

A Blue Revolution – global water

Water: a global sustainability megatrend

As part of our ongoing work on sustainability megatrends, we are updating our 2011 report on water. Water scarcity remains a global reality with 783m people lacking access to clean drinking water and 2.6bn having no access to proper sanitation. Water is under growing pressure both on the supply side (insufficient freshwater, uneven distribution, poor quality, non-revenue water, climate change) and the demand side (rapidly growing use by agriculture, industry, and municipal/residential).

Peak water: the 21st century oil

Indications suggest that we have already arrived at peak water globally. The long-term supply challenges are vast and demand is projected to overshoot supply by 40% in the next 20 years, with half of the world's population living under conditions of "water stress" by 2030. Water looks set to become scarcer than oil, with potential for the supply/demand imbalance to manifest itself in increased domestic social unrest and trans-boundary disputes (30 countries on three continents are potential locations for future conflicts over water).

US\$500bn market today with 6-7% CAGR

Water is a US\$500bn market today, which, despite the downturn, is delivering a global CAGR of 6-7%, well above global growth rates. Growth drivers include a range of megatrends: water scarcity, population growth, urbanisation, industrial growth, infrastructure development and renewal, pricing, growing private sector investment, food and energy security, stakeholder pressure, and tightening regulation.

Three entry points for investors into US\$1tn market (2020E)

We believe that the global dynamics of water supply and demand mean that the water sector offers numerous growth opportunities for those with exposure to the value chain. By 2020, we estimate that the water industry could be worth US\$1tn, with Asia and South America seeing the biggest growth. We see opportunities for companies with exposure to three main areas: 1) Water Treatment; 2) Water Management; and 3) Water Infrastructure & Supply.

BofAML Global Water Exposure Stock List

Together with our sector analysts, we have updated our list to include c60 global stocks covered by BofAML that have exposure to water management, water treatment, water-infrastructure and supply-related products, services, technologies, themes, and solutions. We examine the role that these could play in driving long-term growth based on our estimates of their current exposures. Our aim is to provide investors with information to identify company and sub-sector specific opportunities and the risks inherent in the theme.



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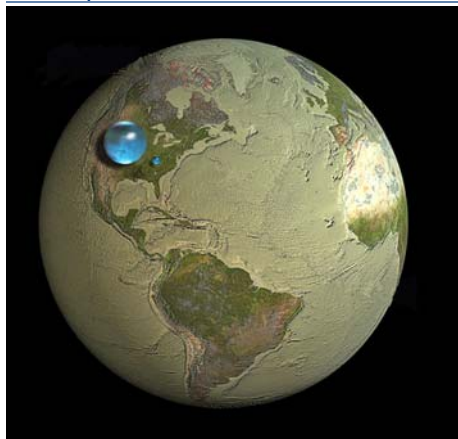
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Chart 1: Spheres represent all of the Earth's water, liquid freshwater, water in lakes & rivers

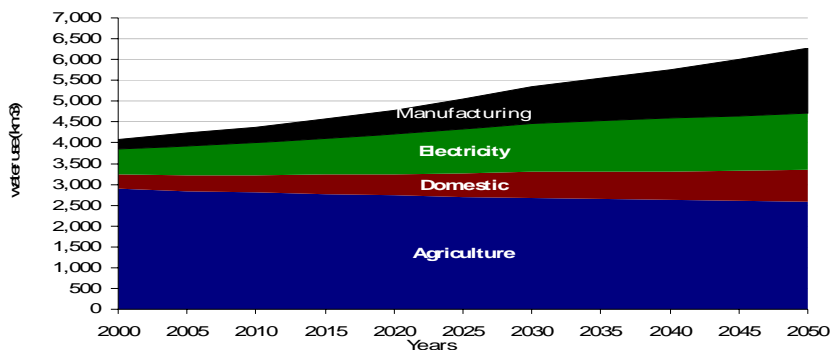


Source: US Geological Survey

Peak water: the 21st Century oil

Water faces some of the toughest challenges of any natural resource or commodity – with significant supply and demand-side pressures. On the supply side, the world is facing a combination of insufficient freshwater, uneven distribution, widely varying quality, water losses, and adverse impacts from climate change. On the demand side, agricultural, industrial and municipal/residential usage is set to grow fast over the next 20 years.

Chart 2: Global water demand to 2050 (water use km³)



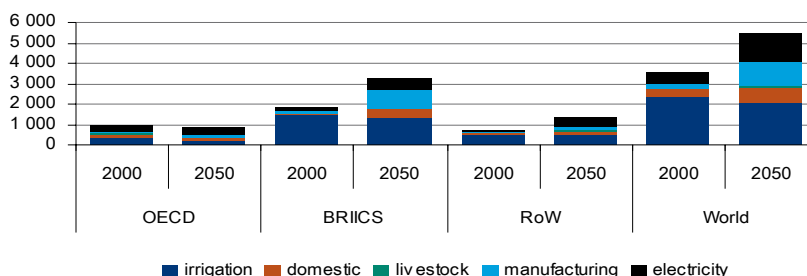
Source: OECD, BofA Merrill Lynch Global Research

There is growing evidence that we may already have arrived at “peak water” globally – with the concept becoming an inevitability given the rate of extraction of certain water systems. By 2030, according to Water 2030, demand will overshoot water supply by 40%, and close to half of the world's population will be living in water-stressed areas. Water looks set to be a scarcer commodity than oil.

Unless more sustainable water management practices are adopted, 45% of projected 2050 global GDP (at 2000 prices) – or US\$63tn – could be at risk. However, if more sustainable behaviour and practice are adopted, more than 1bn people and approximately \$17tn of GDP could escape exposure to risks and challenges from severe water scarcity (Source: Veolia and International Food Policy Research Institute (IFPRI)).

We believe that the global dynamics of water supply and demand mean that the water sector offers numerous growth opportunities for those with exposure to the value chain. By 2020, we estimate that the water industry could be worth US\$1tn, with Asia and South America seeing the biggest growth.

Chart 4: Global water demand 2000 vs. 2050



Source: OECD, BofA Merrill Lynch Global Research. The graph only measures blue water demand and does not consider rainfed agriculture.

The BofAML Global Water Exposure stock list is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances / objectives before making any investment decisions

BofAML Global Water Exposure stock list

We have mapped the global water sector's value chain and see opportunities for companies with exposure to three main areas: 1) Water Treatment; 2) Water Management; and 3) Water Infrastructure and Supply.

For each theme, together with our BofAML Global Research sector analysts, we have estimated the level and materiality of companies' exposure to water-related themes, and the role of water as a long-term growth driver. We have characterised each company's exposure as follows:

- **Low** – Water-related products, technologies, services, and solutions are not material to global revenues and/or growth but are one factor, among others, for the business model, strategy and R&D of the company.
- **Medium** – Water-related products, technologies, services, and solutions are an important factor for the business model, strategy and R&D of the company; material to sales and/or growth.
- **High** – Water-related products, technologies, services, and solutions are core to the business model, strategy and R&D of the company; material sales and/or growth driver; pure play (i.e., 100% of sales).

Although it is difficult to accurately gauge the link between such exposure and share price performance (as many factors outside the scope of this analysis are likely to play a role in short- and long-term price development), we still consider water-related exposure an important and positive point to track given that water is a sustainability megatrend with a 25-50 year lifespan.

The aim of our Global Water Exposure stock list and its three underlying themes is to provide investors with information to identify company and sub-sector specific risks and opportunities that are inherent in the water theme.

Table 1: BofAML Global Water - Water Treatment Stock List

Company	Water exposure
CHINA EVERBRIGHT	High
KEMIRA	High
KURITA WATER	High
ALS LIMITED	Medium
DANONE	Medium
ECOLAB INC	Medium
ALFA LAVAL	Low
BASF	Low
BUREAU VERITAS	Low
DOOSAN HEAVY INDS.	Low
DOW CHEMICAL	Low
DUPONT	Low
HEXAGON AB	Low
IDEXX LABORATORIES	Low
ISRAEL CHEMICALS LTD	Low
KURARAY	Low
LANXESS	Low
NESTLE (REG)	Low
NITTO DENKO	Low
OUTOTEC	Low
PALL CORP	Low
SEMBICORP INDUSTRIES	Low
SOC. GEN. DE SURVEIL.	Low
SPIRAX-SARCO	Low
STERICYCLE	Low
THERMO FISHER	Low
TORAY INDUSTRIES INC	Low

Source: BofA Merrill Lynch Global Research.

Table 2: BofAML Global Water - Water Management Stock List

Company	Water exposure
ITRON	Medium
BASF	Low
DEERE & CO	Low
DUPONT	Low
MELROSE PLC	Low
MONSANTO	Low
SYNGENTA AG-REG	Low

Source: BofA Merrill Lynch Global Research.

Water treatment solutions

In our view, a number of stocks are well placed to benefit from the theme of water treatment through their involvement in areas such as wastewater, industrial treatment, chemicals, desalination, ballast water treatment, analysis, water quality, PV solar, bottled water, life science tools, and testing, inspection and certification, among other areas.

Increasing levels of water treatment will be an expanding area in the coming years given rising water scarcity and growing demand from the agriculture, residential and industrial sectors. Agriculture currently accounts for 70% of water use and demand looks set to rise on the back of changing diets. Industry will be under pressure to treat water as global demand rises from 22% of total demand towards the current 59% in developed markets. Municipal and residential water use is also increasing on the back of urbanisation and EM growth.

There are significant opportunities around water treatment and the processes used to make water more acceptable for a desired end-use, such as drinking water, usage or re-usage by industry, in irrigation, or return to the natural environment. Moreover, this market is barely tapped with insufficient wastewater treatment around the world. For instance, wastewater reuse stands at only 2.41% of all water withdrawals globally (Source: FAO Aquastat). The estimate of total global water reuse is less than the water used each day by US toilets at home. The goal needs to be to move to best-practice levels of water reuse of up to 75%.

We anticipate that some of the largest opportunities will emerge around the multi-billion dollar industrial water treatment market vis-à-vis sectors with heavy volumes and environmental constraints (utilities, oil & gas, mining), strict water constraints (FOB, cosmetics), variable effluents (petrochemicals, energy, breweries), as well as in emerging areas like ship ballast water treatment. Desalination is also set to emerge as a US\$25bn industry by 2025 (Source: GWI), with PV solar a long-term opportunity. Finally, bottled water is a US\$96bn market, with a 5% CAGR to 2015E.

Water management solutions

In our view, a number of companies are well placed to benefit from the theme of water management, vis-à-vis their involvement in areas such as irrigation, drought resistant seeds and crops, smart metering and household water efficiency.

Water management has assumed greater importance in recent years as a strategy to improve efficiency and the sustainable use of resources. Water usage is growing faster than population growth – with US usage alone increasing 207% from 1950 to 2000 and per capita usage growing by 20% during the same period (Source: EPA). In a situation of growing water scarcity, fragmented water management (and conflicting interests of stakeholders) is no longer cost effective or sustainable in the long term. There is growing recognition that the current water crisis is as much a consequence of weak policies and poor management as natural scarcity. Effective water management enables users to cut their demand, mitigate the risks associated with its shortage and reduce the need for capex-intensive solutions.

Given that agriculture accounts for 70% of global water use – as high as 95% in some EMs – and up to 60% of this water is wasted, smarter irrigation will be key to achieving more crop per drop. There is huge potential for the US\$5.6bn irrigation market given that gravity flow/furrow irrigation accounts for 91% of

irrigation globally, and low energy precision application still has extremely low global penetration. Moreover, climate change and extreme weather will make increasing yields a pressing reality.

More attention is now focused on water losses and unaccounted-for water, whether it is due to inefficient usage, leakages or information deficiencies. Leakage and non-revenue water also costs utilities upward of US\$20bn pa in lost revenues, which should create substantial downstream basic and smart meter demand from water utilities. We forecast a CAGR of 19% in water meter spending to 2016.

Finally, water efficiency will become as important as energy efficiency as 70% of the global population becomes urban by 2050. This will mean that household water management will become increasingly important. The potential is huge – if all US households installed water-saving features, the dollar-volume savings would be US\$11.3mn per day or more than US\$4bn pa (Source: American Water Works Association).

Water infrastructure & supply solutions

In our view, a number of companies are well placed to benefit from the theme of water infrastructure and supply, vis-à-vis their involvement in areas such as engineering, procurement, construction and consulting, pipes, pumps and valves, and water, wastewater and sewage treatment utilities.

Water and sanitation infrastructure is sorely lacking in many emerging and developed markets, and water loss or non-revenue water (NRW) is a considerable problem around the globe. Crumbling and incomplete infrastructure in developed markets are a primary cause of this – with the US alone estimated to need US\$335bn in public water investments over the next 20 years in transmission and distribution, treatment and storage, among other areas (Source: US EPA). For EMs, the challenge is building out water infrastructure.

Annual water investment needs are estimated to rise to more than US\$770bn for the OECD and BRICs by 2015 (Source: Ashley and Cashman). Globally, addressing the challenge of developing, modernising and upgrading systems, maintaining service quality, ensuring the security of water supplies in response to climate change, pollution and growing populations and, in some cases, overcoming the neglect and under-financing of earlier years could cost 0.35%-1.2% of GDP pa over the next 20 years (Source: OECD). With public funding increasingly under financial pressure, we believe the private sector will need to play an increasingly important role – and is expected to account for 30% of investments by 2016 compared with 19% today (Source: Global Water Fund).

Water infrastructure is currently a US\$360bn+ market and is registering a CAGR of up to 6% in some segments. Growth rates are lower but more stable for the highly fragmented utilities sector where around only 10% of customers are served by investor-owned companies – and performance depends on regulatory factors as well as fundamental drivers of revenue and cost. The global water utilities industry is estimated to grow 4.5% to a volume of 3,007.4bn m³ and by 20.5% to a value of US\$874.2bn (Source: Reportlinker). The prospects for this segment are very different between DMs and EMs – but we see some of the biggest growth opportunities in China, Brazil and the US.

Table 3: BofAML Global Water - Water Infrastructure Stock List

Company	Water exposure
AGUAS ANDINAS SA	High
AMERICAN WATER	High
COPASA	High
GUANGDONG INVEST.	High
INVERS. AGUAS MET.	High
MANILA WATER	High
PENNON GROUP PLC	High
SABESP	High
SABSEP-ADR	High
SEVERN TRENT	High
UNITED UTILITIES	High
VA TECH WABAG	High
SUEZ ENVIRONNEMENT	Medium
VEOLIA ENV.	Medium
AECOM TECHNOLOGY	Low
AVENG LTD	Low
BEIJING ENTERPRISES	Low
DOWNER EDI	Low
HONG KONG & CH. GAS	Low
KEPPEL CORP	Low
KSB AG-VORZUG	Low
KUBOTA	Low
LEIGHTON HOLDINGS	Low
ROTORK	Low
SHANGHAI INDL HLDG	Low
SPARK INFRASTRUCT.	Low
URS CORP	Low

Source: BofA Merrill Lynch Global Research. .

The BofAML Global Water Exposure stock list is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances / objectives before making any investment decisions

BofAML Global Water Exposure stock list

We have created a BofA Merrill Lynch Global Research list of stocks which have exposure to water-related themes and that we consider should benefit long-term from global efforts to promote water-related solutions.

The aim of this stock list is to provide investors with information to understand company and sub-sector specific risks and opportunities inherent in the water theme. We have also provided factual overviews of other companies, outside our research coverage, that are exposed to water (see relevant sections of the report).

Table 4: BofAML Global Water Exposure stock list

Ticker	Name	Country	MCap (US\$ mn)	BofAML Ticker	BofAML Rating	Water sub-sector	Water exposure
Treatment							
257 HK	CHINA EVERBRIGHT	Hong Kong	2,015.31	CHFFF	BUY	Treatment	High
KRA1V FH	KEMIRA OYJ	Finland	2,038.77	KMRAF	BUY	Treatment	High
L6370 JP	KURITA WATER INDS.	Japan	2,927.35	KTWIF	UNDERPERFORM	Treatment	High
ALQ AU	ALS LIMITED	Australia	3,187.47	CBEBF	NEUTRAL	Treatment	Medium
BN FP	DANONE SA	France	35,841.21	GPDNF	UNDERPERFORM	Treatment	Medium
ECL US	ECOLAB INC	United States	20,706.45	ECL	BUY	Treatment	Medium
ALFA SS	ALFA LAVAL AB	Sweden	7,414.58	ALFVF	NEUTRAL	Treatment	Low
BAS GR	BASF SE	Germany	75,606.81	BFFAF	BUY	Treatment	Low
BVI FP	BUREAU VERITAS	France	11,376.56	BVRDF	NEUTRAL	Treatment	Low
034020 KS	DOOSAN HEAVY INDS;	South Korea	4,438.27	DOHIF	BUY	Treatment	Low
DOW US	DOW CHEMICAL CO	United States	35,455.77	DOW	NEUTRAL	Treatment	Low
DD US	DUPONT	United States	41,715.53	DD	BUY	Treatment	Low
HEXAB SS	HEXAGON AB	Sweden	8,374.29	HXGBF	BUY	Treatment	Low
IDXX US	IDEXX LABORATORIES	United States	5,161.42	IDXX	BUY	Treatment	Low
ICL IT	ISRAEL CHEMICALS LIMITED	Israel	15,291.28	ISCHF	BUY	Treatment	Low
3405 JP	KURARAY CORP	Japan	4,112.06	KURRF	BUY	Treatment	Low
LXS GR	LANXESS AG	Germany	7,017.23	LNXSF	BUY	Treatment	Low
NESN VX	NESTLE (REG)	Switzerland	201,717.20	NSRGF	NEUTRAL	Treatment	Low
6988 JP	NITTO DENKO CORP.	Japan	7,769.69	NDEKF	BUY	Treatment	Low
OTE1V FH	OUTOTEC OYJ	Finland	2,223.21	OUKPF	UNDERPERFORM	Treatment	Low
PLL US	PALL CORP	United States	6,819.66	PLL	NEUTRAL	Treatment	Low
SCI SP	SEMBORP INDUSTRIES	Singapore	7,832.05	SCRPF	NEUTRAL	Treatment	Low
VIRTX	SOC. GEN. DE SURVEILLAN.	France	16,365.08	SGSOF	NEUTRAL	Treatment	Low
SPX LN	SPIRAX-SARCO ENG.	UK	2,406.63	SPXSF	NEUTRAL	Treatment	Low
SRCL US	STERICYCLE INC	United States	8,042.59	SRCL	BUY	Treatment	Low
TMO US	THERMO FISHER SCIENT.	United States	22,691.15	TMO	BUY	Treatment	Low
3402 JP	TORAY INDUSTRIES INC	Japan	9,543.68	TRYIF	BUY	Treatment	Low
Management							
ITRI US	ITRON INC	United States	1,597.82	ITRI	BUY	Management	Medium
BAS GR	BASF SE	Germany	75,606.81	BFFAF	BUY	Management	Low
DE US	DEERE & CO	United States	34,109.13	DE	BUY	Management	Low
DD US	DUPONT	United States	41,715.53	DD	BUY	Management	Low
MRO LN	MELROSE PLC	UK	5,065.72	MLSFP	BUY	Management	Low
MON US	MONSANTO CO	United States	47,467.76	MON	BUY	Management	Low
SYNN VX	SYNGENTA AG	Switzerland	37,099.25	SYENF	BUY	Management	Low
Infrastructure & Supply							
KSB3 GR	KSB AG	Germany	807.82	KSVRF	BUY	Pipes, pumps & valves	Low
6326 JP	KUBOTA CORP	Japan	12,751.74	KUBTF	UNDERPERFORM	Pipes, pumps & valves	Low
ROR LN	ROTORK PLC	UK	3,216.09	RTOXF	NEUTRAL	Pipes, pumps & valves	Low
Infrastructure & Supply							
VATW IN	VA TECH WABAG	India	234.94	XVWBF	BUY	Engineering & Construction	High
ACM US	AECOM TECHNOLOGY	United States	2,454.64	ACM	UNDERPERFORM	Engineering & Construction	Low
AEJ SJ	AVENG LTD	South Africa	1,397.62	AVEPF	UNDERPERFORM	Engineering & Construction	Low
392 HK	BEIJING ENTERPRISES	Hong Kong	7,352.50	BJINF	BUY	Engineering & Construction	Low
DOW AU	DOWNER EDI LTD	Australia	1,516.86	DNERF	BUY	Engineering & Construction	Low
KEP SP	KEPPEL CORP	Singapore	15,734.37	KPELF	BUY	Engineering & Construction	Low
LEI AU	LEIGHTON HOLDINGS	Australia	6,087.28	LGTHF	BUY	Engineering & Construction	Low
NJCC IN	NAGARJUNA CONST	India	208.12	NGRJF	BUY	Engineering & Construction	Low

07 November 2012

Table 4: BofAML Global Water Exposure stock list

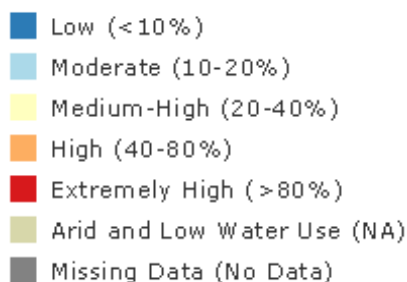
Ticker	Name	Country	MCap (US\$ mn)	BofAML Ticker	BofAML Rating	Water sub-sector	Water exposure
URS US	URS CORP.	United States	2,574.45	URS	UNDERPERFORM	Engineering & Construction	Low
Infrastructure & Supply							
AGUAS/A CI	AGUAS ANDINAS	Chile	4,124.02	XXSGF	BUY	Utilities	High
AWK US	AMERICAN WATER WORKS	United States	6,416.54	AWK	BUY	Utilities	High
CSMG3 BZ	COPASA	Brazil	2,629.29	CSAOF	NEUTRAL	Utilities	High
270 HK	GUANGDONG INVESTMENT	Hong Kong	5,049.77	GGDVF	BUY	Utilities	High
XVNFF	AGUAS METROPOLIT	Chile	1,861.29	XVNFF	UNDERPERFORM	Utilities	High
MWC PM	MANILA WATER CO INC	Philippines	1,441.38	MWTCF	BUY	Utilities	High
PNN LN	PENNON GROUP PLC	UK	4,135.86	PEGRF	NEUTRAL	Utilities	High
SBSP3 BZ	SABESP	Brazil	9,733.79	CSBJF	BUY	Utilities	High
SBS US	SABSEP-ADR	Brazil	9,648.88	SBS	UNDERPERFORM	Utilities	High
SVT LN	SEVERN TRENT PLC	UK	5,886.66	SVTRF	NEUTRAL	Utilities	High
UU/ LN	UNITED UTILITIES PLC	UK	7,199.83	UUGWF	UNDERPERFORM	Utilities	High
SEV FP	SUEZ ENVIRONNEMENT	France	5,357.93	SZEVF	BUY	Utilities	Medium
VE FP	VEOLIA ENVIRONNEMENT	France	4,958.21	VEOEF	NEUTRAL	Utilities	Medium
VE US	VEOLIA ENVIRONNEMENT	France	4,958.21	VE	NEUTRAL	Utilities	Medium
3 HK	HONG KONG & CHINA GAS	Hong Kong	23,100.05	HOKCF	BUY	Utilities	Low
363 HK	SHANGHAI INDUSTRIAL	Hong Kong	3,552.82	SGHIF	BUY	Utilities	Low
SKI AU	SPARK INFARTSRUCTURE	Australia	1,730.75	SFDPF	BUY	Utilities	Low

Source: * Water exposure = BofAML estimates of current sales derived from water treatment-related products, services, technologies and solutions

"... water security is also the foundation for food and energy security and for overall long-term social and economic development. It underpins health, nutrition, equity, gender equality, well-being and economic progress, especially in developing countries but increasingly in some of the world's most developed countries." (Source: InterAction Council)

Chart 4: Baseline water stress

Baseline Water Stress



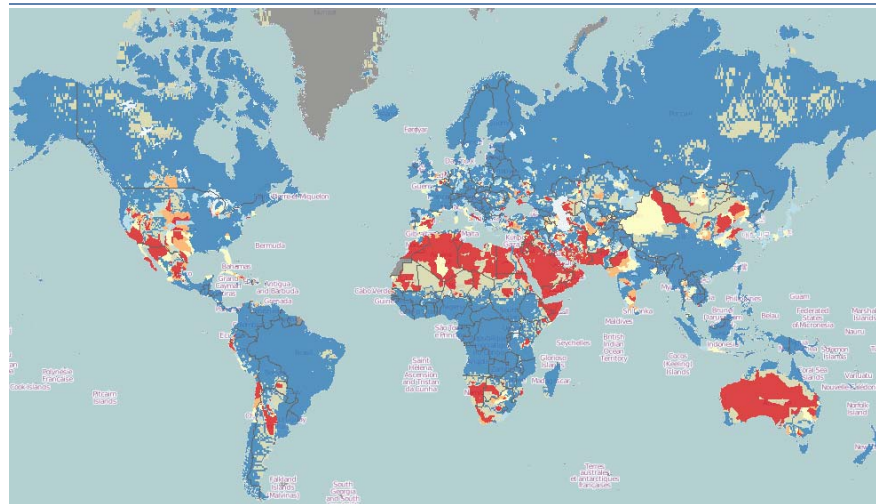
Source: World Resources Institute- Aqueduct Project

Some areas are suffering from peak renewable water, peak non-renewable water, and peak ecological water (Source: Gleick et al, Proceedings of the National Academy of Sciences (U.S.))

Supply-side water pressure

Global water supply has failed to keep pace with the rising world population, leading to chronic shortages in many regions around the world. Supply side pressures are being further exacerbated by a lack of freshwater, its uneven distribution, widely varying quality, and emerging climate change risks. The map below estimates the degree to which freshwater availability is an ongoing concern (i.e. annual renewable supply of water withdrawn for human use). High levels of baseline water stress are associated with increased socioeconomic competition for freshwater supplies and heightened political attention to issues of water scarcity (Source: WRI).

Chart 3: Global baseline water stress

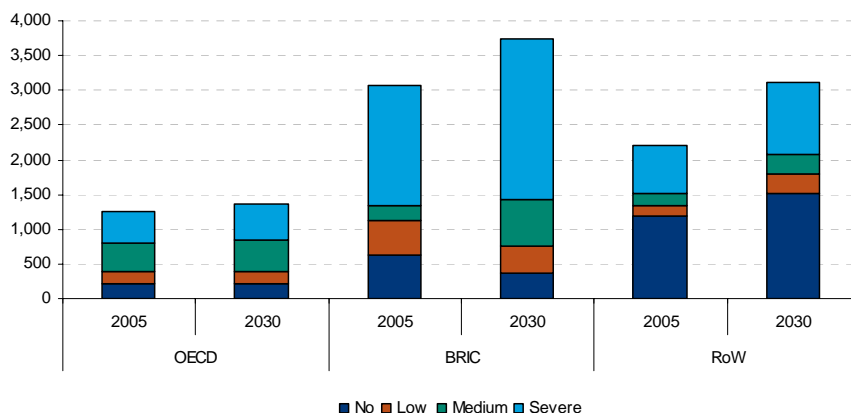


Source: World Resources Institute- Aqueduct Project, The Coca-Cola Water Risk Data were provided to the World Resources Institute by The Coca-Cola Company in support of the Aqueduct project. ISciences L.L.C. performed the hydrological modeling.. * The baseline water stress indicator estimates the degree to which freshwater availability is an ongoing concern. High levels of baseline water stress are associated with increased socioeconomic competition for freshwater supplies and heightened political attention to issues of water scarcity.

Every region of the world being impacted

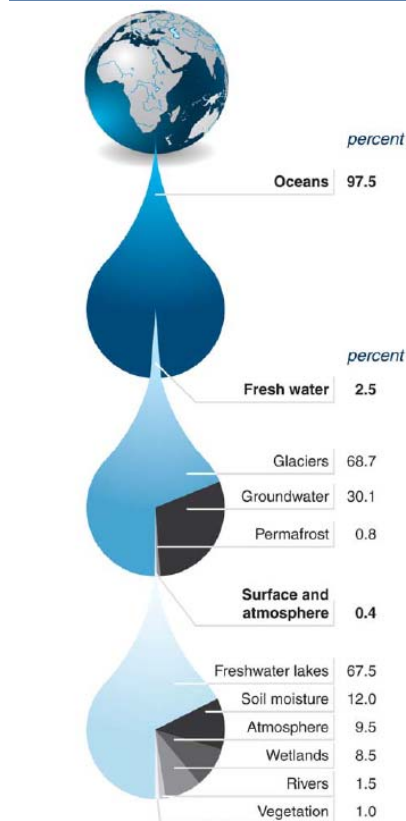
Water scarcity already affects every continent. According to UN data, around 1.2bn people, or almost one-fifth of the world's population, live in areas of physical scarcity, and 500mn people are approaching this situation. Another 1.6bn people, or almost one quarter of the world's population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers).

Chart 5: No. of people living in water stressed areas in OECD, BRIC & rest of world (mn)



Source: UNEP, OECD

Chart 6: Global freshwater distribution



Source: Office of the Director of National Intelligence (U.S.)

Freshwater, 2.5% of global water - insufficient

Freshwater accounts for 2.5% to 3% of the total water on the planet, most of which is locked in the two polar ice caps. Ground water, a critical source of potable water for the world's major cities, makes up about 30% of freshwater resources. Lakes, rivers, wetlands and different soil types account for only 1.2% of freshwater. Nevertheless, humans rely on these sources more than any other.

Freshwater has declined 37% since 1970

Freshwater ecosystems are estimated to have declined by 37% since 1970 – with certain segments such as tropical freshwater having declined by 70%. As a result, an estimated 2.7bn people are now living in water catchment areas (e.g., river basins) that experience water scarcity for at least one month per year (Source: WWF).

Uneven distribution, 10 countries have 60% of freshwater

In theory, there is enough water to satisfy all human needs on a sustainable basis. However, in practice, water is not distributed evenly across the globe. Ten countries possess close to 60% of the world's freshwater resources.

Table 5: 10 countries with most renewable freshwater

Country	Total renewable water (10m ³ /person/yr)*
Brazil	8,233
Russia	4,508
United States	3,069
Canada	2,902
China	2,840
Colombia	2,132
Indonesia	2,019
Peru	1,913
India	1,911

Source: Aquastat. * Total annual actual renewable water resources: Natural resources that, after exploitation, can return to their previous stock levels by natural processes of growth or replenishment

46 countries suffering from water stress to water scarcity

In many ways, it can be argued that water is the wrong quantity and quality in the wrong places – with 46 countries suffering from water stress and water scarcity:

- **16 countries facing water stress:** when annual water supplies drop below 1,700m³ per person;

- **10 countries facing water scarcity:** when annual water supplies drop below 1,000m³ per person; and
- **20 countries facing absolute water scarcity:** when annual water supplies drop below 500m³.

Table 6: Countries suffering from water stress, water scarcity, and absolute water scarcity (m³/inhabitant/year)

Water stress	m3/p/yr	Water Scarcity	m3/p/yr	Absolute Water Scarcity	m3/p/yr
Poland	1,608	South Africa	990.9	Oman	491.9
Comoros	1,592	Morocco	898.6	Saint Kitts and Nevis	452.8
Zimbabwe	1,568	Rwanda	868.1	Tunisia	433.7
India	1,539	Syrian Arab Republic	808.5	Djibouti	331.1
Somalia	1,538	Kenya	737.8	Algeria	324.3
Burundi	1,462	Burkina Faso	736.7	Barbados	292
Sudan and South Sudan	1,445	Cyprus	698.3	Israel	235.4
Ethiopia	1,440	Egypt	694.2	Occupied Palestinian Territory	201.6
Republic of Korea	1,440	Cape Verde	598.8	Jordan	148
Pakistan	1,396	Antigua and Barbuda	577.8	Malta	120.8
Haiti	1,386			Singapore	115.7
Czech Republic	1,248			Libya	109.0
Eritrea	1,163			Maldives	93.8
Malawi	1,123			Bahrain	87.6
Denmark	1,077			Saudi Arabia	85.5
Lebanon	1,057			Yemen	84.7
				Bahamas	57.6
				Qatar	31
				United Arab Emirates	19
				Kuwait	7.1

Source: Aquastat, BofA Merrill Lynch Global Research

Widely varying water quality

Beyond water quantity, water scarcity is emerging as a direct consequence of water quality issues. Some of the key challenges are:

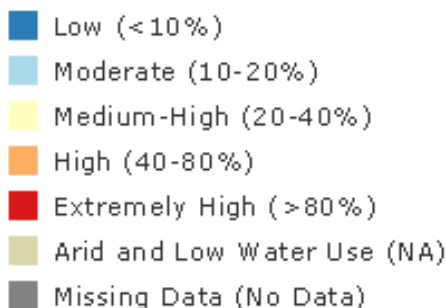
- Urban areas are facing water pollution issues arising from inappropriate land use activities and poor water treatment;
- Chemical fertiliser run-offs are creating excessive nutrient concentrations in seas and oceans (+10-20% in the next 30 years);
- Irrigation is reducing the capacity of rivers to transport sediments; and
- Water sources are often used as little more than open sewers. In emerging markets, where wastewater treatment is either inadequate or non-existent.

Inadequate water treatment = water quality concerns

The Water Reuse Index map below estimates the fraction of renewable freshwater supply that has been previously withdrawn and discharged as upstream wastewater. It measures the degree to which water quality is an ongoing concern (Source: WRI).

Chart 7: Water Reuse Index

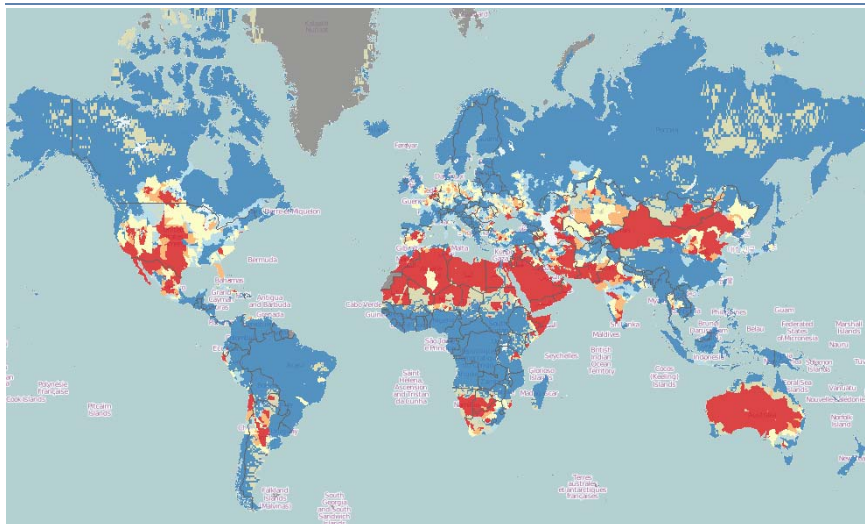
Water Reuse Index



Source: World Resources Institute- Aqueduct Project.

More than 50m m³ per day is lost through leakage. A further 30m m³ per day is not paid for. The total cost to water utilities worldwide is estimated at more than US\$20bn+ per annum (Source: World Bank)

Chart 8: Water Reuse Index



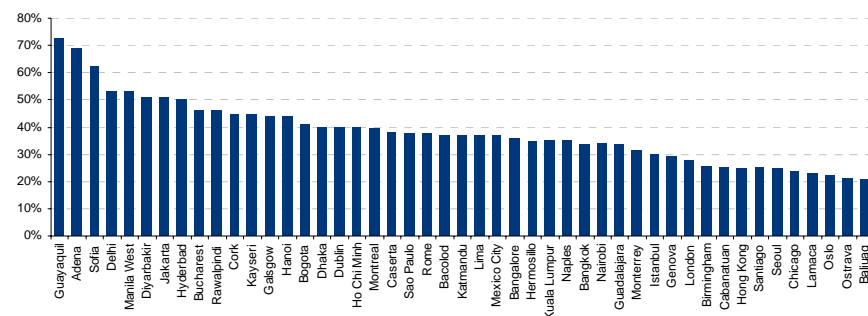
Source: World Resources Institute- Aqueduct Project. The Coca-Cola Water Risk Data were provided to the World Resources Institute by The Coca-Cola Company in support of the Aqueduct project. ISciences L.L.C. performed the hydrological modelling.

US\$20bn in lost water

Water loss or non-revenue water (NRW) – physical, commercial and unbilled authorised consumption – is a considerable problem around the world. Two-thirds of the volume of water lost is in low- and middle-income countries, where every drop of water and revenue is desperately needed to meet burgeoning demand. For instance, in Asia, NRW averages 30% across cities and is as high as 65% in some urban areas, leading to losses of US\$9bn per year (Source: ADB).

Developed markets also face an NRW challenge with studies showing that water leakages from distribution networks are as high as 50% in certain areas of Europe; and the American Society of Civil Engineers estimating that 26.5m m³ of safe drinking water (or 15% of the total) is lost every day in the US as a result of its antiquated distribution systems.

Chart 9: Urban water networks with NRW of 20%+



Source: Smart water Networks Forum

South Asia, Africa and the Mediterranean are most vulnerable to climate change-related water impacts

Climate change is making things worse

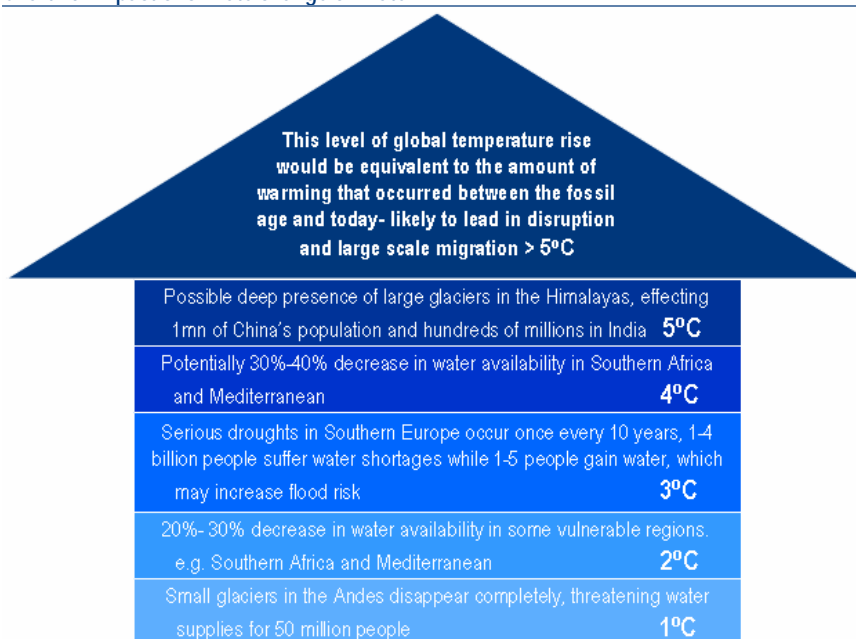
Climate change is exacerbating supply-side water pressure in three ways: water quality, water quantity and water timing. As temperatures rise:

- The hydrological cycle is expected to change, accelerating the rate of evaporation from land and sea. This will lead to an increase in flooding (as the atmosphere holds more moisture) and droughts (reduced water

availability in low precipitation areas) and to changes in the geographical distribution and timing of precipitation.

- **Rainfall patterns will change:** Rainfall is expected to rise in the tropics and higher latitudes, but decrease in the already dry semi-arid to arid mid-latitudes and in the interiors of larger continents.
- **Sea levels will rise** and coastal communities could lose up to 50% or more of their freshwater supplies.
- **Saltwater intrusion of freshwater aquifers will become a growing threat** to drinking water supplies (e.g., in the US eastern seaboard and in other low lying settlements).

Chart 10: Impact of climate change on water



Source: WaterAid, BofA Merrill Lynch Global Research

Cross Reference - The climate change-extreme weather link are explored more fully in our series of reports on Global Drought - Opportunities & Risks

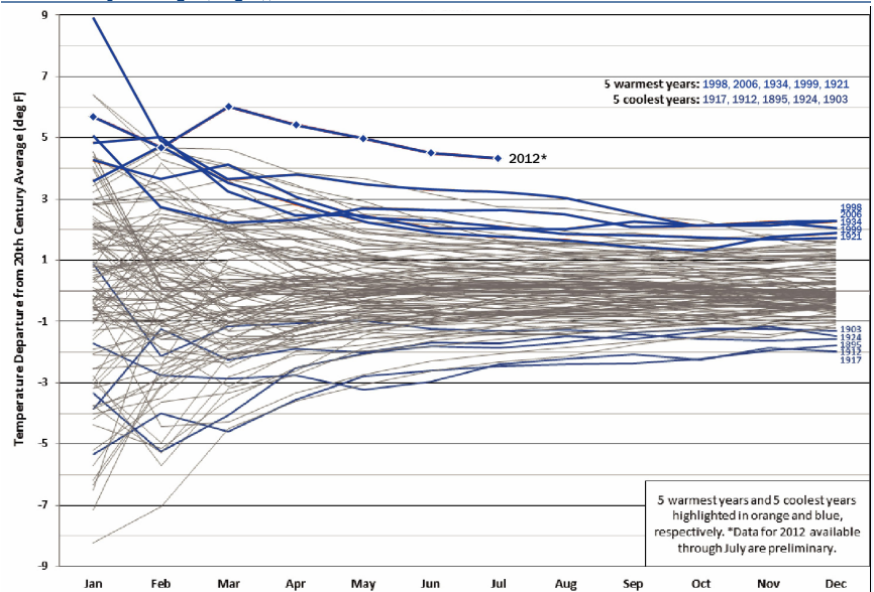
[ESG & Sustainability, 28 September 2012](#)

Unprecedented extreme weather here to stay

In our series of reports on Global Drought, we examined the growing body of scientific evidence pointing to the worsening of droughts, heat waves and floods in the coming century because of global warming.

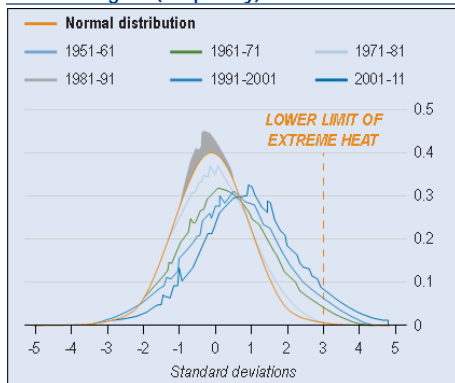
- **2012 US drought:** The US is undergoing the worst drought since at least 1956. July 2012 was the hottest month in the lower 48 US states in records going back to 1895, capping the hottest 12 months ever in the continental US.

Chart 11: 2012 is the warmest year since 1895 (in terms of temperature departures from the 20th century average (deg F))



Source: NOAA's National Climatic Data Center., BofA Merrill Lynch Global Research Year-to-date temperature anomalies for contiguous US – January 1995 – July 2012

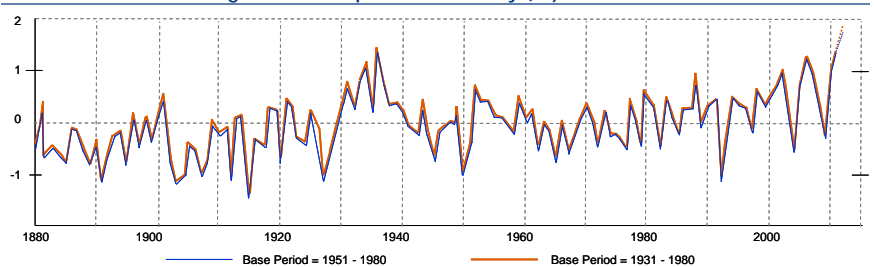
Chart 12: Global temperature deviations from June to August (frequency)



Source: Goddard Institute for Space Studies, BofA Merrill Lynch Global Research. Temperature deviations from the 1951-1980 reference period in 250km wide cells around the Earth's surface

- **Global temperatures on the rise:** The globally averaged temperature for July 2012 marked the fourth-warmest July since record keeping began in 1880. September 2012 also marks the 331st consecutive month with a global temperature above the 20th century average (Source: NOAA).
- **Extremes are much more frequent and more intense worldwide:** Extremely hot temperatures covered about 0.1% to 0.2% of the globe from 1951 to 1980. But in the past three decades, while the average temperature has slowly risen, the extremes have soared and now cover about 10% of the globe.

Chart 13: US Jun-Jul-Aug surface temperature anomaly (°C)

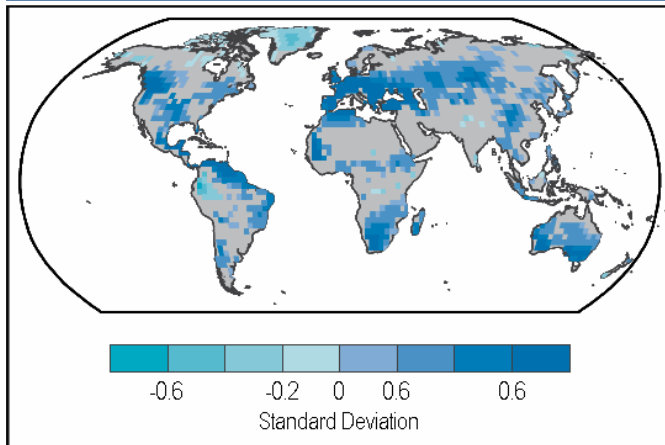


Source: NASA Goddard Institute for Space Studies, BofA Merrill Lynch Global Research

- **Extreme weather is becoming part of the new normal:** While it is all too easy to link any and all incidents of extreme weather events to climate change, scientific evidence increasingly points to the worsening of droughts, heat waves and floods in the coming century because of global warming.

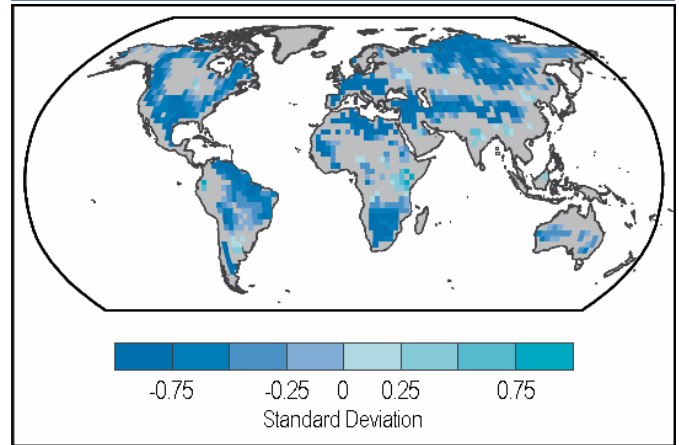
07 November 2012

Chart 14: Projected changes in dryness: consecutive dry days (June to August, 2081-2100)



Source: UN IPCC, BofA Merrill Lynch Global Research. Consecutive dry days = days with precipitation; <1 mm.

Chart 15: Projected changes in dryness: soil moisture anomalies (June to August, 2081-2100)



Source: UN IPCC, BofA Merrill Lynch Global Research. Soil moisture anomaly = anomaly in water stored in or at the land surface and available for evapotranspiration

From 2000 to 2050, global water demand is set to change by:

- +406% for manufacturing
- +144% for electricity
- +127% for domestic
- +63% for livestock
- 14% for irrigation (Source: OECD)

Demand-side water pressures

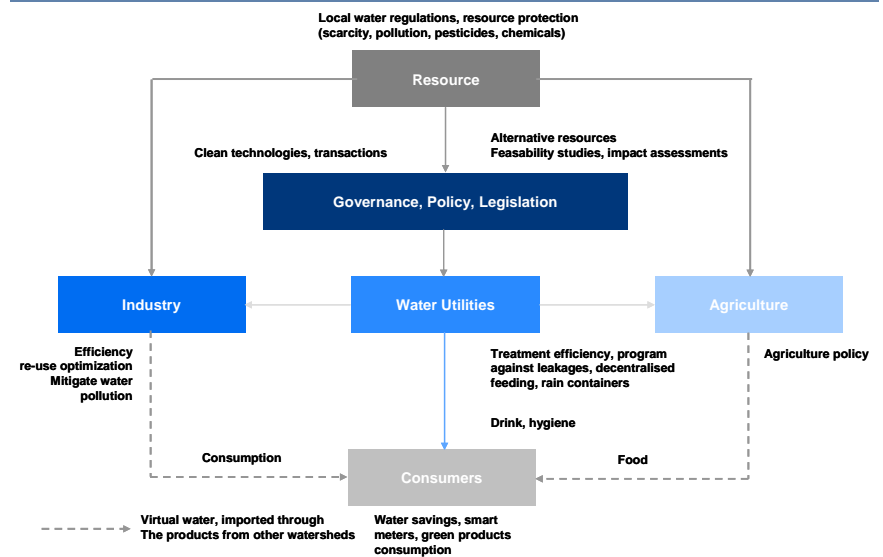
The necessity for water is such that all individuals and industries are water dependent. Approximately 3,800km³ (3.8tn m³) of freshwater is extracted from aquatic ecosystems globally every year (Source: InterAction Council). Agriculture is the largest single user of freshwater in the world, accounting for 70% of total water use. Industry and energy are the second-largest users and domestic users make up the rest. We anticipate growing demand-side pressures across the three largest users, with competition and trade-offs becoming increasingly likely.

Table 7: Table 7: Global water demand 2000 vs. 2050 (km³)

		Irrigation	Domestic	Livestock	Manufacturing	Electricity
OECD	2000	397.071	152.744	7.88447	91.5695	343.555
	2050	230.441	161.539	8.48667	149.195	327.028
% change		-41.96%	+5.76%	+7.64%	+62.93%	-4.81%
BRICs	2000	1453.96	123.241	12.7107	103.941	133.112
	2050	1313.78	447.001	19.0103	855.661	627.474
% change		-9.64%	+262.70%	+49.56%	+723.22%	+371.39%
RoW	2000	533.182	72.6556	6.92225	40.7285	91.4932
	2050	504.815	181.664	17.4766	190.975	432.043
% change		-5.32%	+150.03%	+152.47%	+368.90%	+372.21%
World	2000	2384.21	348.64	27.5174	236.238	568.16
	2050	2049.04	790.204	44.9735	1195.83	1386.54
% change		-14.06%	+126.65%	+63.44%	+406.20%	+144.04%

Source: OECD, BofA Merrill Lynch Global Research

Chart 16: Water consumption flows & leverage



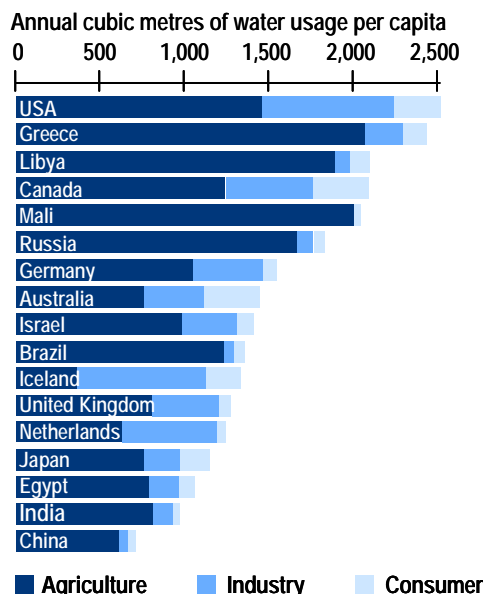
Source: Ernst & Young, BofA Merrill Lynch Global Research

The daily drinking water requirement per person is 2-4l, but it takes 2,000-5,000l to produce one person's daily food requirements (Source: FAO)

Agriculture - today's biggest consumer

According to the FAO, it takes 1,000x more water to feed a population via agriculture than it does to satisfy thirst. This is leading to growing demand-side water pressure as food demand is expected to increase by 50% by 2025 to 2030 – meaning another 1,000km³ (1tn m³) of water per year – equal to the annual flow of 20 Niles or 100 Colorado Rivers (Source: InterAction Council). This will significantly exacerbate the imbalance between water demand and supply.

Chart 17: Farming accounts for the bulk of water use



Source: UN, BofA Merrill Lynch Global Research

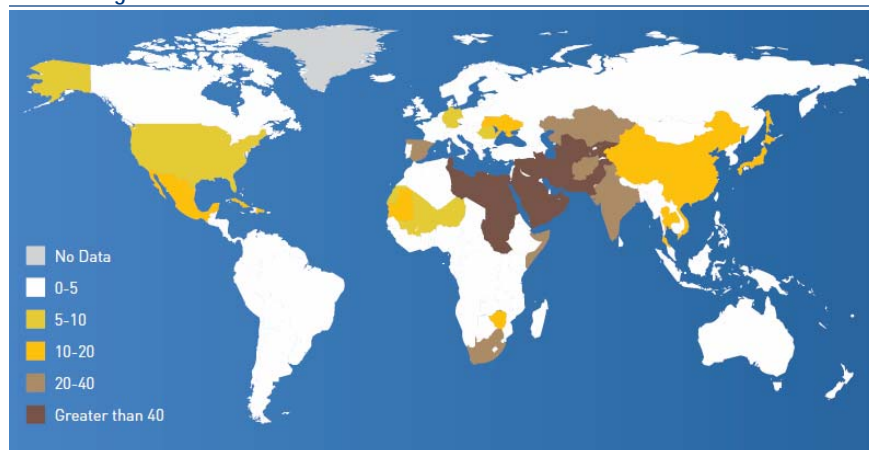
Table 8: Estimated virtual water requirements for different crops

Crop	m³ water/ton crop*
Beef	16,726
Pork	5,469
Cheese	5,288
Poultry	3,809
Eggs	3,519
Rice	2,552
Soybeans	2,517
Wheat	1,437
Maize	1,020
Milk	738
Potatoes	133

Source: BofA Merrill Lynch Global Research. * Average based on Hoekstra & Hung, Chapagain & Hoekstra, Zimmer & Renault, and Oki et al

- Farmers are extracting water at an unsustainable rate as the area irrigated by groundwater has increased on the back of more reliable water delivery, a decline in extraction costs, and government subsidies for power and pump installation and water itself.

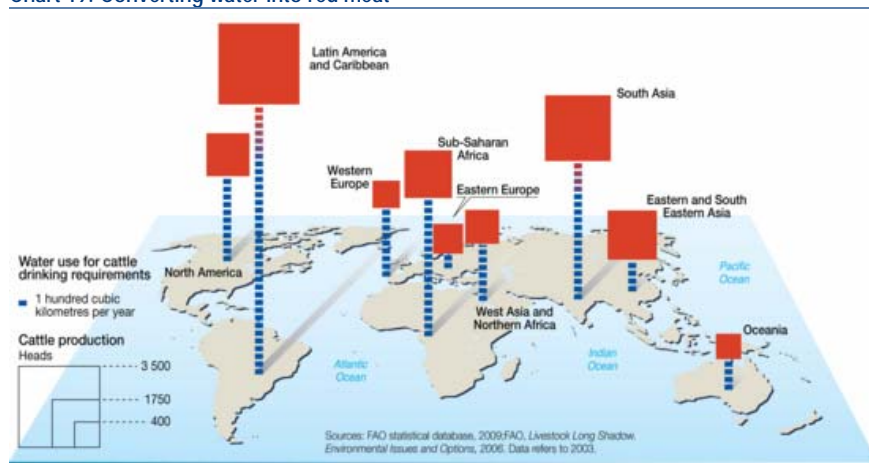
Chart 18: Agricultural water withdrawals as a % of total renewable water resource



Source: FAO (Withdrawals are critical when higher than 40% and indicative of water stress at 20-40%)

- Water intensity varies depending on the crop or livestock. Farming livestock is more water intensive than farming crops. It takes 15,500l of water to produce 1kg of beef, compared with 1,500l for 1kg of grain. However, we expect increasing demand for food to come from higher protein-based sources rather than more subsistence-based diets. Using current practices, the amount of water required for agricultural evapotranspiration to feed the world's population would increase from 7,130km³ currently to between 12,050km³ and 13,500km³, an increase of 70-90% by 2050. .

Chart 19: Converting water into red meat



Source: UN FAO, UNEP

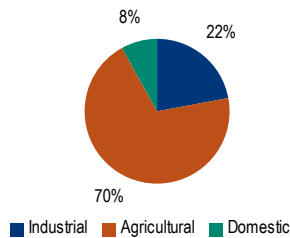
By 2025, the oil sector could be producing 5x more water than oil, with onshore crude oil having a ratio of up to 12x largely on the back of ageing wells and increased unconventional O&G such as EOR, shale gas and oil sands (Source: GWI)

Industry - tomorrow's biggest user

Demand from industry represents around 22% of global total demand, rising to as much as 59% in developed markets. Industrial water use arises as a raw material and as a constituent of the product itself as well as from cleaning, heating and cooling and power generation. Usage is expected to rise significantly as:

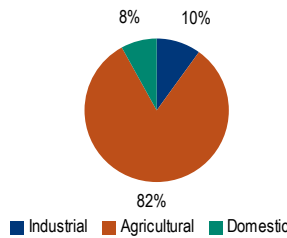
- **Emerging markets divert water from agriculture to industry** as they ramp up their economic growth efforts via large-scale industrialisation and industry and energy (especially coal) accounting for a disproportionately higher use of freshwater. Worryingly, this is often being carried out with scant regard for the environmental or social impact.

Chart 20: World water use



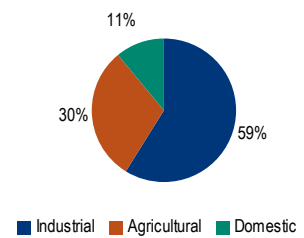
Source: World Bank, BofA Merrill Lynch Global Research

Chart 21: Low- & middle-income country use



Source: World Bank, BofA Merrill Lynch Global Research

Chart 22: High-income country use



Source: World Bank, BofA Merrill Lynch Global Research

- **Energy infrastructure is highly dependent on water** – gas, coal and nuclear plants, in the US for example, consume an estimated 20% of non-agricultural water. In China, coal-fired electricity currently uses more than 114tn litres of water, c.20% of the country's total consumption, rising to 40% over the next decade if current trends continue.
- **Mining infrastructure is highly dependent on water** with over 2bn gallons of water per day used in the US alone – the processing of a ton of ore requires 1.5 tons of water. Tailings and acid rock drainage are also becoming major issues.
- **Unconventional oil & gas extraction increases** – the oil industry currently produces 2.5x more water than oil; by 2025, it will produce 5x more water than oil, according to Global Water Intelligence (GWI). Usage is expected to increase via shale gas and the process of hydraulic fracturing or, "fracking", which can use as much as 5m gallons of water per well and poses a growing risk to freshwater supplies. As well as the risk to groundwater, if improperly handled, this fluid could potentially harm surface water assets.

Table 9: Energy-water relationship

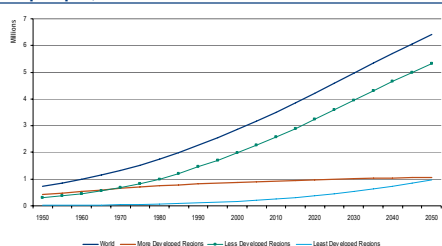
Energy element	Connection to water use / scarcity	Connection to water quality
Energy Extraction and Production		
Oil and Gas Exploration	Water for drilling, completion and fracturing	Impact on shallow groundwater quality
Oil and Gas Production	Surface water and groundwater for cooling and scrubbing	Produced water can impact surface and groundwater
Coal and Uranium Mining	Mining operation can generate large quantities of water	Tailings and drainage can impact surface water and groundwater
Electric Power Generation		
Thermal electric (fossil, biomass, nuclear)	Surface water and groundwater for cooling and scrubbing	Thermal and air emissions impact surface waters and ecology
Hydro-electric	Reservoirs lose large quantities to evaporation	Can impact water temperatures, quality and ecology
Solar PV and Wind	None during operation; minimal water use for panel and blade washing	
Refining and Processing		
Traditional Oil and Gas refining	Water needed to refined oil and gas	End use can impact water quality
Biofuels and Ethanol	Water for growing and refining	Refinery waste-water treatment
Synfuels and Hydrogen	Water for synthesis or steam reforming	Wastewater treatment

Table 9: Energy-water relationship

Energy element	Connection to water use / scarcity	Connection to water quality
Energy Transportation and Storage		
Energy Pipelines	Water for hydrostatic testing	Wastewater requires treatment
Coal Slurry Pipelines	Water for slurry transport, water not returned	Final water is poor quality, requires treatment
Barge Transport of Energy		Spills or accidents impact water quality
Oil and Gas Storage Caverns	Slurry mining of caverns requires large quantities of water	Slurry disposal impacts water quality and ecology

Source: BofA Merrill Lynch Global Research

Chart 23: Global urban population 1950-2050
(bn people)



Source: Unpopulation

Residential & municipal - set to grow fast

While water for domestic use is the smallest demand segment of freshwater resources, there are some significant long-term drivers of growth:

- **The world's population is estimated to grow by 50%** to approximately 9bn by 2050, while the world's water resources will remain constant. Intuitively, we expect there to be significant growth in the high(er)-income brackets associated with greater water use.
- **Urbanisation is placing growing demands on groundwater** and, by 2025, 5bn people will be living in urban areas while 70% of the world's population will be living in cities by 2050 according to the UN. The prospect of "mega-regions" stretching hundreds of kilometres across countries could push water resources and infrastructure to their limits, especially as groundwater recharge rates have slowed. This will have an impact on water quantity and quality, with increasing demand for efficient water infrastructure systems.

Table 10: Top 10 Megacities 2011-2025 (population in millions)

City	Country	Population - 2011	City	Country	Population - 2025
Tokyo	Japan	37.2	Tokyo	Japan	38.7
Delhi	India	22.7	Delhi	India	32.9
Mexico City	Mexico	20.4	Shanghai	China	28.4
NYC	USA	20.4	Mumbai	India	26.6
Shanghai	China	20.2	Mexico City	Mexico	24.6
São Paulo	Brazil	19.9	NYC	USA	23.6
Mumbai	India	19.7	São Paulo	Brazil	23.2
Beijing	China	15.6	Dhaka	Bangladesh	22.9
Dhaka	Bangladesh	15.4	Beijing	China	22.6
Kolkata	India	14.4	Karachi	Pakistan	20.2

Source: UNpopulation, BofA Merrill Lynch Global research

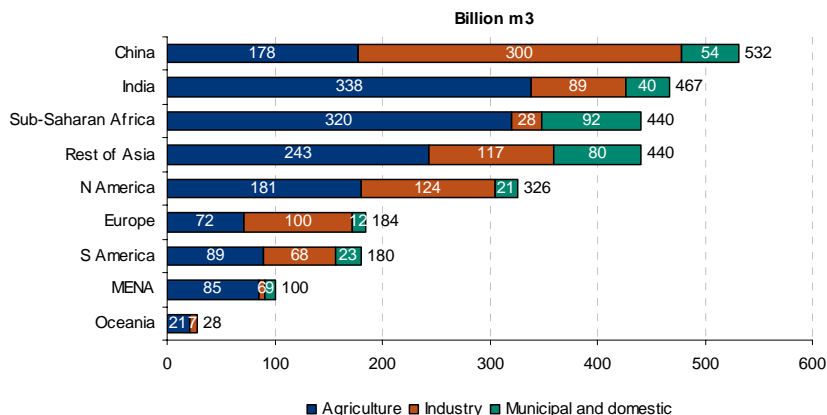
From 2005 to 2030, water demand will increase by:

- 283% for Sub-Saharan Africa
- 109% for Oceania
- 95% for South America
- 61% for China
- 58% for India
- 50% for Europe
- 47% for MENA
- 43% for North America

(Source: Water 2030)

- **More water-intensive commodities and foodstuffs** as a result of rising prosperity. As developing nations shift their appetite from subsistence- (starch) to protein-based (meat, dairy) diets, their water requirements are likely to increase markedly.
- **Property will amplify demands** for improved water quality for greater recreational and amenity uses and for the preservation of biodiversity.

Chart 24: Expected increase in global water demand by 2030

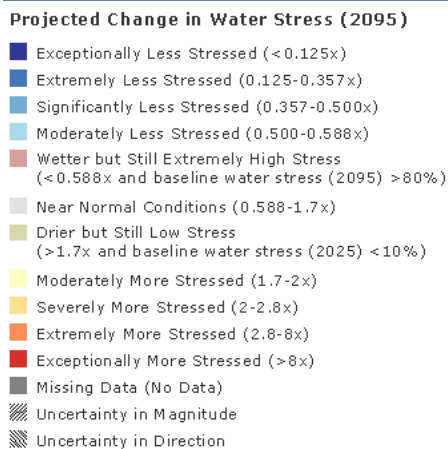


Source: 2030 Water Working group

Long-term changes in water stress

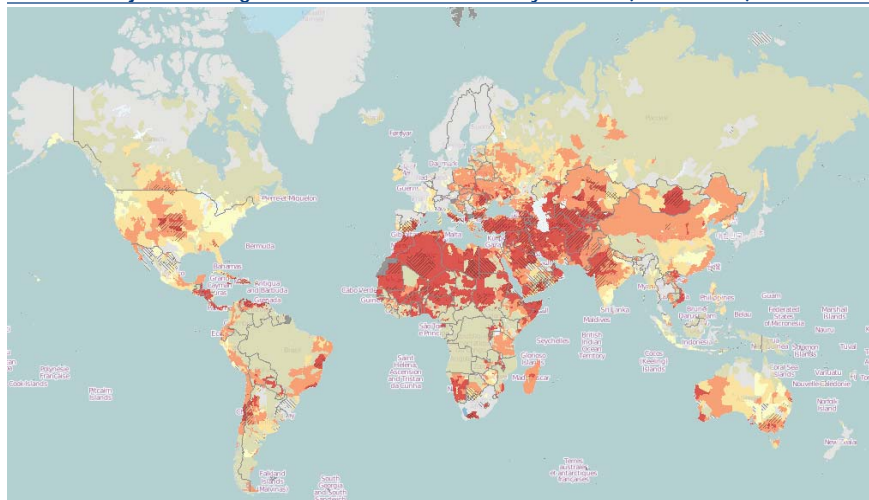
The map below projects the changes in water stress to 2095 due to shifting climate, population, and economic development. We have used the WRI-Aqueduct project's A2 scenario – which can be characterised as a “worst case” – where we see continuously increasing population and economic development, but slow and fragmented technological change.

Chart 25: Projected change in water stress



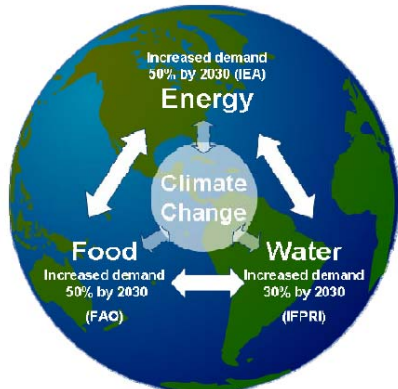
Source: World Resources Institute- Aqueduct Project,

Chart 26: Projected change in water stress indicator for year 2095 (A2 Scenario)



Source: World Resources Institute- Aqueduct Project, Water Risk Data were provided to the World Resources Institute by The Coca-Cola Company in support of the Aqueduct project. ISciences L.L.C. performed the hydrological modelling. * A2 Scenario describes a very heterogeneous world. Underlying theme is self reliance and local identities. Continuously increasing population, Economic development and technological change is fragmented and slow.

Chart 27: A perfect storm of global events?



Source: HM Treasury, FAO, IEA, IFPRI, BofA Merrill Lynch Global Research

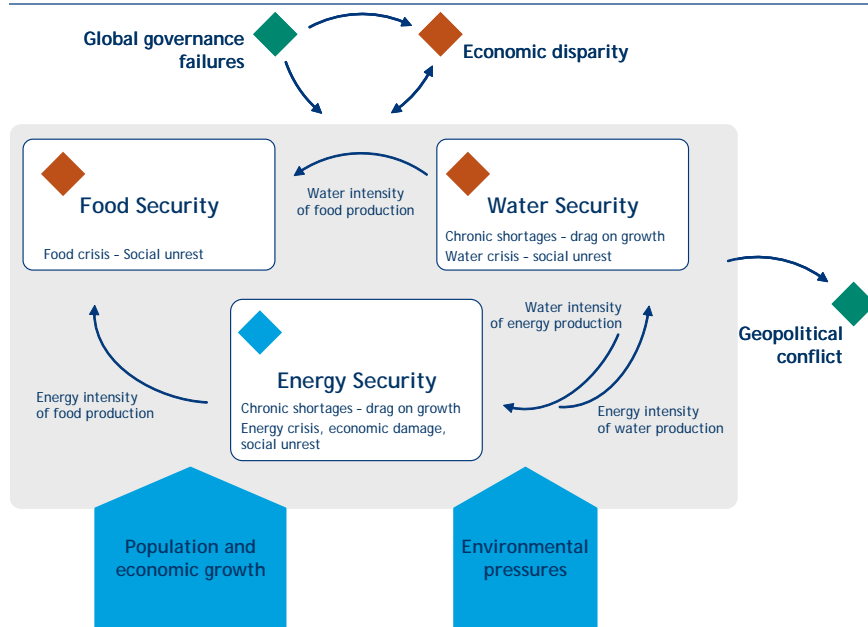
A perfect storm, the water-energy-food nexus

In our view, water stress and scarcity – as well as climate change and extreme weather – underscore increased long-term challenges for food, water and energy security. By 2030 global food demand is set to increase by 50%, water demand by 40% and energy demand by 50%, according to international organisation forecasts.

Food, energy and water security are linked by a series of sometimes reciprocal inputs, and influenced by other factors such as population, economic growth and environmental pressures along with the two overarching factors of global governance failures and economic disparity. Trade-offs between the three resources, as well as between users in the form of resource rationing, will, in our view, become an increasingly important issue, as will managing these trade-offs.

As the UK's former Chief Scientific Advisor Sir John Beddington stated, "This threatens to create a perfect storm of global events," which poses key questions for governments, stakeholders, corporates and investors. These include whether we can feed 9bn people equitably, healthily and sustainably; cope with the demands on water; provide enough energy to supply the growing population coming out of poverty; and whether can we do this while mitigating and adapting to climate change.

