



Summary of Investment

Introduction

Welcome to the first issue of our investment newsletter, we are pleased to offer investment opportunities in the fields of clean energy and the environment in Asia.

Intermediating project finance is a relatively new area for Caspervandertak Consulting. Most of you will know Caspervandertak Consulting from our work in the field of CDM, where we believe we have gained a reputation for quality work and fair and transparent procedures. When we started our work in CDM, we received a lot of feedback from CER buyers, and as a result could improve the quality of our work and transparency and fairness of our procedures. Therefore, we hope that if you have comments about our newsletter and follow-up services, you will give us feedback, so that we can make continuous improvements to our services.

China – a supportive framework for renewable energy and energy efficiency

In each issue of our newsletter, we will provide a general information overview on a particular topic or country-focus which will help put the projects offered into context, before delving into the specific projects we offer. In this first edition of our newsletter we focus on China, and provide some background on the Chinese policy framework for renewable energy and energy efficiency.

China has taken the threat of climate change seriously and has some quite impressive goals for both renewable energy and energy efficiency.

China's long-term renewable energy policy is to increase the share of renewable power (excluding large hydropower) in total power supply to 10% in 2010 and to 20% by 2020.

China's Renewable Energy Law became effective on 1 January 2006. It provides a framework for the provision of subsidies for renewable power, and in principle assures producers of a grid connection. It also provides several specific installed capacity targets:

Targets	2010	2020
Hydro power	180 GW	300 GW
Wind power	5 GW	30 GW
Biomass	5 GW	30 GW
Solar power	0.3 GW	1.8 GW
Solar heating	150 million m ²	300 million m ²
Biogas and biomass gasification	19 billion m ³ /year	44 billion m ³ /year
Biomass pellets	1 million tonne	50 million tonne
Ethanol	2 million tonne	10 million tonne
Biodiesel	0.2 million tonne	2 million tonne

For energy efficiency, China uses a measure that relates total energy use to the size of GDP – the energy intensity of GDP. China's policy objective related to energy intensity is stated in China's 11th Five Year Plan: The energy consumption per unit of GDP is expected to drop from 0.122 ton standard coal equivalent / thousand RMB GDP in 2005 to 0.098 ton standard coal equivalent / thousand RMB in 2010; a reduction of 20%. In standardized SI units, the Chinese targets correspond to a reduction from 27.3 MJ/EUR in 2005 to 21.9 MJ/EUR in 2010 (converted to SI units, based on exchange rate in 2000: Note that the energy intensity is defined using real GDP data, with 2000 as base year).

Given these aggressive targets, we can expect to see a large flow of investment opportunities in both renewable energy and energy efficiency projects. This issue of the newsletter gives a first sample of these opportunities.

2x25 MW Biomass Cogeneration Project (CI-0022 – China)

Description

The proposed project concerns the construction and operation of a 2x25 MW Greenfield biomass-fired cogeneration facility in China. The nearby paper mills and the electricity grid will receive heat and electricity respectively. Electricity and heat will be generated by burning the abundant biomass resources available in a 40km radius of the proposed project activity.

Important approvals are granted, agreements are in place and studies such as the FSR and EIA are approved. Construction will commence once financing is secured.

The Chinese project developer is experienced in the operation of cogeneration projects. The main technology (boilers) will be supplied by “Anshan Boiler Factory Co., Ltd.”, an experienced manufacturer with a history of 60 years of successful boiler manufacturing.

This project has an attractive expected equity IRR of 22% (calculated over the total equity, after taxes). In addition, this project has the social and environmental advantages of a new renewable energy project.

The project developer is seeking investors to invest around 103 RMB million in this 397 million RMB project. Investment would be into a newly formed SPV.

Timing

The construction activities are expected to commence once financing has been secured. Following a two year construction period, the project is expected to be operational for 20 years.

