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Renewable Utilities (Citi)
Asia

China Clean Sweep

Breath of Fresh Air: Stricter Govt Targets, Swifter Growth

- **Targeted approach** — With China becoming more granular and stricter on environmental investment guidelines, project efficiency and returns should improve. The RMB3.4trn investment earmarked for 2010-15 is likely to be back-end loaded over the next two years. We have Buys on beneficiaries Beijing Enterprises, CR Gas, BE Water, China Everbright Int'l, Epistar and Everlight. They are suppliers to gas-fired power plants, environmental works (waste-to-energy and wastewater), and energy efficiency solutions (metering and LED).

- **Air pollution: higher standards** — China targets lower emissions – reducing small particulates ($PM_{2.5}$) by 15-25% in Beijing/Tianjin/Hebei, Yangtze Delta and Pearl Delta by 2017 – and aims for more than 4% annual nitrogen oxide reduction up to 2015. These targets should ramp up gas-fired power plants in Beijing, natural gas use, and programs to reduce polluting plants and vehicles. Gas distributors and gas-fired power plant operators would be direct beneficiaries.

- **Waste handling: better operations** — We see wastewater projects shifting from a 'capacity-driven' to an 'operational-driven' metric. BE Water is therefore aggressively acquiring projects to build capacity, and is investing in pipelines and sludge treatments to achieve operational goals. We see a potential rise in wastewater tariffs supporting a >70% sludge treatment rate in key cities by 2015 (from <25% in 2010). Utilization rates may also rise on pipeline ramp-up.

- **Energy efficiency: measurement and LEDs** — Energy consumption/Rmb10,000 GDP should reduce by >3.7% a year in 2013-15. In Jiangsu, the plan to cut energy density by 18% in 5 years may drive installation of intelligent electric meters and fluid-measurement tools. Arthur Lai, our LED analyst, sees growth in lighting – 20% of energy use in some DMs. LED lights consume only one-fifth the energy needed for a conventional lamp and have just ~10% penetration in China.

- **Citi Clean Sweep Basket** — We introduce our China Clean Sweep Basket (Bloomberg: CGRBCCSP Index), constituting beneficiaries of the country's environmental protection push (China Macro View - Reform Prospects for Next Five Years). On an equal-weighted basis, back-tests show the basket would have been up 33% YTD. We exclude renewables, which are dependent more on energy security and integration costs (see top global ideas: Citi Climate Change Universe).

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Figure 1. Environmental Protection Basket

Company	Segment	RIC	Rating	Price 27-Sep-13	Target Price	ETR (%)	Mkt Cap US$mn	PE 2013E	PE 2014E	PB 2013E	ROE 2013E
Beijing Ent.	Gas Distribution	0392.HK	Buy	55.90	66.50	21%	8,410	16.2	13.0	1.5	10.0%
CR Gas	Gas Distribution	1193.HK	Buy	19.76	22.00	12%	5,667	20.3	16.8	3.3	17.3%
BE Water	Waste Handling	0371.HK	Buy	3.27	4.00	23%	3,241	22.8	17.6	2.4	11.6%
Everbright	Waste Handling	0257.HK	Buy	6.67	8.08	22%	3,487	22.4	17.6	2.9	13.6%
Epistar	LED	2448.TW	Buy	56.40	60.00	8%	1,775	93.7	39.0	1.1	1.2%
Everlight	LED	2393.TW	Buy	54.20	69.00	32%	777	18.0	17.0	1.5	8.7%

Source: Citi Research estimates

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Contents

Quantifying Standards to Drive Results

China's environmental investment during the 2010-15 five-year plan has been different from past trends. The guidelines have become more granular and stricter, which should improve efficiency of both existing and new projects, and benefit industry players:

- **Air pollution:** Natural gas distributors and gas-fired power plant operators such as Beijing Enterprises, CRG Gas and Beijing Jingneng (579 HK, Not Rated).
- **Waste handling:** Companies such as Beijing Enterprises Water and China Everbright Int'l.
- **Energy efficiency:** Companies such as Epistar, Everlight and Wasion (3393 HK, Not Rated).

Investment Thesis

In April 2013, we identified several themes on environmental protection, specifically waste-to-energy, wastewater and smog emissions (China Clean Sweep - Policy Ramp for Environmental Protection; Identifying Leaders). China's investment in environmental protection is close to 1.4% of GDP, and between 2010 and 2015 can reach RMB3.4trn, according to State Council plans. While 2012 figures are not yet published, we expect investment of more than RMB700bn, and will likely accelerate over the next two years. In this note, we explain how China's developing policies will have an impact on return metrics of both existing and new projects, and how they differ from past attempts. In short, we see greater focus on measurable results, and clarity on funding plans, which will support faster ramp of environmental protection projects.

Figure 2. China's Investment into Environment (RMB Billion)

	2007	2008	2009	2010	2011
Total Investment in Environment & Pollution Control	338.7	449.0	452.5	665.4	659.3
City Infrastructure	146.8	180.1	251.2	422.4	346.9
City Gas	16.0	16.4	18.2	29.1	33.1
Centralized Heating	23.0	27.0	36.9	43.3	43.8
Waste-water Disposal	41.0	49.6	73.0	90.2	77.0
Gardening / Green Area	52.6	65.0	91.5	229.7	154.6
Municipal Environmental Services	14.2	22.2	31.6	30.2	38.4
Industrial Pollution Control	55.2	54.3	44.3	39.7	44.4
Environmental Investment for Constructions	136.7	214.7	157.1	203.3	267.9
Total investment as percent of GDP (%)	1.36	1.49	1.33	1.66	1.39

Source: National Bureau of Statistics, Citi Research

China is looking for further reform in the coming Third Plenary Session (3PS) of the 18^{th} Party Congress. Minggao Shen, our China strategist, sees demand boost and productivity enhancement coming first, which will include environmental efforts (see China Macro View - Reform Prospects for Next Five Years).

On Aug 16, the NDRC requested provinces and municipals to ensure emission reduction and energy conservation targets are met (http://www.ndrc.gov.cn/zcfb/zcfbtz/2013tz/t20130827_555124.htm). China will need to lower energy consumption per Rmb10,000 GDP by 3.84% each year between 2013-15 in order to reach its 2015 target. The NDRC also set a reduction target for sulfur oxide, chemical oxygen demand (COD), ammonia nitrate and nitrogen oxide.

Figure 3. PRC Energy Saving and Emission (2010, 2015), and Reduction Targets

	2010 Amount	2011 yoy cut	2012 yoy cut	2013E yoy cut	2014E yoy cut	2015E yoy cut	2015E Amount
Energy consumption per RMB10,000 GDP (tons of standard coal)	1.03	2.0%	3.6%	>3.7%	3.8%	3.8%	0.87
Sulfur oxide (m tons)	22.68	2.2%	4.5%	2.0%	0.0%	0.0%	20.86
Chemical oxygen demand (COD) (m tons)	25.52	2.0%	4.0%	2.0%	0.2%	0.1%	23.48
Ammonia nitrate emission (m tons)	2.64	1.5%	2.6%	2.5%	1.9%	2.0%	2.38
Nitrogen oxides (m tons)	22.74	-5.7%	2.8%	3.0%	>4.0%	>4.0%	20.86

Source: NDRC, Citi Research estimates

In 2013, there has been significant investment into energy reduction and emission reduction programs, with central government budgeting RMB9.37bn, compared to RMB6.37bn in 2012. Below is a list of expected capacity additions:

Figure 4. PRC New Energy Saving and Emission Reduction Capacity in 2013

	Capacity addition in 2013
Energy saving in terms of standard coal (million tons)	60.00
Sewage treatment daily (million tons)	8.00
COD reduction (million tons)	0.60
Ammonia nitrate reduction (million tons)	0.06
Desulfurization (GW)	7.00
De-nitrification (GW)	150.00
Install cement emission control systems	77 lines
Sulfur dioxide reduction (million tons)	0.24
Nitrogen oxides reduction (million tons)	1.60

Source: NDRC

As China's environmental investment continues in the coming 12 months, we also see a rush for project acquisitions from leading companies and some consolidation in the sector. While this may partly be driven by higher valuation multiple for the sector, this may also be related to more stringent requirements requiring further investments.

This will most likely benefit companies with strong infrastructure and experience in the sector, i.e. larger companies with funding advantages and strong understanding of the policies and the technology in the area. On the other hand, companies that have relied on local interest and business connections with sub-standard developments may face challenges to maintain or acquire new projects on tighter standards. In sum, we should see improved quality in environmental investment, if the standards are implemented across different parts of China.

Figure 5. Environmental Protection – Valuation Comparison

	RIC	FY End	Citi Rating	Price 27 Sep 2013	Target Price	Mkt-Cap US$m	ROE FY13E	Net D/E FY13E	PE FY13E	PE FY14E	PB FY13E	PB FY14E	Yield FY13E
Air Pollution: Gas Distributors and Gas Fired Power Plants													
Beijing Enterprises	0392.HK	Dec	Buy	HK$55.90	HK$66.50	8,410	10.0%	37.6%	16.2	13.0	1.5	1.4	1.7%
China Resources Gas	1193.HK	Dec	Buy	HK$19.76	HK$22.00	5,667	17.3%	17.5%	20.3	16.8	3.3	3.2	1.0%
China Gas	0384.HK	Mar	Buy	HK$8.28	HK$9.00	5,122	16.6%	90.7%	22.4	19.4	3.2	2.8	0.5%
ENN Energy	2688.HK	Dec	Buy	HK$43.65	HK$48.60	6,096	18.2%	42.0%	22.0	16.7	3.7	3.2	1.3%
HKCG	0003.HK	Dec	Sell	HK$18.64	HK$16.00	22,980	15.2%	39.6%	23.8	22.9	3.6	3.4	2.0%
Towngas China	1083.HK	Dec	Neutral	HK$7.12	HK$7.75	2,399	8.3%	21.3%	19.7	16.1	1.5	1.4	0.9%
Yingde Gas	2168.HK	Dec	Buy	HK$7.79	HK$10.00	1,815	14.2%	87.1%	13.1	10.8	1.7	1.5	2.5%
China Oil & Gas	0603.HK	Dec	Buy	HK$1.10	HK$1.88	706	12.0%	11.5%	13.6	10.5	1.5	1.4	0.7%
Beijing Jingneng	0579.HK	Dec	Not Rated	HK$2.90	N/A	2,300	12.7%	N/A	11.5	8.0	1.4	1.2	2.7%
Waste Handling: Waste to Energy and Wastewater													
China Everbright Int'l	0257.HK	Dec	Buy	HK$6.67	HK$8.08	3,487	13.6%	52.3%	22.4	17.6	2.9	2.6	0.9%
BE Water	0371.HK	Dec	Buy	HK$3.27	HK$4.00	3,241	11.6%	101.8%	22.8	17.6	2.4	2.2	1.0%
Guangdong Investment	0270.HK	Dec	Buy	HK$6.64	HK$7.60	5,342	15.2%	-7.6%	11.0	11.6	1.6	1.5	3.2%
Sound Environment	000826.SZ	Dec	Not Rated	HK$33.00	N/A	3,485	12.5%	N/A	35.5	25.9	4.3	3.6	0.5%
Originwater	300070.SZ	Dec	Not Rated	HK$40.35	N/A	5,840	18.7%	N/A	40.3	28.9	7.1	5.8	0.2%
CQ Water	601158.SS	Dec	Not Rated	HK$5.87	N/A	4,604	14.6%	N/A	14.2	13.2	2.1	1.9	N/A
China Water Affairs	0855.HK	Nov	Not Rated	HK$2.82	N/A	525	8.6%	N/A	15.0	11.9	1.2	0.9	1.8%
Energy Efficiency: Measurement and LED													
Wasion	3393.HK	Dec	Not Rated	HK$4.79	N/A	575	14.2%	N/A	9.1	7.9	1.2	1.1	4.1%
Epistar	2448.TW	Dec	Buy	NT$56.20	NT$60.00	1,775	1.2%	0.4%	93.7	39.0	1.1	1.1	0.8%
Everlight	2393.TW	Dec	Buy	NT$54.20	NT$69.00	777	8.7%	10.6%	18.0	17.0	1.5	1.5	4.7%

Source: Citi Research

Introducing Citi's Clean Sweep Basket

The share prices in the environmental sector have performed strongly, up 5% to 71% YTD, on continued ramp of new construction, improvement in utilization of existing plants, and acquisitions by industry leaders, which should allow the sector to see sustained earnings improvement to drive further re-rating.

