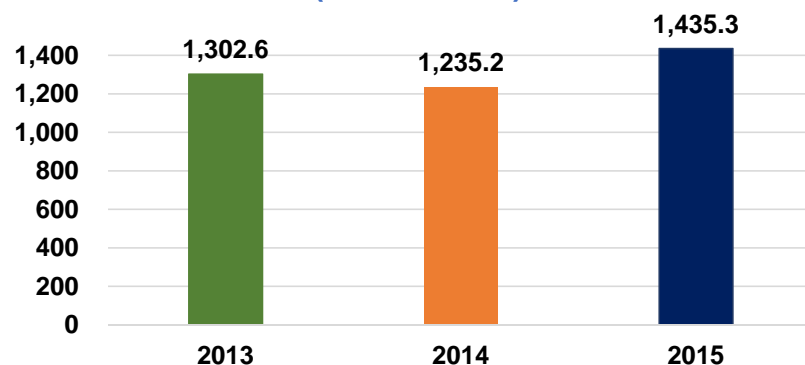
Key Milestones



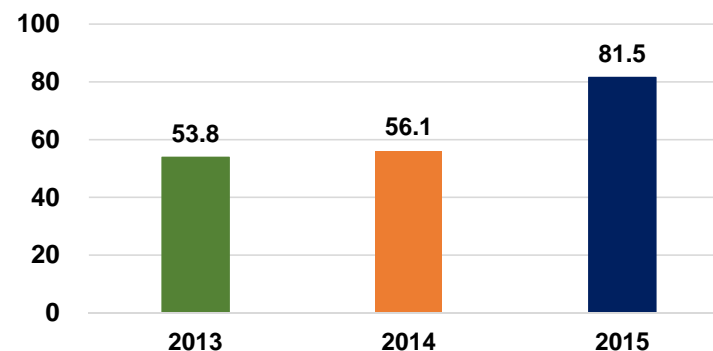
Financial Highlights

Financial Highlights

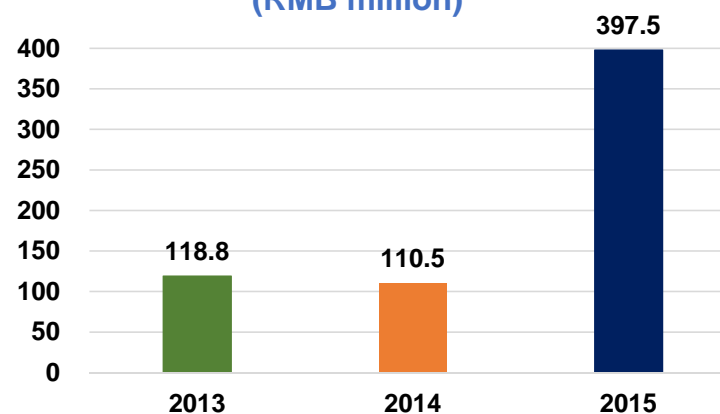
Revenue
(RMB million)



Net Profit Attributable to Shareholders
(RMB million)



Cash and Cash Equivalents
(RMB million)



Source: Company and Sunpower annual report 2014

Financial Highlights

Summary of Group's Income Statements

RMB (million)	Audited FY2013	Audited FY2014	Unaudited FY2015
Revenue	1,302	1,235	1,435
- Environmental Equipment Manufacturing ¹	1,154	1,005	992
- EPC ²	148	230	443
Gross Profit Margin (%)	21.5%	21.9%	22.3%
Pre-tax Profit	68	72	99
Profit for the year attributable to equity holders of the Company	54	56	81
Net Profit Margin (%)	4.1%	4.5%	5.6%
Earning per share (RMB cents)			
-Basic			
-Diluted	16.36	15.11	19.38³

Summary of Group's Balance Sheets

RMB (million)	Audited FY2013	Audited FY2014	Unaudited FY2015
Current Asset	1,691	1,550	2,055
Non-Current Asset	347	350	473
Total Asset	2,038	1,900	2,529
Current Liabilities	1,439	1,202	1,512
Non-Current Liabilities	2	3	24
Total Liabilities	1,441	1,205	1,552
Working Capital	252	348	544
Equity attributable to equity holders of the Company	575	674	972

Source: Unaudited FY2015 was provided by the Company, FY2014 and FY2013 financials was extracted from the Company's annual report 2014

Notes:

1. Previously classified as "Heat pipes and heat pipe exchangers", "Pipes supports" and "Heat Exchangers and pressure vessels" in the financial reports of FY2013 and FY2014.
2. Previously classified as "Energy saving and environmental protection system" in the financial reports of FY2013 and FY2014.
3. Diluted EPS for FY2015 has been calculated assuming share options granted have been exercised during FY2015.

