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Socially Responsible Investing (Citi)
Global

Citi Climate Change Universe

20 top picks with exposure to the \$37trn energy transformation

- **Global GDP growth to require enormous quantities of energy** — The OECD estimates that global GDP is set to almost quadruple over the next 50 years, with much of this investment coming from emerging markets with energy intensities up to 3.5x that of the EU.
- **\$37trn of investment needed in energy** — This growth is estimated to require up to \$37trn of investment over the period, with \$24trn of this forecast to be in cleantech power generation and gas, all areas covered by the Citi Climate Change Universe. Of this, some \$6trn should be in renewable power generation alone.
- **Performance of pure play stocks remains poor** — Despite this positive longer-term driver and the \$250bn per annum being invested in cleantech, the performance of pure-play alternative energy stocks has continued to be very poor. So who is benefitting from this investment and how do investors gain exposure?
- **The Citi Climate Change Universe** — It is for this reason that we launched the Citi Climate Change Universe in 2009, to examine how to gain exposure to the theme by identifying larger, more liquid and lower-beta investment opportunities that were still materially exposed to the theme and drivers. In this edition we update the universe to its current level of 175 stocks, and update our focus list of 20 actionable ideas chosen for their exposure to thematic drivers, regional/sectoral macro views, corporate/strategic drivers, valuation, and very importantly, liquidity. For inclusion on the focus list, stocks must have a free float of >\$1bn. This best picks list takes 5 stocks from each of the four sub-groups within the Climate change universe, namely low carbon electricity, lower carbon transport, gas power and heating, and energy & resource efficiency. The resulting list of 20 stocks offers a geographically and sectorally diverse liquid exposure to the different elements of the climate change theme and should be of interest to both specialist thematic investors, as well as more general global portfolios.

■ Industry Overview

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Figure 1. Climate Change Universe – Best picks

Lower Carbon Electricity	Lower Carbon Transport	Gas Power and Heating	Energy Efficiency
Alstom (ALSO.PA)	Continental (CONG.DE)	BG Group (BG.L) *	ABB (ABB.VX) *
Calpine Corporation (CPN.N)	East Japan (9020.T)	Cheniere Energy Inc (LNG.A)	Danaher (DHR.N) *
Energy Development (EDC.PS)	LG Chem (051910.KS)	Gazprom (GAZP.MM)	Pentair, Inc. (PNR.N)
Paladin Energy (PDN.AX)	KL Kepong (KLKK.KL)	Santos Ltd (STO.AX) *	Power Grid Corporation (PGRD.BO)
Toshiba (6502.T)	National Express Group PLC (NEX.L)	Williams Partners (WPZ.N) *	Veolia Environnement (VIE.PA)

Source: Citi Research, *Stock is also included in regional Citi 'best picks' list

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

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The \$37trn energy transformation

Pure play cleantech companies have continued to underperform, dogged by overcapacity in manufacturing and reduced incentives as a result of government austerity. However, despite the global economic downturn, investment in cleantech has proved surprisingly resilient at around \$250bn per annum. So who is benefitting from this investment? We update the Citi climate change universe (first launched in 2009), which highlights 175 companies globally that are exposed to the decarbonisation megatrend, and update our focus list of 20 top picks which provide a lower beta, higher liquidity exposure to the theme.

Forecast global GD growth will require enormous quantities of energy...

According to the OECD, Global GDP is set to almost quadruple over the next 50 years, with two thirds of that growth coming from emerging markets that exhibit significantly higher levels of energy intensity than developed markets; indeed China currently has an energy intensity level of 3.5x that of the EU. Luckily as countries become richer, their energy use per unit of GDP reduces. However, this does not happen by accident, and requires governments and regulators to implement the right incentives and penalties to promote efficiency and clean investment. Moreover financial markets must connect those with a need for this capital to those looking to invest in the theme. Innovative financing structures that allow exposure while minimizing risk include the recent \$1bn IFC green bond, the largest to date.

...and \$37trn of investment between now and 2035

The sums of money required to facilitate this GDP growth are enormous. The IEA estimates that \$37trn of investment in energy will be needed between now and 2035, representing 1.5% of global GDP (and up to 4.3% of GDP in some regions). Of this, \$24trn should be in clean power generation (and associated T&D) and gas (and hence in areas covered by the Citi climate change universe), and of that, some \$6trn should be in renewable energy power generation capacity.

In this report we examine different ways in which investors can gain exposure to this megatrend through equity investment and various types of innovative debt financing.

Gaining access to the investment megatrend: the Citi Climate Change Universe of 175 stocks

Investing in this energy transformation megatrend does not have to mean high-beta, illiquid pure-play start-up green technologies — indeed the opposite is becoming true, with an increasing number of investment opportunities to gain exposure by investing in large, more liquid and lower-beta companies. Our updated Citi Climate Change Universe highlights 175 stocks globally that are exposed to the theme, split into four sub-categories. In each of the four sub-sectors that the universe covers, we continue to see the decarbonisation theme as still a strong driver of policy and practice.

- **Electricity:** with 100GW of solar and 250GW of wind now installed globally, renewable technologies are becoming mainstream, with installations of renewable capacity exceeding conventional generation in many markets. Gas installations are being driven by the US shale boom, while conversely investment in coal is becoming harder due emissions standards, and hence the shift to a cleaner global generation mix is picking up pace rather than slowing.
- **Gas:** With the advent of the shale boom, gas is increasingly seen by politicians as a lower-carbon transition technology and its peaking nature also lends it to be a back-up to renewable intermittency.
- **Transport:** with high oil prices, fuel efficiency is now understood to benefit the consumer as well as the environment, helping to drive the energy transformation.

- Resource efficiency: fits conceptually with the austerity theme and resource-constrained developing countries and is only encouraged by rising energy prices.

With so many sectors clearly still impacted by the theme, and the vast sums of capital to be invested, we believe that the question of whether this is still a real investment theme is largely closed. In fact, what investors should be asking is how does a global equity fund best access it? Our conclusions are simple:

1. **Look at other broader investment vehicles if you can:** Renewable energy infrastructure is becoming a direct investment option as innovative financing vehicles materialise, such as the AAA rated \$1bn green bond recently launched. This allows exposure to asset development while spreading risk across projects, technologies and regions.
2. **Investment and exposure is increasingly being provided by larger corporates:** The performance of pure-play renewable stocks is at odds with the \$250bn pa currently being invested in cleantech, largely because much of this investment is being undertaken by larger corporates. The Citi climate Change Universe highlights 175 of these larger, more liquid stocks with meaningful exposure to the climate change theme.

Identifying 20 Focus Stocks within the universe

We choose our 20 best picks from within the Citi Climate Change Universe...

As well as updating the Citi Climate Change Universe to reflect new additions to/cessations of coverage or changes in business mix, we are also updating our focus list from within the universe of 175 stocks. These stocks, five from each of the four sub-groups within the universe, are chosen via a process based on the following criteria (in no particular order):

1. Positive exposure to regional or industry climate policy, thematic drivers;
2. Corporate positioning, strategy, drivers and stock analyst input;
3. Global equity strategy prioritising regions and sectors;
4. Valuation;
5. Liquidity (>\$1bn of free float).

Figure 2. Climate Change Universe – Best picks

Lower Carbon Electricity	Lower Carbon Transport	Gas Power and Heating	Energy Efficiency
Alstom (ALSO.PA)	Continental (CONG.DE)	BG Group (BG.L) *	ABB (ABB.VX) *
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Source: Citi Research, *Stock is also included in regional Citi 'best picks' list

This list provides a focus list of actionable investment ideas that fit with the climate specific drivers and within Citi's macro overview, while taking into account the broader corporate drivers (given that much of the business activities of the companies within the universe may be unrelated to climate change, and hence exposed to entirely different drivers). In this way we believe that investors can gain global exposure to this megatrend without having to resort to investing in highly illiquid, high-beta stocks

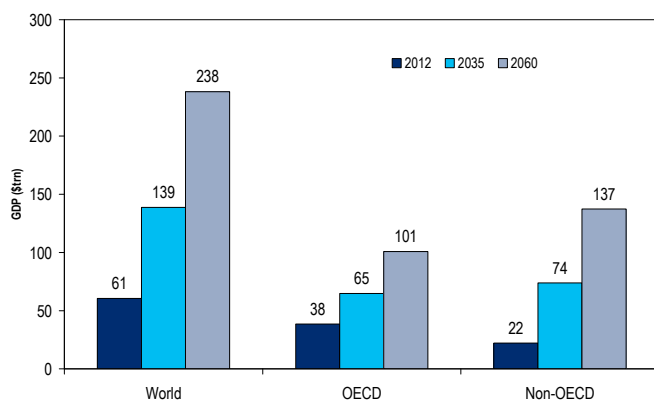
Providing the energy for global growth

Global GDP growth forecast by the OECD over the next half century would require enormous amounts of energy and investment, as analyzed in the next three chapters. By analyzing the nature and location of this investment, we derive in the form of The Citi Climate Change Universe a group of 175 stocks that are set to benefit from this investment in energy, thereby identifying a methodology for equity investors to gain exposure to the theme.

Global GDP growth projections would not be achievable at current levels of energy intensity

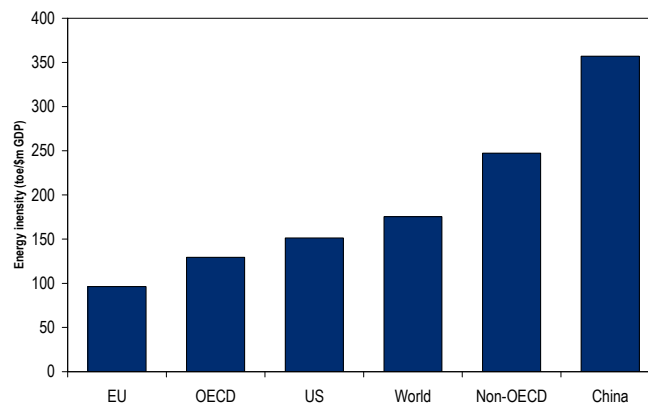
Global GDP growth should be transformed over the coming decades by the impact of faster-growing emerging markets. However, this GDP growth would require enormous quantities of both energy and resources, and the projected growth would not be achievable at current energy and resource intensity levels.

Figure 3. Global GDP (real, 2005 \$ PPP) is set to grow dramatically over the next 50 years, with almost two thirds of that growth coming from EM's



Source: OECD, Citi Research

Figure 4. However, the energy intensity of GDP (toe per \$m of GDP, 2011) is significantly higher for emerging markets, implying this GDP growth will require greater quantities of energy



Source: BP Statistical review, Citi Research

Almost two-thirds of global GDP growth will come from non-OECD countries, with energy intensities of 2.5-3.5x EU levels

As Figure 3 shows, Global GDP is set to grow by 1.3x from \$61trn in 2012 to \$139trn in 2035, and to almost quadruple to \$238trn by 2060, with almost two thirds of that growth coming from non-OECD countries.

Figure 4 shows the vastly different levels of energy intensity currently, with non-OECD countries showing a level of energy intensity of around 2.5x that of the EU, and China showing a level 3.5x higher.

Given the disproportionate effect of emerging markets on that global GDP growth, the higher levels of energy intensity should be a source of great concern in terms of scarcity of resources, with obvious connotations for the cost of energy.

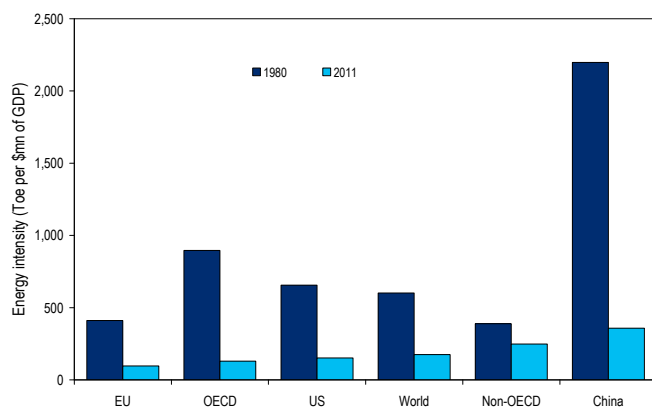
At current energy intensities, projected global growth would exhaust current proven oil reserves by 2039

Indeed, if we were to assume constant levels of oil intensity, world oil consumption of 88mboed would increase to 218mbd by 2035 and 382mbd by 2060, vs. current proven oil reserves of around 1700 billion barrels. Simplistically, this would see current proven oil reserves exhausted by 2039.

The good news: energy efficiency increases as countries get richer

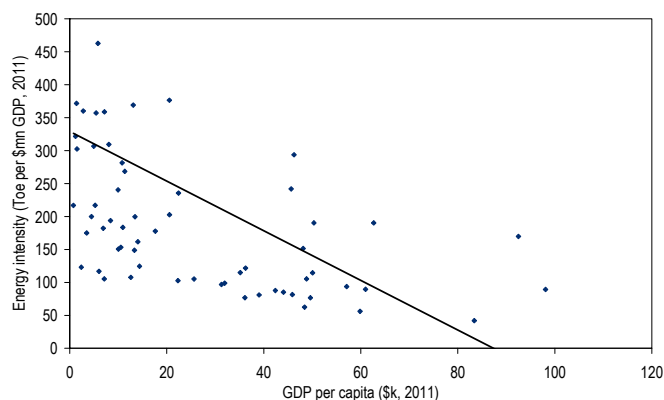
Luckily, as GDP per capita increases (i.e. countries get richer), they become more energy efficient and their energy intensity reduces, and hence primary energy demand is not set to grow that quickly.

Figure 5. Energy intensity of GDP (Toe per \$mn of GDP) has reduced over time...



Source: OECD

Figure 6. ...as GDP per capita has increased, showing a consistent relationship across 64 largest nations by GDP



Source: BP, World Bank and Citi Research.

Energy intensity reduces over time as countries become richer...

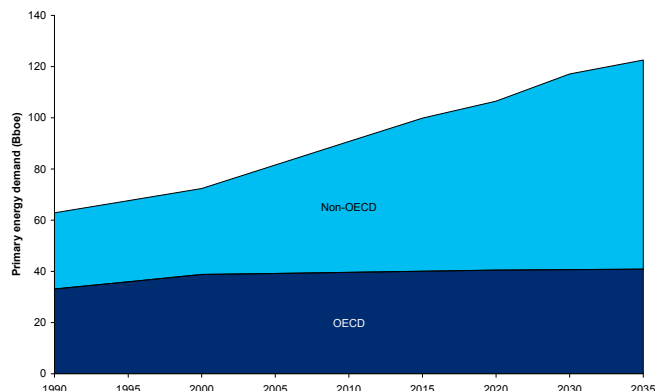
As Figure 5 shows, there have been dramatic reductions in energy intensity between 1980 and 2011 for both developed and emerging economies. This progression follows the relationship shown in Figure 6, which demonstrates the reducing energy intensity of GDP vs. increasing GDP per capita across a sample of 64 countries with the highest GDP per capita globally.

...a \$1000 increase in GDP per capita reducing energy intensity by 0.7%

In terms of proportionality, an increase of \$1000 in GDP per capital equates to a 0.7% reduction in energy intensity. However, this reduction in energy efficiency is not necessarily automatic — the right incentives/penalties are needed to help this transformation, be they via taxation and pricing, quotas, emissions targets, carbon taxes etc. These incentives need to promote investment in energy efficiency, and where more power is required, to allow cleaner forms of energy choices to be made. Most importantly, regulatory regimes and financial markets need to bring together those with a need for energy investment capital and those with the capital who want to invest in the lower carbon megatrend, no mean feat given the sums of money involved.

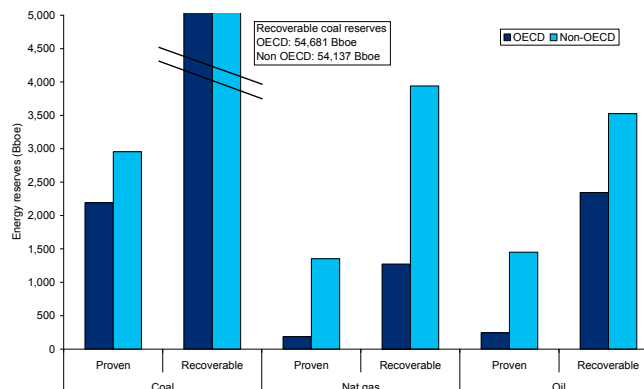
Nevertheless, energy demand is still set to rise dramatically between now and 2035. The IEA forecast that primary energy demand will increase to 123Bboe per annum by 2035, from a level in 2010 of 91Bboe, i.e. an increase over that period of 35%, the majority of this growth unsurprisingly coming from non-OECD countries.

Figure 7. Global primary energy demand 1990-2035, Bboe



Source: IEA, BP statistical review, Citi Research

Figure 8. Global proven and recoverable energy reserves (Bboe)



Source: IEA, BP statistical review, Citi Research

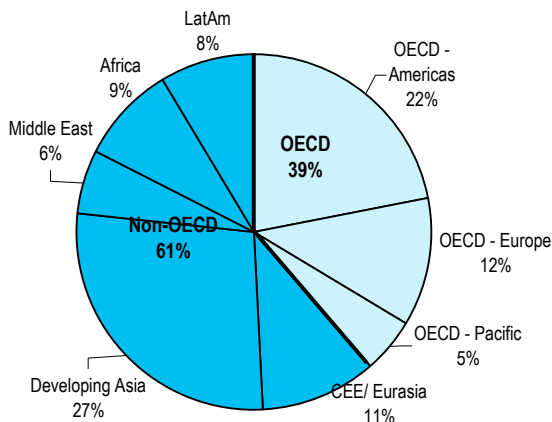
In context, this current primary energy demand level of close to 100bboe per year compares to current proven reserves of 1700bbl of oil, 1540bboe of gas and 5150bboe of coal. Hence, while we are not 'running out' of conventional reserves any time soon (particularly when technically recoverable reserves are considered), the level of reserves are at least of a similar enough magnitude that they can be compared and a meaningful reserve life can be imagined. Clearly if we intend to move to a lower carbon world, then coal becomes a much less attractive energy source in the absence of economically viable carbon capture & storage technologies, and reserves of oil & gas start to look more limited.

The scale of the investment in energy

\$37trn of investment in primary energy supply is required by 2035...

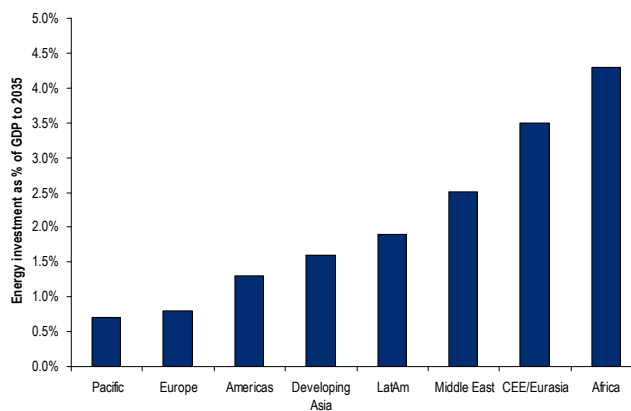
The scale of the investment in energy to allow for this GDP growth is extremely large. The IEA estimates that total investment in primary energy supply from 2012 to 2035 is \$37trn, equating to 1.5% of global GDP. However, this figure belies a much greater split of spend vs. GDP depending on country.

Figure 9. 61% of the \$37trn required investment in the energy to 2035 will be from non-OECD countries



Source: World Energy Outlook 2012 © OECD/IEA 2012

Figure 10. Spend on energy investment by region to 2035 as a % of GDP



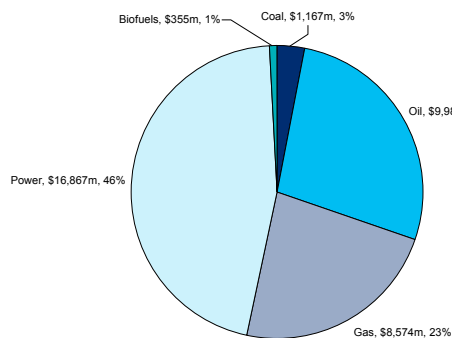
Source: Citi Research, OECD, IEA

...the majority of this from non-OECD countries

Figure 9 shows that 61% of this \$37trn investment in primary energy supply should be from non-OECD countries. As a percentage of GDP, Figure 10 demonstrates how this spend on energy is expected to vary from a low of 0.7% for the Pacific region, to 4.3% of GDP for Africa.

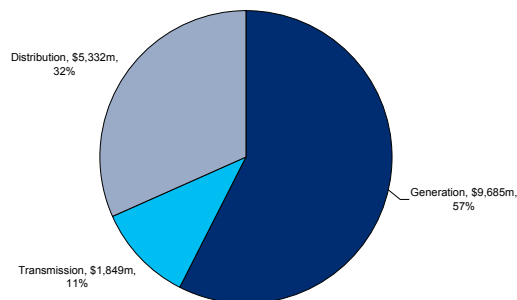
This investment of \$37trn can be further broken down into requirements by energy use, and by fuel type.

Figure 11. \$37trn of investment in global energy supply infrastructure, 2012-35



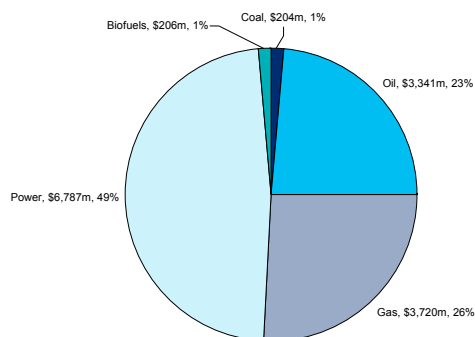
Source: World Energy Outlook 2012 © OECD/IEA 2012

Figure 12. Split of \$16.9trn investment in global power generation by activity, 2012-35



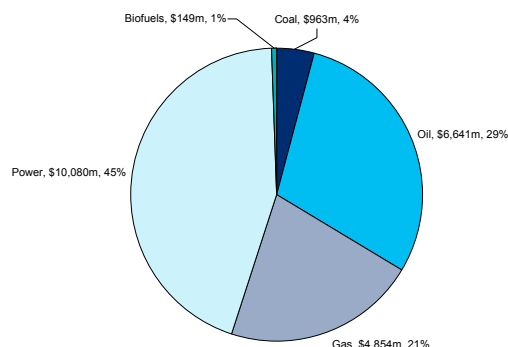
Source: World Energy Outlook 2012 © OECD/IEA 2012

Figure 13. Split of investment in energy supply infrastructure, OECD, 2012-35



Source: World Energy Outlook 2012 © OECD/IEA 2012

Figure 14. Split of investment in energy supply infrastructure, non-OECD, 2012-35



Source: World Energy Outlook 2012 © OECD/IEA 2012

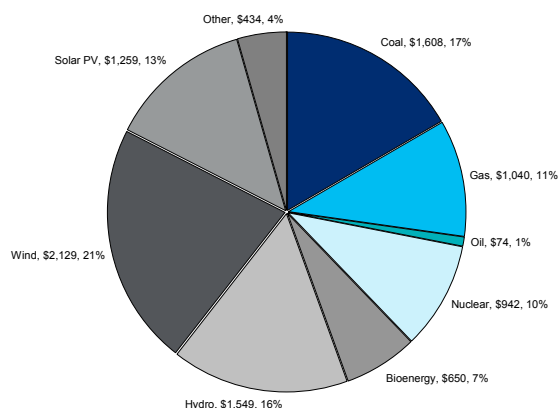
\$9.7trn to be invested in power generation alone

Figure 13 shows that of this \$37trn, \$16.9trn is forecast to be in the power industry (i.e. electricity), with \$9.7trn of this figure being in power generation (Figure 12), and the remainder being accounted for by transmission and distribution. As before, the greater part of this investment in power generation should be accounted for by non-OECD countries (Figure 13 and Figure 14).