In order to track the performance of the sector, we have created a basket based on company investments into environmental protection and energy efficiency efforts. We have excluded companies that focus on energy production, such as nuclear, solar and wind, as we focus on the theme of how China can improve the existing environment.

Our basket comprises six main beneficiaries of environmental protection efforts in urban cities. We believe suppliers to gas-fired power plants, environmental works (waste-to-energy and wastewater), and energy efficiency (LED and energy saving) solutions should see strong demand growth.

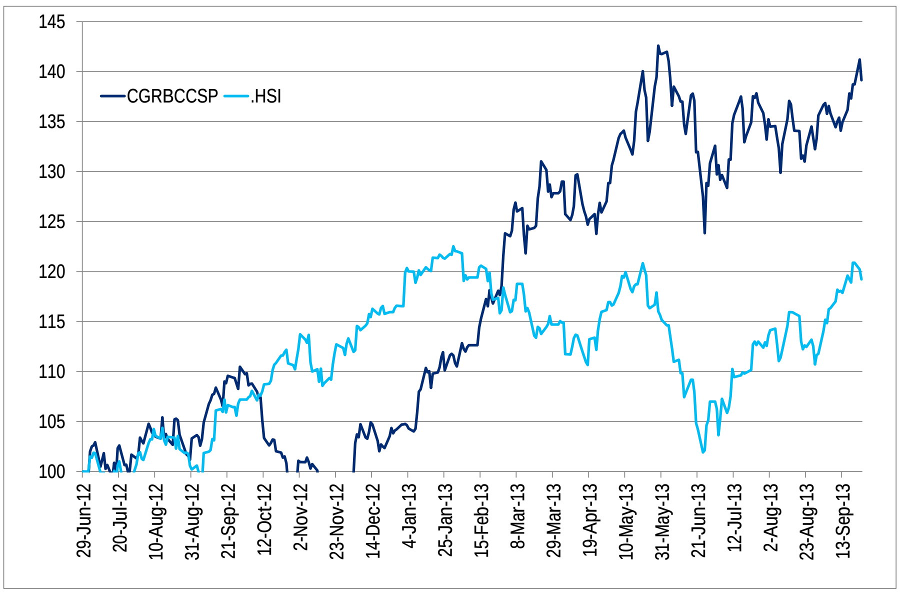
Figure 6. Environment Protection Play – Price Performance

Description	RIC	Price 27-Sep-13	Mkt Cap US$m	Share Price Performance YTD (%)	3m (%)	6m (%)	12m (%)	24m (%)
Beijing Enterprises Water	0371.HK	3.27	3,241	64%	20%	44%	83%	134%
China Everbright Int'l	0257.HK	6.67	3,487	70%	17%	16%	65%	281%
Beijing Enterprises	0392.HK	55.90	8,410	11%	-2%	-7%	12%	40%
China Resources Gas	1193.HK	19.76	5,667	24%	1%	-9%	28%	80%
Beijing Jingneng*	0579.HK	2.90	2,300	75%	4%	19%	84%	N/A
Epistar	2448.TW	56.20	1,775	7%	8%	3%	-11%	3%
Everlight	2393.TW	54.20	777	42%	10%	13%	16%	2%
Wasion	3393.HK	4.79	575	32%	1%	5%	70%	115%

Source: Citi Research, *Beijing Jingneng IPO-ed on 23 Dec 2011

Our basket, listed on Bloomberg as CGRBCCSP Index, comprises six equally-weighted stocks and will be rebalanced quarterly to track the performance of the companies. These six stocks are Beijing Enterprises, China Resources Gas, Beijing Enterprises Water, China Everbright Int'l, Epistar and Everlight. If tracked since July 1, 2012, the basket would have shown a 39% price increase, compared to 19% of the Hong Kong Hang Seng Index. We believe the environmental protection sector may see continued outperformance, driven by high sales and earnings growth on policy support, which may lead to further upside revisions in earnings outlook.

Figure 7. Citi Clean Sweep Portfolio and Hang Seng Index



Source: Citi Research

Air Pollution: Higher Standards

Over the past few months, we have seen incremental policies supporting the measurement and improvement of air quality in China, most noticeable the announcement of clean air investigation plan (清潔空氣研究計劃) on Sep 29, and air pollution prevention program (大氣汙染防治行動計劃). In particular, the environmental results for air pollution are becoming more apparent after China provided an update on air quality standards.

China is setting higher standards in air pollution, and we see continued investment into lowering emissions from the key areas such as transportation and power

generation. While the use of natural gas will continue to be a long-term theme, we think the use of gas-fired power plants will lead to a significant short-term impact on Beijing Enterprises, CR Gas and Beijing Jingneng, as China may look for results from implementation of gas-fired plants in Beijing and Tianjin area. Gas-fired plants still require a higher overall cost, which tariff is subsidized by the municipals, and will drive sharply higher gas volume for these two municipals.

Beijing Jingneng sees corresponding subsidy to offset the rise in natural gas costs and envisages sustainable earnings as it develops additional capacity in Beijing and surrounding areas. The company had 2,028MW of gas-fired power capacity as of 1H13, about 50% of its total capacity, and gas-fired power accounted for 58.5% of its gross power generation in 1H13. Sales of gas-fired electricity rose 66% Y/Y, mainly driven by commencement of operation on its Jingqiao Power Plant.

Takeaways from Environmental Results

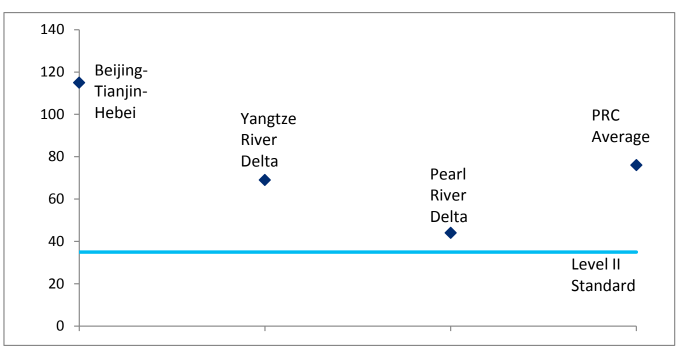
According to the latest air quality standards in China (GB3095-2012), based on Sulfur Dioxide, Nitrogen Dioxide, particulate (PM_{10}, $PM_{2.5}$), Carbon Oxide and Ozone figures, on average only 54.8% of the days in 74 major cities are within the standards. This means the other 45.2% of the days were over the limit. The following table and charts show how the 1H13 average in populated areas benchmarked against China's Level II standards, which indicates that China still needs to do a lot to bring emission within its own standards.

Figure 8. 1H13 Average Air Quality in China – More Smog Days

(µg/m3)	PM2.5	PM10
Beijing-Tianjin-Hebei	115	193
Yangtze River Delta	69	103
Pearl River Delta	44	64
PRC Average	76	123
Level II Standard	35	70
WHO Interim Target 1 (Annual Mean Level)	35	70
WHO Interim Target 2 (Annual Mean Level)	25	50
WHO Interim Target 3 (Annual Mean Level)	15	30
WHO Air Quality Guidelines (AQG)	10	20

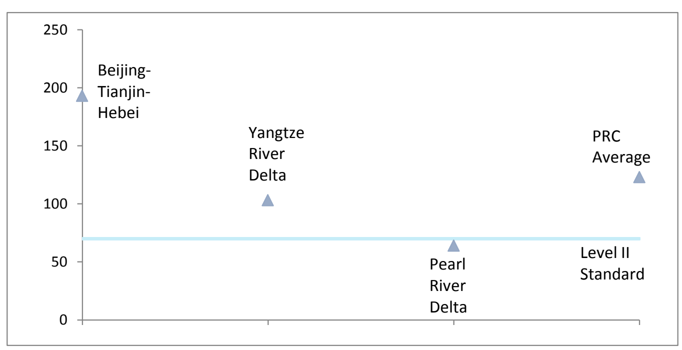
Source: Citi Research, Ministry of Environmental Protection, World Health Organization

Figure 9. China 1H13 Particular Matter (PM 2.5) vs. Level II Standard



Source: Citi Research, Ministry of Environmental Protection

Figure 10. China 1H13 Particular Matter (PM 10) vs. Level II Standard



Source: Citi Research, Ministry of Environmental Protection

The PM 2.5 standard identifies the pollutants that may cause more harm to human body, as particulate matter smaller than 2.5 micrometers (hence $PM_{2.5}$) tends to penetrate into the gas exchange regions of the lung, and may affect the

cardiovascular system. The World Health Organization (WHO) has published a book on “Air Quality Guidelines: Global Update 2005”, which set four levels of guidelines on particulates. WHO Interim Target 1 (IT-1) is the same as China’s Level II standard (35 µg/m3) for $PM_{2.5}$ and (70 µg/m3) for PM_{10}.Tighter guidelines (IT-2, IT-3, AQG) will look for $PM_{2.5}$ and PM_{10} levels to be 20-50 and 10-25 respectively, suggesting China will still have significant room for further air quality improvements.

Acid rain and underground water are also two areas that need to be addressed. Out of 465 cities (and regions), 30% or 135 cities are facing acid rain. In particular, 23 cities have acid rain with pH levels below 4.5, which continues to have an impact on the ground.

The main pollutants continue to be burning of coal, vehicles, the industrial sector, construction, and transportation. To help address the issue, Ministry of Environmental Protection (MEP) appears to be adding new regulations to manage emissions. On September 16, MEP announced new standards for light vehicles and for the bricks and tiles industry. The new standards call for controlling vehicle emissions to meet stage five standards (GB-18352.5-2013), which have stricter emission control, with particulate restriction tightened by 82%, and requiring new registration from 2018 to meet the standards set under Phase V of the process.

As for the bricks and tiles industry, emissions for sulfur dioxide and ash account for 8% and 11% of total industry emissions, and the new particulate control is 50% lowered, while sulfur dioxide is 53% lowered, which should help significantly reduce the total amount of emissions when implemented. The standard on bricks and tiles industry will be effective from Jan 1, 2014.

Recent policies are clearly looking to improve the transparency and availability of the environmental information, which should help identify the trouble spots and to help reduce impact to the market.

Update on Pollution Monitoring Procedures

On July 30, 2013, China announced a revised document, on “specifications and test procedures for ambient air quality continuous automated monitoring system for PM10 and PM2.5. Since then, the State Council has announced an air pollution control plan. By 2017, China targets to reduce cities polluting particle intensity by 10%, while the major cities on the Beijing/Tianjin, Yangtze River Delta and Pearl River Delta by 25%, 20%, and 15% respectively.

This will require significant investment and monitoring efforts. Based on the State Council document, the latest “Air Pollution Prevention Program” (大气污染防治行动计划) has 10 specific measures to improve air quality:

1. Reduction of pollutant emission, including reduction of small coal furnace, environmental protection construction, reduction of aged vehicles and promotion of public transport and new energy vehicles

2. Tighten control on industries which consume significant energy resources

3. Increase pace of technology upgrade and develop the environmental industry

4. Adjust energy mix to increase clean energy usage, with a target to bringing coal consumption to below 65% of total by 2017

5. Increase entry barriers for new investments, with limitation on areas that are fragile or sensitive to environmental changes

6. Allow market dynamics to improve policy implementation, with specific funding and pricing mechanism to encourage environmental investment

7. Healthy laws and regulations and establish air quality ranking

8. Establish regional alliance to coordinate environmental management plans, with annual examinations to ensure provincial governments are meeting their responsibilities

9. Establish monitoring and emergency planning to handle heavily polluted weather

10. Confirm responsibilities and encourage everyone to help improve air quality

Key Beneficiaries

We continue to see natural gas distributors to be direct beneficiaries of investment in cleaner fuels, and in terms of gas volumes, Beijing and Tianjin should see sharp growth due to ramp of gas-fired power plants. Beijing Enterprises, CR Gas, and Beijing Jingneng should benefit from either higher gas volumes into the Beijing-Tianjin-Hebei area, or as an operator of the gas-fired power plant in Beijing.