Figure 1: Water-energy-food nexus



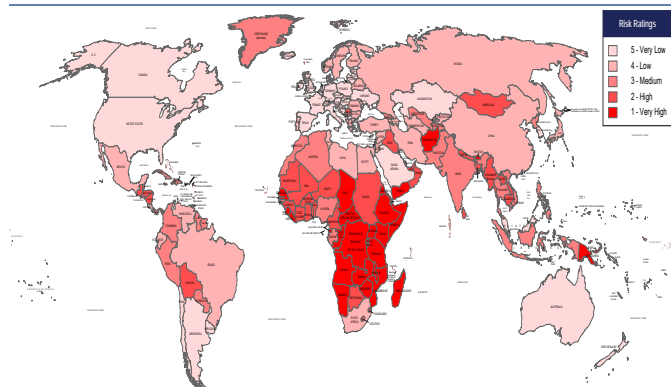
Source: World Economic Forum

Demand for cereals (for food and animal feed) is projected to reach 3bn tonnes by 2050. Annual cereal production will have to grow by 1bn tonnes and meat production by over 200mn tonnes to reach a total of 470mn tonnes in 2050, 72% of which will be consumed in EMs (Chart 29) (Source: UN)

Global food crisis, demand to increase 40% by 2030

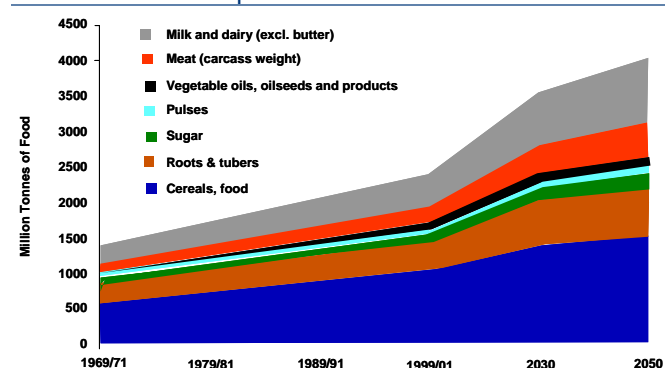
Global food demand – as reflected by total crop and livestock demand and production – could rise by 40% by 2030 and double by 2050 – meaning that a 70% increase in production output would be needed to feed the world (Chart 29). Overall demand for agricultural products is expected to grow 1.1-1.5% pa to 2050. Population growth, increases in per-capita consumption and changes in diets leading to the consumption of more livestock products are the main drivers of such expected changes. We expect demand for meat to grow by 85% to 2030 (Chart 29) – posing significant water challenges as it takes 15,500l of water to produce 1kg of beef, compared with 1,500l for 1kg of grain.

Chart 28: Global food issues & needs



Source: BofA Merrill Lynch Global Research (WDWW (Who Does What Where) Geographical Risk Screening Model)

Chart 29: World food requirements to 2050



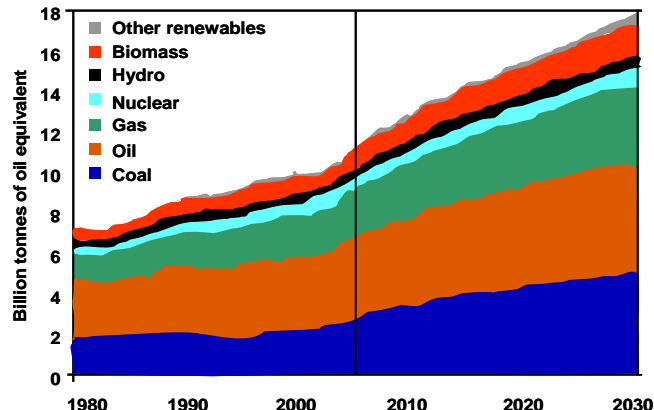
Source: FAO, BofA Merrill Lynch Global Research

Short-term variations in economic growth have only marginal impacts on long-term energy and climate change trends

Global energy crisis, demand to increase 50% by 2030

The world is facing a global energy crisis, with close to 9% of GDP being spent on energy. Primary energy demand is expected to increase by up to 50% by 2030 (Source: IEA) with demand to grow for all energy sources including coal, oil, natural gas, nuclear, hydro and renewables (Chart 30). Emerging markets will account for 90% of the projected growth in global energy demand, according to the IEA. As a result, energy-related CO2 emissions are likely to increase by 20%, following a trajectory consistent with a long-term rise in the average global temperature in excess of 3.5°C – and potentially resulting in irreversible climate change, according to the IEA.

Chart 30: World primary energy demand to 2030



Source: IEA, BofA Merrill Lynch Global Research

Coal-fired electricity accounts for 20% of non-agricultural water use in the US and in China could account for 40% of all water use over the next decade

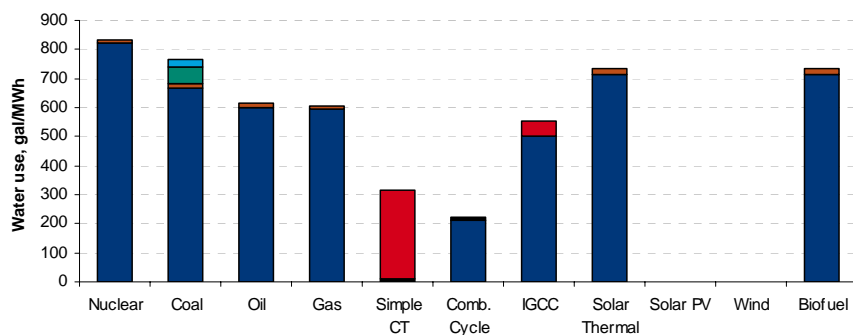
Chart 31: Global energy infrastructure needs



Source: BofA Merrill Lynch Global Research (WDWW (Who Does What Where) Geographical Risk Screening Model)

- **Water & growing energy needs:** The IEA forecasts that the world economy will demand at least 40% more energy by 2030. This will require the installation of larger and more efficient power generation plants, which means massive water use. Gas-fired plants consume the least amount of water per unit of energy produced; coal- and oil-fired plants consume up to twice as much as gas-fired, and nuclear consumes up to three times as much. The future is unclear, with IGCC (integrated gasification combined cycle) able to reduce a coal plant's water consumption by half, but CCS (carbon capture and storage) potentially increasing a coal plant's water consumption by 30-100%.

Chart 32: Water use by plant type



Legend: Cooling, Boiler make-up, Scrubbing, Ash handling, Inlet air cooling, CT injection, Fuel processing, Hotel

Source: EPRI, BofA Merrill Lynch Global Research

- **Energy, water & growing food needs:** In recent years, up to 40-60% of crops such as corn and sugarcane have found new applications in the production of biofuels. The most water-intensive aspect of biofuel production is growing the feedstock. When the feedstock is irrigated corn or soy, water consumption per gallon of fuel produced can exceed the water consumption for refining oil by a factor of one thousand. Government targets for the use of biofuels pose challenges for global freshwater resources, in the form of stringent management of irrigation techniques, innovative methods of processing and debates surrounding new technologies such as GM crops.

A large proportion of the world's freshwater is shared – with 214 major river systems shared by 2+ states and 19 countries receiving >50% of their water from outside their borders

“Water is now playing a determining role in international, national and trans-boundary conflicts” IAC Secretary-General Thomas Axworthy, President and CEO of the Walter and Duncan Gordon Foundation

Growing risk of unrest & conflict

In the coming years, water shortages are likely to contribute to growing instability at national, regional and even international levels. In addition to water shortages, poor water quality/treatment, and droughts and flooding, potential political disputes over water access are likely to be exacerbated by sustainability challenges. These include climate change, corruption, environmental degradation, hydro power (c.45,000 dams globally), poverty, poor governance, population growth, social tensions and urbanisation. These areas of potential conflict are likely to lead to growing national and regional instability and, globally, to the growing use of water as a political tool over the next 10 years; for example, using water as leverage, water as a weapon and water terrorism.

Domestic social unrest

The need to tackle water shortages is exacerbating social unrest in many emerging markets where capital-intensive infrastructure projects, such as dams and changes to water supply infrastructure, are being undertaken. In the former case, project sites have been the scene of many violent confrontations between communities and governments, while changes to community water or tariff increases have led to significant social unrest.

Table 11: Examples of recent water unrest

Year	Country	Overview
2009-12	China	Violent clashes over water pollution
2010	Pakistan	100 killed and scores injured after fighting over irrigation water between tribes.
2010	Pakistan	A water dispute in Pakistan's tribal region leads to 116 deaths
2010	India	Violent protests and injuries after a protest over erratic water supply in New Delhi
2009	China & India	China tries to block a US\$2.9bn ADB loan to India on the grounds that part of it was destined for water projects in a disputed area.
2009	Ethiopia & Somalia	Three killed and a community driven from their homes after a borehole dispute.
2009	India	A family in MP state is killed by a mob after illegally drawing water from a municipal pipe.
2009	India	One person killed after hundreds protest over water rationing & cuts in Mumbai.
2009	Koreas	North Korea releases 40m m3 of water from a dam, causing flash flooding and deaths in South Korea.
2008	Nigeria	Violence after a protest over the price of water.
2008	Pakistan	Taliban threaten to blow up Warsak Dam, Peshawar's main water supply.
2007	Israel	Israel's sanctions against Gaza cause water deprivation.
2007	Australia	Sydney man charged with murder after an alleged fight over water restrictions
2007	Sudan	Four villagers killed after a dam protest.

Source: Press sources, BofA Merrill Lynch Global Research

Problems of corruption

Corruption in the water sector is a root cause and catalyst for the global water crisis. Leading anti-corruption stakeholder group, Transparency International (TI), has identified a range of problems throughout the industry's value chain from policy design and budgeting to building, maintaining, and operating water networks to petty bribery in water delivery to procurement-related looting of irrigation and hydropower funds.

TI's International Bribe Payer's Index also identifies public works and construction companies that are perceived – i.e., viewed as paying bribes – as the most corruption-prone, and thus most likely to exert undue influence on the policies, decisions and practices of governments. While developing markets have experienced the most problems, corruption has allegedly plagued the tendering of water contracts in the US, France and Italy, according to TI.

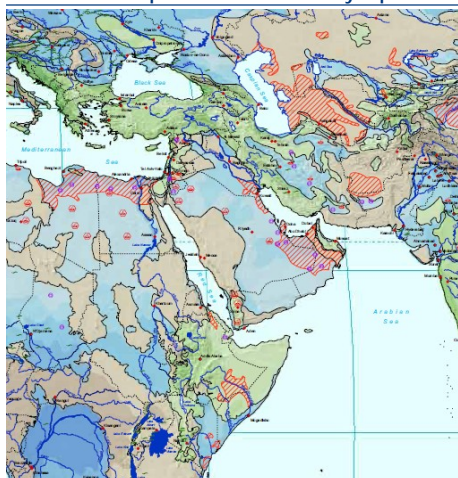
Water sector corruption in developing countries increases household connection costs by up to 30% and costs the industry US\$48bn in annual losses

Chart 33: River basins shared by two or more nations



Source: Pacific Institute for Studies in Development, Environment, and Security

Chart 34: Examples of transboundary aquifers



Source: UNESCO

Poor are paying the greatest price

The poor already bear the greatest burden of water scarcity – and pay the price of corruption in drinking water and sanitation as it drains investment from the sector, increases prices and decreases water supplies. In India, for example, corruption is estimated by TI to add at least 25% to irrigation contracts with the proceeds supporting a corrupt system of political handouts and compromised oversight. One perverse result is that poor households in Jakarta, Lima, Manila or Nairobi spend more on water than residents of London, New York City or Rome. Another is that corruption leads to poor outcomes, with TI estimating that in China, bribery is responsible for pollution in some 90% of aquifers in cities and 75% of urban rivers.

International unrest and conflict

Water issues are already inherently geopolitical with two in every five people living in international water basins. Positively, history shows that trans-boundary water tensions have led to more water-sharing agreements than violent conflicts (Source: Office of the Director of National Intelligence). While no nations have ever gone to war solely on the grounds of water, there were 1,831 water conflicts over trans-boundary basins from 1950–2000 (Source: Aaron Wolf et al). However, in the coming years we anticipate that the supply vs demand imbalance and climate change-fuelled instability could manifest in a growing risk of conflicts and even wars being fought over water.

Global nature of water - susceptibility to conflict

A large proportion of the world's freshwater is shared – with 214 major river systems shared by two or more states and 19 countries receiving 50%+ of their water from outside their borders. Almost 96% of the planet's freshwater resources are to be found in underground aquifers, most of which straddle national boundaries. Of these, 273 are shared aquifers: 68 are on the American continent, 38 in Africa, 65 in Eastern Europe, 90 in Western Europe and 12 in Asia. Disputes are likely to be focused on trans-boundary aquifers.

Table 12: Surface water interdependence

International basins	# countries
Danube	17
Congo and Niger	11
Nile	10
Rhine and Zambezi	9
Amazon and Lake Chad	8
Aral Sea, Ganges-Brahmaputra-Meghna, Jordan, Tigris and Euphrates, Mekong	6
La Plata, Neman and Vistula	5
Indus	4
Rhone, Volga	3

Source: ESCP, BofA Merrill Lynch Global Research

Lack of legal frameworks

Worldwide, few transboundary river and lake basins are governed by basin agreements and treaties. In addition to the lack of a global legal framework to manage transboundary waters, only 27 countries have ratified or joined the 1997 U.N. Watercourses Convention after 15 years. The convention needs 35 countries to ratify to enter into force.

Climate change could act as a trigger

While climate change does not drive political instability *per se*, it will affect drought patterns and glacier melt – thus decreasing water resources and exacerbating existing socio-economic, cultural and historical factors vis-à-vis shared water resources, potentially triggering conflicts.

"... We judge that as water shortages become more acute beyond the next ten years, water in shared basins will increasingly be used as leverage; these of water as a weapon or to further terrorist objectives also will become more likely beyond 10 years." – U.S. Office of the Director of National Intelligence

3 major water risks over the next 10Y

The US Office of the Director of National Intelligence recently set out three potential drivers of conflict, or water being used as a political tool over the next 10 years:

- **Water as leverage:** A number of states will exert leverage over their neighbours to preserve their water interests. This leverage will be applied in international forums and include pressuring investors, NGOs, and donor countries to support or halt water infrastructure projects. States will also use their inherent ability to construct and support major water projects to obtain regional influence or preserve their water interests.
- **Water as a weapon:** The use of water as a weapon will become more common with more powerful upstream nations impeding or cutting off downstream flow. Water will also be used within states to pressure populations and suppress separatist elements.
- **Water terrorism:** Physical infrastructure (including dams) is a convenient and high-publicity target for extremists, terrorists, and rogue states threatening substantial harm and will become more likely beyond the next 10 years. Even if an attack is less than fully successful, the fear of massive floods or loss of water resources would alarm the public and cause governments to take costly measures to protect the water infrastructure. Desalinization facilities or critical single point failure water canals or pipelines would likewise be targets for terrorists.

30 countries on three continents at high risk

We have identified up to 30 countries on three continents as potential areas for conflict over water, including some located in Central Asia, Jordan River, Mekong Basin, Nile Basin, South Asia and Tigris-Euphrates. Some stakeholders say that as many as 50 countries on five continents may be facing such risks.

Table 13: Illustrations of potential water conflicts

Region	Water basin	Countries	Overview of potential conflicts
Africa	Nile Basin	Burundi, DR Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, Uganda,	<ul style="list-style-type: none"> • Land use – Rising demand for irrigation, large-scale farming (leased), dams • Population growth – Water needs to grow as population reaches 654m by 2030 • Water access – Egypt & Sudan hold rights to Nile's waters but 11 countries seeking greater access to region's #1 water source
Middle East	Jordan River	Israel, Jordan, Palestinian Territories	<ul style="list-style-type: none"> • Climate change – arid climate furthering water stress • Environment – discharge of untreated and poorly treated sewage; overexploitation and groundwater pollution
	Tigris-Euphrates	Iran, Iraq, Syria, Turkey	<ul style="list-style-type: none"> • Climate change / Environment – Increasing desertification; extreme heat and water evaporation; contamination from pesticides, discharge of untreated sewage & excess salinity (low water levels) • Dams / Land use – Iraqi claims that hydro dams & irrigation have reduced water flow • Politics – Iran, Iraq & Syria want more equitable access & control from Turkey (where 98% of water originates)
Asia	Central Asia (Amu Daria & Syr Daria)	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan	<ul style="list-style-type: none"> • Land use – Thirsty crops such as cotton & grain are main livelihood • Population growth – Kazakhstan, Turkmenistan, Uzbekistan • Politics – Lack of progress on new system to replace Soviet water management system
	Mekong River	Cambodia, China, Laos, Myanmar (Burma), Thailand, Vietnam	<ul style="list-style-type: none"> • Water access – Kyrgyzstan & Tajikistan want greater control for hydro and irrigation • Dams – Most countries have been planning dams since 1980s; Cambodia, Laos, Thailand & Vietnam argue China's dam building on upper Mekong diverts/stores more than its fair share of water; environmental impacts to agriculture, fisheries, food because of plans by Cambodia & Laos to build 10 dams along Lower Mekong
	South Asia (Brahmaputra,	Bangladesh, China, India	<ul style="list-style-type: none"> • Politics – National interests remain barrier to joint river management • Climate change/Dams/Environment – China building up to 28 dams in Tibet along Tsagpao; India & Bangladesh concerned China may divert water to its arid north; drought in

Table 13: Illustrations of potential water conflicts

Region	Water basin	Countries	Overview of potential conflicts
	Tsangpo)		western China flooding in east and south; industrialisation, urbanisation and water quality
	South Asia (Indus)	India, Pakistan	<ul style="list-style-type: none"> • Dams – Both countries building hydro dams in disputed Kashmir along Kishanganga; Pakistan fears disruption of water flow; India planning new projects to boost energy supply

Source: Thomson Reuters Foundation, BofA Merrill Lynch Global research

Water as an opportunity for cooperation

Water challenges have historically brought divergent actors together including the Mekong Commission, Israel-Jordan “picnic” talks and the Indus River Commission. Current examples of joint-water governance include Euphrates Tigris Initiative for Co-operation (academic-sponsored initiative to enhance dialogue and cooperation via advocacy, research and education); Good Water Neighbours (cross-border peace-making programme); Nile Basin Discourse (multi-stakeholder meetings in each basin country); and Nile Basin Initiative (government ministers meet to find a legal framework for equitable water use).

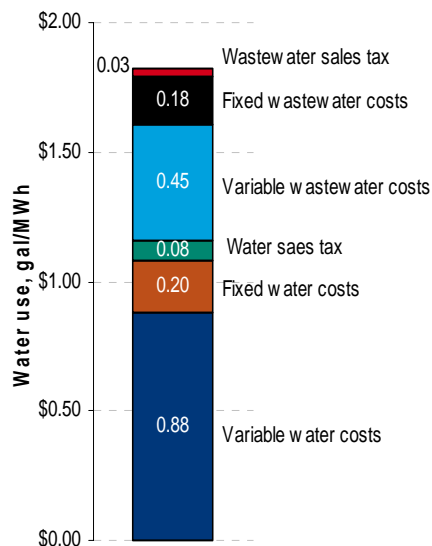
Emergence of international “hydro-diplomacy”

Water conflict and “hydro-diplomacy” are likely to become a growing topic for international organisations, such as the following:

- **The United Nations** is aiming to improve understanding of water resources and foster effective water management and facilitate dispute resolution via its Potential Conflict to Co-operation Potential mission. However, it has been unable to agree on whether the UN Security Council should address water conflict or not. Earlier in the year, Russia and China, backed by many developing countries, rejected the notion that the issue even belongs on the Security Council agenda.
- **The World Trade Organization** can arbitrate water disputes between its member states when the disagreements are commercial in nature. Owing to water’s role in agriculture, this can arise via virtual water and water used in the production of goods and services but not directly traded between countries.

Pricing and trading - new models emerging

Chart 35: What makes the average water tariff?



Source: GWI, BofA Merrill Lynch Global Research

“Water is not a commercial product like any other, but, rather a heritage which must be protected, defended and treated as such” - EU Water Framework Directive’s 1st paragraph

Pricing is a necessary solution

There is often little incentive for efficient water use as water has no price, or is priced too low to act as an incentive for efficient resource allocation. Water costs are significant, encompassing demand, the cost of transport from source to user, treatment and price subsidies. Yet, on average worldwide, municipal suppliers do not charge enough for water to meet even their basic operational and maintenance costs. The reality is that we need to explore new mechanisms such as full cost recovery pricing or water trading, which would explicitly or implicitly incorporate infrastructure, maintenance, provision and administration costs into the water price. As an example of inefficient pricing, water revenues in New Delhi are less than 20% of what the municipality spends each year to provide water.

Governments charging more for big users

Governments are starting to introduce measures to better manage water supply – including cost increases for large users. For example, in 2008 Portugal started taxing major water users in agriculture and industry. And in June 2012, China announced it would impose higher water charges for water-intensive industries and encourage the use of recycled water. Singapore is also pricing water to reflect its scarcity (Source: KPMG).

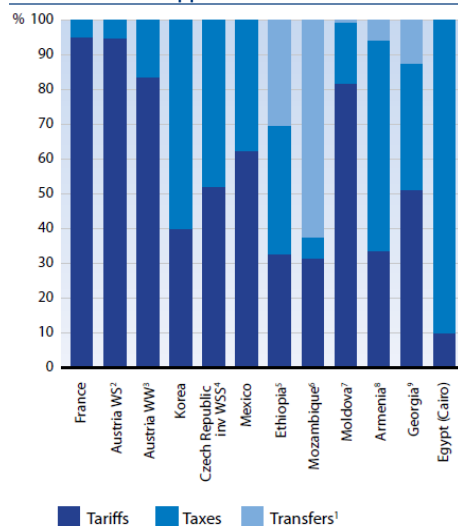
Water utilities recognising need to curb water use

An October 2012 survey by Oracle Corp (which provides smart metering management services for utilities) of 244 senior water utility executives found that wasteful behaviour by end users was the biggest barrier to meeting rising demand. The study showed 49% of respondents believe water pricing structures need to change to prompt end users to conserve water.

Pricing - fuller cost but stakeholder-friendly recovery

Higher water prices could raise incentives for efficient water use, increase cost recovery in the water sector, and enhance the financial sustainability of urban water supply systems. We would see this as largely beneficial for the entire water sector from an investment perspective. It could also be beneficial to many of the world’s poor, who are not connected to municipal water supplies and who have no choice but to pay for informal purchases, which are up to 50x the price that middle- and high-income households pay.

Chart 36: Global approaches to water finance



Source: OECD, BofA Merrill Lynch Global Research

In Europe, the Water Framework Directive, adopted in 2000, requires member states to impose pricing policies to encourage users to consume water more efficiently. However, many markets have no such policy. Moreover, there is no generally accepted pricing mechanism and countries tend to use a mix of three different mechanisms to finance and operate water infrastructure:

- Users can be charged a tariff for the water provided to them;
- Tax revenue can be used to subsidise opex and capex costs; and
- Transfer payment such as grants can be sourced from other countries.

Factors that need to be taken into account include public vs private usage, abundant vs scarce supply, supply to households vs industry vs agriculture and institutional capacity.

Affordability and social equity are key but difficult to achieve

Prices also need to be balanced with affordability and social equity to ensure that lower income and vulnerable consumers are not priced out of the market. This will be key to avoiding social unrest and political opposition (even in developed markets), and for utilities to maintain their licence to operate. This is no easy challenge given the pressing water infrastructure and O&M needs.

Global water tariffs on the rise

Global water tariffs rose by an average of 3.6% between July 2011 and July 2012 at constant exchange rates compared with 6.8% for 2010-11 and 8.5% for 2009-10 (Source: GWI). The average water and wastewater tariff for the 310 cities in the 2012 GWI Water Tariff Survey is US\$1.98 per m³.

Table 14: Average tariffs (US\$/m³) and water usage in selected major countries

Country	Combined tariff	Water tariff	Wastewater tariff	Change %	Domestic use l/head/day	# of cities
Denmark	\$8.11	\$3.91	\$4.20	4.7%	114	2
Australia	\$6.28	\$3.27	\$3.01	5.2%	605	5
Germany	\$5.51	\$2.91	\$2.60	0.4%	151	10
UK	\$4.43	\$2.12	\$2.21	4.6%	232	8
France	\$4.08	\$2.24	\$1.84	2.5%	139	7
Canada	\$3.30	\$1.94	\$1.36	8.8%	213	5
Czech Rp.	\$3.25	\$1.67	\$1.59	8.1%	778	3
USA	\$3.09	\$1.30	\$1.79	6.4%	149	27
Poland	\$2.88	\$1.31	\$1.57	10.3%	616	6
Japan	\$2.63	\$1.48	\$1.14	0.0%	373	13
Portugal	\$2.14	\$1.62	\$0.52	8.5%	308	3
Spain	\$1.88	\$1.33	\$0.55	3.0%	342	6
Turkey	\$1.63	\$1.21	\$0.42	9.8%	238	8
Italy	\$1.60	\$0.81	\$0.79	4.1%	483	7
Russia	\$0.89	\$0.54	\$0.34	6.3%	368	13
South Kor.	\$0.81	\$0.58	\$0.23	10.5%	552	7
Mexico	\$0.73	\$0.65	\$0.07	19.3%	200	11
China	\$0.49	\$0.36	\$0.13	2.6%	95	25
India	\$0.15	\$0.13	\$0.01	12.7%	139	17

Source: Global water Intelligence

High water price - economic development link

There is a correlation between economic development and high(er) water prices: 16 of the 20 countries with an average combined tariff >US\$3.00 per m³ have a per-capita GDP of >US\$35,000. Higher tariffs are needed to support well-developed water supply networks and to treat the wastewater that is produced (Source: GWI).

Table 15: Top 10 water & wastewater tariffs (July 2011-July 2012)

Top 10 combined water and wastewater tariff increases		Top 10 combined water and wastewater tariff increases (absolute)	
1. Buenos Aires (Argentina)	86.00%	1. Aarhus (Denmark)	US\$8.00/m ³
2. Minsk (Belarus)	81.30%	2. Essen (Germany)	US\$7.61/m ³
3. Karachi (Pakistan)	65.20%	3. Copenhagen (Denmark)	US\$6.06/m ³
4. Caracas (Venezuela)	62.20%	4. Perth (Australia)	US\$5.89/m ³
5. Mexico City (Mexico)	51.40%	5. Brisbane (Australia)	US\$5.79/m ³
6. Hyderabad (India)	51.10%	6. Adelaide (Australia)	US\$5.67/m ³
7. Bucharest (Romania)	50.90%	7. Sydney (Australia)	US\$5.03/m ³
8. Gaborone (Botswana)	46.60%	8. Honolulu (USA)	US\$4.93/m ³
9. Aurangabad (India)	38.30%	9. Glasgow (UK)	US\$4.90/m ³
10. Siyarbakir (Turkey)	38.20%	10. Bremen (Germany)	US\$4.89/m ³

Source: Global Water Intelligence

Governments under budgetary challenges

Cash-strapped governments around the world are becoming unwilling to foot the bill for domestic water use – with reduced subsidies for local utilities becoming increasingly common (Source GWI).

Social equity is still a concern

Despite the recession, some governments have stepped in to prevent overcharging, reduce water tariffs or refund excessive water bills. Social tariffs are also being seen as a compromise solution which could facilitate a sustainable financial model by charging tariffs that depend on income, size of household and usage – and creating disincentives to overuse:

Social tariffs are also being seen as a compromise solution which could facilitate a sustainable financial model by creating disincentives to overuse:

- **Passport tariffs** could reduce charges for one or more defined household groups, such as lower-income and/or other vulnerable groups.
- **Block tariff** refers to any general metered tariff in which the first “block” of water used is provided at a lower price than that of subsequent blocks.

Water trading: market forces determine prices

An alternative to traditional pricing would be water trading, whereby the price would be determined by market forces. Many believe water trading has the potential to limit the impacts of water scarcity as it would encourage users to understand the economic value of water and to use it more efficiently. This could work as follows:

- A facility that reduces initial demand or improves the quality of discharge against an established baseline might trade excess demand or allocate it to another facility
- A facility that reclaims water and provides it to an external reuse application might use the corresponding reduction in demand to offset its own water intake.

Some of the western states of the US, Chile, South Africa, and Spain's Canary Islands already have water trading schemes, while Australia's is considered to be the most developed (see below). Informal water trading schemes also exist in parts of South Asia.

In September 2012, Suez Environnement introduced its 'eco-social' water tariff scheme, which came into effect in October in the Dunkirk region of France

Water is not the new carbon in the sense that water trading would probably be local or regional because of its physical characteristics and the difficulty of transporting it over long distances

Other forms of water trading include treated wastewater trading, which would create a financial incentive for suppliers to install treatment technologies

By 2010, the water rights market was valued at up to A\$2.8bn

A hypothetical model for trading

A hypothetical trading structure would be the development of a regional cap-and-trade system in water abstraction licences: a pre-assigned abstraction limit would define the volume of water that licence holders would be allowed to abstract in a particular region.

Table 16: Hypothetical water trading model

Factor	Overview
Area under coverage	Defined by the watershed in which the body of water drains
Allowances	Distributed via competitive auctions held at the beginning of each year. The highest bidding firms to receive allowances up to a limit set during an initial consultation period. The total no of licences will be reduced in a systematic fashion once the market has been established
Auction proceeds	Will go towards the funding of R&D
Fully developed market	futures, forwards and options may be purchased to secure supplies in advance of predicted water shortages

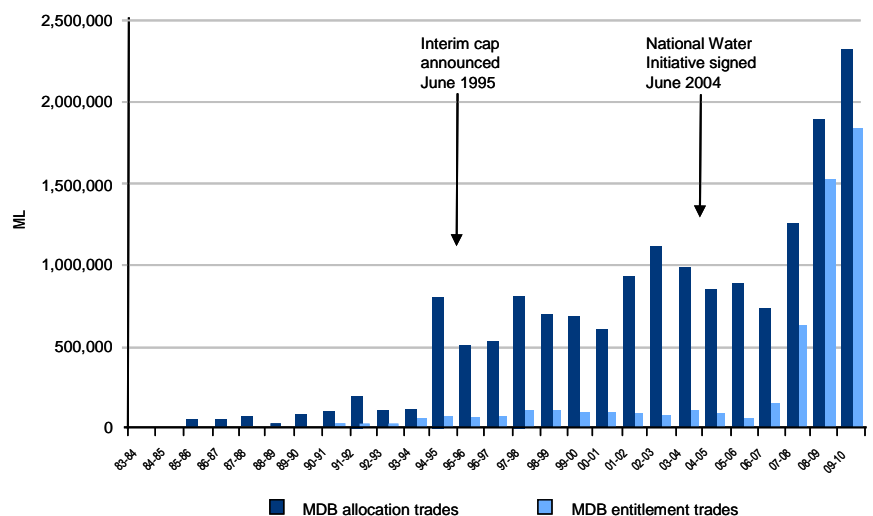
Source: BofA Merrill Lynch Global Research

The Australian precedent

Australia has been constructing a market for water trading since 1983. Under the country's National Water Initiative, land and water rights were separated – allowing water entitlements (permanent) and seasonal allocations (temporary) to be transferred between different entities within the Murray-Darling Basin, which covers one-seventh of the Australian continent and includes four states. Currently, water is traded mostly over-the-counter through water brokers, water exchanges and message boards.

In 2012, the National Water Commission said that “Australia’s water markets have allowed water to be reallocated to where the need is greatest and reduced the impact of the drought on regional production... [and] of maximising the economic, social and environmental values of scarce water resources.”

Chart 37: Increases in Australian water trading (1984-2010)



Source: Australian Government – National Water Commission, BofA Merrill Lynch Global Research

Many challenges remain

While there is scope for water trading, it is currently constrained in many markets by the nature of the underlying commodity, a lack of incentives to buy or sell water, complexity in the process of agreeing a bulk supply, and the lack of a clear pricing model around marginal costs (Source: E&Y and Severn Trent).

If we take the UK as an example, regulators are keen to promote water trading to relieve local pressure on water resources. Yet, under current pricing policies, the buyer of water is subject to operating cost efficiency adjustments despite not having ultimate control of the costs. A solution to this problem would be to remove the capital expenditure and operational expenditure costs associated with bulk supplies from the price review process; we do not expect this to be considered until the next pricing review at the earliest.

International bulk water trading, highly controversial

The proposal to export water from its natural basins has sparked fierce resistance from stakeholders in some parts of the globe. The Great Lakes region in North America has established laws and regulation to ban the practice. Other water-rich nations, such as Russia, have welcomed the idea. Bulk water transfers are not new. For instance, Singapore imports water from neighbouring Malaysia and Lesotho sends water to South Africa via the Highlands Project.

The transfer of water by tanker is a more recent development. Depending on the supply-side issues in the tanker market, water stressed areas in the Middle East, northern China, southern India and parts of Africa could provide sufficient demand to create a market for bulk water shipments. Hoping to identify the regulatory stance on the concept, the New Zealand government submitted an unofficial request to the WHO early in 2009 for guidance on the management and monitoring of the safety of large volumes of water carried by marine vessels. In response, the WHO suggested monitoring at each stage of the transfer to ensure that the quality of water remains above regulatory standards. If transport costs relative to the value of the cargo are favourable, we do not think it would be fanciful to imagine tankers transporting water across the globe.

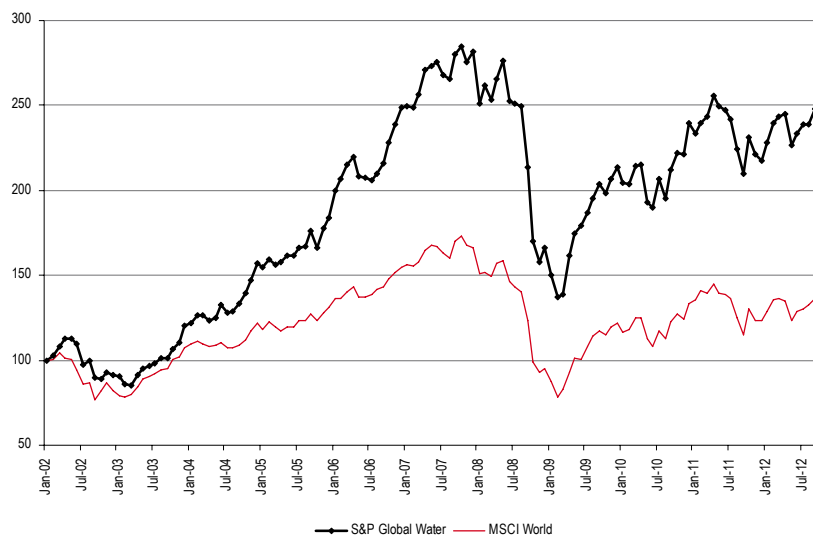
Investors, corporates & stakeholders - water as an opportunity and risk

Inflation-protected returns, less linked to economic growth, alternative to low bond yields and volatile equity markets

Investors - water is a preferred sector

Investors are showing increasing interest in water both from an opportunity and risk-based perspective.

Chart 38: 10Y S&P Global Water Vs MSCI World



Source: BofA Merrill Lynch Global Research, Datastream

They are increasingly looking at water as a long-term investment theme which offers steady inflation-protected returns, is less linked to economic growth than other infrastructure investments, and acts as an alternative to low bond yields and volatile equity markets.

Table 17: Observations on water performance

	Absolute performance observations				Annualized performance observations			
	-1 Y	-3 Y	-5 Y	Since Jan '02	-1 Y	-3 Y	-5 Y	Since Jan '02
S&P Global Water	4.8%	22.1%	-15.1%	141.9%	4.8%	6.9%	-3.2%	8.5%
MSCI World	3.8%	17.7%	-21.7%	35.6%	3.8%	5.6%	-4.8%	2.9%

Source: BofA Merrill Lynch Global Research, Datastream (at 01/11/12)

Growing private sector involvement

There is growing private sector involvement in water and wastewater – with the private sector likely to account for 30% of investments by 2016 compared to 19% today (Source: Global Water Fund).

Table 18: Water - diversified end markets for investors

	Industrial	Public Utility	Commercial	Residential	Agriculture
Cycle	-Late/less cyclical	-Non-cyclical	-Late cycle	-Early cycle	-Mid cycle
Fundamentals	-Operation critical	-Growing tariffs	-Green regulation	-Energy efficiency	-Growing demand
	-Aftermarket & replacement	-Aftermarket & replacement	-Strong replacement	-Strong replacement	-Strong replacement

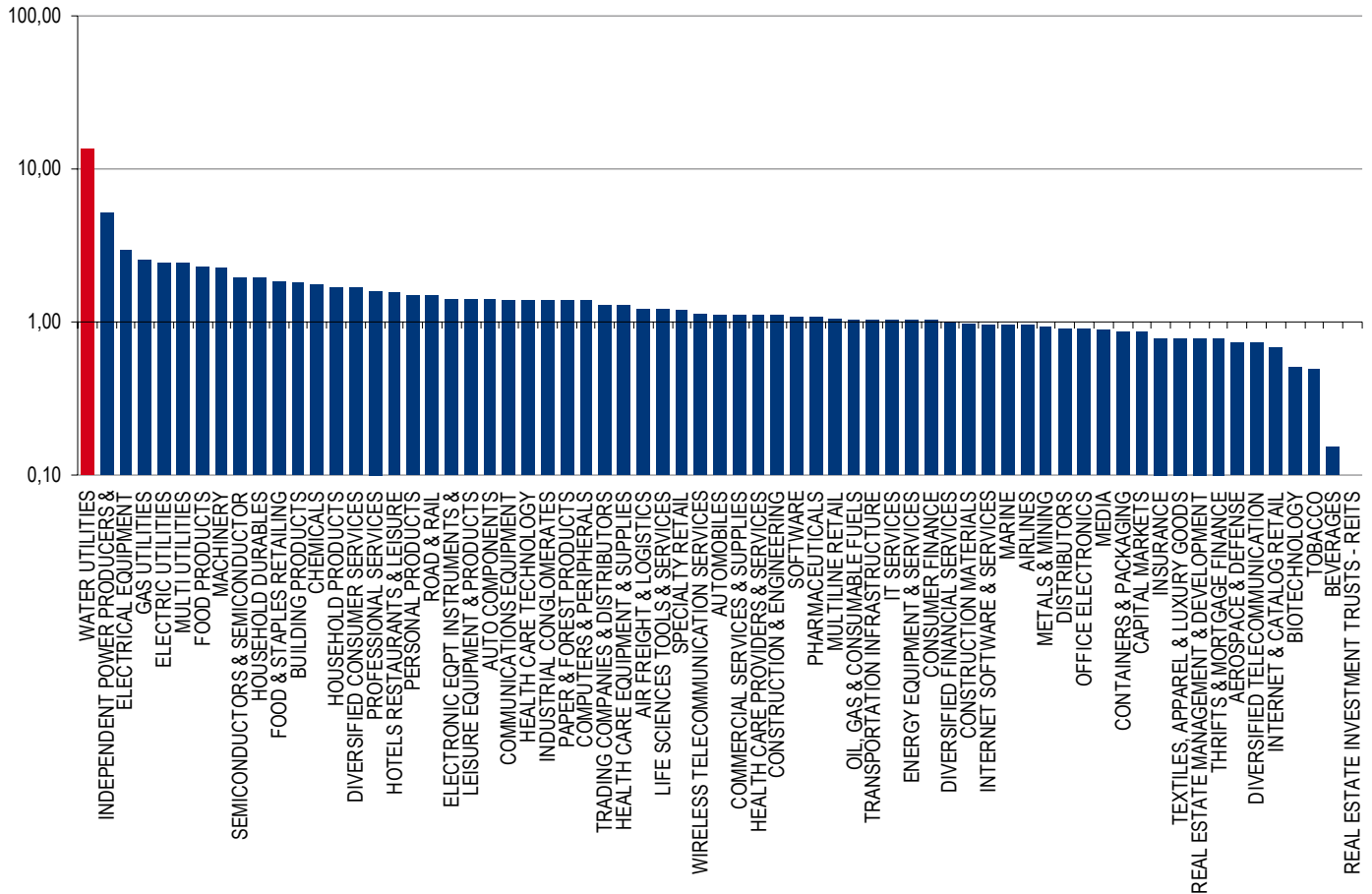
Source: Xylem, BofA Merrill Lynch Global Research

Water is ESG and thematic investors preferred sector

Water is the number one held GICS3 sector among the world's top 500 ESG (Environment, Social, and Governance), Socially Responsible Investment (SRI)

and sustainability megatrend-themed funds as shown by our BofAML “SRI Consensus” model, which analyses the funds’ sector and stock holdings.

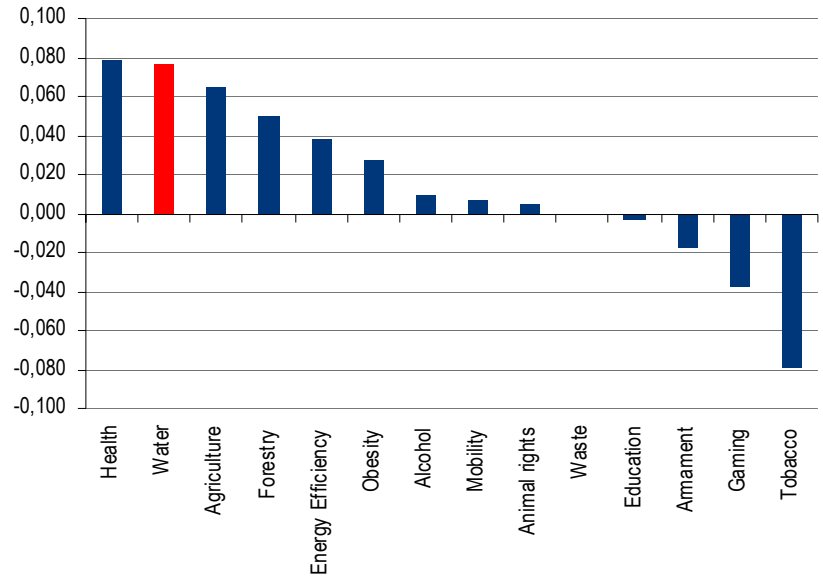
Chart 39: BofAML’s SRI Consensus – Sectoral Preference (x1) at GICS3 level



Source: BofAML Global Research

Even after taking this specific sector allocation into account, there is still an investor preference for water-related stocks. From a thematic perspective, water is the second preferred megatrend.

Chart 40: BofAML SRI Consensus – a “pure” thematic view on sectors

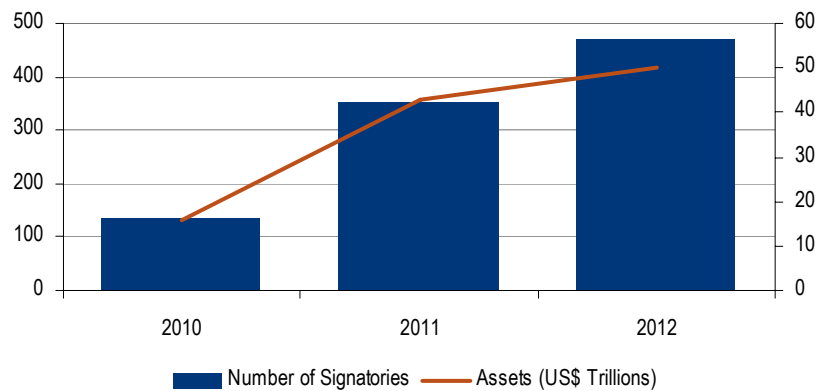


Source: BofAML Global Research – scale: multiple

Water as a risk, \$50tn in AUM of interest

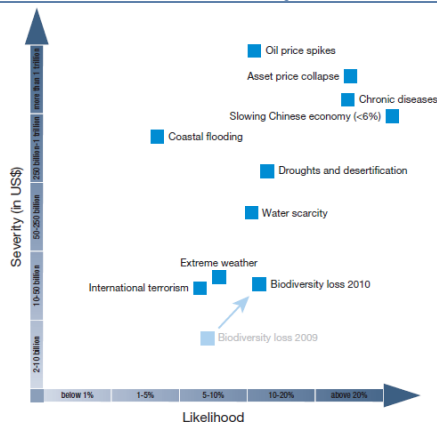
470 investors representing US\$50tn worth of assets are also active in seeking better disclosure on water-related risks via the Carbon Disclosure Project (CDP). The CDP's 2012 Global Water Report shows a 33% increase in the number of investors requesting water information from its investee companies.

Chart 41: CDP “Water Disclosure” investor signatories (US\$tn AUM)



Source: CDP, Deloitte, BofA Merrill Lynch Global Research

Chart 42: Water and biodiversity risks



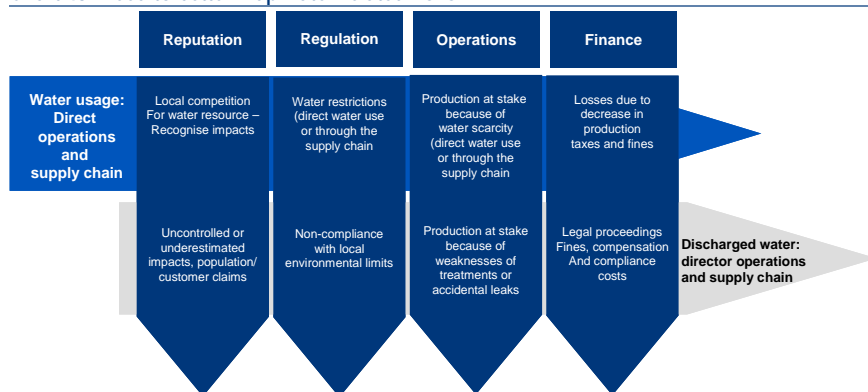
Source: World Economic Forum Global Risks 2010 report

Physical, reputational, regulatory & legal risks

Investors are also looking at water from a physical, reputational, regulatory and legal risk perspective, focusing on issues such as:

- **Negative impacts from water** including operational disruptions from drought and flooding, poor water quality leading to higher pre-treatment costs, increases in water prices and fines and legal costs.
- **High-impact sectors** which use large volumes of water and wastewater such as the agriculture, beverage, energy, electronics, food, mining, textile, and utilities sectors.
- **Best practice** initiatives such as awareness of water-related risks in terms of business decision making, improving water management and efficiency in internal operations and the supply chain, disclosing corporate water performance and targets, and subsequent efficiency improvements.

Chart 43: Need to better map water-related risks



Source: Ernst & Young, BofA Merrill Lynch Global Research

"Many companies have not yet fully grasped the importance of strategic planning or communication in relation to long-term water supply mitigation and use. Investors are becoming more aware of the risks and opportunities that water scarcity represents within their portfolios and are increasingly looking for companies to build responses into their longer-term strategies." - KPMG UK's head of climate change and sustainability

Corporates - water strategy is lacking

Despite significant improvements over the last few years, an estimated 60% of the world's largest 250 companies across 34 countries do not have a long-term water strategy to tackle the global water scarcity challenge, despite discussing the issue in their reporting (Source: KPMG).

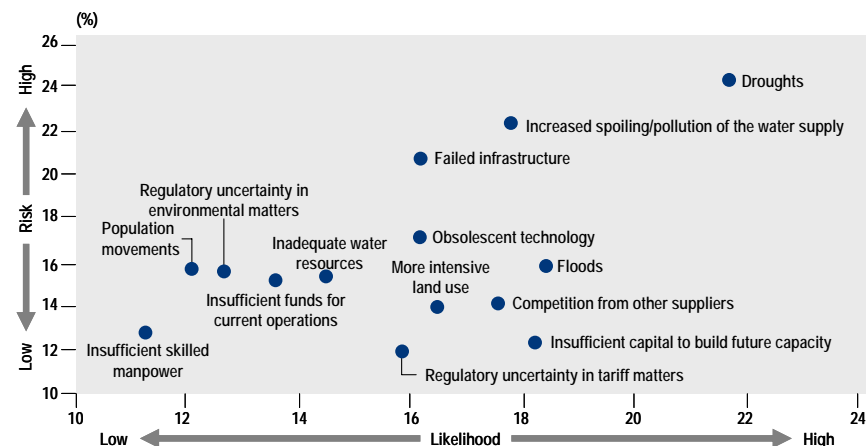
Chart 44: Number of global companies disclosing water use



Source: Carbon Disclosure Project's Global Water report 2012, BofA Merrill Lynch Global Research

The CDP's 2012 Global Water Report shows that for the 318 companies listed on the FTSE Global Equity Index Series (Global 500) – operating in sectors that are water intensive or exposed to water-related risks – the corporate reaction is fairly slow moving. Despite growing investor interest, the response rate has remained stagnant YoY at c.60% or 191 companies. This is somewhat worrying given that 53% of respondents have experienced detrimental water-related impacts on operations, such as business interruption and property damage from flooding (vs 38% in 2011).

Chart 45: Water company executives' top concerns in terms of their severity and risk



Source: EIU and Oracle Utilities, BofA Merrill Lynch Global Research

"These findings suggest that water is not receiving the boardroom attention that the risks and opportunities related to water imply it should be" – CDP's 2012 Global Water Report

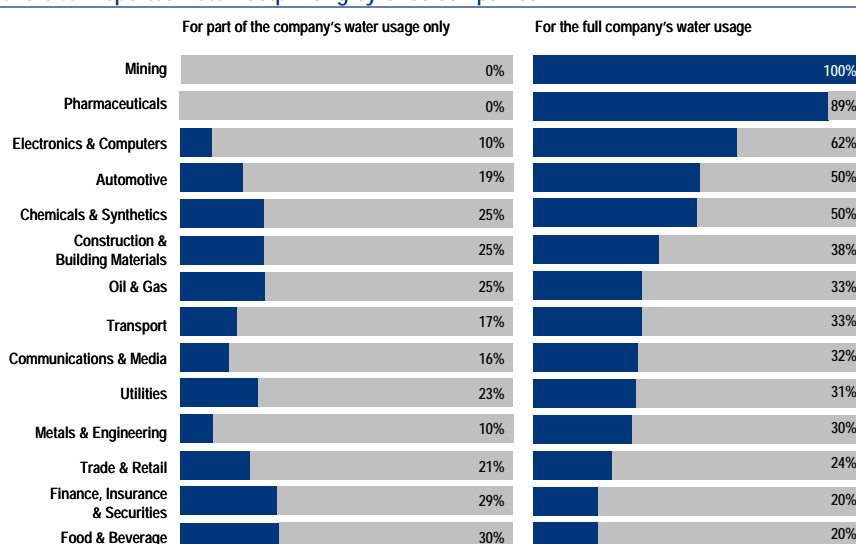
Insufficient attention at board & senior management level

The proportion of CDP respondents with board-level oversight of their water-related policies, strategies, or plans remains largely unchanged from 2011 at 58%. The proportion of respondents setting concrete water-related goals and targets is also stagnant at 55%.

Positive momentum on opportunities & supply chain

Positively, 71% of respondents reported water-related opportunities such as the sale of new products or services, with 79% of opportunities reported having an associated timeframe within the next five years. Additionally, there has been a marked increase in awareness of supply-chain risks with 71% of respondents now able to state whether or not they are exposed to such risk (vs 62% in 2011).

Chart 46: Reported water footprinting by G250 companies*



Source: KPMG, BofA Merrill Lynch Global Research. * G250 = World's largest 250 companies

Stakeholders - water matters

UN recognises water at core of sustainable development

The UN has consistently regarded water as being at the core of sustainable development:

"We commit to the progressive realization of access to safe and affordable drinking water and basic sanitation for all, as necessary for poverty eradication, the empowerment of women and to protect human health..." - Rio +20

The UN resolution "declares the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of the right to life"

- **2012 United Nations Conference on Sustainable Development (UNCSD), or Rio+20 summit** – The third international conference on sustainable development "reiterate[d] the importance of integrating water in sustainable development and underline[d] the critical importance of water and sanitation within the three dimensions of sustainable development."
- **Recognition of clean water as a human right** – In 2010, the UN General Assembly adopted a resolution declaring a human right to clean drinking water and sanitation by a vote of 122 in favour, none against and 41 abstentions. Brazil, China, France, Germany, Russia and Spain were among those supporting the resolution.

UN MDGs falling short on water & sanitation

In 2000, governments committed to a wide range of UN Millennium Development Goals (MDGs) with the aim of reducing poverty and child mortality by 2015. The MDGs include two specific goals related to water:

- **To halve the proportion of people unable to access or afford safe drinking water; and**
- **To stop the unsustainable exploitation of water resources** by developing water management strategies at local, regional and national levels to promote both equitable access and adequate supplies.
- **To halve the proportion of people who are unable to access or afford safe drinking water**
- **To stop the unsustainable exploitation of water resources** by developing water management strategies at local, regional and national levels to promote both equitable access and adequate supplies.

Table 19: The impact of water, sanitation and hygiene on development goals

Sector & MDG	Impact of water, sanitation and hygiene (WASH)
Health, Nutrition, HIV/AIDS (MDGs 4, 6)	<ul style="list-style-type: none"> • 88% of diarrheal deaths are attributable to poor WASH • Nutrition compromised by diarrhoea and intestinal worm infestations • Hand washing is linked to reductions in acute respiratory infections • Improved WASH helps reduce helminths, guinea worm, fluorosis and arsenicosis • Avoid opportunistic infections
Education (MDG 2)	<ul style="list-style-type: none"> • 443m school days missed pa due to water and sanitation-related diseases • Improving WASH in schools has an impact on enrolment and retention
Poverty (MDG 1)	<ul style="list-style-type: none"> • 5.5bn productive days per year are lost due to water & sanitation issues
Gender Equity (MDG 3)	<ul style="list-style-type: none"> • Women and girls spend many hours collecting water • Lack of sanitation in schools is a barrier to girls' attendance

Source: The Global Water Crisis, Papers for the InterAction Council, 2011-2012

783m people lack access to an improved source of drinking water and 2.5bn to improved sanitation (Source: UN)

The 2012 update on progress towards the water-specific goals reports that 783m people lack access to an improved source of drinking water and that, at the current pace, 605m will still lack access in 2015. When it comes to sanitation, 2.5bn people have no access to improved sanitation services. One in seven of those without access to adequate sanitation services lives in a rural area. At the current rate of investment progress, the MDGs for sanitation will be missed by 1bn people. Most of these people live in sub-Saharan Africa and Asia (Source: WHO/UNICEF).

Growing stakeholder awareness of water

More than 80% of Americans support recycled water for "toilet-to-turf" uses that require non-potable water. Those uses include power generation, industrial processing and manufacturing and flushing toilets (Source: GE)

There is also growing stakeholder awareness of the challenges around water, with government and consumer polls of citizens showing that consumers have a high level of awareness of the demand-side pressures on water. For example, an October 2012 survey by General Electric showed that two-thirds of Americans polled support re-using water to help protect the environment and stem scarcity issues forecast for 36 US states next year. Understanding the water lifecycle lag – i.e., where their water comes from – was even higher among those polled in China and Singapore.

Table 20: BofAML Global Water - Water Treatment Stock List

Company	Water exposure
CHINA EVERBRIGHT	High
KEMIRA	High
KURITA WATER	High
ALS LIMITED	Medium
DANONE	Medium
ECOLAB INC	Medium
ALFA LAVAL	Low
BASF	Low
BUREAU VERITAS	Low
DOOSAN HEAVY INDS.	Low
DOW CHEMICAL	Low
DUPONT	Low
HEXAGON AB	Low
IDEXX LABORATORIES	Low
ISRAEL CHEMICALS LTD	Low
KURARAY	Low
LANXESS	Low
NESTLE (REG)	Low
NITTO DENKO	Low
OUTOTEC	Low
PALL CORP	Low
SEMBICORP INDUSTRIES	Low
SOC. GEN. DE SURVEIL.	Low
SPIRAX-SARCO	Low
STERICYCLE	Low
THERMO FISHER	Low
TORAY INDUSTRIES INC	Low

Source: BofA Merrill Lynch Global Research.

Water treatment solutions

In our view, a number of stocks are well placed to benefit from the theme of water treatment through their involvement in areas such as wastewater, industrial treatment, chemicals, desalination, ballast water treatment, analysis, water quality, PV solar, bottled water, life science tools, and testing, inspection and certification, among other areas.

Increasing levels of water treatment will be an expanding area in the coming years given rising water scarcity and growing demand from the agriculture, residential and industrial sectors. Agriculture currently accounts for 70% of water use and demand looks set to rise on the back of changing diets. Industry will be under pressure to treat water as global demand rises from 22% of total demand towards the current 59% in developed markets. Municipal and residential water use is also growing on the back of urbanisation and EM growth.

There are significant opportunities around water treatment and the processes used to make water more acceptable for a desired end-use, such as drinking water, usage or re-usage by industry, in irrigation, or return to the natural environment. Moreover, this market is barely tapped with insufficient wastewater treatment around the world. For instance, wastewater reuse stands at only 2.41% of all water withdrawals globally (Source: FAO Aquastat). The estimate of total global water reuse is less than the water used each day by US toilets at home. The goal needs to be to move to best-practice levels of water reuse of up to 75%.

We anticipate that some of the largest opportunities will emerge around the multi-billion dollar industrial water treatment market vis-à-vis sectors with heavy volumes and environmental constraints (utilities, oil & gas, mining), strict water constraints (FOB, cosmetics), variable effluents (petrochemicals, energy, breweries), as well as in emerging areas like ship ballast water treatment. Desalination is also set to emerge as a US\$25bn industry by 2025 (Source: GWI), with PV solar a long-term opportunity. Finally, bottled water is a US\$96bn market, with a 5% CAGR to 2015E.

Table 21: Water & wastewater treatment equipment market by key technology 2010-2015

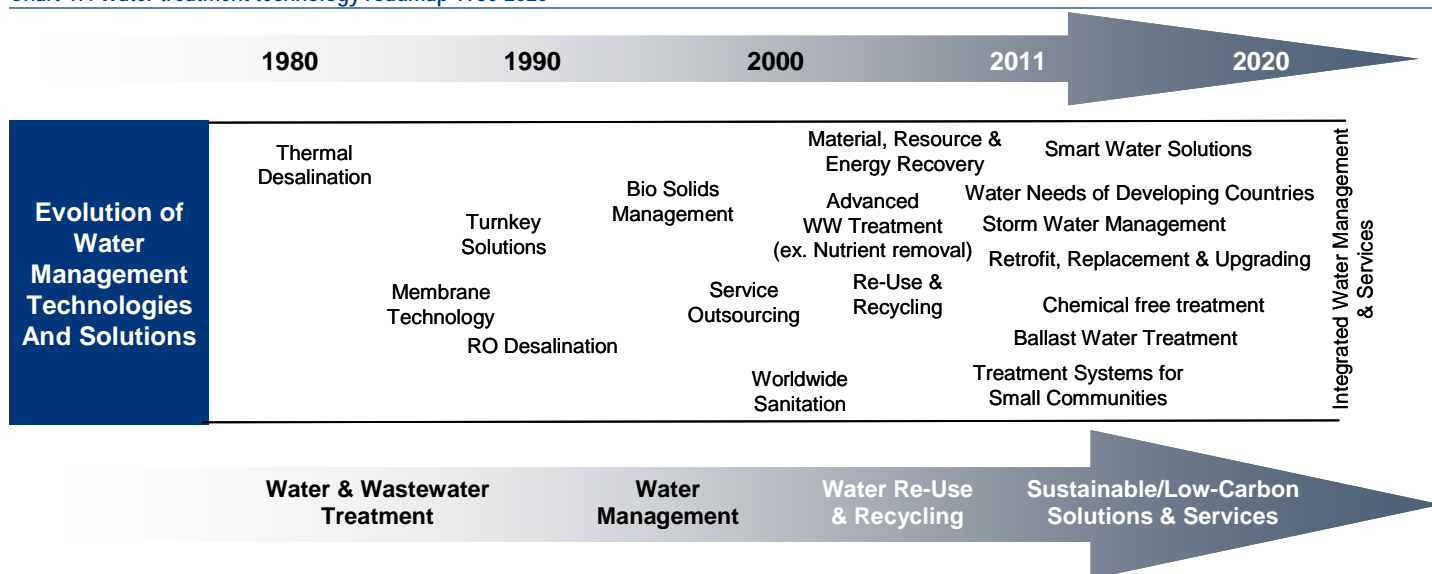
Technology	\$bn	Mkt share	CAGR 2010-2015		
			Low <5%	Med 5-8%	High >8%
MBR	0.7	1.9%			High
RO	1.8	5.1			High
MF	1.0	2.8			High
UF	1.2	3.5			High
NF	0.4	1.3		Med	
UV	0.5	1.6			High
Ozone	0.1	0.6			High
UASB	0.2	0.5			High
Chlorination	1.1	3.5		Med	
Demineralisation	0.8	2.4		Med	
WW Pre-treatment	1.4	4.2	Low		
W&WW Clarifiers	3.5	9.9		Med	
Other Primary WW	3.8	11.1		Med	
Activated Sludge	3.7	10.7		Med	
Other Biological WW	4.0	10.9		Med	
Sludge Thickening	1.5	4.4	Low		
Sludge Dewatering	1.8	5.2			High
Sludge Digestion	0.7	2.0			High
Sludge Drying	0.7	2.0			High
Filtration	5.5	16.0		Med	

Source: Frost & Sullivan, BofA Merrill Lynch Global Research

Potable water, a global push

Water purification is the removal of contaminants from untreated water to produce potable water (i.e., pure enough for human consumption) and its post-treatment conveyance and distribution. Substances that are removed during the process of drinking water treatment include suspended solids, bacteria, algae, viruses, fungi, minerals such as iron, manganese and sulphur, and other chemical pollutants such as fertilisers.

Chart 47: Water treatment technology roadmap 1980-2020



Source: Frost & Sullivan, BofA Merrill Lynch Global Research

A global challenge

For 1.2 billion people across the globe, access to safe drinking water remains out of reach. For those with access to treated water, especially in urban areas, quality concerns are growing. The main drivers of water purification treatment are the rapid growth of urban areas and new drinking water standards in Europe and North America. In 2009, the American Society of Civil Engineers produced a report on drinking water and wastewater infrastructure standards in the US, awarding the lowest grade possible. Confirmation of these results came from EPA, which suggested that US\$203bn would be required over 20 years simply to address infrastructure shortcomings.

Standards vary widely across the world

WHO guidelines are generally followed as the baseline for drinking water quality requirements – with each country or territory or water supply body also able to set more stringent guidelines:

- **The European Drinking Water Directive** acts as a benchmark for all EU member states. While the member states are allowed to include additional requirements, they are not allowed to lower standards.
- **The Safe Drinking Water Act in the US** requires EPA to establish National Primary Drinking Water Regulations for various contaminants that may have adverse effects if ingested.

- **China's classification system** uses grades: Grade I refers to the natural water resources protected by the states, Grades II and III refer to the natural water resources that could be used to make drinking water and to sustain the aquatic eco-system. Grade IV water is deemed suitable only for industrial use, and Grade V water is only for agricultural use.

Table 22: Summary of selected national water agencies

Country	Industry bodies	Description
England & Wales	Ofwat	Economic regulator
	Drinking Water Inspectorate	Monitors the quality of drinking water
	Environment Agency	Scrutinizes the companies' environmental performance
	Defra	Oversees water policy and regulation
Scotland	Water Industry Commission for Scotland	Economic regulator
	Drinking Water Quality Regulator for Scotland	Regulates drinking water standards
	Scottish Environmental Protection Agency	Evaluates environmental performance
Australia	National Water Commission	Responsible for driving water reform in Australia
Canada	Canadian National Water and Wastewater Benchmarking Initiative	Tracks and reports the performance of water and wastewater utilities
Portugal	Instituto Regulador de Aguas e Resíduos	Responsible for local distribution systems and the retail function
USA	National Association of Water Bodies	Association of privately owned water companies
	United States Environmental Protection Agency	Monitors the quality of drinking water

Source: BofA Merrill Lynch Global Research

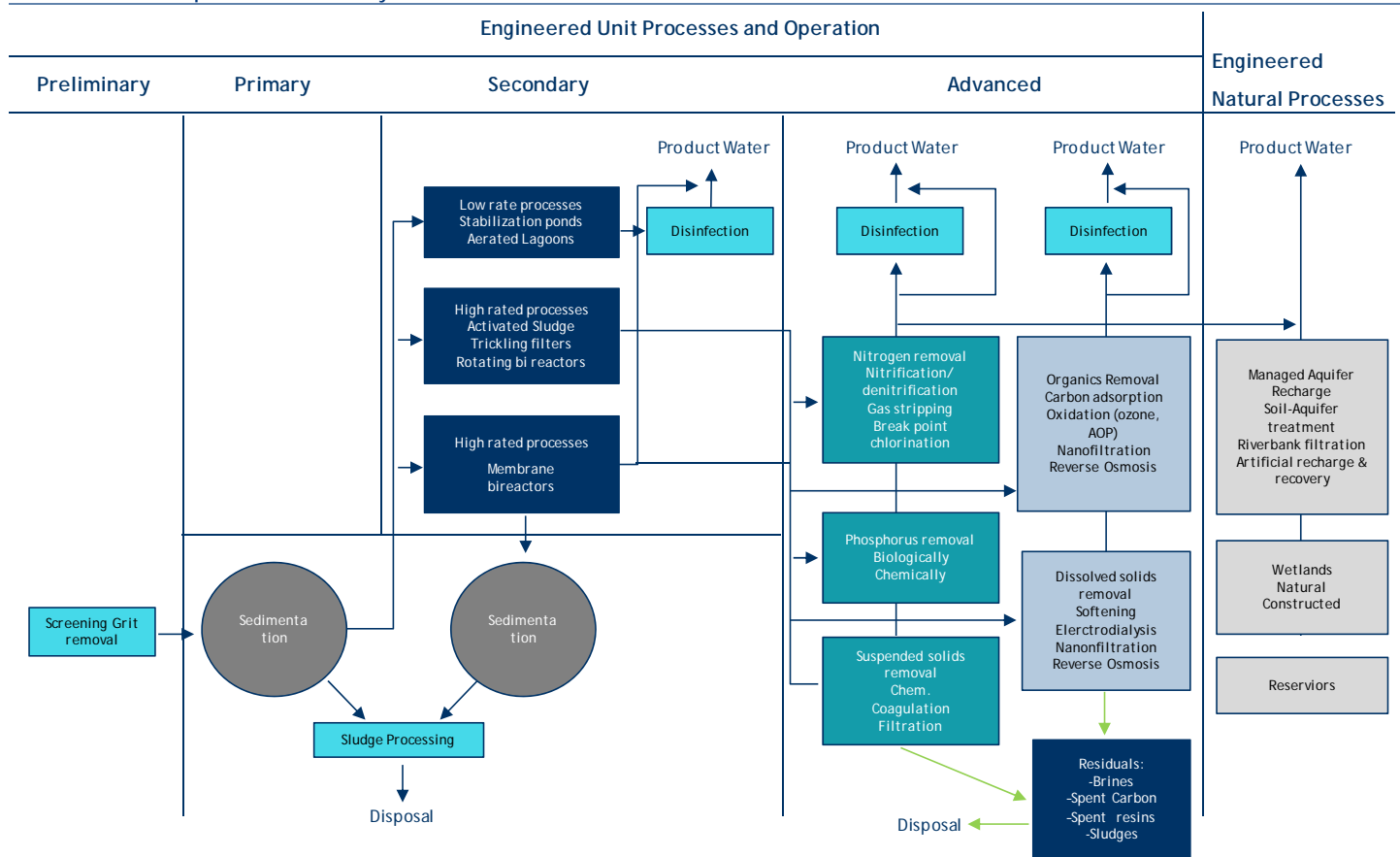
In the US, ageing wastewater management systems discharge billions of gallons of untreated sewage into local surface waters each year

In China, an estimated 70% of lakes, rivers and reservoirs are polluted

Wastewater and sewage treatment

Sewage treatment is the process that removes the majority of the contaminants from wastewater or sewage and produces both a liquid effluent suitable for disposal to the natural environment and a sludge. To be effective, sewage must be conveyed to a treatment plant by appropriate pipes and infrastructure and the process must be subject to regulation and controls. Some wastewaters require different and sometimes specialised treatment methods. At the simplest level, treatment of sewage and most wastewaters is carried out through the separation of solids from liquids, usually by sedimentation. By progressively converting dissolved material into solids, usually a biological floc that is then settled out, an effluent stream of increasing purity is produced.

Chart 48: Treatment processes commonly used in water reclamation



Source: National Research Council, BofA Merrill Lynch Global research

New technologies gaining on chlorination

There is no unique solution and municipalities or water utilities will use different processes according to the water source or season. Chlorination was the dominant technology in the disinfection sector for close to 100 years, accounting for 80% of the market. Now, other technologies including ozone treatment, membrane filtration and ultraviolet (UV) treatment are becoming more widespread as concerns about chlorine use grow.

