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Company Report

Monday, January 26, 2015

HK\$2.35

HK\$2.90 (+22%)

China Merchants Securities (HK) Co.Ltd. Hong Kong Equity Research

Canvest Environmental (1381 HK)

A WTE boutique with harvest time ahead

We initiated coverage on Canvest Environmental with BUY rating and our DCF-based TP is HK\$2.90. In terms of municipal solid waste (MSW) processing capacity in commercial operation (as of end-2013), Canvest was China's 11th and Guangdong's 2nd largest waste-to-energy (WTE) enterprise. Its highlights include: 1) high earnings growth; 2) obvious advantages in projects on hand; 3) high gross margin and IRR driven by quality projects and effective management, rendering it a WTE "boutique." Fast growth in processing capacity ushers in earnings harvest time with 2014-16E net profit CAGR of 36%.

WTE golden era, double benefits from high industry growth and concentration. We expect WTE capacity to grow to 422,000 t/d in 2018 (2014-18 CAGR: 18%). A total of RMB100 bn will be invested in WTE in 2014-18. Operating revenue of RMB33.7 bn is expected in the WTE sector in 2018 (2014-18 CAGR: 17%). Opening-up of regional operation barricades and consolidation will reshuffle the industry.

Quality projects giving it prominent perks. Canvest boasts its large individual project size (Kewei, China Scivest and Eco-Tech's processing capacity (after tech. upgrade) at 1,800 t/d and Zhanjiang at 1,500 t/d) compared to industry average of <1,000 t/d. In 1H14, Canvest's treatment fee averaged RMB110/t, which is higher than the industry average of RMB70-80/t. Kewei and China Scivest, which use moving grate technology, generate 400kWh electricity with each tonne of waste, which is higher than the industry average of 260-300kWh. The 1H14 gross margin of 53% beat peers on quality projects and effective management. The IRR of Kewei and Eco-Tech (after tech. upgrade) is estimated at 20%, which is much higher than the industry average of 10%-13%.

Becoming a regional leader on order growth. Driven by the acquisition of China Scivest, the tech. upgrade and capacity expansion of Eco-Tech and the construction of Zhanjiang project, Canvest's processing capacity is expected to increase 60%/33% YoY (industry growth over the same period was 26%/22%) to 4,800/6,400 t/d in 2014/15. It will rank higher among peers on rapid capacity growth, strengthening its leading position in Guangdong.

Valuation and earning forecast. We expect Canvest to process 1.36/1.58/2.28 mt of waste in 2014-16, and increase by 39%/16%/45% YoY, leading to fast growth in treatment fee and power sales income besides construction revenue from Zhanjiang project. We expect 2014-16 net profit to grow 50%/54%/20% YoY to HK\$196/302/363 mn, with 36% CAGR. Our DCF-based TP is HK\$2.90, implying 2015E P/E and P/B of 19x and 2.2x respectively.

Financials

RMB mn	2012	2013	2014E	2015E	2016E
Revenue	387	390	685	1,161	856
Growth (%)	151%	1%	76%	69%	-26%
Net profit	127	131	196	302	363
Growth (%)	227%	4%	50%	54%	20%
EPS (RMB)	0.06	0.07	0.10	0.15	0.18
DPS (RMB)	0.00	0.00	0.00	0.00	0.00
P/E (x)	37.6	36.3	24.3	15.8	13.1
P/B (x)	20.8	7.0	2.0	1.8	1.6
ROE (%)	55%	19%	8%	11%	12%

Source: Company data, CMS(HK) estimates

Price Performance 4 4 4 5 1 0 -1 -2 -3 Dec/14

Source: Bigdata

Li Xiang 86-755-82943045

BUY

Previous

Previous

Price

lixiang5@cmschina.com.cn

12-month Target Price

(Potential upside)

Initiating Coverage

%	1m	6m	12m	
1381 HK	0.4	0.4	0.4	-
HSI	4.8	3.1	6.2	

Hang Seng Index	24523
HSCEI	12047
Key Data	
52-week range (HK\$)	2.27-2.45
Market cap (HK\$ mn)	4700
Avg. daily volume (mn)	10.2
BVPS (HK\$)	0.88
Shareholdings Structure	
Harvest Vista Company Limited	65.1%
HSBC International Trustee Limited	65.1%
AEP Green Power, Limited	5.2%
No. of shares outstanding (mn)	2000
Free float	25%

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公司报告

粤丰环保(1381 HK)

垃圾发电精品店,业绩收获期到来

我们首次覆盖粤丰环保,给予买入评级,DCF目标价为2.90港元,潜在回报空间为22%。按照已商业化运行的城市生活垃圾处理能力计算(截止2013年底),粤丰环保是中国第十一大及广东省第二大垃圾焚烧发电企业。2014年上半年,公司实现营业收入3.13亿港元。公司主要亮点有:1)业绩高速成长,2)在手项目竞争优势明显,3)优质项目和高效管理推动公司拥有高毛利率和高IRR,我们认为粤丰属于垃圾发电领域的精品店。处理能力快速增长带动公司迎来业绩收获期,预计2014-16年净利润复合增速高达36%。

垃圾发电黄金时代,享受行业高速成长和集中度提升双重红利预计国内 2014-18年垃圾发电总投资约人民币1000亿元,预计2018年垃圾发电行业 的营收将达到337亿元,2014-18年行业营收复合增速高达17%。制约垃圾 发电企业跨区域运营的障碍正在打开,行业整合已经启动,新一轮洗牌期 到来。

在手项目质量优良,竞争优势突出。粤丰单个项目规模庞大,科维、中科和科伟(技改后)处理能力均为1800吨/日,湛江项目为1500吨/日,而目前行业单个项目平均不到1000吨/日;今年上半年粤丰的平均垃圾处理费为110元/吨,高于行业平均的70-80元/吨;采用炉排炉技术的科维和中科吨垃圾发电量约400度,高于行业平均的260-300度。高质量项目和高效管理推动公司毛利率优于竞争对手,上半年粤丰的毛利率高达53%;预计科维和科伟(技改后)的IRR约20%,明显超出行业整体10%-13%的水平。

订单驱动成长,区域龙头呼之欲出。在收购中科、科伟技改扩产和湛江项目开工的带动下,预计粤丰2014/15年垃圾处理能力同比增长60%/33%至4800/6400吨/日(同期行业增速26%/22%)。处理能力的快速释放将推动粤丰提升行业地位,巩固和加强公司在广东省垃圾发电领域的领先地位。

盈利预测及估值。我们预计粤丰2014-16年垃圾处理量将达到136/158/228 万吨,同比增长39%/16%/45%。预计粤丰2014-16年净利润将同比增长 50%/54%/20%至1.96/3.02/3.63亿港元,2014-16年复合增速高达36%。 我们的DCF目标价为2.90港元,首次覆盖给与买入评级,我们的目标价隐 含的2015年市盈率和市净率分别为19x和2.2x。

盈利预测及估值

人民币百万元	2012	2013	2014E	2015E	2016E
营业额	387	390	685	1,161	856
同比增长(%)	151%	1%	76%	69%	-26%
净利润	127	131	196	302	363
同比增长(%)	227%	4%	50%	54%	20%
每股盈利(元)	0.06	0.07	0.10	0.15	0.18
每股股息(元)	0.00	0.00	0.00	0.00	0.00
市盈率(X)	37.6	36.3	24.3	15.8	13.1
市净率(X)	20.8	7.0	2.0	1.8	1.6
ROE(%)	55%	19%	8%	11%	12%

资料来源:公司资料,招商证券(香港)预测

2015年1月26日(星期一)

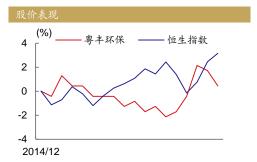
招商证券 (香港)有限公司

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首次覆盖

买入

前次评级	
股价	HK\$2.35
12个月目标价 (上涨空间)	HK\$ 2.90 (+22%)
前次目标价:	



资料来源:贝格数据

%	1m	6m	12m
1381 HK	0.4	0.4	0.4
HSI	4.8	3.1	6.2

行业:	
恒生指数	24523
国企指数	12047
重要数据	
52周股价区间(港元)	2.27-2.45
港股市值 (百万港元)	4700
日均成交量(百万股)	10.2
每股净资产(港元)	0.88
主要股东	
黎健文	65.1%
Harvest Vista Company Limited	65.1%
臻达发展有限公司	65.1%
HSBC International Trustee Limited	65.1%
总股数 (百万股)	2000
自由流通量	25%



Investment thesis

Canvest Environmental is a leading WTE provider in China which focuses on the development, management and operation of WTE plants. After 10 years of development, the company has established its leading position in Guangdong province. It registered operating revenue of HK\$313 mn in 1H14, with revenue from power sales and waste treatment fee accounting for about 61% and 34% of the total, respectively.

Competitive edges: Supermarket vs. Boutique

Given the large order size and broad business coverage, we regard Everbright International and DYNAGREEN as "supermarkets" in the WTE industry. Canvest exhibits traits of regional operations with smaller order size on hand than the other two companies but triumph on individual project size, treatment fees and waste heat value thanks to its quality projects. We deem Canvest as a WTE "boutique" with high gross margin and IRR. IRR for Kewei and Eco-Tech (upon technological upgrade) projects are estimated to be around 20%, significantly higher than the industry average of 10%-13%. Canvest's overall gross margin of 53% in 1H14 also beat Everbright International and DYNAGREEN.

Huge growth potential

We expect the incineration industry to register operating revenue of RMB33.7 bn in 2018, representing a CAGR of 17% in 2014-18. With the opening-up of cross-regional operation barricades and reorganization ahead, we believe Canvest will be able to fully enjoy the double benefits from high industry growth and concentration, expand its number of projects and capacity and strengthen its position in the industry. Following the announcement of new waste incineration standards, fluidized bed will face larger environmental protection pressure due to its impact on the environment. We expect some small and medium enterprises with fluidized bed technology to exit the market. Leveraging its extensive experience in upgrading fluidized bed projects, we expect Canvest to expand its capacity by acquiring and upgrading fluidized bed projects. We project that Canvest's processing capacity will grow 60%/33% YoY to 4,800/6,400 t/d in 2014/15.

Upcoming earnings boom

Canvest enhances its profitability by expanding and upgrading its projects. With the acquisition of China Scivest, technological upgrade and capacity expansion of Eco-Tech and construction of Zhanjiang project, we expect the company's processing volume in 2014-16 to grow 39%/16%/45% YoY to 1.36/1.58/2.28 mt. After comparing the profitability of Kewei and Eco-Tech projects, we believe that of Eco-Tech will improve significantly after shifting from fluidized bed to moving grate technology.

Rapid growth in processing volume and improvement in projects' profitability outlook will effectively translate into fast earning growth. We expect Canvest's 2014-16 net profit to rise 50%/54%/20% YoY to HK\$196/302/363 mn at a CAGR of 36%.

Valuation and peer comparison

Based on the absolute DCF valuation, our 12-month TP for Canvest is HK\$2.90, with a potential upside of 22%. Our TP corresponds to 19x 2015 P/E and 2.2x 2015 P/B.

We believe Canvest's valuation should be at a discount to Everbright International, given the latter's relative advantages in size, market influence and financing cost. Compared to DYNAGREEN, Canvest is closer in terms of the three indicators of capacity in operation, financing cost and net profit CAGR, whilst gross profit margin is better than DYNAGREEN and treatment capacity is weaker. As such, we believe Canvest's valuation should be relatively closer to DYNAGREEN's. Our DCF target price corresponds to 19x 2015 P/E, representing a 27% discount to Everbright International's 21.9x 2015 P/E, or closer to DYNAGREEN's 14.3x 2015 P/E.

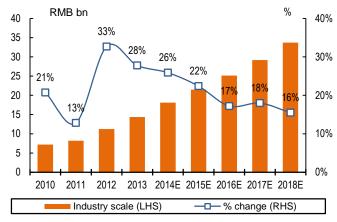
Risk factors:

Changes in China's policy on the industry; hindrance to external expansion, slow construction progress.