During the last heating season (2012-2013), Beijing consumed 35million m^3 of natural gas a day in Nov 2012, 52mn m^3 in Dec 2012, and 56mn m^3 in Jan 13 per day, supplying heating to 160mn m^2 of areas. In June 2013, Beijing demolished the largest coal furnace within the four-ring road in the North, and will be switching to clean energy usage by year-end. The North Heating plant was built in 1987, with annual coal consumption of 78,700 tonnes, responsible for supplying heat, cooling, and steam supplies, to the Olympic village and surrounding areas. The plant is switching to natural gas, which will help reduce particulates and emissions. As Beijing increases its natural gas usage for heating and power plants, it should drive higher gas volume growth for Beijing Enterprises.

We also expect the use of natural gas vehicles to be adopted in more cities in China, which will allow companies that are building CNG stations to see additional demand growth. We believe this will be captured by the general gas volume growth on the gas sector.

As for power generators and manufacturers, environmental policies may increase compliance costs, which should increase demand for emission control equipment makers. However, the equipment sector faces increasing competition, which may not allow for sustainable margins. We expect better monitoring framework and a switch in energy usage will offer more pronounced improvements, while the next steps will likely include investment to improve existing plants and reduce non-compliant plants.

Waste Handling: Resolving Operational Issues

We believe China is targeting better handling and processing of waste from the treatment plants. In the past, the focus has been on building up capacity to meet central government targets, which are often based on percentage of treatment. Unfortunately, this has resulted in an oversight, especially in handling of the by-products from operation of the plants. According to an article in Caixin on August 8,

"hazardous byproduct of the sewage treatment process" is "trucked to farming area and dumped on fields where corn and watermelons are grown".

In the current period, we are seeing more refined targets, not only for total installed capacity, but also to address the processing cost from these environmental infrastructure projects. For the two main segments, specifically waste-to-energy plants and wastewater projects, operators will need to address the operational issues before they can receive the expected funding and fees. We expect this will continue to benefit leading players which have the technology and expertise to execute within tighter environmental benchmark, which in turn will provide additional investment and construction opportunities.

Tighter Benchmark for Waste-to-Energy

As China develops more waste-to-energy plants, it is also getting more pushback to ensure that plants will not create secondary damage via emissions from the plant. For example, plants with sensitive landscape near-by may face a zero-emission policy, requiring complete wastewater handling on-site and recycling. A company will need to implement treatment process to handle the fly ash and the waste sludge from treatment of the garbage waste. These strict environmental standards require a complex system of production and emission control to be implemented, which covers the production process, public works and environmental protection efforts.

Figure 11. Environmental Requirements from Nanajing WTE Plant

Project Type	System Name		Scale of projects
Production Process	Municipal Waste Incineration System		Treatment capacity 2,000t/d, 4×500t/d grate furnace
	Waste collection, storage, transfer mechanism	Waste collection	9 sets of disposal gates, 3 sets of fully-automated scales
		Waste storage	Can store up to 7-days of fuels, with storage capacity of 31668m3
		Waste transfer	3 sets of 15-tonne crane claw with 10m3 volume; crane control room; safety observation window
		Waste sludge collection	Waste storage has a 2% slope to allow collection of waste sludge, with capacity of 900m3
	Waste Energy	2×20MW electric generator	Annual electricity generation of 2.8179× 108kWh
	Heat Furnace System	Waste Heat Boiler	4 sets (each set can be up to 43t/h)
		Chimney	80 meters high
Public Works	Automated control systems		DCS centralized control system
	Light diesel storage tanks		2×25m3
	Active carbon storage		1×100m3
	Calcium oxide (Quicklime) storage		1×50m3
	Ash storage		81m×5.5m×5m(h)
	Fly ash storage		2×160m3
	Cement storage		1×75m3
	Ammonia storage		1×30m3
Environment Works	Storm drain pipes		
	Gas emission cleaning system		SNCR + half-dry+dry+linen+SCR process
	Wastewater processing		Use of UASB+MBR+NF+RO process
			Handle municipal waste with MBR+NF+RO process
			Wastewater capacity of 1,000m3/d。
	Smell reduction		Ventilation, active carbon and other isolation methods
	Noise control		Reasonable layout, noise-cancellation, noise-reduction methods
	Waste ash and fly ash processing system		Waste ash storage, fly ash storage and solidification areas
	Green areas		40,560m2

Source: Citi Research

As China tightens the environmental standards, some of the planned projects may take more time to evaluate and to address environmental issues. There are several implications:

- **Benefits larger operators:** Larger operators have experience in operation of large-scale plants, which typically have an additional gas emission control mechanism. In addition, companies such as China Everbright Int'l will be able to make a plan for a combination of environmental works – i.e. waste-to-energy, wastewater, recycling, hazardous landfill, which can help local government meet their environmental investment needs

- **Large scale projects take time:** While combining the projects will allow for larger total investments (and potentially larger operating profits), the approval process may take longer than in the past, as it will require larger land area and may involve more land acquisitions

- **Small plants may shut:** Our recent checks suggest smaller waste-to-energy operators, which operate less than 500 ton/day capacity, are facing challenges to maintain operation at a profitable level, as they must also adhere to tightened emissions standards. These plants may face pressure for reconstruction, and we may see further consolidation in the sector as a result

Improve Sludge Handling from Wastewater Plants

In the past, wastewater projects focused on treating capacity as a key component of meeting government targets. However, this has resulted in a number of mismatched opportunities as the plant may not necessarily treat the waste at source or become under-utilized, which results in weaker project return than anticipated.

In addition, treatment of the sludge is sometimes overlooked, as it is treated as a byproduct of the waste plant. This is why the central government is pushing for additional investment to upgrade wastewater treatment plant nationwide.

The modern sludge disposal system will require the use of drying equipment, and proper storage and detoxification of the sludge. Companies that do not meet the standards or illegally use the substance as a substitute fuel are facing more pressure to tighten up their facilities and invest to bring the plant up to standards.

In fact, during the twelve five-year plan, sludge treatment remains a key focus area as 36 major cities should see their sludge treatment rate improve to 80%, in which some cities have much lowered metric.

Figure 12. 12th Five-Year Plan Target for Waste-water and Reclaimed Water Usage

Target		2010	2015	Changes
Waste-water Treatment Rate (%)	Cities	77.5	85.0	7.5
	— 36 Major Cities		100.0	
	— Prefectural-level Cities		85.0	
	— County-level Cities		70.0	
	Counties	60.1	70.0	9.9
	Designated Towns	< 20	30.0	> 10
Sludge Treatment Rate (%)	Cities	< 25	70.0	
	— 36 Major Cities		80.0	
	— Prefectural-level Cities		30.0	
	— County-level Cities		30.0	
Reclaimed Water Utilization (%)		< 10	15.0	> 5
Waste-water Pipeline Network ('000 km)		166	325	159
Waste-water Treatment Scale ('0000 m3/day)		12,476	20,805	4,569
Treatment Upgrade Target ('0000 m3/day)				+2,611
Sludge Treatment Capacity ('0000 tonne/year)				+518
Reclaimed Water Capacity ('0000 m3/day)		1,210	3,885	2,675

Source: China Environmental Bureau, Citi Research

Various treatment processes can help stabilize and turn sludge more hygienic, which typically requires dewatering and anaerobic stabilization. A drying mechanism may include a sealed process to turn sludge into powder. The dried sludge can help reduce moisture content to 5-20% of total, allowing it to be easily transported to other handling and uses.

According to a report published by European Environment Agency, titled “Sludge Treatment and Disposal”, the additional investment for sludge treatment can account for up to 50% of the total investment, and it is crucial to consider the full range of alternatives when wastewater plant operators are considering how they will pre-treat raw and wet sludge.

Figure 13. Wastewater Sludge Treatment Process

Treatment process	End product after treatment
Thickening / dewatering	thickened sludge with less volume
Aerobic digestion	Biochemical oxygen demand (BOD) reduced sludge with less volume
Composting	Humus
Anaerobic digestion	Methane, carbon dioxide gas (biogas), and thickened sludge
Lime stabilization	odorless and dewatered sludge
Pressurized sludge / thermal sludge processing	stabilized sludge with pathogens killed
Incineration	ashes
Storage - air drying	increased dry matter, reduced organic matter and pathogens
Bed of reed	dewatered, stabilized, mineralized sludge

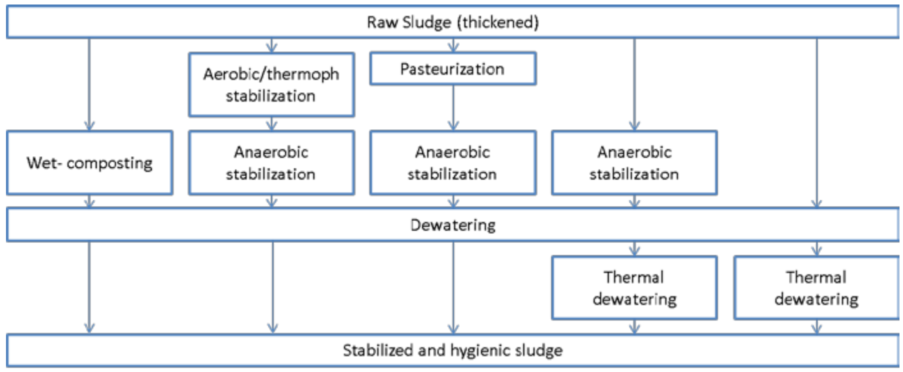
Source: Citi Research

Figure 14. Sludge Disposal Methods

Methods	End product after disposal
Deposition	landmasses, methane and carbon dioxide
Incineration	ashes, heat, nitrogen oxides, carbon dioxide and etc,.
Use in agriculture and other land use	fertiliser

Source: Citi Research

Figure 15. Selected Methods of Sludge Treatment (Simplified)



Source: Citi Research, Based on "Sludge Treatment and Disposal", European Environment Agency

Figure 16. Aerobic Tank inside Wastewater Plant

Source: Citi Research

Figure 17. Sludge Dewatering Process

Source: Citi Research

Figure 18. Dewatering Equipment – Electronic Monitoring

Source: Citi Research

Figure 19. Sludge Treatment – Pathogen Testing

Source: Citi Research

While sludge can be used for farmland if it meets the requirements, misuse can have hazardous effects. Untreated sludge may have heavy metals, pathogens, which will affect the farmland over time. As highlighted by Caixin, the sludge from some wastewater plants was shipped far away from the city, and is used as fertilizer before proper treatments, which may “pose a long-term threat to the environment and the food chain”. The scale of the total amount of sludge from wastewater treatment plant in China varies, from 14 to 30m tons, depending on publication sources. This appears to be a priority for Ministry of Environmental Protection, which will require significant investment over the next few years.

We expect the rising costs to be absorbed mainly by municipals, which seem to align with the official targets of larger cities. Wastewater plant operators will likely see a rise in both construction costs and tariff to cover the additional treatment needed to ensure the wastewater plants are properly treating both the wastewater and the sludge generated from the treatment itself.

Room for Incremental Investments

Tighter regulations will likely drive consolidation in the waste treatment sector, as local governments have incentives to ensure the wastewater and solid waste are handled properly. In particular, we believe China Everbright Int’l and other companies will continue to drive the “environmental park” business, providing a complete solution to process and recycle waste generated in the urban areas.

Figure 20. Wastewater Treatment Plant - Upwards and Onwards

Source: Citi Research

We see wastewater projects shifting from “capacity-driven” to “operational-driven” metric. BE Water is aggressively acquiring projects to ramp its national treatment capacity, and is investing in pipeline, reliability, and sludge treatment programs, which may drive higher tariffs from local governments. This may improve return metric for wastewater plants, as new investments will not only reduce the externality damage, by properly treating sludge generated from wastewater plants, but may also improve plant utilization rates driven by improvement in waste collection network and more efficient waste processing capability.

In September 2013, State Council issued a document to address additional infrastructure construction (關於加強城市基礎設施建設的意見), which targets to complete 73,000km of sewage pipelines by 2015, re-iterating its plan to raise urban wastewater processing capability to 85%, and municipal waste non-damaging treatment to 90%. These policies should support for more aggressive investment in the sector in the coming 1-2 years.