Table 23: Water purification processes & technologies

Process	Overview
Pre-chlorination	Algae control and arresting any biological growth
Aeration	With pre-chlorination for removal of dissolved iron and manganese
Coagulation	For flocculation
Coagulant aids (polyelectrolytes)	To improve coagulation and for thicker floc formation
Sedimentation	For solids separation (i.e., removal of suspended solids trapped in the floc)
Filtration	Removing particles from water
Desalination	Process of removing salt from the water
Disinfection	For killing bacteria

Source: BofA Merrill Lynch Global research

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes" - R. Rhodes Russell, chair of the National Research Council committee on water reuse

Local history, geography, and cultural influences play an important role in the types of reuse practices adopted in different countries

More than 80% of Americans support recycled water for "toilet-to-turf" uses that require non-potable water. Such uses include power generation, industrial processing and manufacturing and flushing toilets (Source: GE)

Water reuse must become new supply source

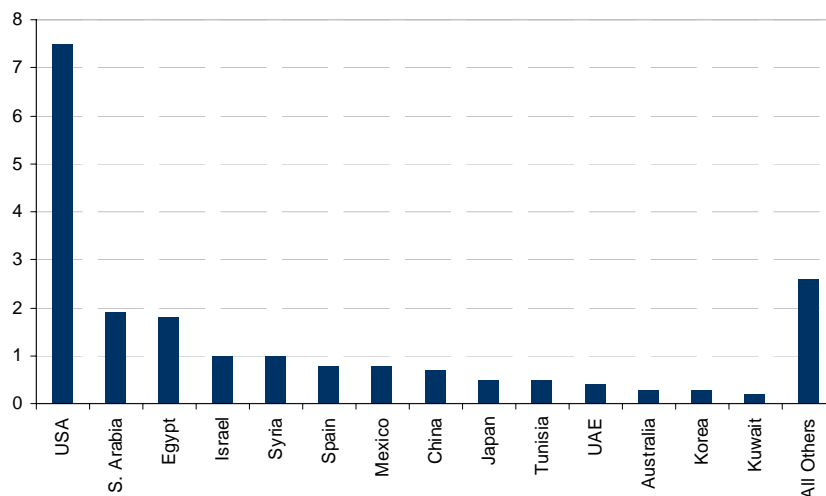
There are long-standing psychological barriers to water reuse stemming from "toilet to tap" concerns or fears. However:

- **Advances in technology and design** – such as treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications – could significantly increase total available water resources, particularly in areas facing water shortages.
- **Reuse of treated wastewater**, also known as reclaimed water, to augment drinking water supplies has significant potential to help meet future needs.
- **Possible health risks of exposure** to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies (Source: National Research Council).

Kuwait, Israel, Qatar, Singapore & Cyprus leading the way

Globally, major water reuse facilities are in place in at least 43 countries around the world, with approximately 13 BGD (50mn m3/d) of wastewater reused worldwide. Of this amount, 5.5 BGD (21 million m3/d) of treated municipal wastewater was reused globally. Although the US reused the largest volume of treated wastewater, the per-capita water re-use leaders are Kuwait, Israel, Qatar, Singapore and Cyprus – where water reuse represented >10% of total water extraction. In Israel, for instance, approximately 75% of wastewater is reused, with almost all of it going for agricultural irrigation (Source: National Research Council).

Chart 49: Global reuse of treated wastewater (21 million m3/d)



Source: National Research Council, BofA Merrill Lynch Global Research

Growing stakeholder acceptance

An October 2012 survey by General Electric showed that two-thirds of Americans polled support re-using water to help protect the environment and address the scarcity issues projected for 36 US states next year. Understanding of the water lifecycle lag – i.e., where their water comes from – was even higher among those polled in China and Singapore.

The expansion of industries with special water requirements for either quality or reliability will drive growth in this market

Industrial water treatment, \$bn opportunities

Water scarcity and regulation are driving water reuse in industry – and industrial wastewater treatment is becoming a multi-billion dollar market, including equipment, services and chemicals to meet the specialised water quality and water treatment needs of various sectors. Due to the highly differentiated nature of technologies and strong pricing, industrial water treatment sits close to the top of the water value chain. Water use is extensive across sectors and we see significant opportunities vis-à-vis sectors with heavy volumes and environmental constraints (utilities, oil & gas, mining), strict water constraints (FOB, cosmetics), and variable effluents (petrochemicals, energy, breweries), as well as in emerging areas like ship ballast water treatment.

Table 24: Demand for wastewater treatment by sector

Sector	Issue	Market potential
Agriculture	Surface run-off carrying large amounts of fertiliser and livestock slurry are contaminating waterways	Water quality regulations and protection of biodiversity will drive this industry
Chemicals	Wastewater from chemical industries often requires a combination of treatment methods to remove contaminant before discharge	Installed capacity is already at a reasonably high level
Electronics	Semiconductors require regular washing with ultra-pure water during manufacture	
Marine Transport	IMO ballast water regulations are expected to be ratified, enforcing stricter quality standards	More than 57,000 maritime vessels will require BWT equipment from 2009 to 2020. Potential to generate \$34.1bn in revenues
Mining	Toxic waste and mine effluents can be mobilised by water contaminating local sources	Currently estimated expenditure: \$818.1m
Oil & Gas	Produced water contains residual oil as well as other contaminants. Injection water can block reservoir pores if contaminated with solids and bacteria	More stringent regulations for discharge require exploration wells to closely consider more effective treatment systems.
Pharmaceuticals	Growing concern about the persistence of some pharmaceutical products and their impact on water resources	
Textiles	Almost all dyes, speciality chemicals and finishing products are applied to textiles in water baths	Majority of manufacturers have established treatment systems in place

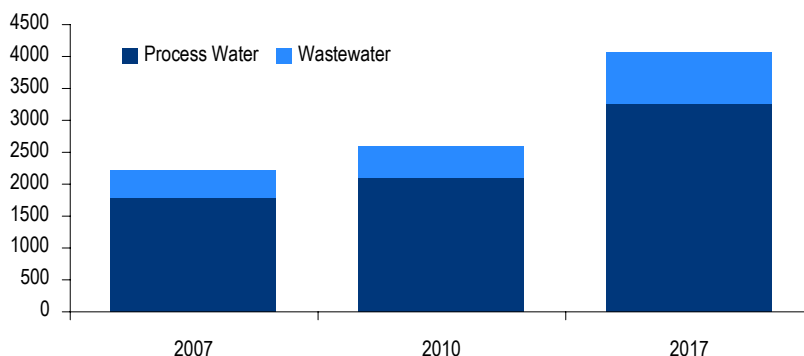
Source: BofA Merrill Lynch Global Research

Every day, on average, water-cooled thermoelectric power plants in the US withdrew 60 to 170bn gallons of freshwater, and consumed 2.8 to 5.9bn gallons of that water (Source: Union of Concerned Scientists)

Power plants, US\$4bn market by 2017

The IEA forecasts that the world economy will demand at least 40% more energy by 2030. This will require the installation of larger and more efficient power generation plants across the world. This means massive water use – and increasing pressure to act on water stress and treat process water and process wastewater. By 2017, water treatment for utilities could grow to become a US\$4bn market (Source: Frost & Sullivan).

Chart 50: Power generation water and wastewater market revenue forecast, CAGR 5.6% 2010-17

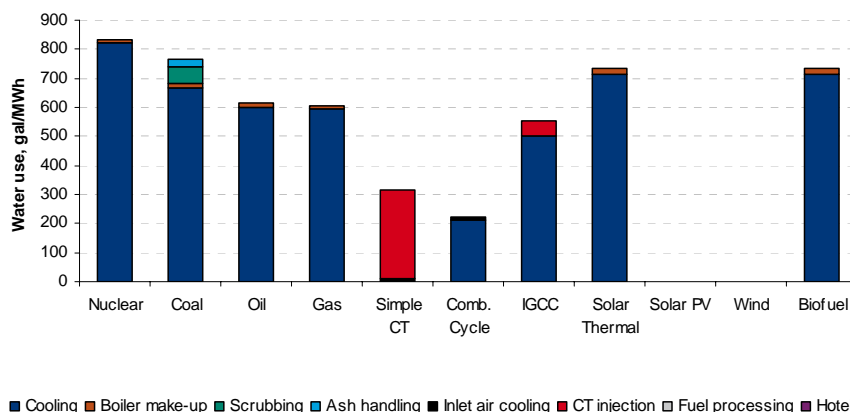


Source: Frost & Sullivan, BofA Merrill Lynch Global Research

Water-hungry power plants

The largest single use of water by industrials is for cooling in power generation. Other uses include producing steam, condensing and processing waste, removing impurities, and transporting fuel through pipelines. Gas-fired plants consume the least amount of water per unit of energy produced; coal and oil-fired plants consume up to twice as much as gas-fired, and nuclear consumes up to three times as much. The future is unclear, with IGCC (integrated gasification combined cycle) able to reduce a coal plant's water consumption by half, but CCS (carbon capture and sequestration) potentially increasing a coal plant's water consumption by 30-100%.

Chart 51: Water use by plant type

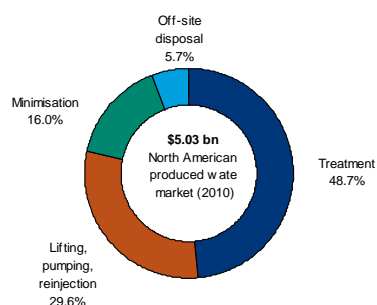


Source: EPRI, BofA Merrill Lynch Global Research

Water stress becoming increasingly important

Where this water comes from is becoming an increasingly important risk factor – especially for utilities that do not rely on surface water – given that growing numbers of groundwater aquifers globally are suffering from overdraft. While some of the water used by plants can be recycled or discharged back to source, water stress and scarcity mean that utilities will be facing increasing competition for water from agriculture and residential/municipal use. This poses a particular risk for China and India, which are planning over US\$700bn of investments in “cheap” coal-fired power plants in the coming two decades, but face growing pressure on food, water and energy security.

Chart 52: N Am produced water market 2010



Source: GWI, BofA Merrill Lynch Global Research

Disposing of produced water off-site can cost as much as US\$10 per barrel (\$63/m³) (Source: GWI)

Oil & gas, growing focus on produced water market

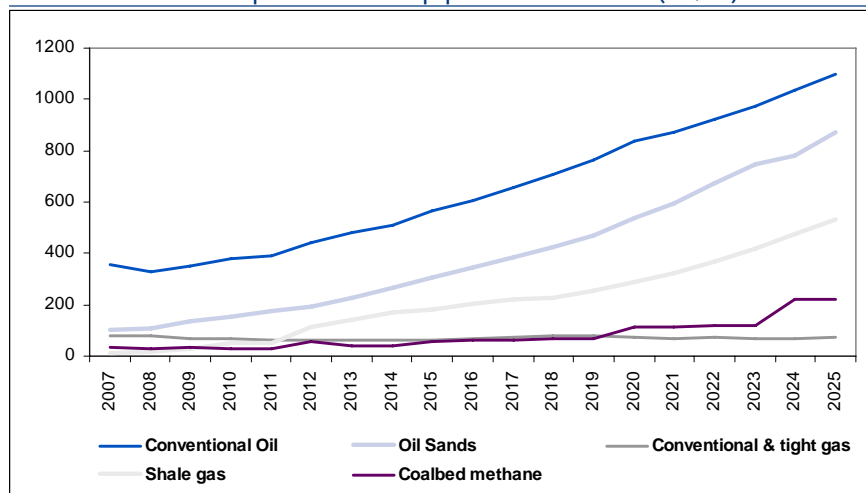
The oil industry is an indirect water industry, producing water as a by-product ("produced water"). The water to oil ratio (WOR) for the industry as a whole is around 2.5x, with some segments, such as North American onshore oil, producing 8x more water than oil. By 2025, the sector could be producing 5x more water than oil, with onshore crude oil having a ratio of up to 12x, largely on the back of ageing wells and increased unconventional O&G such as EOR, shale gas and oil sands – all of which have thirsty water needs. This produced water is often highly saline and contaminated by hydrocarbons: it is a hazardous waste which requires treatment, disposal, and – with advances in desalination – potentially on- or off-site recycling (Source: GWI).

Produced water market to grow by 5% CAGR over 20Y

The increased WOR and growing environmental concerns and regulation will, we estimate, see the market for water treatment technologies, such as membrane and thermal desalination technologies, filtration systems and biological treatment systems, grow at close to 5% pa over the next 20 years. Enhanced oil recovery (which needs water with a precise salinity) and highly water-intensive oil sands and shale gas will create the largest opportunities, in our view.

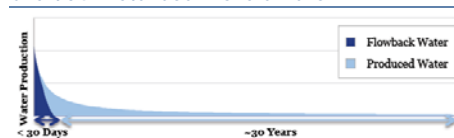
Water treatment in the North American oil sector alone (of produced water) could grow from an estimated US\$5bn in 2010 to US\$10bn by 2025, a CAGR of 4.7%. Within the sector, the US-produced water treatment equipment market is set to grow from US\$693mn in 2010 to US\$2.9bn during that time, an annual growth rate of 10.1%. The desalination technologies market, currently worth US\$59mn, should enjoy the fastest growth rate, averaging 20.4% per year (Source: GWI).

Chart 53: North American produced water equipment market 2007-25 (US\$m)



Source: GWI, BofA Merrill Lynch Global Research

Chart 54: Water use in shale wells



Source: Heckmann, BofA Merrill Lynch Global Research

Shale gas remains under pressure, US\$9bn market by 2020

Shale gas remains controversial in many circles because the industry's process of fracking uses large volumes of water withdrawals from ground and surface water, which some believe could impair drinking water resources, as well as posing a contamination risk because of the chemicals used. An average of 6.3mn gallons of water are used per well in the US (Source Heckmann), and with companies drilling up to 16 wells per well pad, this means huge water treatment needs. Chemical and toxin-laced flowback water, which returns to the surface after the well is completed (over c.30 days), accounts for 20% of water. Produced

The water needing to be treated poses challenges including salinity, hydrocarbons, chemicals and heavy metals

Unlike many industrials, mining operations are reliant on the location of ores, with limited ability to mitigate local or regional water scarcity or stress

water or water which flows over the lifecycle of a well after it has been drilled (over c.30 years) accounts for 80%.

The large amount of water needing to be treated is creating a frack water treatment industry, which is expected to exhibit a 28% CAGR to become a US\$9bn market by 2020 (Source: Lux Research). The US EPA's likely move on water treatment should provide a fillip over the next two years. Technologies used by players in this field include bag filters, chemical precipitation, electric coagulation, distillation, membrane filtration or a combination (e.g., adding ozone, ultrasound, electricity and pressure).

Mining, a US\$14bn market by 2014

The mining industry is particularly dependent on water as a key input to the processing system, when the ore is crushed into finely ground tailings and mixed with various chemicals. With more and more miners operating in water-scarce regions, there will be significant investment to ensure the security of supply. Moreover, water pollution from waste rock and tailings has prompted national regulators to address the current water quality legislation. One of the problems – in terms of water – is the mechanisation of the industry, which has enabled mining companies to handle more rock and, importantly, lower-grade ore, which generates large volumes of waste.

Table 25: Main effects of mining on water

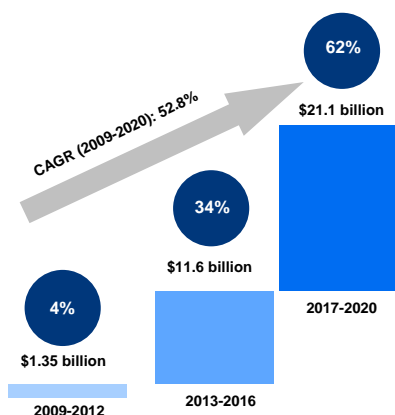
Mining impact	Overview
Acid mine drainage	A natural process whereby sulphuric acid is produced when sulphides in rocks are exposed to air and water. Acid mine drainage is, therefore, the same process magnified
Heavy metal contamination & leaching	Caused when such metals as arsenic, cobalt, copper, lead and zinc contained in excavated rock or exposed in an underground mine come into contact with water
Processing chemicals pollution	Occurs when chemical agents (such as cyanide or sulphuric acid) used to separate the mineral from ore spill, leak or leach from the mine site into nearby water bodies.
Erosion & sedimentation	In the absence of adequate prevention and control strategies, erosion of the exposed earth may carry substantial amounts of sediment into streams, rivers and lakes.

Source: BofA Merrill Lynch Global research

Miners increasingly investing to treat water

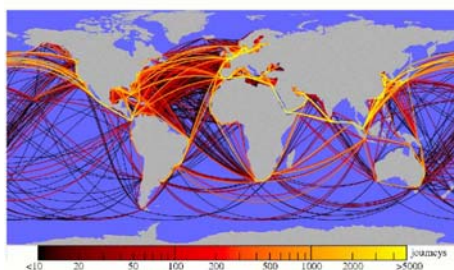
Mining companies are investing in treating water and wastewater used in operations and implementing best practices on water stewardship to adapt to the new water stress operating realities. Depending on mining wastewater quality, >90% can be reused via treatment (i.e., reverse osmosis, microfiltration). Together with best practice water management, daily freshwater intake can be reduced by up to 40% (Source: Frost & Sullivan). By 2014, it is estimated that the mining industry could spend US\$13.6bn (vs. US\$7.7bn today) on water-related infrastructure with c.US\$820m spent on chemical treatment filtration and desalination systems (Source: Global Water Intelligence). For the companies involved, this presents a fast-growing market for water treatment. Specialist providers may even be able to derive additional revenue from metal recovery in mining effluents.

Chart 55: Ballast water treatment market 2009-2020



Source: Frost & Sullivan, BofA Merrill Lynch Global Research

Chart 56: Global shipping routes (20tn t miles)



Source: Royal Society Interface

Bottling companies typically use 75-85% of the water supplied to their treatment room for bottled water and soft drinks. The rest is discharged as a waste stream (Source: GE)

Ship ballast water treatment, US\$21bn market by 2020e

Close to 90% of worldwide trade is made possible by shipping, which also poses significant water risks. Ballast water is the seawater pumped into a ship to maintain operating conditions during a voyage and to stabilise a ship's hull when in port. While the ballast water enables safe and efficient shipping operations, it poses serious environmental problems due to the range of invasive marine species transferred from one ecosystem to another. This is estimated to cost the US alone US\$120bn in environmental damage every year (Source: Blassius et al., Royal Society Interface). The emerging market for ballast water treatment is estimated to grow to US\$21bn by 2020 (Source: Frost & Sullivan).

International convention close to coming into force

After more than 14 years of complex negotiations between International Maritime Organisation member states, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) may finally be ratified soon. This Convention aims to address the issue of so-called 'invasive marine species' by enforcing mandatory treatment of ballast water. The BWM Convention will come into force 12 months after ratification by 30 States, representing 35% of the world merchant shipping tonnage. As of September 2012, 36 countries had ratified the Convention; however, a further 6% of world merchant shipping tonnage is needed to fulfil the other entry into force criteria (Source: IMO).

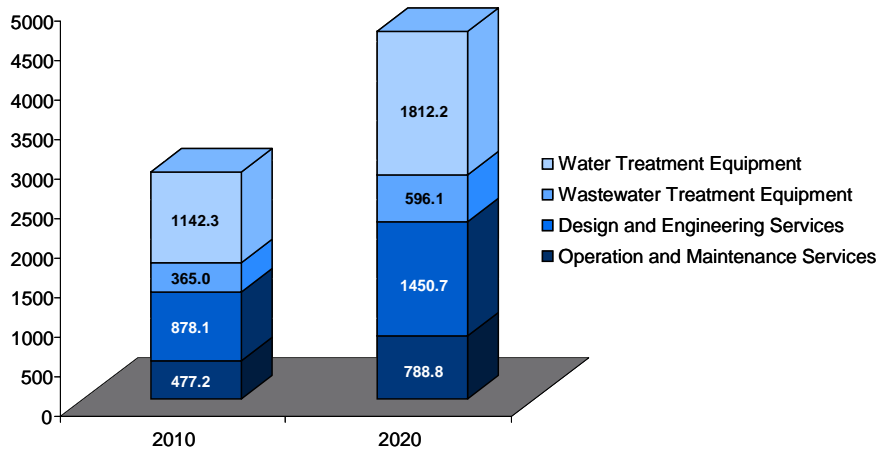
53% market CAGR 2009-2020

The Convention and other standards (e.g., US Coast Guard) present a considerable opportunity for IMO-certified systems manufacturers, as 57,000 maritime vessels will require a retrofit. The market is expected to grow at a remarkable CAGR of 50%+ and to generate revenues of US\$21bn by 2020 (Source: Frost & Sullivan). Currently, reballasting at sea provides the best available means of reducing the risk of transfer of harmful aquatic species, but is subject to stringent ship safety limits. Up to 40 systems are at or close to commercialisation including solid-liquid separation and disinfection via chemical disinfection and dechlorination, physical disinfection, micro-agitation or advanced oxidation. Key players in the space include industrial groups (Hitachi, Siemens), water and wastewater industry suppliers (Severn Trent, Veolia), ship owners and ship builders (Cosco, Hyundai, CSIC, Mitsubishi), marine industry suppliers, and BWT-dedicated start-ups

Food & beverage, US\$5bn market by 2020

FOB companies are facing growing pressure from stakeholders, regulation and the realities of operating in water-scarce environments. This means an increasing focus on reducing water use and measures such as on-site anaerobic treatment and energy recovery. Recent studies have shown that water treatment technology can help beverage companies to safely treat and reuse water to achieve 99% or higher recovery at their plants (Source: GE). The global water and wastewater market for the sector is expected to grow to US\$4.6bn by 2020 (Source: Frost & Sullivan).

Chart 57: Global FOB water and wastewater market revenue forecast, 2010 and 2020 (\$mn)



Source: Frost & Sullivan, BofA Merrill Lynch Global Research

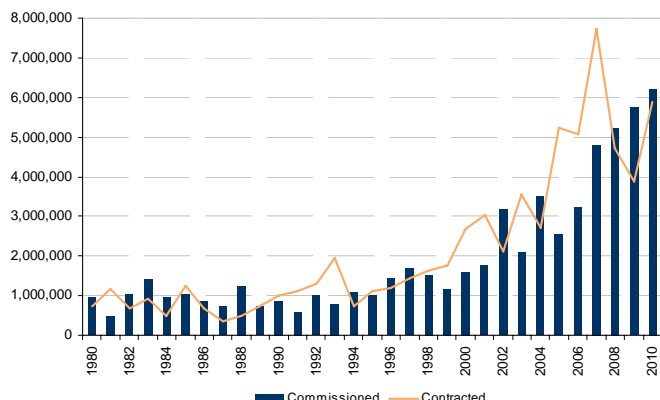
Further information on desalination
can be found in Takahiro Mori & Akiko
Kuwahara's work on drought
[Industrials & Insurance, 28 September 2012](#)

Desalination, US\$US25bn industry by 2025

Among the direct methods of increasing water reserves are desalination of sea water, which essentially transforms "unusable" into "usable" water. In recent years, there has been a rapid increase in the installation of new seawater desalination plants, with growth accelerating since 2000, particularly in the Middle East as economic growth there has taken off. Desalination is now practised in 150 countries. In 2011, new installed capacity totalled around 8mn m3/day, bringing global total installed capacity to 78.4mn m3/day (19.8bn US g) (Source: IDA/GWI). The global market is currently estimated at close to \$US6bn and – despite being hit hard by the downturn – is expected to grow at an 8-9% CAGR to US\$17bn by 2017 and US\$25bn capex by 2025 (Source: GWI).

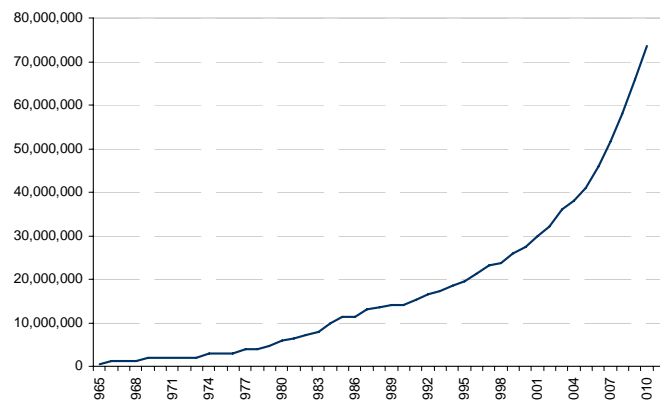
07 November 2012

Chart 58: Global desalination plants' capacity (m3/d) - new seawater desalination plants



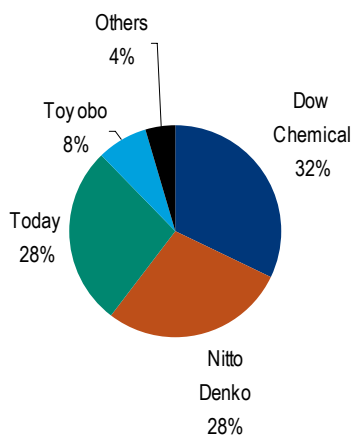
Source: Torishima Pump Mfg.

Chart 59: Global desalination plants' capacity (m3/d) - global installed desalination capacity



Source: Torishima Pump Mfg.

Chart 60: RO Membrane: share by company (2011)

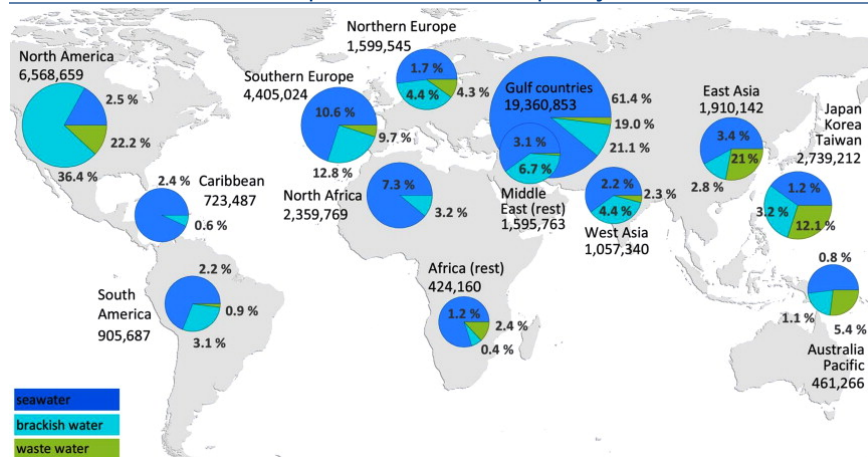


Source: Nikkei, BofA Merrill Lynch Global Research

Increasingly popular in certain regions

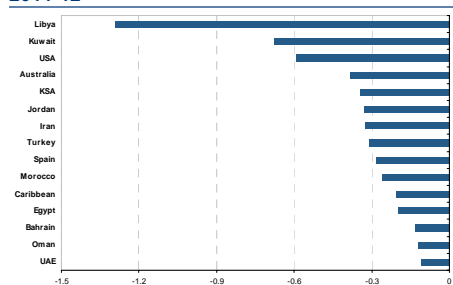
Approximately 1% of the world's population is currently dependent on desalinated water to meet their daily needs (Source: GWI). Desalination is becoming an increasingly popular solution to plug the gap caused by the depletion of freshwater reserves. By region, we expect the Gulf States, Australia, Central Asia and the US, and the Mediterranean rim to be the most naturally pre-disposed to developing desalination as a viable alternative given the importance of water shortages and stress, and their brackish and less saline feedwater. The current largest markets are Saudi Arabia, China, UAE, Israel, Spain, India, the Caribbean and Qatar.

Chart 61: Global desalination capacities in cubic meters per day



Source: Sustainability Science and Engineering, Volume 2, 2010, BofA Merrill Lynch Global Research

Chart 62: Projected desalination capacity cuts 2011-12

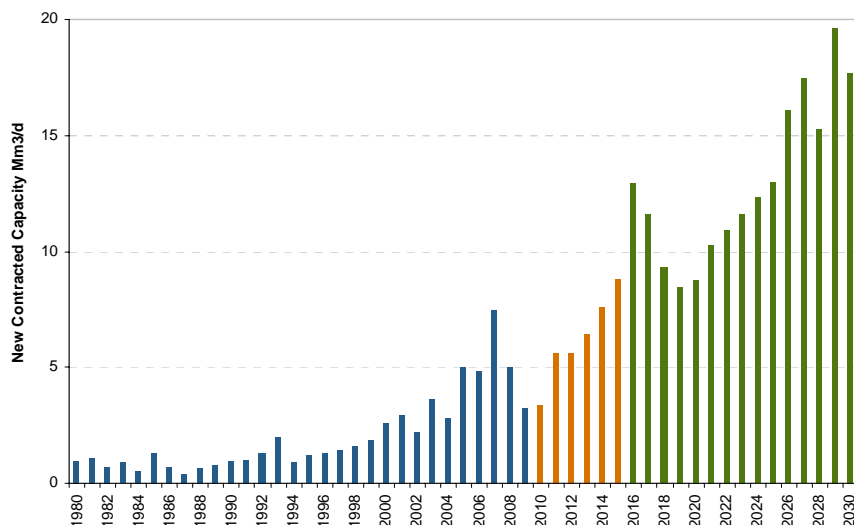


Source: GWI, Hyflux, bofA Merrill Lynch Global Research

Short-term outlook is weak

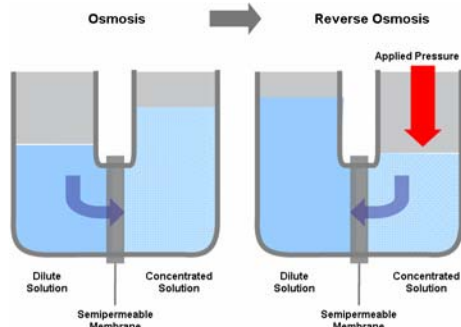
The short-term outlook for desalination is weak with projected capacity cuts mainly in MENA. This is partly attributable to the large-scale build-out in recent years and financing challenges given the economic downturn.

Chart 63: Global desalination market forecast (new contracted capacity)



Source: GWI, Hyflux, bofA Merrill Lynch Global Research

Chart 64: Reverse osmosis



Source: National Academy of Sciences

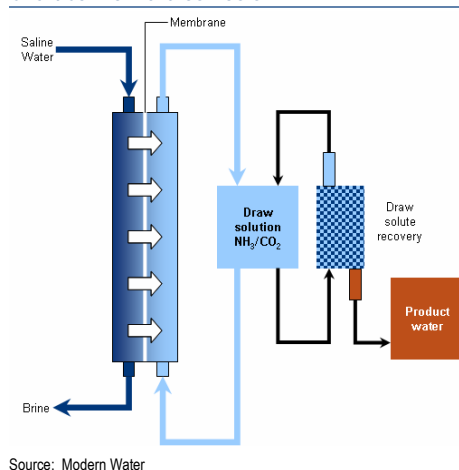
Reverse osmosis in the lead

The two major desalination methods are reverse osmosis (RO) and multi-stage flash distillation (MSF). RO used to be at a disadvantage to MSF owing to its higher cost and declining purification effectiveness due to membrane pollution. However, advances in technology have brought costs down to the extent that as of 2001 it had become the cheaper technology. RO involves passing feedwater through a semi-permeable membrane (semi-permeable barrier sheets) at pressure so that the salt remains on one side and allows pure water to pass to the other.

RO is now becoming the mainstream technology for desalination plants as it offers the following advantages over MSF: (1) smaller energy input; (2) lower construction costs due to the use of simpler construction materials; (3) greater scalability due to the use of modular units. Advances have also been made in membrane antifouling treatment, enabling a higher rate of removal of boron, which had previously been a problem in seawater desalination.

The construction of RO plants is handled by engineering companies such as Mitsubishi Heavy Industries. The largest maker of RO membranes is Dow Water & Process Solutions, though Japanese companies, including Toray, Nitto Denko and Toyobo, have an around 64% share of global supply. In 2011, the global market in RO membranes was worth around US\$660mn, and we believe it is growing at around 9% yoy.

Chart 65: Forward osmosis



Newer technologies becoming commercial

Although RO has gained rapid acceptance, it is only 20% thermodynamically efficient (i.e., 8-20KWh of energy to produce 1,000g of desalinated water). As such, there has been significant R&D activity aimed at addressing concerns about the required energy input. For instance, forward osmosis is being commercially implemented. In the FO process, a draw solution is used to create a driving force for freshwater to pass through the membrane. The technology, according to Modern Water, can reduce energy use and costs by up to 30% and overcomes the fouling limitation inherent in pressure-driven membrane separations. Another option, Vacuum Multi Effect Membrane Distillation, uses processes that combine thermal and membrane technologies in a vacuum to boil the feedwater at lower temperatures (50°C to 80°C).

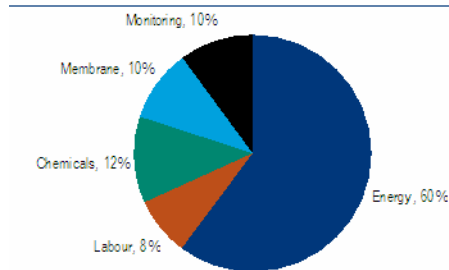
We find it unlikely that membrane distillation will replace RO in the next five years given the price advantage of the incumbent technology. Investment costs for a RO plant are between €700 to €2,000 per m³ of daily production capacity, or US\$3.75 to US\$10.75 a gallon. Ultimately, the selection of a desalination process depends on site-specific conditions, economics, the quality of water to be desalinated, the purpose for which the water is to be used and local engineering experience and skills.

Table 26: Overview of desalination technologies

Process	Basic Mechanism	Status	Strengths	Weakness	Future
Phase Change	Salt-Free phase produce				
Thermal	Steam is salt-free, condenses to form pure water. Energy reused	Major Application	Well established	Energy demand	Strong in 'hybrid' systems
Freeze-thaw	Ice is salt-free, thaws to pure water	Not used	Limited	Energy demand	Unlikely
Voltage Driven	Salt ion transport				
Electrodialysis	Ions move through ion selective membranes	Significant for low salt feeds	Well established	Possibly high salts	Strong but unlikely for seawater
Electro deionization	ED combined with ion exchange resin	Possibly growing	Enhanced ED	As above	As above
Capacitive deionization	Ions absorb and desorb on electrode due to DC voltage	Developmental	Removes minor ions	Possibly high salts Energy recovery	Possible
Pressure Driven	Water Transport through membrane				
Reverse Osmosis	Pressure > osmotic pressure, water through polymer film, salts retained	Major application	Established Low energy demand relative to thermal process	Energetic efficiency is low	Strong, with advanced membranes
Forward Osmosis	Water passes to draw solute of high OP. Draw solute regenerated to give water	Operational	Lower energy Ambient pressure	Membrane type	Potentially strong
Thermal-Membrane	Water Vapour Transport				
Membrane Distillation	Heated feed evaporates through hydrophobic microporous membrane	Demonstration	Ambient pressure Low grade heat	Availability of low grade heat	Potentially strong
Bio-enabled	Cellular Ion Transport				
Biometric Membranes	Cell wall transports/sorbs ions	Research	Biological process	Development of industrial analogue to biological process	Possible

Source: BofA Merrill Lynch Global Research

Chart 66: O&M costs for desalination

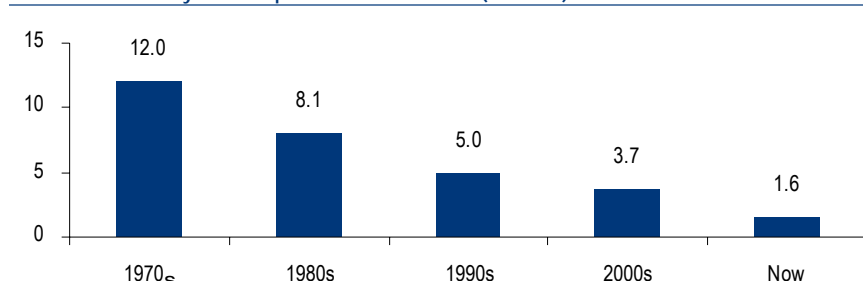


Source: Sembcorp Industries

Huge environmental implications & costs

Despite massive improvements over the past 50 years, desalination is a highly energy-intensive process, with energy constituting 60% of the operating and maintenance costs of desalinated water.

Chart 67: Electricity consumption for desalination (kWh/m³)



Source: Toray, BofA Merrill Lynch Global research

Besides freshwater impacts, a desalination plant emits GHGs and highly concentrated brine. This latter potent liquid can have a highly detrimental impact on coastal water and marine wildlife if left untreated.

Table 27: Energy use of various water supply alternatives

Water Supply Alternative	Energy use – kWh/m ³
Conventional treatment of surface water	0.2-0.4
Raw water imported by state water project in California (w/o treatment)	2.4-2.8
Water reclamation	0.5-1.1
Indirect potable reuse	1.3-2.0
Brackish water desalination	0.8-1.3
Desalination of Pacific Ocean Water	2.6 – 3.7

Source: Water Globe Consulting, BofA Merrill Lynch Global Research

Further information on solar desalination on Saudi Arabia can be found in Joe Osha & Andrew Hughes report

[Alternative Energy, 07 November 2012](#)

Unsustainable extractions meet rising demand

Water-energy security, a long-term opportunity for PV solar

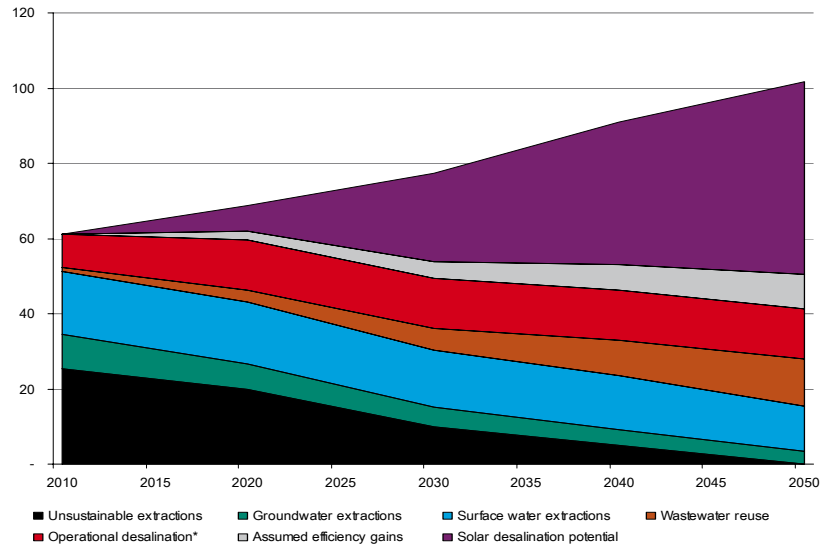
The intersection of water supply and energy availability challenges on the Arabian Peninsula represent a large opportunity for PV solar demand. As the figure below illustrates, the trajectory of Saudi water demand is decoupling from traditional supply sources, especially various forms of extraction and wastewater reuse. Existing desalination capacity is plugging the gap, but additional plants need to be added rapidly during the next 30 years to address likely demand growth. We estimate that 60% to 70% of Saudi Arabia's water demand by 2050 could be addressed by thermal and membrane-based desalination.

Saudi Arabia's solar powered desal initiative

Desalination is not a time-of-day dependent process. Unlike electricity, fresh water can be stored and delivered when needed, which makes desalination an ideal candidate for intermittent power sources. Smaller but more energy-intensive reverse osmosis plants are especially well suited to PV power. Meanwhile, there are good reasons to consider non-traditional sources of energy for desalination. Saudi Arabia currently burns 1.5 million barrels of oil per day - or about 13% of its daily production - to power 10.1 million cubic meters per day (Mm³/d) of desalination capacity in operation as of 2012. Cognizant of the Kingdom's outstanding solar resources and the opportunity cost of burning oil otherwise destined for export, the country's leadership has embarked on a three-phase initiative to grow its solar powered desal base by at least 300,000 m³/d by

2020. It's clear from our research, however, that the plans under consideration are not sufficient to address the Kingdom's long-term water needs.

Chart 68: Water supply sources for Saudi Arabia (Mm3/d)



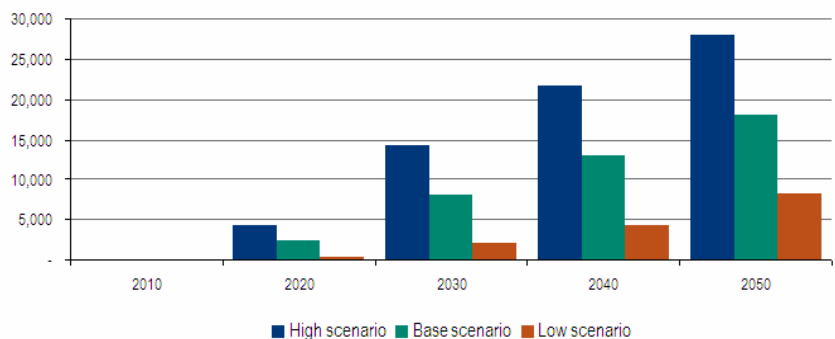
* Based on plants in operation in 2010. Incremental capacity through 2020 based on plants under construction or planned
Source: BofA Merrill Lynch Global Research estimates, Fichtner 2011 (MENA Regional Water Outlook, prepared for World Bank)

We expect more of the desal demand to be addressed with solar following 2020

Up to 68GW of solar PV

We estimate that as much as 68GW of solar PV could be installed in Saudi Arabia by 2050 to power desalination plants necessary to offset increasing water scarcity. Over 90% of that total will most likely be installed between 2020 and 2050, as the near-term prospects for solar desalination are still subdued. Of the 3.3 Mm3/d of desalination capacity currently either under construction or planned for completion by 2020, only about 10% is slated to be solar powered as of October 2012. This includes the Al Khafji reverse osmosis plant currently under construction, which will be the largest solar powered desalination plant in the world when it is placed into service in 2013. We believe, however, that the economics of burning expensive oil to make cheap subsidized electricity, in a country with abundant solar resources, will become less appealing to the Saudis during the coming 5 years.

Chart 69: PV installation scenarios necessary to power desalination demand (MW)

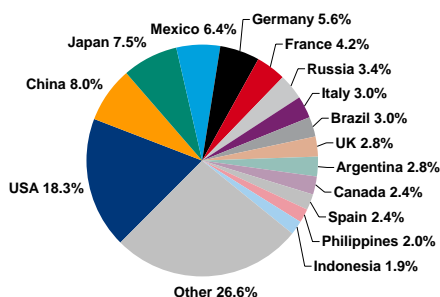


Source: BofA Merrill Lynch Global Research estimates, Fichtner 2011

Bottled water, US\$96bn market & 5% growth

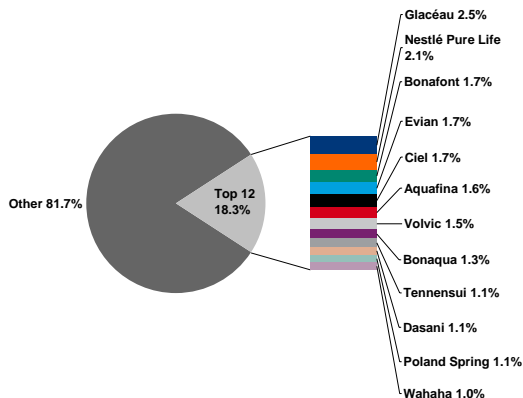
Bottled water is a topic of controversy for a number of stakeholders, but it can also be regarded as a potential water treatment solution or alternative. It has enjoyed a five-year volume CAGR of +4% and a 10-year CAGR of +7.7%, which puts it among the fastest-growing segments of the global liquid refreshment beverage (LRB) category. Bottled water is now a US\$96bn market and equal in size to the carbonated soft drinks (CSD) market by volume. Our volume growth estimate for bottled water for 2010-15 is +4.6%.

Chart 70: Bottled water retail sales: by country (\$96bn)



Source: BofA Merrill Lynch Global Research estimates, Euromonitor

Chart 71: Bottled water retail sales: by brand (\$96bn)



Source: BofA Merrill Lynch Global Research estimates, Euromonitor

Danone & Nestlé the market leaders

Danone (no.3 in overall LRB) and Nestlé (no.4 LRB) maintain a large presence in bottled water and hold 5% and 4% shares of LRB, respectively. Newer entrants in bottled water include Coke, which maintains a leading share in LRB at 23%, followed by Pepsi at 11%.

Successfully tapped into consumer trends

Bottled water has tapped into divergent consumer trends around the world:

- **Developed markets:** bottled water is a major commercial beverage by positioning itself as an attractive option for health-conscious consumers or vis-à-vis real or perceived health concerns surrounding the quality of tap water.
- **Emerging markets:** bottled water serves as a temporary solution to the problem of unsafe drinking water and/or is a beneficiary of rising disposable income in many countries. Both China and India have seen and should continue to see double-digit CAGRs in bottled water.

Table 28: Bottled water market share matrix (2011)

	Country	Market size (US\$mn)	PCC (US\$ pa)	PCC (06-11)	Coca-Cola	Danone	Nestlé	PepsiCo	Suntory	Wahaha	Tingyi	China Resources	Yangshengtang	DS Waters	Private Label	Other
1	USA	17,597	56.4	0%	20.5%	0.6%	22.7%	10.0%						3.8%	22.4%	20.0%
2	China	7,691	5.7	12%	5.4%	10.4%	1.6%			12.8%	10.6%	9.3%	8.8%			41.2%
3	Japan	7,258	57.1	5%	15.2%	5.5%	2.0%	0.1%	24.0%							53.2%
4	Mexico	6,119	55.5	10%	25.6%	39.8%	4.8%	15.1%							0.1%	14.6%
5	Germany	5,359	65.8	1%	4.2%	7.4%	7.1%								15.7%	65.7%
6	France	4,003	63.5	-2%		25.7%	30.1%								12.4%	31.8%
7	Russia	3,320	23.2	7%	9.3%	0.3%	2.1%	16.1%								72.2%
8	Italy	2,863	47.2	-1%	5.8%	2.7%	27.7%	0.1%							2.2%	61.5%
9	Brazil	2,852	14.8	9%	0.2%	0.8%	2.5%	7.3%								89.2%
10	UK	2,673	42.9	-1%	0.7%	35.6%	6.0%	0.1%							31.8%	25.7%
11	Argentina	2,668	65.0	12%	5.5%	33.1%	5.6%	2.1%							0.6%	53.1%
12	Canada	2,276	66.5	4%	9.9%	4.1%	28.3%	9.0%							11.5%	37.2%
13	Spain	2,269	49.2	-5%	2.9%	26.9%	7.7%	1.4%							22.3%	38.8%
14	Philippines	1,946	20.3	2%	34.1%		0.2%	0.3%								65.3%
15	Indonesia	1,790	7.6	5%		46.1%	0.2%								1.2%	52.5%
16	Turkey	1,682	22.9	3%	4.1%	5.9%	11.2%	0.2%								78.7%
17	Poland	1,408	36.9	7%	0.8%	28.8%	11.2%	1.9%							7.0%	50.3%
18	India	1,394	1.2	16%	11.9%			16.1%								72.0%
19	Dominican Republic	941	#N/A	0												100.0%
20	Australia	895	40.0	4%	22.5%	0.6%			4.9%						4.4%	67.6%
Total		96,352			11,963	10,012	9,714	4,337	1,867	1,016	843	712	673	669	7,819	46,727
- % share		100.0%			12.4%	10.4%	10.1%	4.5%	1.9%	1.1%	0.9%	0.7%	0.7%	0.7%	8.1%	48.5%

Source: BofA Merrill Lynch Global Research estimates, Euromonitor

A glass half full or empty, the stakeholder debate

Bottled water is the subject of much debate with many stakeholders raising doubts as to its social and environmental utility. The industry faces many challenges including:

- **Embedded water:** Estimates suggest that the embedded water (i.e., the water used in the production of a good) in a 500ml plastic bottle is anywhere between 1-2l.
- **Aquifer depletion and the contamination of water sources** pose a severe problem for many players, especially in regulated markets such as the EU where bottled waters must comply with the European Parliament Directives 80/777/EEC & 96/70/EC (i.e., spring water and “mineral water” must come from a specific underground source and be bottled there). Companies offering bottled table water (i.e., tap water that has been treated in some way), where water utilities act as the main suppliers, are not as vulnerable [to regulatory interventions].
- **Packaging:** The primary roles of packaging are to contain, protect and preserve bottled water as well as aid its handling and presentation. The Essential Requirements regulation in the European Directive on Packaging and Packaging Waste specify that these functions must be met by use of the minimum packaging necessary. Since the bottled water industry's green credentials have been challenged, large players have overhauled the composition of their packaging in order to reduce the weight of their bottles and incorporate 100%-recycled/100%-recyclable PET bottle alternatives into their production process.
- **Carbon footprint:** While the carbon footprint of bottled water may be the same as tap water at the time the bottle is filled, if we include packaging and transportation, its carbon footprint becomes substantially larger.

US\$14bn POU market provides an alternative

Point-of-use (POU) water treatment technologies offer a cost-effective potential alternative to bottled water where the water has already been treated. Water mains-fed attached point-of-use drinking water purifying and dispensing systems

This section is based on Derik de Bruin & team's work on "Global Drought"

Industrials & Insurance, 28 September 2012

Life science tool companies sell many products used to monitor food and environmental (e.g., water, air, and soil) quality

are designed for environments such as offices, factories, other workplaces, hospitals, hotels, schools and restaurants. The POU business consumer sector in the US and Europe was valued at US\$2bn in 2009 (Source: WaterLogic). The size of the global residential POU/Point-Of-Entry ("POE") market in 2009 was estimated at US\$5.5bn (not counting replacement filter cartridges) (Source: Piper Jaffray) with the total size of the POU/POE market estimated at US\$14bn. Pall Corp and WaterLogic offer exposure to this burgeoning industry.

Strong market drivers

There is an increasing move away from Bottled Water Coolers ("BWC"), which currently account for 80% of the water dispenser market in the EU and US (Source: WaterLogic). Drivers of this shift include cost, convenience, health benefits and environmental considerations.

Life sciences, tools for water security

The life science tools (LST) market consists of a diverse set of companies that supply equipment, analytical instruments, consumables, services, and software to research and commercial laboratories. These companies participate in a US\$75bn market that we estimate is growing organically at a rate of 4-5% a year. However, the phrase "life science tools" is somewhat of a misnomer. While the key customers for most LST companies reside within the drug development industry and academic biomedical research community, LST companies also supply products and services to labs serving industrial and applied market customers.

Food-water-energy security

Within the applied markets, LST companies sell a broad range of test and measurement tools used for applications in food and beverage safety and environmental monitoring (e.g., water, air, and soil quality). In addition, the analytical instruments sold by many LST vendors are enablers of energy R&D. As such, with their unique position as gatekeepers of human and environmental health, LST companies are likely beneficiaries of the challenges to food, water and energy security. The Table below shows LST companies covered by BofA Merrill Lynch that have exposure to this theme, from relatively lower exposure (+) to relatively higher (+++). Overall, Thermo Fisher Scientific has the broadest exposure to food, water and energy security.

Table 29: BofAML covered LST companies exposed to food, water, and energy security

Company	Ticker	Food safety	Environmental monitoring (water, air, & soil analysis)	Energy
Agilent Technology	A	+++	++	++
Bruker Corp.	BRKR	+	++	+++
Life Technologies Co.	LIFE	++	+	+
Mettler-Toledo Intl.	MTD	++	+	+
Pall Corp.	PLL	++	+++	++
PerkinElmer Inc.	PKI	++	+++	++
Sigma-Aldrich	SIAL	+	+	++
Thermo Fisher Scientific	TMO	+++	+++	+++
Waters Corp.	WAT	+++	++	+

Source: BofA Merrill Lynch Global Research.

Tools for environmental & water security

The market for life science tools used for environmental testing applications is estimated at approximately US\$4.0bn, growing 4-6% annually. Environmental testing encompasses the analysis of water for chemical and biological contaminants; air monitoring for particulates, pollutants, and greenhouse gases;

as well as soil, sediment and solid waste analysis for agricultural and industrial purposes. As this report focuses on the global water crisis, here we briefly look at how the LST sector serves the global water market. That said, we would also expect to see demand for air and soil testing to increase in tandem with the growing demand for clean water and energy.

Water quality

According to Dionex (part of Thermo Fisher Scientific) less than 1% of the planet's water is available for human consumption. Ground and surface water are the largest sources of fresh water, and these sources need to be rigorously analysed for a broad range of primary and secondary contaminants. Not only is it important to look for toxic compounds such as chemicals left over from the manufacturing, heavy metals, pesticides, and other pollutants, it is also necessary to test water for disinfection by-products used during the treatment process to remove harmful microorganisms.

Because water samples, especially wastewater samples, are typically complex in nature, that is, they may contain compounds that interfere with the detection of a specific pollutant, a significant amount of sample preparation may be required as part of the analysis. As such, separation methods based on liquid chromatography (LC), especially ion chromatography (IC), are typically used as part of the sample prep process. Waters and Agilent are the leading players in the LC market, while Thermo Fisher Scientific (via its Dionex unit) is the dominant player in IC with an estimated 70% market share.

Filtration is also a key part of the water treatment process. Through its municipal water business, Pall offers microfiltration, ultrafiltration, and reverse osmosis membrane systems for municipal water treatment. The Pall Aria line of water treatment systems uses hollow-fiber membrane technology to produce pure water from almost any water source, removing bacteria, viruses, trace elements, and other contaminants from the water supply. The system can also be used to desalinate sea and brackish water, and to clean up waste water.

Water treatment companies

We have identified the following companies covered by BofA Merrill Lynch Global Research that have exposure to the theme of water treatment. Although it is difficult to accurately gauge the link between such exposure and share price performance (as many factors outside the scope of this analysis play a role in short- and long-term price development), we still consider water solutions-related exposure as an important positive point to track.

Table 30: List of companies covered by BofAML involved in Water Treatment

BBG Ticker	Company	Location	BofAML Ticker	Market Cap (US\$mn)	Water Sub-sector	Water Exposure
ALFA SS	ALFA LAVAL	SWEDEN	ALFVF	7,414.58	TREATMENT	Low
ALQ AU	ALS LIMITED	AUSTRALIA	CEBEF	3,183.97	TREATMENT	Medium
BAS GR	BASF	GERMANY	BFFAF	75,606.81	TREATMENT	Low
BVI FP	BUREAU VERITAS	FRANCE	BVRDF	11,376.56	TREATMENT	Low
257 HK	CHINA EVERBRIGHT	HONG KONG	CHFFF	2,015.31	TREATMENT	High
BN FP	DANONE	FRANCE	GPDNF	35,841.21	TREATMENT	Medium
034020 KS	DOOSAN HEAVY INDUSTRIES	SOUTH KOREA	DOHIF	4,438.27	TREATMENT	Low
DOW US	DOW CHEMICAL	UNITED STATES	DOW	35,455.77	TREATMENT	Low
DD US	DUPONT	UNITED STATES	DD	41,715.53	TREATMENT	Low
ECL US	ECOLAB INC	UNITED STATES	ECL	20,706.45	TREATMENT	Medium
HEXAB SS	HEXAGON AB	SWEDEN	HXGBF	8,374.29	TREATMENT	Low

07 November 2012

Table 30: List of companies covered by BofAML involved in Water Treatment

BBG Ticker	Company	Location	BofAML Ticker	Market Cap (US\$mn)	Water Sub-sector	Water Exposure
IDXX US	IDEXX LABORATORIES	UNITED STATES	IDXX	5,161.42	TREATMENT	Low
ICL IT	ISRAEL CHEMICALS LIMITED	ISRAEL	ISCHF	15,291.28	TREATMENT	Low
KRA1V FH	KEMIRA	FINLAND	KMRAF	2,038.77	TREATMENT	High
3405 JP	KURARAY	JAPAN	KURRF	4,112.06	TREATMENT	Low
L6370 JP	KURITA WATER	JAPAN	KTWIF	2,927.35	TREATMENT	High
LXS GR	LANXESS	GERMANY	LNXSF	7,017.23	TREATMENT	Low
NESN VX	NESTLE (REG)	SWITZERLAND	NSRGF	201,717.20	TREATMENT	Low
6988 JP	NITTO DENKO CORPORATION	JAPAN	NDEKF	7,769.69	TREATMENT	Low
OTE1V FH	OUTOTEC	FINLAND	OUKPF	2,223.21	TREATMENT	Low
PLL US	PALL CORP	UNITED STATES	PLL	6,819.66	TREATMENT	Low
SCI SP	SEBACORP INDUSTRIES	SINGAPORE	SCRPF	7,832.05	TREATMENT	Low
VIRTX	SOC;GENERALE DE SURVEILLAN.	FRANCE	SGSOF	16,365.08	TREATMENT	Low
SPX LN	SPIRAX-SARCO	UNITED KINGDOM	SPXSF	2,406.63	TREATMENT	Low
SRCL US	STERICYCLE	UNITED STATES	SRCL	8,042.59	TREATMENT	Low
TMO US	THERMO FISHER	UNITED STATES	TMO	22,691.15	TREATMENT	Low
3402 JP	TORAY INDUSTRIES INC	JAPAN	TRYIF	9,543.68	TREATMENT	Low

Source: IQ. DataStream, BofA Merrill Lynch Global Research. * Water exposure = BofAML estimates of current sales derived from water treatment-related products, services, technologies and solutions

Table 31: Alfa Laval - Key data

Analyst's Name	Maslen, Ben		
Analyst's Email Id.	ben.maslen@baml.com		
Analyst's Phone No.	+44 20 7996 4783		
	2011	2012E	2013E
Revenues	28,652	29,717	30,275
Operating Profit	4,693	4,423	4,575
Operating Margin	16.4%	14.9%	15.1%
Y-o-Y Growth	6.6%	-5.8%	3.4%
Net Profit	3,225	3,118	3,140
Net Margin	11.3%	10.5%	10.4%
Y-o-Y Growth	4.4%	-3.3%	0.7%
EBIT	4,693	4,423	4,575
EBIT Margin	16.4%	14.9%	15.1%
EBITDA	5,568	5,326	5,590
EBITDA Margin	19.4%	17.9%	18.5%
Operating Cash Flow	3,526.0	3,819.0	3,725.6
Capex	541.0	511.7	560.2
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Alfa Laval

Alfa Laval is the global market leader in heat transfer and separation equipment, making heat exchangers, separators, decanters and sanitary equipment. Over 40% of sales are tied to energy production or efficiency, with Marine, Food, Beverage and Pharmaceutical production other key end-markets.

Alfa Laval (low Water exposure) is a water play across both its equipment and process technology divisions, both for municipal and industrial (O&G, power) customers. Its high-speed separators, decanter centrifuges and filters provide separation and it is well positioned in the cleaning of wastewater and reduction of sludge volumes, recycling of effluents, desalination, and the cleaning of ballast water and treatment of bilge water onboard ships. Process technology customers for wastewater treatment solutions for oil & gas extraction and power generation include ExxonMobil, Technip, Chiyoda, Petrobras, Statoil, GE, China Nuclear, Thames Water, and City of Chicago. Alfa also has sustainability megatrend exposure to SOC/NOXW emission control equipment.

Near-term, we believe that Alfa Laval is well positioned to deliver a solid performance in a weak global economy, given the high percentage of revenues derived from emerging markets, a solid aftermarket and its lean manufacturing system. High margins and strong cash flows lend Alfa Laval defensive characteristics and warrant a sector valuation premium, in our view. The longer-term story is also attractive – for instance on ballast water treatment – but we see more upside elsewhere in the sector at present.

Table 32: ALS Limited - Key data

Analyst's Name	Simmonds,Duncan		
Analyst's Email Id.	duncan.simmonds@bamll.com		
Analyst's Phone No.	+61 2 9226 5694		
	2012	2013E	2014E
Revenues	1,406	1,602	1,603
Operating Profit	331	359	295
Operating Margin	23.5%	22.4%	18.4%
Y-o-Y Growth	66.3%	8.6%	-18.0%
Net Profit	222	244	196
Net Margin	15.8%	15.2%	12.2%
Y-o-Y Growth	68.0%	9.7%	-19.8%
EBIT	331	359	295
EBIT Margin	23.5%	22.4%	18.4%
EBITDA	377	411	351
EBITDA Margin	26.8%	25.6%	21.9%
Operating Cash Flow	228.9	283.2	251.3
Capex	82.9	81.3	95.1
Free Cash Flow	146.0	201.9	156.2
Net Debt/Equity	39.8	33.3	40.7
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Table 33: BASF - Key data

Analyst's Name	Favre,Laurent		
Analyst's Email Id.	laurent.favre@bamll.com		
Analyst's Phone No.	+44 20 7995 0171		
	2011	2012E	2013E
Revenues	73,497	77,127	79,654
Operating Profit	8,586	9,231	9,374
Operating Margin	11.7%	12.0%	11.8%
Y-o-Y Growth	10.6%	7.5%	1.5%
Net Profit	6,188	4,977	5,123
Net Margin	8.4%	6.5%	6.4%
Y-o-Y Growth	35.8%	-19.6%	2.9%
EBIT	8,586	9,231	9,374
EBIT Margin	11.7%	12.0%	11.8%
EBITDA	11,993	12,557	12,809
EBITDA Margin	16.3%	16.3%	16.1%
Operating Cash Flow	7,105.0	7,240.9	7,878.5
Capex	3,410.0	3,500.0	3,500.0
Free Cash Flow	3,695.0	3,740.9	4,378.5
Net Debt/Equity	43.2	38.8	46.0

Source: BofA Merrill Lynch Global Research estimates

ALS Limited

ALS Ltd is a Testing, Inspection and Certification company with \$1.6bln in sales. The business is a market leader in Minerals, Life Sciences, Industrial and Energy segments. The Life Sciences segment which encompasses Environmental and Food represents approximately 30% of sales and is an important piece of the company's business.

ALS Ltd (medium Water exposure) offers a full suite of analytical testing and monitoring and technical services through a footprint of 40 offices located throughout the world. The Analytical Group provides Water Analysis, Chemical Analysis, Biological and Microbiological Analysis, and training. The Monitoring Group provides water resource management, infrastructure, data, instrumentation and field operations. ALS also has sustainability megatrend exposure to safety and security.

Near-term, we consider Life Sciences a strong growth market for ALS, probably larger than any other they serve. The key barriers to entry for Testing, Inspection and Certification include reputation, scale and compliance. Versus other market segments, this is more of a localised operation as local regulatory requirements and turn-around mean that the use of a 'hub-spoke' model is not appropriate. Therefore, creating an efficient local operation versus peers is the key determinant of success. Many opportunities exist for organic growth as testing is generally risk based, and the community demands more stringent measures for effluent and drinking standards. Further consolidation within Life Sciences as traditional suppliers, generally government agencies, seek to outsource more of their work patterns and smaller local businesses struggle to compete against industry leaders such as ALS Ltd, Bureau Veritas and SGS Ltd.

BASF

BASF is the no.1 global chemical company by sales. It operates a 'Verbund', or integrated, strategy. The group's core businesses are Oil & Gas, Chemicals, Plastics, Performance Products and Ag & Nutrition.

BASF (low Water exposure) is a water play on performance chemicals for water treatment and water management in agriculture. Its Water Solutions business includes products used in municipal and industrial water treatment to clarify the raw water used for the production of potable water, as well as treat the wastewater stream and reduce sludge volumes. Its high-performance plastics are also used in water purification systems and its filter membranes provide ultrafiltration and remove viruses and bacteria from dirty surface water without the need for complex technology.

BASF is establishing a wholly owned production base for water treatment and paper chemicals in Nanjing, China. The company is targeting €0.8bn of water solutions by 2020 and is broadening its R&D focus on water treatment. BASF is also a play on water management, addressing agriculture needs such as water management and sustainable yield optimisation via its involvement with stress-tolerant plants, which are more resistant to adverse environmental conditions such as drought. It partnered with Monsanto in 2007 and expects the first market-ready crops to be available by the middle of the next decade.

Near-term, BASF's appeal lies in its consistently above-cost-of-capital performance and high shareholder returns. We think it is less cyclical than in previous cycles and that the sustainability of the recent performance in margins, earnings, and ultimately cash returns (dividends and a resumed buyback) is under-appreciated.

Table 34: Bureau Veritas - Key data

Analyst's Name	Reeks, Toby		
Analyst's Email Id.	toby.reeks@baml.com		
Analyst's Phone No.	+44 20 7996 2157		
	2011	2012E	2013E
Revenues	3,359	3,891	4,234
Operating Profit	480	573	639
Operating Margin	14.3%	14.7%	15.1%
Y-o-Y Growth	N/A	19.4%	11.4%
Net Profit	298	345	407
Net Margin	8.9%	8.9%	9.6%
Y-o-Y Growth	N/A	16.0%	17.9%
EBIT	480	573	639
EBIT Margin	14.3%	14.7%	15.1%
EBITDA	593	721	800
EBITDA Margin	17.7%	18.5%	18.9%
Operating Cash Flow	360.1	467.5	537.7
Capex	113.1	136.2	143.9
Free Cash Flow	247.0	331.3	393.8
Net Debt/Equity	93.6	81.7	53.5

Source: BofA Merrill Lynch Global Research estimates

Bureau Veritas

Bureau Veritas (BV) is the world's second-largest testing and inspection agency. It has a strong position in the provision of independent inspection services, especially in the marine, consumer and industrial sectors.

BV (low Water exposure) is a water play with expertise in water transmission and wastewater treatment quality assurance, water and wastewater analysis services, and water solutions (i.e. detection limits for potable water). It also works across water-exposed sectors on TIC (Testing, Inspection and Certification).

Near-term, testing and inspection services have structural growth prospects, owing to increasing legislation and regulation and a low level of outsourcing – these structural factors have not gone away. The Marine division remains at risk due to contracted output and order deferral in marine construction, but the balance of its businesses should accelerate through 2012. We expect BV to regain its premium multiple relative to the sector and market as industry growth reaccelerates.

Table 35: China Everbright International Limited - Key data

Analyst's Name	Wang, Xiao Bing		
Analyst's Email Id.	xiaobing.wang@baml.com		
Analyst's Phone No.	+852 2161 7233		
	2011	2012E	2013E
Revenues	3,664	3,492	6,479
Operating Profit	1,383	1,478	2,042
Operating Margin	37.4%	41.3%	30.6%
Y-o-Y Growth	35.6%	6.9%	38.2%
Net Profit	802	1,055	1,186
Net Margin	21.9%	30.2%	18.3%
Y-o-Y Growth	30.8%	31.5%	12.4%
EBIT	1,383	1,478	2,042
EBIT Margin	37.7%	42.3%	31.5%
EBITDA	1,410	1,505	2,073
EBITDA Margin	38.5%	43.1%	32.0%
Operating Cash Flow	527.8	120.5	(1,494.1)
Capex	518.4	31.2	37.0
Free Cash Flow	9.5	89.3	(1,531.1)
Net Debt/Equity	50.6	26.1	45.2

Source: BofA Merrill Lynch Global Research estimates

China Everbright International Limited

China Everbright International (CEI) is held by state-owned China Everbright Holdings Company and focuses on environmental protection business in China such as waste to energy, wastewater treatment (WWT) and other alternative energy (biomass, methane to energy and solar power) and infrastructure project development.

China Everbright International (high Water exposure) is a water play through its Environmental Protection Business, which involves water treatment and reusable water services. The group's environmental water sector comprised a total of 19 wastewater treatment projects, three reusable water projects and one surface water project with a total investment of RMB3.587bn. Its annual wastewater treatment capacity is 657 million m3 and it has capacity to provide reusable water of 22,330,000 m3 and supply surface water of 36,500,000 m3 annually. These operations took EBITDA to 12% higher than in 2011, representing around 29% of the group's EBITDA. We note that the company has also set up a private-equity fund (Greater China Infrastructure Fund) with Macquarie Group Ltd. to invest in Chinese water and waste companies.

Near-term, we believe China is on course to add environmental protection and renewable energy industries during the 12th Five Year Plan (FYP), and CEI has emerged as a leading diversified environmental protection/clean energy provider. It would like to focus on WTE business development, which has a higher IRR (10-15%) than WWT business (10-12%).

Table 36: Danone (BSN) - Key data

Analyst's Name	Waldschmidt, Robert		
Analyst's Email Id.	robert.waldschmidt@baml.com		
Analyst's Phone No.	+44 20 7996 4412		
	2011	2012E	2013E
Revenues	19,318	20,904	22,497
Operating Profit	2,729	2,893	3,132
Operating Margin	14.1%	13.8%	13.9%
Y-o-Y Growth	9.3%	6.0%	8.3%
Net Profit	1,671	1,724	1,863
Net Margin	8.6%	8.2%	8.3%
Y-o-Y Growth	-10.7%	3.2%	8.0%
EBIT	2,729	2,893	3,132
EBIT Margin	14.1%	13.8%	13.9%
EBITDA	3,366	3,588	3,878
EBITDA Margin	17.4%	17.2%	17.2%
Operating Cash Flow	2,605.2	2,626.6	2,738.6
Capex	885.0	861.2	924.0
Free Cash Flow	1,720.2	1,765.4	1,814.7
Net Debt/Equity	65.6	68.9	58.0

Source: BofA Merrill Lynch Global Research estimates

Danone

Danone is a leading global food company focused on nutrition. The group is the global leader in fresh dairy products, the global no.2 in infant nutrition and bottled water and a strong regional player in medical nutrition (Europe). Its brand portfolio includes internationally well-known names such as Danone, Dannon (US), Evian and Volvic, as well as strong regional brands.

Danone (medium Water exposure) is a water play on bottled water, where it is the world no.2 player (c.21% of FY-12 sales). Key brands include Evian, Volvic, Badoit, Aqua, Naya, Lanjarón, Font Vella, Bonafont (Brazil), Villa del Sur, and Villa Vicencio. Its water division saw a 15.7% like-for-like increase in sales in 2011-12 and we forecast 7.3% organic growth for 2012E. The company has seen double-digit growth in emerging countries and an increase in market share in mature economies in Europe.

Category expansion and 'aqua-drinks' (flavoured or vitamin-fortified waters) are the water division's growth drivers. In 2011, some 25% of volumes sold and more than 50% of the division's growth came from such drinks. In China, the division has benefited from a strong showing by fortified beverages under the Mizone brand, which is now moving successfully into other Asian countries. The same is true in Argentina, where Villa del Sur Levité water, flavored with natural fruit extracts, now holds 70% of this market segment. It has become the nation's second-most frequently consumed non-alcoholic beverage.

Near-term, we forecast mid-single-digit organic sales growth and an EPS CAGR of 9% for 2012-15E. We see risks to top-line growth and margin delivery given the uncertainty over economic growth and consumption in Southern Europe, and we are concerned that the weakness could spread to the rest of Europe. We cannot rule out further guidance cuts, notably if management is forced to address price gaps in other European markets.