Investment by generation technology

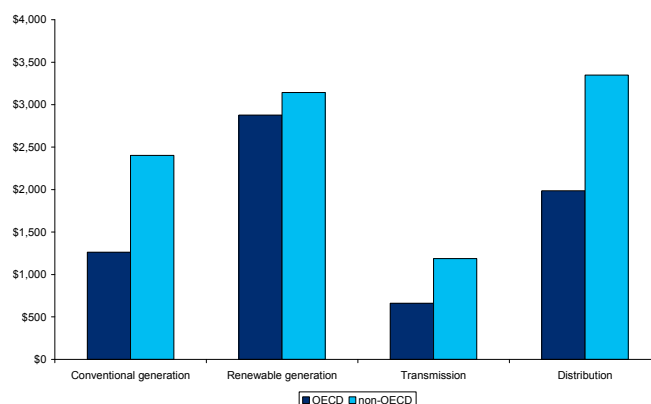
Perhaps of most interest is to look at the split of this \$9.7trn global investment in power generation by technology.

Figure 15. Split of \$9.7trn global investment in power generation by technology



Source: World Energy Outlook 2012 © OECD/IEA 2012

Figure 16. Split of investment in generation, transmission and distribution by OECD and non-OECD



Source: World Energy Outlook 2012 © OECD/IEA 2012

Only 29% of investment in power generation should be in 'conventional' technologies

Figure 15 shows that only 29% of that \$9.7trn of investment is forecast to be in 'conventional' generation technologies (coal, gas, oil & nuclear), with the remainder being in renewable technologies. Clearly if we were to include gas as a low carbon transition fuel and nuclear given its low emissions, the percentage spend of spend in cleaner generation would be 82% of this figure. Figure 16 highlights clearly how important renewable generation is as a proportion of the total \$16.9trn investment in

the electricity sector, especially given that transmission investment is higher for renewables per MW of capacity than conventional, due to three key factors:

6. Renewable generation is normally located at a greater distance from population (and hence usage) centres.
7. Renewable generation facilities tend to be smaller than conventional generation sources, and hence the grid connection infrastructure is greater per MW of capacity than for conventional.
8. The intermittent nature of renewable generation leads to higher balancing and grid stability costs, in part due to a technology costs.

Integrating intermittent renewable energy is more expensive

The IEA estimates that the total integration costs of increasing the supply of intermittent renewable energy sources to be ~\$5-25/MWh, broken down as follows:

1. ~\$3-5/MWh in extra capacity costs, to ensure peak demand can be met during period of intermittency;
2. ~\$1-7/MWh in extra balancing costs to maintain grid stability;
3. ~2-13/MWh in extra grid integration costs (i.e. transmission and distribution) since renewables are often located far from demand centres.

Investment in cleantech

Simplistically, taking this \$6trn investment in renewable generation and spreading it equally over the 23-year period implies an investment of \$261bn per annum over the next two decades, ignoring of course the related T&D investment.

We believe the IEA forecasts for alternative energy be conservative...

In our opinion, the investment in cleantech is actually likely to be larger than that forecast by the IEA. For example, the IEA base case projections for solar installations by 2035 are for a cumulative installed capacity of 662GW. On an annualized basis, this implies additions of just 29GW per annum, compared to Citi forecasts for installations of 35GW in 2013 (against module manufacturing capacity of 61GW), implying that annual installations would fall materially from current levels. Given that solar will inevitably become cheaper per unit of capacity and generation over the period, this reduction looks unlikely, particularly given the corollary that conventional energy sources are likely to get more expensive (assuming logically that the cheapest reserves have been exploited first).

...as they would imply almost no growth from current investment levels of ~\$250bn per annum

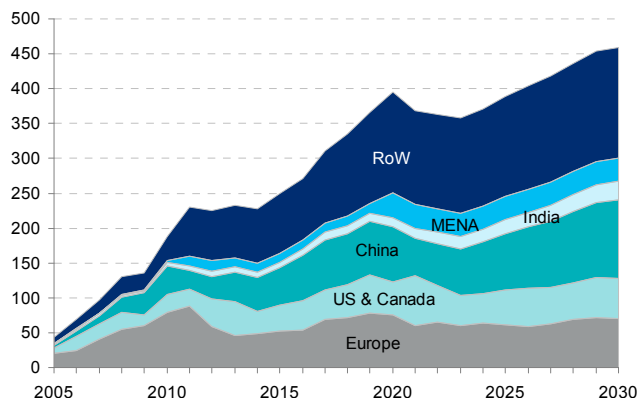
Furthermore, this investment figure compares to levels of investment in cleantech in recent years of around \$250bn per annum, and hence would imply almost no increase in annual spend over the period.

Figure 17 shows both historical and forecast investment in cleantech (by region), highlighting recent investment levels of around \$230bn per annum, the vast majority of this being in solar PV and onshore wind.

While investment levels are set to grow, the cost per unit will likely continue to reduce

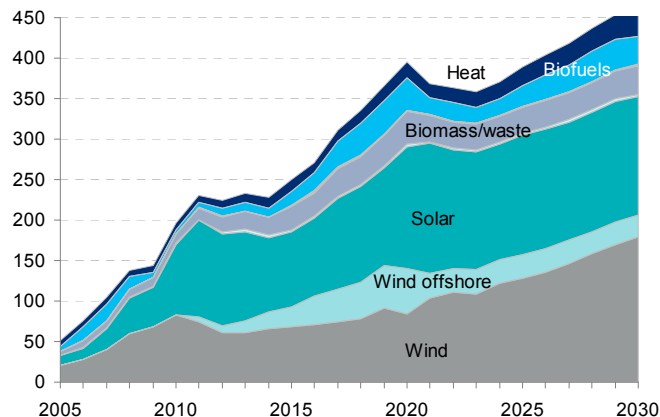
Going forwards, the investment in other technologies and in particular wind look set to grow. While investment in solar PV looks to be relatively stable, we should remember that the very high learning rates in PV (we estimate that for every doubling of installed capacity, the cost of module reduces by around 30%) mean that the installation volumes would keep increasing while total cost remains more stable.

Figure 17. Historical and forecast investment in Cleantech by region, 2005-30



Source: BNEF, Citi Research

Figure 18. Historical and forecast investment in Cleantech by technology



Source: BNEF, Citi Research

Future cleantech investment is forecast to grow to \$450bn per annum, the bulk of this in emerging markets

Figure 17 shows interestingly that while historical investment has been driven almost exclusively by developed Western markets, the future growth is expected to be driven by China and emerging markets.

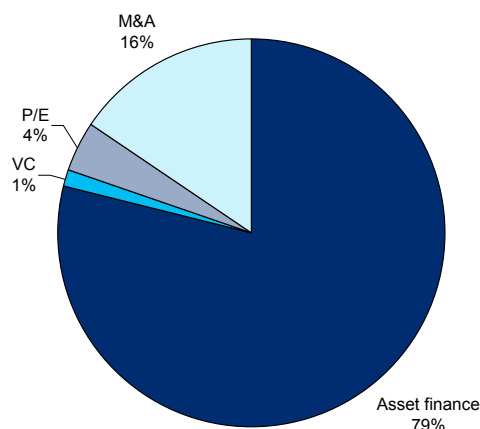
As both Figure 17 and Figure 18 show, BNEF estimates that annual investment will increase to \$450bn per annum by 2030, materially ahead of the levels implied by the IEA forecasts.

Where does all the money come from?

Cleantech investment levels have held up through the economic downturn

This figure of \$250bn pa is a sizeable quantity of investment, and it is notable that through the debt crisis of recent years and as banks reduce the scale of their balance sheets, investment levels have at least held up, and indeed increased.

Figure 19. Gross capital committed to Cleantech power generation in 2012 of \$237bn



Source: BNEF, Citi Research

The bulk of investment is in asset finance (i.e. projects)...

As Figure 19 demonstrates, ~80% of the new funds committed in 2012 were in the form of asset finance. While historically projects have been very heavily debt financed, 2012 saw something of a departure from the norm, with only about \$70bn of debt being issued, within the \$187bn of asset finance shown.

...with much of this debt finance

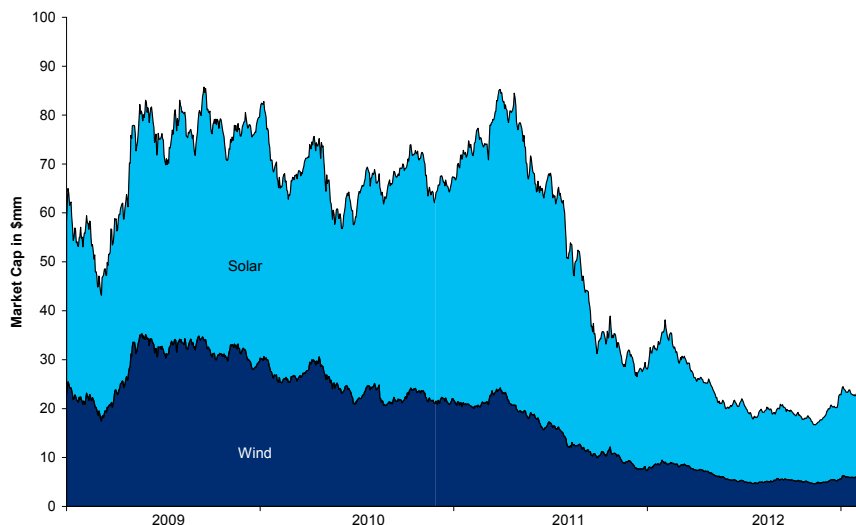
Renewable energy projects lend themselves extremely well to high levels of debt, given their secure revenue streams by virtue of for example feed-in tariffs guaranteed for up to 20 years, and by their limited operational risk/cost variations (e.g. solar panels have no moving parts, and extremely limited operating costs). This reliability of cashflows lends the projects to high levels of leverage. Projects are typically around 70% debt financed (historically higher), though the 2012 figures shown suggest that the debt markets may have been harder to access, with developers using more equity-based funding, potentially until projects are running and generating EBITDA (i.e. post construction risk) when refinancing might be easier and cheaper.

Equating the investment to market capitalizations – what is the missing link?

Equity performance of pure-play companies has not reflected this investment

Looking at these sizeable and historically growing investment figures, it would seem a logical conclusion to expect the market capitalization of the companies involved in producing the equipment for and in developing these projects would reflect this growth in investment and the returns thereon.

Figure 20. Performance of a basket of wind and solar equipment manufacturers



Source: FactSet, Citi Research

However, as Figure 20 demonstrates, the reality has been rather more disappointing than what might have been expected. While this chart shows the performance of the equipment manufacturers rather than developers (given limited listed pure-play developers, and the parent take-overs of companies such as Iberdrola Renovables, EDF Energies Nouvelles etc), the story is similar for the remaining pure-play developers.

Which leaves us with two possibilities:

- 1) Either the \$230bn investment into the industry has consistently destroyed value, this being reflected in market capitalizations, or
- 2) The bulk of the investment is being carried out by larger companies, i.e. not the pure-play alternative energy companies...

Much of the investment has been carried out by larger, more broadly focused corporates

In our opinion (and backed up by previous research reports examining project IRR's), Option 1 is simply not the case, which leaves Option 2 as the most likely explanation. Furthermore, this would fit with the significant increase in the proportion of funds committed in Figure 16 coming from equity (or more broadly non-project finance debt).

Gaining equity exposure to the \$6trn investment megatrend – the Citi Climate Change Universe

So if this is the case, how does an investor gain exposure to the \$250bn per annum of current investment and to the projected \$6trn of investment in renewable generation over the next 2 decades?

Citi Climate Change Universe identifies larger, less volatile and more liquid companies exposed to this investment theme

This is exactly the purpose for which we developed the Citi Climate Change Universe, to identify companies that are meaningfully exposed to the drivers resulting from the move to a lower carbon world. The criteria for inclusion in the Citi Climate Change Universe (CCCU) vary by industry, and are examined on page 32, but suffice it to say that the intention is to allow for investment in larger companies, which by virtue of their scale and spread of business activities are not purely exposed to one driver or aspect of the theme, for example the extremely high-beta pure-play alternative energy companies.

Innovative financing vehicles such as green bonds offer another route to gaining exposure

The second option is to gain exposure via more innovative financing vehicles, such as green bonds, which while still in their infancy, we expect to become a much more material factor in financing the transition to a lower carbon world.

Bridging the gap via innovative financing

Equity investors have historically found it difficult to gain exposure to the theme

The requirement for investment is sizable, but this is likely matched by the appetite of investors in both equity and debt markets to gain access to the climate change theme. However, the most frequent complaint we hear from equity investors is the lack of suitable investment options/vehicles related to the theme that allow would them to invest funds in larger, financially stable companies, while spreading their investment over a large enough number of companies to gain the risk benefits of the portfolio diversification. Indeed, investing in the broadest definition of climate change-exposed companies (in line with our own entry criteria for the Citi Climate Change Universe) would have been provided better protection through the downturn, while investing heavily in the equities of pure-play companies would have generally resulted in very weak performance (see figure 20).

This problem is caused by two main effects

- 1) While the sums of money being invested in the climate change arena are large, the greater proportion of this investment has historically been debt based (as discussed, projects tend to be around 70% debt financed). Accordingly, the larger part of the equity investment has been into manufacturers rather than project developers, which have performed poorly due to massive manufacturing overcapacity
- 2) The second issue is that the limited equity portion of investments by these pure-play companies is inherently very volatile, given their smaller company nature, and the leveraged effect of the highly-gear /business models.

Direct project exposure entails higher risk...

Unsurprisingly, there is demand from investors to gain exposure to the large investment sums in the climate change theme, while limiting risk as far as possible. While some investors have invested in specific project debt, this has also been perceived as being relatively high risk, for two key reasons

- 1) **Technology risk:** these investments tend to be exposed to one technology and hence manufacturer. For example, an investment in a single windfarm would expose the investor to the risk that the chosen turbines did not perform to specification.
- 2) **Geographic/regulatory risk:** secondly, the risk is associated with one single project. In the event that for example local governments change, this may result in planning approval being withdrawn, loan guarantees etc, or that local regulation of feed-in tariffs may change, altering the economics and hence value of the project materially.

...while green bonds spread and mitigate this risk

This desire to spread and reduce risk has led to the emergence of the green bond.

What is a green bond?

A green bond is essentially a bond that allows investors to participate in a broad variety of projects and schemes (potentially but not necessarily) focused by region, thereby avoiding the risk of being overly exposed to any one project, locality or technology. Moreover, the tradable nature of the bond allows an easier 'exit' than might be the case in exiting a single project.

We expect green bond issuance to grow

While green bonds issued to date have been limited, we expect them to become an important aspect of financing the move to a lower carbon world. There is demand for the capital, and demand from investors for appropriate vehicles, as evidenced below, and hence there would seem to be little impediment to the growth of this asset class.

Largest green bond issued by IFC in February 2013

The IFC (a member of the World Bank) in mid February 2013 issued the largest ever green bond, a AAA-rated \$1bn 3-year green bond, with a coupon on 0.5%. The funds can invest in any eligible project in the fields of renewable energy and energy efficiency, as well as sustainable forestry, with a bias towards emerging markets. The bond was 'heavily oversubscribed' (source: IFC press release), demonstrating the appetite for investment vehicles of this type.

IFC intends to double its climate change related investments by 2015

In 2012 the IFC invested \$1.6bn in climate related investments, representing more than 10% of overall commitments for the year. Around 70% of IFC's power sector investments involved renewable energy and energy efficiency. The IFC intends to double its climate related investments to around \$3bn per year by 2015. Since launching their first IFC green bond in 2010, the institution has raised about \$1.2bn in green bonds, and hence this vehicle almost doubles the capital raised to date to \$2.2bn in green bonds.

Broad range of investor interest

What is also interesting with this bond sale is that as well as traditional SRI and climate change-related investors, there were a sizeable number of corporate investors, such as Ford and 3M (source: IFC press release), involved.

Accordingly, with demand from investors of both a thematically focused and a corporate nature, and demand for investment from the issuers of these bonds, there would seem to be little reason not to expect material growth for green bonds.

Top Picks from the Citi Climate Change Universe

Citi's Climate Change Universe: 175 theme-related stocks

Citi Climate Change Universe is split into four thematic groupings

As discussed, the Citi Climate Change Universe is split up into four different thematic groupings, as follows:

- Lower carbon electricity
- Gas power and heating
- Lower carbon transport
- Energy Efficiency

Each of these is then sub-divided into different thematic sub-groups.

We identify a focus list of 5 stocks from each of the four groupings

While each of these groups identify stocks meeting the criteria for inclusion (see appendix), we are also highlighting the 5 stocks from each thematic group where we see the greatest actionable potential, based on the following criteria:

- 1) Exposure to specific regional or industry climate policy and thematic drivers
- 2) Global equity strategy to prioritise regions and sectors
- 3) Corporate positioning, strategy, drivers and stock analyst input
- 4) Valuation
- 5) Liquidity

While the resulting list of 20 stocks is not exhaustive, the intention is to provide a focus list of actionable investment ideas that fit with the climate-specific drivers and within Citi's macro overview, while taking into account the broader corporate drivers (given that much of the business activities of the companies within the universe may be unrelated to climate change, and hence exposed to entirely different drivers).

The following section covers each of these selection criteria in turn. The final section (appendix) of this report contains the criteria for inclusion in the universe, the full universe listing, and latest additions/deletions, as well as valuation sheets for the full universe.

1. Climate Policy Overview

A continued trend we see around the globe is nations cutting feed-in tariffs for renewable energy as installation costs drop. Developers in the EU are most affected by this trend as the ongoing Eurozone crisis forces nations to make cost savings in order to balance their budget. Near-term catalysts for renewable energy stocks are (1) the feed-in tariff review in Japan (announcement expected before April '13) and (2) EEG amendments suggested by Rösler and Altmaier to curb renewable subsidies. While we expect a FiT cut in Japan in the order of ~13%, we remain skeptical whether the EEG amendment can grab enough support by the Bundesrat (has veto rights and CDU/FDP minority). Specifically for solar stocks, we see near-term drivers to be the trade war determinations by China (foreign polysilicon) and Europe (Chinese modules).

Potential positives: (1) German elections and (2) details of China 10 GW plan

Germany: Federal elections — German elections are held on 22nd Sep 2013, and it looks very likely that Angela Merkel's CDU will stay in power, leading a coalition with the Social Democrats (SPD) or even the Greens, as polls suggest that the Liberal party (FDP) will have a much less influential position in parliament. Of course, if the Greens could form a coalition with the CDU/CSU and they would have a say in the forthcoming EEG amendments, this would be positive for renewables in Germany.

However, regardless of the outcome, the new government will stay in power for a legislative period of 4 years, which is positive for EEG continuity and adds certainty for renewables developers — we expect less frequent and violent overhauls of the EEG such as the recent attempt by Rösler and Altmaier.

Figure 21. German elections 2013 could favor a CDU/Greens coalition

	CDU/CSU	SPD	Greens	FDP	Left party	Rest
Last elections 2009	33.8%	23.0%	10.7%	14.6%	11.9%	6.0%
Polls for 2013	40.0%	25.0%	16.0%	4.0%	8.0%	7.0%

Source: Citi Research, Forsa poll

Stocks set to benefit:

An increase in political influence of the Green party would bode positively for all German-exposed stocks. This would be particularly the case for the German solar and wind industries, which are facing potential caps to EEG subsidies. Beneficiaries in solar would be heavily German-volume-exposed stocks such as SMA Solar and SolarWorld, while wind companies such as Vestas and Siemens may benefit from their exposure in particular to offshore windfarm development.

China: 10 GW solar plan — During China's annual national energy work conference, Liu Tienan, deputy director of the National Development and Reform Commission, announced that China aims to install an additional 10GW of solar installations in 2013. Mr Liu did not provide any specifics of how China would achieve this goal — we await details of a concrete action plan. If the Chinese government can deliver a concrete and credible action plan in the coming weeks, it could potentially trigger a rally in solar stocks on the expectation of increased end-demand.

Stocks set to benefit:

If the 10GW target is confirmed and detail on the financing methodology confirmed, this would be positive for Chinese-demand-exposed stocks, such as GCL Poly, Trina, Yingli and Suntech.

Neutral – depending on outcome: 2013 UN Climate Change Conference in Warsaw

2013 UN Climate Change Conference — This year's Climate Change Conference will be held in Warsaw, Poland on 11-22 November 2013. Participating nations will continue developing a successor to the Kyoto Protocol, expected to be developed by 2015 and implemented by 2020. We expect the main focus of the conference to be around the loss and damage mechanism (compensation for countries worst affected by climate change) already discussed but left unbinding in last year's UN Climate Change Conference in Doha.

Stocks set to benefit:

Positive newsflow from this conference would have generally positive read-across for all climate-exposed stocks, i.e. potentially the whole of the Citi Climate Change Universe depending on any sectoral/regional details coming from the conference.

Potential negatives: (1) EEG surcharge cap (2) China preliminary poly tariff ruling (3) EU import tariffs (3) Germany FiT degression and (4) Japan FiT review

Germany: EEG surcharge — In Feb 2012, Economic Minister, Philipp Rösler, and Environment Minister, Peter Altmaier, presented a joint proposal to cap EEG surcharges on German electricity prices. Once this proposal has been put into a legislative document, it will go through a voting session in the Bundestag (expected mid-April), where CDU (Altmaier) and FDP (Rösler) hold the majority. Should the document then not be vetoed by the Bundesrat, it could enter into effect as early as 1 August 2013 (proposed date). However, CDU/FDP have a minority in the Bundesrat, which has the power to veto this bill.

The initial proposal suggests: (1) 2014 EEG surcharge to remain on the same level as 2013 – 5.277€ct / kWh and (2) from 2015 onwards a maximum increase of 2.5% annually (Action plan in Figure 22).

Figure 22. Rösler/Altmaier action plan

Category	Affected sectors	Measure	Estimated savings (€ mm)
New EEG projects (connected after 1 August 2013)	All renewables except PV	For the first five months of operation, projects will receive the electricity market price only. After the initial five months, a relevant market premium will be awarded.	500
	All renewables	From the sixth month of operation, the reference tariffs (or strike prices) will be lowered: (1) Onshore wind: reference starting tariff reduced to € 80 / kWh (2) The repowering bonus for onshore wind will be scrapped (3) No change for PV (continued MONTHLY cuts) (4) All other projects - a one-off 4% cut	100
	All renewables	Feed-in tariffs for large projects abolished: Projects larger than 150kW can no longer opt for a FiT. All projects have to sell directly to the market and benefit from the market premium mechanism. However, the management fee paid as a part of this mechanism will be scrapped.	60
Existing EEG projects (connected before 1 August 2013)	All renewables	Radical reduction in damage compensation for curtailment to reduce pressure on the grid at peak time.	
	Biogas using liquid manure	From 1 August 2013 the special bonus for using liquid manure will be abolished. This retroactive cut affects all projects commissioned after 2004	150
	All renewables	A one-off cut of 1.5% in 2014, affecting all existing projects commissioned before 1 August 2013.	350
EEG cost distribution	Energy-intensive industry and autoconsumption	EEG Surcharge regulation: (1) The minimum levy for exempted energy-intensive companies will be increased on 1 January 2014 (2) Industries not facing fierce international competition will not be benefitting from the EEG surcharge exemption (3) Projects used for auto-consumption will be included under the EEG Surcharge, with an exception for CHP and projects <2MW	700

Source: Government sources and Citi Research

Offshore wind affected by EEG cap, while solar remains untouched...