Energy Efficiency: Measurement and LEDs

In 1H13, according to SDPC (www.sdpc.gov.cn), high energy-consumption industries continue to see faster growth, which put pressure on China to reduce the energy consumption per GDP plans. For example, in the first five months, industrial energy consumption was 1.1 billion standard coal equivalent, up 3% Y/Y. While energy per GDP usage is still falling, the rate of decline was less than before. While the mainland economy faces downward pressure to its growth rate, continuous industrial demand ramp continues to drive higher overall energy usage.

In order to meet the energy target, energy efficiency is becoming more important to meet coal-use reduction. Jiangsu plans to reduce energy density by 18% over 2010-2015, which would likely involve better energy usage measurements (intelligent electric meters) and increased use of fluid-measurement tools, which may benefit measurement tool manufacturers such as Wasion.

Better Metering Equipment

By end-2012, State Grid had accumulated 184m tendered smart meters, and that figure may rise to 451m by 2015, according to Wasion. This suggests a need to procure 420m smart meters through tender between 2013 and 2015. The initial ramp will likely continue to drive strong demand for electric meters to direct-supply and direct-management areas.

According to Wasion, mechanic measurement of fluid meters may also be the next strong growth area. The CAGR for water, gas, and heat meters may reach 20%/10%/33% respectively, between 2010 and 2015, in which smart meter will see above industry growth.

While metering equipment is a niche market, given a concentrated customer base and centralized bidding process, which results in competitive bidding, we do see the continued push for energy efficiency helping leading companies in the sector to see strong shipment growth, as information collection will help address energy usage and allow China to be using energy more efficiently.

Rising LED Demand

Arthur Lai sees LED demand growth continuing, which will likely drive further re-rating of the sector. According to our checks, lighting usually makes up 20% of electric consumption in some developed countries. In terms of power consumption, conventional lamp (incandescent) will consume 5x ~ 6x power than LED. CFL lamp will consume 2x electricity than LED.

Figure 21. Lighting source comparison

		Luminous Efficacy	Luminous output	Wattage	Life time	CRI
		(lm/w)	(lm)	(W)	(Hours)	
Component	LED white package (cool)	144.0	144.0	1.0	50K	70
	LED white package (warm)	111.0	111.0	1.0	50K	80
Lamp	LED A19 lamp	93.0	910.0	9.3	25K	93
	LED PAR38 lamp	74.0	1,000.0	13.5	25K	92
	Linear Fluorescent Lamp	118.0	3,050.0	26.0	25K	85
	CFL	63.0	950.0	15.0	12K	82
	Halogen	22.0	1,100.0	50.0	5K	100
	Incandescent	15.0	890.0	60.0	1K	100

Source: DOE, Citi Research

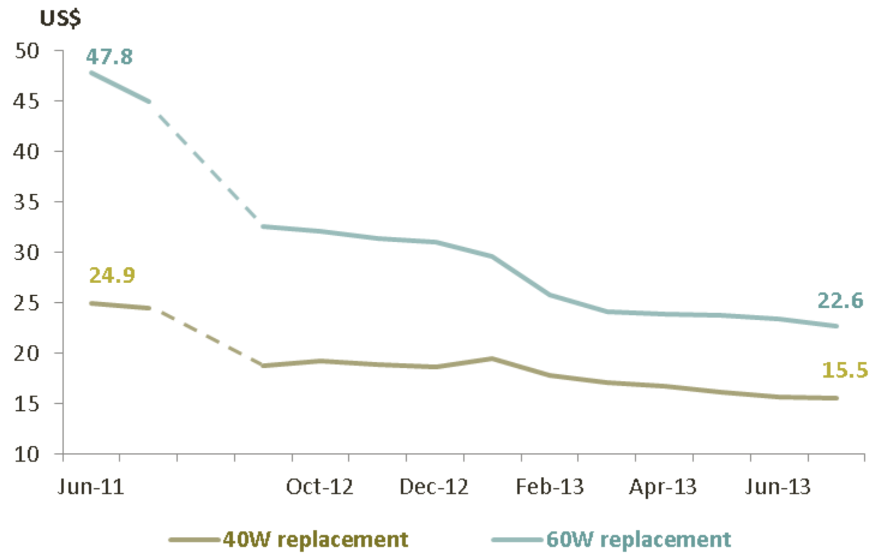
On August 27, the NDRC sought stronger efforts to ensure the 2013 energy conservation target is met. Those that cannot pass the examination are asked to meet the State Council Energy Conservation Team. According to the announcement, results of the energy conservation efforts in 2012 will be announced to major media, with a view to seeking social monitoring. Areas behind schedule would have to set a clear target.

In order to meet the target, we expect investment into measurement equipment and further optimization of energy usage. Of the RMB9.37bn budgeted for energy efficiency and environmental protection, energy efficiency will account for RMB1.93bn, which may encourage usage of LED lamps as a replacement, to meet a lower energy-consumption target.

LED lighting can provide much better energy efficiency as current LED lighting penetration in China is still low. We believe the policy will drive higher LED lighting penetration in China and benefit Everlight and Epistar as they have better price performance product offerings and a wider client base than Korea and Japanese LED makers.

Prices of LED bulbs have fallen sharply since 2011, and we expect current prices to help drive higher penetration of LED-based lighting.

Figure 22. LED Bulbs Price Trend Since 2011



Source: Citi Research

Recent Company Visits

Beijing Jingneng New Energy

Beijing Jingneng (BJE) develops gas-fired power plant projects, and it is also seeing demand from ramp of the Jingqiao Power plant in 2013. At the results conference, the company commented on Beijing's plan to ramp gas-fired power plants:

- **Higher installed capacity:** BJE had 4.05GW of installed capacity as of 1H13, of which 2.03GW is for gas-fired power plants, and the company sees Beijing consuming gas supplies. Natural gas will account for approximately 80% of energy consumption by 2015, and BJE has 56% of the gas-fired power capacity in Beijing.

- **Rising electricity sales:** BJE sold 5,759GWh of electricity, and reported operating income of RMB2.9bn in 1H13, compared to 3,700GWh and RMB1.9bn a year ago. Growth was driven by higher sales in gas-fired power plant, and from its wind segment. EBITDA also saw a rise of 25% Y/Y to RMB1.7bn. The company sees the Gaojing Project, with installed capacity of 1,308MW, commencing production in 2013.

- **Cost pass-through:** BJE is confident that recent gas price increases will be passed through via on-grid subsidy, and as the Beijing municipal continues to pursue gas-fired power plants as a way to reducing particulate emissions

Beijing Enterprises Water

Beijing Enterprises Water (BEWG) placed 400m new shares (4.9% of enlarged capital) on Sep 26 with Khazanah Nasional Berhad to raise HK$1.18bn. We expect strong project development in the coming 12 months, driven by new capacity additions and project upgrades:

- **Rapid growth in 2013:** BEWG has been aggressively acquiring projects in 2013, and we expect its treatment capacity in 2013-14E to rise sharply. Its operating cash flow should also see significant improvement, driven by higher treatment capacity and potential tariff improvement, as BEWG invests in sludge treatment projects.

- **Higher capacities**: We forecast the company's total water treatment capacity will reach 14.6m ton/day by end-2013, rising 17% Y/Y to 17.1m ton/day by 2014E. We expect rising construction revenue in 2013E and 2014E, to HK$3.3bn and HK$3.8bn respectively, driven by both new project investment and upgrade of existing plants. The company's sewage treatment margin should remain flat, between 61-62%.

China Everbright Int'l

We discussed with China Everbright Int'l (CEI) the latest project developments and how it plans to increase its capacity in the next two years. Below are the key takeaways:

- **Invest in new provinces:** CEI will not only focus on provinces where the company has existing relationships and may broaden its focus to other provinces in China as well. This should allow the company to target both publicly tendered projects and other negotiated opportunities

- **More opportunities after holidays:** CEI will continue to evaluate new projects from a bottom-up basis, focus on projects that can meet the company's return

requirements. The company may see more opportunity to sign new projects after the upcoming long holidays in China

- **Progress on existing pipeline:** The company continues to make good progress in existing project developments in Nanjing, Ningbo, Pizhou, Sanya, and will continue to target operations in1H14, as guided in its interim results. However, new projects are facing longer evaluation periods to meet revised plans and location selection. CEI should have more opportunities in waste-to-energy (WTE) segments.

Dongjiang Environment

We met with Dongjiang Environment (DJE) on August 23 to discuss the current business environment in solid waste and hazardous waste treatments. In China, there is a certification system for most hazardous waste, mainly in 49 categories. DJE is certified to handle 45 areas, and the company typically collects fee to handle the materials, which account for 60% of its revenue. Usable materials will be recycled via heating process. DJE is also involved in industrial waste treatment, environment services, urban waste treatment, and methane collection from landfills.

- DJE will continue to focus on waste-treatment services, and will also be investing in water resources and environment restoration projects. In addition, there are also opportunities to invest in both municipal environmental parks and industrial recycling.

- The company sees government encouraging growth of resource-recovery projects. Besides providing subsidies and support for the environmental industry, heavier policing is also increasing the cost of non-compliance for waste disposals. This may allow for the reported treatment volumes to rise, to better meet expected waste volume based on production output calculations.

- Increased resource recycling will also be important for the hazardous waste treatment, including recycled metals and materials.

Epistar

According to its historical pattern, Epistar’s stock-price movements are correlated to margin trends. We expect Epistar to return to profit in 2013 and its gross margin to positively surprise on: 1) better-than-expected demand driving full utilization from 2Q13; 2) value product offerings; and 3) positioning as a “foundry” player proving attractive to global brands in a fragmented market. We expect more meaningful contribution from higher margin products (e.g., high-voltage LED) in 2014 to boost margin expansion. We rate it Buy with target price of NT$60.

Everlight

We believe Cree’s introduction of a US$10 40-watt LED light bulb for the residential replacement market marks the long-awaited take-off for the general lighting industry. We favor exposure to the downstream LED food chain as: 1) value in the food chain will increasingly accrue to the channels due to their ability to provide differentiated solutions to end-customers; 2) upstream increasingly faces commoditization; and 3) pricing is more stable for downstream players and can benefit from a volume uplift. We expect Everlight's lighting business to account for 19%/20% of 2013/14E revenue (vs. 9% in 2012) driven by strategic alliances with Greater China makers. Looking forward, Everlight’s exposure to own-brand lighting and its ability to capture the fast growth from low-cost smartphones/tablets should

deliver significant EPS growth in 2013-14E. We rate it Buy with target price of NT$69.

Wasion Group

As China invests into energy-efficiency projects, metering services will play an increasing role in measuring and monitoring the use of both electricity and other energy-intensive segment. By collecting up-to-date data and recording the changes, it may allow for more efficient coal usage and help reduce the pollution output from the power plants.

Wasion has been manufacturing electric meters and other fluid instrument equipment. As China increases investment in energy-efficient products and solutions, Wasion's solutions will help power grid operators to gather more accurate and responsive data, which will allow other energy-efficient projects to be engaged.

In the past, China relied on less-advanced electric meters, which mainly served the purpose of billing customers on electricity used. As China adopts higher penetration of smart meters, namely two-way smart meters, the grid operators will be able to gather more usage information from their customers and then set tariff based on the usage peak and trough. We believe this will allow for more efficient use of its power generating resources and as the grid operators adopt more renewable power supplies.

Heating or home ventilation also accounts for a significant use of energy resources in China, especially for the northern areas during the winter months. By more accurately measuring the heat usage, it will allow China to better price heat-related products. For example, Beijing's attempt to charge a variable heating fee may be expanded, allowing more cities to take advantage of the metering system to reduce waste in heating costs.

- **1H13 results:** Wasion reported 1H13 sales of RMB1.15bn, +4% Y/Y, as sales of data collection terminals rose 39% Y/Y to RMB295mn, and fluid measurement business increased 21% Y/Y to RMB35mn. Revenue from system and energy efficiency business was RMB17mn, +118% Y/Y. Net profit was RMB168mn, +31% Y/Y

- **Key segments:** Sales of electronic power meters were 70% of sales, with State Grid and Southern Power Grid as its key customers. However, the non-power grid segment saw 105% Y/Y growth.