Doosan Heavy Industries & Construction Co, Ltd

Doosan Heavy Industries & Construction is the largest power plant manufacturer in Korea. Founded in 1962, DHIC was a government-owned enterprise for heavy industries and expanded its business by capitalizing on its monopolistic position in the domestic market. In 2001, Doosan Group became the largest shareholder as part of the government's privatization plan. Currently, DHIC has four major business areas: power generation (thermal & nuclear), industrial, castings & forgings, and construction.

Doosan (medium Water exposure) is a water play through its provision of water treatment and desalination solutions. It has 24% market share of the global desalination market (i.e. 5.8M ton/day of total supply) with a strong position in MENA. It has a good track record on MSF, MED, RO, and hybrid system solutions. Over the next 5Y, Doosan anticipates annual growth of 350 MIGD – or a total of 693 for thermal and 1,061 for RO – with its target market, MENA, expected to grow significantly. Doosan also has sustainability megatrend exposure to nuclear and wind energy.

Near-term, we rate Doosan Heavy Industries & Construction (DHIC) a Buy because we see value at the current historically low valuation, which implies limited share price downside. In addition, its strong new order seasonality in 2H should be a share price catalyst, in our view. We also think the nuclear theme could reignite later this year given recent approval for the restart of NPP in Japan.

Table 37: Doosan Heavy Industries & Construction Co., Ltd - Key data

Analyst's name	Yoo, Jay		
Analyst's Email Id.	jay.yoo@baml.com		
Analyst's Phone No.	+82 2 3707 0537		
	2011	2012E	2013E
Revenues	8,495,506	9,971,838	10,662,408
Operating Profit	569,632	661,008	748,436
Operating Margin	6.7%	6.6%	7.0%
Y-o-Y Growth	10.4%	16.0%	13.2%
Net Profit	274,781	496,401	630,299
Net Margin	3.2%	5.0%	5.9%
Y-o-Y Growth	-78.0%	80.7%	27.0%
EBIT	569,632	661,008	748,436
EBIT Margin	6.7%	6.6%	7.0%
EBITDA	748,935	830,641	924,618
EBITDA Margin	8.8%	8.3%	8.7%
Operating Cash	13,526.5	469,186.1	577,602.7
Capex	245,141.3	320,000.0	250,000.0
Free Cash Flow	(231,614.8)	149,186.1	327,602.7
Net Debt/Equity	57.4	53.1	44.4

Source: BofA Merrill Lynch Global Research estimates

Table 38: Dow Chemical - Key data

Analyst's Name	McCarthy, Kevin		
Analyst's Email Id.	ke.mccarthy@baml.com		
Analyst's Phone No.	+1 646 855 2681		
	2011	2012E	2013E
Revenues	59,985	56,062	58,032
Operating Profit	5,508	4,835	5,729
Operating Margin	9.2%	8.6%	9.9%
Y-o-Y Growth	20.8%	-12.2%	18.5%
Net Profit	2,402	1,987	2,949
Net Margin	4.0%	3.5%	5.1%
Y-o-Y Growth	21.9%	-17.3%	48.4%
EBIT	5,508	4,835	5,729
EBIT Margin	9.2%	8.6%	9.9%
EBITDA	8,391	7,522	8,476
EBITDA Margin	14.0%	13.4%	14.6%
Operating Cash Flow	3,879.0	4,063.4	5,035.6
Capex	2,687.0	2,525.0	2,000.0
Free Cash Flow	1,192.0	1,538.4	3,035.6
Net Debt/Equity	68.9	66.8	56.8

Source: BofA Merrill Lynch Global Research estimates

Dow Chemical

With over US\$60bn in 2011 sales, Dow is the second-largest global chemical company. It provides chemical, plastic and agricultural products and services to customers in a wide range of markets, including food, transportation, health and medicine, personal and home care, and construction, among others. Dow employs more than 50,000 people at 208 manufacturing sites in 38 countries, and supplies over 3,200 products in more than 170 countries.

Dow (low Water exposure) is a water play through its Dow Water & Process Solutions business, which is involved in all aspects of industrial water treatment and desalination. Dow is the no.1 producer of reverse osmosis and ion exchange resin technologies. Its water solutions also help clients to reduce energy consumption by as much as 50%. Water sales were higher across all geographic areas in 2011, especially EMEA and Asia Pacific (most notably Greater China), driven by increased demand for ion exchange resins and reverse osmosis membranes used in industrial water purification projects. We expect sales to increase in all geographic areas in FY2012. Dow predicts that its addressable water market will double by 2020. The company also has sustainability megatrend exposure to food and energy security.

Near-term, we expect advantaged feedstock costs to support US margins. DOW shares also offer an ample dividend yield. However, we are wary of Dow's above-average operating and financial leverage in a weaker global economy and the potential for future feedstock volatility with ethane now near rejection levels on the US Gulf.

Table 39: DuPont (E.I.) De Nemours - Key data

Analyst's Name	McCarthy, Kevin		
Analyst's Email Id.	ke.mccarthy@baml.com		
Analyst's Phone No.	+1 646 855 2681		
	2011	2012E	2013E
Revenues	37,961	36,584	35,342
Operating Profit	5,193	4,764	4,668
Operating Margin	13.7%	13.0%	13.2%
Y-o-Y Growth	22.0%	-8.3%	-2.0%
Net Profit	3,474	2,637	3,244
Net Margin	9.2%	7.2%	9.2%
Y-o-Y Growth	14.6%	-24.1%	23.0%
EBIT	5,193	4,764	4,668
EBIT Margin	13.7%	13.0%	13.2%
EBITDA	6,753	6,515	6,363
EBITDA Margin	17.8%	17.8%	18.0%
Operating Cash Flow	5,116.0	3,621.1	3,787.2
Capex	1,843.0	1,900.0	1,750.0
Free Cash Flow	3,273.0	1,721.1	2,037.2
Net Debt/Equity	99.0	88.4	39.1

Source: BofA Merrill Lynch Global Research estimates

DuPont (E.I.) De Nemours

DuPont generated US\$38.7bn in 2011 revenues. DD is one of two specialty materials companies in the Dow Jones Industrial Index, along with 3M Corporation. It engages in a variety of fields, including materials science, safety and security, agriculture, food ingredients, industrial enzymes, electronics and coatings.

DuPont (low Water exposure) is a play on water and sewage treatment and industrial water treatment services for a range of sectors including power plants, government facilities, O&G, and processing plants. It also produces water filters for home use. Furthermore, DuPont has sustainability megatrend exposure to food and energy security and safety & security.

Near-term, we remain constructive on the prospects for seeds, crop protection chemicals, and food ingredients. We judge that DuPont's attractive valuation and ample, secure dividend yield offer reasonable compensation for the various remaining challenges among industrial lines. In addition to decelerating global growth and a stronger US dollar, we believe parabolic market price increases in recent years are destroying TiO2 demand, which could lead to cyclical margin pressure in future.

Table 40: Ecolab Inc - Key data

Analyst's Name	Ridley-Lane,David		
Analyst's Email Id.	david.ridleylane@baml.com		
Analyst's Phone No.	+1 646 855 2907		
	2011	2012E	2013E
Revenues	6,799	11,743	12,400
Operating Profit	754	1,281	1,555
Operating Margin	11.1%	10.9%	12.5%
Y-o-Y Growth	-6.6%	70.0%	21.4%
Net Profit	463	697	900
Net Margin	6.8%	5.9%	7.3%
Y-o-Y Growth	-12.8%	50.6%	29.2%
EBIT	754	1,281	1,555
EBIT Margin	11.1%	10.9%	12.5%
EBITDA	1,150	1,989	2,261
EBITDA Margin	16.9%	16.9%	18.2%
Operating Cash Flow	685.5	1,255.3	1,477.3
Capex	341.7	508.7	540.5
Free Cash Flow	343.8	746.6	936.8
Net Debt/Equity	100.9	97.6	81.9

Source: BofA Merrill Lynch Global Research estimates

Ecolab

Ecolab is a services company with chemical and process solutions in the areas of food safety (50% of revenue), water (25%), and energy (25%).

Ecolab (medium Water exposure) is a play on integrated water treatment and process improvement services. Services include wastewater treatment for industrial users, water recovery for O&G producers, water reduction programs for restaurants and hotels, and water treatment and reduction programs for heating and cooling systems. Representative water services clients include Marriott, Dow Chemical, Coca Cola, and ABInBev. Ecolab's services are highly recurrent in nature. An example is its 3D Trasar Solution, which provides continuous water optimization and water reduction for heating and cooling systems. Once the proprietary hardware is installed at the client site, the system can only use Ecolab chemicals. Another example is the Apex2 Solution, which lowers water and energy use by restaurants' dishwashing machines. The company's agreed October 2012 acquisition of Champion should yield cross-sell wins on oil production. ECL also has sustainability megatrend exposure to safety (food and water) and energy efficiency.

Near-term, we are positive on ECL due to the company's highly recurring revenue, defensive business, dominant competitive position, demonstrated pricing power, and potential for near-term margin expansion. The acquisition of Nalco provides several sources of upside including acquisition-related cost synergies and cross-selling opportunities. Valuation multiples for ECL shares remain below historical ranges.

Table 41: Hexagon AB - Key data

Analyst's Name	Maslen,Ben		
Analyst's Email Id.	ben.maslen@baml.com		
Analyst's Phone No.	+44 20 7996 4783		
	2011	2012E	2013E
Revenues	2,169	2,393	2,570
Operating Profit	431	492	568
Operating Margin	19.9%	20.6%	22.1%
Y-o-Y Growth	184.3%	14.2%	15.3%
Net Profit	295	355	425
Net Margin	13.6%	14.8%	16.5%
Y-o-Y Growth	228.4%	20.3%	19.6%
EBIT	431	492	568
EBIT Margin	19.9%	20.6%	22.1%
EBITDA	544	608	696
EBITDA Margin	25.1%	25.4%	27.1%
Operating Cash Flow	355.9	461.4	538.4
Capex	135.8	156.2	162.7
Free Cash Flow	220.1	305.2	375.7
Net Debt/Equity	69.2	55.9	39.9

Source: BofA Merrill Lynch Global Research estimates

Hexagon AB

Hexagon is a supplier of systems for the measurement of objects in one, two or three dimensions. The Metrology sub-division provides testing equipment for product testing and manufacture in the automotive, aerospace, truck and manufacturing segments. The Geosystems segment offers satellite-driven testing and measurement systems used in surveying, heavy construction, and machine control.

Hexagon (low Water exposure) is a water play across a number of areas. Its software and services are used by water supply companies. Its technologies aid climate change adaptation, including by allowing farmers to identify the optimum prescription of water. Finally, its H2O Solution business makes it possible to monitor and protect critical infrastructure such as dams and reservoirs. CISPDR, the designer of China's Three Gorges Dam on the Yangtze River, will be the first to implement Hexagon's H2O Solution. Hexagon also has sustainability megatrend exposure to safety & security and energy efficiency.

Near-term, we believe Hexagon is a high-quality company, offering superior growth relative to the sector via CAD design software, laser measurement equipment and testing solutions. We think margins could trend towards 25% as the business mix improves and underperforming assets are restructured. Moreover, we argue that new technologies arising out of the Hexagon-Intergraph combination offer potential upside to consensus. As gearing levels come down, we see scope for the share to re-rate.

Table 42: IDEXX Laboratories - Key data

Analyst's Name	Wilson, Erin		
Analyst's Email Id.	erin.e.wilson@baml.com		
Analyst's Phone No.	+1 646 855 2590		
	2011	2012E	2013E
Revenues	1,219	1,296	1,404
Operating Profit	236	257	285
Operating Margin	19.4%	19.8%	20.3%
Y-o-Y Growth	15.9%	8.8%	10.9%
Net Profit	161	174	194
Net Margin	13.2%	13.4%	13.8%
Y-o-Y Growth	14.4%	7.9%	11.2%
EBIT	236	257	285
EBIT Margin	19.4%	19.8%	20.3%
EBITDA	284	309	337
EBITDA Margin	23.3%	23.8%	24.0%
Operating Cash Flow	189.4	205.7	225.4
Capex	69.2	60.0	60.6
Free Cash Flow	120.2	145.7	164.8
Net Debt/Equity	(2.3)	2.4	(35.9)

Source: BofA Merrill Lynch Global Research estimates

IDEXX Laboratories

IDEXX is a leading provider of diagnostic and information technology products and services for pet and production animal health, water quality and milk safety, and human point-of-care diagnostics.

IDEXX (low Water exposure) is a water play via the safety of water supplies as the world's no.1 provider of drinking-water microbiology test kits (c.7% of FY11 sales). Its principal products simultaneously detect the presence of total coliforms and E. coli in water and are used by government laboratories, water utilities and private certified laboratories to test that drinking water is in compliance with regulatory standards, including US EPA standards. The tests are also used in evaluating water used in production processes (for example, in beverage and pharmaceutical applications) and in evaluating bottled water, recreational water, wastewater and water from private wells. Its Enterolert products detect the presence of enterococci in drinking, waste and recreational waters. The company also sells consumables, parts and accessories to be used with water testing products. Furthermore, its products are used by medical charities and in natural disaster areas. Furthermore, the company is a sustainability megatrend play on safety & security including food (milk) and animals.

Near-term, market share gains captured during the economic downturn should translate into more profitable growth when the veterinary industry rebounds. This should distinguish IDEXX from our other veterinary suppliers and manufacturers that have fewer competitive advantages, in our view.

Table 43: Israel Chemicals Limited - Key data

Analyst's Name	Stott, Andrew		
Analyst's Email Id.	andrew.stott@baml.com		
Analyst's Phone No.	+44 20 7996 2180		
	2011	2012E	2013E
Revenues	7,068	7,014	7,622
Operating Profit	1,931	1,911	2,208
Operating Margin	27.3%	27.2%	29.0%
Y-o-Y Growth	42.3%	-1.0%	15.6%
Net Profit	1,512	1,469	1,688
Net Margin	21.4%	20.9%	22.2%
Y-o-Y Growth	47.5%	-2.8%	14.9%
EBIT	1,931	1,911	2,208
EBIT Margin	27.3%	27.2%	29.0%
EBITDA	2,198	2,210	2,549
EBITDA Margin	31.1%	31.5%	33.4%
Operating Cash Flow	1,269.4	1,464.8	1,881.9
Capex	514.1	701.4	724.1
Free Cash Flow	755.3	763.4	1,157.8
Net Debt/Equity	38.0	43.1	32.3

Source: BofA Merrill Lynch Global Research estimates

Israel Chemicals Limited

ICL is the sixth-largest player in the global potash industry, with around 10% market share. It is also the global leader in the bromine industry, which is seeing a resurgence in profitability due to declining supply and robust demand, with potential for new product opportunities in emission control. In addition, ICL has a significant phosphates business operating in fertiliser and food-grade applications.

ICL (low Water exposure) is a play on customised water treatments for a wide variety of industrial and institutional industries, including power plants, oil refineries, chemical plants, paper companies, steelworks and waterworks. In FY 2011, revenues from water treatment biocides were around 11% of its Industrial products segment. It offers brominated biocides for pre-treatment, treatment, decontamination and re-use of wastewater. ICL's JV with Angang Industry Group provides comprehensive water treatment solutions to Ansteel Group, the second-largest steel producer in China. ICL also offers water purification tablets ("AquaTabs"), which are used by international organisations, among others. In addition, the company has sustainability megatrend exposure to food security, renewables and electric vehicles.

Near-term, ICL is well positioned to benefit from a) being a low-cost producer in the potash industry, b) medium-term tightness in bromine, 3) new applications in bromine, especially emission control in coal-based power stations, and 4) a strong balance sheet. We think the improving prospects for agriculture in 2013 could leave consensus too conservative on both volumes and pricing in the potash and phosphate business units.

Table 44: Kemira Oyj - Key data

Analyst's Name	Lopes,Fabio		
Analyst's Email Id.	fabio.lopes@baml.com		
Analyst's Phone No.	+44 20 7996 9108		
	2011	2012E	2013E
Revenues	2,207	2,242	2,233
Operating Profit	158	137	140
Operating Margin	7.2%	6.1%	6.3%
Y-o-Y Growth	1.4%	-13.3%	2.2%
Net Profit	136	102	93
Net Margin	6.1%	4.5%	4.2%
Y-o-Y Growth	22.3%	-25.1%	-8.7%
EBIT	158	137	140
EBIT Margin	7.2%	6.1%	6.3%
EBITDA	260	246	251
EBITDA Margin	11.8%	11.0%	11.2%
Operating Cash Flow	177.7	195.5	181.7
Capex	98.3	120.0	110.0
Free Cash Flow	79.4	75.5	71.7
Net Debt/Equity	37.6	37.4	33.2

Source: BofA Merrill Lynch Global Research estimates

Kemira Oyj

Kemira is an international chemicals group, based in Finland, which provides water solutions to customers in water-intensive industries.

Kemira's (high Water exposure) core business (c.78% of H1-12 sales (vs 52% in 2008)) is related to water. It has exposure to water-intensive industries including pulp & paper (c.44% of sales, no.1-3 in all addressed markets), municipalities and industrial customers (c.30%, no.1 position in coagulants), and chemical extraction and process solutions for the oil and mining industries (c.15%, no.1-4 market position). Products include: water-soluble polymers, defoaming agents, biocides, flocculants, coagulants, applications for sludge control, disinfection, etc. The company remains committed to increasing the contribution of water-related revenues to the group total. Its core long-term business is to offer solutions for water quality and volume management that improve customers' energy, water and raw material efficiency.

Near-term, our investment thesis has three pillars: (1) Efficiency, measured by the 10% EBIT margin target. We believe Kemira will be able to increase its EBIT margin to 9.7% in 2014E. (2) Portfolio change: a possible sale of the pigments JV with Rockwood, which could result in a special dividend distribution. (3) Attractive long-term market fundamentals in the water sector, given mounting global shortages and related regulatory drivers.

Table 45: Kuraray - Key data

Analyst's Name	Kuwahara,Akiko		
Analyst's Email Id.	akiko.kuwahara@baml.com		
Analyst's Phone No.	+81 3 6225 6902		
	2012	2013E	2014E
Revenues	368,975	376,300	394,500
Operating Profit	54,734	54,500	60,000
Operating Margin	14.8%	14.5%	15.2%
Y-o-Y Growth	3.1%	-0.4%	10.1%
Net Profit	31,471	31,400	34,900
Net Margin	8.5%	8.3%	8.8%
Y-o-Y Growth	9.5%	-0.2%	11.1%
EBIT	54,734	54,500	60,000
EBIT Margin	14.8%	14.5%	15.2%
EBITDA	85,471	87,500	97,500
EBITDA Margin	23.2%	23.3%	24.7%
Operating Cash Flow	42,588.0	69,054.0	73,366.0
Capex	39,006.0	44,000.0	66,500.0
Free Cash Flow	3,582.0	25,054.0	6,866.0
Net Debt/Equity	(10.3)	(13.0)	(10.9)

Source: BofA Merrill Lynch Global Research estimates

Kuraray

Kuraray manufactures synthetic and chemical fibres. Vinyl-acetate chains are at the heart of its earnings. It boasts high market shares not only for upstream resins but also for downstream films, etc. The company successfully differentiates its products from the competition. It has a global market share of 75-80% for PVA film (used in LCDs). Its D/E ratio is also low, and it has rock-solid finances, in our view.

Kuraray (low Water exposure) is a water play on water treatment. It has wastewater treatment (PVA gel alternative to activated sludge) and industrial filter membrane exposure. It is developing water treatment operations in Southeast Asia, China, India and elsewhere, with the aim of achieving annual net sales of more than ¥50.0bn by 2015. In May 2012, Kuraray received certification for its MICROFADE ballast water management system from the Government of Japan. In the projected peak year of 2017, it aims to achieve annual net sales of ¥20-30bn in the area. It also has sustainability megatrend exposure to carbon, LEDs and solar.

Near-term, Kuraray holds high market share in all of its products, which it also successfully differentiates. It has relatively few structural problems and a sound financial profile. Thus, investment themes focus on its growth, specifically: 1) spreads/volumes for its key vinyl-acetate chains, 2) growth prospects for optical-use PVA film, and 3) whether new growth areas will emerge and take over from PVA film.

Table 46: Kurita Water Industries - Key data

Analyst's Name	Mizuno, Hideyuki		
Analyst's Email Id.	hideyuki.mizuno@baml.com		
Analyst's Phone No.	+81 3 6225 8528		
	2012	2013E	2014E
Revenues	193,792	196,000	199,000
Operating Profit	29,384	25,000	26,000
Operating Margin	15.2%	12.8%	13.1%
Y-o-Y Growth	8.3%	-14.9%	4.0%
Net Profit	16,551	13,600	16,000
Net Margin	8.5%	6.9%	8.0%
Y-o-Y Growth	-3.4%	-17.8%	17.6%
EBIT	29,384	25,000	26,000
EBIT Margin	15.2%	12.8%	13.1%
EBITDA	45,419	40,400	41,500
EBITDA Margin	23.4%	20.6%	20.9%
Operating Cash Flow	28,282.0	28,213.0	30,673.0
Capex	7,460.0	5,000.0	5,000.0
Free Cash Flow	20,822.0	23,213.0	25,673.0
Net Debt/Equity	(30.1)	(37.2)	(44.2)

Source: BofA Merrill Lynch Global Research estimates

Table 47: Lanxess AG - Key data

Analyst's Name	Stott, Andrew		
Analyst's Email Id.	andrew.stott@baml.com		
Analyst's Phone No.	+44 20 7996 2180		
	2011	2012E	2013E
Revenues	8,775	9,421	10,208
Operating Profit	776	866	956
Operating Margin	8.8%	9.2%	9.4%
Y-o-Y Growth	27.8%	11.6%	10.3%
Net Profit	506	592	662
Net Margin	5.8%	6.3%	6.5%
Y-o-Y Growth	33.5%	17.0%	11.8%
EBIT	776	866	956
EBIT Margin	8.8%	9.2%	9.4%
EBITDA	1,101	1,227	1,346
EBITDA Margin	12.5%	13.0%	13.2%
Operating Cash Flow	672.0	535.8	845.4
Capex	679.0	675.0	475.0
Free Cash Flow	(7.0)	(139.2)	370.4
Net Debt/Equity	75.7	87.8	58.2

Source: BofA Merrill Lynch Global Research estimates

Kurita Water Industries

Kurita is the top Japanese maker of water treatment chemicals and facilities.

The company (high Water exposure) is a water treatment pure play. It holds 25% of the domestic water treatment chemicals market and supplies around 70% (our estimate) of the ultra-pure water needed for the electronics industry. Kurita Water's earnings structure has been well regarded for the stability delivered by the after-sales service. However, conditions for earnings are becoming more challenging than expected, mainly because yen appreciation is prompting major domestic customers to consolidate their domestic production facilities or relocate them overseas. Furthermore, users' capacity utilization is in decline. There has also been a dearth of new deals in the company's ultra-pure water supply business for the semiconductor and LCD industries (generating about 30% of FY3/12 OP), and income from basic service charges is likely to decline once contracts reach expiry. Longer-term, in the new 'TA-14' management plan (FY3/13-FY3/15) Kurita focuses on 1) an integrated solution for chemicals, maintenance, and facilities, 2) developing an overseas workforce, and 3) expanding sales, mainly in Asia.

Near-term, we forecast weak operating ratios in the industry overall as domestic manufacturers shift to overseas production. We see a risk that earnings deterioration in ultra-pure water production systems will accompany a pause in sales growth. The growth potential of the overseas water treatment market appears strong, but we believe it will take time before it makes a full contribution to total company earnings. As we believe fundamentals are unlikely to become a share price catalyst any time soon, we see little merit in investing in the stock.

Lanxess AG

Lanxess is a specialty chemicals company involved in: (1) Performance Polymers: mainly for auto tyres, as well as construction electronics and oil E&P; (2) Advanced Intermediates: basic chemical intermediates, fine chemicals for pharma/agro; and (3) Performance Chemicals: specialties/semi-specialties including leather and rubber, inorganic pigments for construction, water treatment chemicals.

Lanxess (low Water exposure) is a water play via its water treatment chemicals business, which has exposure to groundwater remediation, drinking water treatment and wastewater treatment. It is one of the leading producers of ion exchange resins, absorbers and functional polymers for the treatment and purification of water and other liquids. In 2011 a new membrane production plant was commissioned at the Bitterfeld site to produce membrane filtration technology for water treatment applications, with an investment of around €30mn. It is the only manufacturer of these membranes in Europe. Lanxess also has sustainability megatrend exposure to food security and energy efficiency (transport).

Near-term: Lanxess was one of the worst-performing European Chemicals stocks in 2011 but we see three reasons why the shares could outperform in 2012/13: (1) a floor in butadiene pricing in 4Q11 and consequent inflation in the synthetic rubber chain, (2) delays in competitor rubber expansions, and (3) environmental drivers of demand for performance polymers, likely accelerating due to November 2012 legislation in Europe. We also see recovery potential in pigments and solid growth in agchems.

Table 48: Nestlé SA - Registered - Key data

Analyst's Name	Waldschmidt,Robert		
Analyst's Email Id.	robert.waldschmidt@baml.com		
Analyst's Phone No.	+44 20 7996 4412		
	2011	2012E	2013E
Revenues	83,642	91,817	99,801
Operating Profit	12,471	13,921	15,183
Operating Margin	14.9%	15.2%	15.2%
Y-o-Y Growth	-67.9%	11.6%	9.1%
Net Profit	9,487	10,575	11,166
Net Margin	11.3%	11.5%	11.2%
Y-o-Y Growth	-72.3%	11.5%	5.6%
EBIT	12,471	13,921	15,183
EBIT Margin	14.9%	15.2%	15.2%
EBITDA	15,396	17,170	18,685
EBITDA Margin	18.4%	18.7%	18.7%
Operating Cash Flow	9,854.0	14,070.9	14,602.3
Capex	4,779.0	5,191.1	5,631.3
Free Cash Flow	5,075.0	8,879.7	8,971.1
Net Debt/Equity	17.5	12.6	24.9

Source: BofA Merrill Lynch Global Research estimates

Nestlé SA

Nestlé is the world's leading food manufacturer with activities in coffee, bottled water, milk products and dietetics, prepared dishes and pet food, chocolate & confectionery and pharmaceuticals. The company holds a 30% stake in L'Oreal and has JV agreements with several companies.

Nestlé (medium Water Exposure) is a water play via its Nestlé Waters subsidiary (c.8% of 2012E sales), which is the world no.1 in bottled water (Nestlé Pure Life, Perrier, Poland Spring, S.Pellegrino). With around 100 production sites in 36 countries, Nestlé Waters has 32,200 employees and a portfolio of 64 brands. Of these brands, Nestlé Pure Life has become the largest bottled water brand sold in the world. In 2011, sales of Nestlé Waters were CHF6.5bn, 5.2% YoY organic growth and 3.2% real internal growth (5.8% and 4.0%, respectively, for Q3-12). Nestlé also has sustainability exposure to health and wellness and the fight against obesity.

Near-term, Nestlé's scale and spread should enable it to weather most headwinds and deliver mid-single-digit organic sales growth. The shares now offer limited upside after a strong performance since the 1H11 results, in our view. We expect lower input cost pressures to be reinvested in A&P to support slowing organic sales growth, limiting the scope for EPS upgrades. We believe that the shares will be stuck in a trading range as slower near-term growth is offset by the dividend yield and the group's long-term, defensive growth prospects.

Table 49: Nitto Denko Corporation - Key data

Analyst's Name	Kubota,Masashi		
Analyst's Email Id.	masashi.kubota@baml.com		
Analyst's Phone No.	+81 3 6225 7138		
	2012	2013E	2014E
Revenues	607,639	668,000	701,000
Operating Profit	56,491	71,200	79,700
Operating Margin	9.3%	10.7%	11.4%
Y-o-Y Growth	-33.7%	26.0%	11.9%
Net Profit	31,068	49,400	54,500
Net Margin	5.1%	7.4%	7.8%
Y-o-Y Growth	-44.3%	59.0%	10.3%
EBIT	56,491	71,200	79,700
EBIT Margin	9.3%	10.7%	11.4%
EBITDA	93,297	109,200	115,700
EBITDA Margin	15.4%	16.3%	16.5%
Operating Cash Flow	75,335.0	76,311.3	85,619.0
Capex	33,758.0	48,000.0	40,000.0
Free Cash Flow	41,577.0	28,311.3	45,619.0
Net Debt/Equity	(34.6)	(34.6)	(37.3)
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Nitto Denko Corporation

Nitto Denko has diversified its operations into many areas such as LCD polarizing films, water filtration systems and medical products based on its adhesive-tape technology. The company holds over 50% global market share for LCD polarizing film. With its corporate slogan of "Global Niche Top", Nitto Denko has top market share in many businesses and generates a high profit margin.

Nitto Denko (low Water exposure) is a water play on its Medical & Membrane division, which has a c.30% market share of the global membrane market. Its membranes mainly comprise RO membranes, particularly for seawater desalination and wastewater treatment and reuse where it is the global no.1 actor. With production strongholds established in Japan, the U.S. and China, the company is expanding water-related business on a global scale by maintaining sales technical service sites at more than 20 global locations. Domestic Japanese demand for general industrial applications was firm in FY12, but overall demand was weak due to delays or scale-backs in seawater desalination projects overseas and inventory adjustment in the second half of the fiscal year in China, India and other emerging countries. While conditions remain tough for its medical membrane segment, we expect solid medium to long-term growth in demand for its membranes due to global water shortages. The company also has sustainability megatrend exposure to energy efficiency and health.

Near-term, Nitto Denko is well on the way to profitability in its polarizing film business through productivity improvement. Demand for high-profit ITO film is growing thanks to smartphone and tablet PC market expansion. Still, it needs to turn medical membrane earnings around, but has maintained double-digit ROE on improved profitability on LCD materials and earnings reform in industrial tape. We think the shares now have ample upside potential after being discounted as an LCD supply chain stock.

Outotec

Outotec designs, develops, and supplies process technology and solutions for various stages of the mining and metals extraction business. Based in Finland, it sells a full range of products from grinding mills to smelters, and it also acts as an EPC business (engineering, procurement and construction). Around two-thirds of revenues are generated in emerging markets, and 70% of sales come from commodities. Around 30% of revenues come from services (higher gross margin).

Outotec (low Water exposure) is a water play through its Energy, Light Metals and Environmental Solutions division's water treatment business. Outotec has expanded this business from mines and metallurgical plants to the growing industrial water treatment market. It is now a leader in the design, fabrication and supply of thickening, paste thickening and clarifying solutions to the mineral, chemical and wastewater treatment industries. Outotec also delivers drinking water solutions from catchment to consumer. Furthermore, it has sustainability megatrend exposure to energy efficiency.

Near-term, we think the shares may struggle if mining companies decide to defer their major expansion plans. We see downside risks to consensus estimates and expect the shares to stay under pressure while key commodities are at low levels. Longer-term, we think Outotec holds potential, given its expansion into different verticals and ongoing build-out of the service network.

Table 50: Outotec - Key data

Analyst's Name	Maslen,Ben		
Analyst's Email Id.	ben.maslen@baml.com		
Analyst's Phone No.	+44 20 7996 4783		
	2011	2012E	2013E
Revenues	1,386	1,991	2,002
Operating Profit	112	180	181
Operating Margin	8.1%	9.0%	9.0%
Y-o-Y Growth	168.9%	61.0%	0.4%
Net Profit	79	124	125
Net Margin	5.7%	6.2%	6.3%
Y-o-Y Growth	196.3%	57.0%	0.8%
EBIT	112	180	181
EBIT Margin	8.1%	9.0%	9.0%
EBITDA	131	212	225
EBITDA Margin	9.5%	10.6%	11.2%
Operating Cash Flow	240.9	148.3	122.1
Capex	33.1	45.4	61.5
Free Cash Flow	207.8	102.9	60.6
Net Debt/Equity	(84.0)	(67.7)	(57.9)

Source: BofA Merrill Lynch Global Research estimates

Table 51: Pall Corporation - Key data

Analyst's Name	De Bruin, Derik		
Analyst's Email Id.	derik.de_bruin@bamll.com		
Analyst's Phone No.	+1 646 855 3100		
	2012	2013E	2014E
Revenues		2,740	2,875
Operating Profit		512	562
Operating Margin	17.0%	18.7%	19.5%
Y-o-Y Growth	-0.1%	32.2%	9.9%
Net Profit		370	407
Net Margin	10.5%	13.5%	14.1%
Y-o-Y Growth	0.6%	31.6%	10.0%
EBIT		512	562
EBIT Margin	14.5%	18.7%	19.5%
EBITDA		613	672
EBITDA Margin	18.2%	22.4%	23.4%
Operating Cash Flow		483.9	530.1
Capex		165.5	173.7
Free Cash Flow		318.5	356.4
Net Debt/Equity		(10.2)	

Source: BofA Merrill Lynch Global Research estimates

Pall Corporation

Headquartered in Port Washington, New York, Pall Corporation (PLL) is a leading supplier of filtration, separation, and purification technologies for the removal of solid, liquid, and gaseous contaminants from a broad range of fluids and gases and it remains one of the few filtration industry pure plays. With the recent hiring of a new CEO, Pall is currently implementing various restructuring initiatives to streamline the business and expand margins.

Pall Corporation (low Water exposure) is a water treatment play on filtration. Through its municipal water business, Pall offers microfiltration, ultrafiltration, and reverse osmosis membrane systems for municipal water treatment. The Pall Aria line of water treatment systems uses hollow-fiber membrane technology to produce pure water from almost any water source, removing bacteria, viruses, trace elements, and other contaminants from the water supply. The system can also be used to desalinate sea and brackish water, and to clean up wastewater. In addition, Pall works with industrial and agricultural customers on water treatment. Furthermore, the company has sustainability megatrend exposure to safety and security.

Near-term, while the fundamentals of the business are strong and early restructuring activities have been promising, the shares now trade at a premium to most peers. As such, until organic growth accelerates, which may be difficult in the near term due to macro uncertainty, further multiple expansion is difficult to justify. Pall Corp is a global leader in the filtration market and enjoys attractive end markets, a strong consumable stream, mostly non-discretionary products, and high barriers to entry.

Table 52: Sembcorp Industries Ltd - Key data

Analyst's Name	Chong, Wee Lee		
Analyst's Email Id.	wee.lee.chong@bamll.com		
Analyst's Phone No.	+65 6678 0403		
	2011	2012E	2013E
Revenues	9,047	9,934	12,203
Operating Profit	1,066	1,248	1,561
Operating Margin	11.8%	12.6%	12.8%
Y-o-Y Growth	-9.6%	17.1%	25.0%
Net Profit	809	795	961
Net Margin	8.9%	8.0%	7.9%
Y-o-Y Growth	2.1%	-1.7%	20.8%
EBIT	1,066	1,248	1,561
EBIT Margin	11.8%	12.6%	12.8%
EBITDA	1,285	1,567	1,935
EBITDA Margin	14.2%	15.8%	15.9%
Operating Cash Flow	975.0	1,268.1	1,718.4
Capex	1,244.7	1,056.6	1,083.1
Free Cash Flow	(269.7)	211.5	635.4
Net Debt/Equity	(18.2)	(8.6)	(5.1)

Source: BofA Merrill Lynch Global Research estimates

Sembcorp Industries Ltd

Sembcorp Industries (SCI) has three businesses: marine engineering, utilities, and industrial parks development. SCI has a 61% stake in SGX-listed Sembcorp Marine, which is the marine engineering arm and the largest business division. SCI's second-largest business is utilities, with Singapore accounting for >50% of net profit. The overseas utilities businesses are in Rest of Asia & Australia, Middle East & Africa, the UK, China, and the Americas, in descending order of earnings contribution.

SCI (low Water exposure) is a water play via Sembcorp Utilities, which offers industrial and municipal water treatment, water supply and desalination solutions. It is Singapore's no.1 water management company (via the acquisition of Cascal, a leading municipal water group) and has completed a wastewater plant at Banyan. It is also expanding its water treatment business in China (Jiangsu for end-2013). In addition, Sembcorp develops, owns and operates large-scale integrated power-and-desalination plants in the UAE and Oman, which use various seawater desalination technologies such as multi-stage flash and RO. SCI won "Water Company of the Year" and "Desalination Deal of the Year" at the 2011 GWI Global Water Awards. The company also has sustainability megatrend exposure to safety and security (O&G) and renewables.

Near-term, we believe that investors prefer direct exposure to the new building cycle for rigs and offshore units in 2011 via SCI's 61%-owned Sembcorp Marine (SMM). SCI's appeal to more risk-averse investors remains the relative profit stability provided by its power and water utilities. Still, we expect the Utilities business to see visible growth only from 2H12, when its long-gestation projects in Singapore, the Middle East and India start contributing.

Table 53: Societe Generale de Surveillance Holding SA - Key data

Analyst's Name	Reeks,Toby		
Analyst's Email Id.	toby.reeks@bamf.com		
Analyst's Phone No.	+44 20 7996 2157		
	2011	2012E	2013E
Revenues	4,797	5,614	6,058
Operating Profit	790	896	1,043
Operating Margin	16.5%	16.0%	17.2%
Y-o-Y Growth	-5.4%	13.3%	16.5%
Net Profit	534	596	696
Net Margin	11.1%	10.6%	11.5%
Y-o-Y Growth	-9.1%	11.5%	16.8%
EBIT	790	896	1,043
EBIT Margin	16.5%	16.0%	17.2%
EBITDA	1,015	1,165	1,359
EBITDA Margin	21.2%	20.7%	22.4%
Operating Cash Flow	653.2	817.7	1,016.0
Capex	337.0	405.6	499.8
Free Cash Flow	316.2	412.1	516.2
Net Debt/Equity	4.6	11.5	9.6

Source: BofA Merrill Lynch Global Research estimates

Table 54: Spirax-Sarco - Key data

Analyst's Name	Toms,Alex		
Analyst's Email Id.	alex.toms@bamf.com		
Analyst's Phone No.	+44 20 7995 8720		
	2011	2012E	2013E
Revenues	650	658	690
Operating Profit	131	127	142
Operating Margin	19.9%	19.0%	20.4%
Y-o-Y Growth	5.8%	-3.6%	12.4%
Net Profit	92	87	97
Net Margin	14.1%	13.2%	14.0%
Y-o-Y Growth	6.9%	-5.9%	11.8%
EBIT	131	127	142
EBIT Margin	20.2%	19.2%	20.6%
EBITDA	156	156	173
EBITDA Margin	24.0%	23.7%	25.1%
Operating Cash Flow	76.3	101.7	106.8
Capex	40.7	33.2	34.6
Free Cash Flow	35.7	68.5	72.2
Net Debt/Equity	(3.1)	(8.4)	(13.2)

Source: BofA Merrill Lynch Global Research estimates

Societe Generale de Surveillance Holding SA

SGS is the global leader in inspection, verification, testing and certification services.

SGS (low Water exposure) is a play on water treatment for industry and agriculture. It offers a range of on-site sampling and analysis services for water quality assurance and to ensure wastewater discharge is not contributing to environmental contamination. It also provides water treatment solutions including the treatment of ARD (Acid Rock Drainage) and heavy metal contaminated wastewaters, providing solutions to mineral processing and industrial facilities. SGS's agricultural water testing services help to evaluate water quality and improve usage, particularly in terms of irrigation and efficient usage of resources. SGS also has sustainability megatrend exposure to a range of environmental issues and safety & security.

Near-term, as the global leader in the testing and inspection market, SGS should benefit from structural growth drivers: legislation, emerging markets growth, and outsourcing – these structural factors have not gone away. SGS's earnings progression has been depressed by adverse FX and its 2014 investment plan, but it should now be approaching the peak of its investment phase and FX has turned more favourable. The stock trades on a premium multiple, which we expect to remain the case.

Spirax-Sarco

Spirax Sarco is the world leader in the control and efficient use of steam and other industrial fluids. It has a comprehensive product range providing system solutions for steam, fluid handling and peristaltic pumping.

Spirax Sarco (low Water exposure) is a water treatment play on industrials and high-quality steam. Unlike traditional suppliers of water treatment chemicals, which focus on the boiler, it also considers the steam and condensate system. Spirax's Steam System Conditioning service helps to analyse water quality, increase the efficiency of the plant, cut down energy consumption, lower maintenance costs and reduce plant downtime associated with the management of water and steam quality within a steam system. Spirax also has sustainability megatrend exposure to energy efficiency.

Near-term, Spirax Sarco's key competitive advantage is its large, well-trained salesforce, who are steam-system specialists and can provide customers with energy-saving solutions. Key drivers are industrial production (steam is used in almost every industrial process, energy costs and geographic sales penetration. Management seeks to augment this growth with bolt-on M&A and investments in new products.

Table 55: Stericycle - Key data

Analyst's Name	Wilson, Erin		
Analyst's Email Id.	erin.e.wilson@bamll.com		
Analyst's Phone No.	+1 646 855 2590		
	2011	2012E	2013E
Revenues	1,676	1,901	2,093
Operating Profit	444	497	561
Operating Margin	26.5%	26.2%	26.8%
Y-o-Y Growth	14.0%	12.0%	12.7%
Net Profit	249	286	324
Net Margin	14.9%	15.1%	15.5%
Y-o-Y Growth	13.2%	14.9%	13.3%
EBIT	444	497	561
EBIT Margin	26.5%	26.2%	26.8%
EBITDA	510	572	641
EBITDA Margin	30.4%	30.1%	30.6%
Operating Cash Flow	333.5	381.6	428.3
Capex	648.1	112.5	115.9
Free Cash Flow	(314.6)	269.1	312.4
Net Debt/Equity	64.7	55.3	38.5

Source: BofA Merrill Lynch Global Research estimates

Stericycle

SRCL is the leading provider of regulated medical waste collection, treatment, and disposal services worldwide, offering low-cost solutions to health care providers and other organizations.

SRCL (low Water exposure) is a play on industrial wastewater including wastewater treatment, solidification, and liquid waste expertise. It performs a range of services including testing, excavation, transportation, onsite groundwater treatment, and disposal of contaminated soil, liquids, and sludge. The company also has sustainability megatrend exposure to safety & security.

Near-term, its extensive global infrastructure serves as an effective platform for its broad portfolio of ancillary services. Unprecedented industry changes should drive greater health care utilization and broader services implementation should complement its geographic expansion and acquisition strategy to drive EPS growth of 15% over the next few years, on our estimates. Risks to our call are FX and commodity pricing, competition from traditional waste companies, unfavorable regulations, and acquisition-related miscues.

Table 56: Thermo Fisher Scientific Inc. - Key data

Analyst's Name	De Bruin, Derik		
Analyst's Email Id.	derik.de_bruin@bamll.com		
Analyst's Phone No.	+1 646 855 3100		
	2011	2012E	2013E
Revenues	11,559	12,381	12,785
Operating Profit	2,129	2,353	2,530
Operating Margin	18.4%	19.0%	19.8%
Y-o-Y Growth	15.7%	10.5%	7.5%
Net Profit	1,330	1,114	1,368
Net Margin	11.5%	9.0%	10.7%
Y-o-Y Growth	28.4%	-16.2%	22.8%
EBIT	2,129	2,353	2,530
EBIT Margin	18.4%	19.0%	19.8%
EBITDA	2,993	3,336	3,527
EBITDA Margin	25.9%	26.9%	27.6%
Operating Cash Flow	1,691.0	1,853.6	2,313.4
Capex	266.5	297.1	306.8
Free Cash Flow	1,424.5	1,556.5	2,006.6
Net Debt/Equity	40.0	36.1	27.0

Source: BofA Merrill Lynch Global Research estimates

Thermo Fisher Scientific Inc.

Thermo Fisher Scientific is the largest and most diversified life sciences company. It offers a comprehensive product portfolio consisting of analytical instrumentation, lab equipment, consumables, software and services used throughout research, drug manufacturing, diagnostics, food and consumer product safety, and environmental testing.

TMO (low Water exposure) is a play on water analysis tools and solutions. Via its Dionex unit, it is the dominant player in ion chromatography (IC) with an estimated 70% market share. Because water samples, especially wastewater samples, are typically complex in nature (that is, they may contain compounds that interfere with the detection of a specific pollutant), a significant amount of sample preparation may be required as part of the analysis. As such, separation methods based on IC and liquid chromatography are typically used as part of the sample prep process used by government and industry to provide solutions for environmental water testing for a wide range of regulated and emerging inorganic elements and organic compounds. TMO also has sustainability megatrend exposure to safety & security.

Near-term, we think that recent acquisitions of complementary technologies in higher-growth areas, a new mass spectrometry product cycle, ongoing process improvement initiatives, and an expanding footprint in emerging and applied markets will help TMO to grow revenues steadily (in line with, or even modestly better than, the overall tools market). We forecast a low-teens EPS CAGR over the next several years.

Table 57: Toray - Key data

Analyst's Name	Kuwahara, Akiko		
Analyst's Email Id.	akiko.kuwahara@bamll.com		
Analyst's Phone No.	+81 3 6225 6902		
	2012	2013E	2014E
Revenues			
Operating Profit		105,000	
Operating Margin	6.8%	6.6%	7.2%
Y-o-Y Growth	7.6%	-2.5%	10.5%
Net Profit	64,218	9,400	66,700
Net Margin	4.0%	3.7%	4.1%
Y-o-Y Growth	10.9%	-7.5%	12.3%
EBIT		105,000	
EBIT Margin	6.8%	6.6%	7.2%
EBITDA		176,000	
EBITDA Margin	11.0%	11.1%	11.8%
Operating Cash			
Capex			
Free Cash Flow		8,897.0	
Net Debt/Equity	59.0	56.4	52.1

Source: BofA Merrill Lynch Global Research estimates

Toray Industries Inc.

Toray is the largest domestic Japanese synthetic fiber maker. It has a solid reputation for R&D and technological depth, is a top global maker of PAN carbon fibers, and has strong tie-ups with top users in all business segments, which position the company advantageously. It has made a clear commitment to the environmental segment.

Toray (low Water exposure) is a water play through its environment & engineering segment's water treatment business. It is the only company in the world that self-manufactures and sells all four types of filtration membranes, specifically, reverse osmosis (RO), nanofiltration (NF), ultrafiltration (UF) and microfiltration (MF) membranes. Its RO membranes are ideal for desalination – including nanotechnology-based polymer separation membrane technology – and it has gained a 30% share of the global market. Its membranes have been used in the largest desalination plants in Africa (Algeria) and Asia (Singapore), and are gaining ground in the rapidly expanding Chinese market. Earnings from Toray's water treatment business have declined because owing to a lack of shipments for major projects and yen appreciation. Toray also has sustainability megatrend exposure to energy efficiency (transport).

Near-term, we see a period of expanded demand for carbon fiber composite materials from aircraft apps, and expect fibers/textiles to re-emerge as the top profit contributor on growing demand from functional apparel. Fibers/textiles growth is likely to offset a worsening outlook for IT-related products and drive overall profit, in our view. Post-financial crisis, management is focusing more heavily on cost/inventory control. Toray is developing into a global producer of advanced materials. Its strengths include R&D and technology, based on good relationships with top users.

Table 58: Companies involved in Water Treatment that we do not cover

Company	BBG ticker	Overview
ABENGO SA	ABG SM	ABG is an international company that applies technology solutions for sustainable development in the energy and environment sectors. The company's technology generates electricity from the sun, produces biofuels, desalinates seawater and recycles industrial waste.
ACCIONA	ANA SM	ANA is a global developer and service provider of solutions in renewable energy, large civil infrastructures and water treatment and reverse osmosis desalination. The company has sustainable development at the heart of its strategy.
ALIRAN IHSAN RESOURCES BERHAD	AIRB MK	AIRB operates water treatment, rehabilitation of water treatment plants, as well as operation, maintenance, and services of water treatment plants.
AMIAD FILTRATION SYSTEMS	AFS LN	AFS produces and supplies water filters and filtration systems for the industrial, municipal, and irrigation markets. The company specializes in developing and marketing environmentally-friendly filtration solutions for industrial, municipal, and agricultural use.
ASHLAND INC	ASH US	ASH is a global specialty chemical company serving markets including architectural coatings, automotive, construction, energy, food and beverage, personal care, pharmaceutical, tissue and towel, and water treatment. The company operates four commercial units: Ashland Specialty Ingredients, Ashland Water Technologies, Ashland Performance Materials and Ashland Consumer Markets.
BEST WATER TECHNOLOGY AG	BWT AV	BWT develops and markets water treatment technologies. The company produces filters, water softeners, disinfection devices, dosing systems, fittings and sanitary fixtures. BWT also designs and constructs water supply and wastewater treatment plants.
BION ENVIRONMENTAL TECH.	BNET US	BNET designs, markets, and manages waste, wastewater, and storm water treatment systems for the agricultural and food processing industries. Bion also produces organic fertilizers, potting soils, and soil amendments by mixing nutrient-rich livestock waste with sand, peat moss, and pine bark. Bion markets its fertilizers under its BionSoil label.
BIOTECH ENVIRONMENTAL TECH	BQE CN	BQE has developed the Biosulphide Process. The company's process is intended for the treatment of metal laden, sulphate rich wastewater streams for acid neutralization and metal recovery.
BRITE TECH GROUP	BTEC MK	BTEC is an investment holding company. Through its subsidiaries, the Company provides analytical laboratory services in air, water quality, soil, food, and organic analysis. Brite-Tech also provides water treatment, environmental impact studies, rental of portable ion-exchange resin columns, installation and commissioning of water purification.

Table 58: Companies involved in Water Treatment that we do not cover

Company	BBG ticker	Overview
CALGON CARBON CORP.	CCC US	Calgon Carbon Corporation manufactures and markets products and services employed for separation, concentration, and purification of liquids and gases. The company serves customers around the world in a variety of areas, including drinking water and wastewater treatment, environmental remediation, industrial process applications, chemical manufacturing, refining, and air purification.
DANAHER	DHR US	DHR designs, manufactures and markets professional, medical, industrial and commercial products and services in the sectors of test and measurement, environmental, life sciences, dental, and industrial technologies.
ECOSPHERE TECHNOLOGIES INC	ESPH US	ESPH is a diversified water engineering and services company primarily focused on the natural gas industry. The company offers water recycling services at the well site to provide clean water for energy companies to extract natural gas from unconventional shale plays.
GASFRAC ENERGY SERVICES INC	GFS CN	GFS offers oilfield services. The company provides liquefied petroleum gas fracturing services to oil and gas companies. Gasfrac Energy Services facilitates the production of oil and natural gas in Canada and the US.
G.U.D. HOLDINGS	GUD AU	GUD manufactures and markets consumer and industrial products. The company's products include small electrical appliances, lawnmowers, cleaning products, automotive parts, water transfer pumps and water pressure systems, security products, swimming pool pumps, and spa bath controllers.
HALOSOURCE INC	HALO LN	HALO manufactures water purification products and systems. The company uses N-halamine bead technology to kill bacteria and viruses that may cause disease in drinking water; chitosan clarifying technology to treat water in pools, spas and water parks; and natural polymers to treat storm water runoff. It operates in the US, China and India.
HECKMANN CORP.	HEK US	HEK is an investment holding company, operating in the water industry. The company, through its subsidiaries, provides water treatment and disposal services, operates bottling facilities, and transports water through pipelines.
H2O INNOVATION INC	HEO CN	HEO is developing systems and the technology necessary to produce high-quality drinking water in Canadian and international communities. The company's technologies are centered on membrane filtration by reverse osmosis and by centrifugation. H2O is seeking to market existing water treatment solutions, as well as its desalination and purification technology.
HYFLUX	HYF SP	Hyflux designs, fabricates, installs, commissions, and maintains treatment systems for water purification, wastewater treatment, water recycling, advanced membrane filtration, and high-purity piping systems and equipment hook-up. The company services its customers in several industries, including electronics, pharmaceuticals, chemicals, food and beverage, and biotechnology.
ORGANO CORP	6368 JP	ORGANO CORPORATION manufactures water treatment equipment and other related peripherals and supplies. The company also produces industrial chemical products such as activated carbon and charcoal, water treatment compounds, and ion exchange resins. Organo's water treatment systems are used for ultra-pure water production in nuclear power and semiconductor manufacturing processes.
PAN ASIA ENVIRONMENTAL PROTECTION GROUP	556 HK	Pan Asia Environmental Protection Group Ltd. designs, sells, and installs water and flue gas treatment products and equipment.
PENTAIR	PNR US	PNR is a diversified manufacturing company. The company produces electrical and electronic enclosures, professional tools, and water products. Pentair manufactures and distributes its products in North America, Europe, and Asia.
TIANJIN CAPITAL ENVIRONMENTAL PROTECTION GROUP	1065 HK	Tianjin Capital Environmental Protection Group Company Limited, through its subsidiaries, processes sewage water and constructs sewage water processing plants. The company also operates road and toll stations in Tianjin.
WATERLOGIC PLC	WTL LN	WTL manufactures and distributes coal. The company acquires, explores, and develops coal properties. Western Coal produces metallurgical coal from mines and operates in the US, Canada, and UK.

Source: Bloomberg, company sources

Table 59: BofAML Global Water - Water Management Stock List

Company	Water exposure
ITRON	Medium
BASF	Low
DEERE & CO	Low
DUPONT	Low
MELROSE PLC	Low
MONSANTO	Low
SYNGENTA AG-REG	Low

Source: BofA Merrill Lynch Global Research.

Water use in agriculture is often highly inefficient with only a fraction of the water diverted for agriculture effectively used for plant growth

Globally, roughly 15-35% of irrigation withdrawals are estimated to be unsustainable (Source: WBCSD)

Water management solutions

In our view, a number of companies are well placed to benefit from the theme of water management, vis-à-vis their involvement in areas such as irrigation, drought resistant seeds and crops, smart metering and household water efficiency.

Water management has assumed greater importance in recent years as a strategy to improve efficiency and the sustainable use of resources. Water usage is growing faster than population growth – with US usage alone increasing 207% from 1950 to 2000 and per capita usage growing by 20% during the same period (Source: EPA). In a situation of growing water scarcity, fragmented water management (and conflicting interests of stakeholders) is no longer cost effective or sustainable in the long term. There is growing recognition that the current water crisis is as much a consequence of weak policies and poor management as natural scarcity. Effective water management enables users to cut their demand, mitigate the risks associated with its shortage and reduce the need for capex-intensive solutions.

Given that agriculture accounts for 70% of global water use – as high as 95% in some EMs – and up to 60% of this water is wasted, smarter irrigation will be key to achieving more crop per drop. There is huge potential for the US\$5.6bn irrigation market given that gravity flow/furrow irrigation accounts for 91% of irrigation globally, and low energy precision application still has extremely low global penetration. Moreover, climate change and extreme weather will make increasing yields a pressing reality.

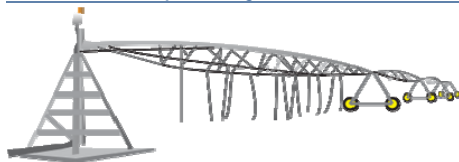
More attention is now focused on water losses and unaccounted-for water, whether it is due to inefficient usage, leakages or information deficiencies. Leakage and non-revenue water also costs utilities upward of US\$20bn pa in lost revenues, which should create substantial downstream basic and smart meter demand from water utilities. We forecast a CAGR of 19% in water meter spending to 2016.

Finally, water efficiency will become as important as energy efficiency as 70% of the global population becomes urban by 2050. This will mean that household water management will become increasingly important. The potential is huge – if all US households installed water-saving features, the dollar-volume savings would be US\$11.3mn per day or more than US\$4bn pa (Source: American Water Works Association).

Agriculture & irrigation - more crop per drop

Agriculture accounts for approximately 70% of global water withdrawals and has significant long-term challenges in the form of water scarcity and rising food needs. In the light of extreme weather – drought becoming part of the “new normal” – there is a pressing need to implement better water management practices with the appropriate infrastructure to develop solutions that produce crops with greater water efficiency. Solutions include improving soil structure; increases surface water storage; weed control using herbicides (lowers the need for tillage, which removes topsoil, and maintains roots, which improves water absorption; and: more efficient irrigation systems (deliver water to roots, reducing waste).

Chart 72: Centre pivot irrigation



Source: University of Maryland, BofA Merrill Lynch Global Research

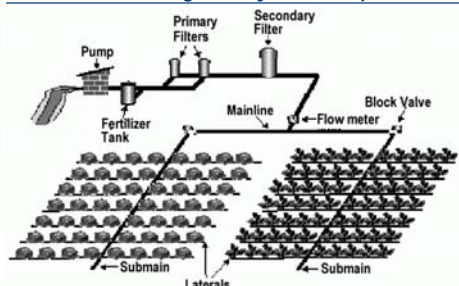
US\$5.6bn global irrigation market

The irrigation market is estimated to be worth US\$5.6bn, equally split between agriculture and lawn and garden. The agricultural market in particular looks to us to be poised for strong growth on the back of drivers, such as global population growth, water use efficiency, food requirements, biofuels, and environmental considerations. There is huge room for improved efficiency with gravity flow/furrow irrigation accounting for 91% of irrigation globally, followed by sprinklers (8%) and low-volume methods (1%). More efficient techniques such as mechanised irrigation (e.g., low elevation spray elevation (LESA)) offer hope and have captured a 46% market share in the US (Source: Lindsay, Aquatsat). For the agricultural irrigation segment, Valmont and Lindsay dominate with some 73% of global market share (Source: Lindsay).

More efficient irrigation

Irrigation provides approximately 40% of the world's food including most of its horticultural output from an estimated 20% of agricultural land (Source: FAO). Given the strong pressure to produce more with less, and a growing awareness of the environmental impact of agriculture, we are seeing a rethink of current strategies for intensifying agriculture in favour of more efficient irrigation.

Chart 73: Micro-irrigation system components



Source: International Commission on Irrigation and Drainage

Centre pivots through to micro-irrigation

We see significant opportunities in the development of more efficient forms of irrigation. Centre pivots rotate around a centre point and so their coverage areas are circular and provide considerable advantages over older methods -- such as furrow and gravity-fed irrigation -- as they conserve water, energy, and labour while increasing or stabilising crop production. Other lower-cost beneficiaries include micro-irrigation, trickle irrigation, daily flow irrigation, drop irrigation, SIP (sub-irrigated planter) irrigation and diurnal irrigation -- all of which fall into the more crop per drop category. The choice of irrigation technology will depend on the level of local economic development, the hydrological situation, political and social institutions, management skills, financial resources and popular attitudes to water.

Table 60: Overview of main types of irrigation

Type	Overview
Surface irrigation	Based on the principle of moving water on land by simple gravity in order to wet it, either partially or completely, before infiltrating. Often this type of irrigation leads to the run-off of chemicals and fertilisers.
Sprinkler Irrigation	Consists of a pipe network, through which water moves under pressure before being delivered to the crop via sprinkler nozzles.
Localised Irrigation	A system whereby the water is distributed under low pressure through a piped network, in a pre-determined pattern, and applies water as a small discharge to each plant. There are three main categories: Drip irrigators: drip emitters are used to apply water slowly to the soil surface Spray or micro-sprinkler irrigation: applies water slowly to the roots of plants through a network of valves, pipes, tubing and emitters Bubbler irrigation: a small stream is applied to flood small basins or the soil adjacent to individual trees
Spate Irrigation	Random irrigation using the floodwater of a normally dry water course or riverbed.

Source: Aquastat, BofA Merrill Lynch Global Research

Micro-irrigation has huge EM potential

Micro-irrigation increases land productivity, improves soil conditions and brings about savings in water, energy and fertilisers. Moreover, it has great potential in markets like India where only 8% of feasible irrigated land uses micro-irrigation. Globally, only 14% of irrigated land uses micro-irrigation.

Table 61: International micro-irrigation potential

Region	# countries	Available irrigated area	Sprinkler irrigated area	Drip irrigated area	Total micro-irrigated area	Proportion of available irrigated area
Americas	35	41.9	43.3	1.9	15.2	36%
Europe	35	25.2	10.1	1.8	11.9	47%
Asia	46	194.0	6.8	1.8	8.6	4%
Africa	53	12.5	1.9	0.4	2.3	18%
Oceania	5	2.6	0.9	0.2	1.1	42%
GLOBAL	174	276.2	33.0	6.1	39.1	14%

Source: Jain Irrigation

If all US households installed water-saving features, water use would decrease by 30%, saving an estimated 5.4bn gallons per day. This would result in dollar-volume savings of US\$11.3mn per day or more than US\$4bn per year (Source: American Water Works Association)

The average family of four can use up to 400 gallons of water every day, and, on average, approximately 70% of that water is used indoors

Household water - 35-70% savings potential

Household water management is a rapidly growing sector, comprising companies that provide the technology and services to improve end-use efficiency for residential customers. Companies providing high-efficiency equipment including showers, faucets, toilets and other residential and commercial appliances may benefit as water prices rise, limits to economic supply are reached, new regulations are adopted and awareness of efficiency potential increases. Companies in this area include Geberit and Toto. The potential is huge – if all US households installed water-saving features, water use would decrease by 30%, saving an estimated 5.4bn gallons per day. This would result in dollar-volume savings of US\$11.3mn per day or more than US\$4bn per year.

Three types of household water

Household water consists of three main components (grey water, yellow water and brown water) each with diverse properties. While faeces-contaminated brown water contains most of the organic substances, urine-contaminated yellow water contains nearly all the soluble nutrients, such as nitrogen, phosphorus, potassium etc. Grey water is domestic wastewater generated from dishwashing, laundry and bathing. Different uses can be derived from each type of waste water. Grey water has received the most attention as it can be channelled back into the household water cycle or be allowed to drain back into the soil for groundwater recharge.

Efficiency measures could reduce demand by 70%

By installing more efficient water fixtures and regularly checking for leaks, households can reduce daily indoor per-capita water use by 35-70% (Source: American Water Works Association, US EPA).

Table 62: Household water use statistics – daily US average vs. efficient water use average

Use	Daily average g per capita	% daily use	Daily efficient* g per capita	% daily use
Showers	11.6	16.8%	8.8	19.5%
Clothes washers	15.0	21.7%	10.0	22.1%
Dishwashers	1.1	1.4%	8.2	1.5%
Toilets	18.5	26.7%	0.7	18.0%
Baths	1.2	1.7%	1.2	2.7%
Leaks	9.5	13.7%	4.0	8.8%
Faucets	10.9	15.7%	10.8	23.9%
Other domestic	1.6	2.2%	1.6	3.4%
Total Use	69.3 gallons		45.2 gallons	

Source: American Water Works Association, BofA Merrill Lynch Global Research. * By installing more efficient water fixtures and regularly checking for leaks.

Best practice is good, but incentives will be key

One of the principal policy levers of water conservation available to governments and water utilities is to impose a volumetric water charge on households. This requires that (1) households have water meters (ideally smart meters) and (2)

WaterSense has enabled the saving of a cumulative 287bn gallons of water and US\$4.7bn in water and energy bills

that household water bills depend on the amount of water consumed. Water-efficiency best-practice voluntary standards, legislation and subsidies will be critical for the growth of this industry. Some examples include:

- **WaterSense** in the US helps people save water with a product label and tips on saving water around the home. To date, WaterSense estimates that it has enabled the saving of a cumulative 287bn gallons of water and US\$4.7bn in water and energy bills. By the end of 2011, reductions of 38.4bn kWh of electricity and 13m metric tons of carbon dioxide were achieved through the use of WaterSense labelled products.
- **The US Green Building Council and LEED** is an internationally recognised green building certification system known as the Leadership in Energy and Environmental Design certificate. The LEED promotes a whole building approach to sustainability by recognising performance in key areas including water efficiency.
- **UK Water Supply (Water Fitting) Regulations 1999** are national requirements for the design, installation, composition and maintenance of water fixtures and fittings. These regulations are intended to protect customers and the environment from poor water quality and the misuse of water supplies.
- **Australia's commitment to household water conservation:** In addition to mandatory water restrictions in many parts of the country, a significant number of Australians have been voluntarily conserving water by adopting water-saving practices and installing water-saving devices such as dual-flush toilets. The A\$250mn National Rainwater and Greywater initiative aims to help people use water wisely in their everyday lives and includes a rebate of up to A\$500 for a household that installs rainwater tanks or Greywater systems.

Many barriers remain

Nevertheless, significant barriers remain – notably the low price of water and the lack of funding to carry out water-saving projects. Domestic solar initiatives may provide a useful guide, whereby a residence can be rewarded for water efficiency.

Water meters – tapped for 19% CAGR

In the water market, growing demand and greater awareness propelled by this year's US drought should drive basic and smart downstream meter installations in order to combat leakage and lost revenue.

Metering – “what gets measured gets managed”

In addition to tackling the huge issue of non-revenue water (NRW), there is an increasing realisation that companies can conserve water and reduce costs with more data – which is fuelling the growing application of demand-side management. However, existing mechanical water meters (90-95% of the global market) provide limited information on the real-time status of water availability and quality. Moreover, little information is shared, which leads to water stress for downstream users.

[A comprehensive overview of metering & the smart grid can be found in Joe Osha and team's "From revolution to Evolution" report](#)
[Alternative Energy, 10 September 2012](#)

Chart 74: Non-revenue water (NRW)

System Input Volume	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
			Billed Un-metered Consumption	Non Revenue Water (NRW)
		Unbilled Authorized Consumption	Unbilled Metered Consumption	
			Unbilled Un-metered Consumption	
	Water Losses	Apparent Losses (Commercial Losses)	Unauthorized Consumption	
			Customer Meter Inaccuracies and Data Handling Errors	
		Real Losses (Physical Losses)	Leakage in Transmission and Distribution Mains	
			Storage Leaks and Overflows from Water Storage Tanks	
			Service Connections Leaks up to the Meter	

Source: Smart water Networks Forum, BofA Merrill Lynch Global Research

Smart water meters are data-logging devices that enable commercial and residential customers to enhance efficiency and analyse water flow to detect abnormal water usage or leakage. On average, a meter can save up to 20l of water per day as customers are more aware of the water they use

Smart water meters are part of the solution

'Smart' water meters – advanced sensor networks and automation systems – are a solution to water wastage. Smart water meters are data-logging devices that enable commercial and residential customers to enhance efficiency and analyse water flow in order to detect abnormal water usage or leakage.

- **Advanced meter infrastructure (AMI)** consists of water meters capable of two-way communication over a fixed network with other smart devices and stakeholders active in water systems. Stakeholders include utilities and utility customers.
- **Basic meters do not feature communication capability** but water utilities will continue to demand basic meters, in our opinion.
- **Distribution automation (DA) hardware and software allows utilities to influence water flows and usage** between the distribution substation and end user.

Table 63: Smart water management at three levels

Environment	Utilities	Companies
Water resource mapping and availability	Water quality and usage	Water usage tracking
Water quality monitoring and management (surface and subsurface)	Discharge, combined sewer overflow	Water quality control (into and within plants, discharges)
Land use analysis	Asset management	Supply-chain optimisation
Extraction monitoring (surface and subsurface)	"Smart levees" and levee monitoring systems	Energy management
Flood control	Weather event assimilation	Business process improvements
	Energy management	Metrics and management

Source: IBM, BofA Merrill Lynch Global Research

Cheap gas and water conservation are driving smart adoption in their respective segments

Water meters tapped for growth

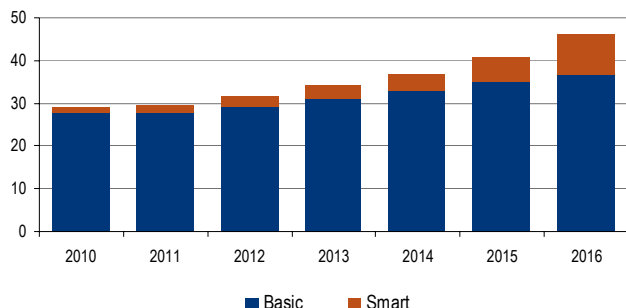
At less than 20% of annual smart meter shipments combined through 2016, the market for smart water meters appears small on an absolute basis. However, the nature of demand drivers in each segment suggests installation growth rates that exceed those of the smart electricity segment. We forecast a 18.8% CAGR for water meters compared with just 10.8% for electricity. The water segment will be driven by a 25% increase in demand for water worldwide when access and leakage concerns are at an all-time high, on our forecasts.

Growth in basic and smart metres

A feature of the water market that sets it apart from the electricity segment is that we forecast growth in both smart and basic meters. This is particularly true in the

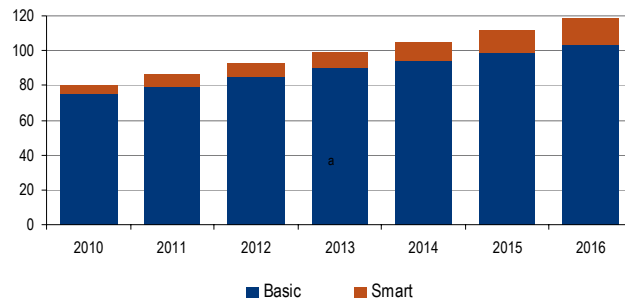
water segment which is significantly under-metered globally anyway. As a result, we forecast a 5.4% CAGR in basic water meters in 2011-16E.

Chart 75: Annual gas meter installations globally (millions of meters)



Source: Industry sources, BofA Merrill Lynch Global Research estimates

Chart 76: Annual water meter installations globally (millions of meters)



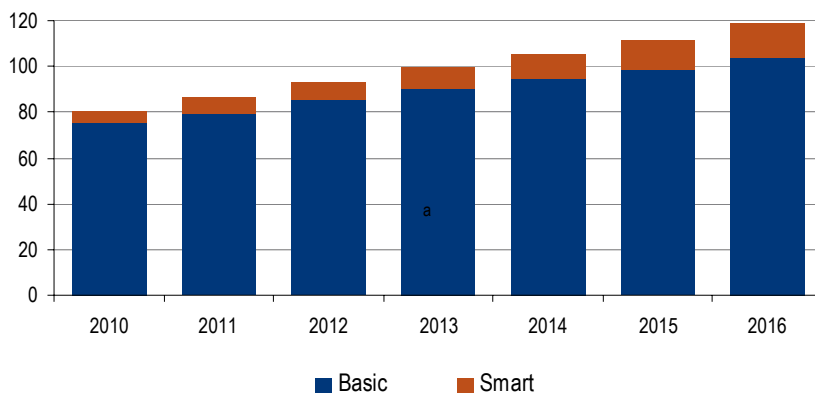
Source: Industry sources, BofA Merrill Lynch Global Research estimates

Illegal, unregulated & unmetered water abstraction is rife in EMs and beyond. In Spain, up to 45% of all groundwater pumped to irrigate crops, golf courses and urban developments is thought to be taken illegally

Growing interest from water utilities

Smart water meters account for only 6.0% of the installed base. We are beginning to see greater interest among water utilities, however. Of the 8.8m smart meters for which global utilities have awarded tenders so far in H2 2012, 64% were exclusively for smart water meters, including a 4.6m meter tender by Sydney Water awarded to Itron in late June 2012.