Most affected by this amendment are offshore wind developers. Based on numbers used by network operators (Übertragungsnetzbetreiber) to determine the annual EEG surcharge, the largest chunk of incremental compensation is budgeted in for offshore wind developers (€775mm in 2014). This number compares to €820mm (6.5GW) in 2013 and €504mm (6.5GW) in 2014 for solar — these GW figures are unlikely to be achievable and hence an EEG surcharge cap would not impact solar installations significantly (See Figure 23).

Retroactive cuts would hurt renewable industry in Germany.

However, the real risk for renewables lies in the proposal to cut tariffs retroactively by 1.5%. While the cut itself does not significantly alter the economics of solar projects in Germany, it would trigger concerns over the subsidy credibility of the German government among renewables developers — this would have negative implications on installation levels.

Figure 23. EEG budget for incremental installations

in €mm	2008A	2009A	2010A	2011A	2012E	2013E	2014E	2015E	2016E	2017E
PV	622	938	1,933	2,676	1,570	820	504	471	83	-57
Growth		51%	106%	38%	-41%	-48%	-39%	-7%	-82%	-169%
Wind Offshore	0	6	20	59	46	213	775	1,176	872	992
Wind Onshore	53	-172	-73	849	-740	-198	206	847	-70	331
Geothermal	3	1	2	-2	3	11	12	10	10	10
Bio	537	1,001	540	236	556	-65	47	231	203	399
Gas	-37	1,317	-1,390	-47	23	-11	-10	-3	-24	-1
Water	-39	3	39	-190	114	-77	2	-2	-22	19
Total	1,139	3,094	1,071	3,581	1,572	693	1,536	2,730	1,052	1,693

Source: Citi Research, Übertragungsnetzbetreiber and r2b research

Stocks set to benefit/be negatively impacted:

If incentives are cut or EEG funding capped, while negative in the longer term for the solar industry, this may result in a 'pull-forward' of demand as developers rush to beat tariff changes. This would be positive for heavily German-volume-exposed stocks such as SMA Solar and SolarWorld. As discussed, one key area of negative read-across could be offshore wind development exposed stocks, including wind turbine manufacturers such as Vestas and Siemens.

China: Polysilicon preliminary ruling on tariffs — China is currently probing if foreign poly makers are dumping their products into the Chinese market. A preliminary ruling was initially expected on the 20th Feb 2013, but was postponed to March subsequently. We expect a positive initial determination ([Solar: Preliminary China poly import ruling](#)).

Figure 24. Proposed tariffs

Originating country	Proposed dumping magnitude	Reference value
US	54.41%	Based on the average price of polysilicon exported to Japan from the US, during May 2011 - April 2012
South Korea	48.77%	Based on the average price of polysilicon exported to Japan from Korea, during May 2011 - April 2012
EU	11.47%	Based on the average price of polysilicon exported to other EU countries from Germany, during May 2011 - April 2012

Source: Citi Research, Ministry of Commerce of the People's Republic of China: Bureau of Fair Trade for Imports and Exports

Stocks set to benefit/be negatively impacted:

The key beneficiary of Chinese import tariffs ([Solar: Preliminary China poly import ruling](#)) would be GCL Poly, while local module manufacturers such as Yingli and Trina may see input costs rise and hence be negatively impacted although only to a limited extent. US-based polysilicon manufacturers such as REC are likely to be more negatively impacted if tariffs materialise, while European manufacturers such as Wacker may be subject to lower tariffs; while still negative, this may give European manufacturers a relative advantage.

EU: Module tariffs — At the end of 2012, the EU launched anti-subsidy and anti-dumping proceedings against Chinese solar module manufacturers — the case was brought forward by 44 European manufacturers under the name ProSun. An initial determination could be ruled as soon as May, with tariffs coming into effect in August.

Stocks set to benefit/be negatively impacted:

The key losers from European tariffs (the likelihood of which we view with some skepticism) would be Chinese module manufacturers such as Trina, Yingli and Suntech. Relative beneficiaries in Europe would be companies such as SolarWorld and REC.

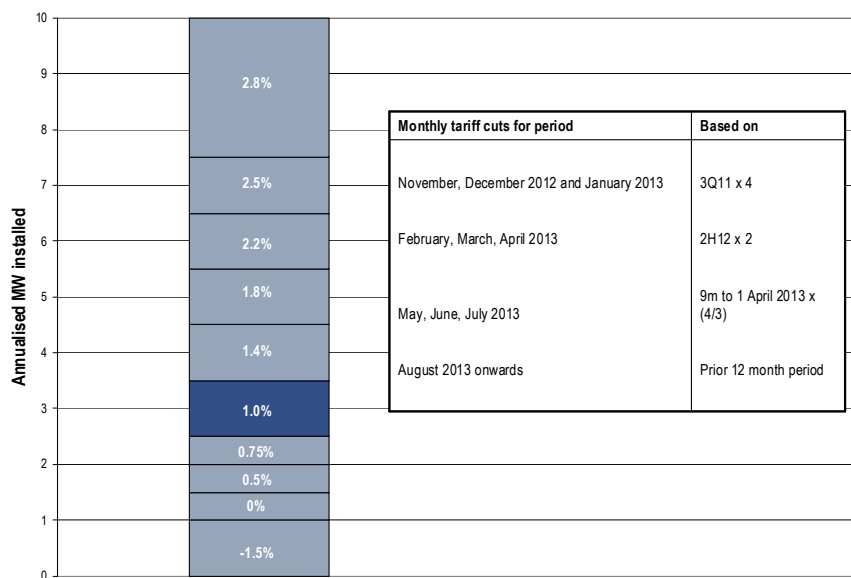
Figure 25. Solar installations in Germany

Month	Installations (MW)
Jul-12	522
Aug-12	329
Sep-12	978
Oct-12	611
Nov-12	435
Dec-12	330
Total	3205

Source: Citi Research, Bundesnetzagentur

Germany: FiT degression — We expect an announcement of degression rates (for the months May, June and July) for German feed-in tariffs at the end of April '13. Degression rates are determined on 9-month installations ending May '13 (See previous note on Germany's degression mechanism, [German solar feed-in tariff: A FIT-ting end to a growth industry?](#)). According to installation data at hand (July '12 – Dec '12), we expect installation levels of 5.6GW annualized (rolling 330MW from Dec '12 forward) which translates into a degression rate of 2.2% for the months May, June and July.

Figure 26. Germany: FiT degression mechanism



Source: Citi Research, Deutscher Bundestag

We see limited stock impact given that this effect is widely expected as per the tariff degression formula. Stocks most exposed to German volumes are SMA Solar and SolarWorld.

Japan: FiT cuts — The committee responsible for setting FiT rates reconvened on the 21st Jan 2013 to discuss feed-in tariff rates for the April '13-March '14 period. Japan's FiT programme covers biomass and waste, geothermal, hydro, solar PV and wind energy. According to the latest cost data presented by the METI (Ministry of Economy, Trade and Industry) and BNEF, we could see a cut from \$0.47ct / kWh to \$0.41ct / kWh (-13%) for solar PV developers.

Stocks set to benefit/be negatively impacted:

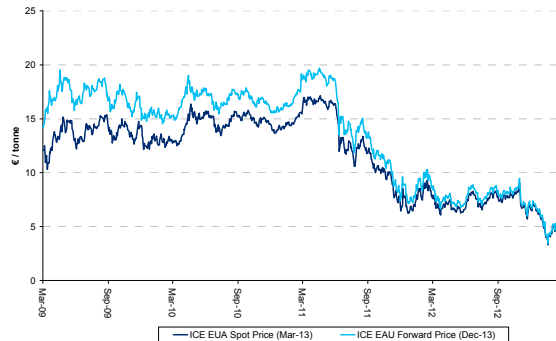
The most exposed stocks to Japanese development volumes on both the upside and downside would be SunPower (via local JV's) and SMA Solar.

Universe drivers and stock performance

The following pages highlight key sectoral inputs and drivers of the performance of many of the stocks contained within the Citi Climate Change Universe.

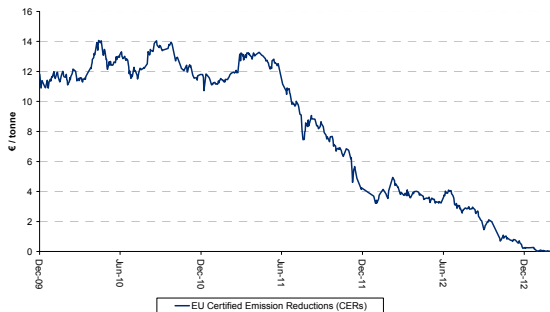
We also highlight the best- and worst-performing stocks from each of the four thematic groupings within the Citi Climate Change Universe, and highlight the stocks with the highest levels of liquidity and their upside to price targets.

Figure 27. European Carbon Prices: EAUs



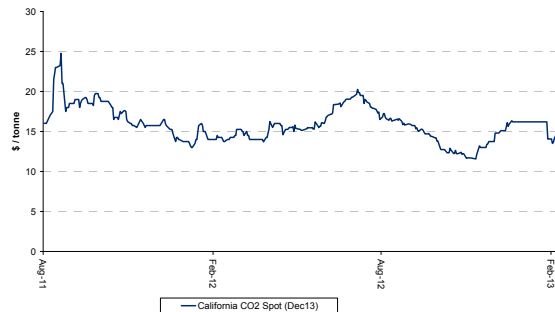
Source: Citi Research, Bloomberg

Figure 28. European Carbon Prices: CERs



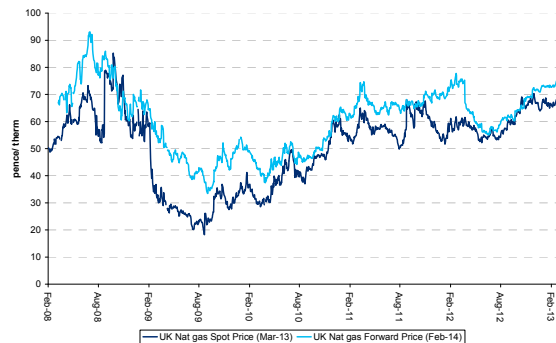
Source: Citi Research, Bloomberg

Figure 29. US Carbon Prices: California CO2 Prices



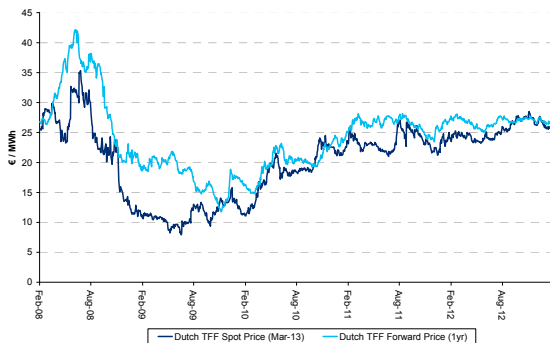
Source: Citi Research, Bloomberg

Figure 30. UK Natural Gas Prices: NBP



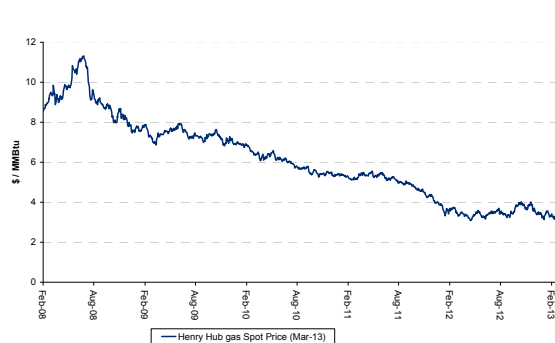
Source: Citi Research, Bloomberg

Figure 31. European Gas Prices: Dutch TTF Gas



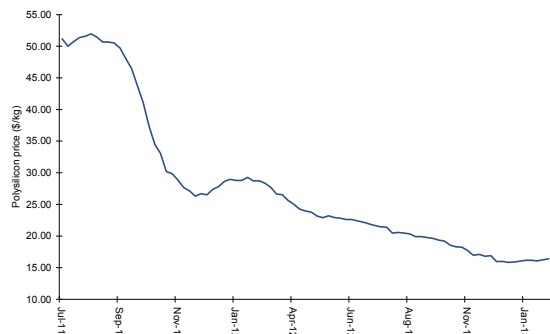
Source: Citi Research, Bloomberg

Figure 32. US Gas Prices: Henry Hub Gas



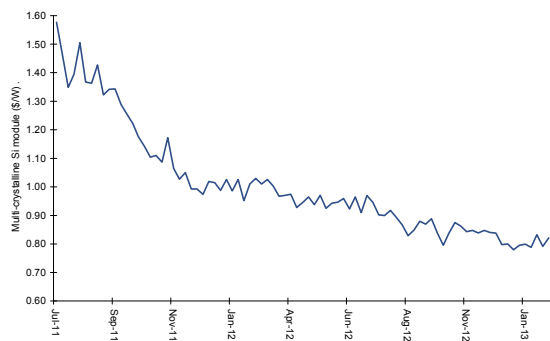
Source: Citi Research, Bloomberg

Figure 33. Solar Grade Polysilicon (\$/kg)



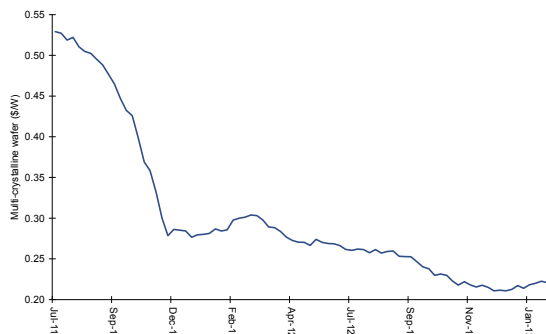
Source: Citi Research, BNEF

Figure 36. Multi-crystalline Module Prices (\$/W)



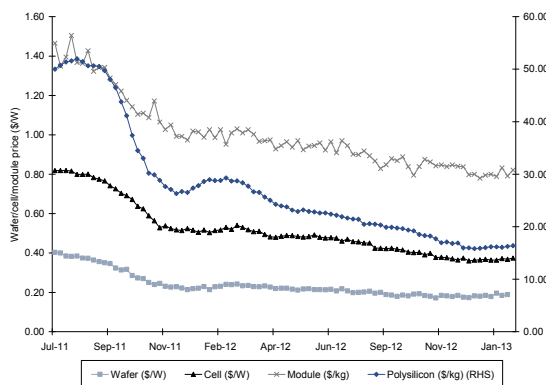
Source: Citi Research, BNEF

Figure 34. Multi-crystalline Wafer Prices (\$/W)



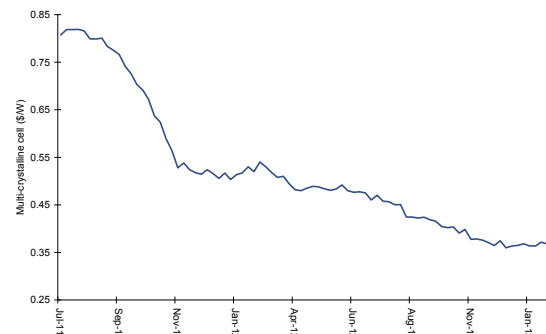
Source: Citi Research, BNEF

Figure 37. Solar component tracker



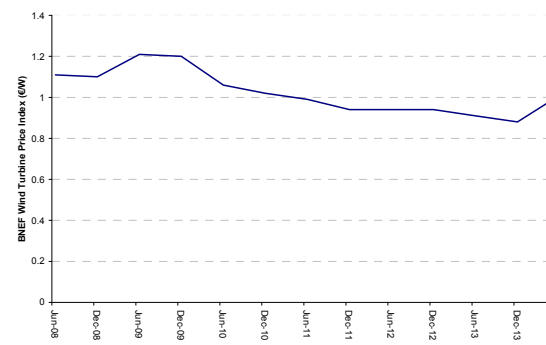
Source: Citi Research, BNEF

Figure 35. Multi-crystalline Cells Prices (\$/W)



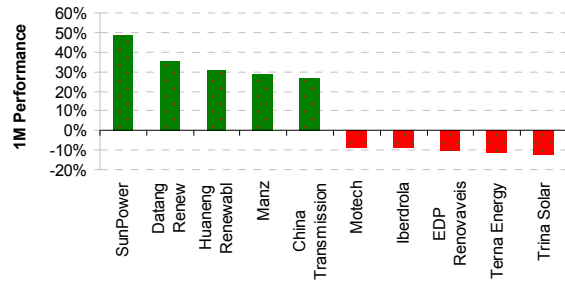
Source: Citi Research, BNEF

Figure 38. Wind turbine Price index



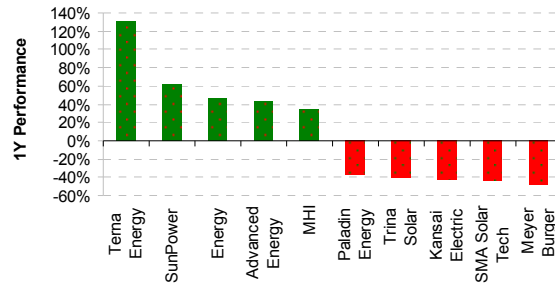
Source: Citi Research, BNEF

Figure 39. Lower Carbon Electricity: 1M Performance



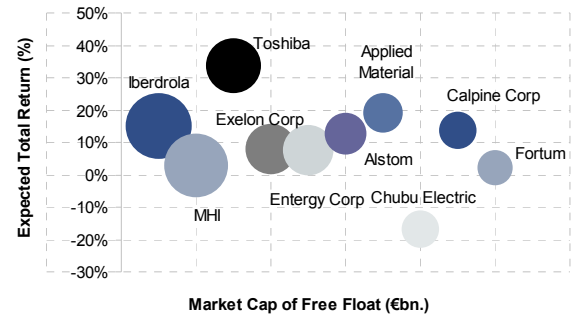
Source: Powered by dataCentral.

Figure 40. Lower Carbon Electricity: 1Y Performance



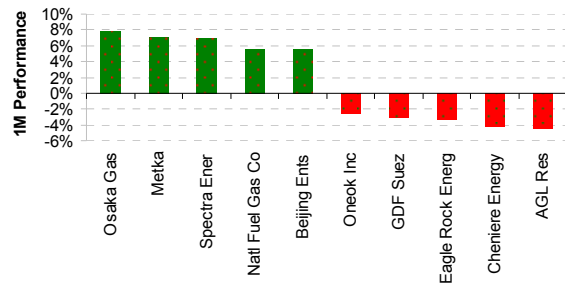
Source: Powered by dataCentral.

Figure 41. Lower Carbon Electricity: Liquidity/Return



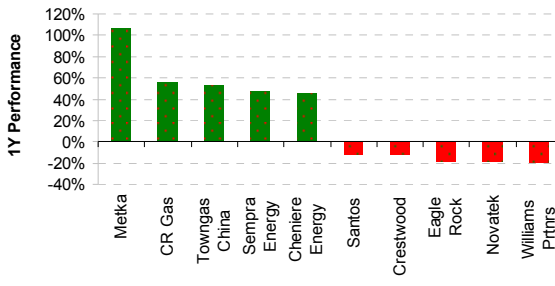
Source: Powered by dataCentral.

Figure 42. Gas Power & Heating: 1M Performance



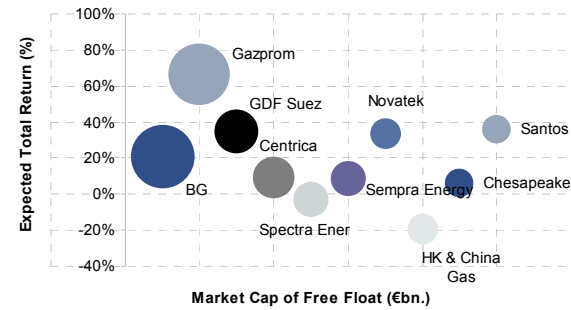
Source: Powered by dataCentral.

Figure 43. Gas Power & Heating: 1Y Performance



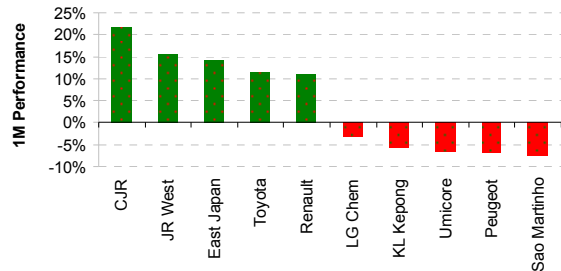
Source: Powered by dataCentral.

Figure 44. Gas Power & Heating: Liquidity/Return



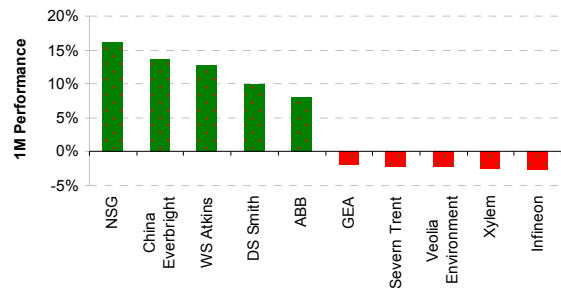
Source: Powered by dataCentral.

Figure 45. Lower Carbon Transport: 1M Performance



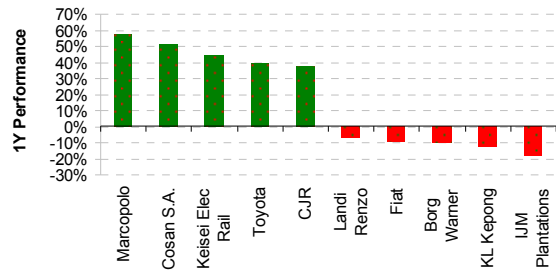
Source: Powered by dataCentral.

Figure 48. Energy Efficiency: 1M Performance



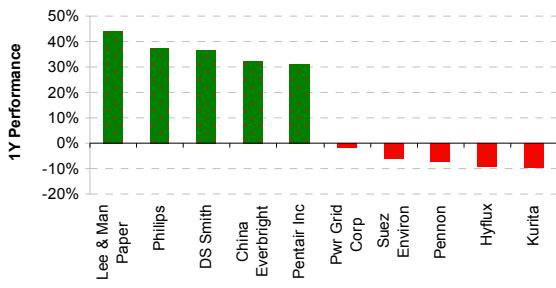
Source: Powered by dataCentral.

Figure 46. Lower Carbon Transport: 1Y Performance



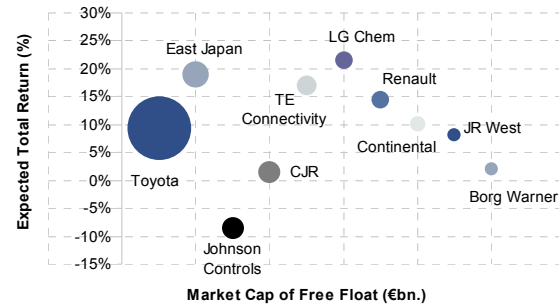
Source: Powered by dataCentral.