Year 1 - 2: 24 months construction period

Year 3 - 20: Operational period

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	375,506,700
Equity IRR (over total equity, after taxes)	22%
Project IRR (after taxes)	15%
Pay Back Period (yrs) including construction period	<8
Non-Convertible Debt provided by investor (RMB)	19,830,000
Subordinated Convertible Debt provided by investor (RMB)	48,970,000
Equity provided by investor (RMB)	34,290,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (10 years, 7.83% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 12.35% Subordinated convertible debt provided by investor (10 years, 8% annual interest rate)
- 17.65% Equity, of which 51% held by the project developer, and 49% held by the investor

The proposed financial structure includes the option to enhance the return by converting the subordinated convertible debt to equity.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0022 – China

50 MW Biomass Cogeneration Project (CI-0030– China)

Description

The proposed project concerns the construction and operation of a 50 MW Greenfield biomass-fired co-generation facility in China. Electricity and heat will be generated by firing the abundant corn straws available in a 30 km radius from the proposed project activity. The electricity will be supplied to the regional grid and the co-generated heat will be supplied to the local district heating system.

Important approvals are granted, agreements are in place and studies such the FSR and EIA are issued and approved. The first construction activities have started.

The project developer is a Hong Kong registered entity backed-up amongst other by a European technology provider. Technology employed is of high quality and reliable, and the project developer has experience with the implementation of biomass fired power stations.

The equity IRR after tax, calculated over the total equity and including CDM revenues is around 23%. The project IRR after tax including CDM revenues is approximately 17%. CER revenues are estimated based on 410,825 CERs annually at a CER price of 10 EUR/tCO₂e.

The project developer is looking for an equity investment into a newly formed SPV of around 77 million RMB in this 650 million RMB project.

Timing

The 1.5 year construction period has already started. The returns are calculated over a period of 13 year.

- 1.5 year construction period
- 13 year operational period

Key Financial Parameters

Total investment (RMB)	650,000,000
Project IRR (Including CDM, after tax)	17%
Equity IRR (over total equity, including CDM, after taxes)	23%
Equity provided by investor (RMB)	77,000,000

Proposed Financial Structure

This project involves an investment in a newly formed SPV.

The following proposed financial structure is subject to further negotiation:

- 66% Bank debt (13 years, 7.5% annual interest)
- 34% Equity, of which: 65% of equity already secured by the other investors, and 35% of equity to be held by second investor.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0030 – China

Combined Waste Water treatment, Alkali Recovery and WHR Power Generation Project - Industrial Paper Mill Park (CI-0024-1 – China)

Description

The proposed project concerns the construction and operation of a 48,000 m³/d (16.32 million tonne/year) wastewater treatment system, combined with an alkali recovery system (treating 200,000 tonne pulp annually, and producing 45,900 tonne alkali annually), and a 6 MW captive power plant utilizing waste heat (WHR) from the alkali recovery process, all in a centralized industrial paper mill park.

This project is implemented by the same developer and on the same location as project “CI-0024-2”, and it is possible to combine investment into the two projects

Important approvals are granted, agreements are in place and studies such as the FSR and EIA are issued and approved. Construction will commence once financing is secured and the expected commissioning date follows 12 months after.

The waste water treatment design has been prepared by “Tsinghua Tongfang Water Engineering Company”, affiliated with the prestigious Tsinghua University technology department.

This project has an expected equity IRR of 25% (calculated over the total equity, after tax). In addition, the project brings social and environmental advantages of a comprehensive centralized waste recovery and treatment project, including the utilization of waste heat for energy generation.

The project developer is seeking investors to invest 77 million RMB in this 288 million RMB project (investment in a newly formed SPV).

Timing

The construction will start once financing has been secured. After a 12 months construction period, the plant is expected to be operational for 14 years.

Year 1: 12 month construction period

Year 2 - 15: Operational period

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	280,000,000
Equity IRR (over total equity, after taxes)	25%
Project IRR (after taxes)	16%
Pay Back Period (yrs)	<4
Non-Convertible Debt provided by investor (RMB)	14,400,000
Subordinated Convertible Debt provided by investor (RMB)	35,600,000
Equity provided by investor (RMB)	25,700,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (12 years, 7.2% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 12.35% Subordinated convertible debt provided by investor (10 years, 8% annual interest rate)
- 17.65% Equity, of which 51% held by the project developer, and 49% held by the investor

The proposed financial structure includes the option to enhance the return by converting the subordinated convertible debt to equity.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0024-1 – China

Efficient Energy Provision in Industrial Paper Mill Park (CI-0024-2 – China)

Description

The proposed project concerns the construction and operation of a 50MW coal-fired cogeneration plant (generating 357,000 MWh electricity annually, and producing 6,257,790 GJ heat annually) in a centralized industrial paper mill park located in Wuzhong City, Ningxia Autonomous Region, in China. The project will replace old and inefficient small-scale heat boilers and grid electricity consumption by the paper mills, realizing significant efficiency improvements in the provision of energy.