Chart 77: Annual water meter installations globally (millions of meters)



Source: Industry sources, BofA Merrill Lynch Global Research estimates

As many water utilities are government entities, smart meters present cash-strapped national and local governments with a significant revenue opportunity

Sydney Water's 4.6m smart meter project is indicative of Asian market strength

Water, water (leaking) everywhere

We expect the global market for smart water meters to reach US\$1.2bn by 2016 as utilities seek substantial cost savings and lost revenue opportunities from leakage and unmetered usage. In the US alone, the EPA reports that 6bn gallons of water are lost from leaks every year. Globally, the World Bank estimates that costs from unmetered water total US\$14bn annually. On the revenue side, Itron estimates that water utilities globally lose around US\$500mn per day in non-revenue water.

7.1m meters installed in 2011

Market research varies widely on the number of smart meters installed annually, both historically and forecast. We estimate that 7.1m smart water meters were installed in 2011, primarily in North America and Europe. We think the greatest share gain will occur in Asia, which we forecast will account for 14% of smart

water meter installations by 2016E up from 5% in 2011. We note Sydney Water's recent tender for 4.6m smart water meters awarded to Itron as evidence of smart water progress in Asia, and highlight this project as a significant driver of the 46.7% CAGR for the region.

Table 64: Meter ASPs by segment based on estimated 2011 prices

	Basic	Smart	
		One - way	Two -way
Electricity	\$33	\$50	\$130
Gas	\$61		\$117
Water	\$30		\$64

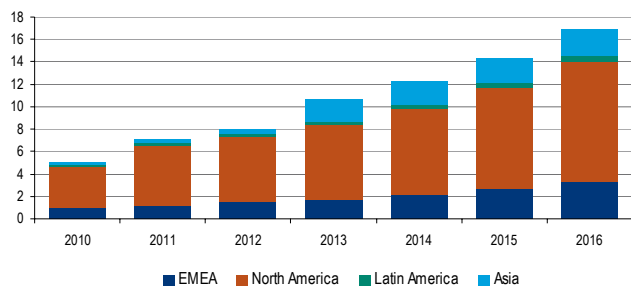
Source: Industry sources, BofA Merrill Lynch Global Research estimates

Basic meters will remain particularly relevant in the water market

Basic water meters also set to grow

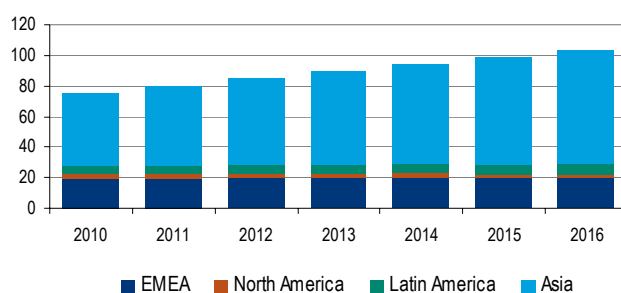
We forecast significant growth in basic water meters as well, from 80m installed globally in 2011 to 104m in 2016. The water segment is significantly under-metered and water utilities are often cash-strapped public entities. We view the cost-saving and revenue-generating opportunities from basic meters as substantial enough for utilities to forego smarter and more expensive options. Our model shows the greatest growth in basic water meters in Latin America and Asia – the Australian project notwithstanding.

Chart 78: Smart water meter installations by region (millions of meters) 2010-16E



Source: Industry sources, BofA Merrill Lynch Global Research estimates

Chart 79: Basic water meter installations by region (millions of meters) 2010-16E



Source: Industry sources, BofA Merrill Lynch Global Research estimates

Many challenges remain

There are still a number of challenges to the mass adoption of smart water meters. Most notable is the lack of an adequate IT and telecommunications infrastructure outside urban environments. Without sufficient bandwidth, the information promised by such technology cannot be transferred effectively and will be a barrier to growth.

Pre-payment meters face legal hurdles over social impact

Pre-payment meters face a growing legal obstacle as some jurisdictions declare them illegal on the basis of depriving the poor of water. Cases have already been filed in the UK and South Africa, where judges found that the underlying basis for the introduction of pre-payment meters seemed to be credit control rather than water efficiency. Moreover, the provision of 25 litres a day for free was deemed to be insufficient to meet the basic needs of inhabitants.

Water meters and volumetric tariffs can reduce water consumption

A study by the University of Australia in 2009 concluded that volumetric water charges increase the probability of engaging in water-saving activities, such as turning off the tap while brushing teeth, watering the garden at the coolest part of

the day, and collecting/recycling rainwater and wastewater. In the same survey, respondents listed seven factors that would reduce water consumption: 1) practical information on how to save water; 2) money savings; 3) environmental benefits; 4) availability of water-efficient products; 5) confidence in water-efficiency labels; 6) lower-cost water-efficiency equipment; and 7) mandatory water restriction.

Water management companies

We have identified the following companies covered by BofA Merrill Lynch Global Research that have exposure to the theme of water management. Although it is difficult to accurately gauge the link between such exposure and share price performance (as many factors outside the scope of this analysis play a role in short- and long-term price development), we still consider water solutions-related exposure as an important positive point to track.

Table 65: List of companies covered by BofAML involved in Water Management

BBG Ticker	Company	Location	BofAML Ticker	Market Cap (US\$m)	Water Sub-sector	Water Exposure
BAS GR	BASF	GERMANY	BFFAF	75,606.81	WATER MANAGEMENT	Low
DE US	DEERE & CO	UNITED STATES	DE	34,109.13	WATER MANAGEMENT	Low
DD US	DUPONT	UNITED STATES	DD	41,715.53	WATER MANAGEMENT	Low
ITRI US	ITRON	UK	ITRI	1,597.82	WATER MANAGEMENT	Medium
MRO LN	MELROSE PLC	UNITED STATES	MLSPF	5,065.72	WATER MANAGEMENT	Low
MON US	MONSANTO	SWITZERLAND	MON	47,467.76	WATER MANAGEMENT	Low
SYNN VX	SYNGENTA AG-REG	GERMANY	SYENF	37,099.25	WATER MANAGEMENT	Low

Source: IQ, DataStream, BofA Merrill Lynch Global Research. * Water exposure = BofAML estimates of current sales derived from water management-related products, services, technologies and solutions

Table 66: Deere & Co - Key data

Analyst's Name	Gilardi, Ross		
Analyst's Email Id.	ross.gilardi@baml.com		
Analyst's Phone No.	+1 646 855 2454		
	2011	2012E	2013E
Revenues	29,467	33,485	32,313
Operating Profit	3,533	4,052	4,050
Operating Margin	12.0%	12.1%	12.5%
Y-o-Y Growth	34.6%	14.7%	0.0%
Net Profit	2,800	3,126	3,089
Net Margin	9.5%	9.3%	9.6%
Y-o-Y Growth	50.1%	11.6%	-1.2%
EBIT	3,533	4,052	4,050
EBIT Margin	12.0%	12.1%	12.5%
EBITDA	4,120	4,714	4,732
EBITDA Margin	14.0%	14.1%	14.6%
Operating Cash Flow	2,998.4	3,191.7	3,758.1
Capex	1,054.3	1,300.0	1,365.0
Free Cash Flow	1,944.1	1,891.7	2,393.1
Net Debt/Equity	1.8	(1.8)	(7.1)

Source: BofA Merrill Lynch Global Research estimates

BASF

See *Water Treatment* above.

Deere & Co

Deere (DE) is the largest manufacturer/distributor of agricultural equipment worldwide with leading market shares in large farm-equipment segments. DE's three main areas are: 1) Agriculture and Turf (farm equipment, lawn and garden, other outdoor products), 2) Construction and Forestry (construction earth-moving material-handling and timber-harvesting equipment), 3) Credit (financing).

Deere (low Water exposure) is a play on water via John Deere Water, one of the largest irrigation companies in the world. Its micro and drip irrigation products and services enable the efficient and uniform application of water and optimise the use of water resources while increasing the quantity and quality of yields for permanent and vegetable crops, nurseries and greenhouses, and landscaping. It also offers services such as hydraulic design, irrigation project management, soil moisture monitoring and agronomic support. John Deere Field Connect provides a turnkey solution that helps growers monitor in-field moisture levels to better manage their irrigation programs and optimize crop quality and yield. We expect DE to benefit from the current US drought and the rise in extreme weather globally, with its equipment clearly tying in with the themes of "more crop per drop" (i.e. ensuring precise water delivery and technology that ensures the right amount of water is delivered to the plant's root zone at the right time) and food security.

Near-term, we consider DE to be the best-managed company in our ag universe. We also believe that, going forward, demand for agricultural equipment in N.A. and W. Europe is likely to remain at historically high levels due to strong farm cash receipts. We see prospects for Deere's dividend to surprise materially to the upside in coming years given the company's continued strong free cash generation and long-term record of returning cash to shareholders.

Dupont

See *Water Treatment* above.

Table 67: ITRON - Key data

Analyst's Name	Osha,Joe		
Analyst's Email Id.	joe.osha@baml.com		
Analyst's Phone No.	+1 415 676 3531		
	2011	2012E	2013E
Revenues	2,434	2,151	2,026
Operating Profit	(470)	166	178
Operating Margin	-18.9%	7.9%	8.8%
Y-o-Y Growth	-365.6%	-135.4%	7.3%
Net Profit	(510)	114	121
Net Margin	-21.0%	5.3%	6.0%
Y-o-Y Growth	-579.9%	-122.3%	5.9%
EBIT	(470)	166	178
EBIT Margin	-19.3%	7.7%	8.8%
EBITDA	(340)	280	285
EBITDA Margin	-14.0%	13.0%	14.1%
Operating Cash Flow	252.4	187.8	285.2
Capex	60.1	46.6	48.0
Free Cash Flow	192.3	141.2	237.2
Net Debt/Equity	35.2	28.5	3.9

Source: BofA Merrill Lynch Global Research estimates

ITRON Inc

Itron is a leading technology provider to the global energy and water industries. It provides intelligent metering, data collection, and utility software solutions, serving nearly 8,000 utilities worldwide. Products include electricity, gas, water and heat meters, data collection and communication systems, including automated meter reading (AMR) and advanced metering infrastructure (AMI), meter data management and related software applications.

Itron (medium Water exposure) is a leading global provider of smart water systems for commercial and residential customers (c.23% of FY12e sales). It had a 51% share of the 2011 smart water meter market. The company should be a beneficiary of governments and utilities placing greater focus on already stressed water distribution systems and underscoring the importance of measurement and conservation. In addition to rising demand, regulatory mandates, environmental constraints, aging infrastructure and lost water due to leaks and inefficient use all pose challenges for utilities around the world and cost billions of dollars a year. Itron's innovation addresses these challenges for utilities around the world. Its greatest strength in our eyes is its multi-dimensional communications and data management platform, which should allow the firm to compete in markets like Asia that will likely be supplied by domestic meter manufacturers but will require international smarts. Itron is also a sustainability megatrend play on smart electric and gas meters and the larger smart grid theme.

Near-term, Itron is a leading electric, gas and water meter vendor. Upgrades to smart meters are inevitable, in our view, but will be soft in the US over the next couple of years before taking off in the electricity segment in Europe and Latin America in 2013-14. Itron has a broad smart energy product set in communication and data management to help bridge the gap. The weak backlog portends some revenue risk, but note that cost structure improvements have expanded margins, which is a trend we expect to continue.

Melrose Plc

Melrose is a listed turnaround specialist focused on buying underperforming assets which it then restructures, invests in, and divests. It has four divisions: 1) Energy, 2) Lifting, 3) Dynacast and 4) Other Industrial.

Melrose (medium Water exposure) has become a water management play following its 2012 acquisition of Elster Group, which is a world leader in measuring and improving the flow of natural gas, electricity and water. Melrose is now in the top-3 globally for water meters and its technologies (water utilities were 10% of FY11 sales) are deployed all over the world, helping residential, commercial and industrial locations to conserve valuable water resources. Elster is a broad sustainability megatrend play on smart metering and the smart grid, with one of the most extensive installed revenue measurement bases in the world and more than 200mn metering modules deployed over the course of the past 10 years.

Near-term, given the nature of the business model and its track record, Melrose has ongoing opportunities from self-help restructuring, investment and portfolio change, in our view.

Table 68: Melrose - Key data

Analyst's Name	Toms,Alex		
Analyst's Email Id.	alex.toms@baml.com		
Analyst's Phone No.	+44 20 7995 8720		
	2011	2012E	2013E
Revenues	1,332	1,594	2,369
Operating Profit	110	180	306
Operating Margin	8.3%	11.3%	12.9%
Y-o-Y Growth	-18.2%	62.9%	70.3%
Net Profit	286	103	190
Net Margin	21.5%	6.5%	8.0%
Y-o-Y Growth	102.8%	-64.0%	84.6%
EBIT	110	180	306
EBIT Margin	8.3%	11.3%	12.9%
EBITDA	134	213	390
EBITDA Margin	10.0%	13.3%	16.5%
Operating Cash Flow	117.2	155.2	378.9
Capex	39.2	74.3	74.4
Free Cash Flow	78.0	80.9	304.5
Net Debt/Equity	44.8	55.2	42.3

Source: BofA Merrill Lynch Global Research estimates

Table 69: Monsanto Company - Key data

Analyst's Name	McCarthy, Kevin		
Analyst's Email Id.	ke.mccarthy@baml.com		
Analyst's Phone No.	+1 646 855 2681		
	2012	2013E	2014E
Revenues	13,516	14,483	14,945
Operating Profit	3,134	3,510	3,773
Operating Margin	23.2%	24.2%	25.2%
Y-o-Y Growth	28.7%	12.0%	7.5%
Net Profit	2,045	2,319	2,504
Net Margin	15.1%	16.0%	16.8%
Y-o-Y Growth	28.3%	13.4%	8.0%
EBIT	3,134	3,510	3,773
EBIT Margin	23.2%	24.2%	25.2%
EBITDA	3,756	4,110	4,407
EBITDA Margin	27.8%	28.4%	29.5%
Operating Cash Flow	3,002.8	2,619.6	2,923.9
Capex	646.0	875.0	900.0
Free Cash Flow	2,356.8	1,744.6	2,023.9
Net Debt/Equity	(10.0)	(15.5)	(21.0)

Source: BofA Merrill Lynch Global Research estimates

Monsanto Company

Monsanto is a leading provider of agricultural products with \$13.5bn in revenue in 2012E. The company makes Roundup, the world's best-selling herbicide, and other crop protection products. Monsanto also produces seeds under the DEKALB and Asgrow brands, and provides biotech traits for insect protection and herbicide tolerance. The company's products improve productivity and reduce the costs of farming.

Monsanto (low Water exposure) is a water management play on agricultural inputs for farmers. Its stated goal is to help farmers apply a third less water per unit of output produced—while effectively doubling yields. The Roundup Ready cropping system has enabled the use of conservation tillage and no-till farming, which increases water infiltration in the soil, conserves soil moisture, and can reduce the amount of water needed via irrigation.

Monsanto is also one of a small group of companies to have introduced drought-resistant corn seeds, with its DroughtGuard planted on nearly 100,000 acres of land across the US western Great Plains this spring. It remains the only GM drought-tolerant corn seed approved by the USDA, and the seeds are expected to be available for sale next year. The company says that preliminary trial data show DroughtGuard had yields of about five bushels per acre higher than a competitor's drought-tolerant hybrid in side-by-side comparisons. We note that it is also involved in EMs such as via The Water Efficient Maize for Africa public/private partnership project.

Long term, the company should be well positioned to benefit from the rise in extreme weather globally. Monsanto is also a sustainability megatrend play on food security – with its seeds, biotechnology trait products, and herbicides providing farmers with solutions that improve productivity, reduce the costs of farming, and produce better foods for consumers and better feed for animals.

Near-term, we are attracted to the prospect of ongoing double-digit earnings growth based on: (1) improved seed value propositions, supported by yield increases, high commodity prices and farm income, (2) an industry-leading pipeline, (3) rising adoption of biotech traits in Latin America, (4) prospects for market share gains in US corn and possibly soybeans, and (5) long-term growth opportunities in eastern Europe and China.

Table 70: Syngenta - Key data

Analyst's Name	Stott, Andrew		
Analyst's Email Id.	andrew.stott@bamf.com		
Analyst's Phone No.	+44 20 7996 2180		
	2011	2012E	2013E
Revenues	13,268	14,270	15,658
Operating Profit	2,051	2,633	3,032
Operating Margin	15.5%	18.5%	19.4%
Y-o-Y Growth	14.4%	28.4%	15.1%
Net Profit	1,599	2,039	2,370
Net Margin	12.1%	14.3%	15.1%
Y-o-Y Growth	14.5%	27.5%	16.2%
EBIT	2,051	2,633	3,032
EBIT Margin	15.5%	18.5%	19.4%
EBITDA	2,674	3,223	3,622
EBITDA Margin	20.2%	22.6%	23.1%
Operating Cash Flow	1,871.0	1,523.3	1,984.7
Capex	479.0	650.0	600.0
Free Cash Flow	1,392.0	873.3	1,384.7
Net Debt/Equity	14.1	19.9	10.8

Source: BofA Merrill Lynch Global Research estimates

Syngenta AG-Reg

Syngenta has the no.1 position globally in Crop Protection (CP) with 19-20% market share on our estimates for 2011. Its Seeds division, the remaining 24% of 2011 sales, is a much lower-margin business than CP, but with scope to improve materially mid-term. Syngenta also reports a loss-making Business Development division, which incorporates R&D costs for new projects, such as corn amylase.

Syngenta (low Water exposure) is a water management play on crop protection and technologies, notably via its water-efficient and yet still high-yielding plants. Water-relevant examples include: PaniPipe, which allows farmers to monitor water levels below ground, decreasing the need to flood rice and increasing yields; Invinsa, which blocks the natural ageing process of plants, giving them a chance to survive in times of moderate drought; and herbicides that reduce the need for ploughing and improve the soil's ability to absorb water, protecting it against erosion and water run-off. In 2011, the company launched ARTESIAN, its first drought-resistant corn hybrid, which has been offered on a limited commercial launch basis over the past two years. The company claims the seed can increase yields by as much as 15% over other hybrid corns in "a moderate to severe drought," such as the US is currently experiencing. Long-term, the company should be well positioned to benefit from the rise in extreme weather globally. Syngenta is also a sustainability megatrend play on food security.

Near-term, the majority of Syngenta's EBITDA will derive from Crop Protection chemicals. Mid-term, we continue to expect a significant improvement in group margins from a shift to biotech products within Field Crops (Seeds), improved cost efficiencies stemming from the \$650m of cost savings targeted for 2015, market share gains in CP and licensing income in Seeds.

Table 71: Other companies involved in Water Management solutions that we do not cover

Company	BBG ticker	Overview
BADGER METER	BMI US	BMI manufactures and markets flow measurement and control products. Its products are used to measure and control the flow of liquids and gases in a variety of applications. Badger's products include water meters and associated systems, wastewater meters, industrial process meters, automotive fluid meters, small valves, and natural gas instruments.
ESCO CORP	ESCO US	ESCO Corporation manufactures and distributes engineered parts and replacement products. The company markets its products to companies in surface mining, industrial applications, infrastructure, power generation and aerospace services throughout the world.
GEBERIT AG	GBN VX	Geberit manufactures and supplies water supply pipes and fittings, installation systems, drainage and flushing systems such as visible cisterns, and other sanitary systems for the commercial and residential construction markets. The company sells its products in Germany, Italy, Switzerland, Austria, the Netherlands, France, and Belgium.
HORIBA LTD	6856 JP	HORIBA manufactures and markets measuring instruments and analyzers. The company's main product lines are scientific analyzers, environment monitoring, medical analyzers, engine emission analyzers, and semiconductor test equipment. Horiba operates worldwide.
JAIN IRRIGATION SYSTEMS	JI IN	Ji Systems Ltd. manufactures micro-irrigation systems, plastic pipes and plastic sheets, as well as processes horticulture in India. The company's irrigation systems include both drip and sprinkler systems.
LINDSAY CORP	LNN US	LNN manufactures and markets center pivot and lateral move irrigation equipment, as well as large diameter steel tubing, for use to irrigate agricultural crops. The company also provides outsourced manufacturing and production services to original equipment manufacturers in the United States.
ROPER INDUSTRIES INC	ROP US	ROP manufactures industrial controls, fluid handling, and analytical instrumentation products worldwide. Roper serves selected segments of a broad range of markets such as oil & gas, scientific research, medical diagnostics, semiconductor, refrigeration, automotive, water and wastewater, power generation, agricultural irrigation, and other niche industries.
TOTO LTD	5332 JP	TOTO LTD. manufactures and sells china and earthenware fittings and bathroom accessories. The company's products include ceramic toilet fixtures and sinks, bath tubs, dressers, and solar powered water heaters.
TRIMBLE NAVIGATION LTD	TRMB US	TRMB designs, manufactures, and markets electronic products, enabled by Global Positioning System technology, that determine precise geographic location. The company's products are integrated systems for collecting, analyzing, and displaying position data in forms optimized for specific end-user applications.
VALMONT INDUSTRIES	VMI US	VMI designs and manufactures poles, towers, and structures for lighting, communication, and utility markets and provides protective coating services for infrastructure. The company also manufactures and distributes industrial and agricultural irrigation products in addition to a wide variety of fabricated products for commercial and industrial applications.

Source: Bloomberg, company sources

Table 72: BofAML Global Water - Water Infrastructure Stock List

Company	Water exposure
AGUAS ANDINAS SA	High
AMERICAN WATER	High
COPASA	High
GUANGDONG INVEST.	High
INVERS. AGUAS MET.	High
MANILA WATER	High
PENNON GROUP PLC	High
SABESP	High
SABSEP-ADR	High
SEVERN TRENT	High
UNITED UTILITIES	High
VA TECH WABAG	High
SUEZ ENVIRONNEMENT	Medium
VEOLIA ENV.	Medium
AECOM TECHNOLOGY	Low
AVENG LTD	Low
BEIJING ENTERPRISES	Low
DOWNER EDI	Low
HONG KONG & CH. GAS	Low
KEPPEL CORP	Low
KSB AG-VORZUG	Low
KUBOTA	Low
LEIGHTON HOLDINGS	Low
ROTORK	Low
SHANGHAI INDL HLDG	Low
SPARK INFRASTRUCT.	Low
URS CORP	Low

Source: BofA Merrill Lynch Global Research.

Water infrastructure & supply solutions

In our view, a number of companies are well placed to benefit from the theme of water infrastructure and supply, vis-à-vis their involvement in areas such as engineering, procurement, construction and consulting, pipes, pumps and valves, and water, wastewater and sewage treatment utilities.

Water and sanitation infrastructure is sorely lacking in many emerging and developed markets, and water loss or non-revenue water (NRW) is a considerable problem around the globe. Crumbling and incomplete infrastructure in developed markets are a primary cause of this – with the US alone estimated to need US\$335bn in public water investments over the next 20 years in transmission and distribution, treatment and storage, among other areas (Source: US EPA). For EMs, the challenge is building out water infrastructure.

Annual water investment needs are estimated to rise to more than US\$770bn for the OECD and BRICs by 2015 (Source: Ashley and Cashman). Globally, addressing the challenge of developing, modernising and upgrading systems, maintaining service quality, ensuring the security of water supplies in response to climate change, pollution and growing populations and, in some cases, overcoming the neglect and under-financing of earlier years could cost 0.35%-1.2% of GDP pa over the next 20 years (Source: OECD). With public funding increasingly under financial pressure, we believe the private sector will need to play an increasingly important role – and is expected to account for 30% of investments by 2016 compared with 19% today (Source: Global Water Fund).

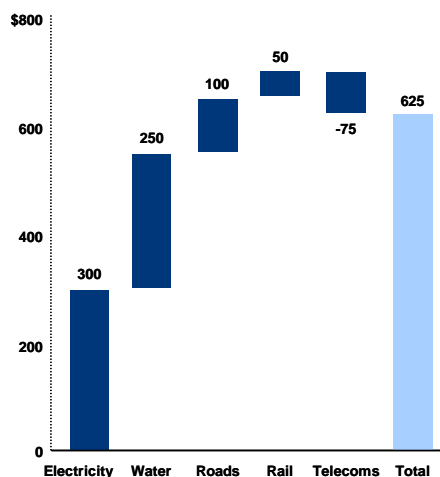
Water infrastructure is currently a US\$360bn+ market and is registering a CAGR of up to 6% in some segments. Growth rates are lower but more stable for the highly fragmented utilities sector where around only 10% of customers are served by investor-owned companies – and performance depends on regulatory factors as well as fundamental drivers of revenue and cost. The global water utilities industry is estimated to grow 4.5% to a volume of 3,007.4bn m³ and by 20.5% to a value of US\$874.2bn (Source: Reportlinker). The prospects for this segment are very different between DMs and EMs – but we see some of the biggest growth opportunities in China, Brazil and the US.

Table 73: Water infrastructure market by segment

	Market volume 2010 (US\$bn)	Expected annual growth (2010-2016) CAGR
Wastewater operating expenditures	134.9	2%
Water operating expenditures	87.3	3%
Engineering, planning and construction	49.7	6%
Pipes	36.2	6%
Pipes rehabilitation services	28.6	5%
Pumps	20.7	6%
Valves	5.9	5%
TOTAL	363.3	NA

Source: GWI Global Water Market 2011, BofA Merrill Lynch Global Research

Chart 80: OECD estimated change in run-rate investment spending 2010-2020 (forecast)



Source: OECD, BofA Merrill Lynch Global Research

Water infrastructure is 3x more expensive to build and maintain than electricity infrastructure (Source: IBM)

Water infrastructure - financing needs not met

Financing is critical for ongoing O&M in developed markets and new infrastructure in emerging markets – with annual water investment needs estimated to rise to more than US\$770bn for the OECD and BRICs by 2015 (Source: Ashley and Cashman). Water services are more capital intensive than other utilities, requiring twice the capital of electricity utilities with the same annual operating expenses. With growing financial needs, along with a decline in public investments in water, and the lack of private investment being directed to this sector, new strategies need to be found to encourage much-needed investments. Full cost but stakeholder-friendly pricing is a key tool being considered to address funding gaps (Source: OECD).

Two-speed growth - fastest in Asia and LatAm

We expect two separate growth patterns for the water sector. Emerging markets will, in our view, present the highest growth opportunities as they attempt to tackle their burgeoning water needs and develop adequate infrastructure – often from scratch. We anticipate the highest growth for Asia and Latin America. For developed markets, the task is equally large, but will provide lower growth opportunities as, in many cases, they will be concentrating on finding a balance between budgetary constraints and upgrading and maintaining their antiquated water infrastructure.

Chart 81: Global water infrastructure needs



Source: Camradata based on BofA Merrill Lynch Global Research's WDW (Who Does What Where) Geographic Risk Screening Model.

The recession is biting - PPPs a 'must' but under the gun

Water infrastructure spending, unlike water itself, is affected by the macro economy. The investment needed for the global water infrastructure market far exceeds the capacity of public sources to fund it. The past decade has witnessed growth in partnership-based procurement around the world such as public/private ventures. This trend is likely to continue as national governments recognise the correlation between economic competitiveness and the quality of infrastructural provision, but are restricted by the austerity measures and budgetary pressures weighing on governments around the world.

However, we must be conscious of the reality that the financial crisis is having a profound impact on PPP markets. Illiquidity and the erosion in lending capacity within the banking sector globally have led to a marked increase in the cost of debt. This has been compounded by the contraction in risk appetite across the investment community.

Focus on reducing costs, the 3Ts (increasing tariffs, taxes and transfers), and mobilising repayable finance from the market or public sources

Closing the finance gap - the "3Ts"

Closing the financial gap will require countries to mobilise financing from multiple sources including reducing costs (i.e., efficiency gains or cheaper service options), increasing tariffs, taxes and transfers (commonly referred to as the "3Ts"), and mobilising repayable finance (from the market or public sources). This will require an ongoing reform push to implement such mechanisms:

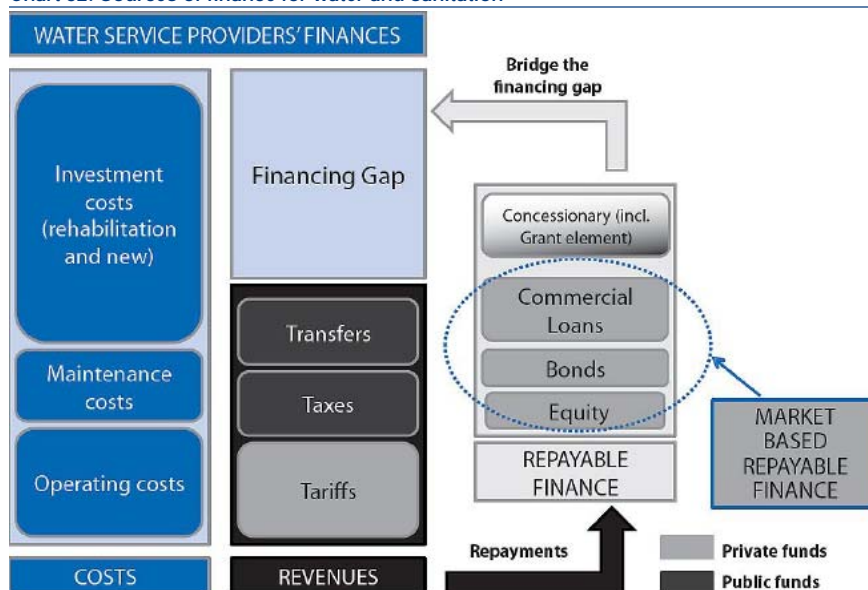
- **Developed markets:** The regulatory regime in place can critically influence the selection of investment options, and the resulting investment cost.
- **Emerging markets:** It is necessary to examine the broad range of options along the service ladder in order to assess the tradeoffs between affordability and investment costs when delivering improved water and sanitation. (Source: OECD).

In particular, the 3Ts can be used to leverage and eventually repay or compensate other funding sources, such as loans, bonds and equity. Most countries have used public transfers to fund the development of water and sanitation, particularly for capex. As countries develop water and sanitation, there tends to be a shift towards greater use of commercial finance, reimbursed by growing cash flows from user charges (i.e., tariffs). While revenues from the 3Ts can close the financing gap for water and sanitation services, repayable finance can be used to bridge the financing gap (Source: OECD).

Key role for the private sector

The private sector has a key role in developing water infrastructure. Formal and informal water and sanitation operators, PFIs and private companies are all able to help improve overall sector efficiency (thereby reducing costs and financial needs), as well as the sector's creditworthiness and ability to attract financing. The private sector can also help to finance investment costs (particularly when the public sector's ability to borrow is limited) and manage and enable the capital programmes of public authorities (Source: OECD).

Chart 82: Sources of finance for water and sanitation



Source: OECD

Among the G8, the US is the leader in the water utilities industry, with market revenues of US\$163.9bn in 2011, which is expected to grow to US\$203.2bn in 2016 (Source: Reportlinker)

Global water utilities - US\$874bn by 2016

The global water utilities industry grew by 0.8% in 2011 to reach a volume of 2,878.6bn m³ and by 4.1% to reach a value of US\$725.2bn (Source: Reportlinker):

- **Value and volume growth:** By 2016, the industry is estimated to grow 4.5% to a volume of 3,007.4bn m³ and by 20.5% to a value of US\$874.2bn. Consistent with global consumption figures, agriculture is the largest segment for the industry, accounting for 63.6% of the total volume (Source: Reportlinker).
- **Americas & G8 markets are key:** The Americas account for 39.8% of the industry's value. The G8 countries accounted for US\$407.7bn of value in 2011, with this group expected to record a 3.9% CAGR in 2011-16 (Source: Reportlinker).
- **EMs are catching up:** The top-five EMs contributed US\$123.3bn to the global water utilities industry in 2011, with a CAGR of 2.5% between 2007 and 2011. By 2016, the top five should account for US\$141.2bn (2011-16E CAGR of 2.7%) (Source: Reportlinker).
- **China is the key EM:** China is the leader of the top-five EMs, with market revenues of US\$53.6bn in 2011, which are expected to grow to US\$60.9bn by 2016 (Source: ReportLinker).

Growing role for the private sector

With public funding increasingly under financial pressure, it is difficult to imagine that public water utilities will be able to meet the needs for infrastructure investment via government capex. Private companies or private companies operating public water and wastewater treatment facilities currently serve close to 300m people worldwide – and this will only grow in the coming years (Source: Deloitte). Among the key areas for private sector involvement will be:

- **Heavy capex municipal:** privatisation, building / revamping infrastructure;
- **Light capex municipal:** O&M optimisation, energy optimisation, customer service, smart networks, technologies and networks.

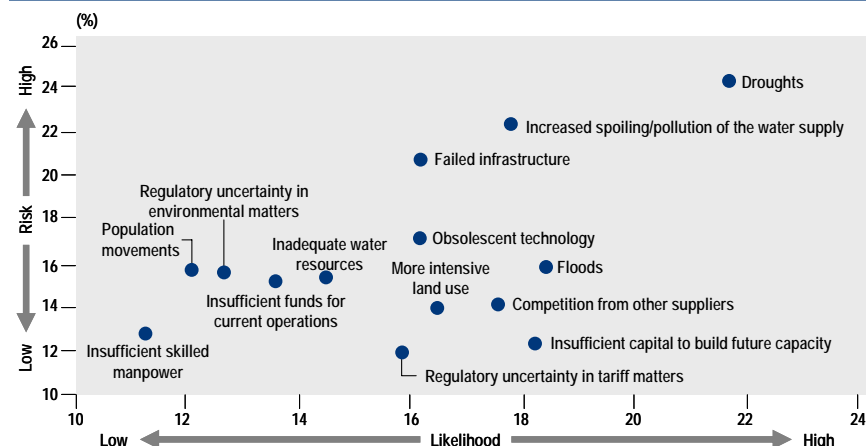
Supply challenges mean increased investments

Consistent with the key message of our report – and the long-term water supply vs demand picture – water utilities are increasingly looking to drive a change in the way water is used. The 2012 report by the Economist Intelligence Unit and Oracle Utilities surveying executives from 244 water utilities in the UK, North America, Spain, France, Australia, Brazil, Russia, India and China found that:

- **93% of utilities think it moderately or highly likely that consumer demand for water will outstrip supply** in their countries over the next two decades;
- **Most water utilities are increasing investments to meet supply challenges**, with 22% boosting spending by 15% or more in the next three years.
- **Wasteful consumer behaviour was identified as the biggest barrier to ensuring enough supply**, with 45% of respondents highlighting inefficient water use as a major challenge.

- The biggest risks facing utilities are drought and increased water pollution, according to the study, which said half of those surveyed found government support lacking to address water scarcity (Source: EIU-Oracle Utilities).

Chart 83: Water company executives' top concerns in terms of their severity and risk



Source: EIU and Oracle Utilities, BofA Merrill Lynch Global Research

Growing climate change risks

Climate change presents increasing challenges to drinking water and wastewater utilities, including increased frequency and duration of droughts, floods associated with intense precipitation events and coastal storms, degraded water quality, wildfires and coastal erosion, and subsequent changes in demand for services (Source: US EPA).

Table 74: Climate change challenges facing water utilities

Challenge	Overview of challenge	Drinking Water	Wastewater
Drought	Reduced groundwater recharge	☑	
	Lower lake and reservoir levels	☑	
	Changes in seasonal runoff & loss of snow-pack	☑	
Water quality & degradation	Low flow conditions & altered water quality	☑	☑
	Saltwater intrusion into aquifers	☑	
	Altered surface water quality	☑	☑
Floods	High flow events & flooding	☑	☑
	Flooding from coastal storm surges	☑	☑
Ecosystem changes	Loss of coastal landforms / wetlands	☑	☑
	Increased fire risk & altered vegetation	☑	☑
Service demand & use	Volume & temperature challenges	☑	
	Changes in agricultural water demand	☑	
	Changes in energy sector needs	☑	☑

Source: US EPA, BofA Merrill Lynch Global Research

Emerging markets - exciting opportunities Brazil - still bullish on the US\$180bn opportunity

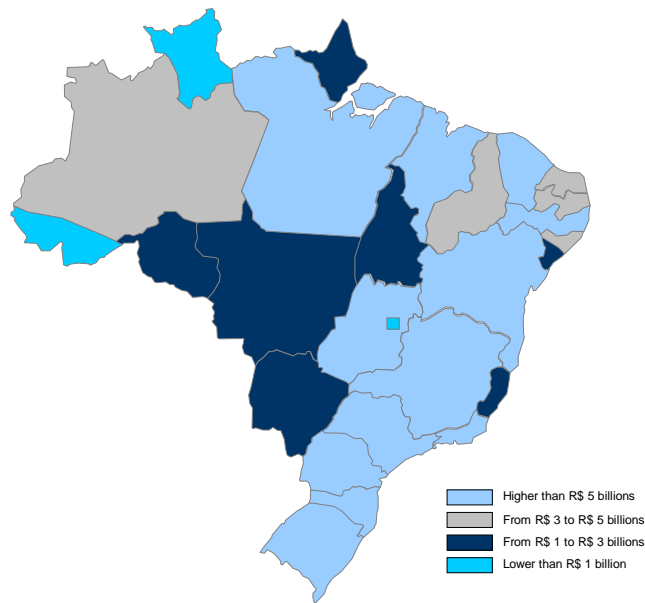
The Brazilian sanitation sector requires substantial investment. With dismal coverage levels (81% in water, 43% in sewage collection and 35% in sewage treatment), Brazil requires investments in the order of R\$288bn (US\$180bn) to reach 100% coverage. At the current rate of investment, this would take 60 years to achieve. In addition, the loss levels of the water utilities in Brazil are very high versus the world average (37.4% in Brazil versus 13% on average for the world).

For further information on Brazilian water, see the ongoing work of Diego Moreno & team

[Brazil Water Utilities, 18 July 2012](#)

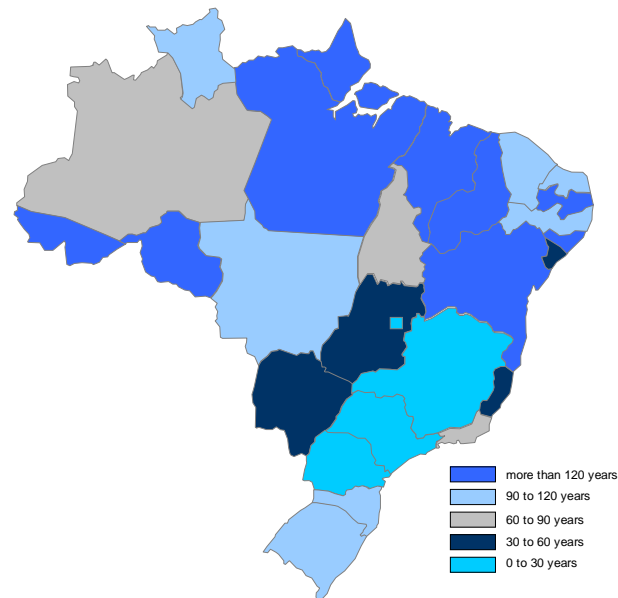
With greater regulatory visibility, we believe the Brazilian water sector is entering a new era as (1) capex will start to be remunerated, strengthening state-owned companies' balance sheets and bringing a growth component to the investment cases, and (2) the solid and consistent regulations will attract private players to the sector.

Figure 2: Annual investment needs to achieve universal coverage



Source: BofA Merrill Lynch Global Research, Instituto Trata Brasil

Figure 3: Estimated time to achieve universal coverage



Source: BofA Merrill Lynch Global Research, Instituto Trata Brasil

The new sanitation law approved in 2007 requires all sanitation companies in Brazil to have a tariff regime established and regulated by a regulatory agency (state or municipal) by the end of 2012. Currently, the tariff structure does not take into consideration the amount of capex undertaken by companies; so from the perspective of a minority investor, it would be better if companies paid a lot of dividends instead of allocating funds to increase service coverage. The new regulatory framework will align minority, political and company interests as the proposed tariff methodology would be ROA-based, whereby regulators will establish a regulatory asset base (RAB) that will be remunerated by a regulatory WACC, similar to Brazilian electricity distribution regulation. Thus, EBITDA will start to grow cycle by cycle as capex will be incorporated into the RAB. Given its magnitude it will offset the probable WACC reduction over cycles.

A regulatory framework that adequately remunerates investments should provide the key missing element to attract private investment. We expect this to take place via partnerships with state-owned companies or privatizations over the long term as most of the state-owned companies do not have the necessary investment capacity to fulfil expansion requirements. This would be similar to what occurred in the electricity, telecom, gas distribution and toll road sectors (and what is currently being planned for airports).

China - deregulation presents investment opportunities

With the largest population and one of the fastest-growing economies in the world, China's demand for water is intense. With per-capita water resource at one-quarter of the world's average, water resources in China are scarce and water pollution is worsening. To cope with this, the Chinese government has

For further information, see Angello Chan & team's regular "Merrill Lynch China Water Index Reviews"

[Investing in China's Water Sector, 11 October 2012](#)

54% of households in China are not connected to water pipelines

launched a number of initiatives to reform the severely under-resourced water sector. Companies that stand to benefit from this deregulation present an interesting investment opportunity, in our view.

RMB4tn water project investment over the next 10 years

In the 2011 State Document no.1, which usually reflects government priorities each year, the Chinese government announced measures to improve the country's relatively backward water conservancy situation. According to the document, the PRC government plans to spend an average RMB400bn per year in 2011-20 on water projects, up from RMB200bn in 2010. We believe this will help expand the scale of water exploitation, improve the efficiency of water usage, and curb water pollution, which should benefit companies with China water exposure.

China's water crisis

With a per-capita water resource at one-quarter of the world's average, water resources in China are very scarce to start with. Serious water pollution, low water tariffs that discourage water conservation and investment in the sector, and wastewater treatment bottlenecks are all worsening the situation.

China's water sector deregulation

The Chinese government is fully aware of the severity of the water shortage and pollution in China, and has set in motion a multi-year reform objective to deregulate the water sector that would:

- Open up the water sector for non-state investment;
- Invest and build up the water supply infrastructure and wastewater treatment facilities;
- Implement measures to increase investment and participation in the sector; and
- Increase water resources fees, water tariffs and wastewater treatment charges.

Water sector reform remains on track

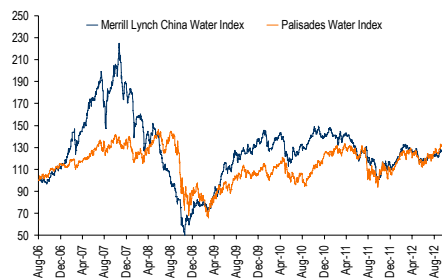
The reasons for water tariff adjustment identified by National Development and Reform Commission (NDRC) include:

- Improving the returns of water supply franchises;
- Raising funding for south-north water transmission projects;
- Helping conserve the scarce water resources;
- Narrowing the gap in water tariffs between China and other countries.

To ensure sound implementation of water reform, NDRC demands water tariff adjustments to be transparent and take into consideration water supply, wastewater treatment industry development needs and the impact on low-income families, all of which will contribute to steady adjustment in the water price.

More tariff hikes have been recently granted for projects in Anhui, Zhejiang, Guangdong, Jiangsu and Hainan. The tariff increases in some cities have been as high as 60%-105%. This shows the government's ongoing support to raise water tariffs and the rate of return to attract investment in the sector.

Chart 84: Relative performance of ML China Water Index and Palisades Water Index



Source: BofA Merrill Lynch Equity Derivatives Research
Daily data from 11-Aug-06 through 28-Sep-12

Table 75: Water tariff hikes in China

Process	City	Effective date	After (RMB/ton)	Before (RMB/ton)	Change (%)	Note
Effective	Maanshan, Anhui	01/09/2010	1.90	1.60	18.8	Residential end user price
			2.40	2.10	14.3	Residential end user (<17m ³)
			3.35	2.10	59.5	Residential end user (18m ³ -30m ³)
Effective	Wenzhou, Zhejiang	01/09/2010	4.30	2.10	104.8	Residential end user (>31m ³)
			4.10	3.55	15.5	Non operating business
			4.20	3.70	13.5	Operating business (industrial & commercial)
			7.10	6.10	16.4	Special business
			2.31	2.15	7.4	Residential end user (<12m ³)
			2.77	2.15	28.8	Residential end user (12m ³ -20m ³)
			3.79	2.15	76.3	Residential end user (>20m ³)
Effective	Hefei, Anhui	01/10/2010	2.60	2.40	8.3	Non operating business
			2.65	2.35	12.8	Industrial user
			3.03	3.25	(6.8)	Commercial user
			9.00	7.00	28.6	Special business
		01/12/2010	1.25	1.00	25.0	Option 1 (comprehensive water supply fee)
		01/12/2010	1.17	1.00	17.0	Option 2 (comprehensive water supply fee)
		2011	1.25	1.17	6.8	
Public hearing held	Dongguan, Guangdong	01/12/2010	1.17	1.00	17.0	Option 3 (comprehensive water supply fee)
		2012	1.28	1.17	9.4	
		4Q10	1.61	1.47	9.5	Option 1 (comprehensive water supply fee)
Public hearing held	Zhongshan, Guangdong	4Q10	1.51	1.47	2.7	Option 2 (comprehensive water supply fee)
		01/07/2011	1.60	1.51	6.0	
		01/07/2012	1.61	1.60	0.6	
Public hearing proposed	Nanjing, Jiangsu	4Q10	3.10	2.80	10.7	Residential end user
Public hearing proposed	Haikou, Hainan	4Q10	NA	NA	NA	

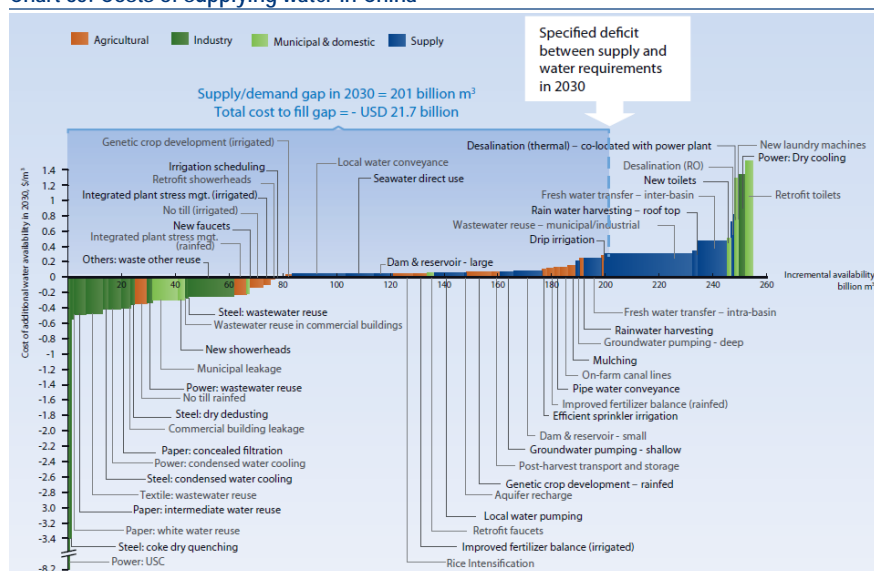
Source: BofA Merrill Lynch Global Research

China's water sector investment opportunities

We believe that companies in the water sector (supply, treatment process, engineering and technology) that are well positioned to benefit from China's water sector deregulation present an interesting investment opportunity. We think those that would have an advantage in competing within the sector would be:

- Companies that own water supply networks and collect water fees directly from end users, which would thus benefit from any tariff hike;
- Companies that operate in relatively affluent regions with relatively high fixed returns;
- Companies that specialise in water conservation and purification and have marketable technologies/products; and
- Designers and manufacturers of water-conservation and water-treatment products/projects that could benefit from rapid expansion in water facilities.

Chart 85: Costs of supplying water in China



Source: UNEP

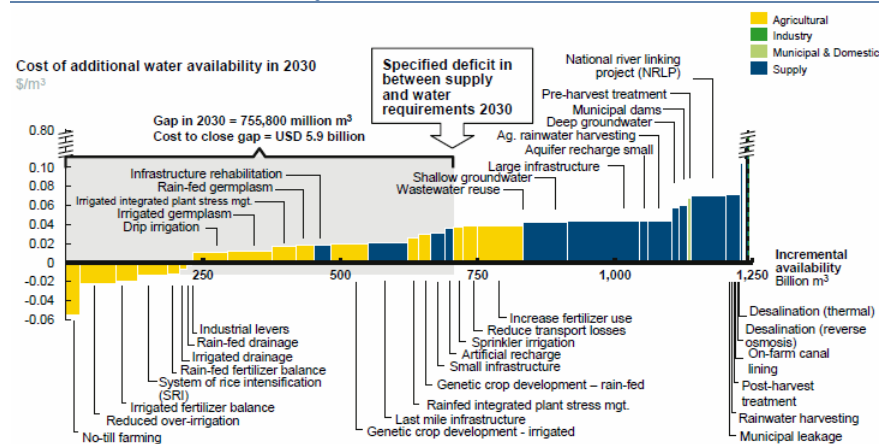
India - waking up to the need for investment

In its Eleventh Five-Year Plan (2007–12), India planned for investment of 127,025 crore (US\$28.3bn) in urban water supply and sanitation, including urban (stormwater) drainage and solid waste management. The Indian government is increasingly acknowledging the importance of water infrastructure, given the population pressure and need for greater economic development.

There has also been a shift away from the earlier state-dominated investments whereby the central government played a major role. Now, private investments have a place in the development of the water sector. There are also positive signs that utilities are attempting to reduce their historical reliance on state subsidies and move a step closer to cost recovery. New Delhi implemented a 47% tariff rise at the start of 2010, while Hyderabad and Mumbai each hiked rates by 25% (Source: GWI).

Despite the large investments in inventory infrastructure, India lags behind other countries in water storage. India can still store only relatively small amounts of its seasonal rainfall, so there is a requirement for large-scale storage and supply projects. High-cost solutions like desalination are increasingly finding a foothold in India. The sector is poised to grow in double digits per annum in the coming 3-5 years and is likely to lead to significant job creation in the private sector. State utilities have also started attaching importance to water efficiency projects and agriculture is seen as a major development area.

Chart 86: India – water availability cost curve



Source: Water 2030

Russia - poorly accounted and managed

In Russia, water resources are generally poorly accounted and managed. The existing water supply system uses obsolete Soviet-era technology in which key assets are close to exhaustion. According to the Federal Agency for Construction, Housing & Utilities, the current level of wear and tear on wastewater infrastructure ranges from 50% to 70%. An estimated RUB15tn (US\$459bn) is needed to complete necessary upgrades, refurbishment and new construction for water and sanitation infrastructure by 2020.

South Africa - US\$40bn water funding gap

In South Africa, up to half of freshwater is wasted in some areas on the back of inefficient irrigation (farming accounts for 60% of water use) and ageing infrastructure (Source: Department of Water Affairs). Worryingly, of the government's 2020 infrastructure project targets, water represents only 2% of planned spend. Its water infrastructure requires investment of ZAR670bn (US\$76bn) over the next decade, which is almost double the available funding, leaving a gap of ZAR338bn (US\$40bn). This will pose increasing challenges for South Africa's water-intensive mining sector as well as Eskom, with many corporates admitting that water stress is already a real risk and that costs could double in the next five years.

Developed markets - downturn delays growth

Developed market water networks are often in great need of modernisation. For instance, the US EPA estimates that US\$636bn will be required over the next two decades to keep the American water systems in safe working order. Despite this, the chronic budget deficits of many developed countries – and ongoing downturn – could act as a barrier to activity in this segment of the water industry for some time. Indeed, political considerations have often overridden decisions to address infrastructure needs, due to the disruptive nature of network improvements and the lack of public interest that water has generated in the past.

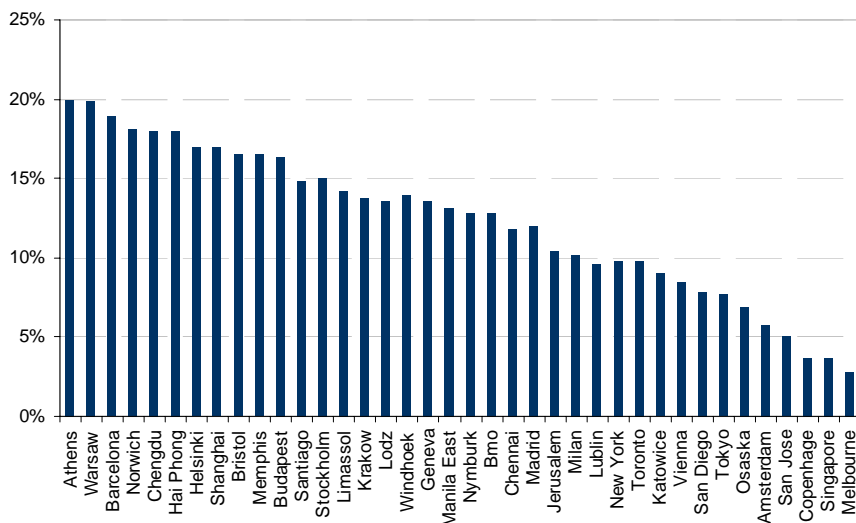
Focus on maintenance, water loss & NRW

Water loss or non-revenue water (NRW) is a considerable problem around the world, especially in emerging markets. But even in developed markets, water losses from creaking supply systems and inefficient irrigation can exceed 50%. The American Society of Civil Engineers estimates that 26.5m m³ of safe drinking water (or 15% of the total) is lost every day in the US as a result of antiquated

More than 45m m³ per day are lost through leakages. The total cost to water utilities worldwide is estimated at more than US\$14bn per year

distribution systems.

Chart 87: NRW is an issue in many developed market cities



Source: Smart water Networks Forum, BofA Merrill Lynch Global Research

NRW comprises three components: physical losses including leakage and overflow; commercial (or apparent) losses caused by customer meter under-registration, data-handling errors, and theft of the utility for operation purposes and water used for free by certain consumer groups; and unbilled authorised consumption. All are considerable issues for every water utility because they are a straight hit to the top line.

Given that the majority of water distributors rely on municipal contracts and funds to conduct their investments, there are growing opportunities for affordable management practices rather than expensive replacement projects. Water utilities primarily compare their estimated current level of leakage with a notional economic level of leakage – the point at which the cost of reducing leakage is equal to the benefit gained from further leakage reduction.

Utilities usually estimate when pipes need replacing from a number of variables – age, soil type, etc, but this is time consuming and inefficient. There are a number of small private companies involved in providing IT-orientated infrastructure management solutions. The technology ranges from stethoscope-like devices that are pressed against the asphalt to detect leakage to miniature sensors that are inserted into the sewer mains. We see this as an exciting segment of supply-side water management.

Table 76: Companies involved in water management software

Company	Ownership	Description
Innovyze	Private	Leading provider of wet infrastructure modelling and simulation software
Pure Technologies	Private	Technology driven solutions for infrastructure asset management
Syrinx	Private	Leading developer of smart pipeline technology
Fuji Tecom Inc.	Private	Manufacturer of leak detection and measurement instruments
TaKaDu	Private	Provider of IT software that searches for patterns in data to detect problems within the water supply system
Hydropoint	Private	Provider of monitoring and metering for landscape irrigation
Echologics	Private (Mueller Water Products)	Provider of leak detection and assessment services using acoustic expertise

Table 76: Companies involved in water management software

Company	Ownership	Description
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Source: BofA Merrill Lynch Global Research

Municipalities have managed to cut prices by 5-10% at each contract renewal

For further information, see Pinaki Das & team's "Muddying the Waters" report

[UK Water Utilities, 31 October 2012](#)

France - a long history of private sector participation

France has been a pioneer of PSP in the water sector. Since French water services belong to a specific category of public service called industrial or commercial public services, a local public authority can delegate the management of the water service to a private firm. In the case of private management, the relationship between the local municipality and the firm can take different forms: management contracts, "affermage" (lease contracts) where the municipality remains the owner of assets, and concessions where the private operator is responsible for financing all new investments over the period of delegation. Affermage is the most common form of contract, usually awarded for 12-15 years.

Increasing client pressure & declining volumes

Over the past few years, pressure from municipal clients has increased gradually and significantly, hurting the profitability of private players when renewing water production/distribution contracts in France. Besides this, the legislation has changed, pushing for a reduction in the average duration of contracts and thus promoting competition.

Politicians looking to cut water prices

As the economic crisis has unfolded, local politicians are increasingly willing to prove to customers/voters that they are committed to obtaining significant cuts in water prices. By waiving the threat of remunicipalisation, municipalities have managed to cut prices by 5-10% at each renewal (versus only a slight decrease or even no decrease in the past). Thus, a company like Veolia now explains that its margins decrease by close to 75% when a contract is renewed. Profitability is then supposed to improve on efficiency gains and by adding new services.

UK - muddying the successful waters

Historically stable

The UK water sector is generally perceived as a major success story and as functioning well. It is regarded as one of the most stable and well regulated sectors among European utilities and arguably even globally. This stability has facilitated solid access to the credit markets, helped lower the cost of capital, deliver efficiencies, keep bills affordable and deliver over £100bn of investments in the past 20 years. Returns are linked to inflation, attractive to many investors – especially to infrastructure and pension funds with a longer time horizon and a focus on dividends.

These attractions have also meant that the sector's M&A appeal has remained strong, with many UK water assets sold at large premiums to the regulated asset value (RAV) in recent years, such as Northumbrian Water and Veolia's UK water assets. Of the 21 water companies (of which 10 are large), the majority are now owned by infrastructure/pension fund consortia and only three remain listed (United Utilities, Severn Trent and Penmon). The three listed stocks have performed well in the past few years, helped by high inflation, M&A speculation, low bond yields, demand for high-quality defensives and lacklustre growth elsewhere.

But reform proposals are increasing risks

Both economic regulator Ofwat and the UK government have announced plans to reform the UK water sector, mainly aimed at making it more sustainable longer term given risks from climate change, growing water stress and affordability

issues. Ofwat's recently revised licence reform proposals are more far-reaching than we expected and substantially increase the likelihood of some companies being referred to the Competition Commission (CC) for review.

In our view, the resulting uncertainty would undermine the sector's low-risk status for at least six months and put any residual M&A hopes on ice for now. We think RAV premiums could evaporate. In particular, the government's plans to allow new entrants across the value chain as well as Ofwat's licence reform and potential pricing methodology changes have increased uncertainty. The debate is ongoing and more clarity will likely emerge in 2013, with the direction firming up towards the end of 2013. The next regulatory review is due in 2014 and will incorporate many changes for the 2015-20 regulatory period.

Resilience will be key in the future

Since privatisation, investment in the UK water industry has focused principally on developing the supply network, improving quality and meeting environmental compliance with the higher standards set by Europe. Over the next 20 years, much of the investment is to be maintenance but with a focus on resilience given the challenges from climate change (for example, more frequent and severe droughts/floods). Manufacturers of maintenance equipment required by the utilities are likely to be positively affected by such a strategy.

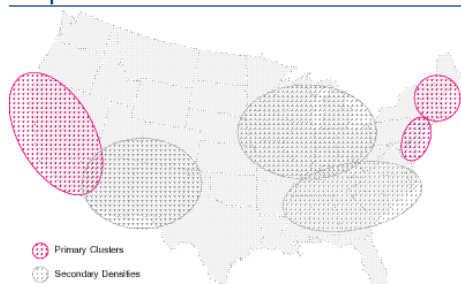
US - fragmented market yet exciting opportunities

The US water supply industry is highly fragmented. There are more than 53,000 drinking water companies across the country, the majority of which serve very small populations – less than 1% of these serve more than 100,000 people. We expect further consolidation as a consequence of more stringent regulations and greater capital requirements for investment. As the chart on the left illustrates, the US private sector water suppliers – which supplied some 73m people in 2011 (Source: National Association of Water Companies) – are concentrated in the populous coastal states where efficiencies are more readily achievable, though resources more constrained.

Up to US\$1tn in investment needs

The US's ageing drinking-water systems have been under-funded for many years and require huge investment in the coming decades – as much as US\$1tn over the next 25 years (Source: American Water Works Association). The US EPA, for instance, estimates that US\$203bn would be required over 20 years simply to address infrastructure shortcomings – and an additional US\$335bn to improve the systems. The American Society of Civil Engineers currently ranks both the nation's drinking water and wastewater infrastructure as D-. Huge investments are needed in drinking water treatment plants and distribution lines, sewer lines and storage facilities.

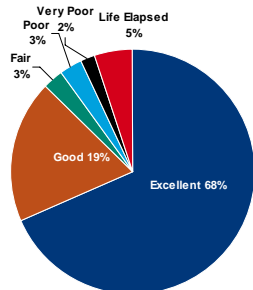
Chart 88: Distribution of regulated water supply companies



Source: BofA Merrill Lynch Global Research

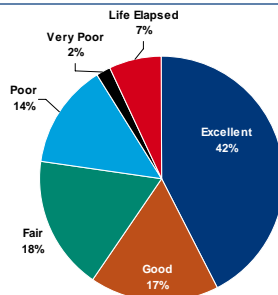
Without renewal or replacement of existing systems, pipe classified as poor, very poor or life elapsed will increase from 10% to 44% by 2020 (Source American Water Works)

Chart 89: Percentage of water pipes in the US by classification (1980)



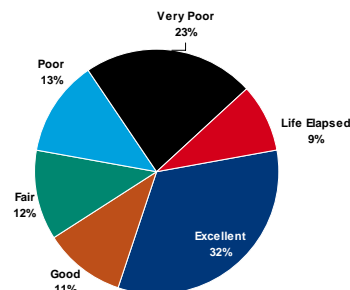
Source: American Water Works based on US EPA, BofA Merrill Lynch Global Research

Chart 90: Percentage of water pipes in the US by classification (2000)



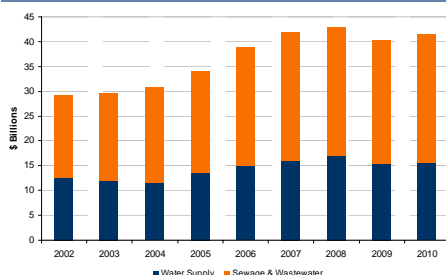
Source: American Water Works based on US EPA, BofA Merrill Lynch Global Research

Chart 91: Percentage of water pipes in the US by classification (2020)



Source: American Water Works based on US EPA, BofA Merrill Lynch Global Research

Chart 92: US water infrastructure spending, 2002-10

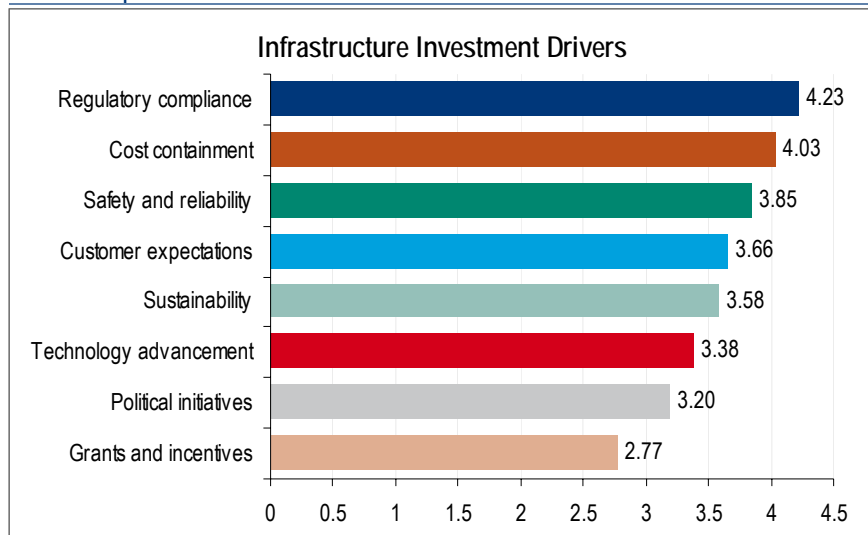


Source: US Census Bureau, BofA Merrill Lynch Global Research

Cash-strapped municipalities starting to look to private sector

Positively, there are growing signs that large US public municipal water utilities are willing to contract with the private sector on the back of financial constraints and insufficient public funding – neither of which looks likely to improve in the near term. The private sector is playing a greater role in areas such as advisory services – to make water and wastewater operations more efficient and cost-effective (i.e., performance-based goals). The approach overcomes traditional reticence over private sector involvement in the US\$90bn municipal water market – with the public utility continuing to operate the water system. For example, under its contract with New York City, Veolia has identified more than 10% in potential savings out of the city's US\$1.2bn budget.

Chart 93: Importance of infrastructure investment issues for US water utilities



Source: Black & Veatch, BofA Merrill Lynch Global Research. Results based on a 2012 survey of industry water participants.

Water infrastructure & supply companies

We have identified the following companies covered by BofA Merrill Lynch Global Research that have exposure to the theme of water infrastructure and supply. Although it is difficult to accurately gauge the link between such exposure and share price performance (as many factors outside the scope of this analysis play a role in short- and long-term price development), we still consider water solutions-related exposure as an important positive point to track.

Table 77: List of companies covered by BofAML involved in Water Infrastructure & Supply

BBG Ticker	Company	Location	BofAML Ticker	Market Cap (US\$mn)	Water Sub-sector	Water Exposure
KSB3 GR	KSB AG	GERMANY	KSVRF	807.82	Pipes, pumps & valves	Low
6326 JP	KUBOTA	JAPAN	KUBTF	12,751.74	Pipes, pumps & valves	Low
ROR LN	ROTORK	UK	ROTOF	3,216.09	Pipes, pumps & valves	Low
ACM US	AECOM TECHNOLOGY	UNITED STATES	ACM	2,454.64	Engineering & Construction	Low
AEJ SJ	AVENG LTD	SOUTH AFRICA	AVEPF	1,397.62	Engineering & Construction	Low
392 HK	BEIJING ENTERPRISES	HONG KONG	BJINF	7,352.50	Engineering & Construction	Low
DOW AU	DOWNER EDI	AUSTRALIA	DNERF	1,516.86	Engineering & Construction	Low
KEP SP	KEPPEL CORPORATION	SINGAPORE	KPELF	15,734.37	Engineering & Construction	Low
LEI AU	LEIGHTON HOLDINGS	AUSTRALIA	LGTHF	6,087.28	Engineering & Construction	Low
URS US	URS CORP.	UNITED STATES	URS	2,574.45	Engineering & Construction	Low
VATW IN	VA TECH WABAG LIMITED	INDIA	XVWBF	234.94	Engineering & Construction	High
AGUAS/A CI	AGUAS ANDINAS	CHILE	XXSGF	4,124.02	Utilities	High
AWK US	AMERICAN WATER WORKS	UNITED STATES	AWK	6,416.54	Utilities	High
CSMG3 BZ	COPASA	BRAZIL	CSAOF	2,629.29	Utilities	High
270 HK	GUANGDONG INVESTMENT	HONG KONG	GGDVF	5,049.77	Utilities	High
3 HK	HONG KONG & CHINA GAS	HONG KONG	HOKCF	23,100.05	Utilities	Low
XVNFF	AGUAS METROPOLIT	CHILE	XVNFF	1,861.29	Utilities	High
MWC PM	MANILA WATER	PHILIPPINES	MWTCF	1,441.38	Utilities	High
PNN LN	PENNON	UK	PEGRF	4,135.86	Utilities	High
SBSP3 BZ	SABESP	BRAZIL	CSBJF	9,733.79	Utilities	High
SBS US	SABSEP-ADR	BRAZIL	SBS	9,648.88	Utilities	High
SVT LN	SEVERN TRENT	UK	SVTRF	5,886.66	Utilities	High
363 HK	SHANGHAI INDUS	HONG KONG	SGHIF	3,552.82	Utilities	Low
SKI AU	SPARK INFARTSRUCTURE	AUSTRALIA	SFDPF	1,741.21	Utilities	Low
SEV FP	SUEZ ENVIRONNEMENT	FRANCE	SZEVF	1,730.75	Utilities	Medium
UU/ LN	UNITED UTILITIES	UK	UUGWF	5,357.93	Utilities	High
VE FP	VEOLIA ENVIRONNEMENT	FRANCE	VEOEF	7,199.83	Utilities	Medium
VE US	VEOLIA ENVIRONNEMENT	UNITED STATES	VE	4,958.21	Utilities	Medium

Source: IQ, DataStream, BofA Merrill Lynch Global Research. * Water exposure = BofAML estimates of current sales derived from water infrastructure and supply-related products, services, technologies and solutions

Table 78: KSB AG Pref - Key data

Analyst's Name	Roller, Claus		
Analyst's Email Id.	claus.roller@baml.com		
Analyst's Phone No.	+44 20 7996 4193		
	2011	2012E	2013E
Revenues	2,151	2,159	2,252
Operating Profit	130	146	170
Operating Margin	6.1%	6.8%	7.5%
Y-o-Y Growth	-14.8%	12.0%	16.4%
Net Profit	72	79	95
Net Margin	3.3%	3.7%	4.2%
Y-o-Y Growth	-7.1%	9.8%	20.2%
EBIT	130	146	170
EBIT Margin	6.1%	6.8%	7.5%
EBITDA	181	197	223
EBITDA Margin	8.4%	9.1%	9.9%
Operating Cash Flow	29.3	126.1	132.8
Capex	107.3	109.0	109.5
Free Cash Flow	(78.0)	17.0	23.3
Net Debt/Equity	24.7	23.4	21.2

Source: BofA Merrill Lynch Global Research estimates

Table 79: Kubota - Key data

Analyst's Name	Mizuno, Hideyuki		
Analyst's Email Id.	hideyuki.mizuno@baml.com		
Analyst's Phone No.	+81 3 6225 8528		
	2012	2013E	2014E
Revenues	1,008,019	1,124,000	1,171,000
Operating Profit	105,680	105,000	122,000
Operating Margin	10.5%	9.3%	10.4%
Y-o-Y Growth	22.7%	-0.6%	16.2%
Net Profit	61,552	65,000	75,000
Net Margin	6.1%	5.8%	6.4%
Y-o-Y Growth	12.3%	5.6%	15.4%
EBIT	105,680	105,000	122,000
EBIT Margin	10.5%	9.3%	10.4%
EBITDA	129,588	140,000	159,000
EBITDA Margin	12.9%	12.5%	13.6%
Operating Cash Flow	79,896.0	80,878.4	95,279.7
Capex	26,962.0	53,000.0	50,000.0
Free Cash Flow	52,934.0	27,878.4	45,279.7
Net Debt/Equity	36.9	35.4	31.5

Source: BofA Merrill Lynch Global Research estimates

1) Pipes, pumps & valves

KSB AG

KSB is a leading global supplier of pumps, valves and related systems for a large variety of industrial applications. The company has market-leading positions in the fields of energy, process engineering and water and wastewater.