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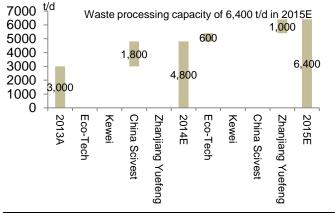
Focus charts

Figure 1: Double-digit growth in operating revenue expected for WTE industry in 2014-18E

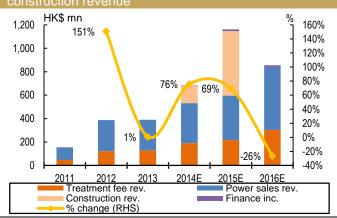


Sources: Company data, CMS (HK)

Figure 3: Capacity growth driven by technological upgrade, acquisition and new construction

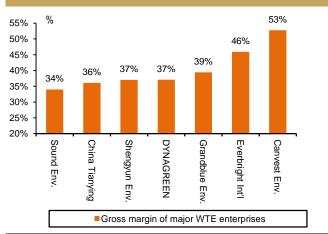


Sources: Company data, CMS (HK)



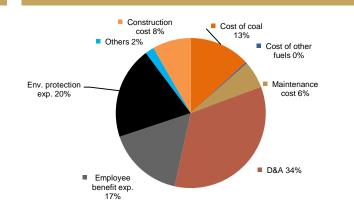
Sources: Company data, CMS (HK)

Figure 2: Higher gross margin than peers (1H2014)

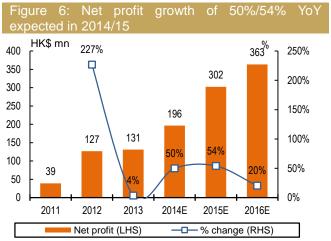


Sources: Company data, CMS (HK)

Figure 4: Canvest's cost structure (1H2014)



Sources: Company data, CMS (HK)



Sources: Company data, CMS (HK)



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Canvest Environmental: Company profile and history

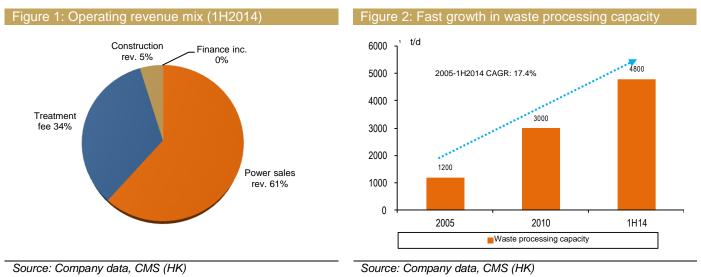
Among the top WTE providers by processing scale. Canvest Environmental is a leading WTE provider in China which focuses on the development, management and operation of WTE plants. In 2005, Canvest's first WTE plant with a processing capacity of 1,200 t/d commenced operation in Dongguan. After 10 years of development, the company has established its leading position in Guangdong province. As at the end of June 2014, Canvest's WTE plants were able to process 4,800 tonnes of MSW each day. In terms of MSW processing capacity under commercial operation (as of end-2013), the company was the second largest WTE provider in Guangdong and ranked 11th across the country, with a market share of 13.0% and 2.0% respectively. It was one of the top WTE enterprises with a non-State-owned background. Among such enterprises, the company was the largest in Guangdong and the fourth largest in China.

History of Canvest

	Major Events
2003	Eco-Tech was established
	Construction of a WTE plant commenced with the approval of Guangdong Development and Reform
2004	Commission (DRC)
	Eco-Tech WTE Plant connected to the grid and commenced commercial operation, with a
2007	processing capacity of 1,200 t/d and an installed capacity of 36MW
2009	Kewei, the second subsidiary of the group, was established
2010	Construction of Kewei WTE Plant commenced with the approval of Guangdong DRC
	Kewei WTE Plant commenced commercial operation, with an MSW processing capacity of 1,800 t/d
2012	and an installed capacity of 30MW
	The company, together with High Point, was awarded the bid for Zhanjiang Project and entered into
2013	the BOT contract for Zhanjiang Project with Zhanjiang DRB
2013	Zhanjiang Yuefeng, the third principal subsidiary, was established
	Acquired China Scivest, which has an MSW processing capacity of 1,800 t/d and an installed power
2014	generation capacity of 42MW
	Eco-Tech WTE Plant commenced the technological upgrade
	Construction of Zhanjiang Project commenced pursuant to the EPC contract

Source: Company data, CMS (HK)

Fast growth in Canvest's processing capacity. Canvest Environmental has maintained fast growth in its waste processing capacity since its first WTE facility commenced operation in 2005. In early 2014, the company's actual processing capacity reached 4,800 t/d, representing a CAGR of 17.4% in 2005-14. It registered operating revenue of HK\$313 mn in 1H14. Looking at its revenue mix, revenue from power sales and waste treatment fee accounted for about 61% and 34% of the total while construction revenue and finance income made up smaller proportions in 1H14.



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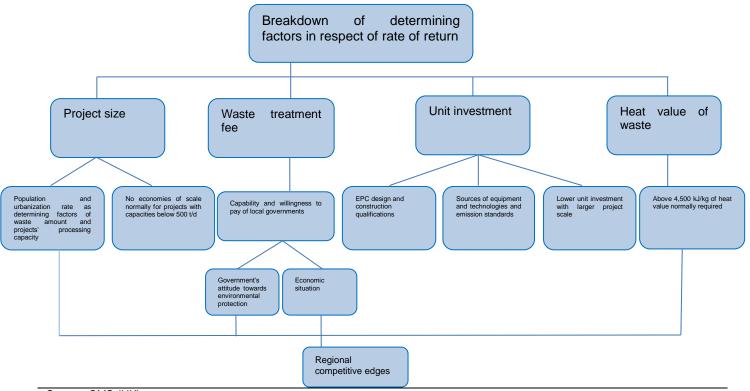
A WTE "boutique" with prominent competitive edges

Analysis of determining factors in respect of WTE projects' rate of return

Return no longer affected by tariff on uniform national on-grid tariff. In April 2012, the DRC issued the *Notice in relation to the Optimization of Waste-to-Energy Power Tariff Policy* and WTE power tariffs were adjusted to RMB0.65 nationwide. Without the tariff factor, project return now only depends on four factors: project size, waste treatment fees, unit investment in processing capacity and heat value of waste.

Return affected by size, treatment fees, unit investment and heat value. Population, urbanization progress, local governments' capabilities and willingness to pay determine project size and treatment fees, whereas local economy determines the heat value of waste. Such factors thus reflect regional competitiveness. In other words, one should run its business in big cities in eastern regions rather than in small cities located in central and western regions. Unit investment depends on the technology adopted by WTE plants (normally higher for moving grate), sources of equipment (self-manufactured or purchased), construction outsourcing and project size (larger size, lower unit investment).

Figure 3: Breakdown of determining factors in respect of typical WTE projects' rate of return



Source: CMS (HK)

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Prominent competitive edges of Canvest: Supermarket vs. Boutique

Supermarket vs. boutique. Everbright International and DYNAGREEN are two major WTE companies listed in Hong Kong. Given the large company size and broad business coverage, we regard them as "supermarkets" in the WTE industry. Canvest, on the other hand, is like a "boutique" which has prominent competitive edges in respect of individual projects.

On a macro-level, Everbright International and DYNAGREEN triumph on total order size and regional business landscape. As state-owned companies with abundant government resources, Everbright International and DYNAGREEN operate nationwide with WTE projects in eastern and central provinces. Their orders in hand amount to nearly 30,000 t/d and approximately 16,000 t/d respectively, substantially higher than that of Canvest. Everbright International has expanded its business from WTE to wastewater treatment, hazardous waste treatment and power generation by biomass, making it a multi-discipline enterprise in the environmental protection sector.

On a micro-level, Canvest triumph on individual project size, treatment fees and waste heat value. From a micro-perspective, we believe that Canvest's WTE projects are superior to Everbright International and DYNAGREEN in terms of treatment fees, individual project size and waste heat value, demonstrating the characteristics of a "boutique".

Processing capacity approaching 2,000 tonnes for Canvest's individual projects, larger in scale. Compared to the WTE projects of Everbright International and DYNAGREEN, it is apparent that Canvest has much better processing capacities in respect of individual projects (close to 2,000 t/d) and individual incinerators (500-600 t/d). Such numbers for Everbright International and DYNAGREEN are mostly below 1,000 t/d and between 300-500 t/d. Large projects, compared to small ones, can combust more fully and take advantage of economies of scale, reducing unit treatment costs and enhancing power generation per unit of waste.

Canvesttriumphs on waste treatment fee. Canvest's projects are located in Guangdong province where the government attaches great importance to environmental protection. With operations in the well-developed Dongguan city, Canvest enjoys a treatment fee of approximately RMB110 per tonne, as compared to RMB70-80 per tonne charged by Everbright International and DYNAGREEN.

Economies of scale more apparent for Canvest Environmental's projects

		Capacity of individual	ionmentaro project	Waste treatment	
Project name	Capacity (t/d)	incinerator (t/d)	Technology selected	fee (RMB/t)	Model
DYNAGREEN	cuptony (da)				model
Changzhou project	1,050	Two at 300, one at 350	Moving grate	75	BOT
Hainingproject	600	Two at 300	Moving grate	75	BOT
Pingyangproject	600	Two at 300	Moving grate	65	BOT
			Three drivers inverse		
			push type moving grate		
Yongjiaproject	500	Two at 250	incinerator	60	BOT
Rushanproject	500	Two at 250	Waste incinerator	52	BOT
Taizhouproject	1000	Two at 500	Mechanical moving grate	80	BOT
Wuhanproject	1000	Three at 350	Waste incinerator	68	BOT
Everbright International					
Phase one of Suzhou	1050	Three at 350	Mechanical moving grate	88	BOT
WTE project Phase two of Suzhou				00	
WTE project	1000	Two at 500	Mechanical moving grate	88	BOT
Phase one of Yixing		_		00	
WTE project	500	Two at 250	Moving grate	88	BOT
Phase one of Jiangyin	000	T			DOT
WTE project	800	Two at 400	Mechanical moving grate	78	BOT
Phase two of Jiangyin	400	One at 400	Mechanical moving grate		вот
WTE project			00	78	
Changzhou WTE project	800	Two at 400	Mechanical moving grate	96	BOT
Phase one of Zhenjiang	1000	Three at 350	Mechanical moving grate		BOT
WTE project			00	>50	_
Jinan WTE project	2000	Four at 500	Mechanical moving grate	>50	BOT
Suqian WTE project Phase three of Suzhou	600	Two at 300	Mechanical moving grate		BOT
WTE project	1500	Three at 500	Moving grate	88	BOT
Nanjing WTE project	2000	Four at 500	Mechanical moving grate	69	вот
WTE project in Beicang			00	03	
district, Ningbo city	1000	Two at 500	Moving grate	95	BOT
Canvest Environmental					
Eco-Tech project (upon					
technological upgrade)	1800	Three at 600	Moving grate	110	BOO
,			20		

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Project name	Capacity (t/d)	Capacity of individual incinerator (t/d)	Technology selected	Waste treatment fee (RMB/t)	Model
Kewei project China Scivest project	1800 1800	Three at 600 Three at 600	Moving grate Moving grate	110 110	BOO BOT
Phase one of Zhanjiang project	1000	Two at 500	Moving grate	82	BOT

Sources: Company data, CMS (HK)

Substantial differences in MSW contents in different regions. In China, MSW is a complicated mixture which is generally classified into 9 categories (paper, plastic, textile, wood and bamboo, glass, etc.). Waste contents, closely related to the overall economy and living standard, vary significantly from region to region. In areas with abundant industrial and commercial activities and higher living standards, waste contains more combustibles and thus a higher unit heat value.

Distinct MSW content with high heat value in Dongguan. Dongguan is an important city for the textile industry in China. Due to the absence of an established solid waste classification and collection system, waste from textile business, such as textile and plastic, will inevitably be processed under the MSW collection and transportation system. As such, we can conclude that such a developed city will see a higher heat value of MSW. According to the studies of State Key Laboratory of Clean Energy Utilization of Zhejiang University (*Analysis on HeatValue of Chinese Cities' MSW*, etc.), among the sample cities, the percentage of combustibles, such as plastic and textile, in Dongguan's MSW is substantially higher than others. Its heat value amounts to 8,839kJ/kg, the highest of all sample cities and well above the others.

Comparison of MSW heat value in different cities

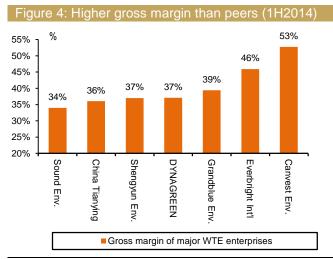
			Shao	Bei	Shen	Qing	Shang			Shen		Dong'e,		Dong
	Jinhua	Wuhu	xing	jing	yang	dao	hai	Wuhan	Ningbo	zhen	Xinmin	Shandong	Panjin	guan
Plastic and rubber/%	15.7	1.7	5.1	15.8	11.0	11.2	13.5	9.5	13.8	13.3	5.0	10.5	5.8	19.3
Paper/%	12.2	4.0	4.1	19.2	7.6	4.0	8.8	5.1	5.1	14.2	1.8	5.0	4.1	6.4
Textile/%	5.1	0.6	2.8	5.3	1.7	3.2	1.9	1.2	4.5	6.7	1.5	2.5	1.5	16.1
Wood & bamboo/%	6.3	0.0	1.5	2.9	1.5	0.0	1.3	0.9	1.0	7.2	0.4	1.0	1.3	7.8
Peels & kitchen waste/%	43.1	67.6	50.0	35.4	67.5	42.2	67.3	57.4	55.9	50.6	55.3	42.5	64.5	22.2
Metal/%	3.8	1.0	0.7	1.4	0.5	1.1	0.7	3.2	0.5	0.0	1.1	1.5	0.5	6.1
Glass/%	2.0	2.0	7.8	3.8	2.8	2.2	5.2	3.0	3.2	0.0	1.4	2.0	2.3	3.4
Ash/%	11.9	19.5	25.4	14.2	2.3	36.1	1.4	19.7	15.6	8.0	33.2	25.0	20.0	10.0
Moisture/%	51.6	56.1	45.1	39.3	58.1	42.4	58.9	51.4	51.9	49.9	49.3	41.2	55.5	31.3
Heat value kJ/kg	5581	2857	3089	823 0	5016	4205	5756	4009	5430	7741	2454	4218	3219	8839

Sources: Analysis on Heat Value of Chinese Cities' MSW, The Study on Prediction of Heat Value of MSW, CMS (HK)

Efficient management and innovation. Canvest boasts efficient management just like other non-state-owned enterprises. Its unburnt rate of bottom ash comes in below 1% compared to the industry average of around 3%-5%. A lower unburnt rate amounts to higher power generation. In respect of technological innovation, generators of 3,000rpm are commonly used in the industry, but Canvest has resolved the instability issue of high-speed generators and uses generators of 6,000rpm, which have higher conversion efficiency. The company has also optimized and enhanced its turbine recovery system to achieve higher heat recovery efficiency.