Management Team

Board of Directors



Mr. Guo Hong Xin
Executive Chairman and Founder

- More than 30 years of relevant industry experience. Industry expert and professor in high efficient heat transfer technology development.
- In charge of overall management and strategic plan for the Group.
- Received numerous national/provincial and professional awards for his outstanding contributions. Expert as "National High-level personnel of special support program (" people plan ")"
- The director of the" The Chinese Academy of Sciences Nanjing Permafrost Engineering Center
- Ph.D, EMBA degree in Tsinghua University.



Mr. Ma Ming
Executive Director

- More than 30 years of relevant experience in engineering.
- Responsible for the management of the financial affairs and external investment of the Group.
- Master in Engineering Management from University of Shanghai for Science and Technology, and Bachelor in Chemical Engineering Instruments from Nanjing Chemical Engineering Senior College.



Mr. Jiang Ning
Lead Independent Director

- Lecturer/professor of two Anhui universities from 1982 to 1989.
- Professor, Vice Dean of Yangtze Delta Economic Social Development Research Centre, and Dean of Investment and Finance Research Centre of Nanjing University.



Mr. Lau Ping Sum Pearce
Independent Director

- Executive Director of People's Action Party/PAP Community Foundation from 2001 to 2012.
- Independent Director of two other listed companies in Singapore and a member of the Singapore Institute of Directors.
- Member of Parliament for two Singapore Constituency from 1980 to 1996.
- Head of Computer Services in a statutory board and two local banks from 1973 to 1996.
- Economics Degree from Australian National University, and Business Administration Diploma from University of Singapore.



Mr. Chin Sek Peng
Independent Director

- Co-founding Director of PKF-CAP Advisory Partners Pte Ltd.
- Member of the Institute of Internal Auditors of Singapore. Council member of ISCA and Deputy Chairman of the Public Accounting Practice Committee of ISCA.
- Independent Director in the capacity as Audit Committee Chairman to three other SGX-listed companies.
- Bachelor of Arts (Honours) degree in Accounting and Finance from Lancaster University.

Key Management



Mr Shen Qiang
Group Chief Operation Officer

- Joined in the Company since 2005.
- Overall in charge of operations of 3 core business segments as Vice President from 2011 to 2015
- Assistant Vice President of Pacific Construction Group from 2003 to 2005.
- MBA, and Bachelor in Science and Technology from Nanjing University.



Ms Ge Cuiping
Group Chief Financial Officer

- Joined in the Company since 2004
- Overall in charge of Group's financial affairs
- Bachelor in Accounting from Nanjing Economic Institute, PRC Certified Public Accountant (1999), and PRC Certified Public Valuer (2002)



Mr Li Feng
Group Vice President, GM (Environmental Equipment Manufacturing)

- Joined in the Company since 2005,
- Overall in charge of Environmental Equipment Manufacturing.
- Sales Manager and GM of several leading companies from 1991 to 2005
- MBA from Nanjing University; and Bachelor in Technology from Dalian University of Technology



Mr Yuan Ziwei
Group Vice President, GM (EPC Integrated Solutions)

- Joined in the Company since 2013
- Overall in charge of EPC Integrated Solutions.
- Previously worked for SINOPEC for more than 30 years, as Deputy GM in SINOPEC Ningbo Engineering for 10 years.
- EMBA from China Europe International Business School, and Bachelor in industrial chemistry from Tsinghua University. Leader development training course in IMD of College of business administration



Mr Chen Kai
GM (Green Investments)

- Joined in the Company since 2007.
- More than 15 years experience in risk investment \ IPO and M&A.
- MBA from Nanjing University and Bachelor in Technology from Nanjing University of Science and Technology



Mr Chen Jun
GM of Nanjing Shengnuo Heat Pipe Co., Ltd.

- Joined in the Company since 1998.
- Professional engineer with more than 20 years experience
- with profound knowledge in heat pipe technology.
- Bachelor in Chemical Equipment and Machinery from Nanjing University of Technology.



Mr Xiang Bing
GM of Jiangsu Sunpower Pipe-line Engineering Technology Co., Ltd.

- Joined in the Company since 1999.
- More than 15 years of experience in the engineering industry, specializing in pipe-line engineering.
- Graduated from Harbin Institute of Technology in Thermal Engineering.

Q&A