- **Margins:** Wasion's gross margin in 1H13 was 33%, compared to 31% year ago; and net margin was 15%, compared to 12% in 1H13. The higher margin was driven by stabilized pricing for its meter products.

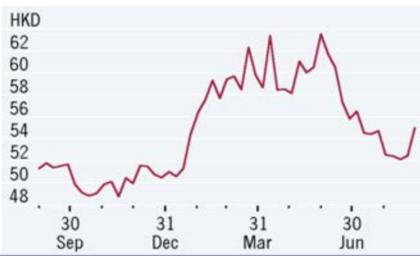
Companies

Beijing Enterprises Holdings (0392.HK)

Steady Growth as Gas Supply Ramp; Time to Revisit

Buy	1
Price (30 Aug 13)	HK$55.00
Target price	HK$66.50
from HK$68.90	
Expected share price return	20.9%
Expected dividend yield	1.8%
Expected total return	22.7%
Market Cap	HK$64,165M
	US$8,273M

Price Performance
(RIC: 0392.HK, BB: 392 HK)



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Pulished on 2 September 2013

- **Maintain Buy** — We reiterate our Buy rating on Beijing Enterprises (BEHL). Company reported 1H13 earnings up 13% Y/Y, despite slowdown in gas transmission. Company's Yanjing business resumed growth, with earnings +17% Y/Y. We expect BEHL to benefit from ramp of gas-fired power plant, and on increasing gas supplies for Beijing areas expected by 2H13 and 2014. We trim our target price to HK$66.50 from HK$68.9 on slightly lower earnings expectations.

- **Results and outlook** — In 1H13, BEHL reported revenue of HK$20.55bn, +13.2% Y/Y as gas operation revenue rose 22% Y/Y. Operating profit reached HK$2.03bn, +6.5% and net profit was HK$2.06bn, up 14% Y/Y on higher gas sales, transmission profit driven by change changes in depreciation schedule and higher brewery profits. Management sees FY gas distribution volume can reach 9.0-9.5bn m^3, or 15-20% Y/Y growth. As for slowdown in gas transmission (+0.7% Y/Y), company sees it as a one-off event, driven by new transmission pipelines in Huabei, and should resume growth in the coming year.

- **Key catalysts** — 1) BEHL ended its discussions and will not proceed with the acquisition of China Leason; 2) Rising gas transmission volumes, after recent price hike and upcoming ramp of gas-fired power plant projects; 3) Gas-fired plant ability to pass through production costs; 4) Ramp of Datang Coal-to-Gas project.

- **China Gas collaboration** — After obtaining board seat on China Gas, BEHL sees synergy in operating city-gas projects in different cities outside of Beijing municipals, and as more cities seek "packaged" solution for gas utilities and environmental services. BEHL will maintain itself as largest shareholder of China Gas.

- **Estimates revision** — We revise our 2013/14/15E EPS estimates by (2.1%)/(1.2%)/(0.6%) to HK$3.45/HK$4.29/HK$5.23 to reflect higher gas cost of sales and lower other income and expenses.

Statistical Abstract

Year to 31 Dec	Net Profit (HK$M)	Diluted EPS (HK$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	2,829	2.38	4.9	23.1	1.7	7.9	1.3
2012A	3,333	2.81	17.8	19.6	1.6	8.6	1.4
2013E	4,096	3.45	22.9	15.9	1.5	10.0	1.8
2014E	5,094	4.29	24.4	12.8	1.4	11.5	2.2
2015E	6,213	5.23	22.0	10.5	1.2	12.8	2.7

Source: Powered by dataCentral

0392.HK: Fiscal year end 31-Dec

Price: HK$55.00; TP: HK$66.50; Market Cap: HK$64,165m; Recomm: Buy

Profit & Loss (HK$m)	2011	2012	2013E	2014E	2015E
Sales revenue	30,472	35,570	40,562	48,786	58,432
Cost of sales	-23,738	-28,208	-32,330	-39,212	-47,316
Gross profit	6,734	7,362	8,232	9,574	11,116
Gross Margin (%)	22.1	20.7	20.3	19.6	19.0
EBITDA (Adj)	4,996	5,013	6,288	7,586	8,764
EBITDA Margin (Adj) (%)	16.4	14.1	15.5	15.6	15.0
Depreciation	-1,669	-1,800	-2,193	-2,446	-2,508
{[001763]}	-105	-63	-66	-66	-66
EBIT (Adj)	3,222	3,149	4,029	5,075	6,190
EBIT Margin (Adj) (%)	10.6	8.9	9.9	10.4	10.6
Net interest	-647	-997	-1,218	-1,423	-1,564
Associates	1,674	2,049	2,519	2,957	3,380
Non-op/Except	0	0	0	0	0
Pre-tax profit	4,249	4,202	5,330	6,610	8,007
Tax	-583	-569	-775	-976	-1,173
Extraord./Min.Int./Pref.div.	-889	-363	-459	-539	-622
Reported net profit	2,776	3,270	4,096	5,094	6,213
Net Margin (%)	9.1	9.2	10.1	10.4	10.6
Core NPAT	2,829	3,333	4,096	5,094	6,213

Per share data	2011	2012	2013E	2014E	2015E
Reported EPS ($)	2.34	2.75	3.45	4.29	5.23
Core EPS ($)	2.38	2.81	3.45	4.29	5.23
DPS ($)	0.70	0.77	0.98	1.23	1.51
CFPS ($)	-0.78	4.53	4.09	4.21	4.83
FCFPS ($)	-3.98	0.91	-2.75	0.06	1.80
BVPS ($)	33.06	34.82	37.44	40.70	44.65
Wtd avg ord shares (m)	1,138	1,138	1,138	1,138	1,138
Wtd avg diluted shares (m)	1,188	1,188	1,188	1,188	1,188

Growth rates	2011	2012	2013E	2014E	2015E
Sales revenue (%)	10.4	16.7	14.0	20.3	19.8
EBIT (Adj) (%)	22.4	-2.2	27.9	25.9	22.0
Core NPAT (%)	7.2	17.8	22.9	24.4	22.0
Core EPS (%)	4.9	17.8	22.9	24.4	22.0

Balance Sheet (HK$m)	2011	2012	2013E	2014E	2015E
Cash & cash equiv.	12,579	12,237	12,837	14,661	16,095
Accounts receivables	1,586	2,403	2,740	3,296	3,948
Inventory	5,286	5,914	6,778	8,139	9,723
Net fixed & other tangibles	30,772	37,422	42,313	43,943	44,828
Goodwill & intangibles	8,702	7,988	7,988	7,988	7,988
Financial & other assets	18,430	23,543	26,080	29,055	32,454
Total assets	77,355	89,508	98,736	107,083	115,036
Accounts payable	1,905	2,616	3,487	4,229	5,103
Short-term debt	5,705	6,277	11,533	15,319	17,781
Long-term debt	14,543	20,347	20,347	20,347	20,347
Provisions & other liab	10,006	12,628	12,732	12,836	12,942
Total liabilities	32,159	41,868	48,099	52,732	56,174
Shareholders' equity	37,610	39,609	42,595	46,294	50,789
Minority interests	7,587	8,030	8,043	8,057	8,074
Total equity	45,197	47,640	50,637	54,351	58,862
Net debt	7,668	14,387	19,044	21,005	22,033
Net debt to equity (%)	17.0	30.2	37.6	38.6	37.4

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	23.1	19.6	15.9	12.8	10.5
PB (x)	1.7	1.6	1.5	1.4	1.2
EV/EBITDA (x)	12.4	13.4	11.3	9.4	8.0
FCF yield (%)	-7.2	1.6	-5.0	0.1	3.3
Dividend yield (%)	1.3	1.4	1.8	2.2	2.7
Payout ratio (%)	29	27	28	29	29
ROE (%)	7.7	8.5	10.0	11.5	12.8

Cashflow (HK$m)	2011	2012	2013E	2014E	2015E
EBITDA	4,996	5,013	6,288	7,586	8,764
Working capital	-4,530	-305	-387	-1,333	-1,565
Other	-1,392	674	-1,041	-1,256	-1,467
Operating cashflow	-926	5,381	4,859	4,998	5,732
Capex	-3,797	-4,306	-8,128	-4,924	-3,598
Net acq/disposals	-3,348	-2,269	-1,817	-18	-18
Other	761	1,027	0	0	0
Investing cashflow	-6,384	-5,547	-9,945	-4,942	-3,617
Dividends paid	-1,179	-1,149	-1,557	-1,920	-2,323
Financing cashflow	5,910	4,427	2,481	444	-1,425
Net change in cash	-921	4,261	-2,605	500	691
Free cashflow to s/holders	-4,724	1,075	-3,269	74	2,134

For further data queries on Citi's full coverage universe please contact Citi Research Data Services at CitiRsch.DataServices.Global@citi.com
For definitions of the items in this table, please click here.

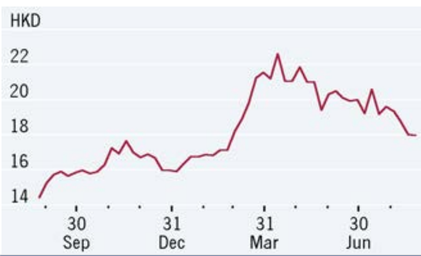
Powered by: dataCentral

China Resources Gas (1193.HK)

Upgrade to Buy: Exceeding Gas Volume Growth Expectations

Buy	1
from Neutral	
Price (23 Aug 13)	HK$17.98
Target price	HK$22.00
from HK$19.70	
Expected share price return	22.4%
Expected dividend yield	0.9%
Expected total return	23.2%
Market Cap	HK$39,988M
	US$5,156M

Price Performance
(RIC: 1193.HK, BB: 1193 HK)



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Published on 26 August 2013

- **Raise target price** — We upgrade China Resources Gas (CR Gas) to Buy with a revised TP of HK$22.00 to factor in strong gas volume growth, driven by the company's consistent ability to secure gas supplies and ramp new city-gas projects. CR Gas is on track to reach its 2015 20/20 target (20 billion $m^{3/}$/year, 20 million customers), and its low-gearing should provide room for acquisition-driven growth.

- **What's changed?** — In 1H13, while organic gas volume growth was 12%, on higher shareholding its attributable organic gas sales were up 18% Y/Y. CR Gas also secured additional 784mn attributable gas volume, or 23.5% of total, from external M&A, to drive 62% overall Y/Y gas volume growth. New connections reached 600K, as it target 1.2m new connections by year-end. Management emphasized CR Gas will not be involved in upstream, and will seek opportunities to acquire city-gas projects.

- **Pass-through cost increases** — CR Gas already passed through cost increase for 80% of gas sales, including projects in Chongqing, Sichuan, Shandong, Hunan, Hubei, Henan, & Hebei, mainly on weighted average prices for its customers. Management is confident to complete price increase for other projects by end-2013, which would remove margin pressure overhang due to upstream price hike in July.

- **Time to revisit** — After recent underperformance, CR Gas's strong gas volume and connection fee growth may support a re-rating. In addition, management's commitment to focus on downstream projects should remove investor concerns over potential upstream investments. We see current valuation at 15X 2014E earnings appears attractive, as the company may maintain 20% EPS CAGR for the coming two years.

- **Earnings revision** — We revise up our 2013/14/15E EPS estimates by 8%/3%/1% to HK$0.97/HK$1.18/HK$1.40 respectively to reflect higher sales growth for both connection fee and gas volume.