Higher gross profit margin than peers with outstanding IRR. As stated above, size, treatment fee, unit investment and waste heat value are the four determining factors in project return. As Canvest performs well in those areas, it records notably higher gross profit margin and IRR than other similar WTE competitors. In 1H14, its gross profit margin of 53% was much higher than that of Everbright International and DYNAGREEN (listed companies in Hong Kong) and major WTE enterprises listed in the A-share market. IRR for Kewei and Eco-Tech (upon technological upgrade) projects are estimated to be around 20%, significantly higher than the industry average of 10%-13%.







Sources: Bloomberg, CMS (HK)

Source: CMS (HK)

WTE industry overview: Double benefits from high industry growth and concentration

Incineration becoming the mainstream of waste treatment technologies in China

Definition of MSW. MSW is a type of waste consisting of everyday solid items that are produced from urban residents' daily life activities and services for their everyday life, as well as other solid waste deemed by the authorities as waste, including household waste, commercial waste, waste from shopping malls, streets and other public premises, as well as non-industrial waste from schools, factories, etc.

Landfilling and incineration as the primary MSW treatment methods in China. At present, common MSW technologies primarily include landfilling, composting and incineration (WTE). These three methods all have their own pros and cons. Composting requires strict categorization of waste with over 40% biodegradable contents. However, undifferentiated collection is currently the main mode of waste collection in China where waste categorization is not widely promoted. As such, the prerequisites for large-scale promotion of composting are not sufficient in China and composting only accounts for 3% of MSW processed. Compared to composting, landfilling and incineration, which have a lower requirement on the waste, are the main treatment method in China at the moment.

Comparison of three waste treatment methods (by a plant with processing capacity of 1,000 t/d)

Technology	Landfilling	Composting	Incineration
Floor area	800 acres	160 acres	100 acres
Treatment	To allow biological, physical and chemical changes and decompose organics for the purpose of decrement and innocuousness	To store, ferment and decompose by microbes	To combust in a furnace
Advantages	Small investment, high processing capacity, methane recycling, low operating expenses and methane recycling	Production of refined organic fertilizer	High degree of innocuousness, heat recycling
Disadvantages	Large space required, potential secondary pollution of underground water by pollutant infiltration, waste of resources	Separation and categorization processes requiring higher costs and large space	High initial costs and treatment of dioxin gas required
Applicable areas	Developing regions, arid areas and areas with low land use value	Areas with high biodegradable contents	Central and eastern areas where land resources are scarce
Applicable conditions	Inorganic substance>60%, water content<30%, density>0.5t/d	Biodegradable organic substance>40%	Heat value of wasteper unit>3,300 kJ/kg
Construction cost	RMB200,000/t	RMB300,000/t	RMB400,000/t
Operating cost	RMB40-50/t	RMB80-130/t	RMB50-80/t
Products	Power generation by methane	Organic fertilizer production (may contain heavy metals)	Power generation through incineration
Final treatment	Landfilling being the final treatment	Landfilling of non-compostable waste	Landfilling of incineration residues or production of resources
Surface water pollution	Possible	Possibleon landfilling of non- compostable waste	Less likely
Underground water pollution	Possible due to inappropriate waterproof measures	Possible due to heavy metals in organic fertilizers	Less likely for bottom ash
Air pollution	Due to inappropriate overlaying and compaction measures	Low pollution	Possibledue to dioxin
Soil pollution	Confined to landfill regions	Possible due to heavy metals in organic fertilizers	Possible due to dioxin sedimentation and dumping of bottom ash

Sources: www.cn-hw.net, www.solidwaste.com.cn, compiled by CMS (HK)

MSW treatment facing structural change with landfilling being replaced by incineration. From the perspectives of international experience, government planning and economic viability, incineration will be preferred when it comes to MSW treatment in China compared to landfilling and composting going forward.

International experience: Compared to developed countries, incineration makes up a substantially smaller proportion in China in terms of waste treatment. The number in Japan is over 90% while that in China is merely 30% at present. Thus, there is quite a lot of room for improvement.

- Government planning: Development of the WTE industry is supported by the government through WTE on-grid tariff regulation, tax incentive for WTE enterprises as well as policies and measures to administer industry development.
- Comparison of economic viability: Traditionally, landfilling had the advantage of lower investment amount and operating cost compared to incineration. However, landfilling requires a large area of land. Land resources in central and eastern China are becoming scarce due to rising land premium and urbanization, leading to difficulty in site selection and pressure from increasing land cost for landfilling. Due to the appreciation of land value, incineration has the advantage of using fewer land resources.

Eastern regions to build more incineration facilities. Incineration is able to save more land resources. For a typical waste treatment facility with a daily capacity of 1,000 tonnes, a landfilling plant takes around 800 acres of land whereas an incineration plant only needs around 100 acres. In other words, an incineration plant requires one eighth of the floor area needed by a landfilling plant with the same processing capacity. Considering the shortage of land resources in eastern regions, eastern and central China, these regions will tend to prefer incineration over landfilling in the future. At the end of 2010, incineration accounted for 28% of waste treatment in provinces in eastern China on average. According to the *National Twelfth Five-Year Plan (12th 5YP) for Construction of MSW Innocuous Treatment Facilities*, we expect the figure to climb to 49% by 2015. For individual provinces, incineration will make up 53%, 61% and 56% of waste treatment in economically developed provinces such as Zhejiang, Jiangsu and Guangdong in 2015, respectively.

				2010			2015E					
		essingcapacity			Percentage %			essingcapacity		Percentage %		
	Landfilling	Incineration	Others	Landfilling	Incineration	Others	Landfilling	Incineration	Others	Landfilling	Incineration	Others
Beijing	12.1	2.2	2.4	73%	13%	14%	8.7	12.9	7.3	30%	45%	25%
Tianjin	6.4	1.8	0.0	78%	22%	0%	7.5	6.9	1.5	47%	43%	10%
Hebei	15.2	2.5	1.1	81%	13%	6%	18.7	8.6	3.9	60%	28%	12%
Shanghai	5.8	2.6	2.2	55%	24%	21%	9.4	19.5	4.5	28%	58%	14%
Jiangsu	24.2	15.2	0.0	61%	39%	0%	26.6	31.2	1.0	45%	53%	2%
Zhejiang	22.1	18.5	0.8	53%	45%	2%	22.6	37.1	0.8	38%	61%	1%
Fujian	12.1	7.3	0.0	62%	38%	0%	12.3	16.5	1.4	41%	55%	4%
Shandong	31.8	8.6	1.3	76%	21%	3%	38.3	31.3	5.6	51%	42%	7%
Guang dong	22.4	11.7	0.0	66%	34%	0%	33.0	41.5	0.0	44%	56%	0%
National	352.0	89.6	15.3	77%	20%	3%	513.7	307.2	50.6	59%	35%	6%

Eastern provinces with scarce land resources to be more reliant on incineration

Sources: National 12th 5YP for Construction of MSW Innocuous Treatment Facilities, CMS (HK)

Investment to peak during 12th 5YP and 13th 5YP periods for WTE industry

Investment planned for MSW treatment in "12th 5YP" (2011-15) being three times of that in "11th 5YP". According to the *National 12th 5YP for Construction of MSW Innocuous Treatment Facilities*, the government proposed to invest RMB263.6 bn in MSW area during the "12th 5YP" period, up threefold from the amount during the "11th 5YP" period. Increasing investment in the industry will cause waste processing capacity to surge. Pursuant to the Plan for Construction of MSW Innocuous Treatment Facilities, during the "12th 5YP" period, the national MSW processing capacity will increase from 457,000 t/d in 2010 to 871,000 t/d in 2015, representing a CAGR of 13.8%. The overall scale will therefore almost double. We expect total investment in WTE projects during the "12th 5YP" period to be about RMB70 bn (RMB14 bn each year on average), representing about 27% of total investment planned for MSW treatment during the "12th 5YP" period.

		Accomplished in	Differe	nce from11 th 5YP	a ath an an
Unit: RMB100mn		11 th 5YPperiod	11 th 5YP target	target	12 th 5YP
Investment made	Cities&Counties	561	863	-302	2636
	Cities	367	696	-329	
	Counties	194	167	27	
Breakdown of 12th 5YP			101	2.	
•	Innocuous treatment facilities				1730
	Establishment of collection and transportation system				351
	Storage capacity upgr ade				
	Food waste				211
	Waste categorization				109
	Regulatory system				210 25

Investment planned for MSW treatment in 12th 5YP" is three times of "11th 5YP"

Source: National 12th 5YP for Construction of MSW Innocuous Treatment Facilities

Fast growth in WTE investment expected to continue in "13th 5YP". Sustainable upbeat cycle in the industry is driven by large-scale investment. In view of the low WTE penetration rate in small-to-medium cities in eastern regions, incineration rate of below 20% in provinces in central China and urbanization progress in the country, we do not expect the trend of increasing investment in WTE area to change during the "13th 5YP" period (2016-20), which will ensure the prolonged fast growth in the WTE industry.

Operating revenue expected to reach 17% CAGR for WTE industry in next five years (2014-18)

Projections based on government planning. The environmental protection industry is a typical policy-oriented sector in China. Industry development and government plans and policies are closely related. Based on the *Notice on the Opinions on Further Strengthening MSW Treatment* issued in April 2011 and the *National 12th 5YP for Construction of MSW Innocuous Treatment Facilities* issued in April 2012, we make projections of relevant figures in MSW treatment area for 2014-18.

Our key assumptions are as follows:

- In 2014-18, MSW clearance volume will grow 5% each year on average, the same as the CAGR in 2010-13;
- MSW innocuous treatment rate will rise from 77% in 2013 to 88% in 2018;
- The 35% incineration rate target for MSW by 2015 as set by the government will be achieved and the number will further increase to 44% in 2018;
- Investment for each tonne of incineration capacity is RMB400,000/t;

We expect incineration capacity to reach 422,000 t/d in 2018 and total investment of about RMB100 bn in the next five years. According to our projections, China's incineration capacity will increase from 171,000 t/d in 2013 to 422,000 t/d in 2018, and a CAGR of 18% will be seen in 2014-18. The growth rate is substantially faster than that of MSW innocuous treatment capacity. Based on an investment of RMB400,000/t for each tonne of incineration capacity (from experience), total investment in the incineration industry will amount to RMB100 bn in 2014-18, or RMB20 bn per year on average.

Operating revenue expected to reach 17% CAGR for WTE industry in 2014-18. Driven by the rise in the number of incineration facilities and the rapid increase in processing capacity, we expect the incineration industry to register operating revenue of RMB33.7 bn in 2018, representing a CAGR of 17% in 2014-18. We believe the double-digit growth in operating revenue will provide industry players with sufficient room for development.





Source: CMS (HK) estimates

Source: CMS (HK) estimates

	d for incine	2009	2010	2011	2012	2013	2014E	2015E	2016E	2017E	2018E	14-18CAGF
Tatal nanulation												
Total population	mn	1,335	1,341	1,347	1,354	1,361	1,368	1,374	1,381	1,388	1,395	
Rate of urbanization	%	48%	50%	51%	53%	54%	55%	56%	56%	57%	58%	
Population in cities and counties	mn	645	670	691	712	731	747	763	779	796	812	
Average daily MSWclearance per capita	kg/person	1.02	0.92	0.93	0.95	0.97	1.00	1.03	1.06	1.10	1.13	
MSW cl earance	mt	238	221	232	243	256	269	283	298	314	331	59
Innocuous treatment rate	%	52%	64%	68%	74%	77%	80%	83%	85%	87%	88%	
Innocuoustreatment volume	mt	124	140	158	179	196	216	234	253	272	293	
Innocuous treatment capacity	1,000 t/d	402	457	513	577	632	696	755	815	877	944	89
Capacity and percentage												
Incineration capacity	mt	23	28	31	43	55	69	82	96	111	129	179
Incineration percentage	%	18%	20%	20%	24%	28%	32%	35%	38%	41%	44%	
Landfilling capacity	mt	97	108	122	131	136	142	145	149	155	158	39
Landfilling percentage	%	78%	77%	77%	74%	69%	66%	62%	59%	57%	54%	
Composting capacity	mt	3	2	5	4	5	5	7	8	5	6	49
Composting percentage	%	2%	1%	3%	3%	3%	2%	3%	3%	2%	2%	
Incineration capacity	1,000 t/d	74	90	101	134	171	216	264	310	365	422	189
% YoY	%	39%	21%	13%	33%	28%	26%	22%	17%	18%	16%	
Annual incineration capacity added	1,000 t/d	21	15	12	33	37	44	48	45	56	57	
Annual investment	RMB bn	8.4	6.2	4.6	13.2	14.9	17.8	19.3	18.2	22.3	22.7	
Annual operational scale	RMB bn	6.0	7.2	8.2	11.2	14.4	18.1	21.5	25.1	29.2	33.7	179

Sources: China Statistical Yearbook on Environment, CMS (HK) estimates

Consolidation begins while industry concentration picks up gradually

Importance of "relationship" subsides, WTE enterprises mainly operate on a regional basis. In terms of operating region of WTE providers in China, the enterprises mainly operate on a regional basis and the number of multi-regional operations are relatively small.