Figure 49. Energy Efficiency: 1Y Performance



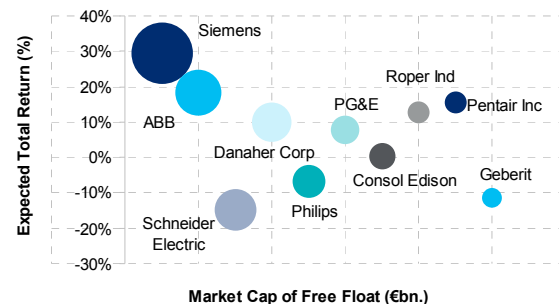
Source: Powered by dataCentral.

Figure 47. Lower Carbon Transport: Liquidity/Return



Source: Powered by dataCentral.

Figure 50. Energy Efficiency: Liquidity/Return



Source: Powered by dataCentral.

Citi Climate Change Universe Top Picks

Figure 51. Changes to the list since last publication (12 June 2012)



Source: Citi Research

Lower Carbon Electricity

1. Alstom (ALSO.PA)
2. Calpine Corporation (CPN.N)
3. Energy Development (EDC.PS)
4. Paladin Energy (PDN.AX)
5. Toshiba (6502.T)

Lower Carbon Transport

1. Continental (CONG.DE)
2. East Japan (9020.T)
3. LG Chem (051910.KS)
4. KL Kepong (KLKK.KL)
5. National Express Group PLC (NEX.L)

Gas Power and Heating

1. BG Group (BG.L) * (Focus List Europe)
2. Cheniere Energy Inc (LNG.A)
3. Gazprom (GAZP.MM)
4. Santos Ltd (STO.AX) * (Focus List Pan Asia)
5. Williams Partners (WPZ.N) * (Top Picks Live – US)

Energy Efficiency

1. ABB (ABB.VX) * (Focus List Europe)
2. Danaher (DHR.N) * (Top Picks Live – US)
3. Pentair, Inc. (PNR.N)
4. Power Grid Corporation (PGRD.BO)
5. Veolia Environnement (VIE.PA)

Figure 52. New Citi Climate Change list

Lower Carbon Electricity	Lower Carbon Transport	Gas Power and Heating	Energy Efficiency
Alstom (ALSO.PA) Calpine Corporation (CPN.N) Energy Development (EDC.PS) Paladin Energy (PDN.AX) Toshiba (6502.T)	Continental (CONG.DE) East Japan (9020.T) LG Chem (051910.KS) KL Kepong (KLKK.KL) National Express Group PLC (NEX.L)	BG Group (BG.L) * Cheniere Energy Inc (LNG.A) Gazprom (GAZP.MM) Santos Ltd (STO.AX) * Williams Partners (WPZ.N) *	ABB (ABB.VX) * Danaher (DHR.N) * Pentair, Inc. (PNR.N) Power Grid Corporation (PGRD.BO) Veolia Environnement (VIE.PA)

Source: Citi Research, new picks in bold

Figure 53. Previous Citi Climate Change list from 12 June 2012

Lower Carbon Electricity	Lower Carbon Transport	Gas Power and Heating	Energy Efficiency
Calpine Corporation (CPN.N) Dongfang (1072.HK) Energy Development (EDC.PS) Paladin Energy (PDN.AX) Toshiba (6502.T)	Continental (CONG.DE) East Japan (9020.T) LG Chem (051910.KS) South Locomotive (1766.HK) Valeo (VLOF.PA)	Beijing Enterprises (0392.HK) Dresser Rand Group (DRC.N) Novatek (NVTQ.L) Sempra Energy (SRE.N) Williams Partners (WPZ.N)	ABB (ABB.VX) Danaher (DHR.N) GEA (G1AG.DE) Power Grid Corporation (PGRD.BO)

Source: Citi Research

Climate Change Universe

Updates to Citi's Climate Change Universe

We first published Citi Research's global Climate Change Universe in October 2009, highlighting stocks under coverage with long-term exposure to emissions control policy.

Strict criteria for inclusion in the universe

Figure 54. Criteria for inclusion in the Citi Climate Change Universe under the four themes

Theme	Criteria
Lower Carbon Electricity	
Power Generation	> 75% 2011 low carbon generation including nuclear, hydro, gas and renewables
Power Generation Equipment /Fuel	> 20% 2011 sales from nuclear, hydro, gas and renewables
Renewable power generators	> 20 % 2011 from renewable power generation
Renewable power generation equipment	> 20% 2011 revenues from renewable equipment
Gas Power and Heating	
Gas E&P Integrated	> 70% 2011 reserves in gas or > 50% of 2011 revenues
Gas Transmission and Distribution	> 70% 2011 transmission/distribution of gas or > 50% of 2011 revenues from gas
Suppliers to the Gas Industry	> 20% 2011 revenues
Lower Carbon Transport	
Public Transport and Railway Operators	> 20% revenues from providing equipment such as railcars or delivering public transport networks
Efficient and Zero Emissions Solutions	>20% 2011 revenues from providing components to improve auto efficiency. >Auto manufacturers with average fleet emissions of less than 140g/km. **This criteria has been tightened from fleet efficiency of 150g/km. >20%revenues from providing alternative low emissions travel solutions including bicycles and videoconferencing
Alternative Fuels	> 20% 2011 revenues from biofuels. Also screen to ensure companies are complying with sustainability principles in production process.
Energy and Resource Efficiency	
Electrical efficiency equipment and Services	> 20% 2011 revenues
Electricity transmission and distribution	> 20% 2011 revenues
Water, Waste and Recycling	> 20% 2011 revenues from water management and efficiency, waste management or resource efficiency/recycling
Thermally efficient building materials	>10% 2011 revenues

Source: Citi research

Note: Where companies qualify under more than one criteria they are included in their highest revenue exposure sector.

In our recent publication last June ([Citi Climate Change Universe: Accessing \\$12trn of Investment via our 20 Actionable Top Picks](#)), we have updated our list to add 21 companies to the universe. Since June we have initiated on 13 companies, which we now add to the list — on the other hand we have dropped coverage of 7 companies (See Figure 55). The universe now comprises 175 stocks categorized under one of the four broad themes of lower carbon electricity, gas power and heating, lower carbon transport and energy and resource efficiency.

Figure 55. Stocks where Citi has ceased coverage since June 2012

Theme	Company Name
Low carbon electricity	Energy Resources of Australia Ltd Ormat Technologies inc Aixtron SE American Superconductor Corp
Gas power and heating	-
Lower carbon transport	Gevo Inc KiOR, Inc
Energy and resource efficiency	Veeco Instruments Inc

Source: Citi Research

Figure 56. Additions to the Climate Change Universe since June 2012

Theme	Company Name
Low carbon electricity	Andritz AG Kogeneracja
Gas power and heating	Access Midstream Partners LP Cheniere Energy Inc Cheniere Energy Partners LP Chesapeake Energy Corp Crestwood Midstream Partners LP ENN Energy Holdings Eagle Rock Energy Partners LP
Lower carbon transport	-
Energy and resource efficiency	China Everbright Int'l DS Smith PLC Kingspan

Source: Citi Research

Andritz AG

Andritz is an Austrian-listed, diversified industrials group with more than 16,500 employees and present in more than 180 locations worldwide. Andritz is one of the leading suppliers of turn-key projects, equipment and services for multiple applications to a variety of sectors. It is organized into 5 main divisions: hydropower (45% of 2011 EBITDA), pulp & paper (35%), separation (11%), metals (6%) and feed & biofuel (3%).

Kogeneracja

Kogeneracja's core business is the production of heat and electricity in co-generation process. The company is an almost monopoly producer in local markets in Wroclaw (two units) and Zielona Gora (one unit). Kogeneracja Group includes additional companies dealing with construction works and gardening, but these activities are of little significance to the financials.

Access Midstream Partners LP

Access Midstream Partners LP (formerly Chesapeake Midstream Partners, L.P.) currently operates in Barnett, Midcontinent, Haynesville, and Marcellus, and is engaged in the gathering and processing of natural gas for Chesapeake Energy Corp (CHK) and third party producers. Unlike other gathering and processing (G&P) MLPs, the partnership generates all of its revenues from fee-based agreements with its cash flows in Barnett and Haynesville supported by minimum volume

commitments, and Marcellus cash flows guaranteed at a minimum of \$100 million in 2012 EBITDA and \$150 million in 2013 EBITDA. The partnership's former general partner, Chesapeake Energy, recently sold its entire LP and GP interest to Global Infrastructure Partners (GIP), a private equity firm. Six months later, GIP Fund I sold their 50% GP interest and 34.5 million Sub units to Williams Co (WMB). In conjunction with that transaction, ACMP directly purchased Chesapeake Midstream Operating Co from CHK for \$2.16 billion. This transaction afforded the partnership a suite of midstream gas gathering, processing and related assets in the Eagle Ford, Utica, Niobrara, Haynesville and Marcellus basins, with significant organic growth opportunities for the next several years.

Cheniere Energy Inc

Cheniere was a first mover in the race to site and develop LNG terminals in the U.S. The company currently has ownership of the Sabine Pass Regas terminal in the Gulf of Mexico. The company proposes to build a liquefaction facility at its Sabine Pass terminal to export US gas to other parts of the world.

Cheniere Energy Partners L P

Cheniere Energy Partners owns and operates the Sabine Pass LNG regasification terminal. The terminal is fully operational with 4.0 Bcf of LNG regas capacity and 16.9 Bcf of storage capacity. Sabine Pass is the largest LNG receiving facility in North America. Sabine Pass has 2.0 Bcf of its capacity reserved under 20 year terminal use agreements (TUAs) with Chevron and Total. The TUAs are essentially "take-or-pay" agreements, in which customers will have to pay for usage of its terminal capacity, regardless as to whether the customer is utilizing its assigned capacity. Management is now exploring the feasibility of adding liquefaction trains to allow Sabine Pass to have bi-directional capabilities.

Chesapeake Energy Corp

Chesapeake Energy Corporation (CHK) is one of the largest independent producers of natural gas in the United States, with natural gas output of 3.9 Billion cubic feet per day, or >6% of total US natural gas production. The company had 15.7 Tcfe of proved reserves as of YE'12. It is either the largest or second-largest leased acreage holder in the Barnett, Haynesville, Marcellus, Granite Wash, Miss Lime, Niobrara, Cleveland/Tonkowa, Eagle Ford, Utica and Anadarko Basin.

Crestwood Midstream Partners LP

Crestwood Midstream Partners LP (NYSE: CMLP) is a master limited partnership formed in 2007, engaged in the gathering, processing, treating, compression, transportation and sales of natural gas as well as the delivery of produced NGLs. The partnership operates assets in various shale plays in the United States, including the Barnett Shale and Granite Wash in Texas, Fayetteville Shale in northwestern Arkansas, Avalon Shale in southeastern New Mexico, Haynesville/Bossier Shale in western Louisiana, and Marcellus Shale in northern West Virginia. These assets primarily include natural gas gathering systems, which are made up of over 830 miles of natural gas gathering pipelines and NGL, gas lift, residue and production lines of varying size. In relation to these systems, Crestwood also operates three processing plants as well as a number of dehydration, compression, and treating facilities. The partnership generates gross margins from these assets mainly through long-term, fee-based contracts with natural gas producers in the area.

ENN Energy Holdings

ENN Energy (formerly known as Xinao Gas) specializes in distributing piped natural gas to residential households, commercial buildings and light industrial companies in China. The company was founded in 1993 with a single project in Langfang of Hebei province. It began expanding actively into other areas in 2002, after restrictions on foreign participation in piped gas distribution in urban cities were lifted. It currently holds over 100 exclusive city gas supply contracts in China, covering an urban population of 54m.

Eagle Rock Energy Partners LP

Eagle Rock Energy Partners LP (EROC) is a domestically focused growth oriented MLP engaged in midstream and upstream activities for oil, natural gas liquids and natural gas. As part of midstream operations the partnership is involved in gathering, compressing, treating, processing & transporting of natural gas; fractionating and transporting natural gas liquids ("NGLs"); crude oil logistics and marketing; and nat gas marketing and trading activities in Texas Panhandle and East Texas regions. Its midstream assets comprise of ~8,100 miles of gathering pipelines and about 500 MMcf/d of total gas processing capacity. In its upstream business, the partnership develops and produces from oil and natural gas properties. The partnership's upstream activities are focused in mid-continent, Alabama/Mississippi and Permian areas. EROC's proved reserves totaled about 371 bcfe at the end of 2011 with nat gas, NGLS and crude comprising 63%, 19 and 18% of these reserves respectively. Upstream and Midstream business segments each contributes about half of the partnership's operating income.

China Everbright Int'l

China Everbright (CEI) has operations in environmental energy (waste-to-energy), environmental protection industrial parks, wastewater treatment, alternative energy production, infrastructure construction, and property investment. This portfolio of environmental protection businesses should allow CEI to benefit from China's efforts to improve standards of living in urban areas. Over the past two years, the company has started to increase its investments in the environmental energy and alternative energy sectors, which should be the drivers for growth in coming years as growth in water projects slows.

DS Smith PLC

DS Smith is a major European corrugated packaging manufacturer with leading position in the collection and recycling of paper and used board. Recycling has become a major differentiator for the group and driver for the business, with a major collections network in the UK (primarily targeting supermarkets) and Europe. By providing a collection, tracing and management service to the major retailers (and paying them for the privilege), SMDS has access to a very stable and cost effective fibre source from which to make its corrugated packaging.

Kingspan

Kingspan is a leading supplier of building materials and solutions that reduce energy consumption in residential and commercial buildings. The group's main activities are the manufacture of: insulated panels, rigid insulation boards, architectural facades, raised floor access floors, engineered timber systems, environmental management systems, sustainable water and renewable energy solutions.

Kingspan has market-leading positions in the UK, Europe, North America and Asia. Its head office is in Ireland and it has more than 80 locations including 48 manufacturing facilities across its markets.

Low Carbon Electricity

Figure 57. Low Carbon Electricity (1)

	DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recommendation	DPR (%) 2012	Expected total return (%)
Power Generation														
Power Generation	CPN.US	CPN.N	Calpine Corp	United States	USD	8.38	100%	6.38	6.38	18.36	21.00	1	0.00%	14%
	9502.JP	9502.T	Chubu Electric	Japan	JPY	880.43	95%	7.27	6.91	1162.00	900.00	3	5.16%	-18%
	CEN.NZ	CEN.NZ	Contact Energy	New Zealand	NZD	3.95	48%	2.49	1.20	5.39	5.20	2	4.27%	1%
	EDF.FR	EDF.PA	EDF	France	EUR	27.15	14%	27.15	3.80	14.69	15.00	2	7.83%	10%
	ETR.US	ETR.N	Entergy Corp	United States	USD	11.03	100%	8.39	8.39	62.02	66.00	2	5.35%	12%
	EXC.US	EXC.N	Exelon Corp	United States	USD	26.3	100%	20.02	20.02	30.79	30.00	2	6.82%	1%
	FUM1V.FI	FUM1V.HE	Fortum	Finland	EUR	12.84	47%	12.84	6.03	14.45	14.00	2	6.92%	4%
	IBE.ES	IBE.MC	Iberdrola	Spain	EUR	23.49	88%	23.49	20.67	3.74	3.90	2	8.02%	12%
	9503.JP	9503.T	Kansai Electric	Japan	JPY	714.82	87%	5.90	5.13	800.00	700.00	3	7.50%	-13%
	KG.N.PL	KG.N.WA	Kogeneracja	Poland	PLN	1.06	50%	0.25	0.13	71.00	96.50	1	1.85%	39%
	PGE.PL	PGE.WA	PGE	Poland	PLN	30.83	38%	7.41	2.82	16.49	17.60	1	12.21%	11%
	9501.JP	9501.T	TEPCO	Japan	JPY	336.52	95%	2.78	2.64	210.00		-		
Power generation equipment /fuel														
Power generation equipment /fuel	ALSO.FR	ALSO.PA	Alstom	France	EUR	10.27	73%	10.27	7.50	33.35	38.00	1	2.40%	16%
	1072.CN	1072.HK	Dongfang Elec	China	CNY	29.22	65%	2.87	1.87	14.58	9.00	3	1.05%	-37%
	7011.JP	7011.T	MHI	Japan	JPY	1724.56	88%	14.23	12.52	514.00	550.00	2	1.17%	8%
	PDN.AU	PDN.AX	Paladin Energy	Australia	USD	0.98	91%	0.77	0.70	1.18	1.60	1	0.00%	36%
	6502.JP	6502.T	Toshiba	Japan	JPY	1808.29	96%	14.92	14.32	427.00	550.00	1	1.87%	31%
Renewable power generators														
Renewable power generators	ANA.ES	ANA.MC	Acciona	Spain	EUR	2.7	41%	2.70	1.11	47.18	46.00	2	5.30%	3%
	0916.CN	0916.HK	China Longyuan	China	CNY	56.82	37%	5.57	2.06	7.07	6.50	3	1.22%	-7%
	EDPR.ES	EDPR.LS	EDP Renovaveis	Spain	EUR	3.44	22%	3.44	0.76	3.95	5.20	1	0.90%	33%
	TENR.GR	TENR.AT	Terna Energy	Greece	EUR	0.35	100%	0.35	0.35	3.17		2		

Source: Powered by dataCentral.

Figure 58. Low Carbon Electricity (2)

						DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recomm- endation	DPR (%)	Expected total return (%)
2012																			
Renewable power generation equipment																			
Renewable power generation equipment	010060.KR	010060.KS	OCI	South Korea	KRW	4137.87	63%	2.90	1.83	173500.00	200000.00	2	1.15%	16%					
	0658.HK	0658.HK	China Transmission	Hong Kong	CNY	5.3	79%	0.52	0.41	3.89	2.45	3	0.00%	-37%					
	0956.CN	0956.HK	China Suntien	China	CNY	6.06	42%	0.59	0.25	1.87	1.95	1	4.06%	8%					
	0958.CN	0958.HK	Huaneng Renewabl	China	CNY	16.81	33%	1.65	0.54	1.99	1.25	1	0.81%	-36%					
	1798.HK	1798.HK	Datang Renew	Hong Kong	CNY	12.44	17%	1.22	0.21	1.71	1.08	1	0.41%	-36%					
	2208.CN	2208.HK	XJ Goldwind	China	CNY	11.64	68%	1.14	0.78	4.32	2.30	3	0.59%	-46%					
	3519.TW	3519.TW	Green Energy	Taiwan	TWD	8.45	70%	0.22	0.15	26.25	33.00	1	0.00%	26%					
	3800.HK	3800.HK	GCL-poly Energy	Hong Kong	HKD	32.04	67%	3.14	2.10	2.07	2.68	1	0.00%	29%					
	6244.TW	6244.TWO	Motech	Taiwan	TWD	13.28	65%	0.34	0.22	30.35	42.30	1	0.00%	39%					
	AEIS.US	AEIS.O	Advanced Energy	United States	USD	0.67	91%	0.51	0.46	17.75	20.00	1	0.00%	13%					
	ANDR.AT	ANDR.VI	Andritz	Austria	EUR	5.61	70%	5.61	3.93	53.94	50.60	2	2.22%	-4%					
	AMAT.US	AMAT.O	Applied Material	United States	USD	16.49	100%	12.55	12.55	13.74	14.00	2	2.33%	4%					
	CTNG.DE	CTNG.DE	centrotherm PV	Germany	EUR	0.03	47%	0.03	0.01	1.26	-	-	-	-					
	EDC.PH	EDC.PS	Energy	Philippines	PHP	142.13	100%	2.65	2.65	7.58	8.50	1	1.85%	14%					
	FSLR.US	FSLR.O	First Solar	United States	USD	2.36	69%	1.79	1.24	27.04	41.00	1	0.00%	52%					
	GAM.ES	GAM.MC	Gamesa	Spain	EUR	0.59	80%	0.59	0.47	2.33	-	2	3.00%	-					
	M5ZG.DE	M5ZG.DE	Manz	Germany	EUR	0.12	49%	0.12	0.06	27.10	31.00	1	0.00%	14%					
	MBTN.CH	MBTN.S	Meyer Burger	Switzerland	CHF	0.4	91%	0.32	0.29	8.33	10.00	2	0.00%	20%					
	REC.NO	REC.OL	Renewable Energy	Norway	NOK	2.09	88%	0.28	0.25	0.99	2.50	1	0.00%	153%					
	S92G.DE	S92G.DE	SMA Solar Tech	Germany	EUR	0.8	29%	0.80	0.23	23.00	13.50	3	3.56%	-38%					
	SPWR.US	SPWR.O	SunPower	United States	USD	1.39	51%	1.06	0.54	11.68	16.00	1	0.00%	37%					
	STP.CN	STP.N	Suntech Power	China	USD	0.25	71%	0.19	0.13	1.38	1.50	3	0.00%	9%					
	SUZL.IN	SUZL.BO	Suzlon Energy	India	INR	41.41	48%	0.59	0.28	23.30	15.00	3	0.00%	-36%					
	SWVG.DE	SWVG.DE	SolarWorld	Germany	EUR	0.14	73%	0.14	0.10	1.24	1.10	2	0.00%	-11%					
	TSL.CN	TSL.N	Trina Solar	China	USD	0.33	99%	0.25	0.25	4.07	6.00	2	0.00%	47%					
	VWS.DK	VWS.CO	Vestas Wind	Denmark	EUR	8.25	100%	1.11	1.11	40.50	40.00	2	0.00%	-1%					
	WCHG.DE	WCHG.DE	Wacker Chem	Germany	EUR	3.57	39%	3.57	1.39	68.10	50.00	2	0.53%	-25%					
	WFR.US	WFR.N	MEMC Electronic	United States	USD	1.14	99%	0.87	0.86	4.93	5.40	1	0.00%	10%					
	YGE.CN	YGE.N	Yingli Green	China	USD	0.39	69%	0.30	0.21	2.51	3.50	2	0.00%	39%					

Source: Powered by dataCentral.