Statistical Abstract

Year to 31 Dec	Net Profit (HK$M)	Diluted EPS (HK$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	1,176	0.64	18.2	27.9	3.8	14.4	0.7
2012A	1,651	0.82	27.3	22.0	3.4	15.7	0.9
2013E	2,162	0.97	18.7	18.5	3.0	17.3	1.1
2014E	2,617	1.18	21.1	15.3	2.9	19.5	1.4
2015E	3,106	1.40	18.7	12.9	2.8	22.3	1.7

Source: Powered by dataCentral

1193.HK: Fiscal year end 31-Dec

Price: HK$17.98; TP: HK$22.00; Market Cap: HK$39,988m; Recomm: Buy

Profit & Loss (HK$m)	2011	2012	2013E	2014E	2015E
Sales revenue	14,208	19,591	20,925	25,932	31,961
Cost of sales	-10,043	-13,572	-14,433	-18,094	-22,493
Gross profit	4,166	6,019	6,492	7,838	9,468
Gross Margin (%)	29.3	30.7	31.0	30.2	29.6
EBITDA (Adj)	2,135	3,071	3,628	4,413	5,109
EBITDA Margin (Adj) (%)	15.0	15.7	17.3	17.0	16.0
Depreciation	-490	-633	-1,233	-1,445	-1,579
{[001763]}	0	0	0	0	0
EBIT (Adj)	1,645	2,438	2,395	2,968	3,530
EBIT Margin (Adj) (%)	11.6	12.4	11.4	11.4	11.0
Net interest	-88	-334	-463	-504	-500
Associates	119	125	979	1,171	1,383
Non-op/Except	459	573	687	722	758
Pre-tax profit	2,135	2,803	3,598	4,356	5,171
Tax	-563	-768	-944	-1,143	-1,357
Extraord./Min.Int./Pref.div.	-396	-384	-493	-596	-708
Reported net profit	1,176	1,651	2,162	2,617	3,106
Net Margin (%)	8.3	8.4	10.3	10.1	9.7
Core NPAT	1,176	1,651	2,162	2,617	3,106
Per share data	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Reported EPS ($)	0.64	0.82	0.97	1.18	1.40
Core EPS ($)	0.64	0.82	0.97	1.18	1.40
DPS ($)	0.12	0.16	0.20	0.25	0.30
CFPS ($)	1.06	2.44	1.94	2.17	2.55
FCFPS ($)	-0.11	0.14	-0.27	-0.16	0.34
BVPS ($)	4.68	5.26	5.96	6.10	6.45
Wtd avg ord shares (m)	1,828	2,016	2,224	2,224	2,224
Wtd avg diluted shares (m)	1,828	2,016	2,224	2,224	2,224
Growth rates	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Sales revenue (%)	52.3	37.9	6.8	23.9	23.2
EBIT (Adj) (%)	36.3	48.2	-1.8	23.9	18.9
Core NPAT (%)	49.5	40.4	30.9	21.1	18.7
Core EPS (%)	18.2	27.3	18.7	21.1	18.7
Balance Sheet (HK$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Cash & cash equiv.	7,178	12,381	11,963	8,760	5,324
Accounts receivables	3,095	4,366	4,664	5,851	7,474
Inventory	464	747	690	870	1,093
Net fixed & other tangibles	12,395	17,712	21,406	25,135	28,471
Goodwill & intangibles	751	856	881	925	972
Financial & other assets	4,955	6,336	6,925	7,271	7,634
Total assets	28,838	42,399	46,529	48,812	50,968
Accounts payable	4,473	6,239	6,908	8,485	10,658
Short-term debt	1,677	239	287	293	299
Long-term debt	5,014	11,622	14,622	14,475	13,028
Provisions & other liab	5,808	9,494	7,868	7,803	7,739
Total liabilities	16,972	27,595	29,686	31,057	31,724
Shareholders' equity	9,319	11,704	13,251	13,567	14,346
Minority interests	2,547	3,100	3,592	4,189	4,897
Total equity	11,866	14,804	16,843	17,756	19,243
Net debt	-486	-520	2,946	6,008	8,003
Net debt to equity (%)	-4.1	-3.5	17.5	33.8	41.6

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	27.9	22.0	18.5	15.3	12.9
PB (x)	3.8	3.4	3.0	2.9	2.8
EV/EBITDA (x)	17.7	12.2	10.7	9.6	8.8
FCF yield (%)	-0.6	0.8	-1.5	-0.9	1.9
Dividend yield (%)	0.7	0.9	1.1	1.4	1.7
Payout ratio (%)	19	20	21	21	22
ROE (%)	14.4	15.7	17.3	19.5	22.3
Cashflow (HK$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
EBITDA	2,135	3,071	3,628	4,413	5,109
Working capital	9	2,199	431	167	283
Other	-206	-354	259	245	284
Operating cashflow	1,938	4,916	4,318	4,826	5,676
Capex	-2,146	-4,630	-4,927	-5,174	-4,915
Net acq/disposals	0	0	0	0	0
Other	-673	-1,672	-1,500	-1,200	-1,080
Investing cashflow	-2,819	-6,302	-6,427	-6,374	-5,995
Dividends paid	-187	-428	-445	-556	-670
Financing cashflow	650	6,422	1,690	-1,655	-3,119
Net change in cash	41	5,034	-419	-3,203	-3,437
Free cashflow to s/holders	-208	285	-609	-348	761

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For definitions of the items in this table, please click here.

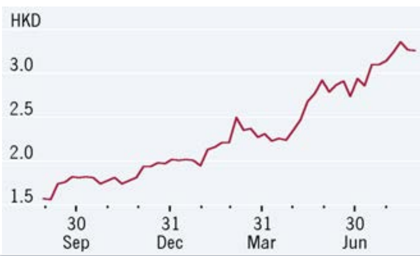
Powered by: dataCentral

Beijing Enterprises Water Group (0371.HK)

New Capacity to Quench Wastewater Efforts; Raise Target

Buy	1
Price (29 Aug 13)	HK$3.30
Target price	HK$4.00
from HK$3.20	
Expected share price return	21.2%
Expected dividend yield	0.9%
Expected total return	22.1%
Market Cap	HK$25,364M
	US$3,270M

Price Performance
(RIC: 0371.HK, BB: 371 HK)



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- **Raise target** — We reiterate our Buy on Beijing Enterprises Water (BEWG) and raise our target price to HK$4.00 (from HK$3.20), at 22x 2014E earnings, to factor in faster capacity ramp in 2014-15E as China increases investments into wastewater projects to improve available capacity and output standards. We expect 2013/14E earnings to rise by 47%/30%, factoring in capacity from pending acquisitions.

- **Results and outlook** — BEWG reported 1H13 revenue of HK$2.8bn, +97% Y/Y. EBITDA and net profit was up 47% and 33%, to HK$1.1bn and HK$514mn, respectively. Company is in process of finalizing contracts which will raise its capacity to over 13.5mn tonnes, and management remains optimistic on construction-driven growth in 2H13.

- **Upside catalysts** — After completion of asset transfer from Beijing Enterprises, BEWG should see another round of construction-driven growth, as China raises treatment capacity in major cities. Major cities are also upgrading existing plants to handle additional pipelines and sludge treatment. We expect completion of acquisitions as well as new projects will boost its capacity to be over 15mn tonnes by 1H14.

- **Funding from operating cash flow** — While its gearing is close to 100%, BEWG has HK$4.9bn cash on hand, and mgmt expects operating cash flow, bank loans and receivables are sufficient to support growth. Excluding its construction projects, we forecast BEWG to generate over HK$1bn in 2013E to support acquisitions.

- **Estimates revisions** — Our target price remains based on 1x PEG, with HK$4.00 equating to 22x 2014E earnings (prev. 20x 2014E) as we anticipate the company will see 22% EPS CAGR in 2013E-2015E. We see ROE improvements as existing projects benefit from pipeline investment. We revise our 2013/14/15E EPS by 11%/19%/18% to HK$0.14/HK$0.19/HK$0.21 on higher capacity assumptions.

Statistical Abstract

Year to 31 Dec	Net Profit (HK$M)	Diluted EPS (HK$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	601	0.09	-6.0	36.9	2.8	10.0	0.7
2012A	750	0.11	21.5	30.4	2.7	9.1	1.0
2013E	1,102	0.14	32.0	23.0	2.4	11.6	1.0
2014E	1,428	0.19	29.6	17.8	2.3	13.1	1.1
2015E	1,641	0.21	14.9	15.5	2.1	14.2	1.3

Source: Powered by dataCentral

0371.HK: Fiscal year end 31-Dec — Price: HK$3.30; TP: HK$4.00; Market Cap: HK$25,364m; Recomm: Buy

Profit & Loss (HK$m)	2011	2012	2013E	2014E	2015E
Sales revenue	2,654	3,727	5,831	7,327	8,128
Cost of sales	-1,746	-2,290	-3,676	-4,509	-4,909
Gross profit	908	1,437	2,155	2,818	3,219
Gross Margin (%)	34.2	38.6	37.0	38.5	39.6
EBITDA (Adj)	1,201	1,601	2,146	2,695	3,100
EBITDA Margin (Adj) (%)	45.2	43.0	36.8	36.8	38.1
Depreciation	-9	-25	-30	-31	-32
{[001763]}	-38	-45	-49	-54	-59
EBIT (Adj)	1,153	1,531	2,067	2,611	3,008
EBIT Margin (Adj) (%)	43.4	41.1	35.4	35.6	37.0
Net interest	-313	-494	-506	-538	-581
Associates	21	55	3	0	0
Non-op/Except	0	0	0	0	0
Pre-tax profit	861	1,092	1,564	2,072	2,427
Tax	-170	-225	-322	-457	-572
Extraord./Min.Int./Pref.div.	-90	-117	-140	-186	-214
Reported net profit	601	750	1,102	1,428	1,641
Net Margin (%)	22.6	20.1	18.9	19.5	20.2
Core NPAT	601	750	1,102	1,428	1,641
Per share data	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Reported EPS ($)	0.09	0.11	0.14	0.19	0.21
Core EPS ($)	0.09	0.11	0.14	0.19	0.21
DPS ($)	0.02	0.03	0.03	0.04	0.04
CFPS ($)	-0.33	-0.11	-0.07	0.04	0.12
FCFPS ($)	-0.34	-0.13	-0.08	0.03	0.11
BVPS ($)	1.17	1.23	1.37	1.46	1.56
Wtd avg ord shares (m)	6,719	6,909	7,650	7,686	7,686
Wtd avg diluted shares (m)	6,719	6,909	7,686	7,686	7,686
Growth rates	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Sales revenue (%)	-58.2	40.4	56.4	25.6	10.9
EBIT (Adj) (%)	24.1	32.8	35.0	26.3	15.2
Core NPAT (%)	17.2	24.9	46.9	29.6	14.9
Core EPS (%)	-6.0	21.5	32.0	29.6	14.9
Balance Sheet (HK$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
Cash & cash equiv.	2,040	3,725	3,672	2,525	2,645
Accounts receivables	3,930	2,768	4,362	5,481	6,258
Inventory	13	30	49	60	92
Net fixed & other tangibles	7,936	10,984	15,292	17,073	19,083
Goodwill & intangibles	1,644	1,762	1,938	2,229	2,341
Financial & other assets	9,187	12,021	13,459	14,538	14,798
Total assets	24,750	31,290	38,773	41,907	45,217
Accounts payable	2,049	1,919	3,081	3,779	4,100
Short-term debt	1,070	2,810	1,967	1,987	2,186
Long-term debt	7,691	10,465	14,885	15,949	17,172
Provisions & other liab	4,229	5,364	5,888	6,418	6,975
Total liabilities	15,039	20,558	25,820	28,132	30,433
Shareholders' equity	8,082	8,467	10,548	11,185	11,979
Minority interests	1,629	2,264	2,404	2,591	2,805
Total equity	9,711	10,731	12,953	13,775	14,784
Net debt	6,720	9,550	13,180	15,410	16,712
Net debt to equity (%)	69.2	89.0	101.8	111.9	113.0

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	36.9	30.4	23.0	17.8	15.5
PB (x)	2.8	2.7	2.4	2.3	2.1
EV/EBITDA (x)	25.5	19.5	15.6	13.2	11.9
FCF yield (%)	-10.3	-3.9	-2.5	0.8	3.2
Dividend yield (%)	0.7	1.0	1.0	1.1	1.3
Payout ratio (%)	28	30	23	20	20
ROE (%)	10.0	9.1	11.6	13.1	14.2
Cashflow (HK$m)	**2011**	**2012**	**2013E**	**2014E**	**2015E**
EBITDA	1,201	1,601	2,146	2,695	3,100
Working capital	-2,889	-1,887	-2,333	-1,908	-1,578
Other	-509	-487	-339	-479	-600
Operating cashflow	-2,198	-773	-526	307	922
Capex	-79	-109	-108	-107	-106
Net acq/disposals	0	0	0	0	0
Other	-1,417	-451	-1,550	-775	-388
Investing cashflow	-1,496	-560	-1,658	-882	-493
Dividends paid	-66	-2	-225	-248	-287
Financing cashflow	3,576	2,969	2,130	-572	-309
Net change in cash	-39	1,717	-53	-1,146	120
Free cashflow to s/holders	-2,277	-882	-634	201	816

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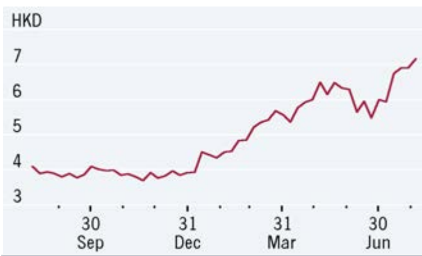
For definitions of the items in this table, please click here.