Regional operation apparent in the industry (note: as of end-2012)

Company name	Number of projects	Total capacity (t/d)	Coverage	Actually controlled by
Hangzhou Jinjiang Group	40	43400	Mainly in Zhejiang	Private operator
China National Environmental Protection Corp	27	27500	Across China (central and eastern areas)	SASAC Beijing
DYNAGREEN	22	21250	Across China	SASAC Beijing
Shanghai Environment	13	21050	Mainly in Shanghai	SASAC Shanghai
Everbright International	24	21000	Across China (central and eastern areas)	Everbright Group
Sanfeng Environment	16	19200	Chongqing	SASAC Chongqing
Sound Environment	14	13480	Hubei	Sound Group (private enterprise)
Weiming Group	17	13160	Mainly in Zhejiang	Private operator
Shenzhen Energy	7	12250	Shenzhen	SASAC Shenzehn
China Sciences Group	9	9200	Across China	Private operator
New Environmental Energy	5	5775	Beijing	SASAC Beijing
Veolia Environment	2	2400	Shanghai, Guangzhou	Veolia Group (foreign-owned)

Source: www.solidwaste.com.cn, CMS (HK)

Regional operation barricades opening up. Although local governments cannot evade the issue of environmental protection, their investments in this regard are restricted by the abating land transfer boom in thirdand-fourth-tier cities and concerns from the central government and regulatory bodies about local governments' finance platforms. WTE enterprises, undertaking projects by way of BOT and quasi-BOT, could help local governments tackle their capital shortage problems. As such, local governments no longer consider "relationship" first when choosing partners. This opens a door for WTE enterprises to run their businesses elsewhere. Apart from capital shortage, some WTE projects run by local governments are underperforming due to various factors, and this calls for mergers and integrations by enterprises known for their management and cost controls.

Increasing power of capital. Judging by the take-up of WTE projects, there is a growing trend towards crossindustry and region operation, leading to higher market concentration. Cross-region operation hints at increasing power of capital. Thus, capital, instead of "relationship", is becoming the determining factor in the further development of WTE enterprises.

Capital playing a more important role in competition under BOT model. BOT is currently the main stream operation model of WTE projects. Considering the large cash outflow at the construction stage and long payback period for WTE BOT projects, a strong financial background is an objective prerequisite for enterprises to run BOT projects. Listed companies, unlike unlisted ones, have access to debt and equity financing at a relatively low cost. Therefore, under the new industry development trend, capital-laden enterprises will become winners eventually and smaller WTE enterprises with poor operation acumen will be gradually eliminated or merged.

Analysis of industry model and competitive landscape

Uniform power price but differentiated WTE subsidies

The main purposes of waste incineration are to reduce the size of waste, turning it into resources and make it innocuous whereas power generation by waste heat is merely a side product of recycling. Thus, the business should be a public utility in nature.

Government WTE subsidies comprises of WTE power price subsidies and waste incineration treatment subsidies. In respect of the latter, based on the technologies adopted by waste incineration projects, average heat value of waste and local governments' financial strength and willingness to pay, local governments grant moving-grate projects more subsidies on a case-by-case basis as such technology requires higher construction and operating costs. As for waste incineration treatment subsidies, conditions for treatment fee adjustment would generally be provided in the BOT contract. The project operator and local government will negotiate for a new treatment fee standard when the conditions are met.

Uniform national WTE on-grid tariff. In respect of power price subsidies, pursuant to the *Notice in relation to the Optimization of Waste-to-Energy Power Tariff Policy* promulgated by the National DRC in March 2012, since April 2012, for WTE projects processing MSW, on-grid power is calculated based on MSW collected. Every tonne of MSW translates into 280 kWh of on-grid power for now with RMB0.65 per kWh (VAT inclusive) under national uniform WTE tariff. For the portion exceeding 280 kWh, industrial tariff of the place where the project operates will apply.

BOT as the main operation model of WTE plants in China

In recent years, the government has retreated from direct investment in WTE plants and shifted to the grant of concession rights by way of tender. At present, BOT or quasi-BOT models are the major operating models adopted for WTE projects in China and it is relatively rare to use BOO model. Under BOT model, the local government will put out a public tender as the project promoter and WTE enterprises intending to operate such project will submit their tenders. The winning enterprise will establish a project company to sign the concession agreement with the government and obtain investment, construction and operation rights in respect of the WTE project. As for project financing, an environmental company would normally inject capital amounting to 30% of total investment to the project company and pledge the project company's future income right to secure bank facilities. The debt financing ratio would be around 70%.

After the completion of WTE project construction, the project company will be responsible for the operation and management of the WTE plant and the government will give a certain amount of waste treatment subsidy to the plant. Meanwhile, the plant may generate income from power generation. The investor will rely on revenue during the operation period to recover its investment. Upon expiry of the concession period, the project company will be transferred to the government at nil consideration.

A typical WTE BOT project consists of five stages:

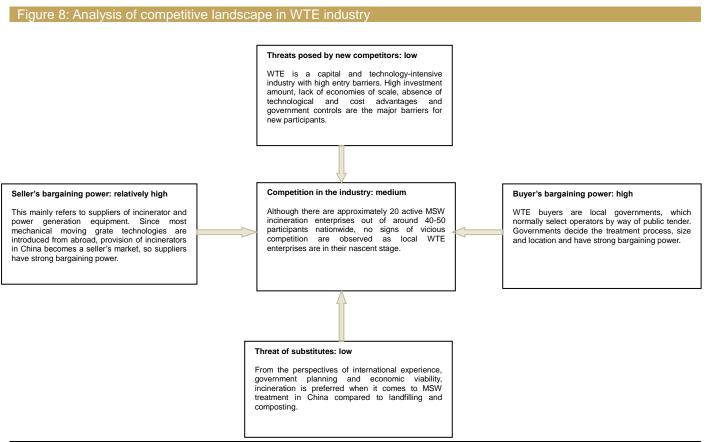
- > Tender stage: the local government puts out a public tender as the WTE project promoter.
- Preliminary stage: The successful bidder establishes a project company as the investor, signs the concession agreement with the government, carries out relocation and dismantling processes and conducts environment assessment and feasible study.
- Construction period: The investor constructs the WTE plant with its own capital and bank borrowings. Construction usually lasts 15-18 months, during which construction revenue is recognized.
- Operation period: After completion of construction, the investor is responsible for the operation of the WTE plant and receives waste treatment subsidy and revenue from power generation, which are used for loan repayment and investment recovery.
- Transfer stage: Upon expiry of concession period, the investor ensures the WTE plant is in good condition and transfers it to the government at nil consideration.



Analysis of competitive landscape in WTE industry

Due to the capital and technology-intensive nature of WTE business and increasing government attentions to track records in tendering, threats posed by new participants remain low. As the optimal MSW treatment method currently available in China, WTE will continue to be backed by government policies, making its replacement by landfilling and composting less likely. Since tender offerors and treatment fee payers in the WTE industry are the local governments where the incineration facilities are located, the buyers have strong bargaining power. On the other hand, the provision of WTE equipment is a seller's market where the suppliers have strong bargaining power. At present, the WTE industry in China has just started and is fast-growing. Vicious competition is yet to be seen.

As a public utility rather than an energy industry player, WTE enterprises derive its profits mostly from government subsidies, which have a direct influence on the prosperity of such industry.

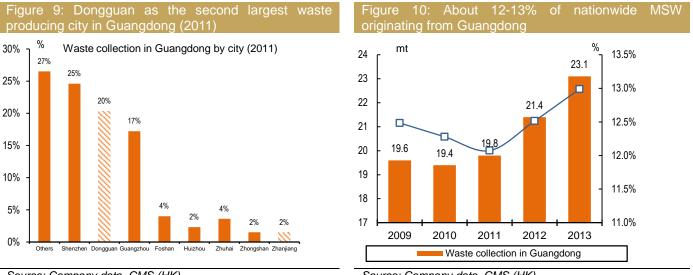


Source: CMS (HK)

Canvest's outlook: becoming regional leader with fast-growing processing capacity

Large amount of MSW in Guangdong where the company operates

Canvest's business mostly in Dongguan and Zhanjiang, Guangdong province. Both GDP and population of Guangdong rank No.1 in China. Thanks to high income level and large population, there is a huge amount of MSW discharged in Guangdong. In 2013, 23.10 mt of MSW were collected and transported in Guangdong, representing approximately 13% of the national total. As the second largest MSW collection city in Guangdong, Dongguan has built, regardless of its high discharge figure, a sound collection and transportation system, with a capacity of over 10,000 t/d. In 2011, the amount of waste collected and transported in Dongguan and Zhanjiang accounted for 20.3% and about 1.5% of that in Guangdong respectively.



Source: Company data, CMS (HK)

Source: Company data, CMS (HK)

Larger growth space for MSW collection and transportation in Zhanjiang as solid waste of villages and small towns will also be collected soon. Since there was no waste incineration facilities in Zhanjiang city before Canvest established such plant, all MSW were processed by way of landfilling. With a designed landfilling capacity of 1,000 t/d, the city actually processed nearly 1,200 t/d due to the enormous amount of MSW discharged. In light of the fact that Zhanjiang government will start collecting and transporting rural solid waste, we expect the amount of solid waste collected and transported to increase to 1,450 t/d in 2015 and further to 2,000 t/d in 2020.

Waste volume and incinerator profile in Dongguan and Zhanjiang

	Waste volume and processing capacity in 2014 (t/d)	Total future MSW processing capacity (t/d)	Remarks
Dongguan	(00)	processing supusity (ru)	Keinarko
Total amount of waste in Dongguan	10000	10000	
Kewei WTE Plant	1800	1800	Commissioned in mid-2012
ChinaScivestWTE Plant	1800	1800	Commissioned in early 2014
Eco-tech WTE Plant	1200	1800	Tocommission in 2015
The HoujieWTE Plant	1500	1500	Commissioned
Anincineration plant under planning		1500	Under planning
Percentage of incineration to waste treatment in Dongguan	63%	84%	
Zhanjiang			
Total amount of waste in Zhanjiang	1000	1460	
Phase one of the Zhanjiang Project		1000	Tocommission in 2015
Percentage of incineration to waste treatment in Zhanjiang		68%	

Source: Company data, CMS (HK)

Note: "Future" refers to the next 3-5 years

CMS(HK) @ 招商证券(香港)

Four WTE projects under Canvest's management. The company runs four WTE projects, namely Eco-Tech, Kewei, China Scivest and Zhanjiang Yuefeng. Except for Zhanjiang Yuefeng, the other three projects are located in Dongguan, Guangdong province. Among the four projects, only Kewei (1,800 t/d) and China Scivest (1,800 t/d) are in operation. In 3Q14, Eco-Tech has commenced its technological upgrade from fluidized bed to moving grate. The upgrade is expected to be completed and a trial run is expected to start in 3Q15. The construction of phase one of Zhanjiang project (1,000 t/d) has commenced. The project is scheduled to complete construction and commence trial operation in 3Q15.

WTE plants under Canvest's management

	Eco-Tech	Kewei	China Scivest	Zhanjiang Yuefeng
Daily processing capacity	1,200 tones(1,800 tonnes after technological upgrade)	1,800 tonnes	1,800 tonnes	1,000 tonnesin phase one and 500 tonnesin phase two
Installed capacity	36 MW	30 MW	42 MW	30 MW
Incineration technology	Fluidized bed (moving grate after technological upgrade)	Moving grate	Moving grate	Moving grate
Business model	BOÓ	BOO	BOT	BOT
Minimum amount guaranteed	N/A	N/A	1,600 t/d	800 t/d in phase one
Term of concession right	N/A	N/A	24 years	28 years
Commencement of trial operation	2005-06	2011-1	2013-7	3Q15
Updates	Technological upgrade	Incommercial o peration	In commercial operation	Under construction
Shareholding	100%	100%	100%	55%
Actual/estimated investment	RMB452 mn (Technological upgrade)	RMB361 mn	RMB415 mn	Phase 1: RMB470 mn

Source: Company data, CMS (HK)

Operation models of the company's projects: both BOO and BOT

Substantial differences between BOO and BOT model. BOT (Build – Operate – Transfer) model is commonly adopted in China's WTE industry to build and operate WTE plants and it is relatively rare to use BOO (Build – Own – Operate) model. There are substantial differences between BOO model and BOT model in terms of obtaining process, project transfer, waste supply agreement and revenue recognition.