Figure 59. Low Carbon Electricity (3)

	DC Code	RIC Code	Company	P/E (x)			2011-13 PEG	EV/EBITDA (x)			2011-13 EEG	Net Debt / Capital Employed (x)		
				2011	2012	2013	2012	2011	2012	2013	2012	2011	2012	2013
Power Generation														
Power Generation	CPN.US	CPN.N	Calpine Corp	62.32x	84.78x	43.98x	4.45x	12.04x	14.63x	10.84x	2.71x	66%	68%	68%
	9502.JP	9502.T	Chubu Electric	10.69x	-8.94x	-20.56x		6.17x	12.78x	13.77x	-0.39x	49%	54%	56%
	CEN.NZ	CEN.NZ	Contact Energy	22.46x	21.60x	20.48x	4.57x	11.29x	10.35x	10.27x	2.15x	21%	25%	27%
	EDF.FR	EDF.PA	EDF	7.71x	7.61x	8.57x	-1.48x	9.82x	9.98x	9.82x	537.76x	28%	31%	28%
	ETR.US	ETR.N	Entergy Corp	8.22x	9.95x	12.41x	-0.53x	7.35x	8.63x	9.40x	-0.75x	32%	33%	35%
	EXC.US	EXC.N	Exelon Corp	7.23x	10.83x	12.49x	-0.45x	6.70x	4.71x	3.82x	0.15x	29%	25%	26%
	FUM1V.FI	FUM1V.HE	Fortum	10.98x	9.11x	11.64x	-3.18x	6.97x	7.23x	7.34x	-2.83x	34%	35%	35%
	IBE.ES	IBE.MC	Iberdrola	7.31x	8.08x	10.35x	-0.51x	7.48x	7.15x	7.15x	3.16x	38%	36%	33%
	9503.JP	9503.T	Kansai Electric	5.80x	-2.95x	-2.89x		4.69x	20.82x	83.63x	-0.27x	49%	54%	58%
	KG.N.PL	KG.N.WA	Kogeneracja	8.28x	10.08x	9.03x	-2.35x	4.65x	5.03x	4.55x	4.73x	17%	13%	10%
PGE.PL	PGE.WA	PGE	5.78x	8.93x	10.11x	-0.37x	3.90x	4.25x	4.63x	-0.52x	-4%	-9%	-9%	
9501.JP	9501.T	TEPCO												
Power generation equipment /fuel														
Power generation equipment /fuel	ALSO.FR	ALSO.PA	Alstom	9.68x	10.73x	9.65x	67.58x	9.94x	8.83x	7.31x	0.53x	42%	51%	43%
	1072.CN	1072.HK	Dongfang Elec	7.67x	9.59x	12.15x	-0.47x	8.35x	10.29x	10.88x	-0.83x	60%	58%	55%
	7011.JP	7011.T	MHI	57.28x	70.28x	24.27x	1.31x	9.53x	8.99x	7.73x	0.81x	42%	38%	34%
	PDN.AU	PDN.AX	Paladin Energy	-17.23x	26.42x	-4.74x	0.29x	97.25x	31.71x	17.47x	0.23x	27%	34%	28%
	6502.JP	6502.T	Toshiba	13.66x	24.86x	16.08x	-3.18x	6.04x	7.33x	6.58x	-1.74x	28%	32%	29%
Renewable power generators														
Renewable power generators	ANA.ES	ANA.MC	Acciona	17.29x	18.40x	32.55x	-0.68x	7.73x	7.83x	8.14x	-3.11x	50%	53%	52%
	0916.CN	0916.HK	China Longyuan	16.06x	14.86x	15.87x	24.66x	11.13x	9.48x	9.17x	0.93x	58%	55%	57%
	EDPR.ES	EDPR.LS	EDP Renovaveis	38.80x	27.87x	21.65x	0.82x	10.17x	9.12x	7.48x	0.55x	41%	41%	36%
	TENR.GR	TENr.AT	Terna Energy											

Source: Powered by dataCentral.

Figure 60. Low Carbon Electricity (4)

	DC Code	RIC Code	Company	P/E (x)			2011-13 PEG	EV/EBITDA (x)			2011-13 EEG	Net Debt / Capital Employed (x)			
				2011	2012	2013	2012	2011	2012	2013	2012	2011	2012	2013	
Renewable power generation equipment															
Renewable power generation equipment	010060.KR	010060.KS	OCI	4.78x	17.97x	21.38x	-0.34x	3.13x	6.24x	6.54x	-0.20x	12%	14%	13%	
	0658.HK	0658.HK	China Transmission	7.68x	14.52x	13.96x	-0.56x	5.05x	5.82x	6.00x	-0.70x	35%	37%	44%	
	0956.CN	0956.HK	China Suntien	10.83x	11.35x	9.54x	1.73x	8.09x	9.48x	8.61x	-3.06x	49%	57%	59%	
	0958.CN	0958.HK	Huaneng Renewabl	11.36x	24.72x	16.31x	-1.49x	10.04x	10.31x	9.57x	4.30x	60%	64%	66%	
	1798.HK	1798.HK	Datang Renew	13.58x	49.37x	22.31x	-2.25x	11.38x	12.20x	11.01x	7.29x	72%	75%	76%	
	2208.CN	2208.HK	XJ Goldwind	15.41x	37.59x	31.09x	-1.27x	8.00x	13.05x	13.25x	-0.59x	2%	21%	32%	
	3519.TW	3519.TW	Green Energy	-2.98x	-2.56x	-35.99x	0.04x	-25.09x	-15.93x	7.07x		44%	46%	45%	
	3800.HK	3800.HK	GCL-poly Energy	7.51x	-23.96x	34.35x	0.45x	5.84x	50.86x	14.98x	-1.35x	44%	47%	44%	
	6244.TW	6244.TWO	Motech	-5.40x	-2.96x	-372.83x	0.03x	-21.10x	-13.37x	3.33x		6%	22%	15%	
	AEIS.US	AEIS.O	Advanced Energy	18.77x	29.98x	16.77x	5.16x	7.29x	8.94x	5.82x	0.75x	-69%	-144%	-115%	
	ANDR.AT	ANDR.VI	Andritz	24.20x	22.49x	18.78x	1.66x	12.87x	12.07x	9.59x	0.76x	-353%	-92%	-148%	
	AMAT.US	AMAT.O	Applied Material	10.61x	20.34x	28.28x	-0.52x	4.33x	10.51x	13.06x	-0.25x	-123%	0%	11%	
	CTNG.DE	CTNG.DE	centrotherm PV												
	EDC.PH	EDC.PS	Energy	31.93x	19.18x	15.36x	0.43x	14.03x	10.83x	9.48x	0.50x	55%	52%	48%	
	FSLR.US	FSLR.O	First Solar	4.51x	5.92x	6.74x	-0.32x	2.63x	2.08x	1.70x	0.09x	0%	-9%	-20%	
	GAM.ES	GAM.MC	Gamesa	8.31x	-7.76x	-11.01x		4.07x	5.97x	6.80x	-0.26x	31%	25%	28%	
	M5ZG.DE	M5ZG.DE	Manz	142.47x	-12.38x	63.99x	-0.25x	10.00x	14.57x	8.01x	1.25x	9%	18%	19%	
	MBTN.CH	MBTN.S	Meyer Burger	3.23x	-4.73x	-19.54x		0.71x	-11.33x	5.36x	0.18x	-59%	-29%	-22%	
	REC.NO	REC.OL	Renewable Energy	-1.80x	-1.22x	-5.35x	0.03x	2.20x	4.87x	6.25x	-0.12x	24%	19%	15%	
	S92G.DE	S92G.DE	SMA Solar Tech	4.81x	8.81x	-260.36x		1.67x	2.83x	8.59x	-0.05x	-51%	-39%	-47%	
	SPWR.US	SPWR.O	SunPower	41.93x	61.65x	14.99x	0.92x	15.28x	10.52x	6.04x	0.18x	19%	19%	12%	
	STP.CN	STP.N	Suntech Power	-1.45x	-0.65x	-1.07x	-0.04x	5.63x	-10.20x	164.23x	0.13x	60%	71%	82%	
	SUZL.IN	SUZL.BO	Suzlon Energy	-3.88x	-5.87x	-18.29x	0.11x	15.16x	9.50x	6.63x	0.19x	88%	119%	123%	
	SWVG.DE	SWVG.DE	SolarWorld	1.62x	-0.56x	-1.17x		2.53x	-4.35x	-19.29x		46%	63%	70%	
	TSL.CN	TSL.N	Trina Solar	-22.04x	-1.90x	-2.62x	-0.01x	3.68x	-9.45x	185.46x	0.11x	15%	35%	46%	
	VWS.DK	VWS.CO	Vestas Wind	-6.66x	-4.20x	-11.51x	0.18x	5.20x	4.23x	4.88x	1.28x	17%	28%	38%	
	WCHG.DE	WCHG.DE	Wacker Chem	8.90x	46.79x	41.90x	-0.87x	4.49x	7.62x	7.59x	-0.33x	1%	17%	22%	
	WFR.US	WFR.N	MEMC Electronic	25.24x	24.65x	20.54x	2.27x	5.82x	7.05x	6.07x	-3.35x	47%	60%	60%	
	YGE.CN	YGE.N	Yingli Green	6.58x	-1.47x	-1.80x		6.81x	-82.90x	53.19x	1.29x	50%	63%	71%	

Source: Powered by dataCentral.

Figure 61. Low Carbon Electricity (5)

	DC Code			RIC Code			Company			P/BV per share (x)			EV / Invested Capital (%)			ROIC (%)			ROE (%)		
				2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013			
Power Generation																					
Power Generation	CPN.US	CPN.N	Calpine Corp	2.06x	2.10x	2.06x	127%	129%	129%	6.35%	4.25%	6.90%	-4.25%	4.80%	5.87%						
	9502.JP	9502.T	Chubu Electric	0.54x	0.60x	0.64x	80%	84%	86%	2.99%	-1.08%	-0.29%	5.13%	-6.38%	-3.00%						
	CEN.NZ	CEN.NZ	Contact Energy	1.16x	1.13x	1.13x	97%	94%	94%	4.34%	4.69%	4.60%	5.00%	5.72%	5.51%						
	EDF.FR	EDF.PA	EDF	0.89x	1.05x	0.82x	51%	53%	50%	4.50%	4.56%	4.23%	9.73%	11.49%	11.50%						
	ETR.US	ETR.N	Entergy Corp	1.20x	1.16x	1.15x	61%	62%	62%	4.75%	4.27%	3.12%	15.43%	9.28%	7.35%						
	EXC.US	EXC.N	Exelon Corp	1.40x	1.17x	1.20x	80%	88%	86%	6.60%	3.58%	5.35%	17.75%	6.44%	8.13%						
	FUM1V.FI	FUM1V.HE	Fortum	1.33x	1.26x	1.23x	126%	123%	122%	8.96%	9.95%	8.13%	19.83%	14.21%	10.70%						
	IBE.ES	IBE.MC	Iberdrola	0.62x	0.68x	0.67x	69%	66%	64%	4.98%	5.13%	4.14%	9.05%	8.52%	6.62%						
	9503.JP	9503.T	Kansai Electric	0.39x	0.47x	0.58x	77%	85%	90%	3.83%	-3.71%	-3.94%	6.86%	-14.59%	-17.99%						
	KGX.PL	KGX.WA	Kogeneracja	0.97x	0.90x	0.83x	86%	81%	75%	9.89%	7.81%	8.21%	12.10%	9.24%	9.55%						
PGE.PL	PGE.WA	PGE	0.70x	0.71x	0.68x	65%	64%	62%	8.73%	7.00%	5.88%	12.69%	7.87%	6.85%							
	9501.JP	9501.T	TEPCO																		
Power generation equipment /fuel																					
Power generation equipment /fuel	ALSO.FR	ALSO.PA	Alstom	2.42x	2.27x	1.88x	149%	145%	137%	10.25%	10.32%	11.33%	11.34%	17.46%	18.58%						
	1072.CN	1072.HK	Dongfang Elec	1.70x	1.47x	1.32x	137%	129%	125%	10.33%	7.37%	6.22%	24.61%	16.41%	11.44%						
	7011.JP	7011.T	MHI	1.37x	1.37x	1.32x	146%	147%	141%	4.47%	3.58%	5.03%	2.37%	1.95%	5.55%						
	PDN.AU	PDN.AX	Paladin Energy	0.69x	0.84x	0.92x	77%	88%	87%	-0.26%	3.85%	-3.19%	-7.12%	-13.55%	-16.80%						
	6502.JP	6502.T	Toshiba	2.08x	2.09x	2.12x	129%	126%	128%	8.66%	5.89%	7.65%	16.55%	8.49%	13.24%						
Renewable power generators																					
Renewable power generators	ANA.ES	ANA.MC	Acciona	0.56x	0.51x	0.51x	67%	70%	69%	4.06%	4.11%	3.73%	3.67%	2.90%	1.56%						
	0916.CN	0916.HK	China Longyuan	1.66x	1.48x	1.38x	150%	136%	129%	7.40%	7.83%	7.33%	10.82%	10.16%	9.01%						
	EDPR.ES	EDPR.LS	EDP Renovaveis	0.65x	0.63x	0.62x	73%	73%	70%	2.96%	3.48%	4.08%	1.67%	2.29%	2.88%						
	TENR.GR	TENR.AT	Terna Energy																		

Source: Powered by dataCentral.

Figure 62. Low Carbon Electricity (6)

	DC Code			RIC Code	Company	P/BV per share (x)			EV / Invested Capital (%)			ROIC (%)			ROE (%)		
						2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
	Renewable power generation equipment																
Renewable power generation equipment	010060.KR	010060.KS	OCI			1.24x	1.19x	1.13x	98%	96%	91%	20.35%	4.86%	3.82%	32.59%	6.76%	5.42%
	0658.HK	0658.HK	China Transmission			0.57x	0.55x	0.57x	100%	96%	103%	10.68%	7.86%	8.21%	7.49%	3.88%	4.03%
	0956.CN	0956.HK	China Suntien			0.93x	0.95x	0.91x	128%	125%	127%	9.48%	7.47%	7.36%	8.96%	8.28%	9.75%
	0958.CN	0958.HK	Huaneng Renewabl			1.19x	1.14x	1.07x	111%	108%	106%	7.62%	5.95%	6.19%	12.31%	4.70%	6.76%
	1798.HK	1798.HK	Datang Renew			1.10x	1.11x	1.06x	109%	108%	106%	6.51%	4.89%	5.38%	8.37%	2.24%	4.86%
	2208.CN	2208.HK	XJ Goldwind			0.73x	0.72x	0.71x	95%	96%	96%	8.19%	3.97%	3.83%	4.64%	1.92%	2.29%
	3519.TW	3519.TW	Green Energy			0.57x	0.86x	0.88x	93%	98%	99%	-11.06%	-16.26%	-0.65%	-18.78%	-28.13%	-2.41%
	3800.HK	3800.HK	GCL-poly Energy			1.56x	1.64x	1.57x	126%	120%	116%	15.96%	-1.36%	2.63%	23.28%	-6.67%	4.68%
	6244.TW	6244.TWO	Motech			0.70x	0.93x	0.93x	94%	125%	129%	-14.87%	-23.49%	0.24%	-11.64%	-27.08%	-0.25%
	AEIS.US	AEIS.O	Advanced Energy			1.92x	1.83x	1.63x	183%	215%	179%	15.18%	7.91%	16.15%	9.30%	4.95%	10.27%
	ANDR.AT	ANDR.VI	Andritz			7.11x	6.14x	5.27x	2025%	940%	943%	94.03%	61.20%	53.75%	31.79%	29.38%	30.29%
	AMAT.US	AMAT.O	Applied Material			2.07x	2.40x	2.32x	313%	241%	236%	47.21%	15.66%	9.11%	23.59%	1.36%	7.67%
	CTNG.DE	CTNG.DE	centrotherm PV														
	EDC.PH	EDC.PS	Energy			5.20x	4.34x	3.62x	284%	257%	234%	14.39%	17.68%	18.04%	-0.58%	26.75%	26.27%
	FSLR.US	FSLR.O	First Solar			0.64x	0.65x	0.58x	59%	51%	40%	15.51%	11.03%	9.25%	-1.11%	-3.09%	8.82%
	GAM.ES	GAM.MC	Gamesa			0.34x	0.36x	0.37x	50%	47%	50%	11.50%	5.30%	4.43%	3.05%	-4.52%	-3.33%
	M5ZG.DE	M5ZG.DE	Manz			0.65x	0.68x	0.68x	67%	72%	72%	1.09%	-3.92%	1.40%	0.46%	-5.40%	1.07%
	MBTN.CH	MBTN.S	Meyer Burger			0.54x	0.61x	0.62x	27%	43%	47%	17.70%	-12.92%	-2.13%	5.91%	-11.97%	-3.12%
	REC.NO	REC.OL	Renewable Energy			0.09x	0.23x	0.24x	37%	36%	33%	-0.54%	-0.08%	-1.00%	-58.41%	-37.84%	-4.42%
	S92G.DE	S92G.DE	SMA Solar Tech			1.01x	0.96x	0.99x	80%	76%	78%	29.78%	13.90%	-1.09%	21.88%	11.15%	-0.37%
	SPWR.US	SPWR.O	SunPower			1.05x	1.38x	1.29x	104%	91%	86%	-0.68%	1.87%	5.10%	-43.84%	-33.67%	4.85%
	STP.CN	STP.N	Suntech Power			0.26x	0.67x	1.72x	88%	92%	103%	6.07%	-12.34%	-4.21%	-70.14%	-81.74%	-87.52%
	SUZL.IN	SUZL.BO	Suzlon Energy			0.61x	0.80x	0.84x	90%	92%	93%	-0.19%	3.84%	7.69%	-19.78%	-8.03%	-4.47%
	SWVG.DE	SWVG.DE	SolarWorld			0.22x	0.44x	0.71x	70%	91%	104%	-18.87%	-21.49%	-5.98%	-38.58%	-64.56%	-46.53%
	TSL.CN	TSL.N	Trina Solar			0.26x	0.32x	0.38x	42%	61%	70%	4.17%	-8.37%	-3.49%	-3.26%	-24.14%	-13.24%
	VWS.DK	VWS.CO	Vestas Wind			0.43x	0.48x	0.50x	287%	284%	274%	-1.60%	1.40%	1.08%	-6.23%	-10.79%	-4.25%
	WCHG.DE	WCHG.DE	Wacker Chem			1.30x	1.37x	1.37x	86%	94%	98%	10.94%	3.48%	3.92%	14.03%	2.85%	3.26%
	WFR.US	WFR.N	MEMC Electronic			1.54x	1.92x	1.71x	99%	113%	109%	5.04%	6.57%	6.11%	-102.80%	-17.25%	8.88%
	YGE.CN	YGE.N	Yingli Green			0.47x	0.84x	1.43x	81%	93%	101%	7.19%	-4.91%	-2.40%	-49.11%	-57.59%	-58.06%

Source: Powered by dataCentral.

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Gas Power & Heating

Figure 63. Gas Power and Heating (1)

	DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recomm- endation	DPR (%) 2012	Expected total return (%)
Gas E&P and integrated														
Gas E&P and integrated	ACMP.US	ACMP.N	Access Midstream	United States	USD	11.48	29%	8.74	2.53	36.78	40.00	1	4.49%	14%
	BG.GB	BG.L	BG	United Kingdom	USD	39.93	100%	46.06	46.06	11.74	13.80	1	1.47%	19%
	CNP.US	CNP.N	CenterPnt Energy	United States	USD	9.08	100%	6.91	6.91	21.23	23.00	1	3.82%	12%
	CQP.US	CQP.A	Cheniere Energy	United States	USD	1.37	47%	1.04	0.49	24.02		2	7.08%	
	CHK.US	CHK.N	Chesapeake	United States	USD	13.39	99%	10.19	10.09	20.14	20.00	2	1.74%	1%
	EQT.US	EQT.N	EQT	United States	USD	9.26	98%	7.05	6.91	61.61	66.00	2	1.43%	7%
	CMLP.US	CMLP.N	Crestwood	United States	USD	1.22	85%	0.93	0.79	25.37	24.00	2	7.88%	3%
	EROC.US	EROC.O	Eagle Rock Energ	United States	USD	1.38	94%	1.05	0.99	9.34	9.00	2	9.10%	6%
	GAZP.RU	GAZP.MM	Gazprom	Russian Federation	USD	107.12	54%	81.53	44.03	137.91	7.20	1	5.65%	60%
	NFG.US	NFG.N	Natl Fuel Gas Co	United States	USD	4.83	98%	3.67	3.60	57.80	57.00	1	2.25%	1%
	NVTKQ.RU	NVTKq.L	Novatek	Russian Federation	USD	35.41	43%	26.95	11.59	116.70	153.00	1	1.62%	33%
	STR.US	STR.N	Questar Corp	United States	USD	4.18	99%	3.18	3.15	23.48	25.00	1	2.85%	10%
	STO.AU	STO.AX	Santos	Australia	AUD	12.86	100%	10.02	10.02	13.41	16.94	1	2.24%	29%
	SRE.US	SRE.N	Sempra Energy	United States	USD	18.79	100%	14.30	14.30	77.70	80.00	1	3.09%	6%
	SE.US	SE.N	Spectra Ener	United States	USD	19.36	98%	14.74	14.45	28.98	27.00	2	3.86%	-3%
Suppliers to gas industry														
Suppliers to gas industry	DRC.US	DRC.N	Dresser Rand Grp	United States	USD	4.64	99%	3.53	3.49	61.26	66.00	1	0.00%	8%
	MTKr.GR	MTKr.AT	Metka	Greece	EUR	0.62	46%	0.62	0.29	12.00	12.90	1	3.66%	11%
	TGP.BS	TGP.N	Teekay LNG Ptnrs	Bermuda	USD	2.71	63%	2.06	1.30	38.86	40.00	2	6.83%	10%

Source: Powered by dataCentral.

Figure 64. Power and Heating (2)

	DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recommen dation	DPR (%)	Expected total return (%)
													2012	
	Gas transmission & distribution													
Gas transmission & distribution	0003.HK	0003.HK	HK & China Gas	Hong Kong	HKD	188.59	58%	18.50	10.73	21.70	17.00	3	1.68%	-20%
	0392.HK	0392.HK	Beijing Ents	Hong Kong	HKD	67.46	41%	6.62	2.71	59.30	57.30	1	1.42%	-2%
	1083.HK	1083.HK	Towngas China	Hong Kong	HKD	17.78	37%	1.74	0.64	6.81	7.20	1	0.84%	7%
	1193.HK	1193.HK	CR Gas	Hong Kong	HKD	39.99	43%	3.92	1.69	17.98	15.80	2	0.89%	-11%
	2688.HK	2688.HK	ENN Energy	Hong Kong	CNY	42.18	70%	4.14	2.90	38.95	39.00	1	1.12%	1%
	9531.JP	9531.T	Tokyo Gas	Japan	JPY	1152.18	96%	9.51	9.13	448.00	430.00	2	2.01%	-2%
	9532.JP	9532.T	Osaka Gas	Japan	JPY	749.57	95%	6.19	5.88	360.00	340.00	2	2.22%	-3%
	9533.JP	9533.T	Toho Gas	Japan	JPY	279.41	93%	2.31	2.15	512.00	480.00	2	1.76%	-4%
	APA.AU	APA.AX	APA	Australia	AUD	5.09	86%	3.96	3.41	6.15	5.70	2	5.69%	-2%
	APU.US	APU.N	AmeriGas Part	United States	USD	4.08	42%	3.11	1.31	44.00	36.50	3	7.05%	-10%
	ATO.US	ATO.N	Atmos Energy	United States	USD	3.47	99%	2.64	2.61	38.37	39.00	2	3.60%	5%
	BWP.US	BWP.N	Boardwalk Pipe	United States	USD	6.11	90%	4.65	4.19	26.50	27.00	2	8.03%	10%
	LNG.US	LNG.A	Cheniere Energy	United States	USD	5.21	89%	3.96	3.52	21.57	25.00	1	0.00%	16%
	CNA.GB	CNA.L	Centrica	United Kingdom	GBP	18.2	100%	21.00	21.00	3.50	3.60	1	4.66%	8%
	DUE.AU	DUE.AX	Duet	Australia	AUD	2.58	98%	2.01	1.97	2.21	2.05	2	7.24%	0%
	EPB.US	EPB.N	El Paso Pip	United States	USD	9.2	59%	7.00	4.13	41.79	40.00	2	5.12%	2%
	FGP.US	FGP.N	Ferrellgas Part	United States	USD	1.62	66%	1.23	0.81	20.44	9.00	3	9.78%	-46%
	GAS.ES	GAS.MC	Gas Natural	Spain	EUR	15.3	28%	15.30	4.28	15.29	12.50	1	5.83%	-13%
	GAS.US	GAS.N	AGL Res	United States	USD	4.71	100%	3.59	3.59	39.98	43.00	2	4.45%	12%
	GSZ.FR	GSZ.PA	GDF Suez	France	EUR	35.4	66%	35.40	23.36	14.67	18.00	1	10.22%	33%
	IGAS.IN	IGAS.BO	Indraprastha Gas	India	INR	37.09	46%	0.52	0.24	264.90	325.00	1	1.89%	25%
	NI.US	NI.N	NiSource Inc	United States	USD	8.53	100%	6.49	6.49	27.42	27.00	2	3.46%	2%
	NKA.US	NKA.N	Niska Gas	United States	USD	0.82	50%	0.63	0.32	12.04		2	11.63%	
	OKE.US	OKE.N	Oneok Inc	United States	USD	9.25	99%	7.04	6.97	45.14	49.00	2	2.92%	12%
	PGAS.ID	PGAS.JK	PT PGN	Indonesia	USD	116359.24	43%	9.14	3.93	4800.00	4375.00	3	4.00%	-5%
	PGN.PL	PGN.WA	Polish Oil & Gas	Poland	PLN	33.04	28%	7.94	2.22	5.60	6.10	1	0.00%	11%
	PNG.US	PNG.N	PAA Natural Gas	United States	USD	1.79	9%	1.36	0.12	21.09	20.00	1	6.78%	2%
	SEP.US	SEP.N	Spectra	United States	USD	3.79	45%	2.88	1.30	36.79	37.50	1	5.25%	7%
	SPH.US	SPH.N	Subbrn Propane	United States	USD	2.41	99%	1.84	1.82	42.29	42.50	2	8.06%	9%
	SRG.IT	SRG.MI	Snam SpA	Italy	EUR	12.19	50%	12.19	6.10	3.60	3.90	2	6.97%	15%
	SWX.US	SWX.N	Southwest Gas	United States	USD	2.07	99%	1.58	1.56	44.97	48.00	2	2.29%	9%
	TEG.US	TEG.N	Integrys En	United States	USD	4.41	99%	3.36	3.33	56.38		2	4.82%	
	UGI.US	UGI.N	UGI	United States	USD	4.04	99%	3.08	3.05	35.71	37.00	2	2.97%	7%
	WPZ.US	WPZ.N	Williams Prtnrs	United States	USD	17.9	34%	13.62	4.63	50.40	58.00	1	6.23%	22%

Source: Powered by dataCentral.