China Everbright Int'l (0257.HK)

Buy	1
Price (06 Aug 13)	HK$7.02
Target price	HK$8.08
from HK$7.40	
Expected share price return	15.1%
Expected dividend yield	0.9%
Expected total return	16.0%
Market Cap	HK$28,457M
	US$3,669M

Price Performance
(RIC: 0257.HK, BB: 257 HK)



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Strong 1H13 on Construction Ramp; Opportunities Ahead

- **Sustainable construction ramp** — We expect China Everbright Int'l (CEI) to maintain a strong construction and operation ramp in 2H13 and 2014, driven by its waste-to-energy and wastewater segments. After obtaining five new waste-to-energy projects in 1H13, we expect CEI to grow its project pipelines in 2H13. We raise our TP to HK$8.08 to factor in faster construction ramp and higher earnings.
- **Strong 1H Results** — CEI reported revenue +78% Y/Y to HK$2.5bn, driven by a sharp ramp in construction revenue in 1H13. EBITDA was up 58% Y/Y to HK$1.08bn, and net profit was HK$650mn, with the increase more than offsetting the one-off gains in 1H12. The company also raised the interim dividend to HK3.5 cents, from HK3.0 cents a year ago.
- **Near-term catalysts** — At the investor conference, CEI management said it obtained a new waste project in July 2013, and sees good business opportunities from policy-driven development of waste-handling. CEI will also seek additional hazardous waste treatment opportunities, from seven projects on-hand (three in operation), with a higher return relative to waste-to-energy projects. Other opportunities include new sites in Shandong, and potential projects in Beijing after CEI signed a letter of intent with Beijing Municipality on solid waste on 31 July.
- **Managing debtor and other risks** — In 1H13, CEI managed to lower its debtor amount by 21% to HK$422mn, from HK$532mn, after 271% rise in 2012. Management said it received 40% of receivables at the end of July, and A/R will increase in proportion to its projects. The company may still face higher finance cost if rates rise, as it does not hedge against interest rates.
- **Valuation** — We are raising our 2013/14/15E EPS by 2%/5%/7% to HK$0.30/HK$0.38/HK$0.43 to factor in stronger EBITDA and a faster ramp in construction revenue. Our target price of HK$8.08 equates 21X 2014E earnings, taking into account strong EPS growth.

Statistical Abstract

Year to 31 Dec	Net Profit (HK$M)	Diluted EPS (HK$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	721	0.20	16.9	36.0	4.2	12.5	0.6
2012A	873	0.23	18.1	30.5	3.4	12.0	0.8
2013E	1,198	0.30	29.3	23.6	3.1	13.6	0.8
2014E	1,526	0.38	27.4	18.5	2.8	15.7	0.9
2015E	1,743	0.43	14.2	16.2	2.4	15.9	1.0

Source: Powered by dataCentral

0257.HK: Fiscal year end 31-Dec

Price: HK$7.02; TP: HK$8.08; Market Cap: HK$28,457m; Recomm: Buy

Profit & Loss (HK$m)	2011	2012	2013E	2014E	2015E
Sales revenue	3,487	3,410	5,300	6,589	6,740
Cost of sales	-2,048	-1,726	-3,088	-3,790	-3,642
Gross profit	1,438	1,684	2,212	2,799	3,098
Gross Margin (%)	41.3	49.4	41.7	42.5	46.0
EBITDA (Adj)	1,318	1,566	2,051	2,510	2,832
EBITDA Margin (Adj) (%)	37.8	45.9	38.7	38.1	42.0
Depreciation	-27	-53	-49	-49	-52
{[001763]}	-31	-30	-33	-36	-40
EBIT (Adj)	1,260	1,483	1,969	2,425	2,740
EBIT Margin (Adj) (%)	36.1	43.5	37.1	36.8	40.7
Net interest	-241	-313	-354	-372	-403
Associates	0	0	0	0	0
Non-op/Except	80	250	0	0	0
Pre-tax profit	1,100	1,421	1,614	2,053	2,337
Tax	-255	-267	-384	-488	-555
Extraord./Min.Int./Pref.div.	-44	-31	-32	-39	-39
Reported net profit	801	1,123	1,198	1,526	1,743
Net Margin (%)	23.0	32.9	22.6	23.2	25.9
Core NPAT	721	873	1,198	1,526	1,743

Per share data	2011	2012	2013E	2014E	2015E
Reported EPS ($)	0.22	0.30	0.30	0.38	0.43
Core EPS ($)	0.20	0.23	0.30	0.38	0.43
DPS ($)	0.05	0.06	0.06	0.06	0.07
CFPS ($)	0.13	-0.08	-0.04	0.12	0.44
FCFPS ($)	-0.01	-0.24	-0.18	0.00	0.32
BVPS ($)	1.68	2.07	2.29	2.54	2.91
Wtd avg ord shares (m)	3,667	3,791	4,026	4,026	4,026
Wtd avg diluted shares (m)	3,697	3,792	4,026	4,026	4,026

Growth rates	2011	2012	2013E	2014E	2015E
Sales revenue (%)	19.0	-2.2	55.4	24.3	2.3
EBIT (Adj) (%)	23.2	17.7	32.7	23.2	13.0
Core NPAT (%)	17.0	21.1	37.2	27.4	14.2
Core EPS (%)	16.9	18.1	29.3	27.4	14.2

Balance Sheet (HK$m)	2011	2012	2013E	2014E	2015E
Cash & cash equiv.	1,900	2,797	2,210	1,974	2,613
Accounts receivables	1,016	1,207	1,861	2,134	2,183
Inventory	43	65	100	123	138
Net fixed & other tangibles	6,851	8,361	10,249	11,915	12,795
Goodwill & intangibles	1,116	634	788	828	869
Financial & other assets	2,954	3,519	4,055	4,525	4,884
Total assets	13,880	16,583	19,263	21,498	23,481
Accounts payable	889	793	1,376	1,690	1,613
Short-term debt	1,064	1,635	1,652	1,668	1,835
Long-term debt	4,151	4,369	5,569	6,404	6,725
Provisions & other liab	1,114	1,115	1,088	1,104	1,154
Total liabilities	7,218	7,913	9,685	10,867	11,327
Shareholders' equity	6,190	8,350	9,225	10,239	11,723
Minority interests	472	321	353	392	431
Total equity	6,662	8,670	9,578	10,631	12,154
Net debt	3,315	3,208	5,011	6,099	5,946
Net debt to equity (%)	49.8	37.0	52.3	57.4	48.9

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	36.0	30.5	23.6	18.5	16.2
PB (x)	4.2	3.4	3.1	2.8	2.4
EV/EBITDA (x)	22.2	18.8	14.6	12.3	11.0
FCF yield (%)	-0.1	-3.4	-2.6	0.0	4.6
Dividend yield (%)	0.6	0.8	0.8	0.9	1.0
Payout ratio (%)	23	26	20	17	16
ROE (%)	13.9	15.5	13.6	15.7	15.9

Cashflow (HK$m)	2011	2012	2013E	2014E	2015E
EBITDA	1,318	1,566	2,051	2,510	2,832
Working capital	-832	-1,766	-1,871	-1,588	-563
Other	7	-89	-347	-446	-508
Operating cashflow	493	-290	-167	476	1,760
Capex	-518	-621	-559	-475	-456
Net acq/disposals	0	0	0	0	0
Other	-356	-442	-446	-442	-446
Investing cashflow	-874	-1,063	-1,005	-917	-902
Dividends paid	-130	-246	-225	-237	-255
Financing cashflow	677	1,458	585	205	-219
Net change in cash	343	123	-587	-236	639
Free cashflow to s/holders	-26	-911	-726	1	1,304

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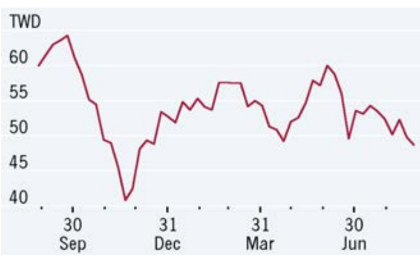
Epistar (2448.TW)

2Q Margin Beat; TV Weakness Priced In

Buy	1
Price (28 Aug 13)	NT$49.10
Target price	NT$60.00
Expected share price return	22.2%
Expected dividend yield	1.0%
Expected total return	23.2%
Market Cap	NT$45,802M
	US$1,527M

Price Performance
(RIC: 2448.TW, BB: 2448 TT)



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- **Market pricing in weak TV demand in 3Q** — Our checks suggest that Epistar's 3Q revenue from LCD TV backlight could decline 20% q/q due to inventory adjustment in major TV brands and we expect total 3Q revenue could decrease ~5% q/q. TV backlight accounted for 25-30% of total revenues in 2Q yet would drop to 20-25% in 3Q; revenue exposure to lighting would increase to ~35% from 25-30% in 2Q. As stated in our TFT Downgrade Note, we believe TV set assembly makers have started adjusting their component booking proactively (including LEDs yet less on driver ICs due to more open-cell biz). However, since the LED inventory for backlight applications is lean compared to 2012 and LED lighting demand is taking off, we don't expect to see significant order adjustment in 4Q13.

- **2Q beat on margin** — Epistar's 2Q operating margin enhanced to 6.4% from -7.1% in 1Q, surpassing our/consensus forecast of 3.9%/4.6% with operating profit being 71%/42% higher than our/Street expectation. Net income of NT$346M also beat our/consensus est. of NT$157M/244M. We believe the swift turnaround was driven by the recovery of utilization rate/revenue scale, lower investment loss in subsidiaries (Huga reached breakeven in 2Q), and better product mix.

- **Automotive and high-value products to differentiate** — Our checks suggest that Epistar had already designed in ultra high brightness and IR LED to Japanese automotive makers starting from 1Q14. We forecast 4Q four-element (margin c.40%) to make up 25% of total revenue. Current loading rate of four-element is ~80% vs. 90% for InGaN (blue).

- **Undemanding valuation; maintain Buy** — Epistar's YTD share price underperformed Cree by c60% however we believe the stock could rebound given more meaningful contribution from higher margin products (e.g., high-voltage LED) in 2014 to boost margin expansion. According to historical pattern, Epistar's stock price is closely correlated to the margin trend. We maintain our Buy rating w/ TP of NT$60 and see current valuation at 1x book not demanding given swift turnaround.