Differences between BOO and BOT model adopted by WTE enterprises

	BOO projects	BOT projects
Operation of facilities and assets	Own and operate facilities and assets without maturity date No need to transfer the ownership of the relevant WTE plants and the ancillary production facilities to any specified parties in any specified time	Upon the expiry of concession period, the ownership of WTE plants and ancillary facilities is required to transfer to relevant government authorities No transfer compensation
Waste supply agreement	Government authoritiesdo not undertake to maintain any minimum supply of MSW Liaise and enter into waste supply agreement with MSW suppliers directly	The relevant government authorities havemade undertakings to the respective project companies to guarantee a minimum supply volume of MSW during the concession period Compensate the respective project companies if there is any shortfall of waste supply
Operational rights	The operational rights of the WTE plants were not granted through open tender processes Granted to project companies by way of the local government's approvals of their applications for the operation of their WTE plants	Awarded by way of open tender; the development and operational rights of power generation plants were granted through concessions by government authorities to the project companies
Revenue recognition	Only recognize revenue when they generate waste treatment fees and on-grid tariffs; unlike BOT projects, no construction revenue and finance income	In addition to recognizing revenue when generating relevant waste treatment fees and on-grid tariffs, may further recognize construction revenue May recognize cost relating to service concession arrangement during the construction phase and finance income during the concession period
Assets	Included in fixed exects and provided for depreciation in starses	Included in financial access or interruble access
recognition IRR	Included in fixed assets and provided for depreciation in stages Normally above the IRR of BOT projects under the same conditions	Included in financial assets or intangible assets Mostly in the range of 10%-13%
Universality	Uncommon	Generally adopted

Source: Company data, CMS (HK)

WTE plants managed by Canvest Environmental operate under both BOO model and BOT model. Eco-Tech and Kewei projects run under BOO model. China Scivest WTE plants acquired this year and Zhanjiang WTE plant under construction are BOT projects.

Waste supply to Eco-Tech and Kewei not a concern. Local governments generally cover 80% of the waste amount for WTE plants under BOT model to prevent the adverse impact resulting from waste shortage, but the amount of waste is not guaranteed under BOO model. Even so, we are not concerned about the waste supply of Eco-Tech and Kewei which are operated under BOO model. Under Dongguan's long-term planning, incineration will account for 100% of waste treatment as compared to 63% at present. Thus, the processing capacities of Eco-Tech and Keweiare well below the incineration amount needed in the city. Furthermore, due to the mature and efficient waste collection and transportation system, Eco-Tech and Kewei enjoy sufficient waste supply.

Moving grate technology used in all projects of the company upon Eco-Tech's technological upgrade

Comparison between moving grate and fluidized bed. Fluidized bed and moving grate are two widely-seen WTE technologies in China. Rotary kiln incineration technology is also used by some enterprises, but it is not a mainstream choice. Circulating fluidized bed technology, primarily developed by Chinese institutions such as Zhejiang University and Chinese Academy of Sciences, is commonly adopted in small and medium cities with mediocre economic strength given its low construction price and coal-assisted combustion nature. Mechanical moving grate incinerators, an internationally mature technology, are suitable for treatment of various amount of waste with mid-to-high heat value. They are adopted by most waste incineration plants in developed countries, accounting for approximately 80% of market share worldwide.

Comparison between moving grate and fluidized bed technologies

	Mechanical moving grate	Fluidized bed
Description of process	•Waste is introduced by a waste crane through the "throat" at one end of the grate, from where it moves down the descending grate (sectioned as drying, combustion and complete combustion) to the ash pit on the other end	•The furnace is filled with a bed of quartz sand that is heated to over 600°C. A strong airflow heated to over 200°C is supplied through the bottom of the furnace, separating the sand particles to let the air through, and then the waste is introduced. The waste and sand will then be mixed and churned to combust the waste
Heating value		
of waste	 1,200 kcal/kg (5,040 kJ/kg) and above 	•800 kcal/kg (3,360 kJ/kg) and above
Auxiliary fuel	 Nil (diesel to ignite incinerator) 	 Coal (diesel to ignite incinerator)
Advantages	 Mature technology adopted worldwide Lower requirements of waste's composition and solid mass Lower requirement for waste pretreatment Lower fly ash production Easier to operate Lower cost of operation More stable in operation 	 Lower initial investment Higher waste combustion efficiency Longer service life Higher heat efficiency
Disadvantages	 Higher initial investment Higher requirement on maintenance Core technology relies on imports Higher heat resistance requirement on incinerator Lower waste combustion efficiency Larger size of facility 	 Higher requirement on waste pretreatment More fly ash production More difficult to operate Shorter duration of full load operation Higher cost of operation due to requirement on auxiliary fuel

Sources: Public data, compiled by CMS (HK)

Moving grate requiring high heat value but operating cost lower than fluidized bed project. Based on past experience, moving grate technology is suitable for MSW with over 6,000 kJ/kg of heat value in eastern regions where residents are enjoying a better living standard. In contrast, fluidized bed is suitable for MSW with high water content and low heat value and needs coal to assist in the combustion process. It fits regions that discharge such kind of waste. Due to its coal-free combustion process, low labor costs due to easy operation, little fly ash and low environmental costs, moving grate operates at a cost lower than fluidized bed.

Enhanced gross profit margin of Eco-Tech thanks to technological upgrade. In Dongguan, due to the higher heat value of waste, it seems more reasonable to incinerate MSW with moving grate technology. Comparing the gross profit margins of Eco-Tech and Kewei, two adjoining projects with the same waste supply and subsidy, the gross profit margin of Kewei with moving grate technology adopted was maintained at over 70% in the past three years (2011-13), which is much higher than that of Eco-Tech which uses fluidized bed technology. We believe the gross profit margin of Eco-Tech will be substantially improved after shifting to moving grate technology.

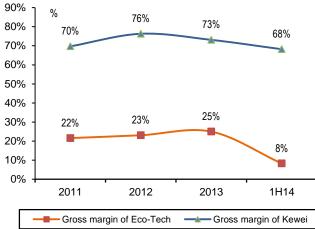
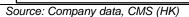


Figure 11: Gross profit margin of Eco-tech (fluidized bed) much lower than Kewei (moving grate)



Experience from technological upgrade backing Canvest's external expansion

The Ministry of Environmental Protection announced new MSW incineration emission standards in June this year, which stringently restrict the emission of pollutants. The standards for some pollutants such as Dioxins are already consistent with those set by the European Union. Under the new standards, existing WTE plants may need to undergo technological upgrade. The emission of fly ash by WTE plants using fluidized bed technology is higher than those with moving grate. As such, the former may incur more environmental protection expenses and such WTE enterprises which are smaller in size may exit the market gradually.

According to www.solidwaste.com.cn, China had 142 WTE plants in operation as of end-2012. Among these, 77 adopted moving grate technology, 59 used fluidized bed technology and 6 opted for other technologies. Accordingly, we believe that there is relatively large room for fluidized bed plants to shift to moving grate technology. After, comparing technological upgrade and new construction, we believe the former has certain advantages as environmental assessment is easier to pass and investment in technological upgrade for plants of the same size is smaller than new construction projects.

Canvest's technical team took charge of and implemented China Scivest project's technological upgrade and Eco-Tech project's upgrade is now in progress. Considering Canvest's extensive experience in the operation of fluidized bed and moving grate plants and its successful experience in technological upgrade, which is rarely possessed by other industry players, we expect fluidized bed technological upgrade to become the company's key factor in driving its fast growth.

According to Canvest's planning, the company intends to expand its orders on hand by acquiring existing projects and implementing technological upgrade. WTE plants that are mismanaged, possess no professional expertise and still adopt fluidized bed technology will be Canvest's potential acquisition targets.

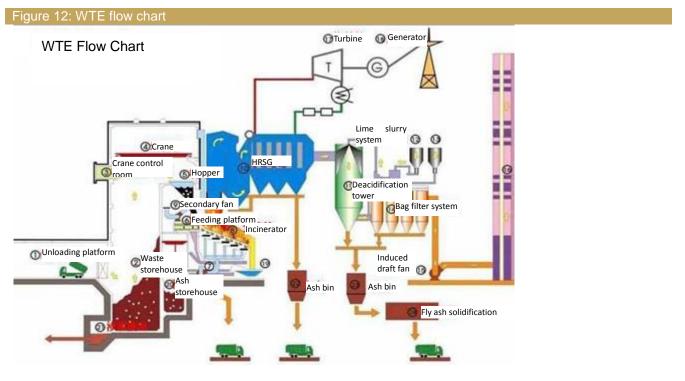
Work flow of WTE business

The work flow of the company's WTE business consists of four steps:

- > Waste collection: The waste storage pool can store about 5 days of waste for treatment after collection.
- > Waste incineration: Hazardous components are decomposed at high temperatures of 800-1,000°C. The hot flue gas produced is filtered and heat is recycled through the heat recovery steam generator.
- Power generation by heat recovery steam generator: The heat recovery steam generator recovers the heat produced during waste incineration and generates steam. The steam then drives the steam turbines which in turn drive the generators to produce power.
- Treatment of flue gas, leachate and bottom ash: After active carbon adsorption and bag filter treatment, flue gas, heavy metals and dioxins generated during incineration that meet government discharge standards will be emitted into the atmosphere. Leachate will be processed by a wastewater treatment center of the company before discharging. The company will recycle bottom ash and appoint professional agencies for innocuous treatment of fly ash before landfilling.

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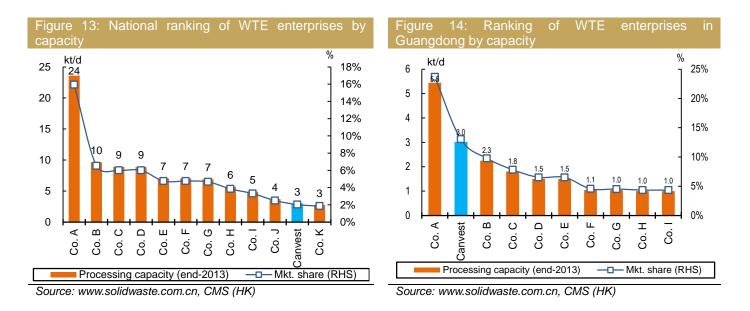
Monday, January 26, 2015



Sources: Henan Gongshen Boiler Group, CMS (HK)

Driven by orders: reinforcing Canvest's regional leading position

As of 2013, there were a total of 170 WTE plants in operation across China, with a waste processing capacity of 148,000 tonnes. Currently, the aggregated MSW processing capacity per day of the top 15 participants has reached over 98,400 tonnes, representing 66.5% of total processing capacity nationwide. According to the capacities of the top 10 companies, the gaps between them are not that wide if Hangzhou Jinjiang, which can process over 20,000 tonnes every day, is excluded. For instance, processing capacities of the fifth and ninth companies (Company E-Company I) range from 5,000 to 7,000 t/d.



2015E

1,800

1,800

1,800

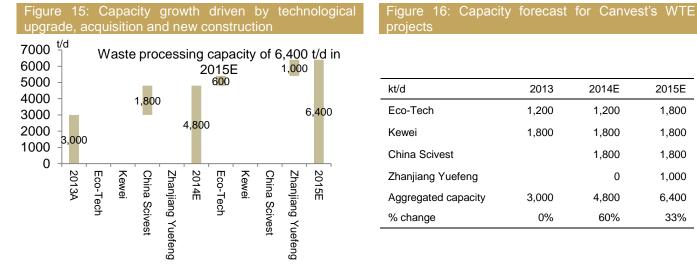
1,000

6,400

33%

As at the end of 2013, there were 20 WTE plants in Guangdong province with a waste processing capacity of 23,000 tonnes. The largest waste treatment enterprise in the province is Shenzhen Energy with a capacity of 5,450 t/d. Shenzhen Energy's WTE plants are all located in Shenzhen. Its capacity remains stable as no new projects commenced operation in the last two years.

The waste processing capacity of Canvest is growing rapidly. Driven by the acquisition of China Scivest, technological upgrade and capacity expansion of Eco-Tech and construction of the new Zhanjiang project, we expect the processing capacity of Canvest to increase 60% YoY to 4,800 t/d in 2014 and 33% YoY to 6,400 t/d in 2015. We believe with the rapid growth in its processing capacity, Canvest will rank substantially higher among peers, further consolidating and strengthening its leading position in Guangdong.



Source: Company data, CMS (HK) estimates





Financial data

We expect Canvest Environmental to record net profit of HK\$196/302/363 mn in 2014/15/16, representing a YoY increase of 50%/54%/20% and a CAGR of 36% in 2014-16. We believe the company's fast-growing results will be driven by rapid growth in waste volume to be processed, increasing treatment fees as well as construction revenue and profit recognition arising from construction of Zhanjiang BOT project.

Factors that affect earnings

1) Fast-growing waste volume for processing. Driven by the acquisition of China Scivest and technological upgrade of Eco-Tech project (July 2014-August 2015), we expect Canvest's waste volume for processing to increase from 981,000 tonnes in 2013 to 1,363,000 tonnes in 2014, up 39% YoY. Considering benefits from the completion of technological upgrade of Eco-Tech project and commission of Zhanjiang project in 4Q15, we estimate Canvest's processing volume will increase to 1,577,000/2,281,000 tonnes in 2015/16, a YoY increase of 16% and 45% respectively.