Figure 65. Power and Heating (3)

	DC Code	RIC Code	Company	P/E (x)			2011-13 PEG	EV/EBITDA (x)			2011-13 EEG	Net Debt / Capital Employed (x)		
				2011	2012	2013	2012	2011	2012	2013	2012	2011	2012	2013
Gas E&P and integrated														
Gas E&P and integrated	ACMP.US	ACMP.N	Access Midstream	27.02x	28.12x	21.82x	2.50x	33.42x	36.33x	21.19x	1.42x	30%	40%	44%
	BG.GB	BG.L	BG	13.94x	13.33x	14.01x	-51.28x	6.88x	6.64x	6.95x	-13.18x	23%	21%	22%
	CNP.US	CNP.N	CenterPnt Energy	11.68x	17.32x	17.02x	-1.01x	8.97x	9.16x	7.10x	0.74x	51%	49%	46%
	CQP.US	CQP.A	Cheniere Energy	-292.38x	-473.24x	-177.82x	-16.76x	17.64x	11.73x	15.59x	1.85x	130%	44%	54%
	CHK.US	CHK.N	Chesapeake	7.18x	36.79x	13.15x	-1.41x	5.52x	24.69x	5.09x	5.90x	30%	34%	30%
	EQT.US	EQT.N	EQT	27.90x	42.70x	30.36x	-10.33x	11.05x	11.09x	9.09x	1.08x	28%	29%	24%
	CMLP.US	CMLP.N	Crestwood	25.41x	69.12x	55.16x	-2.15x	16.26x	15.23x	11.32x	0.77x	58%	51%	54%
	EROC.US	EROC.O	Eagle Rock Energ	14.94x	-8.48x	26.74x	0.34x	10.43x	10.75x	8.56x	1.03x	44%	58%	56%
	GAZPPEb.RU	GAZP.MM	Gazprom	2.42x	3.00x	3.51x	-0.18x	2.03x	2.43x	2.71x	-0.18x	11%	11%	11%
	NFG.US	NFG.N	Natl Fuel Gas Co	21.31x	21.99x	20.69x	14.79x	9.55x	9.64x	9.29x	6.85x	21%	27%	29%
	NVTK.RU	NVTKq.L	Novatek	15.10x	15.44x	13.49x	2.65x	6.42x	9.55x	8.15x	-0.84x	22%	21%	28%
	STR.US	STR.N	Questar Corp	20.21x	20.07x	19.80x	19.21x	10.17x	9.88x	10.16x	780.06x	40%	40%	42%
	STO.AU	STO.AX	Santos	26.39x	21.12x	24.58x	5.83x	9.73x	9.26x	10.21x	-3.88x	-1%	11%	27%
	SRE.US	SRE.N	Sempra Energy	16.96x	18.48x	16.73x	27.78x	7.61x	9.98x	7.83x	-6.77x	36%	37%	39%
	SE.US	SE.N	Spectra Ener	16.37x	19.97x	19.46x	-2.41x	11.34x	12.54x	11.99x	-4.53x	52%	54%	55%
Suppliers to gas industry														
Suppliers to gas industry	DRC.US	DRC.N	Dresser Rand Grp	36.91x	25.63x	16.55x	0.52x	16.60x	13.22x	9.24x	0.39x	75%	83%	70%
	MTKr.GR	MTKr.AT	Metka	5.42x	9.25x	8.48x	-0.46x	3.01x	5.98x	5.19x	-0.25x	-64%	-23%	-31%
	TGP.BS	TGP.N	Teekay LNG Ptnrs	29.78x	19.71x	21.20x	1.06x	16.69x	16.44x	16.73x	-119.26x	57%	60%	61%

Source: Powered by dataCentral.

Figure 66. Power and Heating (4)

	DC Code			RIC Code			Company			P/E (x)			2011-13 PEG			EV/EBITDA (x)			2011-13 EEG			Net Debt / Capital Employed (x)		
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013			
Gas transmission & distribution																								
Gas transmission & distribution	0003.HK	0003.HK	HK & China Gas	29.27x	24.58x	26.53x	4.88x	26.55x	22.13x	20.48x	1.60x	22%	20%	18%										
	0392.HK	0392.HK	Beijing Ents	25.37x	21.76x	17.83x	1.13x	13.59x	12.01x	10.37x	0.83x	14%	19%	23%										
	1083.HK	1083.HK	Towngas China	23.63x	20.68x	16.72x	1.10x	16.04x	12.99x	10.58x	0.56x	22%	22%	21%										
	1193.HK	1193.HK	CR Gas	27.38x	23.19x	20.11x	1.39x	18.38x	12.70x	11.02x	0.44x	-4%	24%	33%										
	2688.HK	2688.HK	ENN Energy	26.50x	22.17x	18.40x	1.11x	14.54x	11.77x	10.39x	0.64x	43%	39%	35%										
	9531.JP	9531.T	Tokyo Gas	12.57x	25.14x	11.88x	8.78x	5.28x	6.74x	5.03x	2.72x	32%	35%	32%										
	9532.JP	9532.T	Osaka Gas	16.31x	16.58x	11.02x	0.77x	5.26x	5.67x	4.92x	1.66x	37%	36%	34%										
	9533.JP	9533.T	Toho Gas	19.45x	32.60x	16.22x	3.43x	5.32x	6.16x	5.24x	8.33x	33%	35%	30%										
	APA.AU	APA.AX	APA	31.11x	28.10x	30.88x	75.14x	15.63x	13.64x	14.33x	3.06x	61%	58%	63%										
	APU.US	APU.N	AmeriGas Part	19.04x	-1711.10x	20.50x	472.45x	15.15x	16.69x	10.31x	0.79x	145%	164%	170%										
	ATO.US	ATO.N	Atmos Energy	16.85x	19.63x	15.57x	4.86x	8.46x	8.74x	8.06x	3.56x	40%	41%	42%										
	BWP.US	BWP.N	Boardwalk Pipe	27.59x	21.25x	20.05x	1.23x	14.19x	13.31x	11.87x	1.43x	50%	50%	52%										
	LNG.US	LNG.A	Cheniere Energy	-8.30x	-14.37x	-35.07x	0.28x	65.18x	442.88x	71.52x	-97.70x	110%	51%	47%										
	CNA.GB	CNA.L	Centrica	13.69x	13.09x	12.42x	2.63x	5.83x	5.49x	5.10x	0.79x	34%	37%	37%										
	DUE.AU	DUE.AX	Duet	8.37x	34.25x	53.84x	-0.57x	10.89x	10.31x	10.27x	3.42x	92%	93%	96%										
	EPB.US	EPB.N	El Paso Pip	20.57x	20.99x	21.82x	-7.23x	13.66x	13.38x	12.69x	3.55x	64%	63%	63%										
	FGP.US	FGP.N	Ferrellgas Part	-34.21x	-148.92x	33.83x		14.05x	15.98x	12.25x	2.26x	107%	118%	130%										
	GAS.ES	GAS.MC	Gas Natural	13.87x	11.76x	11.64x	1.29x	7.72x	7.33x	6.98x	1.42x	46%	42%	39%										
	GAS.US	GAS.N	AGL Res	14.59x	15.88x	13.20x	3.11x	14.62x	9.00x	8.47x	0.29x	47%	44%	45%										
	GAZ.FR	GSZ.PA	GDF Suez	9.31x	8.86x	11.00x	-1.11x	6.20x	6.23x	5.89x	2.37x	28%	32%	26%										
	IGAS.IN	IGAS.BO	Indraprastha Gas	14.28x	12.10x	10.39x	0.70x	8.36x	6.69x	5.91x	0.35x	25%	29%	33%										
	NI.US	NI.N	NiSource Inc	21.26x	20.30x	17.33x	1.88x	12.60x	11.89x	10.16x	1.05x	53%	52%	52%										
	NKA.US	NKA.N	Niska Gas	13.85x	-4.90x	35.50x	0.13x	7.63x	11.77x	10.95x	-0.71x	53%	56%	51%										
	OKE.US	OKE.N	Oneok Inc	13.44x	27.22x	23.48x	-1.12x	10.61x	12.27x	12.30x	-1.73x	50%	53%	59%										
	PGAS.ID	PGAS.JK	PT PGN	17.76x	15.01x	13.71x	1.09x	12.19x	10.11x	8.85x	0.58x	-4%	-26%	-48%										
	PNG.PL	PGN.WA	Polish Oil & Gas	20.32x	15.02x	12.56x	0.55x	10.62x	7.67x	6.64x	0.29x	9%	16%	14%										
	PNG.US	PNG.N	PAA Natural Gas	24.48x	21.47x	22.31x	4.51x	21.43x	19.32x	19.41x	3.80x	31%	33%	35%										
	SEP.US	SEP.N	Spectra	22.65x	21.85x	24.35x	-6.15x	31.02x	25.38x	23.52x	1.71x	36%	39%	43%										
	SPH.US	SPH.N	Subrtn Propane	13.14x	876.14x	19.08x	-51.51x	14.54x	34.08x	10.70x	2.06x	53%	92%	96%										
	SRG.IT	SRG.MI	Snam SpA	16.30x	16.68x	12.78x	1.29x	8.73x	9.21x	9.09x	-4.65x	58%	64%	65%										
	SWX.US	SWX.N	Southwest Gas	18.59x	17.62x	16.81x	3.41x	7.31x	6.71x	6.58x	1.24x	33%	30%	30%										
	TEG.US	TEG.N	Integrus En	16.48x	17.83x	16.64x	-35.11x	9.39x	10.94x	10.08x	-3.13x	27%	31%	32%										
	UGI.US	UGI.N	UGI	18.52x	19.91x	14.00x	1.33x	7.59x	10.11x	6.80x	1.78x	52%	62%	59%										
	WPZ.US	WPZ.N	Williams Prtnrs	13.67x	26.73x	28.18x	-0.88x	10.37x	11.13x	11.00x	-3.82x	52%	41%	45%										

Source: Powered by dataCentral.

Figure 67. Power and Heating (5)

	DC Code	RIC Code	Company	EV / Invested Capital (%)			P/BV per share (x)			ROIC (%)			ROE (%)		
				2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Gas E&P and integrated															
Gas E&P and integrated	ACMP.US	ACMP.N	Access Midstream	473%	260%	208%	2.06x	1.48x	1.68x	8.20%	5.01%	6.28%	8.08%	6.33%	8.45%
	BG.GB	BG.L	BG	111%	100%	94%	2.05x	1.83x	1.66x	11.08%	9.84%	8.63%	14.20%	14.48%	12.60%
	CNP.US	CNP.N	CenterPnt Energy	95%	94%	93%	2.15x	2.12x	2.01x	4.37%	3.11%	4.83%	36.83%	12.37%	12.21%
	CQP.US	CQP.A	Cheniere Energy	219%	96%	92%	-7.55x	5.70x	5.39x	9.60%	7.37%	3.91%		-3.77%	-3.23%
	CHK.US	CHK.N	Chesapeake	69%	72%	67%	0.89x	0.85x	0.80x	5.37%	-3.78%	4.08%	11.59%	-6.17%	6.10%
	EQT.US	EQT.N	EQT	176%	169%	164%	2.86x	2.78x	2.61x	7.21%	5.81%	7.06%	11.45%	6.78%	9.11%
	CMLP.US	CMLP.N	Crestwood	176%	167%	127%	2.20x	1.97x	1.86x	9.32%	6.00%	7.10%	10.43%	3.10%	3.67%
	EROC.US	EROC.O	Eagle Rock Energ	115%	120%	119%	1.18x	1.59x	1.65x	5.04%	3.81%	5.95%	9.22%	-16.06%	6.03%
	GAZPPEb.RU	GAZP.MM	Gazprom	55%	51%	48%	0.46x	0.41x	0.38x	17.60%	12.40%	9.88%	20.27%	14.48%	11.19%
	NFG.US	NFG.N	Natl Fuel Gas Co	122%	116%	112%	2.54x	2.45x	2.30x	6.53%	5.81%	5.60%	12.47%	11.43%	11.57%
	NVTK.RU	NVTKq.L	Novatek	698%	528%	435%	4.75x	3.79x	3.04x	76.59%	41.02%	36.72%	66.07%	27.29%	25.04%
	STR.US	STR.N	Questar Corp	169%	164%	157%	2.09x	1.99x	1.83x	7.91%	7.73%	7.29%	20.07%	20.03%	18.85%
	STO.AU	STO.AX	Santos	117%	108%	105%	1.41x	1.38x	1.34x	3.81%	4.34%	3.62%	9.09%	5.66%	5.54%
	SRE.US	SRE.N	Sempra Energy	125%	116%	113%	1.90x	1.86x	1.76x	8.11%	5.95%	6.13%	11.74%	12.13%	10.88%
	SE.US	SE.N	Spectra Ener	137%	131%	129%	2.12x	2.01x	2.01x	5.75%	5.12%	5.37%	13.60%	10.38%	10.47%
Suppliers to gas industry															
Suppliers to gas industry	DRC.US	DRC.N	Dresser Rand Grp	278%	281%	269%	5.44x	5.86x	4.93x	12.20%	12.69%	17.66%	12.21%	21.93%	32.97%
	MTKr.GR	MTKr.AT	Metka	204%	157%	142%	2.20x	1.90x	1.66x	51.98%	23.57%	20.73%	46.84%	22.09%	20.90%
	TGP.BS	TGP.N	Teekay LNG Ptnrs	143%	143%	145%	2.06x	2.37x	2.53x	5.36%	5.86%	5.60%	7.68%	11.79%	11.59%

Source: Powered by dataCentral.

Figure 68. Power and Heating (6)

	DC Code	RIC Code	Company	EV / Invested Capital (%)			P/BV per share (x)			ROIC (%)			ROE (%)		
				2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Gas transmission & distribution															
Gas transmission & distribution	0003.HK	0003.HK	HK & China Gas	524%	487%	469%	4.54x	4.12x	3.83x	11.69%	12.29%	12.85%	15.56%	16.77%	14.95%
	0392.HK	0392.HK	Beijing Ents	211%	201%	191%	1.79x	1.69x	1.58x	7.71%	7.57%	8.32%	7.72%	8.35%	9.57%
	1083.HK	1083.HK	Towngas China	238%	225%	213%	1.74x	1.63x	1.51x	3.98%	4.59%	5.29%	7.80%	8.14%	9.36%
	1193.HK	1193.HK	CR Gas	560%	413%	335%	4.42x	4.46x	3.97x	16.47%	17.56%	15.56%	17.23%	18.75%	20.88%
	2688.HK	2688.HK	ENN Energy	406%	356%	316%	4.66x	3.94x	3.36x	15.27%	14.99%	14.82%	19.16%	19.59%	19.92%
	9531.JP	9531.T	Tokyo Gas	130%	130%	125%	1.40x	1.38x	1.27x	5.17%	3.86%	7.25%	11.41%	5.43%	11.10%
	9532.JP	9532.T	Osaka Gas	127%	125%	119%	1.13x	1.09x	1.02x	5.75%	5.11%	6.83%	6.90%	6.70%	9.57%
	9533.JP	9533.T	Toho Gas	125%	124%	122%	1.27x	1.25x	1.18x	4.52%	2.34%	4.77%	6.55%	3.85%	7.44%
	APA.AU	APA.AX	APA	187%	199%	148%	3.08x	3.23x	2.55x	8.21%	8.83%	7.73%	9.35%	10.45%	14.87%
	APU.US	APU.N	AmeriGas Part	356%	167%	171%	7.42x	2.51x	3.28x	17.48%	8.10%	11.08%	36.72%	-0.24%	15.37%
	ATO.US	ATO.N	Atmos Energy	89%	88%	87%	1.54x	1.47x	1.41x	5.39%	5.04%	5.45%	8.90%	9.05%	9.33%
	BWP.US	BWP.N	Boardwalk Pipe	143%	130%	135%	1.62x	1.48x	1.67x	6.49%	6.72%	7.07%	5.85%	7.56%	8.10%
	BWP.US	LNG.A	Cheniere Energy	336%	178%	151%	-4.40x	3.39x	2.36x	2.42%	-1.25%	0.89%		-69.97%	-8.43%
	CNA.GB	CNA.L	Centrica	231%	204%	198%	3.23x	2.93x	2.82x	14.38%	15.39%	14.44%	7.37%	23.76%	23.08%
	DUE.AU	DUE.AX	Duet	106%	104%	106%	1.56x	1.78x	2.07x	8.57%	6.77%	6.63%	14.75%	3.06%	-3.89%
	EPB.US	EPB.N	El Paso Pip	225%	206%	189%	4.26x	4.00x	3.55x	13.56%	13.32%	12.80%	23.82%	20.51%	17.48%
	FGP.US	FGP.N	Ferrellgas Part	213%	227%	242%	17.27x	-55.51x	-12.04x	8.64%	7.03%	12.01%	-51.50%	-38.38%	
	GAS.ES	GAS.MC	Gas Natural	91%	89%	87%	1.19x	1.14x	1.11x	6.36%	6.21%	6.27%	10.96%	9.94%	9.68%
	GAS.US	GAS.N	AGL Res	79%	77%	76%	0.95x	1.34x	1.30x	3.86%	3.83%	4.35%	9.07%	8.95%	10.11%
	GAZ.FR	GSZ.PA	GDF Suez	56%	55%	52%	0.53x	0.56x	0.57x	4.29%	4.03%	3.63%	6.40%	5.64%	4.70%
	IGAS.IN	IGAS.BO	Indraprastha Gas	278%	233%	191%	3.69x	3.02x	2.49x	22.95%	21.07%	19.44%	28.40%	27.45%	26.28%
	NI.US	NI.N	NiSource Inc	90%	87%	87%	1.58x	1.49x	1.47x	4.19%	4.21%	4.63%	7.45%	8.80%	8.61%
	NKA.US	NKA.N	Niska Gas	85%	98%	99%	0.89x	1.19x	1.24x	10.12%	6.44%	5.56%	6.37%	-20.88%	3.42%
	OKE.US	OKE.N	Oneok Inc	146%	139%	133%	2.14x	4.50x	4.44x	9.03%	7.56%	7.04%	15.35%	16.15%	19.10%
	PGAS.ID	PGAS.JK	PT PGN	5664071%	5840272%	5753223%	6.93x	5.75x	4.69x	34.06%	37.86%	42.71%	41.65%	41.87%	37.69%
	PNG.PL	PGN.WA	Polish Oil & Gas	117%	110%	105%	1.34x	1.26x	1.18x	5.48%	7.57%	8.11%	6.75%	8.65%	9.70%
	PNG.US	PNG.N	PAA Natural Gas	129%	131%	132%	1.12x	1.20x	1.22x	5.20%	4.58%	4.51%	5.85%	5.51%	5.45%
	SEP.US	SEP.N	Spectra	266%	230%	172%	2.02x	1.91x	1.76x	5.62%	6.27%	5.61%	9.47%	9.18%	7.99%
	SPH.US	SPH.N	Subtrn Propane	398%	148%	152%	4.19x	1.50x	2.36x	21.92%	3.97%	9.30%	30.97%	0.26%	12.00%
	SRG.IT	SRG.MI	Snam SpA	129%	129%	128%	1.96x	2.14x	2.10x	5.91%	7.67%	6.89%	11.89%	11.90%	16.56%
	SWX.US	SWX.N	Southwest Gas	89%	86%	84%	1.69x	1.60x	1.51x	5.31%	5.17%	5.24%	9.38%	9.35%	9.24%
	TEG.US	TEG.N	Integrus En	77%	78%	74%	1.50x	1.45x	1.27x	3.66%	3.11%	3.30%	8.01%	9.25%	8.36%
	UGI.US	UGI.N	UGI	114%	103%	101%	1.99x	1.77x	1.63x	8.71%	6.15%	8.45%	12.07%	9.62%	12.38%
	WPZ.US	WPZ.N	Williams Ptnrs	213%	139%	131%	2.80x	1.57x	1.82x	14.50%	9.97%	8.08%	20.77%	7.96%	6.62%

Source: Powered by dataCentral.