KSB (low Water exposure) is a play on pumps for water supply and wastewater utilities. Its products aid in water extraction and groundwater management, water treatment (including seawater desalination), and water transport and distribution. While growth in pumps looks set to continue long-term, new water supply and wastewater disposal projects are currently constrained by public-sector entities experiencing financial difficulties. The company has also been hit by the political situation in North Africa.

Near-term, an investment in KSB offers exposure to the late-cyclical recovery of the industrial investment cycle, as well as potential long-term growth in emerging markets and from increasing service and spare parts revenues following its expanded project business. Despite its strong position in key end-markets such as energy, process engineering, water and wastewater, KSB trades at a significant discount to its peer group.

Kubota

Kubota is a top Japanese agricultural machinery manufacturer. It has a 60% share of its domestic market in cast-iron pipes, mainly for the public sector, and its internal combustion engine division accounts for c.80% of operating profit. The overseas sales weight has grown to just over 40% (up from 15% in FY3/96) with North American tractor business growth. It has plans to expand its Asian and European tractor sales. Public sector dependence has decreased to around 20%.

Kubota (low Water exposure) is a play on pipes, pumps and water treatment. Its Water & Environment Systems segment contributed 27.0% of total revenues in Q3-12. This segment largely comprises pipe-related products. The company is looking to expand into the water treatment and environment business in China (including via local production), India, Southeast Asia, the Middle East and other regions. It also plans to focus on the water solutions business, incorporating water purification, desalination, and piping. Over a mid-term horizon, we will monitor its growth in water-management systems in Asia closely, as well as its expansion into crop machinery.

Near-term, we believe the share price is likely to follow North American tractor demand and Asian agricultural mechanization.

Table 80: Rotork Plc - Key data

Analyst's Name	Toms,Alex		
Analyst's Email Id.	alex.toms@baml.com		
Analyst's Phone No.	+44 20 7995 8720		
	2011	2012E	2013E
Revenues	448	527	568
Operating Profit	112	128	142
Operating Margin	25.0%	24.3%	25.0%
Y-o-Y Growth	14.6%	14.5%	10.5%
Net Profit	79	89	99
Net Margin	17.7%	17.0%	17.4%
Y-o-Y Growth	14.0%	12.9%	10.2%
EBIT	112	128	142
EBIT Margin	25.0%	24.3%	25.0%
EBITDA	120	140	155
EBITDA Margin	26.9%	26.6%	27.3%
Operating Cash Flow	77.7	90.6	104.4
Capex	11.2	13.3	12.8
Free Cash Flow	66.5	77.3	91.6
Net Debt/Equity	(21.5)	(28.9)	(38.8)

Source: BofA Merrill Lynch Global Research estimates

Rotork Plc

Rotork is a high-quality pure-play manufacturer of actuators – devices which can reliably switch valves on and off. Its key drivers are capex in the Oil & Gas, Power Generation and Water industries. The USP of Rotork products is their reliability, as well as the ability to interface with the hardware used to run these plants efficiently. Rotork supplies these products globally, and has some 1,300 staff.

Rotork (low Water exposure) is a play on heavy-duty valve actuators for the water and sewage industry. It is the largest independent manufacturer of such products, which control thousands of valves in water and sewage plants across the world. Actuators play a key role in managing plants and ensuring safety and efficiency. The company believes water treatment and distribution offers significant opportunities – and that with climate change affecting the availability of water, there will be an increasing need for processes which maximise existing resources, such as desalination plants and water re-use projects.

Near-term, Rotork is a specialist in actuators with a market-leading position reinforced by its strong customer relationships, flexible production capacity and R&D advantage. Key drivers are end-market growth and substitution of valve control from hand-wheels to actuators. Management seeks to augment this growth through product innovation and expanding the service offering, while using more low-cost outsourcing. A sector premium is warranted, in our view, given the company's excellent track record and growth prospects.

2) Engineering, construction & consulting

Table 81: AECOM Technology Corp - Key data

Analyst's Name	Obin,Andrew		
Analyst's Email Id.	andrew.obin@baml.com		
Analyst's Phone No.	+1 646 855 1817		
	2011	2012E	2013E
Revenues	8,037	8,430	8,718
Operating Profit	425	390	438
Operating Margin	5.2%	4.5%	5.0%
Y-o-Y Growth	21.0%	-8.1%	12.1%
Net Profit	276	253	281
Net Margin	3.4%	3.0%	3.2%
Y-o-Y Growth	16.2%	-8.4%	11.1%
EBIT	425	390	438
EBIT Margin	5.3%	4.6%	5.0%
EBITDA	535	490	533
EBITDA Margin	6.7%	5.8%	6.1%
Operating Cash Flow	132.0	285.1	261.8
Capex	78.0	78.0	83.0
Free Cash Flow	54.0	207.1	178.8
Net Debt/Equity	29.5	21.3	14.7

Source: BofA Merrill Lynch Global Research estimates

AECOM Technology Corp.

AECOM is a premier global engineering and design firm with leading market positions both in the US and globally. The company focuses on the front-end design and engineering work, project management and operations and maintenance services. Its key end-markets are Transportation, Environmental, Facilities, Government and Energy.

AECOM (low Water exposure) is a play on E&C and water supply/shortages. It offers integrated services for total project delivery, covering community infrastructure, environmental planning, industrial water, drinking water, wastewater, water design build, water resources, and hydro and dams. It has provided services to the Metropolitan Water Reclamation District of Greater Chicago's Calumet and Stickney wastewater treatment plants, two of the largest such plants in the world. Currently, it is working with New York City on the Bowery Bay facility reconstruction, and has had a major role in Hong Kong's Harbor Area Treatment Scheme for Victoria Harbor. Its water resources projects include regional-scale floodplain mapping and analysis for public agencies, along with the analysis and development of protected groundwater resources for companies in the bottled water industry.

Near-term, we view the stock as a value trap with limited positive catalysts. In our view, lumpy execution and muted organic growth due to significant exposure to US government budgets will keep the multiple at historically low levels

Table 82: Aveng Ltd - Key data

Analyst's Name	Maluleka,Horatius		
Analyst's Email Id.	horatius.maluleka@baml.com		
Analyst's Phone No.	+27 11 305 5185		
	2012	2013E	2014E
Revenues	41,603	44,374	47,414
Operating Profit	576	1,941	2,615
Operating Margin	1.3%	4.3%	5.4%
Y-o-Y Growth	-58.6%	237.0%	34.7%
Net Profit	521	1,442	1,823
Net Margin	1.3%	3.2%	3.8%
Y-o-Y Growth	-52.6%	176.8%	26.4%
EBIT	576	1,941	2,615
EBIT Margin	1.4%	4.4%	5.5%
EBITDA	2,055	3,417	4,229
EBITDA Margin	4.9%	7.7%	8.9%
Operating Cash Flow	1,007.0	3,115.0	3,930.0
Capex	2,087.0	2,191.4	2,300.9
Free Cash Flow	(1,080.0)	923.7	1,629.1
Net Debt/Equity	(30.5)	(31.9)	(36.8)

Source: BofA Merrill Lynch Global Research estimates

Aveng Ltd

Aveng is involved in infrastructure development in SA, Africa, the Middle East, Australasia and the Pacific. The sub-segments of water, energy, subsea activities and oil & gas are of particular interest. The group aims to capitalise on group collaboration and pursue multi-disciplinary opportunities to ensure sustainability in the current tough operating environment.

Aveng (low Water exposure) is a water play through the 2011 launch of Aveng Water (following E+PC division restructuring), which is well positioned and should continue to secure new private sector water projects (c.4% of its 2Y order book). It is extending water operations and maintenance – eMalahleni and Erongo Desalination, Namibia. The near-term market outlook for water is positive with: an estimated ZAR1.2bn required to address AMD (acid mine drainage) from abandoned gold mines in and around Johannesburg; water shortages in South African coastal areas creating opportunities for seawater desalination facilities; and opportunities to assist municipalities to rehabilitate aging water treatment infrastructure. Longer-term, Aveng is looking to: reinforce its position in AMD in South Africa and continue to build the Australian business; build on its seawater desalination experience; and develop relationships in the South African municipal market to offer water treatment solutions.

Near-term, risk drivers include continued contract losses in AUS as a result of fixed-price contracts, persistent uncertainty in the steel business and a share price that is trading at peak forward PEs.

Table 83: Beijing Enterprises Holdings Limited - Key data

Analyst's Name	Leung,Vitus		
Analyst's Email Id.	vitus.leung@bamll.com		
Analyst's Phone No.	+852 2536 3421		
	2011	2012E	2013E
Revenues	32,900	37,167	42,493
Operating Profit	3,222	3,703	4,154
Operating Margin	9.8%	10.0%	9.8%
Y-o-Y Growth	14.9%	14.9%	12.2%
Net Profit	2,776	3,326	4,103
Net Margin	8.4%	9.0%	9.7%
Y-o-Y Growth	5.2%	19.8%	23.3%
EBIT	3,222	3,703	4,154
EBIT Margin	9.8%	10.0%	9.8%
EBITDA	4,996	5,761	6,409
EBITDA Margin	15.2%	15.5%	15.1%
Operating Cash Flow	(926.3)	14,380.0	8,822.9
Capex	4,324.1	4,200.0	3,000.0
Free Cash Flow	(5,250.4)	10,180.0	5,822.9
Net Debt/Equity	16.8	2.8	0.4

Source: BofA Merrill Lynch Global Research estimates

Beijing Enterprises Holdings Limited

Beijing Enterprises Holdings Limited (BEH) is the window company of Beijing's municipal government. BEH was founded in May 1997 to house eight assets owned by the Beijing government. It is mainly engaged in natural gas distribution, sewage and water treatment business, brewery businesses, and toll roads. We believe Beijing Enterprises is well-positioned to benefit from the strong growth in natural gas consumption in China.

BEH (low Water exposure) is a water play on China via its BE Water division, an integrated water systems solution provider. Construction services remain the largest water revenues segment, while sewage treatment and technical consultancy services are the biggest profit segments. At the end of 2011, BE owned 86 water companies and managed 126 water treatment projects, with service coverage reaching 52 regions and cities in 18 provinces. It has received government approval for a demonstration seawater desalination project in Caofeidian, and has formally entered into an agreement to construct the second sewage plant project in Pandai, Malaysia. It is looking to acquire large-scale water treatment projects and smaller investment companies. Long-term drivers include water scarcity, economic growth, urbanisation, higher requirements in terms of water resources utilisation, and government support.

Near-term, BEH is a key beneficiary of Chinese natural gas consumption growth, which is set to receive a significant boost from the 12th Five Year Plan (from 109bcm in 2010 to 260bcm in 2015E). BEH's gas sales volume growth has re-accelerated in 2012 on the back of the conversion of gas-fired power plants and boilers in Beijing. It is also more resilient to a slowdown in industrial activity with 48% of gas sold to heating and cooling. We believe BEH is well positioned for growth in gas consumption.

Table 84: Downer EDI Limited - Key data

Analyst's Name	Simmonds,Duncan		
Analyst's Email Id.	duncan.simmonds@bamll.com		
Analyst's Phone No.	+61 2 9226 5694		
	2012	2013E	2014E
Revenues	8,524	8,869	9,277
Operating Profit	346	373	404
Operating Margin	4.1%	4.2%	4.4%
Y-o-Y Growth	N/A	7.6%	8.5%
Net Profit	113	211	236
Net Margin	1.3%	2.4%	2.5%
Y-o-Y Growth	N/A	87.1%	12.1%
EBIT	346	373	404
EBIT Margin	4.1%	4.2%	4.4%
EBITDA	592	635	682
EBITDA Margin	7.0%	7.2%	7.4%
Operating Cash Flow	368.5	483.5	590.7
Capex	374.0	402.4	412.9
Free Cash Flow	(5.5)	81.1	177.8
Net Debt/Equity	19.9	10.7	0.3

Source: BofA Merrill Lynch Global Research estimates

Downer EDI Limited

DOW is characterised by a high-turnover, low-margin construction and maintenance business in Australia and New Zealand, a higher-margin but capital-intensive contract mining operation, and a rail fabrication and services business. End-markets are Minerals & Metals, Oil & Gas, Power, Transport Infrastructure, Communications, Water and Property.

DOW (low Water exposure) is a play on water E&C. It has four main areas of exposure: water/wastewater treatment (complete treatment plant solutions, improving the lifespan and efficiency of existing plants); pumping and water transfer (design, construction and maintenance); desalination/re-use (engineering); and abstraction/dewatering (leading position in the mining & resources, oil & gas and power sectors).

Near-term, a stronger balance sheet courtesy of execution asset sales and working capital management mean that coverage ratios sit well below covenants and allow for potential volatility in earnings. We view the current valuation as attractive considering that (1) the company's success in reducing debt focuses the market on its undemanding valuation multiples, (2) legacy execution issues are largely behind the business, and (3) the market is underestimating DOW's ability to generate returns above WACC.

Table 85: Keppel Corporation Limited - Key data

Analyst's Name	Chong, Wee Lee		
Analyst's Email Id.	wee.lee.chong@bamll.com		
Analyst's Phone No.	+65 6678 0403		
	2011	2012E	2013E
Revenues	10,082	12,260	12,049
Operating Profit	1,897	2,520	2,342
Operating Margin	18.8%	20.6%	19.4%
Y-o-Y Growth	21.9%	32.8%	-7.1%
Net Profit	1,841	2,010	1,783
Net Margin	18.3%	16.4%	14.8%
Y-o-Y Growth	21.8%	9.2%	-11.3%
EBIT	1,897	2,520	2,342
EBIT Margin	18.8%	20.6%	19.4%
EBITDA	2,106	2,869	2,724
EBITDA Margin	20.9%	23.4%	22.6%
Operating Cash Flow	(242.1)	454.1	2,709.8
Capex	875.8	722.9	640.4
Free Cash Flow	(1,117.9)	(268.9)	2,069.4
Net Debt/Equity	16.6	27.9	20.3

Source: BofA Merrill Lynch Global Research estimates

Keppel Corporation Limited

Keppel Corp (KEP) has three key businesses: offshore & marine, property, and infrastructure. KEP is a world leader in rigbuilding, and owns proprietary designs for various offshore units. It is the lead private investor in Sino-Singapore Tianjin Eco-City, a 10-15 year (since August 2008) sustainable residential housing project in China. KEP provides eco-friendly proprietary waste treatment solutions globally. KEP owns listed associates, like Keppel Land, Keppel T&T, K1 Ventures, and K-Green Trust.

KEP (low Water exposure) is a water play via its Keppel Seghers subsidiary, which covers consultancy, construction & engineering and technology on solid waste, wastewater, drinking water, process water, desalination, biosolids and sludge. It has built over 400 plants worldwide and is a leading player in the municipal, industrial and purification water markets. In China, Keppel Integrated Engineering has formed a joint venture (JV) company to build, own and operate a water reclamation plant in the Sino-Singapore Tianjin Eco-City (Tianjin Eco-City). KEP also has sustainability megatrend exposure to safety (O&G sector), energy efficiency, and waste to energy.

Near-term, we believe Keppel Corp's key Offshore and Marine business will ride on the expected upswing in construction contracts for offshore rigs and units, using newer and more eco-friendly designs. We expect KEP to gain from residential property launches at Sino-Singapore Tianjin Eco-City, which is a model city development for sustainable housing in China. The K-Green Trust should also provide a ready financial platform for KEP to embark on eco-friendly infrastructure projects globally.

Table 86: Leighton Holdings Limited - Key data

Analyst's Name	Simmonds, Duncan		
Analyst's Email Id.	duncan.simmonds@bamll.com		
Analyst's Phone No.	+61 2 9226 5694		
	2011	2012E	2013E
Revenues	12,147	21,389	20,948
Operating Profit	464	649	1,027
Operating Margin	3.8%	3.0%	4.9%
Y-o-Y Growth	-53.7%	40.0%	58.3%
Net Profit	340	487	632
Net Margin	2.8%	2.3%	3.0%
Y-o-Y Growth	-44.4%	43.1%	29.9%
EBIT	464	649	1,027
EBIT Margin	3.8%	3.0%	4.9%
EBITDA	976	1,639	2,081
EBITDA Margin	8.0%	7.7%	9.9%
Operating Cash Flow	234.2	620.6	1,646.8
Capex	533.1	806.2	773.3
Free Cash Flow	(298.9)	(185.5)	873.5
Net Debt/Equity	23.1	34.3	11.5

Source: BofA Merrill Lynch Global Research estimates

Leighton Holdings Limited

Leighton Holdings is Australia's largest project development and contracting group. The group's activities include engineering and building construction, contract mining, environmental services, operations and maintenance and facilities management in Australia, South East Asia and the Gulf region. Leighton is comprised of Leighton Contractors, Thiess, Leighton Asia, Leighton Properties, and John Holland. It is majority owned by Hochtief.

Leighton (low Water exposure) is a play on E&C of water pipelines, storage, supply, sewerage and drainage, and desalination plants. Theiss has 5.2% of the AquaSure consortium, which has been contracted by the Victorian government to deliver the A\$3.5bn Victorian Desalination Project. It has previous experience with the Bundamba AWTP, a component of the Western Corridor Recycled Water Project (WCRW), with the objective to construct a 200km network of underground pipelines and three advanced water treatment plants. The WCRW project was a response to Australia's water crisis by recycling wastewater for industry and agricultural use.

Near-term, we see opportunities to increase WIH and revenue based on a robust environment for domestic capex and mining volumes, together with selected opportunities in emerging markets. In our view, we should see NPAT margins rebounding from the lows of -2.5% in FY11 back to trend by FY13.

Table 87: URS Corp. - Key data

Analyst's Name	Obin, Andrew		
Analyst's Email Id.	andrew.obin@bamll.com		
Analyst's Phone No.	+1 646 855 1817		
	2011	2012E	2013E
Revenues	9,545	11,015	12,046
Operating Profit	608	691	766
Operating Margin	6.4%	6.3%	6.4%
Y-o-Y Growth	7.2%	13.7%	10.8%
Net Profit	(466)	299	355
Net Margin	-4.9%	2.7%	2.9%
Y-o-Y Growth	-261.8%	-164.2%	18.7%
EBIT	608	691	766
EBIT Margin	6.4%	6.3%	6.4%
EBITDA	751	906	1,021
EBITDA Margin	7.9%	8.2%	8.5%
Operating Cash Flow	504.6	297.0	601.3
Capex	67.5	120.0	150.0
Free Cash Flow	437.1	177.0	451.3
Net Debt/Equity	10.4	48.5	37.4

Source: BofA Merrill Lynch Global Research estimates

URS Corp.

URS Corp. is now the largest design firm in the US, providing a variety of planning, engineering, operating and maintenance services to Federal, state and local, and private and international clients. The company's acquisition and diversification strategy has also reduced business cyclicality and diversified service offerings, clients, and markets.

URS (low Water exposure) is a play on engineering across full-service water, wastewater and hydropower projects for public and private sector clients. Its services encompass the water and wastewater industry (water supply planning, water storage and transmission, water quality management planning, water treatment and distribution), and wastewater collection, treatment and disposal. It has expertise in storm water and watershed management, hydropower, flood control, water quality monitoring, and environmental planning and permitting. The company also provides pipeline and pumping plant design, hydrologic and hydraulic modelling, emergency action planning and ground water desalination. In addition, URS designs for dams and reservoirs and is involved in hydropower, tunnelling and micro-tunnelling.

Near-term, we expect URS to underperform our coverage on a relative basis due to its more defensive business model and significant exposure to US public spending. While we still expect strong execution and solid EPS growth from the company, we see limited positive catalysts to provide earnings surprises.

Table 88: Va Tech Wabag Limited - Key data

Analyst's Name	Bhutta, Jonas		
Analyst's Email Id.	jonas.bhutta@baml.com		
Analyst's Phone No.	+91 22 6632 8688		
	2012	2013E	2014E
Revenues	14,382	16,269	18,889
Operating Profit	1,162	1,427	1,722
Operating Margin	8.1%	8.8%	9.1%
Y-o-Y Growth	13.7%	22.9%	20.6%
Net Profit	738	874	1,080
Net Margin	5.1%	5.4%	5.7%
Y-o-Y Growth	40.3%	18.5%	23.5%
EBIT	1,162	1,427	1,722
EBIT Margin	8.1%	8.8%	9.1%
EBITDA	1,248	1,542	1,857
EBITDA Margin	8.7%	9.5%	9.8%
Operating Cash Flow	(926.0)	700.8	937.6
Capex	217.1	344.0	358.4
Free Cash Flow	(1,143.1)	356.8	579.2
Net Debt/Equity	(42.5)	(37.7)	(35.2)

Source: BofA Merrill Lynch Global Research estimates

Va Tech Wabag Limited

Va Tech Wabag is a leading company in the water treatment sector. It offers engineering, construction and maintenance services. Key target segments are municipal and industrial orders for water and wastewater treatment. It has a multinational pedigree and a professional management. FY09-12 revenues and earnings have grown at 8% and 28% CAGRs, respectively.

Wabag (high Water exposure) is one of the world's leading companies in the water and wastewater treatment field. It offers complete lifecycle solutions ranging from project design and installation to operations and maintenance across municipal drinking water, municipal sewage, industrial water and wastewater, desalination and recycling. Services extend from system component supply to turnkey order realisation and include schemes such as EPC, DBO and BOT/BOOT, as well as plant modernisation, extension and upgrading of existing plants. It has a strong global presence in 19 countries and has completed more than 2,250 projects in the last three decades. It had an order book of INR41.1bn at 30 June 2012 and we anticipate a 15% new order CAGR in FY12-15E, led by the domestic Indian business (municipal/industrial) and its forays into new markets (Turkey/Algeria/Romania) bearing results.

Near-term, we are positive on Va Tech Wabag as: 1) it taps into the growing need for clean water and wastewater treatment in India, South Asia, CIS and Africa, 2) new orders grow at a 15% CAGR FY12-15E, faster than industry growth, 3) the share of annuity revenues increases from 15% in FY12 to 20% by FY15E, 4) lower costs and higher annuity revenues lead to 120bp margin expansion in FY12-15E, 5) it achieves a projected earnings CAGR of 20% FY12-14E.

3) Water utilities

Agua Andinas SA

Agua Andinas is the leading water utility in Chile with 42.6% client market share and more than 50% of the water volume market share.

Agua Andinas (high Water exposure) is a play on water supply in Chile. The company, through its subsidiaries, operates under open-ended concessions to process and distribute potable water for more than 1.9m clients within the metropolitan region (RM) in and around Santiago (27% of revenues). It has more than 50% of water volume market share. In addition, the company is responsible for the collection and treatment of sewage/wastewater (38% of revenues). It also focuses on rural areas through its Rural Potable Water Plan, which is signed with the Hydraulic Works Directorate of the Ministry of Public Works. The company is studying projects and works in remote areas where potable water networks do not exist, and provides training and consultancy services on the maintenance and execution of these projects. From a long-term perspective, we view Agua as the most defensive stock among LatAm utilities, with a well-established regulatory framework, more than a 20-year track record, and non-expiring concession.

Near-term, our outlook remains positive based on (1) stable earnings in water distribution, (2) growth from expansion in sewage treatment, (3) growth in the non-regulated environmental services business, and (4) strong cash flow yields. However, in our view the share price has run ahead of fundamentals.

Table 89: Agua Andinas SA - Key data

Analyst's Name	Moreno, Diego		
Analyst's Email Id.	diego.moreno@baml.com		
Analyst's Phone No.	+55 11 2188 4223		
	2010	2011E	2012E
Revenues	328,964	358,113	406,437
Operating Profit	149,786	162,942	184,929
Operating Margin	45.5%	45.5%	45.5%
Y-o-Y Growth	-3.4%	8.8%	13.5%
Net Profit	103,850	95,856	120,304
Net Margin	31.6%	26.8%	29.6%
Y-o-Y Growth	-15.6%	-7.7%	25.5%
EBIT	149,786	162,942	184,929
EBIT Margin	45.5%	45.5%	45.5%
EBITDA	202,798	216,205	240,501
EBITDA Margin	61.6%	60.4%	59.2%
Operating Cash Flow	145,254.4	175,034.1	179,507.3
Capex	69,489.4	98,000.0	98,000.0
Free Cash Flow	75,765.0	77,034.1	81,507.3
Net Debt/Equity	83.9	89.0	89.1

Source: BofA Merrill Lynch Global Research estimates

Table 90: American Water Works Company - Key data

Analyst's Name	Fleishman, Steve		
Analyst's Email Id.	steven.fleishman@bamf.com		
Analyst's Phone No.	+1 646 855 2906		
	2011	2012E	2013E
Revenues	2,666	2,819	2,832
Operating Profit	803	938	940
Operating Margin	30.1%	33.3%	33.2%
Y-o-Y Growth	10.3%	16.8%	0.1%
Net Profit	305	380	378
Net Margin	11.4%	13.5%	13.4%
Y-o-Y Growth	19.5%	24.7%	-0.6%
EBIT	803	938	940
EBIT Margin	30.1%	33.3%	33.2%
EBITDA	1,155	1,305	1,320
EBITDA Margin	43.3%	46.3%	46.6%
Operating Cash Flow	808.4	812.8	839.9
Capex	924.9	907.0	857.0
Free Cash Flow	(116.5)	(94.2)	(17.1)
Net Debt/Equity	137.7	126.3	125.4

Source: BofA Merrill Lynch Global Research estimates

American Water Works

American Water Works is headquartered in New Jersey and provides regulated water services to 15mn people in 30+ states, as well as parts of Canada.

AWK (high Water exposure) is a play on water supply in the US and is the country's largest publicly traded water and wastewater utility company. New Jersey and Pennsylvania are the two largest states, with each representing 20-25% of revenues. American Water Enterprises is the non-regulated business and represents a modest 5% of total earnings. The non-regulated business lines include 1) water service contracts with military bases, 2) homeowner repair, 3) contract operations for large cities, 4) water reuse, and 5) desalination. We note that the company is currently engaged or involved in cost containment (2015 O&M efficiency target of 40%), constructive regulatory decisions that address declining water usage, and cost recovery mechanisms reducing regulatory lag, such as infrastructure surcharges.

Near-term, AWK is a pure play on the growth prospects for the water utility business, which include the need for substantial capex spend to upgrade an aging system and the potential consolidation or outsourcing of the government-owned share of the water sector. AWK is also a turnaround story, making great strides in improving earned returns at its regulated business. We believe AWK is positioned to grow EPS and the dividend by 7-10% over the next few years.

Table 91: COPASA - Key data

Analyst's Name	Moreno, Diego		
Analyst's Email Id.	diego.moreno@bamf.com		
Analyst's Phone No.	+55 11 2188 4223		
	2011	2012E	2013E
Revenues	3,211	3,366	3,574
Operating Profit	756	849	894
Operating Margin	23.6%	25.2%	25.0%
Y-o-Y Growth	-21.8%	12.2%	5.3%
Net Profit	470	569	613
Net Margin	14.7%	16.9%	17.2%
Y-o-Y Growth	-30.9%	21.0%	7.8%
EBIT	756	849	894
EBIT Margin	23.6%	25.2%	25.0%
EBITDA	1,061	1,187	1,260
EBITDA Margin	33.0%	35.3%	35.3%
Operating Cash Flow	816.0	886.3	949.1
Capex	788.8	750.0	780.0
Free Cash Flow	27.2	136.3	169.1
Net Debt/Equity	56.6	54.3	51.2

Source: BofA Merrill Lynch Global Research estimates

Copasa

Copasa is the water and sewage utility company controlled by the state, rendering services in the state of Minas Gerais, with an estimated population of 19.6mn and representing approximately 9.3% of Brazil's GDP.

Copasa (high Water exposure) is a play on water and waste in Brazil. It provides water for 13.1mn people and sewage services for 7.7mn people through 42.9 thousand km of water and 16.2 thousand km of sewage pipelines in 615 municipalities. The company has 100% coverage for water services and progress on implementation of a new regulatory framework (expected for March 2014) is needed to drive further upside. We are more positive on sewage. The sewage tariff is a percentage of the water tariff: the sewage collection tariff is 50% of the water tariff, while the sewage treatment tariff is 90% of the water tariff. Copasa currently collects 83% of produced sewage and treats 60% of the collected sewage. It has 72 sewage facilities under construction and expects to start up around 30 over the next 12 months. Treatment expansion should drive a revenue mix improvement, maintaining revenue growth ahead of inflation until the new regulatory framework is implemented.

Near-term, for Copasa we believe the implementation of a regulatory framework should drive (1) a rerating of valuation multiples, and (2) earnings growth from remuneration of Copasa's expansion capex as it seeks to increase coverage. Attractive dividends vs. global water peers, access to low-cost funding in local currency and low concession risk also support our positive outlook.

Table 92: Guangdong Investment Ltd - Key data

Analyst's Name	Wong,Binnie		
Analyst's Email Id.	binnie.wong@baml.com		
Analyst's Phone No.	+852 2536 3458		
	2011	2012E	2013E
Revenues	7,161	7,698	8,245
Operating Profit	3,707	3,944	4,390
Operating Margin	54.4%	53.9%	56.0%
Y-o-Y Growth	7.9%	6.4%	11.3%
Net Profit	2,495	2,929	3,383
Net Margin	34.8%	38.1%	41.0%
Y-o-Y Growth	11.3%	17.4%	15.5%
EBIT	3,707	3,944	4,390
EBIT Margin	51.8%	51.2%	53.3%
EBITDA	4,722	5,003	5,488
EBITDA Margin	65.9%	65.0%	66.6%
Operating Cash Flow	4,794.1	3,420.5	4,903.6
Capex	255.0	1,143.8	1,126.3
Free Cash Flow	4,539.1	2,276.7	3,777.3
Net Debt/Equity	7.3	3.7	(3.1)

Source: BofA Merrill Lynch Global Research estimates

Table 93: Hong Kong & China Gas Company Ltd - Key data

Analyst's Name	Chan,Angello		
Analyst's Email Id.	angelo.chan@baml.com		
Analyst's Phone No.	+852 2161 7187		
	2011	2012E	2013E
Revenues	22,427	25,068	28,149
Operating Profit	6,091	7,126	7,829
Operating Margin	27.2%	28.4%	27.8%
Y-o-Y Growth	-5.6%	17.0%	9.9%
Net Profit	6,566	6,754	7,795
Net Margin	29.3%	26.9%	27.7%
Y-o-Y Growth	-10.8%	2.9%	15.4%
EBIT	6,091	7,126	7,829
EBIT Margin	27.2%	28.4%	27.8%
EBITDA	7,402	8,611	9,367
EBITDA Margin	33.0%	34.4%	33.3%
Operating Cash Flow	4,303.8	7,594.5	7,248.9
Capex	4,725.1	1,550.0	1,550.0
Free Cash Flow	(421.3)	6,044.5	5,698.9
Net Debt/Equity	30.5	13.4	4.7

Source: BofA Merrill Lynch Global Research estimates

Guangdong Investment Ltd

The window company of the Guangdong provincial government, Guangdong Investment is a conglomerate focusing on water supply and investment properties. It also engages in hotel, department store, power and toll road operations.

Guangdong Investment (high Water exposure) is a play on water supply in Hong Kong and China. Its owns the exclusive right to supply raw water to Hong Kong till 2030, and provides around 55% of water needs in Shenzhen and Dongguan. Water segment accounts for ~70% of GDI's 2012E profit and provides stable, rising cash flow to fund GDI's growing business portfolio. We believe earnings growth of GDI's core water business will continue with little downside risk backed by secured volume supply and tariff hikes for sales to HK and healthy growth in China on likely volume increases and tariff hikes.

Near term, with its strong balance sheet and robust free cash flow, we believe GDI has the financial capability to increase dividend payout ratio. Consensus has under-estimated its earnings potential in its premier water asset and future growth from its property investment. Trading at 47% discount to our NAV estimate, which looks undemanding vs. its historical average of 35%. At 10x 2013E P/E, (vs. HK listed water utilities of 10-13x), with 15% 2011-14 earnings CAGR, 13% RoE, and higher dividend yield of 3.2% (vs. historical 2%), we believe the risk/reward trade-off is very appealing.

Hong Kong & China Gas Company

Founded in 1862, HKCG was the first public utility in Hong Kong. Currently, HKCG supplies town gas to over 1.5mn customers in HK. The core business comprises production and distribution of gas, marketing of gas and appliances, and comprehensive after-sales services. In the past 10 years, HKCG has actively developed its city piped gas business in China. It now has joint ventures in 18 provinces across Guangdong, Eastern China, Shandong, Central China, Northern China and Northeastern China.

Hong Kong & China Gas (low Water exposure) is a play on water supply via Hong Kong & China Water Limited (Hua Yan Water). Water sales in its three projects grew by 8% during 2011 and water sales' contribution to total sales was 3% in 2011. We note that its water supply ventures also provide synergies, as HKCG deploys the same engineering and management teams across the 21 provinces in which it currently operates to lay telecom cables along gas pipelines that it has access to build. HKCG added a fourth PRC water project that will supply water to Samsung's flat screen factory in Thailand starting 2014, which we estimate will help lift earnings.

Near-term, HKCG's fully funded HK and PRC divisions should generate increasingly positive FCF, with HKCG receiving a rising stream of dividends from its fast-growing PRC division. We estimate that structural upstream sector expansion in China will bring up- and downstream expansion opportunities for HKCG. We believe that the company's 71 city gas franchises with 30-50-year exclusive operation rights, strong balance sheet and no.1 market share position it well to capture upside growth drivers.

Table 94: Inversiones Aguas Metropolitanas SA - Key data

Analyst's Name	Moreno, Diego		
Analyst's Email Id.	diego.moreno@baml.com		
Analyst's Phone No.	+55 11 2188 4223		
	2010	2011E	2012E
Revenues	328,960	358,113	406,437
Operating Profit	141,620	146,861	176,202
Operating Margin	45.2%	45.2%	45.2%
Y-o-Y Growth	-14.9%	3.7%	20.0%
Net Profit	51,001	47,226	59,966
Net Margin	15.5%	13.2%	14.8%
Y-o-Y Growth	-16.0%	-7.4%	27.0%
EBIT	141,620	146,861	176,202
EBIT Margin	43.1%	41.0%	43.4%
EBITDA	194,654	200,600	232,246
EBITDA Margin	59.2%	56.0%	57.1%
Operating Cash Flow	92,568.7	99,244.7	115,991.1
Capex	69,489.4	98,000.0	98,000.0
Free Cash Flow	23,079.3	1,244.7	17,991.1
Net Debt/Equity	59.7	66.4	64.6

Source: BofA Merrill Lynch Global Research estimates

Table 95: Manila Water Company, Inc. - Key data

Analyst's Name	Tinga, Dante Jr.		
Analyst's Email Id.			
Analyst's Phone No.			
	2011	2012E	2013E
Revenues	11,870	13,977	16,073
Operating Profit	6,515	7,528	8,655
Operating Margin	54.9%	53.9%	53.9%
Y-o-Y Growth	8.4%	15.5%	15.0%
Net Profit	4,266	4,800	5,446
Net Margin	35.9%	34.3%	33.9%
Y-o-Y Growth	7.2%	12.5%	13.4%
EBIT	6,515	7,528	8,655
EBIT Margin	54.9%	53.9%	53.9%
EBITDA	8,316	9,827	11,326
EBITDA Margin	70.1%	70.3%	70.5%
Operating Cash Flow	8,933.2	9,639.3	12,012.6
Capex	8,259.0	9,529.7	8,740.9
Free Cash Flow	674.2	109.6	3,271.7
Net Debt/Equity	79.0	67.5	60.5

Source: BofA Merrill Lynch Global Research estimates

Inversiones Aguas Metropolitanas SA

IAM is the investment vehicle that controls Aguas Andinas. Aguas Andinas is the company's only holding and its sole focus of operation.

IAM (high Water exposure) is a play on water supply in Chile and Aguas Andinas, which is the leading water utility in Chile with 1.9mn customers and a population of c.6.7mn, 42.6% client market share, and more than 50% water volume market share. The company's annual water production measured at the plant outlets is close to 770mn m3, of which 633mn m3 is referred to as surface waters and 138mn m3 to groundwater. The consolidated length of the distribution network of the Aguas Group reached 14,638 kilometres by the end of 2011 and its sewer network reached 12,105 kilometres. Its sanitation subsidiaries are involved in the collection, treatment and final disposal of sewage.

Near-term, the outlook remains positive, in our view, with (1) stable earnings in water distribution, (2) growth from expansion in sewage treatment as coverage should expand, (3) growth in the non-regulated environmental services business, and (4) strong cash flow yields. Last year's [out of date if been contributing since 2008] acquisition of a 53.5% stake in water utility ESSAL has also been contributing to earnings since 2H08.

Manila Water Company Inc

MWC is a water services utility firm primarily known as the water services concessionaire serving a customer base of 1.2 million within Metropolitan Manila's East Zone. MWC is also involved in projects and water concessions in Boracay, Cebu, Bulacan, Laguna, and the Clark Export Processing Zone in Angeles City, as well as bulk water supply and leakage reduction projects in Vietnam.

MWC (high Water exposure) has exclusive rights to provide water services in the East Zone concession until 2037. The company undergoes rate rebasing every five years, during which water tariffs are set. The rate rebasing process for 2013-17 is ongoing but is unlikely to conclude before mid-2013. We note that MWC has applied for a regulated return of 8.9% and annual capex spend of Php12bn over the next five years. The regulator's response to MWC's proposals will have a significant impact on performance, in our view. Manila Water's services also include wastewater treatment. It operates more than 30 sewage treatment plants with a combined capacity of 135 mld. Upside may come from the new businesses. Our forecasts assume the current portfolio of non-East Zone businesses will account for 17% of the company's bottom line in five years versus MWC management's target of 25%. M&A activity may provide even further upside. We believe investors will start to view MWC as having a portfolio of assets instead of just the Metro Manila East Zone water distribution concession.

Near-term, we have a positive outlook on MWC. We incorporate conservative assumptions regarding the outcome of the ongoing rate rebasing for the East Zone concession as well as initial estimates regarding the value of the non-East Zone businesses. Valuations also look undemanding, especially given our forecast of a 16% EPS CAGR for 2011A to 2014E.

Table 96: Pennon - Key data

Analyst's Name	Das,Pinaki		
Analyst's Email Id.	pinaki.das@baml.com		
Analyst's Phone No.	+44 20 7996 2453		
	2012	2013E	2014E
Revenues	1,233	1,266	1,344
Operating Profit	269	261	279
Operating Margin	21.8%	20.6%	20.7%
Y-o-Y Growth	3.0%	-3.0%	6.9%
Net Profit	168	134	142
Net Margin	13.7%	10.6%	10.5%
Y-o-Y Growth	18.5%	-20.4%	5.7%
EBIT	269	261	279
EBIT Margin	21.8%	20.6%	20.7%
EBITDA	416	418	443
EBITDA Margin	33.7%	33.0%	32.9%
Operating Cash Flow	222.0	272.7	392.0
Capex	267.4	438.3	506.9
Free Cash Flow	(45.4)	(165.6)	(114.8)
Net Debt/Equity	256.0	275.3	287.3
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Table 97: Companhia de Saneamento Basico do Estado de Sao - Key data

Analyst's Name	Moreno,Diego		
Analyst's Email Id.	diego.moreno@baml.com		
Analyst's Phone No.	+55 11 2188 4223		
	2010	2011E	2012E
Revenues	9,231	9,942	10,358
Operating Profit	2,670	2,445	2,814
Operating Margin	28.9%	24.6%	27.2%
Y-o-Y Growth	23.4%	-8.5%	15.1%
Net Profit	1,630	1,223	1,916
Net Margin	17.7%	12.3%	18.5%
Y-o-Y Growth	8.1%	-25.0%	56.6%
EBIT	2,670	2,445	2,814
EBIT Margin	28.9%	24.6%	27.2%
EBITDA	3,223	3,213	3,641
EBITDA Margin	34.9%	32.3%	35.1%
Operating Cash Flow	2,233.2	2,611.3	2,733.8
Capex	1,901.5	2,211.1	2,009.0
Free Cash Flow	331.7	400.2	724.8
Net Debt/Equity	64.8	61.1	51.2

Source: BofA Merrill Lynch Global Research estimates

Pennon

Pennon owns South West Water Services, a regulated water company that supplies water and sewerage services to the population of Devon and Cornwall in the UK. It also owns Viridor, one of the leading UK waste management companies, which handles more than 8m tonnes pa.

Pennon (medium Water exposure) is a play on UK water supply through South West Water Limited (c38% of sales in 2011-12). While, the water business is facing regulatory uncertainty, we are positive on its diversification in the form of a growing waste business (c40% of EV now but heading for c50% by 2017) which offsets some of the risks in the water division. We are seeing signs of some stability in the waste market following a difficult 12 months. A better economic outlook in China should help recycle prices recover. The UK economy also fared slightly better in Q3, providing some volume support. We are not suggesting that Pennon would be unaffected by a weaker outlook for UK Water but its exposure is smaller than peers in the context of the Group. In addition, the waste business is expected to grow substantially in coming years given over £1bn of investments into new Energy from Waste plants (EfW) and PFI investment pipeline. This is largely intact in our view and is reflected in our £2bn valuation (EV) of Viridor.

Near-term, Pennon offers an attractive profile in our view with the water utility's (60% of EV) defensive qualities complemented by growth in the waste subsidiary Viridor (40% of EV). Regulation has been generally stable in water but recent reform proposals increase risks. Having grown in recycling and PFIs, Viridor has built a solid EfW pipeline which underpins medium term growth. Trading in waste has been tough in the last year but we feel the worst is behind us. Lastly, exposure to waste offsets risks in water.

Sabesp

Sabesp is the largest water and sewage service provider in Latin America, rendering services in the state of São Paulo, which has an estimated population of 39.6mn and represents 32% of Brazil's GDP.

Sabesp (high Water exposure) is a play on water in Brazil, where it services 368 of the 645 municipalities in the state, including the city of São Paulo. The company also supplies water on a wholesale basis to six municipalities in the São Paulo metropolitan region in which it does not operate water systems. It has invested around R\$9bn over the last five years to provide high quality of service. Between 2012 and 2015, it plans to invest a further R\$8bn to ensure that it advances towards its commitment to provide water and sewage services to everyone in its operational area by 2018. In addition to basic sanitation, Sabesp provides drainage, urban cleaning, solid waste handling and energy services. ARSESP (water regulatory agency of SP state) authorized a 5.15% tariff increase to be applied to Sabesp's water and sewage tariffs from 11 September 2012, and a new regulatory framework, to be implemented in December, could eventually bring an additional tariff hike.

Near-term, we remain bullish on the Brazilian water utilities and Sabesp is our top pick in the sector. We believe the company has considerable asset base growth potential due its low level of coverage (81% sewage collection and 75% sewage treatment), which will start to be remunerated after implementation of the new regulatory framework (expected in December 2012). The next steps in this implementation process should be released over the next six months and be the main driver for the stock, in our view.

Table 98: Severn Trent - Key data

Analyst's Name	Das,Pinaki		
Analyst's Email Id.	pinaki.das@baml.com		
Analyst's Phone No.	+44 20 7996 2453		
	2012	2013E	2014E
Revenues	1,771	1,836	1,872
Operating Profit	504	535	541
Operating Margin	28.5%	29.2%	28.9%
Y-o-Y Growth	-2.9%	6.2%	1.0%
Net Profit	211	237	236
Net Margin	11.9%	12.9%	12.6%
Y-o-Y Growth	-4.4%	12.3%	-0.3%
EBIT	504	535	541
EBIT Margin	28.5%	29.2%	28.9%
EBITDA	786	828	848
EBITDA Margin	44.4%	45.1%	45.3%
Operating Cash Flow	443.5	561.0	561.1
Capex	352.1	446.5	462.5
Free Cash Flow	91.4	114.5	98.6
Net Debt/Equity	404.3	417.0	419.4

Source: BofA Merrill Lynch Global Research estimates

Severn Trent

Severn Trent Water (pure water exposure) is a regulated water utility that serves a population of 8.2m in the Midlands in the UK. It is the only UK water services group without any coastline. Its Severn Trent Services division contains unregulated businesses that are close to the regulated water utility's core competencies and principally operate in the US and UK.

Severn Trent is essentially a pure play regulated UK Water utility (the non regulated division is small). It collects water from reservoirs, rivers and underground aquifers and after that it cleans the water through its 126 waterworks – and distributes through its pipe network to households, utilities, municipalities, and commercial customers. Then it takes back the waste water through its sewer network, treats it and releases the treated wastewater into the environment. It also handles all customer relations and services. The company's small non-regulated division has water purification, operating services and analytical services activities.

Over the last 20 years, like other UK regulated water utilities, Severn Trent has enjoyed stability from predictable regulated returns allowed under the current regulatory framework. However, the regulator and the government has recently proposed some radical reforms which are increasing long term uncertainty. As an essentially pure water utility, it offers little immunity to the risks facing the sector. Severn Trent has been generally positive towards reforms and may be willing to accept Ofwat's licence reforms. Severn Trent's relationship with Ofwat is generally good in our view but recent performance on KPIs has not been very encouraging (worst among the ten large water companies) and it would not escape sector wide issues like increase in debt costs

Near-term, with over 95% of earnings arising from the regulated water utility, regulatory developments are key for Severn Trent and we think the shares are unlikely to perform as sector risks are increasing.

Table 99: Shanghai Industrial Hldg Ltd - Key data

Analyst's Name	Ng,Billy		
Analyst's Email Id.	billy.ng@bamll.com		
Analyst's Phone No.	+852 2161 7791		
	2011	2012E	2013E
Revenues	14,969	15,683	17,880
Operating Profit	4,518	4,401	5,264
Operating Margin	30.6%	28.5%	29.8%
Y-o-Y Growth	3.0%	-2.6%	19.6%
Net Profit	4,088	3,287	2,704
Net Margin	27.3%	21.0%	15.1%
Y-o-Y Growth	-34.1%	-19.6%	-17.7%
EBIT	4,518	4,401	5,264
EBIT Margin	30.2%	28.1%	29.4%
EBITDA	5,347	5,260	6,146
EBITDA Margin	35.7%	33.5%	34.4%
Operating Cash Flow	(341.7)	1,199.5	2,002.8
Capex	745.0	710.0	710.0
Free Cash Flow	(1,086.7)	489.5	1,292.8
Net Debt/Equity	37.8	35.7	32.8
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Shanghai Industrial Hldg Ltd

The only publicly listed window company of the Shanghai municipal government, Shanghai Industrial Holdings is a holding company with a diversified portfolio of state-owned assets: real estate, infrastructure (toll roads and water), and consumer products (tobacco and printing).

Shanghai Industrial Hldg (low Water exposure) is a play on water supply through Asia Water and General Water of China. At the end of 2011, Asia Water owned 13 water supply plants, 18 sewage treatment plants, a total pipe network of 1,596 kilometres and had a daily production capacity of 2,030,000 tonnes. General Water of China comprised 23 water supply facilities and 16 sewage treatment plants, as well as two reservoirs with a gross storage tank volume of 18,232 cubic meters and a pipe network of 2,300 kilometres in total in 2011. Asia Water net profits have increased significantly since the consolidation of Runtong Water. We believe the company is likely to add more water projects over the next 12 months.

Near-term, we believe SIHL's underperformance relative to China property stocks is excessive and we expect it to play catch-up. At the same time, the downside risk is limited, in our view, given that the company's expressways and consumer (printing and tobacco) businesses are relatively defensive and provide stable cash flow to the group. We expect SIHL to offer a 5% dividend yield this year.

Table 100: Spark Infrastructure Group - Key data

Analyst's Name	Chan,Simon		
Analyst's Email Id.	simon2.chan@bamll.com		
Analyst's Phone No.	+61 2 9226 5713		
	2011	2012E	2013E
Revenues	-	-	-
Operating Profit	144	202	191
Operating Margin	70.0%	94.7%	95.9%
Y-o-Y Growth	-19.2%	40.0%	-5.6%
Net Profit	83	148	121
Net Margin	NA!	NA!	NA!
Y-o-Y Growth	3.0%	77.4%	-18.4%
EBIT	144	202	191
EBIT Margin	NA!	NA!	NA!
EBITDA	144	202	191
EBITDA Margin	NA!	NA!	NA!
Operating Cash Flow	139.4	160.1	159.8
Capex	-	-	-
Free Cash Flow	139.4	160.1	159.8
Net Debt/Equity	66.2	61.6	57.8

Source: BofA Merrill Lynch Global Research estimates

Spark Infrastructure Group

Spark is an Australia-based investment fund with a global focus on utility infrastructure assets. Its seed assets are composed of 49% stakes in three electricity distribution networks in Victoria & South Australia. The remaining 51% interests are held by Cheung Kong Infrastructure Holdings and Hongkong Electric Holdings.

Spark (low Water exposure) is a play on investing in regulated utility infrastructure, including water and sewerage assets which offer relatively low-risk and stable cashflows.

Near-term, SKI is a solid regulated utility owning assets across Victoria and South Australia. Price regulation gives SKI excellent protection against labour, material and debt costs, and electricity volumes are largely immune from the GDP cycle. We believe SKI's yield is one of the most secure in the energy infrastructure space with minimal funding issues over the upcoming regulatory periods.

Table 101: Suez Environnement - Key data

Analyst's Name	Kuplent,Christopher		
Analyst's Email Id.	christopher.kuplent@baml.com		
Analyst's Phone No.	+44 20 7995 8222		
	2011	2012E	2013E
Revenues	14,979	15,301	15,866
Operating Profit	974	1,091	1,281
Operating Margin	6.5%	7.1%	8.1%
Y-o-Y Growth	-20.2%	12.0%	17.5%
Net Profit	257	366	455
Net Margin	1.7%	2.4%	2.9%
Y-o-Y Growth	-33.9%	42.5%	24.3%
EBIT	974	1,091	1,281
EBIT Margin	6.5%	7.1%	8.1%
EBITDA	2,168	2,153	2,336
EBITDA Margin	14.5%	14.1%	14.7%
Operating Cash Flow	1,404.4	1,717.6	1,664.9
Capex	1,333.5	1,421.6	1,515.7
Free Cash Flow	70.9	296.0	149.2
Net Debt/Equity	155.7	144.9	137.7
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Table 102: United Utilities - Key data

Analyst's Name	Das,Pinaki		
Analyst's Email Id.	pinaki.das@baml.com		
Analyst's Phone No.	+44 20 7996 2453		
	2012	2013E	2014E
Revenues	1,565	1,634	1,684
Operating Profit	594	603	626
Operating Margin	38.0%	36.9%	37.2%
Y-o-Y Growth	-0.4%	1.6%	3.8%
Net Profit	241	259	271
Net Margin	15.4%	15.8%	16.1%
Y-o-Y Growth	0.7%	7.4%	4.7%
EBIT	594	603	626
EBIT Margin	38.0%	36.9%	37.2%
EBITDA	892	919	959
EBITDA Margin	57.0%	56.3%	57.0%
Operating Cash Flow	551.0	595.9	641.6
Capex	498.4	657.8	667.6
Free Cash Flow	52.6	(62.0)	(25.9)
Net Debt/Equity	287.7	309.3	326.9

Source: BofA Merrill Lynch Global Research estimates

Suez Environnement

Suez Environnement was spun off from Suez and listed separately on 22 July 2008. It is among the leading water and waste operators in the world together with Veolia Environnement, has revenues of €14.8bn (2011) and 80,410 employees. Forty-four percent of its sales are generated in the European waste division, 28% in European water activity and 28% in water and waste outside Europe.

Suez Environnement (medium Water exposure) is a play on water and waste across the world. As such, it represents one of the default investment options together with Veolia. It currently supplies 91mn people with drinking water and 63mn with sanitation services through its subsidiaries. The company has 10,000 water treatment plants in 70 countries and 2,300 wastewater treatment plants. Additionally, it supplies drinking water through its 240,621km of distribution networks. The group also provides 57 million people worldwide with waste collection services and is firmly committed to waste recovery in all its forms. Tightening environmental regulation and GDP growth are long-term business drivers.

Near-term, the group is focused on maintaining its EBITDA at its 2011 level.

United Utilities

United Utilities is the UK's largest listed water company, providing regulated water and wastewater services in north-west England to about 7 million customers.

United Utilities (high Water exposure) is a play on UK water supply and wastewater. It has more than 56,000 hectares of catchment land, 94 water treatment works, more than 42,000 km of water pipes, more than 76,000 km of sewer pipes and 569 wastewater treatments works. It supplies almost 2,000 million litres of water every day to approximately 3.2mn homes and businesses. Over the last 20 years, like other UK regulated water utilities, United Utilities has enjoyed stability from predictable regulated returns allowed under the current regulatory framework. However, the regulator and the government has recently proposed some radical reforms which are increasing long term uncertainty. UU has been the top performing UK utility this year, but Ofwat's reform proposals increase risks. We think United Utilities may not accept Ofwat's licence reforms in which case it will directly face a Competition Commission referral. A further implication will be a more difficult relationship with the regulator at the next review (new management are still in the process of rebuilding UU's historically poor reputation). We think United Utilities is cautious about the government's draft water bill and Ofwat's licence reforms, consistent with our concerns. We believe new management have done a solid job in turning around customer service and KPI performance in a very short time period, but this is now likely to be eclipsed by uncertainty.

Near-term, regulatory developments are key for UU and we think the shares are unlikely to perform as sector risks have increased significantly recently.

Table 103: Veolia Environnement - Key data

Analyst's Name	Kuplent,Christopher		
Analyst's Email Id.	christopher.kuplent@baml.com		
Analyst's Phone No.	+44 20 7995 8222		
	2011	2012E	2013E
Revenues	29,158	28,811	29,506
Operating Profit	1,700	1,198	1,387
Operating Margin	5.8%	4.2%	4.7%
Y-o-Y Growth	-17.3%	-29.5%	15.7%
Net Profit	355	144	330
Net Margin	1.2%	0.5%	1.1%
Y-o-Y Growth	-38.9%	-59.5%	130.2%
EBIT	1,700	1,198	1,387
EBIT Margin	5.8%	4.2%	4.7%
EBITDA	3,152	2,674	2,928
EBITDA Margin	10.8%	9.3%	9.9%
Operating Cash Flow	1,536.3	2,320.8	1,775.6
Capex	2,753.0	2,486.5	2,274.4
Free Cash Flow	(1,216.7)	(165.8)	(498.9)
Net Debt/Equity	149.7	123.8	123.7
Free Cash Flow	2,985.0	3,307.3	3,165.4
Net Debt/Equity	21.6	17.4	8.0

Source: BofA Merrill Lynch Global Research estimates

Veolia Environnement

Veolia Environnement is the global leader in the delivery of environmental services to municipalities (70% revenues) and industrial clients. Veolia Water serves a population of c.120m, and is the global no.1. Veolia Environmental Services is the European market leader in waste management and the global no.2. Veolia Energy is a leading energy & facilities management company. Veolia Transport is the no.1 public passenger transport operator in Europe.

Veolia Environnement (medium Water exposure) is a play on water supply (42% of 2011 sales) and wastewater recycling. It has a 346,744km water distribution network with 10.1bn cubic metres of water being distributed. Through wastewater services, the company treats and recycles 171mn cubic metres of wastewater. Water is likely to be hit from 2012-14 by contract renewals, lower earnings from construction works and some volume impact (mostly in 2012). Long-term, Veolia provides unrivalled exposure to the provision of environmental services, in particular both water and waste across the northern hemisphere. Tightening environmental regulation and GDP growth are long-term business drivers.

Near-term, the focus is now on reducing the group's geographical footprint, controlling costs and improving profitability. Although Veolia has been able to sell its UK water and US waste businesses at good prices, it has only been able to sell 10% of its Transdev stake (instead of the full 50% stake up for sale) while its c25% Berlinwasser stake has not been sold yet. In the absence of more clarity on restructuring, we believe the stock is unlikely to perform while earnings momentum remains weak.

Table 104: Veolia Environnement - Key data

Analyst's Name	Kuplent,Christopher		
Analyst's Email Id.	christopher.kuplent@baml.com		
Analyst's Phone No.	+44 20 7995 8222		
	2011	2012E	2013E
Revenues	40,537	37,365	38,267
Operating Profit	2,364	1,554	1,799
Operating Margin	5.8%	4.2%	4.7%
Y-o-Y Growth	-13.2%	-34.2%	15.7%
Net Profit	493	186	428
Net Margin	1.2%	0.5%	1.1%
Y-o-Y Growth	-35.8%	-62.3%	130.2%
EBIT	2,364	1,554	1,799
EBIT Margin	5.8%	4.2%	4.7%
EBITDA	4,382	3,468	3,797
EBITDA Margin	10.8%	9.3%	9.9%
Operating Cash Flow	2,135.9	3,009.8	2,302.7
Capex	3,827.4	3,224.8	2,949.7
Free Cash Flow	(1,691.5)	(215.0)	(647.0)
Net Debt/Equity	149.7	123.8	123.7

Source: BofA Merrill Lynch Global Research estimates

Veolia Environnement (U.S. listing)

See above.

Table 105: Other companies involved in water infrastructure & supply that we do not cover

Company	BBG ticker	Overview
AMERICAN STATES WATER COMPANY	AWR US	AWR purchases, produces, distributes, and sells water. The company also distributes electricity in one community. American States operates within various customer service areas in California.
AQUA AMERICA INC	WTR US	WTR is a water utility company. The company supplies water to residential, commercial, industrial, and public customers. Aqua America serves residents through its water and wastewater operations in the Northeastern, Southeastern, and Midwestern United States.
ARTESIAN RESOURCES CORP.	ARTNA US	ARTNA, through its wholly owned subsidiary Artesian Water Company, Inc., provides water utility services to customers primarily in New Castle County, Delaware. The company sells its water services to residential, commercial, industrial, utilities, and municipal customers.
CALIFORNIA WATER SERVICE GROUP	CWT US	CWT is the parent company of several water utility companies. The company provides regulated and nonregulated water utility services to customers in California, New Mexico, and Washington.
CHEUNG KONG INFRASTRUCTURE HOLDINGS	1038 HK	Cheung Kong Cheung Kong, through its subsidiaries, develops, invests in, and operates infrastructure projects such as power plants, toll roads, and toll bridges in Hong Kong, China, Australia and other countries. The company also manufactures and sells infrastructure materials including cement, concrete, asphalt and aggregates.
CHINA MERCHANTS PROPERTY D-B	200024 CH	China Merchants develops and invests in properties and supplies electricity and water.
CHINA WATER AFFAIRS GROUP	855 HK	China Water Affairs, through its subsidiaries, supplies city water and sewage treatment. The company supplies raw water and tap water, treats sewage, constructs water supply pipe networks, and installs water meters.
CHINA WATER INDUSTRY GROUP	1129 HK	China Water Industry is a water investment and operation and management industry company.
CIRCOR INTERNATIONAL INC	CIR US	CIR designs, manufactures, and distributes an array of valves and related products and services to a variety of end-markets worldwide. The company's products optimize the efficiency and/or ensure the safety of fluid-control systems. It manufactures primarily instrumentation and fluid regulation products, and petrochemical products.
COLFAX CORP	CFX US	CFX manufactures a broad range of fluid handling products, including pumps, fluid handling systems and specialty valves. The company specializes in rotary positive displacement pumps, which include screw pumps, gear pumps and progressive cavity pumps.
EASTERN WATER RESOURCES DEVELOPMENT & MANAGEMENT	EASTW TB	EASTW supplies water to seven provinces in the eastern seaboard of Thailand. The company also provides consultancy services for clean water production and water distribution, as well as maintenance of water pipelines and related equipment.
GORMAN-RUPP COMPANY (THE)	GRC US	GRC designs, manufactures, and sells pumps and related fluid control equipment. The company's products are used in construction, industrial, petroleum, water, wastewater, original equipment, agricultural, fire protection, and military applications. Gorman-Rupp operates around the world.
HERA SPA	HER IM	HERA owns municipal utility companies in northern Italy. The company distributes electricity, methane gas and water, operates sewers and treats wastewater, offers district heating, manages public lighting, and collects and disposes of municipal waste. Hera operates in Bologna, Rimini, Ravenna-Lugo, Forli-Cesena, and Imola-Faenza.
MIDDLESEX WATER COMPANY	MSEX US	MSEX treats, stores, and distributes water for residential, commercial, industrial, and fire prevention purposes. The company operates in New Jersey and Delaware. Middlesex also provides contract water and wastewater management services to municipalities in New Jersey.
MUELLER WATER PRODUCTS	MWA US	MWA manufactures a broad range of water infrastructure and flow control products for use in water distribution networks, water and wastewater treatment facilities, gas distribution systems and fire protection piping systems. The company's product portfolio includes engineered valves, hydrants, pipe fittings and ductile iron pipe.
NWS HOLDINGS LTD	659 HK	NWS operates businesses under three main divisions: Service, Infrastructure, and Ports. Its Service division comprises facilities, contracting, transport, financial, and environmental. The Infrastructure portfolio includes roads and bridges, energy, and water treatment and waste management. Its port division includes container handling, logistics, and warehousing.
SJW CORP.	SJW US	SJW is a holding company for San Jose Water Company and SJW Land Company. San Jose Water is a regulated California water utility providing water services to customers in the metropolitan San Jose area. SJW Land owns and operates a parking facility adjacent to the San Jose Arena, as well as several undeveloped real estate parcels in San Jose.
THAI TAP WATER SUPPLY CO. UGL LTD	TTW TB UGL AU	TTW is a water utility company that supplies water in the Thai provinces of Nakorn Pathom and Samut Songkram. UGL is a diversified engineering, construction and maintenance company. UGL Infrastructure has exposure to water through engineering projects and its operations and maintenance services. In Australia, private sector construction firms such as UGL, DOW and LEI have been responsible for delivering new capital works to provide new sources of water such as desalination plants and also upgrades to treatment facilities in order to cope with increasing population and also environmental standards. As a maintenance company, UGL endeavours to win multi-year contracts to operate and sustain the vast networks owned by state owned water corporations.
YORK WATER COMPANY	YORW US	YORW impounds, purifies, and distributes water throughout York County, Pennsylvania (USA).