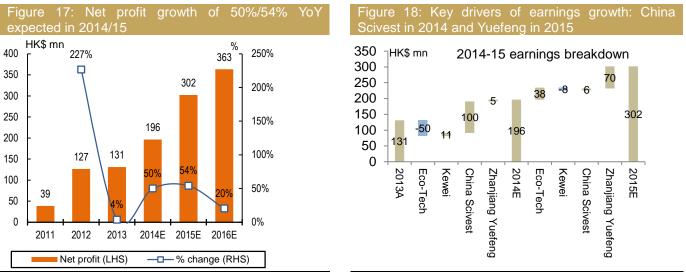
2) Treatment fee adjustment. Eco-Tech and Kewei underwent a treatment fee adjustment period in 2013. In June 2013, waste treatment fees of Eco-Tech and Kewei were increased by 24% from RMB89/t to RMB110/t by Dongguan Price Bureau, pushing Canvest's average treatment fee up by 9% from RMB101/t in 2013 to RMB110/t in 2014. Affected by the commission of Zhanjiang project with lower treatment fee (tentatively RMB81.8/t), we expect such average fee to drop 1% and 3% YoY in 2015/16. Given a steady operation of its WTE projects from 2016 onward, the average treatment fee could maintain at RMB105/t.

3) Construction revenue recognition. Based on the construction process, we expect Zhanjiang BOT project to recognize construction revenue and construction cost of HK\$150/550 mn and HK\$120/440 mn respectively in 2014/15, which will translate into gross profit of HK\$30/110 mn for its construction business.

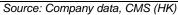
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		2011	2012	2013	2014E	2015E	2016E
HKD/RMB exchange rate		0.81	0.81	0.80	0.79	0.79	0.79
Processing capacity	tonne	3,000	3,000	3,000	4,800	6,400	6,400
% change	%		0%	0%	60%	33%	0%
Waste volume processed	kt	411	1,061	981	1,363	1,577	2,281
% change	%		158%	-8%	39%	16%	45%
Power generation	MWh	176	483	478	578	643	916
% change	%		175%	-1%	21%	11%	43%
Power sales	MWh	154	408	409	511	561	793
% change	%		165%	0%	25%	10%	41%
Average treatment fee							
-	RMB/t	88	89	101	110	108	105
% change	%		2%	13%	9%	-1%	-3%
Average selling price	RMB/kWh	0.57	0.53	0.51	0.53	0.53	0.54
% change	%		-8%	-3%	3%	1%	0%

Key assumptions and core operational data forecasts





Source: Company data, CMS (HK)



Operating revenue

Canvest's operating revenue mainly comprises of four segments: revenue from waste treatment fees, revenue from power sales, construction revenue and financial income. Normally, a WTE project experiences fluctuating construction revenue in construction stage with low sustainability. Revenues from treatment fees and power sales are recognized after project commission. As the project's processing capacity, waste treatment subsidy and tariff are largely stable and sustainable, operating revenue will be less volatile after project commission.

We expect Canvest to record a YoY increase in operating revenue of 76%/69% to HK\$685/1,161 mn in 2014/15 and a YoY decrease of 26% to HK\$856 mn in 2016. Such decease in 2016 is mainly due to the completion of the construction of Zhanjiang project phase one. As we are optimistic about Canvest's project acquisition ability and growth prospect, taking into account that construction revenue usually has higher volatility, we would not pay too much attention to the decrease operating revenue in 2016 resulting from the completion of construction of phase one of Zhanjiang Yuefeng project.

Canvest's operating revenue forecasts by segment and by project

HK\$ mn			2011	2012	2013	2014E	2015E	2016E
Revenue from waste treatment fees								
Dongguan Eco-Tech	HK\$ mn	8	47	51	15	32	87	
Dongguan Kewei	HK\$ mn	40	74	77	82	82	82	
Dongguan China Scivest	HK\$ mn				92	92	92	
Zhanjiang Yuefeng	HK\$ mn					10	42	
Aggregated treatment fees	HK\$ mn	47	122	128	190	216	303	
Revenue from power sales								
Dongguan Eco-Tech	HK\$ mn	19	119	121	36	57	155	
Dongguan Kewei	HK\$ mn	88	146	141	148	146	146	
Dongguan China Scivest	HK\$ mn				158	158	158	
Zhanjiang Yuefeng	HK\$ mn					18	78	
Aggregated revenue from power sales	HK\$ mn	107	265	262	342	379	538	
Construction revenue		107	205	202	542	519	550	
Zhanjiang Yuefeng	HK\$ mn				150	550		
Finance income	TIIX TIIII				150	550		
Dongguan China Scivest	HK\$ mn							
Zhanjiang Yuefeng	HK\$ mn				3	15	15	
Aggregated finance income	HK\$ mn				3	15	15	
Total operating revenue	HK\$ mn	154	387	390	685	1,161	856	
% change	%		151%	1%	76%	69%	-26%	



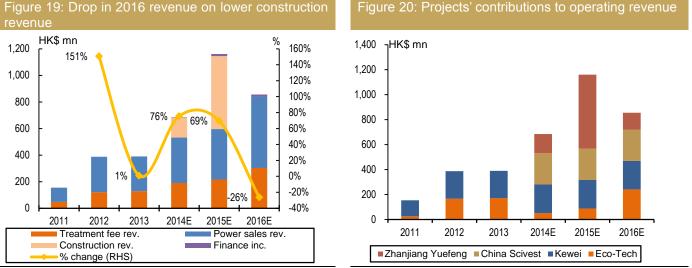


Figure 20: Projects' contributions to operating revenue

Source: Company data, CMS (HK)

Cost structure and its trend

We estimate Canvest's operating cost at HK\$348/682/326 mn for 2014-16E respectively. Its operating cost mainly comprises maintenance cost, depreciation and amortization, labor costs, environmental protection expenses, cost of coal, other fuel costs and construction cost. Based on its cost structure in 1H14, depreciation and amortization, labor costs and environmental protection expenses were more influential in the cost structure shift. The three factors together accounted for 70% of the total operating cost in 1H14.

Cost of coal arising from Eco-Tech project which adopts fluidized bed technology. In light of the Eco-Tech's acquisition of fluidized bed technology in the end of 2011, the company recorded a substantial cost of coal of HK\$63 mn and HK\$56 mn respectively in 2012-13. As Eco-Tech begun technological upgrade to adopt moving grate technology during the interim period this year and upon completion, no more coal will be needed to assist combustion, we expect the cost of coal to decrease to HK\$20 mn in 2014 and none will be recorded in 2015-16.

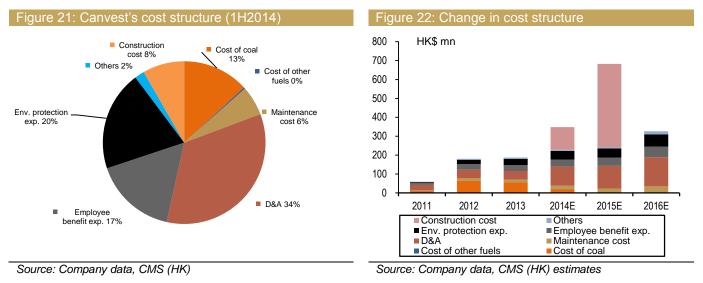
Fastgrowth in depreciation and amortization in 2014-16E. In 2013, Canvest's depreciation and amortization expenses were HK\$45 mn. Considering the high amortization expenses for the newly-acquired China Scivest project, we expect Canvest's depreciation and amortization expenses to increase to HK\$101 mn in 2014. Affected by the increase in depreciation expenses for Eco-Tech BOO project upon its technological upgrade, we expect such expenses to increase to HK\$120/155 mn in 2015/16.

Treatment expenses of fly ash as Canvest's main environmental protection expenses. Fly ash usually accounts for 2-3% of total waste treatment volume in a WTE plant. Fly ash from Canvest's Dongguan projects is processed by professional third parties at a charge of approximately RMB1,200/t. We believe since China Scivest project shifted its technology from fluidized bed to moving grate and Zhanjiang project will process fly ash itself after commission without the help of third parties, Canvest will have better control of its environmental protection expenses, which we estimate at RMB46/49/65 mn respectively in 2014-16E.

We expect a significant reduction in Canvest's operating costs in 2016 due to decreased construction costs. Cost of construction business corresponds to revenue of construction business. Since Canvest's project construction is outsourced and equipment is purchased from external parties, we calculate its construction cost based on gross profit margin of 20% (gross profit margin for construction business in the industry generally at 20%-30%). We expect Canvest's construction cost to be HK\$120 mn in 2014 and HK\$440 mn in 2015. As phase one of Zhanjiang project will complete construction in 2015, Canvest will no longer recognize construction revenue as well as the cost of construction business in 2016. Therefore, we expect the company to see a significant drop in production costs in 2016.

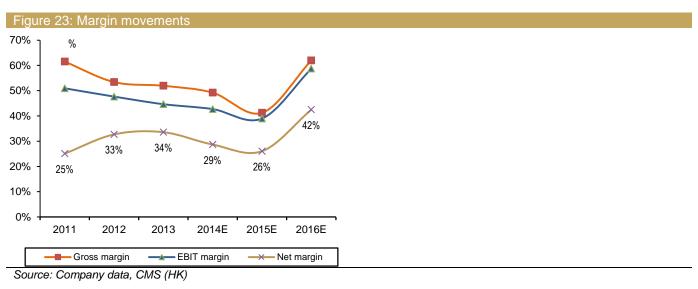
Source: Company data, CMS (HK)

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Margins

Net profit margin of Canvest in 2013 was 34% and will decrease to 29%/26% in 2014/15E according to our estimates, mainly affected by its construction operation with lower gross profit margin. In 2016, we believe Canvest's net margin will sharply rebound to 42% as the drag on gross profit margin by construction operation (which is low in gross profit margin) vanishes and China Scivest's profitability increases substantially upon the completion of its technological upgrade.



Forecasts on profit and loss statement

Surge in 2014-16 management fee. Driven by the acquisition of China Scivest and construction of Zhanjiang project, Canvest's projects on hand and processing capacity will grow rapidly, pushing up its management fee significantly. In 2014-16, the company's management fee will represent 7%-14% of operating revenue. The fluctuation is mainly due to the high volatility of its operating revenue caused by the fluctuation in construction revenue.

Surge in 2014-16 interest expenses. Construction of China's WTE projects is usually funded by self-capital and bank borrowing with the latter often accounting for about 70% of total construction cost. At present, Canvest's debt financing cost stands at 6.1%-6.6%. We do not expect such costs to deviate from this range too much in the future. However, with the rapid increase in debt amount, we believe the company will see a more obvious increase in interest expenses in 2014-16E.

Forecasts on profit and loss statement and key ratios

HK\$ mn	2011	2012	2013	2014E	2015E	2016E
Operating revenue	154	387	390	685	1,161	856
Operating cost	-59	-180	-188	-348	-682	-326
Gross profit	95	207	203	337	479	530
SG&A	-17	-35	-42	-92	-80	-86
Other income	3	14	14	48	54	69
Other loss, net	-2	-1	-1	0	0	0
EBIT	79	185	174	293	452	513
Interest income	0	0	1	0	0	0
Interest expenses	-25	-32	-27	-61	-70	-98
Profit before tax	54	153	148	232	382	415
Income tax expenses	-11	-26	-17	-23	-31	-33
Profit after tax	43	127	131	209	352	382
Minority interests	4	0	0	13	50	19
Attributable net profit	39	127	131	196	302	363
Key ratios %						
Gross profit margin	61%	53%	52%	49%	41%	62%
Net profit margin	25%	33%	34%	29%	26%	42%
Growth in operating revenue		151%	1%	76%	69%	-26%
Growth in gross profit		118%	-2%	66%	42%	11%
Growth in net profit		227%	4%	50%	54%	20%

Source: Company data, CMS (HK) estimates

Forecasts on balance sheet

Non-current assets to be propped up by increase in project number. For non-current assets, we expect Canvest's property, plant and equipment, intangible assets and contract work and other receivables to rise substantially in 2014-16. The increase in property, plant and equipment is mainly due to cost capitalization upon the technological upgrade of Eco-Tech BOO project. Intangible assets are affected by the accounting of concession rights under China Scivest's BOT project. Growth in contract work and other receivables primarily arises from financial assets recognition of Zhanjiang BOT project.

Financing for project construction to push up liabilities. We expect the company to see a substantial increase in long-term liabilities in 2014-16 mainly on the large amount of debt financing required for construction of China Scivest and Zhanjiang projects. Canvest raises its debts primarily through long-term borrowings from banks in China. Bank borrowings are mainly secured by proceeds from power generation, land use rights as well as property, plant and equipment.

Trade receivables turnover days to stay at around 70. China Scivest acquired at the start of this year is located in Dongguan while Zhanjiang project, which is currently under construction, is located in Zhanjiang, Guangdong. When compared to projects in operation before 2014, there are no substantial changes to the local governments' (where China Scivest and Zhanjiang are situated) capability and willingness to pay, therefore we believe the government's payment cycle will not alter significantly, leaving the company's trade receivables turnover days stable.