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Low Carbon Transport

Figure 69. Low Carbon Transport (1)

	DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recommendation	DPR (%)	Expected total return (%)
													2012	
Public transport and railway operators														
Public transport and railway operators	9022.JP	9022.T	CJR	Japan	JPY	1773.16	96%	14.63	14.04	9010.00	9200.00	2	1.05%	3%
	1766.CN	1766.HK	South Locomotive	China	CNY	87.65	41%	8.60	3.53	6.35	7.00	1	1.79%	12%
	CMDG.SG	CMDG.SI	ComfortDelGro	Singapore	SGD	4.04	88%	2.49	2.19	1.92	1.75	3	3.35%	-5%
	9020.JP	9020.T	East Japan	Japan	JPY	2704.52	97%	22.32	21.65	6840.00	8000.00	1	1.61%	19%
	FGP.GB	FGP.L	Firstgroup	United Kingdom	GBP	0.93	97%	1.07	1.04	1.93	2.12	2	12.23%	23%
	GOG.GB	GOG.L	Go-Ahead Grp	United Kingdom	GBP	0.61	86%	0.70	0.60	14.19	12.27	2	5.71%	-8%
	9009.JP	9009.T	Keisei Elec Rail	Japan	JPY	299.59	98%	2.47	2.42	885.00		2	0.56%	
	POMO4.BR	POMO4.SA	Marcopolo	Brazil	BRL	5.63	95%	2.17	2.06	12.95	13.00	2	2.89%	3%
	NEX.GB	NEX.L	National Express	United Kingdom	GBP	1.04	82%	1.20	0.98	2.04	2.21	1	4.79%	14%
	SMRT.SG	SMRT.SI	SMRT	Singapore	SGD	2.45	100%	1.51	1.51	1.61	1.30	3	4.66%	-16%
	UGL.AU	UGL.AX	UGL	Australia	AUD	1.7	96%	1.32	1.27	10.21	10.40	2	6.86%	8%
	9021.JP	9021.T	JR West	Japan	JPY	792.96	100%	6.54	6.54	4095.00	4300.00	1	2.20%	8%
Efficient and zero emission vehicles														
Efficient and zero emission vehicles	051910.KR	051910.KS	LG Chem	South Korea	KRW	19649.38	66%	13.78	9.09	296500.00	360000.00	1	1.35%	23%
	7203.JP	7203.T	Toyota	Japan	JPY	15090.1	97%	124.52	120.78	4765.00	5180.00	1	1.05%	10%
	UMI.BE	UMI.BR	Umicore	Belgium	EUR	4.62	100%	4.62	4.62	38.50	39.00	2	2.60%	4%
	BWA.US	BWA.N	Borg Warner	United States	USD	8.65	98%	6.59	6.46	74.84	76.00	1	0.00%	2%
	CONG.DE	CONG.DE	Continental	Germany	EUR	17.99	50%	17.99	9.00	89.97	105.00	1	2.67%	19%
	FIA.IT	FIA.MI	Fiat	Italy	EUR	5.04	74%	5.04	3.73	4.03	3.00	3	0.00%	-26%
	HFD.GB	HFD.L	Halfords	United Kingdom	GBP	0.63	99%	0.73	0.72	3.17	3.25	2	6.94%	9%
	JCI.US	JCI.N	Johnson Controls	United States	USD	21.48	100%	16.35	16.35	31.41	28.00	2	2.00%	-9%
	JMAT.GB	JMAT.L	Johnson Matthey	United Kingdom	GBP	4.73	100%	5.46	5.46	23.08	24.50	2	2.50%	8%
	LR.IT	LR.MI	Landi Renzo	Italy	EUR	0.16	40%	0.16	0.06	1.41	1.37	3	0.39%	-3%
	PEUP.FR	PEUP.PA	Peugeot	France	EUR	2.04	65%	2.04	1.33	5.74	3.00	3	0.00%	-48%
	PLCM.US	PLCM.O	Polycom Inc	United States	USD	1.66	99%	1.26	1.25	9.38	12.50	2	0.00%	33%
	RENA.FR	RENA.PA	Renault	France	EUR	14.29	64%	14.29	9.15	48.32	53.00	1	3.56%	13%
	TEL.US	TEL.N	TE Connectivity	Bermuda	USD	16.81	100%	12.79	12.79	40.00	47.00	1	1.95%	20%
	VLOF.FR	VLOF.PA	Valeo	France	EUR	3.41	99%	3.41	3.38	42.91	47.00	1	3.50%	13%
Alternative fuels														
Alternative fuels	CSAN3.BR	CSAN3.SA	Cosan S.A.	Brazil	BRL	18.43	27%	7.11	1.92	45.25	48.50	1	1.05%	8%
	CZZ.BM	CZZ.N	Cosan	Brazil	USD	5.37	46%	4.09	1.88	19.84	21.00	1	1.19%	7%
	IJMP.MY	IJMP.KL	IJM Plantations	Malaysia	MYR	2.35	34%	0.58	0.20	2.93	4.06	1	3.41%	42%
	KLKK.MY	KLKK.KL	KL Kepong	Malaysia	MYR	22.14	44%	5.43	2.39	20.74	25.09	1	3.13%	25%
	SMT03.BR	SMT03.SA	Sao Martinho	Brazil	BRL	3.05	38%	1.18	0.45	27.00	28.00	1	1.17%	5%

Source: Powered by dataCentral.

Figure 70. Low Carbon Transport (2)

	DC Code	RIC Code	Company	P/E (x)			2011-13 PEG	EV/EBITDA (x)			2011-13 EEG	Net Debt / Capital Employed (x)		
				2011	2012	2013	2012	2011	2012	2013	2012	2011	2012	2013
Public transport and railway operators														
Public transport and railway operators	9022.JP	9022.T	CJR	13.25x	13.35x	9.10x	0.65x	7.67x	7.22x	6.70x	1.03x	62%	59%	56%
	1766.CN	1766.HK	South Locomotive	15.62x	16.25x	13.41x	2.05x	9.90x	8.18x	6.83x	0.40x	-9%	-27%	-31%
	CMDG.SG	CMDG.SI	ComfortDelGro	17.05x	16.19x	15.52x	3.37x	5.34x	5.19x	4.97x	1.44x	2%	0%	0%
	9020.JP	9020.T	East Japan	35.50x	24.88x	14.90x	0.46x	8.73x	8.65x	8.22x	2.86x	55%	55%	53%
	FGP.GB	FGP.L	Firstgroup	4.69x	4.84x	6.18x	-0.38x	4.49x	4.53x	4.89x	-1.09x	119%	122%	127%
	GOG.GB	GOG.L	Go-Ahead Grp	10.50x	10.00x	10.74x	-8.97x	4.63x	4.60x	4.86x	-1.91x	27%	43%	40%
	9009.JP	9009.T	Keisei Elec Rail	25.37x	22.24x	16.64x	0.95x	14.46x	13.68x	12.02x	1.42x	65%	63%	60%
	POMO4.BR	POMO4.SA	Marcopolo	16.82x	19.15x	14.71x	2.76x	13.65x	15.37x	11.13x	1.43x	33%	40%	28%
	NEX.GB	NEX.L	National Express	7.57x	7.95x	9.24x	-0.84x	5.15x	6.89x	6.02x	-0.91x	116%	130%	120%
	SMRTC.SG	SMRT.SI	SMRT	15.19x	20.43x	16.35x	-5.65x	7.14x	7.74x	8.95x	-0.72x	-15%	-5%	36%
UGL.AU	UGL.AX	UGL	10.26x	10.08x	11.63x	-1.66x	6.60x	7.46x	8.38x	-0.66x	21%	35%	27%	
9021.JP	9021.T	JR West	22.67x	26.89x	13.22x	0.87x	7.92x	7.07x	6.65x	0.78x	48%	48%	45%	
Efficient and zero emission vehicles														
Efficient and zero emission vehicles	051910.KR	051910.KS	LG Chem	9.25x	13.34x	10.91x	-1.69x	5.65x	7.40x	5.93x	-3.11x	10%	13%	9%
	7203.JP	7203.T	Toyota	36.61x	52.83x	15.61x	0.99x	-0.34x	-1.10x	-1.34x	0.02x	-8%	-8%	-10%
	ACUMt.BE	UMI.BR	Umicore	14.31x	15.59x	16.57x	-2.20x	8.78x	10.50x	9.58x	-2.46x	12%	9%	8%
	BWA.US	BWA.N	Borg Warner	16.84x	14.99x	14.34x	1.79x	8.70x	7.72x	7.10x	0.72x	32%	11%	-3%
	CONG.DE	CONG.DE	Continental	11.59x	8.59x	8.57x	0.53x	6.31x	5.50x	5.18x	0.53x	60%	49%	40%
	FIA.IT	FIA.MI	Fiat	0.34x	11.92x	11.89x	-0.14x	1.42x	4.26x	4.31x	-0.10x	20%	21%	23%
	HFD.GB	HFD.L	Halfords	7.34x	9.45x	11.60x	-0.46x	4.80x	6.15x	7.01x	-0.36x	43%	48%	43%
	JCI.US	JCI.N	Johnson Controls	13.05x	12.37x	11.93x	2.69x	9.14x	8.83x	8.00x	1.28x	40%	43%	35%
	JMAT.GB	JMAT.L	Johnson Matthey	18.66x	14.34x	16.07x	1.85x	12.20x	9.21x	9.74x	0.77x	38%	27%	20%
	LR.IT	LR.MI	Landi Renzo	-17.31x	28.45x	21.07x		12.10x	7.17x	5.97x	0.17x	49%	42%	32%
	PEUP.FR	PEUP.PA	Peugeot	2.49x	-1.63x	-2.18x		-5.62x	-10.26x	-8.23x	0.59x	10%	9%	14%
	PLCM.US	PLCM.O	Polycom Inc	7.96x	13.27x	15.06x	-0.49x	4.40x	7.39x	7.28x	-0.33x	-149%	-197%	-230%
	RENA.FR	RENA.PA	Renault	6.29x	7.43x	7.06x	-1.33x	-5.30x	-5.89x	-5.60x	2.13x	2%	-3%	-3%
	TEL.US	TEL.N	TE Connectivity	14.80x	13.98x	12.69x	1.75x	7.26x	7.41x	7.40x	-7.48x	15%	20%	22%
	VLOF.FR	VLOF.PA	Valeo	7.56x	7.70x	8.06x	-2.46x	3.98x	4.31x	4.09x	-3.36x	25%	27%	24%
Alternative fuels														
Alternative fuels	CSAN3.BR	CSAN3.SA	Cosan S.A.	63.68x	28.75x	19.04x	0.35x	9.38x	4.29x	9.37x	105.03x	47%	24%	51%
	CZZ.BM	CZZ.N	Cosan	32.12x	14.28x	11.26x	0.21x	5.95x	6.31x	7.43x	-0.60x	47%	24%	51%
	IJMP.MY	IJMP.KL	IJM Plantations	16.09x	15.10x	16.15x	-74.04x	9.95x	9.49x	9.95x	853.70x	-16%	-7%	3%
	KLKK.MY	KLKK.KL	KL Kepong	14.06x	18.24x	18.72x	-1.37x	9.42x	11.75x	11.30x	-1.36x	5%	2%	3%
	SMT03.BR	SMT03.SA	Sao Martinho	24.10x	21.01x	33.64x	-1.37x	5.97x	7.12x	5.87x	8.34x	13%	20%	17%

Source: Powered by dataCentral.

Figure 71. Low Carbon Transport (3)

	DC Code	RIC Code	Company	EV / Invested Capital (%)			P/BV per share (x)			ROIC (%)			ROE (%)		
				2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Public transport and railway operators															
Public transport and railway operators	9022.JP	9022.T	CJR	107%	103%	98%	1.47x	1.34x	1.18x	5.80%	5.46%	6.56%	11.62%	10.50%	13.83%
	1766.CN	1766.HK	South Locomotive	345%	275%	254%	2.68x	2.13x	1.90x	20.48%	18.70%	19.25%	18.49%	15.13%	14.98%
	CMDG.SG	CMDG.SI	ComfortDelGro	199%	190%	180%	2.12x	2.01x	1.89x	13.82%	13.59%	13.37%	12.76%	12.77%	12.56%
	9020.JP	9020.T	East Japan	108%	106%	104%	1.50x	1.44x	1.35x	4.92%	4.20%	4.73%	4.25%	5.90%	9.35%
	FGP.GB	FGP.L	Firstgroup	81%	83%	84%	0.99x	1.08x	1.12x	10.43%	9.76%	8.08%	11.29%	22.94%	11.80%
	GOG.GB	GOG.L	Go-Ahead Grp	227%	223%	211%	35.61x	15.51x	10.83x	34.90%	26.61%	22.19%		197.16%	102.67%
	9009.JP	9009.T	Keisei Elec Rail	142%	141%	140%	1.73x	1.59x	1.47x	2.98%	2.49%	3.11%	7.02%	7.39%	9.17%
	POMO4.BR	POMO4.SA	Marcopolo	356%	282%	264%	4.97x	4.45x	3.51x	15.75%	13.45%	15.26%	32.49%	24.56%	26.70%
	NEX.GB	NEX.L	National Express	100%	103%	102%	1.08x	1.16x	1.16x	8.59%	4.76%	6.13%	10.71%	3.98%	6.60%
	SMRTC.SG	SMRT.SI	SMRT	285%	282%	201%	3.06x	3.09x	2.96x	19.69%	17.17%	13.09%	20.53%	15.07%	18.51%
	UGL.AU	UGL.AX	UGL	132%	117%	115%	1.44x	1.44x	1.40x	12.17%	12.27%	9.51%	13.60%	11.45%	8.23%
	9021.JP	9021.T	JR West	95%	93%	91%	1.15x	1.13x	1.07x	3.58%	2.86%	4.22%	5.15%	4.24%	8.30%
Efficient and zero emission vehicles															
Efficient and zero emission vehicles	051910.KR	051910.KS	LG Chem	202%	181%	162%	2.06x	1.83x	1.60x	23.87%	13.84%	15.28%	24.61%	14.51%	15.62%
	7203.JP	7203.T	Toyota	223%	225%	258%	1.45x	1.43x	1.33x	2.32%	1.50%	13.08%	3.95%	2.72%	8.84%
	ACUM.BE	UMI.BR	Umicore	247%	233%	223%	2.56x	2.46x	2.31x	16.84%	12.02%	12.12%	19.89%	14.01%	13.92%
	BWA.US	BWA.N	Borg Warner	241%	225%	203%	3.44x	2.58x	2.16x	15.91%	15.29%	15.14%	22.08%	21.40%	17.81%
	CONG.DE	CONG.DE	Continental	152%	142%	131%	2.52x	2.09x	1.92x	12.77%	13.81%	14.50%	19.10%	22.54%	20.39%
	FIA.IT	FIA.MI	Fiat	42%	44%	47%	0.57x	0.55x	0.53x	48.62%	7.25%	6.60%	146.13%	4.74%	4.55%
	HFD.GB	HFD.L	Halfords	152%	145%	143%	1.81x	1.63x	1.53x	19.40%	14.28%	10.98%	26.28%	17.75%	13.39%
	JCI.US	JCI.N	Johnson Controls	143%	139%	127%	1.86x	1.79x	1.54x	9.81%	9.26%	9.05%	15.01%	14.87%	13.96%
	JMAT.GB	JMAT.L	Johnson Matthey	243%	236%	231%	3.34x	3.06x	2.87x	9.75%	15.33%	13.84%	13.74%	21.52%	17.77%
	LR.IT	LR.MI	Landi Renzo	107%	104%	100%	1.16x	1.12x	1.06x	0.16%	4.11%	5.17%	-6.33%	4.00%	5.16%
	PEUP.FR	PEUP.PA	Peugeot	48%	49%	64%	0.11x	0.14x	0.15x	9.63%	-4.76%	-2.94%	4.25%	-8.35%	-6.77%
	PLCM.US	PLCM.O	Polycom Inc	126%	118%	108%	1.21x	1.16x	1.09x	19.37%	0.63%	0.38%	10.67%	0.50%	0.21%
	RENA.FR	RENA.PA	Renault	132%	125%	109%	0.55x	0.54x	0.50x	4.90%	1.61%	7.29%	9.03%	7.33%	7.39%
	TEL.US	TEL.N	TE Connectivity	155%	143%	142%	2.35x	2.14x	2.03x	11.78%	10.80%	10.54%	17.90%	16.09%	17.86%
	VLOF.FR	VLOF.PA	Valeo	116%	109%	102%	1.74x	1.66x	1.48x	17.53%	14.02%	13.29%	23.44%	19.06%	18.75%
Alternative fuels															
Alternative fuels	CSAN3.BR	CSAN3.SA	Cosan S.A.	158%	120%	126%	2.85x	2.01x	2.24x	6.64%	18.05%	7.24%	13.34%	33.39%	8.63%
	CZZ.BM	CZZ.N	Cosan	94%	72%	85%	1.36x	1.07x	1.37x	5.45%	-1.87%	6.02%	10.12%	37.22%	12.54%
	IJMP.MY	IJMP.KL	IJM Plantations	171%	156%	152%	1.80x	1.70x	1.60x	11.72%	11.14%	10.10%	11.73%	11.70%	10.30%
	KLKK.MY	KLKK.KL	KL Kepong	311%	320%	290%	3.12x	3.11x	2.90x	24.29%	17.80%	17.05%	24.03%	17.08%	16.01%
	SMT03.BR	SMT03.SA	Sao Martinho	98%	94%	87%	1.56x	1.51x	1.27x	5.54%	4.92%	4.07%	7.81%	6.64%	3.96%

Source: Powered by dataCentral.

Energy and Resource Efficiency

Figure 72. Energy and Resource Efficiency (1)

	DC Code	RIC Code	Company	Domicile Country	Currency	Market Cap (Local Ccy)	Free Float (%)	Market Cap €bn.	Market Cap of Free Float €bn.	Current price	Target price	Recommendation	DPR (%)	Expected total return (%)
													2012	
Electrical efficiency equipment and services														
Electrical efficiency equipment and services	ABBN.CH	ABBN.VX	ABB	Switzerland	USD	49.44	94%	40.47	38.04	21.16	24.50	1	3.11%	18%
	ATKW.GB	ATKW.L	WS Atkins	United Kingdom	GBP	0.87	93%	1.00	0.93	8.78	7.00	2	3.52%	-16%
	G1AG.DE	G1AG.DE	GEA	Germany	EUR	5.15	83%	5.15	4.27	26.63	30.00	1	2.36%	15%
	IFXGn.DE	IFXGn.DE	Infineon	Germany	EUR	6.99	77%	6.99	5.38	6.44	5.00	2	1.85%	-21%
	NEXS.FR	NEXS.PA	Nexans	France	EUR	1.13	79%	1.13	0.89	37.90	37.00	2	2.87%	-1%
	PHG.NL	PHG.AS	Philips	Netherlands	EUR	20.72	96%	20.72	19.89	21.59	19.30	3	3.47%	-7%
	PRY.IT	PRY.MI	Prysmian	Italy	EUR	3.65	100%	3.65	3.65	16.27	17.00	1	1.24%	1%
	SCHN.FR	SCHN.PA	Schneider Electric	France	EUR	32.3	95%	32.30	30.69	57.94	48.00	3	3.09%	-15%
	SIEGn.DE	SIEGn.DE	Siemens	Germany	EUR	70.12	96%	70.12	67.32	78.97	100.00	1	3.77%	29%
	SPX.GB	SPX.L	Spirax Sarco	United Kingdom	GBP	1.88	98%	2.17	2.13	24.00	26.00	1	2.28%	9%
Electricity transmission and distribution														
Electricity transmission and distribution	ED.US	ED.N	Consol Edison	United States	USD	17.15	100%	13.06	13.06	58.57	57.00	2	4.13%	1%
	PCG.US	PCG.N	PG&E	United States	USD	18.11	100%	13.78	13.78	42.12	45.00	1	4.32%	11%
	PGRD.IN	PGRD.BO	Pwr Grid Corp	India	INR	494.69	31%	6.99	2.17	109.15	142.00	1	1.97%	35%
	REE.ES	REE.MC	Red Electrica	Spain	EUR	5.9	77%	5.90	4.54	43.50	42.00	1	5.24%	1%
	RENE.PT	RENE.LS	REN	Portugal	EUR	1.27	19%	1.27	0.24	2.36	1.90	3	7.20%	-12%
	TRN.IT	TRN.MI	TERNA	Italy	EUR	6.35	65%	6.35	4.13	3.13	2.90	3	6.01%	-5%
Water, waste and recycling														
Water, waste and recycling	0257.HK	0257.HK	China Everbright	Hong Kong	HKD	20.84	63%	2.04	1.29	4.99	5.20	1	1.15%	2%
	0923.HK	0923.HK	Fook Woo Grp	Hong Kong	HKD		39%				2.85	1		
	2314.HK	2314.HK	Lee & Man Paper	Hong Kong	HKD	27.06	30%	2.66	0.80	5.62	6.00	1	1.51%	5%
	2689.HK	2689.HK	Nine Dragons	Hong Kong	CNY	34.41	34%	3.38	1.15	6.87	9.00	1	1.18%	23%
	6370.JP	6370.T	Kurita	Japan	JPY	220.69	94%	1.82	1.71	1850.00	1900.00	2	2.16%	5%
	SMDs.GB	SMDs.L	DS Smith	United Kingdom	GBP	2.23	99%	2.58	2.55	2.38	2.65	1	2.45%	13%
	DHR.US	DHR.N	Danaher Corp	United States	USD	42.27	86%	32.17	27.67	61.24	67.00	1	0.18%	10%
	GEBN.CH	GEBN.VX	Geberit	Switzerland	CHF	8.74	99%	7.16	7.09	223.90	195.00	3	2.89%	-11%
	HYFL.SG	HYFL.SI	Hyflux	Singapore	SGD	1.21	67%	0.75	0.50	1.39	1.86	1	2.92%	35%
	PNN.GB	PNN.L	Pennon	United Kingdom	GBP	2.4	99%	2.76	2.73	6.52	6.30	2	4.04%	0%
	PNR.US	PNR.N	Pentair Inc	Switzerland	USD	10.85	99%	8.26	8.18	52.62	59.00	1	1.67%	14%
	ROP.US	ROP.N	Roper Ind	United States	USD	12.3	99%	9.36	9.27	124.39	138.00	1	0.36%	11%
	SEVI.FR	SEVI.PA	Suez Environ	France	EUR	5.24	61%	5.24	3.20	10.05	11.00	1	6.33%	13%
	SVT.GB	SVT.L	Severn Trent	United Kingdom	GBP	3.87	99%	4.47	4.43	16.20	15.20	2	4.32%	-2%
	THMX.IN	THMX.BO	Thermax	India	INR	71.2	98%	1.01	0.99	593.75	562.00	3	1.17%	-5%
	UU.GB	UU.L	United Utilities	United Kingdom	GBP	5.05	99%	5.83	5.77	7.36	6.50	2	4.32%	-8%
	VIE.FR	VIE.PA	Veolia Environment	France	EUR	5.19	83%	5.19	4.31	9.51	13.00	1	7.04%	38%
	XYL.US	XYL.N	Xylem	United States	USD	5.11	100%	3.89	3.89	27.47	30.00	2	1.47%	11%
Thermally efficient building materials														
Thermally efficient building materials	5201.JP	5201.T	Asahi Glass	Japan	JPY	728.02	100%	6.01	6.01	621.00	660.00	2	4.13%	9%
	CSR.AU	CSR.AX	CSR Ltd	Australia	AUD	1.01	99%	0.78	0.77	1.97	1.65	3	6.53%	-14%
	5202.JP	5202.T	NSG	Japan	JPY	105.58	95%	0.87	0.83	111.00	100.00	2	3.85%	-15%
	KSP.IE	KSP.I	Kingspan	Ireland	EUR	1.43	79%	1.43	1.13	8.50	9.20	2	1.44%	10%
	SHI.GB	SHI.L	SIG	United Kingdom	GBP	0.81	93%	0.94	0.87	1.40	1.50	1	2.11%	11%

Source: Powered by dataCentral.