Statistical Abstract

Year to 31 Dec	Net Profit (NT$M)	Diluted EPS (NT$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	480	0.56	-92.3	87.3	0.9	1.1	2.2
2012A	-1,117	-1.30	na	nm	1.0	-2.5	1.1
2013E	559	0.60	146.2	81.8	1.0	1.2	1.0
2014E	1,346	1.44	140.5	34.0	1.0	2.9	2.3
2015E	1,455	1.56	8.1	31.5	1.0	3.1	2.5

Source: Powered by dataCentral

2448.TW: Fiscal year end 31-Dec — Price: NT$49.10; TP: NT$60.00; Market Cap: NT$45,802m; Recomm: Buy

Profit & Loss (NT$m)	2011	2012	2013E	2014E	2015E
Sales revenue	21,964	19,931	21,589	23,211	23,548
Cost of sales	-19,260	-18,466	-18,678	-18,644	-18,953
Gross profit	2,704	1,466	2,911	4,567	4,595
Gross Margin (%)	12.3	7.4	13.5	19.7	19.5
EBITDA (Adj)	3,964	3,287	5,085	6,504	6,726
EBITDA Margin (Adj) (%)	18.0	16.5	23.6	28.0	28.6
Depreciation	-3,941	-4,490	-4,485	-4,750	-4,955
Amortisation	0	0	0	0	0
EBIT (Adj)	23	-1,203	600	1,754	1,770
EBIT Margin (Adj) (%)	0.1	-6.0	2.8	7.6	7.5
Net interest	-165	-195	-375	-260	-202
Associates	-264	-193	-89	-50	3
Non-op/Except	107	-593	550	140	140
Pre-tax profit	-300	-2,184	685	1,584	1,712
Tax	14	-146	-110	-238	-257
Extraord./Min.Int./Pref.div.	766	1,213	-16	0	0
Reported net profit	480	-1,117	559	1,346	1,455
Net Margin (%)	2.2	-5.6	2.6	5.8	6.2
Core NPAT	480	-1,117	559	1,346	1,455

Per share data	2011	2012	2013E	2014E	2015E
Reported EPS ($)	0.56	-1.30	0.60	1.44	1.56
Core EPS ($)	0.56	-1.30	0.60	1.44	1.56
DPS ($)	1.10	0.54	0.48	1.15	1.24
CFPS ($)	5.41	2.68	5.00	5.58	6.79
FCFPS ($)	-6.33	-0.74	2.51	3.44	4.65
BVPS ($)	51.79	49.02	49.58	50.55	50.96
Wtd avg ord shares (m)	854	861	932	933	933
Wtd avg diluted shares (m)	854	861	932	933	933

Growth rates	2011	2012	2013E	2014E	2015E
Sales revenue (%)	5.1	-9.3	8.3	7.5	1.5
EBIT (Adj) (%)	-99.6	nm	149.8	192.4	0.9
Core NPAT (%)	-91.7	-332.6	150.1	140.6	8.1
Core EPS (%)	-92.3	-330.9	146.2	140.5	8.1

Balance Sheet (NT$m)	2011	2012	2013E	2014E	2015E
Cash & cash equiv.	17,725	12,143	11,685	14,024	16,576
Accounts receivables	7,402	8,612	8,985	9,600	9,667
Inventory	4,292	4,321	4,465	4,770	4,803
Net fixed & other tangibles	37,716	35,061	34,105	31,355	28,400
Goodwill & intangibles	0	0	0	0	0
Financial & other assets	5,323	6,881	6,676	6,774	6,794
Total assets	72,458	67,017	65,915	66,523	66,240
Accounts payable	2,037	2,439	2,366	2,283	2,296
Short-term debt	3,014	2,586	10,151	9,747	9,140
Long-term debt	11,601	9,763	1,721	1,652	1,549
Provisions & other liab	4,780	5,080	5,426	5,687	5,716
Total liabilities	21,432	19,868	19,663	19,369	18,700
Shareholders' equity	44,479	45,671	46,252	47,154	47,540
Minority interests	6,547	1,477	0	0	0
Total equity	51,026	47,149	46,252	47,154	47,540
Net debt	-3,110	206	187	-2,625	-5,887
Net debt to equity (%)	-6.1	0.4	0.4	-5.6	-12.4

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	87.3	-37.8	81.8	34.0	31.5
PB (x)	0.9	1.0	1.0	1.0	1.0
EV/EBITDA (x)	10.3	13.4	8.3	6.2	5.5
FCF yield (%)	-12.9	-1.5	5.1	7.0	9.5
Dividend yield (%)	2.2	1.1	1.0	2.3	2.5
Payout ratio (%)	196	-41	79	79	79
ROE (%)	1.1	-2.5	1.2	2.9	3.1

Cashflow (NT$m)	2011	2012	2013E	2014E	2015E
EBITDA	3,964	3,287	5,085	6,504	6,726
Working capital	168	-855	-409	-891	-76
Other	491	-129	-9	-408	-316
Operating cashflow	4,624	2,302	4,667	5,205	6,334
Capex	-10,030	-2,942	-2,330	-2,000	-2,000
Net acq/disposals	-1,726	-932	43	50	-3
Other	462	-1,090	-1,200	0	0
Investing cashflow	-11,294	-4,964	-3,486	-1,950	-2,003
Dividends paid	-4,215	-971	-500	-444	-1,068
Financing cashflow	185	-2,930	-1,623	-916	-1,779
Net change in cash	-5,544	-5,582	-443	2,339	2,552
Free cashflow to s/holders	-5,406	-639	2,337	3,205	4,334

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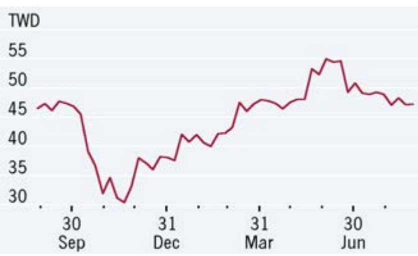
Everlight (2393.TW)

Buy	1
Price (28 Aug 13)	NT$47.10
Target price	NT$69.00
Expected share price return	46.5%
Expected dividend yield	5.4%
Expected total return	51.9%
Market Cap	NT$19,744M
	US$658M

Price Performance
(RIC: 2393.TW, BB: 2393 TT)



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Lighting Business Supports Revenue Growth

- **3Q growth driven by lighting and white-box handset demand** — Our checks suggest that Everlight's 3Q lighting revenue could grow 60-70% q/q, driven by street-light projects. TV use of LED is set to decline but weakness is being offset by lighting, strong white-box smartphone and infrared (IR) LED demand. We forecast 3Q13 TV backlight revenue to account for ~15% (vs. c20% in 2Q) of total revenues while white-box smart phone and IR LED make up ~65%. Everlight's July revenue of NT$ 2,189M went up 16% m/m and we expect 3Q revenue could grow 10% q/q.

- **2Q beat on revenue and margin** — Everlight's 2Q operating margin enhanced to 26.4% from 22.5% in 2Q, beating our/consensus forecast of 23.3% with operating profit growing 72% q/q. EPS came at NT$0.92, 34% higher than expectation. We believe the meaningful margin improvement was driven by market share gains at TPV and Chinese white-box smartphone/tablet makers. Its lighting business is also starting to taking off after taking a majority of governmental projects and extending channels to the Greater China market.

- **Maintain Buy given lighting and high-value business growth** — We revise up our 2013 earnings by 20% and keep our 2014 earnings largely the same. We expect Everlight's lighting business to account for 19%/20% of 2013/14E revenue (vs 9% in 2012) driven by strategic alliances with Greater China makers. Everlight's 2Q result and Q3 growth outperformed upstream makers and we believe Everlight's profitability will be sustainable in the long run given its unique vertical-integrated business model (investment in own-brand and alliance with chipmakers), which is similar to Cree's, and should enable it to deliver multi-year growth.

Statistical Abstract

Year to 31 Dec	Net Profit (NT$M)	Diluted EPS (NT$)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2011A	1,316	3.14	-43.3	15.0	1.3	8.7	5.3
2012A	546	1.30	-58.5	36.2	1.4	3.7	2.5
2013E	1,265	3.02	131.7	15.6	1.3	8.7	5.4
2014E	1,336	3.19	5.6	14.8	1.3	8.8	5.7
2015E	1,548	3.69	15.9	12.8	1.3	10.0	6.6

Source: Powered by dataCentral

2393.TW: Fiscal year end 31-Dec

Price: NT$47.10; TP: NT$69.00; Market Cap: NT$19,744m; Recomm: Buy

Profit & Loss (NT$m)	2011	2012	2013E	2014E	2015E
Sales revenue	18,642	19,068	23,836	28,160	31,502
Cost of sales	-14,034	-14,631	-18,090	-21,588	-24,086
Gross profit	4,609	4,437	5,746	6,573	7,416
Gross Margin (%)	24.7	23.3	24.1	23.3	23.5
EBITDA (Adj)	3,368	3,134	3,967	4,475	4,811
EBITDA Margin (Adj) (%)	18.1	16.4	16.6	15.9	15.3
Depreciation	-1,886	-2,041	-2,160	-2,642	-2,686
Amortisation	0	0	0	0	0
EBIT (Adj)	1,482	1,093	1,807	1,833	2,125
EBIT Margin (Adj) (%)	8.0	5.7	7.6	6.5	6.7
Net interest	-82	-38	-25	-21	-1
Associates	-61	-115	-5	-50	-80
Non-op/Except	237	-194	-4	20	20
Pre-tax profit	1,576	745	1,772	1,781	2,064
Tax	-271	-203	-488	-445	-516
Extraord./Min.Int./Pref.div.	11	3	-19	0	0
Reported net profit	1,316	546	1,265	1,336	1,548
Net Margin (%)	7.1	2.9	5.3	4.7	4.9
Core NPAT	1,316	546	1,265	1,336	1,548

Per share data	2011	2012	2013E	2014E	2015E
Reported EPS ($)	3.14	1.30	3.02	3.19	3.69
Core EPS ($)	3.14	1.30	3.02	3.19	3.69
DPS ($)	2.50	1.20	2.55	2.69	3.12
CFPS ($)	7.12	5.05	5.18	8.92	10.64
FCFPS ($)	1.45	2.30	1.98	4.62	6.34
BVPS ($)	36.39	33.26	35.81	36.45	37.45
Wtd avg ord shares (m)	419	419	419	419	419
Wtd avg diluted shares (m)	419	419	419	419	419

Growth rates	2011	2012	2013E	2014E	2015E
Sales revenue (%)	6.7	2.3	25.0	18.1	11.9
EBIT (Adj) (%)	-33.5	-26.3	65.3	1.4	16.0
Core NPAT (%)	-43.0	-58.5	131.7	5.6	15.9
Core EPS (%)	-43.3	-58.5	131.7	5.6	15.9

Balance Sheet (NT$m)	2011	2012	2013E	2014E	2015E
Cash & cash equiv.	6,360	4,690	3,383	4,192	5,600
Accounts receivables	5,234	5,710	7,330	8,531	9,587
Inventory	1,898	1,763	2,219	2,583	2,903
Net fixed & other tangibles	11,330	9,995	9,763	8,921	8,035
Goodwill & intangibles	0	0	0	0	0
Financial & other assets	6,884	6,268	7,358	7,689	7,945
Total assets	31,707	28,427	30,053	31,915	34,070
Accounts payable	3,493	4,034	5,604	6,438	7,328
Short-term debt	8,855	3,126	3,082	2,972	2,771
Long-term debt	34	3,960	2,000	2,000	2,000
Provisions & other liab	2,915	2,371	3,308	4,180	5,227
Total liabilities	15,297	13,490	13,994	15,590	17,326
Shareholders' equity	15,255	13,944	15,012	15,279	15,697
Minority interests	1,155	993	1,047	1,047	1,047
Total equity	16,410	14,936	16,059	16,326	16,744
Net debt	2,529	2,396	1,699	780	-830
Net debt to equity (%)	15.4	16.0	10.6	4.8	-5.0

Valuation ratios	2011	2012	2013E	2014E	2015E
PE (x)	15.0	36.2	15.6	14.8	12.8
PB (x)	1.3	1.4	1.3	1.3	1.3
EV/EBITDA (x)	4.8	5.6	4.4	3.8	3.3
FCF yield (%)	3.1	4.9	4.2	9.8	13.5
Dividend yield (%)	5.3	2.5	5.4	5.7	6.6
Payout ratio (%)	80	92	85	85	85
ROE (%)	8.7	3.7	8.7	8.8	10.0

Cashflow (NT$m)	2011	2012	2013E	2014E	2015E
EBITDA	3,368	3,134	3,967	4,475	4,811
Working capital	-1,081	-466	-1,272	-240	226
Other	697	-551	-523	-497	-577
Operating cashflow	2,985	2,118	2,171	3,738	4,459
Capex	-2,378	-1,153	-1,342	-1,800	-1,800
Net acq/disposals	0	0	0	0	0
Other	-1,285	1,239	-188	50	80
Investing cashflow	-3,663	86	-1,529	-1,750	-1,720
Dividends paid	-1,509	-1,048	-503	-1,069	-1,130
Financing cashflow	290	-3,874	-1,949	-1,179	-1,331
Net change in cash	-214	-1,670	-1,307	809	1,409
Free cashflow to s/holders	606	965	830	1,938	2,659

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Appendix A-1

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	12 Month Rating			*Relative Rating*		
Data current as of 30 Jun 2013	Buy	Hold	Sell	Buy	Hold	Sell
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% of companies in each rating category that are investment banking clients	53%	50%	45%	58%	51%	49%

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