This project is implemented by the same developer and on the same location as project “CI-0024-1”, and it is possible to combine investment into the two projects

The proposed cogeneration plant is designed by “Liaoning High-Tech Energy Cogeneration Design Institute”, which holds the second ranked qualification for cogeneration plant design in China.

Important approvals are granted, agreements are in place and studies such as the FSR and EIA are issued and approved. Construction will commence once financing is secured and the expected commissioning date follows 12 months after.

The project has an attractive expected equity IRR of 55% (calculated over the total equity, after taxes). In addition, this project has environmental advantages of significant energy provision improvements.

The project developer is seeking an investment of 109 million RMB in this 420 million RMB project (investment in a newly formed SPV).

Timing

The construction will start once financing has been secured. After a 12 months construction period, the plant is expected to be operational for 20years.

Year 1: 12 month construction period

Year 2 - 21: Operational period

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	408,600,000
Equity IRR (over total equity, after taxes)	55%
Project IRR (after taxes)	24%
Pay Back Period (yrs) including construction period	4
Non-Convertible Debt provided by investor (RMB)	21,000,000
Subordinated Convertible Debt provided by investor (RMB)	51,900,000
Equity provided by investor (RMB)	36,300,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (10 years, 7% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 30% Equity, of which 30% held by the project developer, and 70% held by the investor

In addition to the financing structure above, it is also possible for the investor to become the sole equity share holder and operate the project for a number of years under an ESCO type arrangement which would need to be negotiated with the Chinese developer.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0024-2 – China

6 MW Cement Waste Heat Recovery Project (CI-0028 – China)

Description

The proposed project concerns the construction and operation of a 6 MW Waste Heat Recovery (WHR) system at a cement plant China, in order to generate electricity. The cement facility will implement a 6 MW and a 9 MW WHR system in two phases. This project centres around Phase 1, after the successful implementation of which is potential for involvement in Phase 2. The generated electricity will be used for captive purposes (cement facilities).

The Project approval and bank loan approval are granted, equipment purchase agreements are in place and studies such the FSR and EIA are issued and approved. The construction period is from October 2008 until July 2009.

The Chinese project developer is specialized and experienced in cement production. Main technology (i.e. boilers) will be supplied by "Hangzhou Boiler Group Co., Ltd.", specialized in the production of WHR boilers and an experienced manufacturer with a history of over 30 years of successful boiler manufacturing.

This project has an attractive expected equity IRR of 35% (calculated over the total equity, after taxes). In addition, this project has environmental advantages of efficiency improvements.

The project developer is seeking investment in equity and potentially debt in this 43 million RMB project. Investment could be in a newly formed SPV.

Timing

The construction activities have started and the project is expected to be fully operational before the end of 2009. The project lifetime is expected to be around 15 years.

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	42,110,000
Equity IRR (over total equity, after taxes)	38.3%
Project IRR (after taxes)	20.9%
Pay Back Period (yrs) including construction period	<6
Non-Convertible Debt provided by investor (RMB)	2,160,000
Equity provided by investor (RMB)	9,060,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (10 years, 7% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 30% Equity, of which 30% held by the project developer, and 70% held by the investor

In addition to the financing structure above, there is also the possibility for the investor to become the sole equity share holder and operate the project for a number of years under an ESCO type arrangement which would need to be negotiated with the Chinese developer.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investors. Investors are welcome to propose and discuss their own preferred structures.

Reference

Deal summary reference: CI-0028 – China

50 MW Wind Park (CI-0026– China)

Description

The proposed project concerns the construction and operation of a 50 MW wind park in China, which will generate and supply electricity to the grid. An initial 30MW (Stage I) of this project has already successfully been established, and an additional 20MW (Stage II) is to follow.

This project has an attractive expected equity IRR of around 17% (calculated over the total equity, after taxes). In addition, this project has the strong environmental advantages of being a clean energy project.

The equipment manufacturer and supplier, Xinjiang Goldwind Science and Technology Co. Ltd., is one of China's leading wind turbine manufacturers, and also supplied the turbines for the 1st stage.

The project developer is seeking for investors to invest around 105 million in this 401 million RMB project. Investment would be in the established SPV, which includes also the earlier implemented 1st stage wind park.