Source: Bloomberg, company sources

Table 106: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	P/E				Gross Yield				FCF Yield				EV/EBITDA				Price Book
		FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	
TREATMENT																		
Alfa Laval	ALFVF	15.24	15.77	15.66	14.28	2.77	3.41	3.41	3.65	6.07	6.73	6.44	6.77	9.11	9.52	9.08	8.54	2.90
ALS Ltd	CEBEF	22.02	13.70	12.69	15.86	3.07	4.94	5.38	4.28	2.86	4.75	6.57	5.08	12.82	9.18	8.41	10.14	3.33
BV	BVRDF	26.92	22.15	19.84	18.11	1.52	1.67	1.84	2.02	2.70	3.68	4.38	5.08	17.19	14.14	12.75	11.86	7.15
China Everbright	CHFFF	17.72	13.94	13.17	11.91	1.16	1.39	1.57	1.73	0.06	0.57	(9.80)	(1.65)	13.55	12.87	9.39	8.34	1.89
Danone	GPDNF	16.65	16.15	15.29	13.91	2.88	3.17	3.34	3.68	5.97	6.26	6.43	7.04	10.20	9.76	9.15	8.48	2.27
Doosan Heavy	DOHIF	3.64	16.46	9.11	7.18	1.64	1.75	1.86	1.86	(4.78)	2.26	6.75	9.92	11.75	11.30	9.75	9.22	0.94
Dow Chemical	DOW	11.71	15.26	11.90	10.82	2.69	4.07	4.30	4.50	3.40	4.38	8.65	9.65	8.36	9.32	8.27	7.92	1.86
DuPont	DD	11.21	12.72	12.80	12.26	3.71	3.85	3.90	3.90	7.88	4.14	4.90	5.62	9.99	10.35	10.60	10.33	4.31
Ecolab Inc	ECL	27.80	23.54	20.35	17.65	0.99	1.13	1.25	1.91	1.66	3.42	4.52	5.47	23.92	13.69	11.87	10.42	3.32
Hexagon AB	HXGBF	21.45	18.58	15.68	13.53	0.92	1.07	1.29	1.42	3.36	4.67	5.67	6.94	15.41	13.91	12.24	10.94	2.37
ICL	ISCHF	10.38	10.49	9.13	8.55	6.83	6.67	7.67	8.18	4.90	4.95	7.51	8.47	7.54	7.50	6.50	6.15	4.57
Kemira	KMRAF	11.98	12.43	10.32	9.68	5.00	5.00	5.40	5.77	4.93	4.43	8.24	8.02	7.68	7.09	6.24	6.23	1.20
Kuraray	KURRF	11.47	10.48	10.51	9.45	2.85	3.59	3.80	3.80	14.88	1.09	7.60	2.08	3.57	3.62	3.53	3.17	0.92
Kurita Water	KTWIF	13.83	14.18	17.26	14.67	2.05	2.16	2.27	2.59	10.13	8.87	9.89	10.94	3.63	3.45	3.88	3.77	1.12
Lanxess	LNXSF	10.04	9.24	8.26	7.85	1.29	1.67	2.21	2.32	(0.13)	(2.55)	6.78	8.96	7.34	6.89	6.28	6.10	2.77
Nestle (Reg)	NSRGF	19.25	17.29	16.27	14.78	3.30	3.55	3.81	4.14	2.69	4.70	4.75	5.16	11.06	9.94	9.00	8.39	3.09
Nitto Denko	NDEKF	11.88	21.31	13.40	12.15	2.36	2.62	2.62	2.89	11.43	6.67	4.54	7.32	3.83	5.14	4.39	4.14	1.44
Outotec	OUKPF	22.13	14.26	14.44	14.80	2.22	3.00	3.27	3.46	11.86	4.21	4.36	5.43	11.10	6.93	6.93	7.05	3.77
Pall Corp	PLL	26.43	22.84	19.68	17.14	1.04	1.20	1.32	1.45	3.75	4.41	4.44	4.97	14.57	13.48	12.18	11.11	4.75
SCI	SCRPF	11.86	12.07	9.99	8.77	3.16	3.18	3.84	4.37	(2.81)	2.20	6.62	13.56	8.72	7.15	5.79	5.04	2.08
SGS	SGSOF	27.56	24.40	21.61	19.71	1.49	1.49	1.49	1.49	2.07	2.67	3.36	4.56	15.04	12.88	11.33	10.26	6.97
Spirax-Sarco	SPXSF	15.81	15.96	15.16	13.93	2.49	2.69	2.86	3.06	2.34	4.48	4.73	5.12	10.18	9.89	9.22	8.56	3.42
Stericycle	SRCL	33.25	28.81	25.48	22.30	-	-	-	-	(3.90)	3.34	3.88	4.49	18.32	16.34	14.56	13.07	3.48
Thermo Fisher	TMO	14.78	12.71	11.37	10.25	-	0.85	0.87	0.91	6.32	6.91	8.90	9.79	13.23	11.84	11.03	10.19	1.43
Toray	TRYIF	12.88	11.90	12.86	11.46	1.60	2.13	2.13	2.13	10.21	2.01	1.16	2.67	7.67	7.47	7.44	6.86	1.22
Va Tech Wabag	XVWBF	24.21	17.26	14.56	11.79	0.88	1.25	1.67	2.08	0.60	(8.98)	2.80	4.55	9.40	8.46	6.84	5.68	1.98
Yaskawa Electric	YASKF	22.58	17.52	21.10	15.55	1.02	1.70	1.70	2.04	(2.40)	(2.30)	4.25	2.68	8.71	7.74	8.07	6.67	1.48
MANAGEMENT																		
BASF	BFFAF	10.36	11.67	10.41	9.17	3.86	3.86	4.22	4.52	6.21	6.14	7.30	9.00	6.37	6.16	5.69	5.37	2.50
Deere & Co	DE	12.91	11.05	10.97	9.95	1.78	2.03	2.34	2.63	5.72	5.56	7.04	6.88	10.86	9.36	9.32	8.58	4.09
IDEXX	IDXX	34.04	30.53	27.04	23.66	-	-	-	-	2.31	2.80	3.17	3.67	18.38	16.94	15.51	13.91	4.87
Itron	ITRI	9.21	10.26	10.21	7.75	-	-	-	-	12.13	9.64	12.46	15.42	NM	7.96	7.78	6.36	1.53
Melrose plc	MLSPF	18.61	15.07	12.83	10.94	2.95	1.48	2.19	2.41	3.89	3.35	9.59	10.51	19.76	12.67	7.64	6.81	1.26
Monsanto	MON	29.21	23.21	19.97	18.47	1.30	1.40	1.75	1.89	4.77	5.09	3.77	4.37	14.96	12.14	11.09	10.34	3.85
Syngenta	SYENF	17.65	14.28	12.58	11.83	2.07	2.28	2.39	2.52	3.91	2.47	3.95	5.74	13.53	12.20	10.86	10.14	4.56
PIPES, PUMPS & VALVES																		
KSB AG	KSVRF	9.15	8.16	6.79	6.04	3.34	3.34	3.75	3.75	(12.10)	2.64	3.62	1.89	5.54	5.06	4.46	4.06	0.82
Kubota	KUBTF	18.89	16.61	15.73	13.63	1.72	1.84	1.97	1.97	5.34	5.18	2.73	4.43	12.37	10.80	9.99	8.80	1.56
Rotork	RTOXF	24.13	20.81	19.01	17.43	1.60	1.81	1.96	2.12	3.31	3.85	4.56	4.95	15.50	12.88	11.75	10.78	7.59
ENGINEERING & CONSTRUCTION																		
AECOM Technology	ACM	9.36	9.74	8.76	7.91	-	-	-	-	2.23	8.56	7.39	12.27	6.51	7.24	6.52	6.03	0.95
Aveng Ltd	AVEPF	12.03	25.20	9.11	7.20	4.56	1.89	3.52	4.45	(12.18)	(8.80)	7.51	13.24	3.37	4.12	2.48	2.00	0.96
Beijing Enterprises	BJINF	20.53	17.13	13.89	11.97	1.40	1.75	2.16	2.51	(9.21)	17.87	10.22	12.10	13.47	11.68	10.50	9.36	1.42
Downer EDI	DNERF	NM	8.08	7.29	6.47	-	-	-	6.18	(17.80)	(0.38)	5.54	12.15	6.71	3.05	2.65	2.19	0.90
Guangdong Invest	GGDVF	15.74	13.41	11.61	10.38	2.87	2.99	3.46	3.86	11.60	5.82	9.65	10.91	8.95	8.44	7.70	7.05	1.69
KEP	KPELF	12.92	9.59	10.81	10.56	3.98	5.42	4.62	4.74	(5.80)	(1.39)	10.73	10.20	8.27	6.07	6.40	6.35	2.31
Leighton Holdings	LGTHF	21.75	14.46	9.29	8.64	3.44	4.15	7.00	7.53	(5.09)	(3.16)	14.88	16.98	7.01	4.41	3.16	2.83	2.03
URS Corp.	URS	9.62	7.86	7.10	6.70	-	2.36	2.36	2.36	17.25	6.99	17.81	23.22	7.40	6.13	5.44	5.26	0.72

Table 106: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	P/E				Gross Yield				FCF Yield				EV/EBITDA				Price Book
		FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	FY11a	FY12e	FY13e	FY14e	
UTILITIES																		
Aguas Andinas	XXSGF	20.67	16.47	15.75	14.94	4.84	6.07	6.35	6.70	3.89	4.11	6.42	6.77	12.63	11.35	10.88	10.53	3.18
American Water Works	AWK	20.51	16.90	16.98	15.73	2.52	2.74	2.96	3.23	(1.82)	(1.47)	(0.27)	0.19			8.74	8.28	1.43
COPASA	CSAOF	11.79	9.74	9.04	8.81	3.48	3.28	3.77	3.92	0.49	2.46	3.05	3.37	8.10	7.23	6.82	6.42	1.14
HK&China Gas	HOKCF	27.27	26.51	22.97	21.02	2.32	1.70	1.96	2.14	(0.24)	3.38	3.18	3.19	26.33	22.63	20.81	20.16	4.05
Aguas Metropolit	XVNFF	18.95	14.92	14.15	13.39	5.70	5.28	6.70	7.07	0.14	2.01	7.07	7.47	9.05	8.14	7.80	7.55	1.53
Manila Water	MWTCF	13.92	12.39	10.92	9.60	2.35	2.52	2.84	3.24	1.13	0.18	5.50	(0.92)	10.30	8.72	7.56	6.49	2.29
Pennon	PEGRF	16.59	15.57	15.75	14.77	3.52	3.78	4.03	4.29	1.98	(1.81)	(6.54)	(4.25)	11.95	11.57	11.43	10.73	3.11
SABESP	CSBJF	16.01	10.23	9.15	9.29	1.98	2.95	3.42	3.83	2.04	3.70	4.16	5.00	8.10	7.15	6.29	6.10	1.66
Sabsep-ADR	SBS	12.83	9.51	8.63	8.76	2.21	3.08	3.67	4.02	2.55	3.98	4.41	5.30	6.69	6.85	6.11	5.92	1.59
Severn Trent	SVTRF	16.73	17.52	15.82	15.82	4.18	4.50	4.87	5.14	3.68	2.48	3.01	2.60	9.85	9.91	9.45	9.22	3.79
Shanghai Indus	SGHIF	6.73	8.38	10.18	8.01	4.24	4.18	3.44	2.19	(3.95)	1.78	4.70	6.93	7.14	7.25	6.21	5.54	0.84
Spark Infra	SFDPF	26.33	14.84	18.19	17.25	6.04	6.34	6.60	6.86	8.35	9.59	9.57	13.91	21.45	15.20	16.03	14.87	1.19
Aust Infra fund	AUSFF	8.62	9.34	7.40	10.02	3.39	3.39	4.10	4.75	2.90	3.11	1.66	4.07	7.88	8.49	7.09	9.67	0.98
Suez Environnement	SZEVF	16.38	11.77	9.70	8.98	7.86	8.02	8.26	8.51	1.69	6.88	3.38	4.37	5.41	5.45	5.17	4.85	1.02
United Utilities	UUGWF	19.03	18.90	17.60	16.81	4.49	4.79	5.14	5.38	1.86	1.16	(1.36)	(0.66)	11.41	11.34	11.01	10.55	2.58
Veolia	VEOEF	13.30	21.56	12.25	10.34	9.01	9.01	9.01	9.01	(31.57)	(4.19)	(12.35)	(0.46)	6.56	7.73	7.06	6.72	0.54
Veolia	VE	13.30	21.56	12.25	10.34	9.01	9.01	9.01	9.01	(31.57)	(4.19)	(12.35)	(0.46)	6.56	7.73	7.06	6.72	0.54

Source: BofA Merrill Lynch Global Research estimates

Table 107: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	CRNY	EPS				EPS 4y CAGR	DPS				DPS 4y CAGR	EBITDA				EBITDA 4y CAGR
			2011	2012E	2013E	2014		2011	2012E	2013E	2014E		2011	2012E	2013E	2014E	
TREATMENT																	
Alfa Laval	ALFVF	SEK	7.69	7.43	7.49	8.21	1.65	3.25	4.00	4.00	4.28	5.33	5568.00	5326.47	5589.57	5939.54	1.63
ALS Ltd	CBEBF	AUD	0.41	0.67	0.72	0.57	8.54	0.28	0.45	0.49	0.39	15.02	241.13	377.17	410.59	350.58	9.81
BV	BVRDF	EUR	3.11	3.78	4.22	4.62	10.42	1.27	1.40	1.54	1.69	N/A	593.20	721.25	799.52	860.01	N/A
China Everbright	CHFFF	HKD	0.22	0.28	0.29	0.33	10.44	0.05	0.05	0.06	0.07	N/A	1410.00	1504.84	2072.77	2308.41	N/A
Danone	GPDNF	EUR	2.89	2.98	3.15	3.47	4.61	1.39	1.53	1.61	1.77	N/A	3366.15	3588.44	3877.84	4186.22	N/A
Doosan Heavy	DOHIF	KRW	3074.00	5010.68	6341.22	7490.34	24.94	750.00	800.00	850.00	850.00	N/A	748935.31	778121.26	902633.29	953638.97	N/A
Dow Chemical	DOW	USD	2.54	1.95	2.50	2.75	2.01	0.80	1.21	1.28	1.34	N/A	8391.00	7521.94	8475.52	8852.03	N/A
DuPont	DD	USD	3.94	3.47	3.45	3.60	-2.23	1.64	1.70	1.72	1.72	N/A	6753.00	6514.93	6363.46	6529.83	-0.84
Ecolab Inc	ECL	USD	2.54	3.00	3.47	4.00	12.02	0.70	0.80	0.88	1.35	N/A	1149.50	2009.07	2316.40	2640.02	23.10
Hexagon AB	HXGBF	EUR	0.84	1.00	1.19	1.37	13.19	0.17	0.20	0.24	0.26	N/A	544.30	603.89	686.73	768.01	8.99
ICL	ISCHF	USD	1.19	1.16	1.33	1.42	4.49	0.83	0.81	0.93	1.00	N/A	2198.44	2209.59	2548.75	2692.69	5.20
Kemira	KMRAF	EUR	0.88	0.85	1.03	1.10	5.49	0.53	0.53	0.57	0.61	N/A	259.60	220.07	287.99	318.79	5.27
Kuraray	KURRF	JPY	82.55	90.35	90.14	100.18	4.96	27.00	34.00	36.00	36.00	N/A	86632.00	85471.00	87500.00	97500.00	3.00
Kurita Water	KTWIF	JPY	134.02	130.67	107.37	126.32	-1.47	38.00	40.00	42.00	48.00	N/A	43199.00	45419.00	40400.00	41500.00	-1.00
Lanxess	LNXSF	EUR	6.55	7.11	7.95	8.37	6.35	0.85	1.10	1.45	1.53	N/A	1101.00	1227.27	1345.69	1385.57	5.92
Nestle (Reg)	NSRGF	CHF	3.07	3.42	3.63	4.00	6.82	1.95	2.10	2.25	2.45	N/A	15396.00	17170.04	18684.66	20302.52	7.16
Nitto Denko	NDEKF	JPY	320.82	178.80	284.30	313.65	-0.56	90.00	100.00	100.00	110.00	2.67	125186.00	93297.00	109200.00	115700.00	-1.95
Outotec	OUKPF	EUR	1.73	2.68	2.65	2.59	10.58	0.85	1.15	1.25	1.33	10.12	131.25	209.36	209.59	205.91	11.92
Pall Corp	PLL	USD	2.42	2.80	3.25	3.73	11.42	0.67	0.77	0.84	0.93	6.02	485.73	487.09	612.93	672.17	8.46
SCI	SCRPF	SGD	0.45	0.45	0.54	0.61	7.84	0.17	0.17	0.21	0.24	4.98	1284.97	1566.91	1934.64	2223.50	14.69
SGS	SGSOF	CHF	73.15	82.64	93.31	102.28	8.74	30.00	30.00	30.00	30.00	0.00	1015.20	1164.73	1359.33	1501.03	10.27
Spirax-Sarco	SPXSF	GBP	124.29	123.15	129.59	141.07	3.22	49.02	52.94	56.12	60.05	3.44	156.14	155.67	172.94	186.37	4.53
Stericycle	SRCL	USD	2.85	3.29	3.72	4.25	10.51	0.00	0.00	0.00	0.00	NA!	510.16	571.83	641.62	714.75	8.80
Thermo Fisher	TMO	USD	4.16	4.84	5.41	6.00	9.59	0.00	0.52	0.53	0.56	NA!	2992.80	3335.66	3527.18	3758.21	5.86
Toray	TRYIF	JPY	36.41	39.41	36.46	40.94	2.97	7.50	10.00	10.00	10.00	7.46	170566.00	175164.00	176000.00	190700.00	2.83
Va Tech Wabag	XVWBF	INR	19.88	27.89	33.06	40.83	19.71	4.25	6.01	8.02	10.02	17.19	1121.86	1247.50	1542.32	1857.16	13.43
Yaskawa Electric	YASKF	JPY	26.00	33.51	27.82	37.75	9.77	6.00	10.00	10.00	12.00	13.62	19932.00	22425.00	21500.00	26000.00	6.87
MANAGEMENT																	
BASF	BFFAF	EUR	6.26	5.56	6.23	7.07	3.08	2.50	2.50	2.74	2.93	2.29	11993.00	12383.04	13100.93	13901.81	3.76
Deere & Co	DE	USD	6.63	7.75	7.80	8.60	6.72	1.52	1.74	2.00	2.25	7.10	4120.10	4713.66	4731.77	5112.04	5.54
IDEXX	IDXX	USD	2.78	3.10	3.50	4.00	9.52	0.00	0.00	0.00	0.00	NA!	284.43	308.67	337.03	375.81	7.21
Itron	ITRI	USD	4.29	3.85	3.87	5.10	4.42	0.00	0.00	0.00	0.00	NA!	-340.33	273.58	283.99	347.63	#NUM!
Melrose plc	MLSPF	GBP	13.48	16.65	19.55	22.93	14.20	7.41	3.71	5.50	6.05	-7.18	133.50	212.68	389.92	457.02	36.02
Monsanto	MON	USD	2.94	3.70	4.30	4.65	12.14	1.12	1.20	1.50	1.62	7.58	3048.00	3756.00	4110.11	4407.46	9.66
Syngenta	SYENF	USD	21.95	27.00	30.66	32.59	10.39	8.00	8.80	9.20	9.70	3.56	2674.00	3222.96	3621.82	3876.83	9.73
PIPES, PUMPS & VALVES																	
KSB AG	KSVRF	EUR	40.16	45.04	54.13	60.87	10.96	12.26	12.26	13.80	13.80	N/A	181.34	197.20	223.39	245.33	7.85
Kubota	KUBTF	JPY	43.10	49.01	51.75	59.71	8.49	14.00	15.00	16.00	16.00	N/A	113104.00	129588.00	140000.00	159000.00	8.89
Rotork	RTOXF	GBP	96.20	111.55	122.12	133.20	8.47	37.25	42.09	45.46	49.10	N/A	120.40	140.36	155.19	170.39	9.07
ENGINEERING & CONSTRUCTION																	
AECOM Technology	ACM	USD	2.33	2.24	2.49	2.76	4.32	0.00	0.00	0.00	0.00	N/A	534.90	490.40	532.60	576.11	1.87
Aveng Ltd	AVEPF	ZAR	2.64	1.26	3.49	4.41	13.68	1.45	0.60	1.12	1.41	N/A	2516.28	2055.00	3416.85	4228.76	13.86
Beijing Enterprises	BJINF	HKD	2.44	2.92	3.61	4.18	14.43	0.70	0.88	1.08	1.26	N/A	4995.62	5760.78	6408.73	7193.49	9.54
Downer EDI	DNERF	AUD	-0.07	0.42	0.47	0.53	#NUM!	0.00	0.00	0.00	0.21	N/A	255.57	592.44	635.07	682.24	27.82
Guangdong Invest	GGDVF	HKD	0.40	0.47	0.54	0.60	10.96	0.18	0.19	0.22	0.24	N/A	4722.32	5002.84	5487.70	5990.49	6.13
KEP	KPELF	SGD	0.84	1.13	1.00	1.02	5.18	0.43	0.59	0.50	0.51	3.82	2105.88	2869.27	2723.80	2743.06	6.83
Leighton Holdings	LGTHF	AUD	0.80	1.20	1.88	2.02	N/A	0.60	0.72	1.22	1.31	N/A	976.20	1638.60	2081.30	2159.48	N/A
URS Corp.	URS	USD	3.53	4.32	4.78	5.07	9.47	0.00	0.80	0.80	0.80	NA!	750.60	906.04	1020.74	1054.91	8.88

Table 107: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	CRNY	EPS				EPS	DPS				DPS	EBITDA				EBITDA
			2011	2012E	2013E	2014	4y CAGR	2011	2012E	2013E	2014E	4y CAGR	2011	2012E	2013E	2014E	4y CAGR
UTILITIES																	
Aguas Andinas	XXSGF	CLP	15.67	19.66	20.57	21.68	8.45	15.67	19.66	20.57	21.68	7.05	216204.77	240501.16	250827.75	259325.75	4.65
American Water Works	AWK	USD	1.78	2.16	2.15	2.32	6.85	0.92	1.00	1.08	1.18	4.09	1154.96	1304.66	1320.13	1392.67	4.79
COPASA	CSAOF	BRL	4.08	4.94	5.32	5.46	7.56	1.67	1.58	1.82	1.89	2.04	1060.76	1187.23	1259.94	1338.72	5.99
HK&China Gas	HOKCF	HKD	0.76	0.78	0.90	0.98	6.72	0.48	0.35	0.40	0.44	-4.10	7401.60	8611.33	9366.52	9667.54	6.90
Aguas Metropolit	XVNFF	CLP	47.23	59.97	63.27	66.82	9.06	51.00	47.23	59.97	63.27	4.13	200599.75	232245.93	242288.37	250498.23	5.71
Manila Water	MWTCF	PHP	2.12	2.39	2.71	3.08	9.74	0.69	0.74	0.84	0.96	4.90	8315.70	9827.46	11325.99	13196.46	12.24
Pennon	PEGRF	GBP	42.26	45.03	44.50	47.45	2.94	24.65	26.52	28.24	30.08	3.46	402.60	415.80	417.67	445.31	2.55
SABESP	CSBJF	BRL	5.37	8.41	9.40	9.26	14.59	1.70	2.54	2.94	3.29	14.68	3213.29	3640.55	4137.18	4271.89	7.38
Sabsep-ADR	SBS	USD	6.42	8.66	9.54	9.40	10.00	1.82	2.54	3.02	3.31	13.50	1919.42	1874.28	2098.76	2168.58	3.10
Severn Trent	SVTRF	GBP	93.07	88.89	98.40	98.43	1.41	65.09	70.10	75.85	80.02	3.90	790.92	786.19	824.58	845.56	1.68
Shanghai Indus	SGHIF	HKD	3.79	3.04	2.50	3.18	-4.23	1.08	1.07	0.88	0.56	-5.09	5346.62	5259.92	6145.54	6883.33	6.52
Spark Infra	SFDPF	AUD	0.06	0.11	0.09	0.10	11.15	0.10	0.11	0.11	0.11	2.22	144.14	201.85	190.51	199.89	8.52
Aust Infra fund	AUSFF	AUD	0.34	0.32	0.40	0.29	-3.69	0.10	0.10	0.12	0.14	4.88	222.32	197.22	247.59	182.70	-4.79
Suez Environ.	SZEVF	EUR	0.50	0.70	0.85	0.92	16.21	0.65	0.66	0.68	0.70	1.24	2168.03	2152.89	2336.05	2508.77	3.72
United Utilities	UUGWF	GBP	35.10	35.34	37.96	39.73	3.15	30.00	32.01	34.35	35.91	3.44	886.90	891.90	919.27	959.14	1.98
Veolia	VEOEF	EUR	0.58	0.36	0.63	0.75	6.51	0.70	0.70	0.70	0.70	0.00	3152.01	2673.75	2928.01	3078.67	-0.59
Veolia	VE	USD	0.81	0.46	0.81	0.97	4.43	0.97	0.90	0.90	0.90	-1.96	4382.13	3434.43	3761.03	3954.55	-2.53

Source: BofA Merrill Lynch Global Research estimates

Table 108: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	CRNY	EPS					EPS					DPS					EBITDA	
			2011	2012E	2013E	2014	4y CAGR	2011	2012E	2013E	2014E	4y CAGR	2011	2012E	2013E	2014E	4y CAGR		
TREATMENT																			
Alfa Laval	ALFVF	SEK	7.69	7.43	7.49	8.21	1.65	3.25	4.00	4.00	4.28	5.33	5568.00	5326.47	5589.57	5939.54	1.63		
ALS Ltd	CBEBF	AUD	0.41	0.67	0.72	0.57	8.54	0.28	0.45	0.49	0.39	15.02	241.13	377.17	410.59	350.58	9.81		
BV	BVRDF	EUR	3.11	3.78	4.22	4.62	10.42	1.27	1.40	1.54	1.69	N/A	593.20	721.25	799.52	860.01	N/A		
China Everbright	CHFF	HKD	0.22	0.28	0.29	0.33	10.44	0.05	0.05	0.06	0.07	N/A	1410.00	1504.84	2072.77	2308.41	N/A		
Danone	GPDNF	EUR	2.89	2.98	3.15	3.47	4.61	1.39	1.53	1.61	1.77	N/A	3366.15	3588.44	3877.84	4186.22	N/A		
Doosan Heavy	DOHIF	KRW	3074.00	5010.68	6341.22	7490.34	24.94	750.00	800.00	850.00	850.00	N/A	748935.31	778121.26	902633.29	953638.97	N/A		
Dow Chemical	DOW	USD	2.54	1.95	2.50	2.75	2.01	0.80	1.21	1.28	1.34	N/A	8391.00	7521.94	8475.52	8852.03	N/A		
DuPont	DD	USD	3.94	3.47	3.45	3.60	-2.23	1.64	1.70	1.72	1.72	N/A	6753.00	6514.93	6363.46	6529.83	-0.84		
Ecolab Inc	ECL	USD	2.54	3.00	3.47	4.00	12.02	0.70	0.80	0.88	1.35	N/A	1149.50	2009.07	2316.40	2640.02	23.10		
Hexagon AB	HXGBF	EUR	0.84	1.00	1.19	1.37	13.19	0.17	0.20	0.24	0.26	N/A	544.30	603.89	686.73	768.01	8.99		
ICL	ISCHF	USD	1.19	1.16	1.33	1.42	4.49	0.83	0.81	0.93	1.00	N/A	2198.44	2209.59	2548.75	2692.69	5.20		
Kemira	KMRAF	EUR	0.88	0.85	1.03	1.10	5.49	0.53	0.53	0.57	0.61	N/A	259.60	220.07	287.99	318.79	5.27		
Kuraray	KURRF	JPY	82.55	90.35	90.14	100.18	4.96	27.00	34.00	36.00	36.00	N/A	86632.00	85471.00	87500.00	97500.00	3.00		
Kurita Water	KTWIF	JPY	134.02	130.67	107.37	126.32	-1.47	38.00	40.00	42.00	48.00	N/A	43199.00	45419.00	40400.00	41500.00	-1.00		
Lanxess	LNXSF	EUR	6.55	7.11	7.95	8.37	6.35	0.85	1.10	1.45	1.53	N/A	1101.00	1227.27	1345.69	1385.57	5.92		
Nestle (Reg)	NSRGF	CHF	3.07	3.42	3.63	4.00	6.82	1.95	2.10	2.25	2.45	N/A	15396.00	17170.04	18684.66	20302.52	7.16		
Nitto Denko	NDEKF	JPY	320.82	178.80	284.30	313.65	-0.56	90.00	100.00	100.00	110.00	2.67	125186.00	93297.00	109200.00	115700.00	-1.95		
Outotec	OUKPF	EUR	1.73	2.68	2.65	2.59	10.58	0.85	1.15	1.25	1.33	10.12	131.25	209.36	209.59	205.91	11.92		
Pall Corp	PLL	USD	2.42	2.80	3.25	3.73	11.42	0.67	0.77	0.84	0.93	6.02	485.73	487.09	612.93	672.17	8.46		
SCI	SCRPF	SGD	0.45	0.45	0.54	0.61	7.84	0.17	0.17	0.21	0.24	4.98	1284.97	1566.91	1934.64	2223.50	14.69		
SGS	SGSOF	CHF	73.15	82.64	93.31	102.28	8.74	30.00	30.00	30.00	30.00	0.00	1015.20	1164.73	1359.33	1501.03	10.27		
Spirax-Sarco	SPXSF	GBP	124.29	123.15	129.59	141.07	3.22	49.02	52.94	56.12	60.05	3.44	156.14	155.67	172.94	186.37	4.53		
Stericycle	SRCL	USD	2.85	3.29	3.72	4.25	10.51	0.00	0.00	0.00	0.00	N/A	510.16	571.83	641.62	714.75	8.80		
Thermo Fisher	TMO	USD	4.16	4.84	5.41	6.00	9.59	0.00	0.52	0.53	0.56	N/A	2992.80	3335.66	3527.18	3758.21	5.86		
Toray	TRYIF	JPY	36.41	39.41	36.46	40.94	2.97	7.50	10.00	10.00	10.00	7.46	170566.00	175164.00	176000.00	190700.00	2.83		
Va Tech Wabag	XVWBF	INR	19.88	27.89	33.06	40.83	19.71	4.25	6.01	8.02	10.02	17.19	1121.86	1247.50	1542.32	1857.16	13.43		
Yaskawa Electric	YASKF	JPY	26.00	33.51	27.82	37.75	9.77	6.00	10.00	10.00	12.00	13.62	19932.00	22425.00	21500.00	26000.00	6.87		
MANAGEMENT																			
BASF	BFFAF	EUR	6.26	5.56	6.23	7.07	3.08	2.50	2.50	2.74	2.93	2.29	11993.00	12383.04	13100.93	13901.81	3.76		
Deere & Co	DE	USD	6.63	7.75	7.80	8.60	6.72	1.52	1.74	2.00	2.25	7.10	4120.10	4713.66	4731.77	5112.04	5.54		
IDEXX	IDXX	USD	2.78	3.10	3.50	4.00	9.52	0.00	0.00	0.00	0.00	N/A	284.43	308.67	337.03	375.81	7.21		
Itron	ITRI	USD	4.29	3.85	3.87	5.10	4.42	0.00	0.00	0.00	0.00	N/A	-340.33	273.58	283.99	347.63	N/A		
Melrose plc	MLSPF	GBP	13.48	16.65	19.55	22.93	14.20	7.41	3.71	5.50	6.05	-7.18	133.50	212.68	389.92	457.02	36.02		
Monsanto	MON	USD	2.94	3.70	4.30	4.65	12.14	1.12	1.20	1.50	1.62	7.58	3048.00	3756.00	4110.11	4407.46	9.66		
Syngenta	SYENF	USD	21.95	27.00	30.66	32.59	10.39	8.00	8.80	9.20	9.70	3.56	2674.00	3222.96	3621.82	3876.83	9.73		
PIPES, PUMPS & VALVES																			
KSB AG	KSVRF	EUR	40.16	45.04	54.13	60.87	10.96	12.26	12.26	13.80	13.80	N/A	181.34	197.20	223.39	245.33	7.85		
Kubota	KUBTF	JPY	43.10	49.01	51.75	59.71	8.49	14.00	15.00	16.00	16.00	N/A	113104.00	129588.00	140000.00	159000.00	8.89		
Rotork	RTOXF	GBP	96.20	111.55	122.12	133.20	8.47	37.25	42.09	45.46	49.10	N/A	120.40	140.36	155.19	170.39	9.07		
ENGINEERING & CONSTRUCTION																			
AECOM Technology	ACM	USD	2.33	2.24	2.49	2.76	4.32	0.00	0.00	0.00	0.00	N/A	534.90	490.40	532.60	576.11	1.87		
Aveng Ltd	AVEPF	ZAR	2.64	1.26	3.49	4.41	13.68	1.45	0.60	1.12	1.41	N/A	2516.28	2055.00	3416.85	4228.76	13.86		
Beijing Enterprises	BJINF	HKD	2.44	2.92	3.61	4.18	14.43	0.70	0.88	1.08	1.26	N/A	4995.62	5760.78	6408.73	7193.49	9.54		
Downer EDI	DNERF	AUD	-0.07	0.42	0.47	0.53	N/A	0.00	0.00	0.00	0.21	N/A	255.57	592.44	635.07	682.24	27.82		
Guangdong Invest	GGDVF	HKD	0.40	0.47	0.54	0.60	10.96	0.18	0.19	0.22	0.24	N/A	4722.32	5002.84	5487.70	5990.49	6.13		
KEP	KPELF	SGD	0.84	1.13	1.00	1.02	5.18	0.43	0.59	0.50	0.51	3.82	2105.88	2869.27	2723.80	2743.06	6.83		
Leighton Holdings	LGTHF	AUD	0.80	1.20	1.88	2.02	N/A	0.60	0.72	1.22	1.31	N/A	976.20	1638.60	2081.30	2159.48	N/A		
URS Corp.	URS	USD	3.53	4.32	4.78	5.07	9.47	0.00	0.80	0.80	0.80	NA!	750.60	906.04	1020.74	1054.91	8.88		

Table 108: BofAML Global Water Exposure Stock Lift - Multiples

Company	Ticker	CRNY	EPS			EPS			DPS				EBITDA				
			2011	2012E	2013E	2014	4y CAGR	2011	2012E	2013E	2014E	4y CAGR	2011	2012E	2013E	2014E	4y CAGR
UTILITIES																	
Aguas Andinas	XXSGF	CLP	15.67	19.66	20.57	21.68	8.45	15.67	19.66	20.57	21.68	7.05	216204.77	240501.16	250827.75	259325.75	4.65
American Water Works	AWK	USD	1.78	2.16	2.15	2.32	6.85	0.92	1.00	1.08	1.18	4.09	1154.96	1304.66	1320.13	1392.67	4.79
COPASA	CSAOF	BRL	4.08	4.94	5.32	5.46	7.56	1.67	1.58	1.82	1.89	2.04	1060.76	1187.23	1259.94	1338.72	5.99
HK&China Gas	HOKCF	HKD	0.76	0.78	0.90	0.98	6.72	0.48	0.35	0.40	0.44	-4.10	7401.60	8611.33	9366.52	9667.54	6.90
Aguas Metropolit	XVNFF	CLP	47.23	59.97	63.27	66.82	9.06	51.00	47.23	59.97	63.27	4.13	200599.75	232245.93	242288.37	250498.23	5.71
Manila Water	MWTCF	PHP	2.12	2.39	2.71	3.08	9.74	0.69	0.74	0.84	0.96	4.90	8315.70	9827.46	11325.99	13196.46	12.24
Pennon	PEGRF	GBP	42.26	45.03	44.50	47.45	2.94	24.65	26.52	28.24	30.08	3.46	402.60	415.80	417.67	445.31	2.55
SABESP	CSBJF	BRL	5.37	8.41	9.40	9.26	14.59	1.70	2.54	2.94	3.29	14.68	3213.29	3640.55	4137.18	4271.89	7.38
Sabsep-ADR	SBS	USD	6.42	8.66	9.54	9.40	10.00	1.82	2.54	3.02	3.31	13.50	1919.42	1874.28	2098.76	2168.58	3.10
Severn Trent	SVTRF	GBP	93.07	88.89	98.40	98.43	1.41	65.09	70.10	75.85	80.02	3.90	790.92	786.19	824.58	845.56	1.68
Shanghai Indus	SGHIF	HKD	3.79	3.04	2.50	3.18	-4.23	1.08	1.07	0.88	0.56	-5.09	5346.62	5259.92	6145.54	6883.33	6.52
Spark Infra	SFDPF	AUD	0.06	0.11	0.09	0.10	11.15	0.10	0.11	0.11	0.11	2.22	144.14	201.85	190.51	199.89	8.52
Aust Infra fund	AUSFF	AUD	0.34	0.32	0.40	0.29	-3.69	0.10	0.10	0.12	0.14	4.88	222.32	197.22	247.59	182.70	-4.79
Suez Environnement	SZEVF	EUR	0.50	0.70	0.85	0.92	16.21	0.65	0.66	0.68	0.70	1.24	2168.03	2152.89	2336.05	2508.77	3.72
United Utilities	UUGWF	GBP	35.10	35.34	37.96	39.73	3.15	30.00	32.01	34.35	35.91	3.44	886.90	891.90	919.27	959.14	1.98
Veolia	VEOEF	EUR	0.58	0.36	0.63	0.75	6.51	0.70	0.70	0.70	0.70	0.00	3152.01	2673.75	2928.01	3078.67	-0.59
Veolia	VE	USD	0.81	0.46	0.81	0.97	4.43	0.97	0.90	0.90	0.90	-1.96	4382.13	3434.43	3761.03	3954.55	-2.53

Source: BofA Merrill Lynch Global Research estimates

Investment thesis

China Everbright International

We believe China is on course to add environmental protection and renewable energy industries during the 12th FYP, and CEI has emerged as a leading diversified environmental protection / clean energy provider. CEI would like to focus on WTE business development, which has a higher IRR (10-15%) over WWT business (10-12%).

Guangdong Investment

With its strong balance sheet and robust free cash flow, we believe GDI has the financial capability to make accretive acquisitions and increasing dividend payout ratio. Consensus has under-estimated its earnings potential in its premier water asset and future growth from its property investment.

Price objective basis & risk

Toray (3402)

Our price objective of JPY660 is based on a P/B of about 1.6x our end-FY3/13 BPS estimate, which we derive from the historical correlation between ROE and P/B. We apply a 10% discount to P/B to reflect uncertainty over the global economy, the impact from the commoditization of LCDs, and the stock market's level of risk tolerance and so on. We estimate an adjusted ROE of 10.2% for FY3/14.

Risks to our price objective, in addition to exchange rates and raw material and fuel costs changing more than expected, are (1) production problems or a substantial delay in the planned production of 10 B787 aircraft per month, (2) a higher-than-expected drop in the price of carbon fiber, (3) a change in the company's approach to cost controls, and (4) unexpectedly high volatility in LCD-related demand. Another risk is delays in implementing measures to deal with LCD commoditization. Divergence in capex levels from the broader performance of the economy is also a concern.

Kuraray (3405)

Our Y1,140 PO is about 1.0x our FY3/13 BPS estimate. We base this on historical correlation between ROE and P/B, but subtracted 10% from the coefficient to account for the risks from maturing of LCD material demand and a future PVA film supply and demand gap as well as the risk tolerance in the equities mkt. In the past 10 years, share has been in 0.7-1.7x P/B range, and 1.0x multiple is slightly below the average.

Further to unexpected changes in raw material/fuel prices or forex rates, downside risks are: 1) delay in taking steps for next-gen growth, 2) emergence of alternative products or new challengers in optical PVA film, 3) downward pressure on LCD TV volume from accelerated spread of organic EL TV applications, 4) rapid inventory changes for LCD panels, and 5) further worsening of European economy. Upside risks are 1) further move to boost shareholder returns, 2) earlier-than-expected profit contribution from ballast water management systems and other new businesses.

Kubota (6326)

Our price objective for Kubota (6326) is JPY700, which we base on a P/E of around 12x and an EV/EBITDA multiple of just above 7x (around 6x excluding the finance business) based on our FY3/14 estimates. In our price objective calculation, we factor in average share-price valuations during the period of earnings growth since 2001 (EV/EBITDA multiple 7-10x).

The upside risks to our price objective are: 1) yen depreciation, 2) a sharp rise in the rice price, and 3) accelerating underlying sales growth for Asian agricultural machinery. The downside risks are: 1) delay in recovery in North American tractor demand, 2) crop damage resulting from floods or drought, and 3) yen appreciation.

Kurita Water Industries (6370)

Our price objective for Kurita (6370) is JPY1,700. Considering Kurita's slowing profit growth, we use a P/E of 13x and EV/EBITDA of 3x, historical bottom, based on our FY3/14 EPS estimate to calculate the price objective. Upside risks to our price objective are 1) expansion of capex in the manufacturing sector, and 2) expansion of overseas earnings. Downside risks are 1) stagnant production activities in manufacturing industries, 2) a decline in manufacturing industry customers' willingness to invest, and 3) further hollowing out of domestic manufacturing industries.

Nitto Denko (6988)

Our price objective for Nitto Denko is JPY4,400. We use a P/E of 14x and a P/B of 1.5x, based on our FY3/14 estimates. We use valuations above the LCD supply chain averages to reflect rising sales of high-margin medium- to small-sized LCD materials and longer-term growth prospects in areas such as tape and membranes. And also these multiples are lower than low-end of 20-year historical average valuation range (P/E of 19.5x and P/B of 1.8x) of Nitto Denko. We believe these multiples are fair even if we consider the valuation discount risk in LCD supply chain. Risks of the share price failing to reach our objective are (1) a sharper deterioration in the LCD panel market supply/demand balance than we envisage, (2) inventory increases in smartphone or tablet PC markets, and (3) faltering ITO film growth prospects owing to competition with rival technology.

AECOM Technology (ACM)

Our PO of \$20 is based on applying an 8x P/E to our CY13 EPS estimate of \$2.58. 8x is below the company's historical average of 15x, reflective of uncertainty related to the US public spending outlook and lumpy execution. 8x would put ACM at a discount to its comparables, which we think is fair, given projected below-average EPS growth. \$20 would also put the company's EV/EBITDA at 5x, at a premium to the current comp average. While we expect E&C multiples to expand for the sector, we see limited upside for ACM.

Downside risks are:

- 1) A significant economic slowdown could lead to AECOM's private clients cutting their spending on proposed and/or existing projects.
- 2) Federal/state/local budgets are key to the company's growth. Any significant deterioration in these budgets would impair the company's ability to meet our growth estimates.
- 3) Acquisitions are an integral part of the company's future growth strategy. This is an inherently risky strategy that relies on the availability of attractive acquisition candidates and successful integration.

Upside risks are:

- 1) Better-than-expected international and private sector growth could mitigate weaker US public spending.
- 2) Faster-than-projected turnaround in execution and cash flow generation would serve as a positive catalyst for ACM's multiple expansion.

Aguas Andinas (XXSGF)

Our ChP331 price objective is based on DCF. We use a WACC of 7.2% in nominal US\$, incorporating 4.1% for risk-free rate, 80bp for Chile risk, 5.7% for equity risk premium and 0.5% perpetuity growth.

Upside risks to our price objective are (1) stronger-than-expected volumes, (2) more favorable regulation (tariffs), (3) M&A, and (4) higher growth from non-regulated business.

Downside risks are: (1) weaker-than-expected volumes, (2) less favorable regulation (tariffs), (3) poor hydrology, and (4) earthquakes.

Alfa Laval (ALFVF)

Our SEK 125 price objective is based on applying a target 2013 EV/EBIT multiple of 10.5x to our 13e operating profit. We think this multiple is appropriate given Alfa Laval's strong growth outlook and resilient margins, but lower demand visibility.

Downside risks to our price objective would come from a collapse in commodity prices or a weakening of emerging market growth. Upside risks would be stronger margin execution.

ALS Limited (CBEBF)

Our PO for CPB is \$10.00/share and has been made using an average of relative multiples PE, EV/EBIT and our DCF.

For P/E we apply a multiple of 17x to FY14E EPS. We think a this multiple is justified given relative sales growth, margins and the low capital intensity of the business.

For EV/EBIT we apply a multiple of 13x to FY14E EBIT, in line with LT averages it is supported by sector consolidation multiples and global peers.

Our DCF is \$10.34. Key inputs to our DCF are WACC (9.6%, Ke 10.4%, Kd 4.5%, TVg 5.1%). The highly cash generative nature of CPB drives the valuation, alongside investing cashflows which we assume delivers a 20% ROIC.

Risks to our price objective are (1) a significant downturn in minerals exploration volumes, leading to a contraction in earnings of CPB's largest profit contributor (2) poorly executed M&A exposing the company to material goodwill write-downs and stress on the balance sheet.

American Water Works (AWK)

Our \$41 price objective is 17.5x P/E our 2014E of \$2.32. We believe AWK should trade at a half-turn discount to the average 2014 P/E multiple for the water utility sector. Risks to our price objective are unfavorable weather, regular reviews of about \$1.25B in goodwill on the balance sheet and the importance of successful rate relief in various jurisdictions.

Aveng Ltd (AVEPF)

We value Aveng at ZAR32 through a combination of EV/EBITDA (4.2x), PE (8.5x), PE relative (0.9x) and P/B (1.0x) multiples. Near-term challenging trading conditions in particularly SA and strain on operational cash generation are expected to weigh on the price.

Downside risks to our price objective are: 1) non-delivery by government on planned infrastructure spend, 2) risk management systems not being able to cope with more complex, bigger contracts assumed, and 3) a sudden surge in public sector infrastructure project awards. Upside risks are: 1) contract execution in AUS at margins that are better than forecast, 2) a sudden and significant resumption of in domestic government spend, and 3) a returning of capital to shareholders in the near term.

BASF (BFAF)

Our price objective for BASF is EUR73/share (\$94.14/ADR). We derive our PO from an average of our SOTP model and DCF valuation. Our DCF uses a WACC of 8.3% and a terminal growth rate of 1.6%.

Risks to our price objective are: 1) a sustained fall in oil and gas prices (higher prices are on average beneficial to group earnings); 2) a weakening of general industrial production (this being a key driver of sales); and 3) weakness of the US\$ versus Euro. Oil price inflation and a significant recovery in industrial production are the main upside risks to our PO.

Beijing Enterprises Holdings Limited (BJINF)

Our price objective of HK\$58.0 is at a 18.5% discount to our NAV estimate, which is based on our sum-of-the-parts analysis. We use DCF analysis (7.5% WACC and 2% terminal growth) to value gas business (for both city gas and transmission pipeline), industry average of 10x 2012E P/E for toll road, 13.5x 2012E P/E for water unit, and market value for Yanjing Brewery and BE Water Group, Beijing Development, and Biosino Biotech.

Risks for the company are weather, natural gas supply, margin, regulatory, and diversified business and demographic concentration.

BV (BVRDF)

Our PO of EUR 85 is based upon a 1 year forward rolling P/E of 18.5x, a small discount to its closest comparator Intertek's target P/E of 19x, in view of BV's lower organic growth rate.

Upside risks to our PO are: 1) global trade starts to improve, 2) and with this commodity trade and prices pick up, 3) pricing is firmer than we anticipate, 4) utilisation rates remain high and supportive to margins, and finally 5) the market is willing to ascribe a higher P/E multiple to testing companies than we currently do.

Downside risks to our PO are: 1) the commodity cycle takes a nosedive. 2) Pricing suffers more than we anticipate. 3) Margins suffer from higher levels of operational gearing (staff reductions prove more tricky than anticipated).

China Everbright International (CHFFF)

We have determined our price objective of HK\$4.8 by using a DCF-based valuation. We have assumed the risk-free rate at 4.0%, industry beta at 0.9 and equity risk premium at 8.0%. This is consistent with our industry metrics.

Upside risk:

The company may bid for more than expected projects, which may make the company generate more than our expected earnings. Government may have more investments into the sector, or have more favorable policy, such as higher on grid tariff for waste to energy plants. The company may put the project into operation ahead of schedule, which means it will generate cash flow ahead of

schedule. Investment cost may be lower, due to the company's self-produced equipment.

Downside risk:

Any cancellation or discontinuation of the favorable policies could adversely affect the business, and hence may have downside risk to our earnings estimates. Severe competition will make it the company have fewer chance to win new projects and therefore, have negative impact on its net earnings. Receivables collections may be delayed or default by local governments, which may make the company have cash flow problem.

COPASA (CSAOF)

Our R\$52 price objective is in line with our DCF value using a Ke of 8.2% in nominal US\$, assuming Brazil risk of 130bp, 3.2% risk-free rate, 5.7% equity risk premium, and 2% perpetuity growth. At our price objective Copasa would trade at 10x our 2013E P/E, above average of 6.1x of historical multiple. In our view, the improved regulatory environment expected over the next years justifies a higher multiple. Downside risks are (1) new tariff regime implementation delays, (2) a less favorable ROA-based tariff, though we see limited downside risk as tariffs need to attract investments to raise sewage coverage and treatment, (3) government ownership, (4) a more fragmented regulation than electricity.

Danone (GPDNF)

Our PO of EUR47.5/US\$12.33 assumes a cal'13E PE of 15.0, a 10% discount to the European food sector. Our PO implies a de-rating from current levels reflecting scope for consensus earnings downgrades and rising risks to organic sales growth and margin delivery.

We believe Danone has limited earnings visibility in view of the deteriorating macro backdrop in Western Europe. In June 2012 management reset 2012 margin targets to a 50bps decline, reacting to a sharp deterioration in Southern European consumption and worsening input cost inflation. We believe the down-trading observed in Spain could spread to other European markets, notably France. We cannot rule out further guidance cuts, particularly if management is forced to address price gaps in other markets.

The downside risks to our price objective are material and unrecoverable cost inflation, especially in milk and PET, trading down in Europe and US markets, collapse in developing market GDP and currencies, negative impact from the European Food Safety Authority claims process, and large-scale value destructive M&A.

Upside risks to our price objective are further input cost relief or a sustained reacceleration of top-line growth, leading the Street to put Danone back on a meaningful premium to peers.

Deere & Co (DE)

Our PO of \$102 is based on our discounted cash flow model which assumes an 8.8% WACC, terminal growth of 3%, 3-6% long term revenue growth, and capital spending to sales of 3.5-4.0%, among other assumptions. Our PO implies a 13x 2012E P/E, a 7% discount to Deere's historical P/E of about 14x.

Risks to our price objective are: 1) a definitive peak in the ag cycle, 2) sudden collapse in global grain prices, 3) worse than expected impact of the US drought, 4) inability to raise prices to offset Tier 4 expenses, 5) unfavourable regulatory

policy towards farmers, 6) expiration of Section 179 tax benefits, 7) global recession.

Doosan Heavy Industries & Construction (DOHIF)

Our PO of W66,000 is based on SOTP valuation. We valued its main operations at W8.5tn, based on 0.5x 2012E EV/orderbook for power, 0.4x for industrial, 0.25x for C&F and construction, and 0.3x for DPS. We applied a higher multiple for the power business, as overall market demand stays solid in emerging countries amid global macro concern. Though we have not factored in any NPP order overseas for 2012E, we think its accessibility to global NPP market could be another reason for higher multiple on its power business. Meanwhile, we maintain our fair multiples for other businesses, which are far discounted to median multiple of 0.47x EV/orderbook (since 2010) regarding weak earnings cycle and new order momentum.

For investment holdings, we value them at W1.1tn on a 30% discount to market value reflecting liquidation costs. We also deduct its estimated net debt of W2.7tn for the fair value calculation.

We see unexpected sizeable new order could be the major upside risk to our price objective in the short-term (i.e. overseas NPP order). The other upside risks to our PO are 1) drastic earnings recovery in casting & forging and construction business, and 2) strong operation of equity-method companies such as Doosan Infracore.

Expected downside risks to our PO are 1) cyclical nature of order-taking business, especially weak new orders in power biz, 2) lingering concerns on PF guarantees, and 3) another poor results in equity-method, which could dent its bottom-line earnings.

Dow Chemical (DOW)

Our \$32 PO is based on a 10-year DCF analysis that features normalized EBIT growth of 3.5%, a terminal growth rate of 3% and a weighted-average cost of capital of 8.5%. Our PO represents 12.8x our 2013 EPS estimate of \$2.50, which compares to a 5-year average multiple of 13.9x forward earnings. During that period, Dow's multiple has ranged from 6.5x in early 2009 to more than 34x later in 2009. Downside risks are cyclical volume pressure in ethylene and other commodities as well as potential escalation of energy and feedstock costs, all in the context of elevated financial leverage. Upside risks are potential for input cost relief and a more pronounced cyclical upturn in demand than we have modeled.

Downer EDI Limited (DNERF)

Our assessed fair value for DOW is based on two valuation methodologies, P/BV and DCF absolute. By taking the average, we reach a blended valuation of \$4.70/share.

For P/BV relative, we apply a FY13E multiple of 1.3x to reach a valuation of \$4.86/share. Our assessed DCF valuation of DOW is \$4.59/share derived using a Kd 8%, Ke 11.5%, WACC 9.7%, Beta 1.3 and a Terminal Growth rate of 2.5%. Our DCF model is two stages with 5 explicit forecast years followed by capitalisation of future earnings, which we expect to mean revert.

Downside risks to our price objective are - (1) slowdown in domestic FAI, (2) poor contract execution in DOW infrastructure and (3) execution of Waratah Rail contract.

DuPont (DD)

Our \$52 PO is based on a 10-year DCF analysis that features normalized EBIT growth of 3-4%, a terminal growth rate of 3% and a weighted-average cost of capital of 8.1%. Our PO represents 15.1x our 2013 EPS estimate of \$3.45, which compares to a 10-year average multiple of 16.1x forward-year earnings estimates (FactSet). During that period, DuPont's multiple has ranged from 7.6x EPS recently to 28.5x during 2003. Our PO also represents 8.7x our 2012E EBITDA estimate of \$6.5bn, which compares to a 10-year average multiple of 10.5x trailing EBITDA (FactSet).

Downside risks to our price objective are further slowing in autos and electronics, exposure to construction markets, cyclical margin pressure on TiO₂, and a stronger US dollar. Upside risks are the potential for new product growth, additional cost relief, a favorable outlook for Agriculture, including the potential for share gains in corn and soybean seeds, and prospects for growth in food ingredients.

Ecolab Inc (ECL)

Our \$79 price objective is based on a 23x multiple of our 2013 EPS estimate. Our target multiple is in line with ECL's median historical forward multiple of 23x. Valuation is supported by our expectations that EPS could continue to grow at approximately 13% per year over the next five years. Risks to our price objective are: (1) potential difficulties in integrating the Nalco and Champion acquisitions, (2) higher raw material costs, (3) negative FX translation, and (4) the company's ability to sustain current organic growth rates.

Guangdong Investment (GGDVF)

Our 12-month PO of HK\$7.1 is based on a 35% holding company discount to estimated NAV (in line with its current trading discount). Our NAV is derived from our sum-of-the-parts analysis. We use DCF to value its Dongshen Water Supply Project, given the high visibility of earnings. We applied a 6-8% cap rate to value its retail property investments, 10% cap rate on hotel operations and the industry average of 10x, 8x, 9x 2013E P/E for department stores, toll road, and power plants, respectively.

Downside risks are unfavorable asset acquisitions and further delay in opening of Tianjin Teem Mall and other property investment projects in the pipeline.

Hexagon AB (HXGBF)

Our price objective is SEK165. This is based on a DCF based valuation, which factors in 4.9% growth and 21% EBIT margins. These are above sector averages, but seem appropriate to us given recent performance and the acquisition of Intergraph.

This is equivalent to a 2013e PE of 16.0x. This represents a 20% premium (debt adjusted) to our target sector multiple, reflecting higher growth rates beyond 2012, Intergraph synergies, a strong cash conversion and lower than average cyclicality.

Downside risks to our price objective are a lower level of infrastructure spending in China or a failure of the Intergraph synergies to materialise.

Hong Kong & China Gas (HOKCF)

Our price objective of HK\$20.5 (US\$2.63/ADR) is based on our sum-of-the-parts

analysis. The core Hong Kong and China businesses are valued on a DCF model incorporating a discount rate of 6.63% and terminal growth rate of 1% for Hong Kong business and 2% for China business. HKCG's other smaller components, such as the property portfolio, are valued on the basis of discount to NAV. At our PO, the company would trade on a multiple of 3.2x 2012 PB multiple, which is a premium to peers, which we believe appropriate given its potential HK gas tariff hikes and steady and meaningful CF growth from projects on hand.

Upside Risks

Faster than expected profit growth

Downside Risks

Hong Kong - The volume growth of the core Hong Kong gas supply business can be affected by several factors. Should the economy in 2010 and beyond experience a downturn and should average temperatures exceed the historical average, Hong Kong's core business cashflow could be negatively affected.

Regulatory changes - Government intervention cannot be ruled out but we would find such a move by the Hong Kong government unlikely.

China - the risks to growth are slower-than-expected revenue growth from connection fees, lower-than-expected gas sales, lack of gas supplies, rising gas purchase costs, uncertainty over replacement of connection fees with a new tariff regime and delays in cost pass-through to end-users.

IDEXX Laboratories (IDXX)

Our \$104 Price Objective is based on a P/E multiple of 29.7x and a 2013E EV/EBITDA multiple of 16.3x, well off historical highs of 36.9x and 19.6x, respectively, but still better reflecting its growth prospects as the veterinary industry rebounds, in our view. Risks to our call are continuing lackluster veterinary traffic trends, unfavorable regulatory outcomes, and material inroads from reference laboratory competitors.

Inversiones Aguas Metropolitanas (XVNF)

Our ChP811 price objective is based on DCF. We use a WACC of 7.2% in nominal US\$, incorporating 4.1% for risk-free rate, 80bp for Chile risk, 5.7% for equity risk premium and 0.5% perpetuity growth. We are applying a 25% discount to our fair value, in line with our small cap team approach, to reflect low liquidity (US\$1.0 mn avg. ADTV).

Upside risks to our price objective are (1) stronger-than-expected volumes, (2) more favorable regulation (tariffs), (3) M&A, (4) higher growth from non-regulated business, and (5) improvement in liquidity.

Downside risks are: (1) weaker-than-expected volumes, (2) less favorable regulation (tariffs), (3) poor hydrology, and (4) earthquakes.

Israel Chemicals Limited (ISCH)

Our ILS55/s DCF-driven price objective is based on 8.9% WACC, which is in the middle of sector range due to higher beta offset by lower than average net debt to EBITDA. At our PO the stock would trade on 10.3x 2013E PE, close to our peer K+S target multiple. Our valuation is based on a DCF model which assumes that 2013 will see moderately improving pricing in potash and healthy sales volume growth followed by a moderate contraction in pricing in 2014. We maintain our

policy of fading output prices to terminal value, setting a long-term price of c.\$450/t for potash.

Risks to our price objective: Market growth is sensitive to agricultural commodity prices, which are volatile due to the weather, biofuels policy and inventory changes. A significant strengthening of the ILS against the dollar would also be a negative. Finally the industrials division relies on solid demand in electronics, oil and gas and construction markets.

Itron (ITRI)

We use three different methodologies to arrive at our Buy rating and \$55 PO. Our discounted cash flow analysis using an 11.2% WACC and 5x terminal EBITA multiple yields an equity value of \$62.72/share. Our target 2.1x 2013E book multiple is supported by prospective 11% GAAP ROE and yields an equity value of \$54.58/share. Finally, at 8.3x 2013E EBITDA, supported by a prospective 19% return on total capital, Itron would be worth \$49.35. The three methods average to \$55/share.

At \$55 ITRI would trade in line with the small universe of its pure-play comparables. The company looks cheap on sales and earnings multiples relative to its peers at that valuation, which in our view is fair considering revenue softness we model over the next six quarters and Itrons relatively higher debt load. \$55 equates to a 9.3x EBITDA multiple, which is above the industry median of 8.4x. We view this as reasonable given continued gross margin expansion, as well as the operating leverage we see in the model as sales efforts begin to payoff later in 2013.

Downside risks are weakness in gas and water meter markets globally, indefinite delays to European smart electricity meter rollouts, and continued backlog underperformance. Greater consumer backlash to smart meters or an unanticipated increase in special warranty cost also present risk. Upside risks are faster-than-anticipated adoption of smart meters in Latin America, and greater short-term demand out of North America.

Kemira (KMRAF)

Our price objective for Kemira is EUR13. This is based upon a DCF valuation incorporating NOPAT margins of 5.8% this year, peaking at 7.1% in 2014, faded down to 6.7% in 2019, and normalizing at 6.6% in our terminal year (terminal sales growth of 2.5% and a WACC of 8.2%). Our PO argues for (2013E): 12.4x P/E (compared to its LT average of 11.8x), and 1.0x EV/Sales, for a 9.1%/9.7% EBIT margin (2013/14).

Risks to our price objective are: the company does not deliver on the restructuring plan, excessive raw material costs, intensified competition from strong players, adverse exchange rate movements, and changes in the environmental regulatory framework.

Keppel Corporation (KPELF)

Our SOTP valuation derives a price objective of S\$13.00 for KEP. The O&M business is the biggest contributor, about 70% of our PO. Our SOTP-based PO includes: 1) the valuation for 53%-owned Keppel Land, which BofAML analysts arrive at by discounting their RNAV/sh estimate by 35%, 2) share prices for listed associates Keppel T&T, K1 Venture, K-REIT Asia, and K-Green Trust, 3) RNAVs for Sino-Singapore Tianjin Eco-City projects and Keppel Bay projects, 4) FCFF valuation to derive the fair values for O&M, and the unlisted Infrastructure

business, and 5) 10% conglomerate discount.

We believe DCF is an appropriate valuation methodology to capture the intrinsic value of KEP's O&M business, due to the high FCF-generative nature of this business. Key assumptions used for the O&M business are: 1) 7.3% WACC, 2) 1.6% risk-free rate, 3) 7.0% market risk premium, 4) 1.27 beta, 5) 40% target debt to asset ratio, and 6) 1% terminal growth rate.

The downside risks: 1) weaker-than-expected newbuild orders for offshore rigs and units due to an unexpected credit crunch, including the failure to win the Petrobras tender, 2) severe property price declines in China and Singapore, affecting new property launches, and 3) W-shaped global economic recession, resulting in a poorer outlook for all businesses. The upside risks: 1) stronger offshore newbuild orders as rig operators decide to invest in the physical replacement of their ageing fleets, and 2) steady property prices in China and Singapore.

KSB AG (KSVRF)

We set our DCF-based price objective at EUR530 per share. Key assumptions of our DCF are a WACC of 8.5%, an intermediate growth rate of 7% a 2% terminal growth rate and an 8% sustainable EBIT margin. Our price objective implies 12x 2012E P/E and 5.5x 2012E EV/EBITDA for KSB, still at a discount to its global pump manufacturer peers.

Risks to our price objective are declining order volumes, price pressure from aggressive competitors, raw material costs and risks related to the relocation of production know-how to low cost countries.

Lanxess (LNXSF)

At our PO of EUR73, the stock would trade on 10x 2012E PE, still below the long-run average of 12x. Our DCF valuation assumes average NOPAT margins of 7.3% 2012-14 and 6.7% in terminal year, terminal sales growth of 2.8% and a WACC of 8.6%.

Risks to our price objective are severe and prolonged customer de-stock/demand weakness, competitor capacity additions, a strong Euro and rising costs

Leighton Holdings Limited (LGTHF)

Our PO of \$20.20 is set using a combination of relative multiples and our DCF.

For P/E we apply a multiple of 10x to FY13 EPS. The multiple is appropriate in our view given the strong macro environment for sales growth and our view that margins will rebound from their current levels which are below LT averages. In addition, LEI typically generates strong ROIC and ROE, well above its cost of capital.

For EV/EBIT we apply 6x, while at a discount to LT averages it is supported by sector comparables.

Our DCF is \$22.22. Key inputs to our DCF are WACC (12.8%, Ke 13.6%, Kd 8% and TVg of 2.5%). Typically LEI is highly cash generative and generates strong ROIC/WACC which lead to strong valuation. We account for cyclicity by setting our terminal in line with LT averages and assuming no real growth in revenues.

Risks are (1) downturn in demand for construction, leading to a run-down of WIH

and future profitability (2) execution, particularly completion of major projects which already face challenges completing on schedule (3) poorly performing subsidiary HLG continuing to require funding from LEI to maintain solvency.

Manila Water (MWTCF)

Our Php33.07 PO for MWC is based on a Sum-of-the-Parts (SOTP) NAV methodology. When valuing MWC's portfolio of assets, we used a 7.7% discount rate for the Metro Manila East Zone concession and a 10% discount rate for MWC's non-East Zone Philippine concessions. We apply an 8.5x PE multiple in valuing the company's Vietnam business. Risks to our PO are 1) the possibility of adverse regulatory decisions and 2) slower-than-expected growth in MWC's non-East Zone businesses.

Melrose plc (MLSPF)

Our 270p price objective is based on applying a 5% discount to our target sector 2014E EV/EBITA multiple of 10.0x. We think a premium justified given the group's growth/cyclical profile, management's turnaround track record and a history of crystallising asset valuations.

Upside risks to our price objective are higher cost savings, better mix and value-creative M&A. Downside risks are poor M&A execution, increasing pension costs, lower number of targets due to a change in private equity risk attitude.

Monsanto (MON)

Our \$97 PO is based on a 10-year DCF analysis that features normalized EBIT growth of 4-5%, a terminal growth rate of 3% and a weighted-average cost of capital of 8.6%. Our PO represents 22.6x our FY13E EPS estimate of \$4.30, which compares to a 10-year average multiple of 25.4x forward year earnings estimates (per FactSet). During that period, Monsanto's multiple has ranged from 13.0x EPS in 2003 to 43.7x in late 2007. Likewise, our \$97 PO represents 12.4x FY13E EBITDA of \$4.1bn, which compares to a 10-year average multiple of 12.8x trailing EBITDA (per FactSet).

Risks are variances arising from credit availability, regulatory changes, market share shifts, fluctuations in planted acreage, pipeline progress, crop values, competitive actions in glyphosate and seeds, anti-trust actions, litigation and the expiration of Monsanto's RR1 soybean patent in 2014.

Nestle (Reg) (NSRGF)

Our Nestlé price objective of CHF65 per share (ADR \$67.5) is based upon a forward PE multiple of 16.7x, toward the upper end of its historical trading range of 12-18x and at a modest premium to its peers.

Our PO is based on our view that there is limited scope for EPS upgrades due to the risk of slowing top line growth and limited margin expansion in 2012E. While we expect Nestle to deliver 2012 results in line with the Nestle model (5-6pc organic sale growth and an underlying improvement in trading operating margin.), this is already reflected in consensus. We expect the shares could move up moderately as investors seek out in the group's defensive earnings growth. However, the shares could also serve as a source of cash if investors rotate away from highly valued defensives.

The risks to our price objective are a consumer acceleration/slowdown in developed markets, better/worse than expected growth in developing markets, a weakening/strengthening Swiss franc, and improvement/deterioration in the

pricing environment or a drop/rise in key commodity prices.

Outotec (OUKPF)

Our Eur38 PO values Outotec on 9.0x EV/EBITA, a slight discount to the sector's mid-cycle average. In our view the slight discount to the sector is justified given the high level of the mining capex cycle compared to other end markets the sector faces, the project nature of Outotec's business and the more volatile cash flows.

Downside risks to our price objective are a sharper than expected decline in commodity prices, a sharp downturn in the Chinese economy, or a stronger global industrial slowdown than we have forecasted. Upside risks would be a higher margin delivered.

Pall Corporation (PLL)

Our \$62 PO is based on 20x our next 12 month EPS estimate of \$3.10 and is backed by a DCF analysis which implies a price of \$63, assuming a 10.0% WACC and 3% terminal growth rate. Although this multiple is higher than the company's historic average of 17x, we think this valuation is justified given new management's opportunities to streamline the business, the significant margin expansion potential over the next couple of years, and the fact that early results from aggressive restructuring initiatives have been promising. In addition, the company can deploy capital to support EPS. Risks are a weaker global economy (38% of FY12 sales from Europe), execution and integration missteps, and increased currency headwinds.

Pennon (PEGRF)

Our 705p price objective is based on a c6% EV/RAV premium to the water utility SWW's 2014 RAV and our valuation for the waste division, Viridor. The premium to RAV for SWW factors in nominal asset growth (SWW below peers) and outperformance potential (SWW better placed than peers, particularly in financing). However, we now apply a 5% EV/RAV premia discount for risks from the regulator's latest proposals.

Around 60% of Group EV is represented by the water utility's RAV, with Viridor contributing the balance. This differentiates it from the other remaining trio of listed UK water groups. Trading at our PO, Pennon would offer a prospective yield of c4% and would imply an above average EV/EBITDA multiple.

The upside risk to our price objective lies in a resumption of corporate activity. Trading conditions and growth prospects at Viridor as well the UK economic and inflation outlook present both upside and downside risks. Regulatory developments are also key.

Rotork Plc (RTOXF)

Our 2440p price objective is based on applying a 35% premium to our 2013 target sector EV/EBIT multiple of 10.0x. The 35% premium is in line with the stock's historical premium to the sector. We feel the premium is fair given Rotork's end market exposures and historical growth and margin profile.

Upside risks - faster rebound in oil & gas and power markets, value accretive acquisitions, further expansion into process markets.

Downside risks - aggressive market pricing, slow rebound in oil and gas markets, poor acquisition.

SABESP (CSBJF)

Our R\$103/US\$103 price objective is in line with our DCF value using a WACC of 7.2% in nominal US\$, assuming Brazil risk of 130bp, 3.2% risk-free rate, 5.7% equity risk premium, and 2% perpetuity growth. At our price objective Sabesp would trade at 11x 2013E adjusted P/E, above the average 6.5x historical multiple. In our view, the improved regulatory environment expected over the next months justifies a higher multiple.

Downside risks to our price objective are (1) less favorable ROA-based tariff methodology proposal expected to be implemented in December 2012 (but we see limited downside risk as tariffs need to attract investments to raise sewage coverage and treatment), (2) delays in implementation of the new tariff methodology, (3) higher cost trends, (4) higher FX exposure than peers, and (5) state ownership (including potential asset transfers and renegotiation of past due amounts by the state/municipal governments).

Sabsep-ADR (SBS)

Our R\$103/US\$103 price objective is in line with our DCF value using a WACC of 7.2% in nominal US\$, assuming Brazil risk of 130bp, 3.2% risk-free rate, 5.7% equity risk premium, and 2% perpetuity growth. At our price objective Sabesp would trade at 11x 2013E adjusted P/E, above the average 6.5x historical multiple. In our view, the improved regulatory environment expected over the next months justifies a higher multiple.

Downside risks to our price objective are (1) less favorable ROA-based tariff methodology proposal expected to be implemented in December 2012 (but we see limited downside risk as tariffs need to attract investments to raise sewage coverage and treatment), (2) delays in implementation of the new tariff methodology, (3) higher cost trends, (4) higher FX exposure than peers, and (5) state ownership (including potential asset transfers and renegotiation of past due amounts by the state/municipal governments).

Sembcorp Industries (SCRPF)

We have an SOTP-based Price Objective of S\$5.64 for Sembcorp Industries (SCI). This is driven largely by our S\$6.01 PO for its 61%-owned subsidiary, Sembcorp Marine (SMM), which is based on the DCF valuation model. We also use the DCF model to value the utilities business of SCI, which is the second-largest division of the group. We believe that the DCF valuation model will best capture the good cash-flow-generative nature of SCI's two main businesses.

Our DCF valuation model for SCI's utilities business uses a WACC of 5.1%, based on a risk-free rate of 1.6 and a market risk premium of 6.5%. We have assumed a terminal growth rate of 1%. Downside risks to our PO are: 1) sudden unexpected reduction in global oil demand and E&P activities, which would reduce the incentive to build new offshore drilling rigs and production units, 2) SMM's failure to win newbuild rig/FPSO contracts from Petrobras, 3) weaker-than-expected margin execution at the new yards of SMM in Singapore and Brazil, and 4) SCI's expansion of power plants in Singapore and overseas falters, removing the long-term growth potential of its utilities business.

Upside risks are: 1) faster-than-expected new offshore construction order upswing, and 2) opportunities to make overseas acquisitions of established utilities companies at a reasonable price.

Severn Trent (SVTRF)

Our price objective of 1540p has been set at a c4% EV premium to Severn Trent Water's RAV based sum-of-the-parts March 2014E. The premium mainly reflects the value of nominal asset growth and scope for outperformance. However, we now apply a 5% EV/RAV premia discount for risks from the regulator's latest proposals. The valuation methodology is in line with peers.

At our PO, the prospective yield would be c5% and EV/EBITDA would be c10x, close to peers.

Upside risk to our price objective lies in a resumption of corporate activity. Changes to RPI assumptions present both upside and downside risks to earnings, dividends, debt metrics and valuations. Economic and market conditions may have an impact on water demand, bad debts, debt costs and inflation, which present both upside and downside risks. Lastly, changes in the regulatory framework may impact earnings stability and valuations. Trading conditions at Severn Trent Services may also impact the company's earnings outlook.

SGS (SGSOF)

Our PO of CHF 2000 is based upon a 1 year forward rolling P/E of 20x, a 10% premium to its average of 18.3x since 2003, justified by improving earnings momentum and high levels of organic growth relative to the broader market.

Upside risks: 1) global trade starts to improve, 2) and with this commodity trade and prices pick up, 3) pricing is firmer than we anticipate, 4) utilisation rates remain high and supportive to margins, and finally 5) the market is willing to ascribe a higher P/E multiple to testing companies than we currently do.

Downside risks: 1) the commodity cycle takes a nosedive. 2) Pricing suffers more than we anticipate. 3) Margins suffer from higher levels of operational gearing (staff reductions prove more tricky than anticipated).

Shanghai Industrial (SGHIF)

Our PO of HK\$28.00 is based on 15% discount to our forward NAV estimate.

Our forward NAV estimate is based on sum-of-the-parts analysis. We use BofAML NAV estimates to value property (1x book for Four Seasons hotel, market value of SIUD and SID), DCF with WACC at 10% for toll roads, 13x 2012E P/E for tobacco, 10x 2012E P/E for printing and water unit.

Risks to our investment thesis are (1) government policies such as further tightening of the property market and a rise in tobacco-related tax and (2) slower - than-expected profitability turnaround at SIUD.

Spark Infrastructure Group (SFDPF)

Our 12 month PO is \$1.80. We derive our valuation using a SOTP approach whereby the underlying assets of SKI are valued using the DCF method (cash flow to equity including terminal value) discounted at an asset specific cost of equity. Our modelling uses a cost of equity of 9.5pct and a terminal growth rate of 1-2pct, and applies a 20% management discount given structural complications and the below risks. Downside risks to our view are (1) risk of conflict with CKI, the majority owner of underlying assets, leading to (2) changes in asset distribution policies. Upside risks are (1) favourable regulatory appeal decisions,

and (2) Better than expected regulatory decisions.

Spirax-Sarco (SPXSF)

Our 2250p price objective is based on applying a 10% premium to our target sector 2013 EV/EBIT multiple of 10.0x to our 13e operating profit. We think this premium is appropriate, due to Spirax's sector-leading growth and low cyclicity.

Downside risks to our price objective would come from unfavourable exchange rate moves, if energy prices collapsed, or from the substitution of hydraulic heat transfer mechanisms. Upside risks would be stronger restructuring savings.

Stericycle (SRCL)

Our \$98 price objective is based on CY13E P/E and EV/EBITDA multiples of 26.4x and 14.6x, respectively, well off historical highs of 37.0x and 18.8x, despite the stability of its business model, and reflecting little optimism with regards to its long-term ROIC potential. Risks to our call are fluctuations in foreign currency and commodity pricing, competition from non-specialized solid waste management companies, unfavorable regulations, and potential acquisition and integration-related miscues, particularly with regards to its newer international business.