Canvest's ROE to become stable after 2016. The company's ROE fluctuated fiercely in 2011-13. By DuPont analysis, we can see that the strong fluctuation in ROE was mainly due to the fluctuation in asset turnover and equity multiplier (assets/shareholders' equity), with controlling shareholders gradually converting their loans to capital reserve and leading to high volatility in Canvest's equity multiplier. Given the company's larger number of new construction projects in 2014-15, we expect its ROE to stabilize after 2016.



DuPont analysis of ROE

	2011	2012	2013	2014E	2015E	2016E
ROE	38%	55%	19%	8%	11%	12%
DuPont decomposition:						
Net margin	25%	33%	34%	29%	26%	42%
Asset turnover	0.15	0.39	0.31	0.18	0.24	0.17
Assets/shareholders' equity	990%	432%	184%	166%	182%	171%

Source: Company data, CMS (HK)

Forecasts on balance sheet

HK\$ mn	2011	2012	2013	2014E	2015E	2016E
Current assets	130	139	389	1,786	1,890	2,313
Cash	56	45	50	1,381	1,389	1,874
Receivables	63	79	68	133	226	166
Deposits, prepayments and other						
receivables	8	13	90	90	90	90
nventories	2	3	2	3	6	3
Others	0	0	180	180	180	180
Non-current assets	884	849	851	2,090	2,917	2,826
Land use rights	173	169	171	171	171	171
Property, plant and equipment	526	490	472	602	951	966
ntangible assets	175	175	181	1,139	1,058	982
Contract work receivables from customers	0	0	0	150	710	680
Others	9	14	27	27	27	27
Fotal assets	1,014	989	1,241	3,876	4,807	5,138
Current liabilities	486	393	154	205	284	233
Short-term borrowings	96	148	88	88	88	88
Trade payables	387	243	64	114	193	143
Dthers	4	2	3	3	3	3
_ong-term liabilities	425	367	324	1,235	1,735	1,735
_ong-term borrowings	399	324	294	1,205	1,705	1,705
Others	26	43	31	31	31	31
Fotal liabilities	912	760	479	1,440	2,020	1,969
Capital	0	0	0	20	20	20
Reserve	102	229	676	2,317	2,619	2,982
Minority interests	0	0	86	98	148	167
Equity attributable to the parent company	102	229	676	2,337	2,639	3,002
Total liabilities and equity	1,014	989	1,241	3,876	4,807	5,138
Key ratios						
Debt to asset ratio	90%	77%	39%	37%	42%	38%
Net debt ratio	428%	187%	49%	-4%	15%	-3%
ROE	38%	55%	19%	8%	11%	12%
Trade receivables turnover days	147	73	63	70	70	70

Source: Company data, CMS (HK) estimates

Forecasts on cashflow statement

We expect Canvest Environmental's cash flow from operating activities to amount to HK\$202/-2,200/653 mn in 2014-16, exhibiting higher volatility mainly because phase one of Zhanjiang project is a BOT project. Pursuant to the recognition criteria of BOT financial assets under accounting standards, Zhanjiang project will be reflected under other receivables as financial assets, causing higher volatility in the company's working capital in 2014-16E.

As the investment activities of phase one of Zhanjiang project are reflected under operating cash flow, capital expenditure under cash flow used in investment activities primarily reflects the capital expenditure of Eco-Tech's technological upgrade. Driven by the expenses for acquiring the equipment needed by Eco-Tech project, such as purchase of furnace, we expect Canvest's capital expenditure to reach HK\$160/400 mn in 2014-15 and clearly decline upon completion of Eco-Tech's construction in 2015 as capital expenditure included in Canvest's cashflow statement will be mainly for maintenance work.

We have adjusted the company's capital expenditure considering the capital expenditure of phase one of Zhanjiang project. After the adjustment, we project Canvest's capital expenditure at HK\$310/950/70 mn in 2014-16E.

Considering substantial investment in 2014-15, we expect its free cash flow to drop from HK\$213 mn in 2013 to HK\$42 mn in 2014 and further to HK\$-272 mn in 2015. However, as investment goes to an end, the company's free cash flow could rebound significantly in 2016E.



Forecasts on cashflow statement

HK\$ mn	2011	2012	2013	2014E	2015E	2016E
Cash flow from operatingactivities	76	204	221	202	-22	653
Profit before tax	54	153	148	232	382	415
Adjusted by:						
Depreciation and amortization	29	44	46	98	122	162
Finance expenses	25	32	26	61	70	98
Others	2	5	1	0	0	0
Change in working capital	-33	-19	29	-166	-566	11
Change in inventories	-2	-2	-1	-1	-3	3
Change in trade and other receivables	-32	-29	22	-215	-643	59
Change in trade and other payables	1	12	8	51	79	-51
Net cash generated from operations	76	214	250	225	9	686
Income tax expenses	0	-10	-29	-23	-31	-33
Cash flow from investingactivities	-96	-50	-209	-275	-400	-70
Capital expenditure	-122	-34	-33	-160	-400	-70
Other investments	26	-16	-176	-115	0	0
Cash flow from financing activities	38	-166	-8	1,404	430	-98
Change in borrowings	60	-23	-103	0	500	0
Increase in ordinary shares	0	0	0	1,120	0	0
Others	-22	-143	95	284	-70	-98
Increase in cash, net	18	-12	4	1,331	8	485
Free cash flow	62	175	213	42	-272	583
Capital expenditure after adjustment	-122	-34	-33	-310	-950	-70

Source: Company data, CMS (HK)



Valuation

Based on the absolute DCF valuation, our 12-month TP for Canvest is HK2.90, with a potential upside of 22%. Our TP corresponds to 19x 2015 P/E and 2.2x 2015 P/B.

Calculation of TP from DCF

We adopt the absolute DCF valuation to calculate the TP of Canvest. Our key assumptions and calculations are as follows:

Assumptions on key parameters Assumptions on key parameters Risk-free interest rate (%) 3.5% Beta 0.72 Risk premium (%) 10.4% Cost of debt (before tax) (%) 7.0% Tax rate (%) 15.0% Cost of equity (%) 11.0% Target debt ratio (%) 40.0% Weighted average cost of capital (%) 9.0% Perpetuity growth rate (%) 2.0%

Sources: Bloomberg, CMS (HK)

DCF calculation

HK\$ mn		2014E	2015E	2016E	2017E	2018E	2019E	2020E
EBIT	HK\$ mn	293	452	513	493	483	472	462
Less: income tax Less: capital	HK\$ mn	-23	-31	-33	-58	-56	-55	-88
expenditure Less: change in working	HK\$ mn	-160	-250	-70	-70	-70	-70	-70
capital	HK\$ mn	-166	-566	11	-0	-0	-0	-0
Add: depreciation	HK\$ mn	98	122	162	163	166	169	172
Free cash flow	HK\$ mn	42	-272	583	528	522	517	475
Discount factor Present value of free		1.00	1.09	1.19	1.29	1.41	1.54	1.67
cash flow	HK\$ mn	42	-249	491	408	370	336	284
Dominant predicted value Present value of final	HK\$ mn	1,681						
value	HK\$ mn	4,148						
Less: net debt (cash)	HK\$ mn	-88						
Less: minority interests	HK\$ mn	98						
Equity value	HK\$ mn	5,819						
Shares in issue	mn	2,000						
Price per share	HK\$	2.90						

10.0% 2.22 2.31 2.51 2.64

2.78

Conorany	analyere					
	WAC					
HK\$ mn		8.0%	8.5%	9.0%	9.5%	
	0.5%	2.87	2.68	2.51	2.36	
	1.0%	3.03	2.81	2.62	2.46	
Growth	2.0%	3.41	3.14	2.90	2.69	
	2.5%	3.66	3.34	3.07	2.84	

3.58

3.95

Sensitivity analysis

Source: CMS (HK) estimates

3.0%

Relative P/E valuation

Though we did not use relative valuation to calculate the TP, we think the result from relative valuation could also validate our TP calculated from absolute valuation under a similar environment of market operations.

3.27

3.00

We initially select 11 environmental companies, mainly engaged in WTE, wastewater treatment and hazardous waste treatment, as comparable companies. WTE companies include Everbright International, DYNAGREEN Environmental Protection, Beijing Development, Capital Environment and Conch Venture. Although companies in wastewater treatment and hazard waste treatment industries are engaged in areas different from WTE companies, we consider that it is reasonable to include such companies because all environmental protection companies, thanks to their public utility nature, share essentially the same business model, pricing mechanism and accounting treatments.

Overview of major environmental companies listed in Hong Kong

		Price	Market cap.	P.	/E	P.	/B	ROE(%)	Net gearing	EPS CAGR
		HK\$	HK\$ bn	2014E	2015E	2013	2014E	2014E	2014E	2014-16E
WTE										
257 HK	Everbright	11.52	51.65	29.0	21.9	4.3	3.5	12.0	8%	26%
1330 HK	DYNAGREEN	4.20	4.39	22.4	14.3	NA	1.5	8.2	100%	46%
154 HK	Beijing Dev.	2.29	3.43	NA	NA	NA	NA	NA	-95%	NA
3989 HK	Capital Env.	0.49	2.29	97.0	12.8	NA	4.0	3.5	76%	226%
586 HK	Conch Venture	16.88	30.46	10.2	8.9	1.9	1.6	18.4	-15%	15%
Wastewater	treatment									
967 HK	Sound Global	8.00	12.05	16.1	12.8	2.9	2.3	15.7	7%	28%
371 HK	BEWG	5.14	44.76	27.2	20.7	3.4	3.0	11.3	87%	27%
1363 HK	СТ	7.79	11.23	29.1	20.7	11.2	6.6	25.5	9%	33%
6136 HK	Kangda	3.47	7.17	19.2	14.3	4.3	2.1	13.6	184%	30%
Hazardous	Waste Treatment									
895 HK	Dongjiang	27.60	14.73	28.2	17.7	3.4	3.0	10.8	-19%	47%
8068 HK	New Universe	0.27	0.74	NA	NA	NA	NA	NA	-3%	NA

Sources: Bloomberg, CMS (HK)

We finally select seven comparable companies, including Everbright International. Since market expectations on Beijing Development and New Universe International vary, WTE business contributes little to Conch Venture's operating revenue and profit, and operation is not Sound Global's main business, we cross out such companies from our list. Our final selection includes Everbright International, DYNAGREEN Environmental Protection, Capital Environment, Beijing Enterprises Water, CT Environmental, Kangda International Environmental and Dongjiang Environmental. Given the fact that waste incineration of Capital Environment will not officially commence until 2015, we treat its P/E as an abnormality and exclude it from our 2014 P/E calculations.

We adopt P/E valuation for validation. After finally selecting the comparable companies, our analysis on them indicates that in 2015, Hong Kong-listed environmental protection companies will have a P/E of 12.8x-21.9x, with an average of 17.5x. Based on the 2015 P/E range of comparable companies, the result of relative valuation is HK\$2.64, or 9% lower than our DCF TP.

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Peer comparison

We choose Everbright International and DYNAGREEN for comparison. They are both major WTE companies in China and Everbright International has established its leading position in the WTE sector.

We make our comparison primarily based on processing capacity in operation, total processing capacity, financing cost, earnings growth and gross profit margin. Processing capacity in operation and total processing capacity reflect a company's position in the industry. Financing cost is crucial to the prospect of a capital-intensive company. Earnings growth affects a company's valuation while gross profit margin reflects existing projects' quality.

In terms of total processing scale, Canvest has substantially fewer orders on hand. Its financing cost is close to DYNAGREEN but considerably higher than that of Everbright International which can obtain facilitates at a low cost in the Hong Kong market. In respect of earnings growth, Canvest's CAGR in 2014-16E is higher than Everbright International but lower than DYNAGREEN. However, as for the quality of projects on hand, Canvest's projects are of better quality than Everbright International and DYNAGREEN.

Peer comparison

	Capacity in operation	Total capacity	Financing	2014-16E net profit	Gross margin
	(t/d)	(t/d)	cost (%)	CAGR (%)	(%)
EverbrightInt'l	11300	32550	4.60%	24%	46%
DYNAGREEN	5250	20000	6.90%	45%	35%
Canvest	4800	6900	7.00%	36%	53%

Source: CMS (HK)

Note: Capacity of Zhanjiang phase two is included in the total capacity of Canvest.

As Canvest's projects are "boutique" in nature, the company enjoys better gross profit margin than Everbright International and DYNAGREEN. However, compared to Everbright International, Canvest is not as strong in terms of size, market influence and financing cost, hence Canvest's valuation should be at a discount compared to Everbright International. Compared to DYNAGREEN, Canvest is closer in terms of the three indicators of capacity in operation, financing cost and net profit CAGR, whilst gross profit margin is better than DYNAGREEN and treatment capacity is weaker. As such, we believe Canvest's valuation should be relatively closer to DYNAGREEN's.

Our DCF target price corresponds to 19x 2015 P/E, representing a 27% discount to Everbright International's 21.9x 2015 P/E, or closer to DYNAGREEN's 14.3x 2015 P/E.