This project developer has obtained the right for a number of projects in the same regions and is looking to initiate additional Wind farms projects. Several investment opportunities exist and can be discussed with this project developer. We invite you to make inquiries regarding similar projects.

Timing

Construction will begin once financing has been secured. The estimated timeline is the following:

Year 1: Construction period

Years 2 – 21: Operational period

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	381,763,600
Equity IRR (over total equity, after taxes)	17%
Project IRR (after taxes)	13%
Pay Back Period (yrs) including construction period	<8
Non-Convertible Debt provided by investor (RMB)	20,000,000
Subordinated Convertible Debt provided by investor (RMB)	49,500,000
Equity provided by investor (RMB)	35,700,000

Proposed Financing Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (12 years, 7% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 12.35% Subordinated convertible debt provided by investor (10 years, 8% annual interest rate)
- 17.65% Equity, of which 51% held by the project developer, and 49% held by the investor

The proposed financial structure includes the option to enhance the return by converting the subordinated convertible debt to equity.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0026 – China

25 MW Landfill Gas Project (CI-0027– China)

Description

The proposed project concerns the construction and operation of a 25 MW landfill gas (LFG) project located in China. The project will generate and supply electricity to the grid.

The project is located at an existing landfill, and one 5 MW engine has been installed and the LFG venting infrastructure is in place. Planned construction of additional capacity includes three 5MW engines for an immediate capacity increase, and one 5MW engine addition in around 2 years to make full use of available LFG will occur once financing is secured.

The project has successfully implemented its 1st phase and the additional capacity is expected to be equally successful. The gas turbines are all 5MW Jenbacher Austrian LFG engines (the engines are to be supplied by GE under the Austrian designed 'Jenbacher' line), which are of high quality and reliability.

This project has an attractive expected IRR of around 26% (after taxes). In addition, this project has the strong environmental advantages of being a clean energy project.

The project developer is seeking investors to take over the project and install additional capacity. Investment would be into an established SPV.

Timing

The project is partly operational already. Construction of additional capacity can be initiated once financing has been secured. The project has a projected lifetime of 21 years.

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	59,000,000
IRR (100% equity financing assumed, calculated after taxes)	26%
Pay Back Period (yrs) including construction period	5

Proposed Financing Structure

This project is available for outright sale, with a 100% ownership stake.

The existing project and infrastructure are available for an investment of 35 million RMB. An additional 18 million RMB is required for the immediate installation of three 5MW engines, and an additional 6 million RMB will be required later in the project lifetime for an additional 5MW engine.

The financial structure is open to negotiation. Additionally, the investor is free to decide on any debt / equity ratio he prefers in order to fill the investment amount.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0027 – China

20 MW Coal Mine Methane Power Generation Project (CI-0029 – China)

Description

The proposed project concerns the construction and operation of a 40x0.5 MW coal mine methane (CMM) power plant in a coal mine in southwest China. The project includes two phases and for each phase 20 power units will be installed. However, all of the 40 power units can be installed once if the financing is sufficient. The total annual generation amount of the project is 109,200 MWh, of which more than 90% is sold to the public power grid. The power plant will consume 35 million m³ of pure CMM annually.

Important studies such as the FSR and EIA are completed and the project has been approved by the government. Construction will commence once the financing is secured and the expected commissioning date will follow a year after.

The equipment will be manufactured and provided by “Shengli Oilfield Shengli Power Machinery Co., Ltd.”, a leading manufacturer (most experienced in China) with over 30 years of experience in gas turbine manufacturing.

This project has a very attractive expected equity IRR of around 112% (calculated over the total equity, after taxes). In addition, this project has the social and environmental advantages of a new energy project the waste gas.

The project developer can provide 20-30 million RMB and the investors are expected to hold a significant share of equity. Investors are also welcome to provide convertible or non-convertible loan. The project developer is seeking investors to invest around 22 million RMB in this 84 million RMB project. Investment is in a newly formed SPV.

Timing

Construction will commence once the financing is secured and the expected commissioning date will follow a year after.