Suez Environnement (SZEVF)

Our price objective is EUR11. It is based on a sum-of-the-parts approach. Our sum of the parts is based on individual branch DCFs based on cost-of-capital assumptions that vary between 7% and 8.5% depending on the risk profile of the division. We have assumed that ROCE will be stable over the next ten years and then have used a 2.5% terminal growth. For Aguas de Barcelona we have used a DCF approach instead of the listed share price mainly because the free float is too small. All our DCF's are end of 2011 valuations, so is the net debt figure we are using. We have used a capex programme below company's guidance mainly because the difference with our numbers is acquisitions and we have limited visibility on them.

Risks to our price objective are linked to acquisitions and debt. The group has a strong balance sheet and could use it to make acquisitions which in the current environment could be negatively perceived.

Syngenta (SYENF)

Our DCF-based PO is CHF380 (US\$83.52 ADR), based upon a WACC of 7.6%, terminal growth of 2.5% and a terminal NOPAT margin of 19.1%. At our PO, the stock would be trading on a 14x 2012E pre-amort PE (15.5x post), below the long-run average of 15x and a 20% premium to the chemical sector average, fair, in our view, given premium ROCE and a strong CP franchise globally. The risks to our price objective are weather, subsidy regimes, grain/oil prices, currencies (mainly US\$), and legislation (biofuels).

Thermo Fisher Scientific (TMO)

Our \$68 PO is based on about 12.5x our 2012 EPS estimate and is backed by DCF analysis (assumes a 10% WACC and 3% terminal growth rate). This multiple is below the company's 13.5x average two-year forward multiple observed since 2007 (the Thermo Electron and Fisher Scientific merger closed in 2006) and the peer group average of 15x over the same time frame. Despite the fact that synergies from recent acquisitions, share buybacks and cost-cutting should help the company maintain EPS growth in the low double digits, because

of its lower organic growth rate potential and lower ROIC, we believe shares should trade at a discount to the peer group. Risks are a weaker global economy or drastic cuts in global R&D spending, slower-than-expected expansion in new markets, and integration missteps.

United Utilities (UUGWF)

Our price objective is 660p, based on a c4% EV premium to March 2014E RAV. In line with the valuation methodology used for its listed UK water peers, UU's RAV premium is justified by its asset growth profile (higher than peers) and scope for outperformance (similar to peers). However, we now apply a 5% EV/RAV premia discount for risks from the regulator's latest proposals.

At our PO, dividend yield would be c5.2%, slightly above peers and this reflects UU's higher payout ratio.

The upside risk to our price objective lies in a resumption of corporate activity. Downside risks are under-delivery on cost cutting and efficiency. Changes in RPI present both upside and downside risk to earnings and valuations as well as sentiment. Changes in credit market conditions could affect UU's ability to efficiently raise new debt and refinance. Lastly, changes in economic trends in the UK could have an effect on revenues and costs via water demand and bad debts.

URS Corp. (URS)

Our PO of \$43 is based on applying a 9x P/E to our '13 EPS estimate of \$4.78. 9x is below the company's historical average P/E of 14x but in line with historical P/E during years of muted or decelerating growth.

Upside risks to our PO are:

- 1) Faster-than-expected recovery in private sector capex spending,
- 2) Increase to DoD and DoE budgets ahead of our forecast,
- 3) Cash redeployment into a large strategic acquisition accretive to earnings and well-received by investors.

Downside risks to our PO are:

- 1) A further deterioration in private clients' capex plans,
- 2) A more significant slowdown in state and local infrastructure spending due to weak state and local budgets,
- 3) Cash redeployment into a large acquisition dilutive to earnings or carrying significant integration risk.

Va Tech Wabag (XVWBF)

Our PO of Rs610 is based on a target P/E of 15x FY14E earnings. Our PO is also supported by DCF. However, we prefer PE over DCF as our primary valuation methodology as we believe that current order book visibility does not hold beyond 18-24 months. Our rationale for assigning 15x as target P/E is a) Improved visibility on order inflows for FY13 b) Greater confidence on clean earnings CAGR of 20% FY12-14E c) Net cash Rs2.8bn 20% of mkt cap in cash, Turns FCF positive in FY13E

Loss on orders in Libya, increasing competitive intensity and additional tax outgo of Rs380mn are key risks to our PO.

Veolia Environnement (VEOEF / VE)

Our price objective is EUR9 / ADR US\$11.07, which is based on our sum of parts valuation. We value the three divisions using a DCF approach. Our base-case fair

valuation is based on a WACC of 7.4%. Regarding our terminal value, we assume a ROCE in line with the cost of capital and long-term growth of 2.5%. We maintain that in the long-run Veolia should be able to maintain its ROCE around 8.5%.

The risks to our price objective are slower economic growth, an inability to pass through higher costs, EUR strength, weak enforcement of environmental legislation, and underperforming acquisitions.

Link to Definitions

Basic Materials

Click [here](#) for definitions of commonly used terms.

Consumer & Retail

Click [here](#) for definitions of commonly used terms.

Energy

Click [here](#) for definitions of commonly used terms.

Healthcare

Click [here](#) for definitions of commonly used terms.

Industrials

Click [here](#) for definitions of commonly used terms.

Technology

Click [here](#) for definitions of commonly used terms.

Analyst Certification

We, Sarbjit Nahal, Akiko Kuwahara, Alex Toms, CFA, Andrew Obin, Andrew Stott, Angello Chan, Ben Maslen, Billy Ng, CFA, Binnie Wong, Christopher Kuplent, Claus Roller, CFA, Dante R. Tinga, Jr., David Ridley-Lane, Derik de Bruin, Diego Moreno, Duncan Simmonds, CFA, Erin E. Wilson, Fabio Lopes, Hideyuki Mizuno, Horatius Maluleka, Jay Yoo, Joe Osha, Jonas Bhutta, Kevin W. McCarthy, CFA, Laurent Favre, CFA, Masashi Kubota, Pinaki Das, Robert Waldschmidt, Ross Gilardi, Simon Chan, Steve Fleishman, Toby Reeks, Valery Lucas-Leclin, Vitus Leung, Wee Lee, Chong, CFA and Xiaobing Wang, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

The locally listed shares of Brazilian companies may only be purchased by investors outside of Brazil who are "eligible investors" within the meaning of applicable laws and regulations.

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stock of Indian companies will be required to certify approval as a foreign institutional investor or as a sub-account of a foreign institutional investor by SEBI and RBI. Certain other entities are also entitled to transact common stock of Indian companies under the Indian laws relating to investment by foreigners. BofA Merrill Lynch reserves the right to refuse copy of research on common stock of Indian companies to a person not resident in India. American Depositary Receipts (ADR) representing such common stock are not subject to these Indian law restrictions and may be transacted by investors in accordance with the applicable laws of the relevant jurisdiction. Global Depositary Receipts (GDR) and the Global Depositary Shares of Indian companies, Indian limited liability corporations, have not been registered under the U.S. Securities Act of 1933, as amended, and may only be transacted by persons in the United States who are Qualified Institutional Buyers (QIBs) within the meaning of Rule 144A under the Securities Act. Accordingly, no copy of any research report on Indian companies' GDRs will be made available to persons who are not QIBs.

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Korea imposes a capital gains tax on non-resident investors in Korean securities of the lesser of 27.5% of the gain or 11% of the sales proceeds unless the investor is either (1) resident in a country which has a double tax treaty with Korea that exempts the investor's capital gains from Korean tax or (2) the shares sold are sold through the Korea Stock exchange or KOSDAQ exchange and the seller (including related parties) has not owned 25% or more of the shares of the company at any time during the year of sale plus the 5 calendar years preceding the year of sale. Investors should seek their own tax advice.

Merrill Lynch International Incorporated Seoul Branch is acting as a liquidity provider for an equity linked warrant of the underlying common stock of the company and is holding 3453890 of warrants as of 11/06/2012: Doosan Heavy

BofA Merrill Lynch is currently acting as financial advisor to Ecolab Inc in connection with its proposed acquisition of Champion Technologies and its related company Corsicana Technologies, which was announced on October 12, 2012.

BofA Merrill Lynch is currently acting as financial advisor to State Grid International Development Ltd in connection with its proposed acquisition of seven power transmission lines in Brazil from ACS Actividades de Construcción y Servicios SA, which was announced on May 28, 2012.

APR - Autos, Industrials, Shipbuilding Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AVIChina	AVIJF	2357 HK	Jacqueline Li
	Cheung Kong Infrastructure	CKISF	1038 HK	Mandy Qu, CFA
	China Communications Construction	CCCCF	1800 HK	Edmond Huang, CFA
	China Railway Group	CRWOF	390 HK	Edmond Huang, CFA
	China State Construction	CCOHF	3311 HK	Jacqueline Li
	Daewoo Shipbuilding & Marine Engineering	DWOSF	042660 KS	Andy Euisup Lee, CFA
	Dongfeng Motor	DNFGF	489 HK	Bin Wang
	Doosan Heavy Industries & Construction	DOHIF	034020 KS	Jay Yoo
	Hankook Tire	XYDQF	161390 KS	Andy Euisup Lee, CFA
	Harbin Power	HBPWF	1133 HK	Edmond Huang, CFA
	Hyundai Heavy Industries	HYHZF	009540 KS	Andy Euisup Lee, CFA
	Hyundai Mipo Dockyard Co. LTD	HYAIF	010620 KS	Andy Euisup Lee, CFA
	Hyundai Mobis	XHMDF	012330 KS	Andy Euisup Lee, CFA
	Hyundai Motor Company	HYMLF	005380 KS	Andy Euisup Lee, CFA
	Hyundai Wia	XWHYF	011210 KS	Jay Yoo
	Kia Motors Corporation	KIMTF	000270 KS	Andy Euisup Lee, CFA
	Mando	XNDF	060980 KS	Jay Yoo
	Samsung Heavy Industries Co. LTD	SMSHF	010140 KS	Andy Euisup Lee, CFA
	Sany Heavy Equipment International	XNHVF	631 HK	Jacqueline Li
	Techtronic Industries	TTNDF	669 HK	Jacqueline Li
	Tianneng Power	XNPIF	819 HK	Baiding Rong
	Yuexiu Transport Infrastructure	GZITF	1052 HK	Mandy Qu, CFA
	Zhengtong Auto	CZASF	1728 HK	Bin Wang
	Zhongsheng Group	XGZHF	881 HK	Bin Wang
	Zoomlion	XTUHF	1157 HK	Jacqueline Li
NEUTRAL				
	Brilliance Auto	BCAUF	1114 HK	Bin Wang
	China Railway Construction	CWYCF	1186 HK	Edmond Huang, CFA
	Guangzhou Auto	GNZUF	2238 HK	Bin Wang
	Lonking	LONKF	3339 HK	Jacqueline Li
	Shanghai Electric	SIELF	2727 HK	Edmond Huang, CFA
	Sinotruk	SHKLF	3808 HK	Bin Wang
UNDERPERFORM				
	BYD Co. Ltd.	BYDDF	1211 HK	Bin Wang
	China High Speed	CHSTF	658 HK	Edmond Huang, CFA
	CSR	CSRGF	1766 HK	Edmond Huang, CFA
	Dongfang Electric	DNGFF	1072 HK	Edmond Huang, CFA
	Doosan Infracore	DAOIF	042670 KS	Jay Yoo
	Geely Auto	GELYF	175 HK	Bin Wang
	Goldwind	XIGCF	2208 HK	Edmond Huang, CFA
	Great Wall Motor	GWLLF	2333 HK	Bin Wang
	NWS Holdings Limited	NWSZF	659 HK	Mandy Qu, CFA
	PT Indomobil Sukses Internasional Tbk	PISUF	IMAS IJ	Swati Chopra
	Rongsheng Heavy Industries	XGECF	1101 HK	Jacqueline Li
	Weichai Power	WEICF	2338 HK	Bin Wang
	Zhuzhou CSR	ZHUZF	3898 HK	Edmond Huang, CFA

APR - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	China Everbright International	CHFFF	257 HK	Xiaobing Wang
	China Longyuan Power Group Corp. Ltd.	CLPXF	916 HK	Angello Chan
	China Power International	CPWIF	2380 HK	Angello Chan
	China Resources Gas Group Limited	XHNCF	1193 HK	Vitus Leung
	China Resources Power	CRPJF	836 HK	Angello Chan
	ENN Energy Holdings Ltd	XNGSF	2688 HK	Angello Chan
	Hong Kong & China Gas	HOKCF	3 HK	Angello Chan
	Hong Kong & China Gas Company -A	HOKCY	HOKCY US	Angello Chan

APR - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Huadian Fuxin Energy Corp. Ltd	XHRUF	816 HK	Angello Chan
	Huadian Power International	HPIFF	1071 HK	Angello Chan
	Korea Electric Power Corp.	KEPLF	015760 KS	Jay Yoo
	Korea Electric Power Corp.-A	KEP	KEP US	Jay Yoo
	Korea Gas Corp.	KRAGF	036460 KS	Jay Yoo
	Manila Water	MWTCF	MWC PM	Dante R. Tinga, Jr.
NEUTRAL				
	Datang International Power	DIPGF	991 HK	Angello Chan
	Huaneng Powe-ADR	HNP	HNP US	Angello Chan
	Huaneng Power International	HUNGF	902 HK	Angello Chan
UNDERPERFORM				
	China Datang Renewable	XGDRF	1798 HK	Angello Chan
	China Gas Holdings Limited	CGHOF	384 HK	Vitus Leung
	CLP Holdings	CLPHF	2 HK	Angello Chan
	CLP Holdings - A	CLPHY	CLPHY US	Angello Chan
	Huaneng Renewables Corp Ltd	XNUGF	958 HK	Angello Chan
	Power Assets Holdings Ltd	HGKGF	6 HK	Angello Chan
	Power Assets Holdings Ltd	HGKGY	HGKGY US	Angello Chan
	Yingde Gas	YNGDF	2168 HK	Binnie Wong

ASEAN - Industrial Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Aboitiz Power Corporation	ABZPF	AP PM	Joe-an Alitagtag
	Bangchak Petroleum	XOOKF	BCP TB	Komsun Suksumrun
	Electricity Generating Company Ltd.	EYGGF	EGCO TB	Sirichai Chalokepunrat
	Ezion Holdings	NYTTF	EZI SP	Wee Lee, Chong, CFA
	First Gen Corporation	XLWRF	FGEN PM	Michelle Peneyra
	Glow Energy	GWEFF	GLOW TB	Sirichai Chalokepunrat
	Indorama Ventures Public Company Limited	XIRDF	IVL TB	Komsun Suksumrun
	Keppel Corporation	KPELF	KEP SP	Wee Lee, Chong, CFA
	Perusahaan Gas N	PPAAF	PGAS IJ	Daisy Suryo
	PT Jasa Marga (Persero) Tbk.	PTJSF	JSMR IJ	Wee Lee, Chong, CFA
	PTT Explor'n	PTXLF	PTTEP TB	Komsun Suksumrun
	PTT pcl	PETTF	PTT TB	Komsun Suksumrun
	PTT pcl -F	PETFF	PTT/F TB	Komsun Suksumrun
	Ratchaburi Electricity Generating	RCHPF	RATCH TB	Sirichai Chalokepunrat
	SapuraKencana Petroleum Bhd	XSPKF	SAKP MK	Wee Lee, Chong, CFA
	Sembcorp Marine	SMBMF	SMM SP	Wee Lee, Chong, CFA
	Siam Cement	SCVQF	SCC TB	Jiraporn Linmaneechote
	Siam Cement -F	SCVPF	SCC/F TB	Jiraporn Linmaneechote
	Thai Oil - L	TOIJF	TOP TB	Komsun Suksumrun
NEUTRAL				
	Ezra Holdings	EZRHF	EZRA SP	Wee Lee, Chong, CFA
	Sembcorp Industries	SCRPF	SCI SP	Wee Lee, Chong, CFA
	Tenaga Nasional	TNABF	TNB MK	Daisy Suryo
	Yangzijiang Shipbuilding	YSHLF	YZJ SP	Wee Lee, Chong, CFA
UNDERPERFORM				
	Bumi Armada	BUMIF	BAB MK	Wee Lee, Chong, CFA
	COSCO Corp Singapore	COIVF	COS SP	Wee Lee, Chong, CFA
	DMCI Holdings, Inc	DMCIF	DMC PM	Philip Albert Felix
	Energy Development Corporation	XNDVF	EDC PM	Michelle Peneyra
	ESSO (Thailand)	XSOSF	ESSO TB	Komsun Suksumrun
	Harum Energy Tbk PT	XHRMF	HRUM IJ	Daisy Suryo
	IRPC	IRPSF	IRPC TB	Komsun Suksumrun
	MMHE Holdings Berhad	XMLMF	MMHE MK	Wee Lee, Chong, CFA
	PT Delta Dunia Makmur	XPDNF	DOID IJ	Daisy Suryo
	United Tractors	PUTKF	UNTR IJ	Daisy Suryo

ASEAN - Industrial Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
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Australia - Industrials Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Bluescope Steel	BLSFF	BSL AU	Ben Chan, CFA
	Colorpak Ltd	XBVVF	CKL AU	Ramanan Sooriyakumar, CFA
	Downer EDI Limited	DNERF	DOW AU	Duncan Simmonds, CFA
	DuluxGroup Limited	DULUF	DLX AU	Brent Walsh
	Fletcher Building	YFLBF	FBU AU	Ben Chan, CFA
	Incitec Pivot Limited	ICPVF	IPL AU	Ben Chan, CFA
	Leighton Holdings Limited	LGTHF	LEI AU	Duncan Simmonds, CFA
	WorleyParsons Limited	WYGPF	WOR AU	Duncan Simmonds, CFA
NEUTRAL				
	Adelaide Brighton	ADBCF	ABC AU	Ben Chan, CFA
	ALS Limited	CBEBF	ALQ AU	Duncan Simmonds, CFA
	Amcor	AMCRF	AMC AU	Ben Chan, CFA
	James Hardie Industries	JHIUF	JHX AU	Ben Chan, CFA
	James Hardie-ADR	JHX	JHX US	Ben Chan, CFA
	Monadelphous Group Limited	MDPHF	MND AU	Duncan Simmonds, CFA
	Nufarm Limited	NUFMF	NUF AU	Ramanan Sooriyakumar, CFA
	Orica	OCLDF	ORI AU	Ben Chan, CFA
UNDERPERFORM				
	Boart Longyear Limited	BOARF	BLY AU	Duncan Simmonds, CFA
	Boral Ltd	BOALF	BLD AU	Ben Chan, CFA
	CSR	CSRLF	CSR AU	Ben Chan, CFA
	Sims Metal Management	SMUPF	SGM AU	Ben Chan, CFA
RSTR				
	Arrium Limited	OSTLF	ARI AU	Ben Chan, CFA

Australia - Infrastructure & Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AGL Energy	AGLNF	AGK AU	Simon Chan
	Brambles	BMBLF	BXB AU	Matthew Spence
	DUET Group	DUETF	DUE AU	Simon Chan
	Infigen Energy	IFGNF	IFN AU	Simon Chan
	Origin Energy	OGFGF	ORG AU	Simon Chan
	Qantas Airways Limited	QUBSF	QAN AU	Matthew Spence
	QR National	QRNNF	QRN AU	Matthew Spence
	Spark Infrastructure Group	SFDPF	SKI AU	Simon Chan
	Virgin Blue Holdings	VBHLF	VAH AU	Matthew Spence
NEUTRAL				
	Asciano Group	AANOF	AIO AU	Matthew Spence
	Envestra Limited	EVSRF	ENV AU	Fredy Hoh
	Macquarie Atlas Roads	MAQAF	MQA AU	Matthew Spence
	SP Ausnet	SAUNF	SPN AU	Simon Chan
	Toll Holdings	THKUF	TOL AU	Matthew Spence
	Transurban	TRAUF	TCL AU	Matthew Spence
UNDERPERFORM				
	APA	APAJF	APA AU	Simon Chan
	Sydney Airport	MGPFY	SYD AU	Matthew Spence
RSTR				
	Alinta Energy Ltd	BCCBF	AEJ AU	Matthew Spence
	RiverCity Mtrway	XVRVF	RCY AU	Matthew Spence

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Australia - Infrastructure & Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
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EMEA - Business Services/Distributors Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
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BUY				
	Aggreko	ARGKF	AGK LN	Toby Reeks
	APR Energy	XRAGF	APR LN	Toby Reeks
	Babcock International	BCKIF	BAB LN	Andrew C. Ripper
	Brenntag	XBNTF	BNR GR	Toby Reeks
	Experian - A	EXPGY	EXPGY US	Andrew C. Ripper
	Experian Group	EXPGF	EXP LN	Andrew C. Ripper
	Hays	HAYPF	HAS LN	Andrew C. Ripper
	Intertek Group	IKTSF	ITRK LN	Toby Reeks
	Randstad	RANJF	RAND NA	Toby Reeks
	Rentokil Initial	RKLIF	RTO LN	Andrew C. Ripper
	Rentokil Initial	RTOKY	RTOKY US	Andrew C. Ripper
	Wolseley	WOSCF	WOS LN	Andy Murphy
	Wolseley	WOSYY	WOSYY US	Andy Murphy
NEUTRAL				
	Adecco	AHEXF	ADEN VX	Toby Reeks
	BV	BVRDF	BVI FP	Toby Reeks
	Capita Group	CTAGF	CPI LN	Andrew C. Ripper
	G4S	GFSZF	GFS LN	Andrew C. Ripper
	Michael Page	MPGPF	MPI LN	Andrew C. Ripper
	Serco	SECCF	SRP LN	Andrew C. Ripper
	SGS	SGSOF	SGSN VX	Toby Reeks
	Travis Perkins	TVPKF	TPK LN	Andy Murphy
UNDERPERFORM				
	Berendsen PLC	DVSVF	BRSN LN	Andrew C. Ripper
	Bunzl	BZLFF	BNZL LN	Toby Reeks
	Mitie Group	MITFF	MTO LN	Andrew C. Ripper
	Securitas	SCTBF	SECUB SS	Andrew C. Ripper

EMEA - Chemicals & Paper Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
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BUY				
	Arkema	ARKAF	AKE FP	Laurent Favre, CFA
	Arkema - A	ARKAY	ARKAY US	Laurent Favre, CFA
	BASF	BFFAF	BAS GR	Laurent Favre, CFA
	BASF	BASFY	BASFY US	Laurent Favre, CFA
	Croda	COIHF	CRDA LN	Andrew Stott
	Israel Chemicals Limited	ISCHF	ICL IT	Andrew Stott
	K+S	KPLUF	SDF GR	Andrew Stott
	Kemira	KMRAF	KRA1V FH	Fabio Lopes
	Lanxess	LNXSF	LXS GR	Andrew Stott
	Rexam	REXMF	REX LN	Ross Gilardi
	Rexam	REXMY	REXMY US	Ross Gilardi
	Solvay S.A.	SVYSF	SOLB BB	Laurent Favre, CFA
	Syngenta	SYENF	SYNN VX	Andrew Stott
	Syngenta AG	SYT	SYT US	Andrew Stott
	Yule Catto	YULCF	YULC LN	Fabio Lopes
NEUTRAL				
	Air Liquide	AIQUF	AI FP	Andrew Stott
	Air Liquide	AIQUY	AIQUY US	Andrew Stott
	DSM	KDSKF	DSM NA	Andrew Stott
	DSM	DSM	RDSMY US	Andrew Stott
	Johnson Matthey	JMPLF	JMAT LN	Andrew Stott

EMEA - Chemicals & Paper Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Johnson Matthey	JMPLY	JMPLY US	Andrew Stott
	Linde	LNAGF	LIN GR	Laurent Favre, CFA
	Victrex	VTXPF	VCT LN	Fabio Lopes
UNDERPERFORM				
	Akzo Nobel	AKZOF	AKZA NA	Laurent Favre, CFA
	Akzo Nobel	AKZOY	AKZOY US	Laurent Favre, CFA
	Clariant	CLZNF	CLN VX	Andrew Stott
	Givaudan	GVDBF	GIVN VX	Andrew Stott
	Lenzing AG	LNZNF	LNZ AV	Fabio Lopes
	Symrise	SYIEF	SY1 GR	Laurent Favre, CFA
	Umicore	UMICF	UMI BB	Andrew Stott
	Yara	YRAIF	YAR NO	Laurent Favre, CFA

EMEA - Consumer Staples Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AB InBev	BUD	BUD US	Nik Oliver
	Anheuser-Busch InBev	AHBIF	ABI BB	Nik Oliver
	Assoc Brit Foods	ASBFY	ASBFY US	Robert Waldschmidt
	Associated British Foods	ASBFF	ABF LN	Robert Waldschmidt
	Beiersdorf	BDRFF	BEI GR	Robert Waldschmidt
	Carlsberg	CABJF	CARLB DC	Nik Oliver
	Diageo	DEO	DEO US	Nik Oliver
	Diageo	DGEAF	DGE LN	Nik Oliver
	Heineken	HINKF	HEIA NA	Henry Davies
	Heineken NV	HINKY	HINKY US	Henry Davies
	Henkel	HENOF	HENOF US	Robert Waldschmidt
	Henkel	HENOF	HEN3 GR	Robert Waldschmidt
	Kerry Group	KRYAF	KYG ID	Robert Waldschmidt
	Kerry Group	KRYAY	KRYAY US	Robert Waldschmidt
	Reckitt Benckiser	RBGPF	RB/ LN	Robert Waldschmidt
	Reckitt Benckiser	RBGPY	RBGPY US	Robert Waldschmidt
	SABMiller Plc	SBMRF	SAB LN	Nik Oliver
	Swedish Match	SWMAF	SWMA SS	Henry Davies
NEUTRAL				
	Brit American	BTAFF	BATS LN	Henry Davies
	Brit American	BTI	BTI US	Henry Davies
	C&C	CGPZF	GCC ID	Henry Davies
	Imperial Tobacco	ITYBF	IMT LN	Nik Oliver
	Nestle (Reg)	NSRGF	NESN VX	Robert Waldschmidt
	Nestle (Reg)	NSRGY	NSRGY US	Robert Waldschmidt
	Pernod Ricard	PDRDF	RI FP	Henry Davies
UNDERPERFORM				
	Britvic	BTVCF	BVIC LN	Henry Davies
	Campari	DVDCF	CPR IM	Nik Oliver
	Coca-Cola Hellenic	CCHBF	EEEE GA	Henry Davies
	Coca-Cola Hellenic ADR	CCH	CCH US	Henry Davies
	Danone	DANOY	DANOY US	Robert Waldschmidt
	Danone	GPDNF	BN FP	Robert Waldschmidt
	Lindt & Sprungli	COCXF	LISN SW	Robert Waldschmidt
	L'Oreal	LRLCF	OR FP	Robert Waldschmidt
	L'Oreal	LRLCY	LRLCY US	Robert Waldschmidt
	Remy Cointreau	REMYF	RCO FP	Nik Oliver
	Unilever	UL	UL US	Robert Waldschmidt
	Unilever	UNLYF	ULVR LN	Robert Waldschmidt
	Unilever NV	UN	UN US	Robert Waldschmidt
	Unilever NV	UNLNF	UNA NA	Robert Waldschmidt

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EMEA - Engineering & Capital Goods Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	ABB	ABB	ABB US	Mark Troman
	ABB Ltd.	ABLZF	ABBN VX	Mark Troman
	Alstom	AOMFF	ALO FP	Mark Troman
	Assa Abloy	ASAZF	ASSAB SS	Ben Maslen
	Cookson	CKSNF	CKSN LN	Alex Toms, CFA
	GEA	GEAGF	G1A GR	Ben Maslen
	Hexagon AB	HXGBF	HEXAB SS	Ben Maslen
	IMI	IMIAF	IMI LN	Alex Toms, CFA
	Legrand	LGRVF	LR FP	Alex Toms, CFA
	Melrose plc	MLSPF	MRO LN	Alex Toms, CFA
	Prysmian	PRYMF	PRY IM	Mark Troman
	Rexel	RXLSF	RXL FP	Mark Troman
	Sandvik	SDVKF	SAND SS	Ben Maslen
	Sandvik	SDVKY	SDVKY US	Ben Maslen
	Schneider	SBGSF	SU FP	Mark Troman
	Weir Group	WEIGF	WEIR LN	Alex Toms, CFA
NEUTRAL				
	Alfa Laval	ALFVF	ALFA SS	Ben Maslen
	Atlas Copco	ATLKF	ATCOA SS	Ben Maslen
	Electrolux	ELUXY	ELUXY US	Ben Maslen
	Electrolux	ELUXF	ELUXB SS	Ben Maslen
	GKN	GKNLY	GKNLY US	Celine Fornaro
	GKN	GKNCF	GKN LN	Celine Fornaro
	Invensys	IVNSF	ISYS LN	Alex Toms, CFA
	Invensys	IVNYY	IVNYY US	Alex Toms, CFA
	Man	MAGOF	MAN GR	Ben Maslen
	Metso	MXCYF	MXCY US	Ben Maslen
	Metso	MXTOF	MEO1V FH	Ben Maslen
	Morgan Crucible	MCRUF	MGCR LN	Alex Toms, CFA
	Philips	PHG	PHG US	Mark Troman
	Philips	PHGFF	PHIA NA	Mark Troman
	Rotork Plc	RTOXF	ROR LN	Alex Toms, CFA
	Siemens	SMAWF	SIE GR	Mark Troman
	Siemens	SI	SI US	Mark Troman
	SKF	SKFRY	SKFRY US	Ben Maslen
	SKF	SKUFF	SKFB SS	Ben Maslen
	Smiths Group	SMGZY	SMGZY US	Alex Toms, CFA
	Spectris	SEPJF	SXS LN	Alex Toms, CFA
	Spirax-Sarco	SPXSF	SPX LN	Alex Toms, CFA
UNDERPERFORM				
	Bodycote PLC	BYPLF	BOY LN	Alex Toms, CFA
	Kone OYJ	KNYJF	KNEBV FH	Ben Maslen
	Nexans	NXPRF	NEX FP	Mark Troman
	Outotec	OUKPF	OTE1V FH	Ben Maslen
	SGL Group	SGLFF	SGL GR	Mark Troman
	Smiths Group	SMGKF	SMIN LN	Alex Toms, CFA

EMEA - Small Caps Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Brunello Cucinelli	XZUNF	BC IM	Flavio Cereda
	CTS Eventim AG	CEVMF	EVD GR	Claus Roller, CFA
	De'Longhi	DELHF	DLG IM	Flavio Cereda
	GFK	GFKAF	GFK GR	Claus Roller, CFA
	Grenke Leasing	ZGKRF	GLJ GR	Claus Roller, CFA
	KSB AG	KSVRF	KSB3 GR	Claus Roller, CFA

EMEA - Small Caps Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	MARR Spa	MRRFF	MARR IM	Flavio Cereda
	Norma Group	XHUWF	NOEJ GY	Claus Roller, CFA
	PFEIFFER	PFFVF	PFV GR	Claus Roller, CFA
	Piaggio	PIAGF	PIA IM	Flavio Cereda
	Rheinmetall AG	RNMBF	RHM GR	Claus Roller, CFA
	Safilo	SAFLF	SFL IM	Flavio Cereda
	Wincor	WNXDF	WIN GR	Claus Roller, CFA
	Yoox Group	XYOOF	YOOX IM	Flavio Cereda
NEUTRAL				
	A. Mondadori Editore SPA	MDEPF	MN IM	Flavio Cereda
	DELCLIMA	XSATF	DLC IM	Flavio Cereda
	Fielmann	FLMNF	FIE GR	Flavio Cereda
	Gerry Weber International AG	GRYIF	GW11 GR	Claus Roller, CFA
	Krones	KRNNF	KRN GR	Claus Roller, CFA
	L'Espresso	GPEDF	ES IM	Flavio Cereda
	Luxottica Group	LUX	LUX US	Flavio Cereda
	Luxottica Group	LUXGF	LUX IM	Flavio Cereda
	Mobotix	XMBXF	MBQ GR	Claus Roller, CFA
	Rational AG	RTLLF	RAA GR	Claus Roller, CFA
	SMA Solar	SMTGF	S92 GR	Claus Roller, CFA
	Vossloh	VOSSF	VOS GR	Claus Roller, CFA
	Wacker Chemie	WKCMF	WCH GR	Claus Roller, CFA
UNDERPERFORM				
	Stroer	XHUYF	SAX GR	Claus Roller, CFA
RVW				
	Natuzzi	NTZ	NTZ US	Flavio Cereda

EMEA - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Drax Group Ltd	DRXGF	DRX LN	Fraser McLaren
	E.ON	ENAKF	EOAN GR	Christopher Kuplent
	E.ON	EONGY	EONGY US	Christopher Kuplent
	EDP	EDPFY	EDPFY US	Pablo Cuadrado
	EDP	ELCPF	EDP PL	Pablo Cuadrado
	Endesa	ELEZF	ELE SM	Pablo Cuadrado
	Enel	ESOCF	ENEL IM	Pablo Cuadrado
	Fortum	FOJCF	FUM1V FH	Christopher Kuplent
	Gas Natural	GASNF	GAS SM	Pablo Cuadrado
	National Grid	NGGTF	NG/ LN	Fraser McLaren
	National Grid	NGG	NGG US	Fraser McLaren
	Snam Rete Gas	SNMRF	SRG IM	Pablo Cuadrado
	SSE	SSEZF	SSE LN	Fraser McLaren
	SSE	SSEZY	SSEZY US	Fraser McLaren
	Suez Environnement	SZEVF	SEV FP	Christopher Kuplent
	Terna	TERRF	TRN IM	Pablo Cuadrado
NEUTRAL				
	Centrica	CPYYF	CNA LN	Fraser McLaren
	Centrica	CPYYY	CPYYY US	Fraser McLaren
	CEZ	CZAVF	CEZ CP	Christopher Kuplent
	EDF	ECIFF	EDF FP	Christopher Kuplent
	Enagas	ENGGF	ENG SM	Pablo Cuadrado
	GDF SUEZ	GDSZF	GSZ FP	Christopher Kuplent
	Iberdrola	IBDSF	IBE SM	Pablo Cuadrado
	Pennon	PEGRF	PNN LN	Pinaki Das
	RWE	RWNFF	RWE GR	Christopher Kuplent
	RWE	RWEOY	RWEOY US	Christopher Kuplent
	Veolia Environnement	VEOEF	VIE FP	Christopher Kuplent
	Veolia Environnement	VE	VE US	Christopher Kuplent

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EMEA - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
UNDERPERFORM				
	Red Electrica	RDEIF	REE SM	Pablo Cuadrado
	Severn Trent	SVTRF	SVT LN	Pinaki Das
	United Utilities	UUGWF	UU/ LN	Pinaki Das
	Verbund	OEZVF	VER AV	Christopher Kuplent

Emerging EMEA - South Africa (Non Resources) Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Aspen Pharmacare	APNHF	APN SJ	Jamie Clark, CFA
	AVI	AVSFF	AVI SJ	Paul Steegers
	Barloworld Ltd.	BRRAF	BAW SJ	Ilze Roux
	Barloworld Ltd.	BRRAY	BRRAY US	Ilze Roux
	Bidvest Group	BDVSF	BVT SJ	Ilze Roux
	Bidvest Group	BVGLY	BDVSY US	Ilze Roux
	Clicks	NWCZF	CLS SJ	Niel Venter, CFA
	Discovery	DCYHF	DSY SJ	Marius Strydom
	Illovo Sugar	ILVOF	ILV SJ	Niel Venter, CFA
	Imperial Holding	IHLDF	IPL SJ	Ilze Roux
	Investec Plc	IVTJF	INVP LN	John Storey
	Life Healthcare	LTGHF	LHC SJ	Jamie Clark, CFA
	MMI	MPOHF	MMI SJ	Marius Strydom
	Old Mutual SA	XOLDF	OML SJ	Marius Strydom
	Richemont	XRCMF	CFR SJ	Ilze Roux
	SABMiller Africa	SBWRF	SAB SJ	Ilze Roux
	Sanlam	SLMAF	SLM SJ	Marius Strydom
	Shoprite Hldgs	SRHGF	SHP SJ	Paul Steegers
	Standard Bank	SBGOF	SBK SJ	John Storey
	Steinhoff	SNHFF	SHF SJ	Paul Steegers
	The Foschini Group	FHNIF	TFG SJ	Paul Steegers
	Tongaat Hulett	TGATF	TON SJ	Niel Venter, CFA
	WBHO	WBYLF	WBO SJ	Horatius Maluleka
	Woolworths Holdings	WLWHF	WHL SJ	Paul Steegers
NEUTRAL				
	ABSA	AGRPF	ASA SJ	John Storey
	Astral Foods Limited	ALFDF	ARL SJ	Niel Venter, CFA
	BAT Africa	XBRAF	BTI SJ	Ilze Roux
	Group Five	XGVFF	GRF SJ	Horatius Maluleka
	Lewis Group Ltd	LWSGF	LEW SJ	Niel Venter, CFA
	Mediclinic	XMDEF	MDC SJ	Jamie Clark, CFA
	Mr Price	MRPZF	MPC SJ	Paul Steegers
	Murray & Roberts	MURSF	MUR SJ	Horatius Maluleka
	Nampak	NMPKF	NPK SJ	Ilze Roux
	Nedbank	NDBKF	NED SJ	John Storey
	Oceana	OCGPF	OCE SJ	Niel Venter, CFA
	Pretoria Port	PPCMF	PPC SJ	Horatius Maluleka
	RMI Holdings	XRHCF	RMI SJ	Marius Strydom
	Spar	SGPPF	SPP SJ	Paul Steegers
	Super Group	SSPGF	SPG SJ	Ilze Roux
UNDERPERFORM				
	Adcock Ingram	AIHLF	AIP SJ	Jamie Clark, CFA
	African Bank Investments Limited	AFRVF	ABL SJ	John Storey
	African Bank Investments Limited	AFRVY	AFRVY US	John Storey
	Aveng Ltd	AVEPF	AEG SJ	Horatius Maluleka
	FirstRand	FANDF	FSR SJ	John Storey
	JDGroup	JDGPF	JDG SJ	Niel Venter, CFA
	Liberty	LHLDF	LBH SJ	Marius Strydom
	Massmart	MMRTF	MSM SJ	Paul Steegers
	Netcare	NWKHF	NTC SJ	Jamie Clark, CFA

Emerging EMEA - South Africa (Non Resources) Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Pick n Pay Stores	PKPYF	PIK SJ	Paul Steegers
	Pioneer Foods	XIFO	PFG SJ	Paul Steegers
	Rainbow	ZKJHF	RBW SJ	Niel Venter, CFA
	Raubex	XBAUF	RBX SJ	Horatius Maluleka
	Santam	SNMCF	SNT SJ	Marius Strydom
	Tiger Brands	TBLMF	TBS SJ	Paul Steegers
	Truworths Intl	TRWKF	TRU SJ	Paul Steegers
RSTR	Capitec	XZCTF	CPI SJ	John Storey

Greater China - Conglomerates Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY	Beijing Enterprises Holdings Limited	BJINF	392 HK	Vitus Leung
	Dalian Port PD-H	DLPTF	2880 HK	Mandy Qu, CFA
	Guangdong Investment	GGDVF	270 HK	Binnie Wong
	HWL	HUWHF	13 HK	Karl Choi, CFA
	HWL -A	HUWHY	HUWHY US	Karl Choi, CFA
	Jiangsu Expressway	JEXYF	177 HK	Mandy Qu, CFA
	MTRC	MTRJF	66 HK	Karl Choi, CFA
	Shanghai Industrial	SGHIF	363 HK	Billy Ng, CFA
	Shun Tak - A	SHTGY	SHTGY US	Billy Ng, CFA
	Shun Tak Holdings	SHTGF	242 HK	Billy Ng, CFA
	Sichuan Expressway	SEXHF	107 HK	Mandy Qu, CFA
	Tianjin Dev Hldg	TJSCF	882 HK	Billy Ng, CFA
	Tianjin Port DEV	TJIPF	3382 HK	Mandy Qu, CFA
	Wharf Hldg	WARFF	4 HK	Karl Choi, CFA
NEUTRAL	China Merchants	CMHHF	144 HK	Edmond Huang, CFA
	CITIC Pacific	CTPCF	267 HK	Billy Ng, CFA
	First Pacific Company Limited	FPAFF	142 HK	Karl Choi, CFA
	Swire Pacif 'A'	SWRAF	19 HK	Karl Choi, CFA
	Swire Pacif 'A'	SWRAY	SWRAY US	Karl Choi, CFA
	Zhejiang Expressway	ZHEXF	576 HK	Mandy Qu, CFA
UNDERPERFORM	COSCO Pacific	CSPKF	1199 HK	Mandy Qu, CFA
	Fosun International	FOSUF	656 HK	Billy Ng, CFA
	Hopewell Highway	HHILF	737 HK	Karl Choi, CFA
	Hopewell Highway	HHILY	HHILY US	Karl Choi, CFA
	Hopewell Holdings Limited	HOWWF	54 HK	Karl Choi, CFA
	Hopewell Holdings Limited-A	HOWWY	HOWWY US	Karl Choi, CFA
	Shenzhen Expressway	SHZNF	548 HK	Mandy Qu, CFA

India - Engineering/Construction/Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY	Bharat Electronics	BHRTF	BHE IN	Jonas Bhutta
	Gujarat State Petronet Ltd	GJRFS	GUJS IN	Vidyadhar Ginde
	IVRCL Infrastruc	IIFRF	IVRC IN	Bharat Parekh
	Jaiprakash Associates Limited	JPRKF	JPA IN	Bharat Parekh
	Jaiprakash Power Ventures Ltd.	XJSHF	JPVL IN	Bharat Parekh
	Nagarjuna Const	NGRJF	NJCC IN	Bharat Parekh
	NCC-GDR	XAKUF	NJGR LX	Bharat Parekh
	Reliance Infrastructure	RCTDF	RELI IN	Bharat Parekh
	SJVN	XJVNF	SJVN IN	Jonas Bhutta
	Va Tech Wabag	XVWBF	VATW IN	Jonas Bhutta

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India - Engineering/Construction/Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
NEUTRAL				
	Adani Enterprises Ltd.	ANIEF	ADE IN	Bharat Parekh
	Adani Ports & SEZ Ltd	XMANF	ADSEZ IN	Bharat Parekh
	Bharat Heavy	BHHEF	BHEL IN	Bharat Parekh
	Gujarat Inds	GUJIF	GIP IN	Bharat Parekh
	Larsen & Toub -G	LTORF	LTOD LI	Bharat Parekh
	Larsen & Toubro	LTOUF	LT IN	Bharat Parekh
UNDERPERFORM				
	ABB	ABVFF	ABB IN	Bharat Parekh
	Adani Power Ltd.	XADPF	ADANI IN	Bharat Parekh
	Crompton Greaves	CPGZF	CRG IN	Jonas Bhutta
	Gail India	XGLAF	GAIL IN	Vidyadhar Ginde
	Gail Limited - G	GAILF	GAID LI	Vidyadhar Ginde
	GMR Infrastructure Ltd.	GMRLF	GMRI IN	Bharat Parekh
	Neyveli Lignite	NEYVF	NLC IN	Bharat Parekh
	NHPC	XNTHF	NHPC IN	Jonas Bhutta
	NTPC Ltd	NTHPF	NTPC IN	Bharat Parekh
	Siemens Ltd	SMNBF	SIEM IN	Jonas Bhutta
	Suzlon Energy	XZULF	SUEL IN	Bharat Parekh
	Tata Pwr. Co.	XTAWF	TPWR IN	Bharat Parekh

Japan - Cyclical Materials Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Air Water	AWTRF	4088 JP	Takashi Enomoto
	Asahi Glass	ASGLF	5201 JP	Akiko Kuwahara
	Furukawa Electric	FUWAF	5801 JP	Takashi Enomoto
	Hitachi Metals	HMTLF	5486 JP	Takashi Enomoto
	Kansai Paint	KSANF	4613 JP	Takashi Enomoto
	Kuraray	KURRF	3405 JP	Akiko Kuwahara
	Mitsubishi Chemical Holdings	MTLHF	4188 JP	Takashi Enomoto
	Mitsubishi Gas Chemical	MBGCF	4182 JP	Takashi Enomoto
	Mitsui Chemicals	MITUF	4183 JP	Takashi Enomoto
	Mitsui Mining & Smelting	XZJCF	5706 JP	Takashi Enomoto
	MMC	MIMTF	5711 JP	Takashi Enomoto
	NGK Insulators	NGKIF	5333 JP	Akiko Kuwahara
	Nippon Paint	NPCPF	4612 JP	Takashi Enomoto
	NOK	NNOKF	7240 JP	Takashi Enomoto
	Oji Holdings	OJIPF	3861 JP	Akiko Kuwahara
	Rengo	RNGOF	3941 JP	Akiko Kuwahara
	Shin-Etsu Chem	SHECF	4063 JP	Takashi Enomoto
	SUMCO	SUMCF	3436 JP	Takashi Enomoto
	Sumitomo Chem.	SOMMF	4005 JP	Takashi Enomoto
	Sumitomo Electric Industries	SMTOF	5802 JP	Takashi Enomoto
	Taiyo Npn Sanso	NOSPF	4091 JP	Takashi Enomoto
	Toray	TRYIF	3402 JP	Akiko Kuwahara
	Yamato Kogyo	YMTKF	5444 JP	Takashi Enomoto
NEUTRAL				
	Dowa Holdings	DWMNF	5714 JP	Takashi Enomoto
	Fujikura	FKURF	5803 JP	Takashi Enomoto
	Hitachi Chemical	HCHMF	4217 JP	Takashi Enomoto
	Hokuetsu Kishu Paper	HKPMF	3865 JP	Akiko Kuwahara
	Nippon Electric Glass	NPEGF	5214 JP	Akiko Kuwahara
	Nippon Paper Group	NPPNF	3893 JP	Akiko Kuwahara
	Nippon Shokubai	NSHKF	4114 JP	Takashi Enomoto
	SMM	STMNF	5713 JP	Takashi Enomoto
	Tokyo Steel	TOKSF	5423 JP	Takashi Enomoto
	Ube Industries	UBEIF	4208 JP	Takashi Enomoto
UNDERPERFORM				

Japan - Cyclical Materials Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Asahi Kasei	AHKSF	3407 JP	Takashi Enomoto
	Daicel Corp	DACHF	4202 JP	Takashi Enomoto
	Daido Steel	DADSF	5471 JP	Takashi Enomoto
	JSR	JSCPF	4185 JP	Takashi Enomoto
	Kobe Steel	KBSTF	5406 JP	Takashi Enomoto
	Nippon Sheet Glass	NPSGF	5202 JP	Akiko Kuwahara
	Nippon Steel & Sumitomo Metal	NISTF	5401 JP	Takashi Enomoto
	Nisshin Steel HD	NSSSF	5413 JP	Takashi Enomoto
	Pacific Metals	PFMTF	5541 JP	Takashi Enomoto
	Showa Denko	SHWDF	4004 JP	Takashi Enomoto
	Teijin	TINLF	3401 JP	Akiko Kuwahara
	Toyo Seikan	TOSKF	5901 JP	Akiko Kuwahara

Japan - Machinery / Plant Engineering Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Daikin Industries	DKILF	6367 JP	Hideyuki Mizuno
	JTEKT	JTEKF	6473 JP	Hideyuki Mizuno
	Kawasaki Heavy	KWHIF	7012 JP	Takahiro Mori
	Makita	MKEWF	6586 JP	Hideyuki Mizuno
	Mitsubishi Heavy	MHVYF	7011 JP	Takahiro Mori
	Nabtesco	NCTKF	6268 JP	Hideyuki Mizuno
	NSK	NPSKF	6471 JP	Hideyuki Mizuno
	NSK	NPSKY	NPSKY US	Hideyuki Mizuno
	SMC	SMECF	6273 JP	Hideyuki Mizuno
	THK	THKLF	6481 JP	Hideyuki Mizuno
NEUTRAL				
	Chiyoda Corp	CHYCF	6366 JP	Takahiro Mori
	IHI	IHICF	7013 JP	Takahiro Mori
	Komatsu	KMTUF	6301 JP	Hideyuki Mizuno
	Komatsu	KMTUY	KMTUY US	Hideyuki Mizuno
	Sumitomo Heavy	SOHVF	6302 JP	Takahiro Mori
UNDERPERFORM				
	Amada	AMDWF	6113 JP	Hideyuki Mizuno
	Fanuc	FANUF	6954 JP	Hideyuki Mizuno
	Hitachi Construction Machinery	HTCMF	6305 JP	Hideyuki Mizuno
	JGC Corp	JGCCF	1963 JP	Takahiro Mori
	Kubota	KUBTF	6326 JP	Hideyuki Mizuno
	Kubota	KUB	KUB US	Hideyuki Mizuno
	Kurita Water Industries	KTWIF	6370 JP	Hideyuki Mizuno
	MODEC	MDIKF	6269 JP	Takahiro Mori
	NTN	NTTBF	6472 JP	Hideyuki Mizuno
	Yaskawa Electric	YASKF	6506 JP	Hideyuki Mizuno

Japan - Technology Hardware Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Alps Electric	APELF	6770 JP	Masashi Kubota
	Alps Electric	APELY	APELY US	Masashi Kubota
	Clarion	CRILF	6796 JP	Eiichi Katayama
	Hitachi	HTHIF	6501 JP	Mikio Hirakawa
	Hitachi	HIT	HTHIY US	Mikio Hirakawa
	HOYA	HOCPP	7741 JP	Masashi Kubota
	Ibiden	IBIDF	4062 JP	Masashi Kubota
	Japan Aviation	JPAVF	6807 JP	Masashi Kubota
	Mitsubishi Electric	MIELF	6503 JP	Mikio Hirakawa

Japan - Technology Hardware Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Nichicon	NCHNF	6996 JP	Masashi Kubota
	Nidec	NNDNF	6594 JP	Masashi Kubota
	NIDEC	NJ	NJ US	Masashi Kubota
	Nippon Chemi-Con	NCHOF	6997 JP	Masashi Kubota
	Nitto Denko	NDEKF	6988 JP	Masashi Kubota
	Panasonic	PCRFF	6752 JP	Eiichi Katayama
	Panasonic	PC	PC US	Eiichi Katayama
	Sanken Electric	SANJF	6707 JP	Masashi Kubota
	Shinko Electric	SHEGF	6967 JP	Masashi Kubota
	TDK	TTDKY	TTDKY US	Masashi Kubota
	TDK	TTDKF	6762 JP	Masashi Kubota
	Yamaha	YAMCF	7951 JP	Eiichi Katayama
NEUTRAL				
	Canon	CAJFF	7751 JP	Eiichi Katayama
	Canon	CAJ	CAJ US	Eiichi Katayama
	Casio Computer	CSIOF	6952 JP	Eiichi Katayama
	FUJIFILM	FUJIF	4901 JP	Eiichi Katayama
	FUJIFILM	FUJIY	FUJIY US	Eiichi Katayama
	Fujitsu	FJTSF	6702 JP	Mikio Hirakawa
	JVC Kenwood	JVCZF	6632 JP	Eiichi Katayama
	Kyocera	KYOCF	6971 JP	Masashi Kubota
	Kyocera	KYO	KYO US	Masashi Kubota
	Mabuchi Motor	MBUMF	6592 JP	Masashi Kubota
	Murata Mfg	MRAAF	6981 JP	Masashi Kubota
	NEC	NIPNF	6701 JP	Mikio Hirakawa
	Nikon	NINOF	7731 JP	Mikio Hirakawa
	Nikon	NINOY	NINOY US	Mikio Hirakawa
	Pioneer	PNCOF	6773 JP	Eiichi Katayama
	Ricoh	RICOF	7752 JP	Eiichi Katayama
	Ricoh	RICOY	RICOY US	Eiichi Katayama
	Rohm	ROHCF	6963 JP	Masashi Kubota
	Sony	SNE	SNE US	Eiichi Katayama
	Sony	SNEJF	6758 JP	Eiichi Katayama
	Tokyo Electron	TOELF	8035 JP	Mikio Hirakawa
	Toshiba	TOSBF	6502 JP	Mikio Hirakawa
	Wacom	WACMF	6727 JP	Masashi Kubota
UNDERPERFORM				
	Advantest	ADTTF	6857 JP	Mikio Hirakawa
	Alpine	AELF	6816 JP	Eiichi Katayama
	Foster Electric	FOECF	6794 JP	Sotaro Takahashi
	Funai Electric	FUAIF	6839 JP	Eiichi Katayama
	Hirose Electric	HRSEF	6806 JP	Masashi Kubota
	NGK Spark Plug	NGKSF	5334 JP	Masashi Kubota
	Nissha Printing Co., Ltd	NPCLF	7915 JP	Masashi Kubota
	Renesas Electronics	NELTF	6723 JP	Simon Dong-je Woo, CFA
	Sharp	SHCAF	6753 JP	Eiichi Katayama
	Sharp	SHCAY	SHCAY US	Eiichi Katayama
	Taiyo Yuden	TYOYF	6976 JP	Masashi Kubota

Latin America - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AES Gener	GGCLF	AESGENERCI	Diego Moreno
	Aguas Andinas	XXSGF	AGUAS/A CI	Diego Moreno
	Cemig	CIG	CIG US	Felipe Leal
	Cemig	CEMCF	CMIG4 BZ	Felipe Leal
	COPEL	ELPWF	CPL6 BZ	Felipe Leal
	COPEL	ELP	ELP US	Felipe Leal
	E-CL	EZDHF	ECL CI	Diego Moreno

Latin America - Utilities Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Energias do BR	EGDBF	ENBR3 BZ	Felipe Leal
	MPX Energía	MXMRF	MPXE3 BZ	Felipe Leal
	SABESP	CSBJF	SBSP3 BZ	Diego Moreno
	Sabsep-ADR	SBS	SBS US	Diego Moreno
	TAESA	TRRAF	TAAE11 BZ	Felipe Leal
	Tractebel	TBLEF	TBLE3 BZ	Felipe Leal
NEUTRAL				
	AES Tiete	XTITF	GETI3 BZ	Felipe Leal
	AES Tiete-Pref	CGZEF	GETI4 BZ	Felipe Leal
	COPASA	CSAOF	CSMG3 BZ	Diego Moreno
	Enersis	ENI	ENI US	Diego Moreno
UNDERPERFORM				
	CESP	CESJF	CESP6 BZ	Felipe Leal
	Colbun SA	EZDBF	COLBUN CI	Diego Moreno
	Eletrobras	CAIFF	ELET3 BZ	Felipe Leal
	Eletrobras	EBR	EBR US	Felipe Leal
	Eletrobras-Pref	EBRB	EBR/B US	Felipe Leal
	Eletrobras-Pref	CNTEF	ELET6 BZ	Felipe Leal
	Eletropaulo Metropolitana	ELPEF	ELPL4 BZ	Felipe Leal
	Endesa Chile	EOC	EOC US	Diego Moreno
	Inversiones Aguas Metropolitanas	XVNFF	IAM CI	Diego Moreno
	Light SA	XHGFF	LIGT3 BZ	Felipe Leal
	Trans Paulista	CAXEF	TRPL4 BZ	Felipe Leal
RSTR				
	CPFL Energia	XPFGF	CPFE3 BZ	Felipe Leal
	CPFL Energia	CPL	CPL US	Felipe Leal

US - Alternative Energy Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Enphase	ENPH	ENPH US	Joe Osha
	First Solar, Inc.	FSLR	FSLR US	Joe Osha
	Itron	ITRI	ITRI US	Joe Osha
	Power-One	PWER	PWER US	Joe Osha
	Trina Solar Limited	TSL	TSL US	Joe Osha
	Yingli Green Energy	YGE	YGE US	Joe Osha
UNDERPERFORM				
	CREE	CREE	CREE US	Joe Osha
	GCL-Poly	GCPEF	3800 HK	Joe Osha
	JA Solar	JASO	JASO US	Joe Osha
	ReneSola	SOL	SOL US	Joe Osha
	SunPower Corp.	SPWR	SPWR US	Joe Osha
	Suntech Power	STP	STP US	Joe Osha

US - Business, Education & Professional Services Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	ADP	ADP	ADP US	Sara Gubins
	CB Richard Ellis Group Inc	CBG	CBG US	David Ridley-Lane
	Cognizant Technology Solutions	CTSH	CTSH US	Sara Gubins
	Ecolab Inc	ECL	ECL US	David Ridley-Lane
	Grand Canyon Education	LOPE	LOPE US	Sara Gubins
	Jones Lang LaSalle Inc	JLL	JLL US	David Ridley-Lane
	K12	LRN	LRN US	Sara Gubins
	Kennedy Wilson	KW	KW US	David Ridley-Lane
	MoneyGram International Inc.	MGI	MGI US	Sara Gubins

US - Business, Education & Professional Services Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	Nielsen	NLSN	NLSN US	Sara Gubins
	On Assignment	ASGN	ASGN US	Sara Gubins
	Resources Connection	RECN	RECN US	Sara Gubins
	Robert Half International	RHI	RHI US	Sara Gubins
	Thomson Reuters	TRI	TRI US	Sara Gubins
	Towers Watson	TW	TW US	Sara Gubins
NEUTRAL				
	Accenture Plc	ACN	ACN US	Sara Gubins
	Apollo Group	APOL	APOL US	Sara Gubins
	Capella Education	CPLA	CPLA US	David Chu
	DeVry Inc	DV	DV US	Sara Gubins
	ITT Educational Services	ESI	ESI US	Sara Gubins
	ManpowerGroup	MAN	MAN US	Sara Gubins
	Paychex	PAYX	PAYX US	Sara Gubins
	Strayer Education Inc.	STRA	STRA US	Sara Gubins
	TrueBlue	TBI	TBI US	Sara Gubins
	Western Union	WU	WU US	Sara Gubins
UNDERPERFORM				
	Career Education	CECO	CECO US	David Chu
	Cintas	CTAS	CTAS US	Sara Gubins
	Corinthian Colleges Inc	COCO	COCO US	David Chu
	Corporate Executive Board	CEB	CEB US	David Ridley-Lane
	Education Management Corporation	EDMC	EDMC US	David Chu
	Lincoln Educational Services Corp	LINC	LINC US	David Chu
	Universal Technical Institute	UTI	UTI US	David Chu

US - Chemicals Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Agrium Inc.	AGU	AGU US	Kevin W. McCarthy, CFA
	Airgas, Inc.	ARG	ARG US	Kevin W. McCarthy, CFA
	CF Industries	CF	CF US	Kevin W. McCarthy, CFA
	DuPont	DD	DD US	Kevin W. McCarthy, CFA
	Eastman Chemical Company	EMN	EMN US	Kevin W. McCarthy, CFA
	LyondellBasell Industries	LYB	LYB US	Kevin W. McCarthy, CFA
	Monsanto	MON	MON US	Kevin W. McCarthy, CFA
	Mosaic	MOS	MOS US	Kevin W. McCarthy, CFA
	PPG Industries	PPG	PPG US	Kevin W. McCarthy, CFA
	Rockwood Holdings	ROC	ROC US	Aleksey V. Yefremov
	RPM International Inc	RPM	RPM US	Kevin W. McCarthy, CFA
NEUTRAL				
	Air Products	APD	APD US	Kevin W. McCarthy, CFA
	Albemarle Corp	ALB	ALB US	Kevin W. McCarthy, CFA
	Celanese Corp-Series A	CE	CE US	Kevin W. McCarthy, CFA
	Dow Chemical	DOW	DOW US	Kevin W. McCarthy, CFA
	FMC Corp	FMC	FMC US	Kevin W. McCarthy, CFA
	Huntsman Corporation	HUN	HUN US	Kevin W. McCarthy, CFA
	Potash Corp of Saskatchewan	POT	POT US	Kevin W. McCarthy, CFA
UNDERPERFORM				
	Kraton Performance Polymers	KRA	KRA US	Kevin W. McCarthy, CFA
	Olin Corporation	OLN	OLN US	Aleksey V. Yefremov
	Praxair	PX	PX US	Kevin W. McCarthy, CFA
	The Sherwin-Williams Company	SHW	SHW US	Kevin W. McCarthy, CFA
	Westlake Chemical Corp	WLK	WLK US	Kevin W. McCarthy, CFA

US - Electric Utilities/Competitive Power Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	American Electric Power	AEP	AEP US	Steve Fleishman
	American Water Works	AWK	AWK US	Steve Fleishman
	Calpine	CPN	CPN US	Steve Fleishman
	CenterPoint Energy, Inc.	CNP	CNP US	Steve Fleishman
	CMS Energy	CMS	CMS US	Steve Fleishman
	Edison International	EIX	EIX US	Steve Fleishman
	FirstEnergy	FE	FE US	Steve Fleishman
	NextEra Energy	NEE	NEE US	Steve Fleishman
	Northeast Utilities	NU	NU US	Steve Fleishman
	NRG Energy	NRG	NRG US	Steve Fleishman
	NV Energy	NVE	NVE US	Steve Fleishman
	PG&E Corporation	PCG	PCG US	Steve Fleishman
	PPL Corporation	PPL	PPL US	Steve Fleishman
	Sempra Energy	SRE	SRE US	Naaz Khumawala
	UIL Holdings	UIL	UIL US	Steve Fleishman
	Xcel Energy	XEL	XEL US	Steve Fleishman
NEUTRAL				
	Alliant Energy	LNT	LNT US	Steve Fleishman
	Dominion Resources	D	D US	Steve Fleishman
	Duke Energy	DUK	DUK US	Steve Fleishman
	Exelon	EXC	EXC US	Steve Fleishman
	Great Plains Energy	GXP	GXP US	David A. Paz
	Pinnacle West	PNW	PNW US	Steve Fleishman
	Public Service Enterprise Group Inc.	PEG	PEG US	Steve Fleishman
	Southern Company	SO	SO US	Steve Fleishman
	Westar Energy	WR	WR US	Steve Fleishman
	Wisconsin Energy	WEC	WEC US	Alex Kania
UNDERPERFORM				
	Ameren Corp	AEE	AEE US	Steve Fleishman
	Consolidated Edison	ED	ED US	Steve Fleishman
	DTE Energy	DTE	DTE US	Steve Fleishman
	Entergy	ETR	ETR US	Steve Fleishman
	Hawaiian Electric Industries	HE	HE US	Steve Fleishman
	Portland General Electric Company	POR	POR US	Steve Fleishman
	SCANA Corp.	SCG	SCG US	Steve Fleishman
	TECO Energy	TE	TE US	Steve Fleishman

US - Life Science & Diagnostic Tools Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	Agilent Technologies	A	A US	Derik de Bruin
	FEI Company	FEIC	FEIC US	Derik de Bruin
	Genomic Health	GHDX	GHDX US	Derik de Bruin
	Illumina, Inc.	ILMN	ILMN US	Derik de Bruin
	Myriad Genetics	MYGN	MYGN US	Derik de Bruin
	PerkinElmer	PKI	PKI US	Derik de Bruin
	Thermo Fisher Scientific	TMO	TMO US	Derik de Bruin
	Waters Corp.	WAT	WAT US	Derik de Bruin
NEUTRAL				
	Life Technologies	LIFE	LIFE US	Derik de Bruin
	Mettler-Toledo	MTD	MTD US	Derik de Bruin
	Pall Corporation	PLL	PLL US	Derik de Bruin
	Sigma-Aldrich	SIAL	SIAL US	Derik de Bruin
UNDERPERFORM				
	Affymetrix Inc	AFFX	AFFX US	Derik de Bruin
	Bruker Corporation	BRKR	BRKR US	Derik de Bruin

US - Machinery and Engineering and Construction Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AGCO Corp	AGCO	AGCO US	Ross Gilardi
	Allison Transmission Holdings Inc.	ALSN	ALSN US	Andrew Obin
	Altra Holdings	AIMC	AIMC US	Anna Kaminskaya, CFA
	Deere & Co	DE	DE US	Ross Gilardi
	Eaton Corp	ETN	ETN US	Andrew Obin
	Fluor Corp	FLR	FLR US	Andrew Obin
	Jacobs Eng.	JEC	JEC US	Andrew Obin
	RBC Bearings Inc	ROLL	ROLL US	Anna Kaminskaya, CFA
	Ritchie Bros	RBA	RBA US	Ross Gilardi
	Rush	RUSHA	RUSHA US	Andrew Obin
	Terex Corp.	TEX	TEX US	Andrew Obin
	TMS International	TMS	TMS US	Andrew Obin
NEUTRAL				
	Actuant Corp	ATU	ATU US	Andrew Obin
	Caterpillar Inc	CAT	CAT US	Ross Gilardi
	CNH Global	CNH	CNH US	Ross Gilardi
	Donaldson Co	DCI	DCI US	Andrew Obin
	Generac Holdings Inc.	GNRC	GNRC US	Andrew Obin
	Ingersoll-Rand	IR	IR US	Andrew Obin
	Kennametal Inc.	KMT	KMT US	Andrew Obin
	PACCAR Inc	PCAR	PCAR US	Andrew Obin
	Timken Company	TKR	TKR US	Andrew Obin
UNDERPERFORM				
	AECOM Technology	ACM	ACM US	Andrew Obin
	Finning International Inc.	YFTT	FTT CN	Ross Gilardi
	URS Corp.	URS	URS US	Andrew Obin
RSTR				
	The Shaw Group	SHAW	SHAW US	Andrew Obin

US - Pharmaceutical Services Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
BUY				
	AmerisourceBergen	ABC	ABC US	Robert M. Willoughby
	Bio-Reference Laboratories	BRLI	BRLI US	Robert M. Willoughby
	Cardinal Health	CAH	CAH US	Robert M. Willoughby
	Catamaran	CTRX	CTRX US	Robert M. Willoughby
	CVS Caremark	CVS	CVS US	Robert M. Willoughby
	Express Scripts	ESRX	ESRX US	Robert M. Willoughby
	HMS Holdings Corp.	HMSY	HMSY US	Scott J. Green, CFA
	IDEXX Laboratories	IDXX	IDXX US	Erin E. Wilson
	McKesson Corp.	MCK	MCK US	Robert M. Willoughby
	MedAssets, Inc.	MDAS	MDAS US	Robert M. Willoughby
	Omnicare Inc	OCR	OCR US	Robert M. Willoughby
	Patterson Cos Inc	PDCO	PDCO US	Robert M. Willoughby
	PharMerica Corp	PMC	PMC US	Robert M. Willoughby
	Quest Diagnostics	DGX	DGX US	Robert M. Willoughby
	Service Corporation International	SCI	SCI US	Robert M. Willoughby
	Sirona Dental Systems	SIRO	SIRO US	Scott J. Green, CFA
	Stericycle	SRCL	SRCL US	Erin E. Wilson
	Steris	STE	STE US	Erin E. Wilson
	Stewart Enterprises	STEI	STEI US	Robert M. Willoughby
	VCA Antech	WOOF	WOOF US	Erin E. Wilson
NEUTRAL				
	ABAXIS	ABAX	ABAX US	Erin E. Wilson
	LabCorp of America	LH	LH US	Robert M. Willoughby
UNDERPERFORM				

US - Pharmaceutical Services Coverage Cluster

Investment rating	Company	BofA Merrill Lynch ticker	Bloomberg symbol	Analyst
	DENTSPLY International	XRAY	XRAY US	Scott J. Green, CFA
	Henry Schein Inc	HSIC	HSIC US	Robert M. Willoughby
	MWI Veterinary Supply	MWIV	MWIV US	Erin E. Wilson
	Owens & Minor Inc	OMI	OMI US	Robert M. Willoughby
	PetMed Express	PETS	PETS US	Erin E. Wilson
	Walgreen	WAG	WAG US	Robert M. Willoughby

Important Disclosures

Investment Rating Distribution: Alternative Energy Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	8	57.14%	Buy	5	62.50%
Neutral	0	0.00%	Neutral	0	0.00%
Sell	6	42.86%	Sell	4	66.67%

Investment Rating Distribution: Business Services Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	17	68.00%	Buy	13	81.25%
Neutral	6	24.00%	Neutral	4	66.67%
Sell	2	8.00%	Sell	1	50.00%

Investment Rating Distribution: Chemicals Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	52	47.71%	Buy	38	80.85%
Neutral	29	26.61%	Neutral	19	76.00%
Sell	28	25.69%	Sell	15	57.69%

Investment Rating Distribution: Electrical Equipment Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	15	53.57%	Buy	9	64.29%
Neutral	7	25.00%	Neutral	2	40.00%
Sell	6	21.43%	Sell	3	50.00%

Investment Rating Distribution: Engineering & Construction Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	25	43.86%	Buy	15	68.18%
Neutral	16	28.07%	Neutral	7	46.67%
Sell	16	28.07%	Sell	9	56.25%

Investment Rating Distribution: Engineering Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	6	40.00%	Buy	2	33.33%
Neutral	7	46.67%	Neutral	4	66.67%
Sell	2	13.33%	Sell	1	50.00%

Investment Rating Distribution: Food Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	29	39.19%	Buy	21	77.78%
Neutral	21	28.38%	Neutral	15	78.95%
Sell	24	32.43%	Sell	13	61.90%

Investment Rating Distribution: Health Care Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	151	56.55%	Buy	109	75.69%
Neutral	60	22.47%	Neutral	39	69.64%
Sell	56	20.97%	Sell	33	63.46%

Investment Rating Distribution: Industrials/Multi-Industry Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	48	60.00%	Buy	31	79.49%
Neutral	17	21.25%	Neutral	13	86.67%
Sell	15	18.75%	Sell	9	64.29%

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Investment Rating Distribution: Machinery/Diversified Manufacturing Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	34	45.33%	Buy	22	68.75%
Neutral	21	28.00%	Neutral	14	77.78%
Sell	20	26.67%	Sell	9	47.37%

Investment Rating Distribution: Textiles/Apparel Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	18	69.23%	Buy	15	88.24%
Neutral	3	11.54%	Neutral	3	100.00%
Sell	5	19.23%	Sell	4	80.00%

Investment Rating Distribution: Utilities Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	81	47.93%	Buy	53	74.65%
Neutral	40	23.67%	Neutral	29	80.56%
Sell	48	28.40%	Sell	32	72.73%

Investment Rating Distribution: Global Group (as of 01 Oct 2012)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1908	48.96%	Buy	1289	73.20%
Neutral	1025	26.30%	Neutral	653	70.98%
Sell	964	24.74%	Sell	533	59.35%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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