Appendix A: Risk factors analysis

Policy risk:According to the *Renewable Energy Law* promulgated by the PRC government, there are policies stipulated that electricity generated by WTE is entitled to incentive measures such as mandatory power purchase and grid connection privileges for power generated, and the on-grid tariff are centralized to be RMB0.65/kWh, which is higher than the on-grid tariff for the conventional fuel. Even though we consider that amidst the ever increasing pressure of environmental polluting pressure, the probability of the PRC government adjusting the supportive policy related to the renewable energy and WTE industry is low, the adjustment of the government policy will inevitably exert a more substantial adverse effect on the business, financial conditions and results of operation of Canvest.

Solvency risk of local governments: Waste treatment fees are the second largest source of revenue of Canvest. Currently, the standards of waste treatment fees of the domestic WTE companies are determined by local governments, and waste treatment fees received by companies are paid by local governments. Therefore, if local governments default or cease to pay waste treatment fees as a result of economic depression, this will exert adverse impact on the business and operating condition of the company. However, as the business of the company is concentrated on the economically developed Guangdong Province, we consider the probability of government to default or cease to pay is low.

Financing risk: The WTE industry is a capital intensive industry. The success of the company business is highly vested to the ability of the company to raise the capital sufficient to satisfy the business development of the company, for instance, in the form of project financing to be raised from banks. Currently in the WTE industry, 70% of funding required for projects usually require loans to be made by banks. Therefore, if the company is not capable of raising sufficient capital to satisfy the business development needs of the company, then the company is unable to implement the projects or proceed with the company's development plan.

Raw materials supply shortage risk: The MSW is the most important raw materials for the WTE of the company, thus the operation of Canvest highly relies on the supply of MSW, and the capability of MSW supplier to perform the corresponding waste supply agreement. The Eco-Tech and Kewei WTE projects of the company adopt the BOO model to operate. These two projects are not subject to any minimum waste guarantee from governments. However, in view of the severity of waste surrounding in the cities where the company operates, we are of the opinion that the risk of raw materials shortage is low.

Public protesting risk:Over the years, amid the fear of the possibility of the WTE plants which may pollute the surrounding environment, there were some protests against WTE in some cities in the mainland. This exerts an adverse impact on the industry. Therefore, public protest may have an effect on the business of the company, and may defer the business development of the company and affect the operation of the company's projects.

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Appendix B: Profile of the company's WTE projects

Eco-Tech WTE Plant

The Eco-Tech waste treatment plant undergoes technological upgrade. The Eco-Tech WTE Plant operates under a BOO operation model and is currently undergoing its technological upgrade, which is expected to increase its designed daily MSW processing capacity from 1,200 tonnes to 1,800 tonnes, while maintaining its installed power generation capacity of 36 MW. During the technological upgrade, all business operations of the Eco-Tech WTE Plant are suspended.

Waste treatment arrangements. Prior to thetechnological upgrade, Eco-Tech WTE Plant sourced MSW from variousgovernmental bodies at county or town level in Dongguan.During the track record period, the unit price for waste treatment fees ranged from RMB89.0 per tonne to RMB110.0 per tonne.

Profile of waste treatment contracts. During the track record period, waste treatment contracts have been signed with eight MSW suppliers, all of whom are independent third parties. These waste treatment contracts have a term of 28 years each. The MSW supply volume stipulated ranges from 50 to 300 t/d. The total contracted MSW supply volume was 1,125 t/d before the technological upgrade. Since the Eco-Tech WTE Plant suspended its operation for the technological upgrade, these MSW waste suppliers had started to transport their MSW to the Kewei WTE Plant and pay the corresponding waste treatment fees directly to Kewei.

After technological upgrade, the daily MSW processing capacity of Keweiwill be expanded to 1,800 tonnes. Prior to the technological upgrade, the Eco-Tech WTE Plant had a waste processing capacityof 1,200 tonnes. After the technological upgrade, the daily MSW processingcapacity will be expanded to 1,800 tonnes. Prior to thetechnological upgrade, the fluidized bed incinerationtechnology adopted was fuelled by approximately 80-88% MSW and 12-20% coal. The new mechanical moving grate incinerators adopt an incineration technology which does not requirecoal as an auxiliary fuel in the incineration process, which would reduce our operating cost and allowus to avoid any financial impact which may be caused by the price volatility of coal. The moving grate incineration technology also requires fewer staff and thus would further reduce the operating cost.

Key operational data of Eco-Tech project

		2011	2012	2013	1H14
Received waste	tonne	70,272	429,797	399,068	104,423
Processed waste	tonne	69,731	419,433	394,480	107,950
Designed processing capacity	tonne	73,200	439,200	438,000	144,000
Utilization rate	%	95%	96%	90%	75%
Power output	MWh	37,218	242,998	239,204	69,634
Power sales	MWh	30,646	194,984	198,074	58,638
Sales to generation ratio	%	82.30%	80.20%	82.80%	84.20%

Source: Company data, CMS (HK)

Kewei WTE Plant

Profile of waste treatment contracts. MSW are sourced by various governmental bodies at town or district level in Dongguan. The unit price charged for waste treatment feesgenerally ranged from RMB89.0 per tonne to RMB110.0 per tonne. At present, the total amount of MSW undertaken to be treated by Kewei was 1,645 t/d, of which a contracted supply of 1,125 t/d was assigned from Eco-Tech pursuant tothe assignment agreement.

Key operational data of Kewei project

		2011	2012	2013	1H14
Received waste	tonne	377,115	676,153	614,713	290,811
Processed waste	tonne	341,058	641,519	586,641	277,711
Designed processing					
capacity	tonne	657,000	658,800	657,000	325,800
Utilization rate	%	52%	97%	89%	85%
Power output	MWh	138,499	239,683	238,740	119,770
Power sales	MWh	123,542	213,446	210,693	104,154
Sales to generation ratio	%	89.20%	89.10%	88.30%	87.00%

Source: Company data, CMS (HK)



China Scivest WTE Plant

China Scivest WTE Plant has a designed daily MSW processing capacity of 1,800 tonnes and an installed power generation capacity of 42 MW. China Scivestis operated pursuant to a BOT concession. Upon the expiry of the concession period on 30 November 2028, it will be transferred to Dongguan Municipal Administration without compensation. After re-commencing its trial operation upon the completion of its technological upgrade in July 2013, China Scivest adopted the mechanical moving grate incineration technology.

Waste treatment arrangements. MSW are sourced by various governmental bodies at town or district level and private companies in Dongguan. Currently, the contracted MSW supply volume signed by China Scivest is 1,603 t/d, with 1,600 t/d contracted under long-term agreements of approximately 14 years. The incinerators are able to process a volume of MSW which is greater than the designed processing capacity of 1,800 t/d due to the relatively lower actual heat value of the MSW supplied.

Key operational data of China Scivest project

		1H14
Received waste	tonne	363,374
Processed waste	tonne	330,817
Designed processing capacity	tonne	325,800
Utilization rate	%	102%
Power output	MWh	142,433
Power sales	MWh	129,157
Sales to generation ratio	%	90.70%

Source: Company data, CMS (HK)

Zhanjiang WTE Plant

Zhanjiang Yuefeng is a 55% owned subsidiary of thegroup, with the remaining 45% interest held by High Point. Pursuant to the concession agreement signed on April 18, 2013 with Zhanjiang Development and Reform Bureau, Zhanjiang project is divided into two phases, where the daily processing capacity of phase one is 1,000 tonnes and the daily processing capacity of phase two is 500 tonnes.

Waste treatment fee: The initial indicative waste treatment fee is fixed at RMB81.8 per tonne. After the construction is completed, the waste treatment fee shall be adjusted based on whether actual construction costs incurred by Zhanjiang Yuefeng exceeds or falls below the total investment amount stated in the tender submitted by the JV Partners.

On-grid tariffs: It will follow the tariff rate set by the National Development and Reform Committee in 2012. In addition, there will be an additional compensation of RMB0.01/kWh (VAT inclusive) for the power transmission line between the plant and grid.



Appendix C: Profile of management and directors

Profile of key	manag	ement		
Name	Age	Position	Time of joining	Duties
Yuan		Chief Executive Officer		Responsible for executing the overall strategies and managing
Guozhen	48	and executive director Vice president and chief	June 2003	the daily operation of thegroup
Song Lanqun	47	engineer Vice president and chief	February 2002	Production operation and technology management of thegroup
Chen Bo Wong Ling	38	engineer Chief financial officer	March 2009	Production operation and technology management of thegroup
Fong Lisa	41	and company secretary	June 2013	Financial management of thegroup
GuoHuilian	45	Vice president	August 2011	In charge of procurement of the group
Zhang		·	5	Financial management of China Scivest and Zhanjiang
Xunmei	45	Vice president	March 2009	Yuefeng
Li Yuan	47	Vice president	January 2013	Business and project development of the group

Source: Company data, CMS (HK)

Financial Summary

Balance Sheet

HKD million	2012	2013	2014E	2015E	2016E
Current assets	139	389	1,786	1,890	2,313
Cash	45	50	1,381	1,389	1,874
Short-term bank deposits	0	127	127	127	127
Available-for-sale financial assets	0	46	46	46	46
Receivables	79	68	133	226	166
Other receivables	13	90	90	90	90
Inventories	3	2	3	6	3
Others	0	6	6	6	6
No-current assets	849	851	2,090	2,917	2,826
Land use rights	169	171	171	171	171
Property, plant and equipment	490	472	602	951	966
Intangible assets	175	181	1,139	1,058	982
Others	14	27	177	737	707
Total assets	989	1,241	3,876	4,807	5,138
Current liabilities	393	154	205	284	233
Short-term borrowings	148	88	88	88	88
Payables	243	64	114	193	143
Current income tax liabilities	2	3	3	3	3
Others	0	0	0	0	0
Long-term liabilities	367	324	1,235	1,735	1,735
Long-term borrowings	324	294	1,205	1,705	1,705
Others	43	31	31	31	31
Total liabilities	760	479	1,440	2,020	1,969
Capital	0	0	20	20	20
Reserve	229	676	2,317	2,619	2,982
Minority interests	0	86	98	148	167
Equity attributable to the parent company	229	676	2,337	2,639	3,002
Total liabilities and equity	989	1,241	3,876	4,807	5,138

2012 2013 2014E 2015E 2016E

202

232

98

61

-166

<u>-23</u>

-275

-275

1,404

1,120

1,331

284

0

0

-22

382

122

70

-566

-31

-400

-400

430

500

0

-70

8

0

653

415

162

98

11

-33

-70

-70

-98

0

0

-98

485

0

204

153

40

32

-19

-2

-50 -209

-50

-166

-23

-143

-12

0

0 -176

221

148

42

27

29

-25

-33

-8

0

95

4

-103

Profit & Loss Statement

HKD million	2012	2013	2014E	2015E	2016E
Turnover	387	390	685	1,161	856
Operating costs	-180	-188	-348	-682	-326
Gross profit	207	203	337	479	530
SG&A	-35	-42	-92	-80	-86
Other op. income	14	14	48	54	69
Other loss	-1	-1	0	0	0
EBIT	185	174	293	452	513
Net Interest expenses	-32	-26	-61	-70	-98
Profit before tax	153	148	232	382	415
Income tax	-26	-17	-23	-31	-33
Total profit	127	131	209	352	382
Minority interest	0	0	13	50	19
Attributable net profit	127	131	196	302	363
EPS (HKD)	0.06	0.07	0.10	0.15	0.18

Financial

	2012	2013	2014E	2015E	2016E
YoY growth rate					
Revenue	151%	1%	76%	69%	-26%
Op profit	134%	-6%	68%	55%	13%
Net profit	227%	4%	50%	54%	20%
Profitability					
Gross margin	53%	52%	49%	41%	62%
NP margin	33%	34%	29%	26%	42%
ROE	55%	19%	8%	11%	12%
ROIC	22%	18%	8%	12%	12%
Liquidity					
Debt to Asset	77%	39%	37%	42%	38%
Net Debt to Equity	187%	49%	-4%	15%	-3%
Liquid ratio	0.4	2.5	8.7	6.6	9.9
Quick ratio	0.3	2.5	8.7	6.6	9.9
Operating efficiency					
Asset turnover	0.4	0.3	0.2	0.2	0.2
Inventory turnover	71.2	118.8	120.0	120.0	120.0
AR turnover	4.9	5.7	5.1	5.1	5.1
AP turnover	1.6	6.1	6.0	6.0	6.0
Per share ratios (HKD)					
P/E	0.06	0.07	0.10	0.15	0.18
PCF	0.10	0.11	0.10	-0.01	0.33
P/B	0.11	0.34	1.17	1.32	1.50
DPS	0.00	0.00	0.00	0.00	0.00
Valuation ratios					
P/E	37.6	36.3	24.3	15.8	13.1
P/B	20.8	7.0	2.0	1.8	1.6
EV/EBITDA	21.2	22.0	12.2	8.3	7.1

Source: Company data, CMS(HK) estimates

Cashflow Statement

Depreciation and amortization

Change in working capital

Cash flows from operating activities

Cash flows from investing activities

Cash flows from financing activities

HKD million

Finance expenses

Capital expenditure

Other investments

Change in borrowings

Increase in cash, net

Increase in ordinary shares

Net profit

Others

Others

Investment Ratings

Rating	Definition
BUY	Expected to outperform the market index by >10% over the next 12 months
NEUTRAL	Expected to outperform or underperform the market index by 10% or less over the next 12 months
SELL	Expected to underperform the market index by >10% over the next 12 months

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