Key Financial Parameters

Total investment excluding rolled-up interest (RMB)	80,290,300
Equity IRR (over total equity, after taxes)	112%
Project IRR (after taxes)	42%
Pay Back Period (yrs) including construction	around 3
Non-Convertible Debt provided by investor (RMB)	4,200,000
Subordinated Convertible Debt provided by investor (RMB)	10,400,000
Equity provided by investor (RMB)	7,300,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (10 years, 7% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 12.35% Subordinated convertible debt provided by investor (10 years, 8% annual interest rate)
- 17.65% Equity, of which 51% held by the project developer, and 49% held by the investor

The proposed financial structure includes the option to enhance the return by converting the subordinated convertible debt to equity.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0029 – China

2x15 MW Biomass Power Generation Project (CI-0020 – China)

Description

The proposed project concerns the construction and operation of a 2x15 MW Greenfield biomass-fired power generation facility in the southwest of China. The project involves the construction and operation of two boilers which will be matched with 15 MW steam turbine / generator sets.

The project involves the generation of electricity by burning previously unutilized biomass collected abundantly available in the surrounding area. The annual amount of electricity provided to the grid is approximately 158,000 MWh. The boilers will be produced and supplied by a leading boiler manufacturer in China.

Important studies such as the FSR and EIA are completed and the project has been approved by the government. Construction will commence once the financing is secured and the expected commissioning date will follow a year after.

Besides the proposed project, the project developer has a large and interesting biomass project portfolio including several additional investment opportunities that can be discussed.

The equity IRR after tax, calculated over the total equity and including CDM revenues is around 26%. The project IRR after tax including CDM revenues is approximately 15%. CER revenues are estimated based on 142,369 CERs annually at a CER price of 9EUR/tCO₂e and an exchange rate of 9.1 CNY/€

The project developer is looking for an investor to invest around 56 million RMB in this 215 million RMB project. Investment is in a newly formed SPV.

Timing

Construction will commence once the financing is secured and the expected commissioning date will follow 18 months after.

Key Financial Parameters

Total investment (RMB)	206,630,000
Project IRR (Including CDM, after tax)	15%
Equity IRR (over total equity, including CDM after taxes)	26%
Pay Back Period (yrs) including 18 months construction	around 7.5
Non-Convertible Debt provided by investor (RMB)	10,800,000
Subordinated Convertible Debt provided by investor (RMB)	26,500,000
Equity provided by investor (RMB)	18,600,000

Proposed Financial Structure

The following proposed financial structure is subject to further negotiation:

- 65% Chinese Bank debt (10 years, 7% annual interest)
- 5% Non-convertible debt provided by investor (10 years, 8% annual interest rate)
- 12.35% Subordinated convertible debt provided by investor (10 years, 8% annual interest rate)
- 17.65% Equity, of which 51% held by the project developer, and 49% held by the investor

The proposed financial structure includes the option to enhance the return by converting the subordinated convertible debt to equity.

The financing structure may be subject to requirements from the Chinese government, depending on the legal status of the investor. More details and a tailored investment proposal can be discussed.

Reference

Deal summary reference: CI-0020 – China

Interested?

This summary gives an overview of a selection of our projects that are currently seeking financing. To find out more about our investment opportunities, please email Christophe Assicot (with Bohlen Chang carbon copied) and quote the project's reference number:

Contact	Christophe Assicot
Email	christophe@cdmasia.org
With CC to	Bohlen Chang
Email	jinyu@cdmasia.org
Tel	+86 (0)10-8450 5756 (extension 8104)
URL:	www.cdmasia.org

When you make the first request for a Deal Summary, we will ask you to sign a non-disclosure agreement, after which you will receive a Deal Summary containing detailed information regarding the requested project. For all subsequent information requests regarding other projects, it will be sufficient to confirm that the existing signed non-disclosure agreement also applies to the project in question.

Commercial terms for Caspervandertak Consulting services

Caspervandertak Consulting supports the completion of the financial transactions relating to the opportunities mentioned here. For our support, we charge a standard commission and lump-sum fee, both of which are linked to the achievement of specific milestones. We can provide an overview of the commercial terms (on a confidential basis) before you make the first request for a Deal Summary. Note that requesting a Deal Summary in itself will not bind you to make any payment to us in an instance where after reviewing the Deal Summary, you would not wish to pursue the project.

The non-disclosure agreement will also include legal text relating to our standard commercial condition and structure. We therefore suggest you review our commercial conditions at an early stage, and we are happy to provide our commercial conditions to any serious potential investor in projects in the field of clean energy and environment.

Disclaimer

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