Figure 73. Energy and Resource Efficiency (2)

	DC Code	RIC Code	Company	P/E (x)			2011-13 PEG	EV/EBITDA (x)			2011-13 EEG	Net Debt / Capital Employed (x)		
				2011	2012	2013	2012	2011	2012	2013	2012	2011	2012	2013
Electrical efficiency equipment and services														
Electrical efficiency equipment and services	ABBN.CH	ABBN.VX	ABB	16.61x	19.50x	14.31x	2.52x	9.94x	11.42x	8.83x	1.88x	-12%	9%	-2%
	ATK.GB	ATKW.L	WS Atkins	10.47x	10.96x	11.02x	-4.35x	7.23x	6.95x	7.86x	-1.70x	444%	1030%	-277%
	G1AG.DE	G1AG.DE	GEA	13.58x	13.30x	12.22x	2.46x	10.80x	10.32x	9.53x	1.60x	24%	24%	15%
	IFXGn.DE	IFXGn.DE	Infineon	6.61x	19.69x	26.89x	-0.39x	3.78x	5.15x	5.19x	-0.35x	-211%	-101%	-107%
	NEXS.FR	NEXS.PA	Nexans	9.79x	14.49x	9.63x	16.63x	4.49x	6.86x	5.91x	-0.53x	9%	25%	24%
	PHG.NL	PHG.AS	Philips	31.60x	14.95x	13.02x	0.27x	4.79x	7.30x	5.31x	-1.44x	8%	9%	7%
	PRY.IT	PRY.MI	Prysmian	15.77x	13.68x	11.61x	0.83x	15.99x	10.08x	8.40x	0.27x	42%	41%	37%
	SCHN.FR	SCHN.PA	Schneider Electric	16.11x	15.61x	14.29x	2.53x	11.29x	10.67x	9.89x	1.55x	43%	36%	29%
	SIEGn.DE	SIEGn.DE	Siemens	10.29x	10.78x	11.43x	-2.11x	6.05x	7.67x	7.50x	-0.76x	15%	24%	17%
	SPX.GB	SPX.L	Spirax Sarco	19.59x	19.37x	18.43x	6.24x	12.52x	11.98x	10.67x	1.44x	-3%	-8%	-23%
Electricity transimission and distribution														
Electricity transmission and distribution	ED.US	ED.N	Consol Edison	16.19x	15.49x	15.23x	4.99x	8.60x	8.35x	7.91x	1.96x	28%	30%	30%
	PCG.US	PCG.N	PG&E	11.77x	13.10x	15.87x	-0.94x	7.63x	7.81x	6.16x	0.69x	31%	27%	28%
	PGRD.IN	PGRD.BO	Pwr Grid Corp	19.45x	15.12x	11.49x	0.50x	12.05x	11.15x	9.24x	0.78x	57%	62%	64%
	REE.ES	REE.MC	Red Elctrica	12.82x	12.41x	11.23x	1.82x	9.26x	9.21x	8.55x	2.26x	65%	65%	63%
	RENE.PT	RENE.LS	REN	9.64x	8.28x	7.68x	0.69x	7.47x	6.92x	6.57x	1.05x	65%	66%	65%
	TRN.IT	TRN.MI	TERNA	14.43x	14.05x	13.80x	6.18x	9.54x	9.14x	9.17x	4.60x	61%	64%	66%
Water, waste and recycling														
Water, waste and recycling	0257.HK	0257.HK	China Everbright	23.80x	19.42x	19.39x	1.80x	15.44x	14.10x	11.75x	0.97x	32%	26%	30%
	0923.HK	0923.HK	Fook Woo Grp					-2.14x	-1.87x	-1.43x	-0.08x	-57%	-52%	-41%
	2314.HK	2314.HK	Lee & Man Paper	14.80x	20.07x	19.22x	-1.64x	12.12x	15.23x	13.86x	-2.36x	35%	39%	36%
	2689.HK	2689.HK	Nine Dragons	13.28x	19.46x	16.31x	-1.99x	11.87x	11.24x	9.76x	1.09x	49%	49%	48%
	6370.JP	6370.T	Kurita	13.86x	14.24x	18.38x	-1.08x	3.20x	2.74x	2.91x	0.57x	-34%	-44%	-45%
	SMDS.GB	SMDS.L	DS Smith	27.56x	18.84x	14.63x	0.51x	13.91x	9.12x	7.61x	0.26x	35%	-58%	47%
	DHR.US	DHR.N	Danaher Corp	22.10x	18.99x	17.64x	1.59x	14.19x	11.56x	9.87x	0.58x	44%	24%	-6%
	GEBN.CH	GEBN.VX	Geberit	22.91x	22.30x	20.64x	4.16x	15.92x	15.79x	14.80x	4.26x	-68%	-51%	-58%
	HYFL.SG	HYFL.SI	Hyflux	29.66x	19.09x	17.23x	0.61x	7.10x	9.86x	9.06x	-0.86x	15%	27%	36%
	PNN.GB	PNN.L	Pennon	15.63x	14.23x	15.35x	15.98x	11.05x	11.19x	11.99x	-2.79x	66%	66%	68%
	PNR.US	PNR.N	Pentair Inc	22.85x	21.24x	16.19x	1.13x	15.21x	13.49x	10.02x	0.58x	77%	27%	27%
	ROP.US	ROP.N	Roper Ind	28.64x	25.07x	21.28x	1.57x	16.30x	15.01x	11.80x	0.86x	46%	73%	33%
	SEVI.FR	SEVI.PA	Suez Environ	10.33x	14.36x	14.16x	-0.99x	6.83x	6.65x	6.67x	5.62x	55%	56%	55%
	SVT.GB	SVT.L	Severn Trent	15.45x	15.84x	15.93x	-10.47x	10.31x	10.10x	9.98x	6.18x	59%	59%	59%
	THMX.IN	THMX.BO	Thermax	18.66x	17.65x	21.77x	-2.37x	12.41x	11.55x	14.27x	-1.71x	-48%	-26%	-24%
	UU.GB	UU.L	United Utilities	37.27x	21.00x	18.50x	0.50x	11.41x	11.87x	11.99x	-4.77x	59%	60%	60%
	VIE.FR	VIE.PA	Veolia Environment	17.04x	16.67x	14.51x	1.99x	4.65x	5.01x	5.27x	-0.82x	52%	47%	50%
	XYL.US	XYL.N	Xylem	14.20x	15.51x	14.64x	-10.32x	9.70x	9.58x	8.56x	1.49x	54%	40%	25%
Thermally efficient building materials														
Thermally efficient building materials	5201.JP	5201.T	Asahi Glass	7.64x	16.63x	16.14x	-0.53x	2.87x	4.19x	3.98x	-0.28x	22%	26%	22%
	CSR.AU	CSR.AX	CSR Ltd	9.51x	11.10x	22.32x	-0.32x	4.43x	4.83x	6.25x	-0.31x	-9%	-3%	-6%
	5202.JP	5202.T	NSG	7.46x	-37.44x	-3.55x		1.30x	3.57x	10.03x	-0.06x	46%	52%	56%
	KSP.IE	KSP.I	Kingspan	20.15x	19.15x	16.98x	2.15x	12.08x	10.90x	9.51x	0.86x	33%	28%	19%
	SHI.GB	SHI.L	SIG	12.04x	13.94x	13.45x	-2.58x	10.79x	9.62x	7.36x	0.46x	23%	23%	20%

Source: Powered by dataCentral.

Figure 74. Energy and Resource Efficiency (3)

	DC Code	RIC Code	Company	EV / Invested Capital (%)			P/BV per share (x)			ROIC (%)			ROE (%)		
				2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Electrical efficiency equipment and services															
Electrical efficiency equipment and services	ABBN.CH	ABBN.VX	ABB	231%	195%	187%	3.33x	3.12x	2.78x	19.24%	12.79%	14.92%	20.66%	16.55%	20.55%
	ATK.GB	ATKW.L	WS Atkins	463%	393%	339%	51.98x	7.18x	8.39x	207.90%	50.01%	40.96%		158.69%	76.02%
	G1AG.DE	G1AG.DE	GEA	186%	176%	166%	2.27x	2.23x	1.99x	12.16%	10.57%	10.67%	15.38%	16.59%	16.98%
	IFXGn.DE	IFXGn.DE	Infineon	579%	332%	322%	2.10x	1.94x	1.86x	80.25%	34.73%	18.20%	37.42%	10.71%	7.41%
	NEXS.FR	NEXS.PA	Nexans	50%	57%	56%	0.57x	0.56x	0.55x	7.98%	6.02%	6.59%	-8.79%	2.53%	4.47%
	PHG.NL	PHG.AS	Philips	162%	180%	185%	1.54x	1.77x	1.71x	-4.03%	5.73%	12.64%	-9.45%	1.92%	11.58%
	PRY.IT	PRY.MI	Prysmian	194%	193%	187%	3.30x	3.18x	2.89x	-1.27%	8.03%	10.48%	-14.59%	7.79%	13.16%
	SCHN.FR	SCHN.PA	Schneider Electric	158%	151%	147%	1.97x	1.90x	1.79x	10.46%	9.73%	10.08%	11.86%	11.49%	11.59%
	SIEGn.DE	SIEGn.DE	Siemens	239%	225%	220%	2.31x	2.37x	2.19x	20.89%	14.66%	13.44%	20.47%	14.32%	15.59%
	SPX.GB	SPX.L	Spirax Sarco	394%	381%	373%	4.75x	4.18x	3.68x	21.13%	19.74%	21.61%	23.92%	21.25%	21.39%
Electricity transimission and distribution															
Electricity transimission and distribution	ED.US	ED.N	Consol Edison	76%	77%	76%	1.50x	1.44x	1.39x	4.77%	4.83%	5.03%	9.34%	9.80%	9.27%
	PCG.US	PCG.N	PG&E	72%	66%	65%	1.40x	1.37x	1.34x	3.57%	3.24%	3.80%	7.22%	6.48%	4.15%
	PGRD.IN	PGRD.BO	Pwr Grid Corp	150%	138%	129%	2.32x	2.11x	1.86x	6.73%	7.02%	7.89%	14.46%	14.51%	17.25%
	REE.ES	REE.MC	Red Electrica	138%	135%	132%	3.26x	2.97x	2.68x	7.69%	7.74%	8.07%	26.81%	25.03%	25.07%
	RENE.PT	RENE.LS	REN	103%	102%	101%	1.22x	1.15x	1.08x	6.25%	7.74%	7.90%	11.74%	14.27%	14.46%
	TRN.IT	TRN.MI	TERNA	136%	133%	130%	2.31x	2.28x	2.22x	5.18%	6.41%	6.31%	15.96%	16.34%	16.30%
Water, waste and recycling															
Water, waste and recycling	0257.HK	0257.HK	China Everbright	304%	309%	313%	3.06x	3.11x	3.15x	15.54%	13.92%	17.60%	13.90%	15.65%	16.13%
	0923.HK	0923.HK	Fook Woo Grp							24.55%	19.30%	20.94%	15.57%	12.72%	14.55%
	2314.HK	2314.HK	Lee & Man Paper	179%	161%	152%	2.16x	2.00x	1.75x	11.56%	7.12%	6.87%	16.46%	10.60%	9.80%
	2689.HK	2689.HK	Nine Dragons	134%	130%	128%	1.34x	1.28x	1.21x	7.16%	5.99%	7.01%	9.91%	6.74%	7.64%
	6370.JP	6370.T	Kurita	124%	116%	130%	1.20x	1.12x	1.15x	11.18%	12.28%	11.76%	8.78%	8.13%	6.17%
	SMD.S.GB	SMD.S.L	DS Smith	223%	216%	133%	2.52x	2.08x	1.97x	6.80%	12.01%	10.94%	13.21%	4.03%	6.31%
	DHR.US	DHR.N	Danaher Corp	186%	166%	160%	2.56x	2.22x	1.99x	9.44%	9.09%	9.82%	12.66%	13.27%	12.08%
	GEBN.CH	GEBN.VX	Geberit	692%	640%	603%	6.32x	6.11x	5.50x	32.27%	31.52%	30.90%	26.12%	27.47%	27.96%
	HYFL.SG	HYFL.SI	Hyflux	237%	169%	156%	1.31x	2.30x	2.16x	12.96%	14.31%	11.72%	5.76%	8.81%	13.03%
	PNN.GB	PNN.L	Pennon	135%	129%	126%	2.99x	2.87x	2.68x	7.87%	7.19%	6.28%	23.83%	21.15%	19.38%
	PNR.US	PNR.N	Pentair Inc	310%	126%	126%	2.53x	1.58x	0.74x	15.24%	8.77%	7.67%	23.26%	11.63%	9.41%
	ROP.US	ROP.N	Roper Ind	290%	228%	213%	3.76x	3.32x	2.86x	10.91%	10.73%	10.73%	14.37%	14.05%	14.72%
	SEVI.FR	SEVI.PA	Suez Environ	96%	98%	97%	1.04x	1.11x	1.10x	5.66%	6.21%	6.13%	6.64%	5.29%	7.67%
	SVT.GB	SVT.L	Severn Trent	119%	117%	115%	3.50x	3.95x	3.61x	8.01%	7.74%	6.93%	27.17%	19.89%	25.32%
	THMX.IN	THMX.BO	Thermax	742%	492%	428%	5.42x	4.37x	3.86x	53.58%	28.23%	14.97%	31.89%	27.41%	18.82%
	UU.GB	UU.L	United Utilities	118%	115%	113%	3.01x	2.86x	2.63x	7.31%	7.05%	6.12%	28.78%	18.09%	17.52%
	VIE.FR	VIE.PA	Veolia Environment	93%	87%	90%	0.71x	0.75x	0.64x	5.17%	4.70%	5.22%	-6.52%	4.32%	6.06%
	XYL.US	XYL.N	Xylem	184%	171%	160%	2.78x	2.47x	2.14x	12.16%	10.84%	11.90%	12.28%	14.56%	15.65%
Thermally efficient building materials															
Thermally efficient building materials	5201.JP	5201.T	Asahi Glass	107%	98%	96%	0.90x	0.77x	0.75x	12.48%	6.63%	5.92%	11.78%	5.00%	4.73%
	CSR.AU	CSR.AX	CSR Ltd	58%	66%	65%	0.81x	0.82x	0.81x	6.93%	8.61%	5.44%	6.19%	7.36%	3.66%
	5202.JP	5202.T	NSG	126%	133%	140%	0.49x	0.65x	0.74x	7.37%	2.15%	-4.88%	5.56%	-1.49%	-19.49%
	KSP.IE	KSP.I	Kingspan	174%	157%	151%	1.95x	1.78x	1.65x	8.72%	9.10%	9.60%	8.90%	9.58%	9.77%
	SHI.GB	SHI.L	SIG	105%	104%	101%	1.15x	1.15x	1.09x	5.64%	5.66%	8.13%	-0.04%	2.97%	7.89%

Source: Powered by dataCentral.

Global equity strategy overview

(Extract from [The Road Ahead 2013: Global Equities](#), 11 January 2013)

Figure 75. Regional and Global Sector Recommendations

Overweight US Australia	Neutral Global Emerging Markets Asia Pac ex Japan UK	Underweight Europe ex UK Japan
Overweight Energy IT Utilities	Neutral Consumer Staples Financials Health Care Materials	Underweight Consumer Discretionary Industrials Telecoms

Source: Citi Research, derived from [The Road Ahead 2013: Global Equities](#), 11 January 2013c

Global Strategy

Citi's key economic forecasts are outlined in Figure 76. These suggest 2.6% global real GDP growth in 2013, similar to 2012. While uninspiring, this forecast is still well ahead of the -1.9% outcome seen in 2009. Citi economists currently forecast a mild acceleration to 3.1% global growth in 2014.

Figure 76. Citi Research Key Economic Forecasts

Region	Real GDP Growth (%)			CPI Inflation (%)		
	2012E	2013E	2014E	2012E	2013E	2014E
Global	2.5	2.6	3.1	2.9	2.8	3
Industrial Countries	1.2	0.9	1.5	1.9	1.7	1.8
Emerging Markets	4.7	5.3	5.5	4.4	4.6	4.7
US	2.2	1.6	3	1.8	1.9	2
Japan	1.6	0.7	0.7	0	-0.3	1.6
Eurozone	-0.4	-0.7	-0.4	2.6	2	1.5
Germany	0.9	0.5	0.3	2	1.9	2.5
France	0.1	-0.2	0.2	2.3	1.5	1.8
Italy	-2.1	-1.2	-1.5	3.3	1.8	1.2
Spain	-1.5	-2.4	-1.9	2.4	1.9	0.4
UK	-0.1	0.8	1	2.8	2.5	2.1
Sweden	1	1.6	2.3	0.9	0.6	1.7
Asia	6.1	6.6	6.6	3.5	3.5	3.9
Latin America	2.7	3.9	4	5.8	5.8	5.9
Central/Eastern Europe	2.7	2.8	3.5	5.4	6.1	5.1
Australia	3.7	3.1	3.1	1.9	2.9	2.7
China	7.7	7.8	7.3	2.7	2.8	3.6

Source: [The Road Ahead 2013: Global Equities](#), 11 January 2013

EMU crisis to rumble on

Outside Germany, all the major Eurozone economies are expected to remain in recession for 2013. Despite better recent financial conditions, the EMU crisis has not gone away. Citi economists still forecast Greece to exit EMU over the next 12-18 months. They also expect sovereign debt restructuring during 2013-17 for at least five EMU countries (Greece, Ireland, Italy, Portugal and Spain). Eurozone economies and ongoing austerity measures should remain significant drags on the UK economy over the next 12 months.

Acceleration of US growth later in the year and China hard-landing unlikely

Citi economists forecast 1.6% real US GDP growth in 2013, better than Europe but down from the 2.2% outcome likely in 2012. They expect acceleration in US activity later in the year, with a 3.0% growth rate predicted in 2014. EM growth slowed in 2012 (to 4.7%), but is projected to pick up again in 2013 (to 5.3%). Better recent activity data support the Citi view that a China hard-landing is unlikely to occur in the foreseeable future.

Stable inflation figures, even in EM

EM inflation was one area of concern a year ago. But the subsequent reduction in inflation expectations has given EM central banks the scope to cut rates. Elsewhere, inflation forecasts have been generally stable.

Ultra-low rates persist across the globe

Slowing growth and lower inflation forecasts mean that we expect continued ultralow interest rates in the major industrial countries. The US, UK and Euro area are not expected to hike rates until 2015 at the earliest. All are likely to use unconventional methods to ease monetary conditions further, as may Japan following the recent change in government. Elsewhere, the prospects are for more rate cuts. We expect Australian rates (currently 3.25%) to be 3.0% by end-2013 and Indian rates are expected to fall from 8.0% to 7.25% over the same period. Brazilian rates are expected to fall from the current 7.25% to 6.5%. Chinese rates are expected to end the year 25bp higher. Overall, investors should not expect as many cuts in 2013, but low rates should continue to provide support for riskier assets.

Government bond yields to remain low

Away from areas of sovereign distress, easy monetary policy is likely to keep government bond yields low. Citi rate strategists forecast 10-year bund yields to still be at current levels (1.5%) at the end of 2013. US treasury yields (now 1.9%) are expected to rise to 2.5%. JGB yields (currently 0.8%) are expected to be 1.1%. Gilt yields (now 2.1%) are forecast to drop back to 1.8% by December 2013. Our ongoing EMU concerns mean that we are skeptical about the recent rally. French 10 year bonds (currently 2.1%) are expected to end 2013 at 2.7%. Italian bonds (now 4.3%) are expected to be back at 5.5% while Spanish bonds (now 5.1%) are forecast to rise to 5.75%. Any rebound in EMU sovereign fears would be unhelpful for risk assets.

FX – strong US\$

Citi FX strategists remain optimistic on the US\$. They expect the US\$/euro cross (currently \$1.31) to hit \$1.20 by the end of the year. The yen is expected to recover some of its recent losses against the US\$ (back to 84 from current 87). Sterling is forecast to weaken in line with the euro. With the rate outlook diverging in the EM economies, we expect currency dynamics to shift as well. Citi FX strategists now expect the best 2013 currency performance from Asia and the worst from CEEMEA, with LatAm somewhere in-between. Citi credit strategists remain concerned about the fundamental backdrop, especially in Europe. But they also recognise that credit spreads still offer some value at and that investor demand for the asset class remains strong. On balance, they expect easy money to trump weak fundamentals again in 2013, but there should be volatility along the way.

Regions

Continued GDP and EPS outperformance means that we are Overweight US equities. We also like Australia. Weaker GDP and EPS performance, combined with sharp re-ratings mean that we are not tempted to chase the recent rallies in Japan and Europe ex UK. We are Neutral UK and Emerging Markets. Within EM equities we now favour LatAm over Asia and CEEMEA.

Overweight the US

US: Our preferred large market is the US. US equities have suffered an unusual period of underperforming share prices and outperforming EPS. As of our “Road Ahead 2013” publication, the market has moved from more than a 10% 12 month forward PE premium to less than a 5% premium in just a quarter — valuations are no longer as testing as before. Tobias Levkovich believes the US should post double digit gains this year, helped by easier credit conditions and an improving employment market.

Overweight Australia

Australia: We are Overweight Australia. Australian equities should continue to benefit from the global search for yield. The dividend yield is expected to be almost 5% for 2013. This makes it the highest yielding major market in the world. Tony Brennan also notes that further rate cuts, and stability in commodity prices and the currency, should also support returns for the next year. At the start of the year, Tony raises his end-2013 ASX All Share target to 5200 from 4900.

Neutral GEMs

Global Emerging Markets: We remain Neutral GEMs but have a preference for LatAm over Asia and CEEMEA. We recently upgraded LatAm to Overweight after its severe underperformance in 2012. We expect a strong GDP and EPS rebound in 2013 following weakness last year. Accommodative central bank policy should also help. We downgrade Asia ex Japan to Neutral from Overweight. While we still expect sound returns from the region, supported by stabilising GDP growth and expanding central bank assets, our preference within EM is for LatAm. We are Underweight CEEMEA equities. Kingsmill Bond, our Russian strategist, believes the market will struggle with oil prices drifting lower as our commodity team forecasts. Meanwhile, Richard Schellbach in South Africa sees little catalyst for a re-rating so meager EPS growth should cap performance.

Underweight Japan

Japan: Japanese equities finished last year strongly and have started 2013 in the same way. The potential of a new dawn at the BoJ looks to be driving performance. The gains in Japan have largely been multiple driven. While analysts have slowed the pace of downgrades, they are yet to convincingly move into upgrade territory. At the beginning of the year, Japanese equities traded on a Cyclically Adjusted PE of 19x - this is a 6% premium to the global equity average. At the start of 2012 Japanese equities traded on no premium to the global average.

There have been nine other quarters since 2000 where Japanese equities had a similar performance spurt. So what happened after the previous nine quarters following spurts in Japanese equities? In the following 3 months, the equity market underperformed the global index on five occasions. Japanese equities performed in-line on two other occasions and outperformed on two times. On average Japanese equities returned 2% less than the global benchmark in the following quarters. We believe a major reason why Japan tends to underperform is because companies struggle to meet their cost of capital. While, a weaker currency and potentially stronger profits will help, we do not expect a sea change in Japanese corporate behavior. Japan Inc. RoEs are currently close to 4%. This compares to a global benchmark of 12%. With returns at these levels, we believe Japan will continue to destroy value. So we have three reasons why investors should be Underweight Japan. First, valuations have re-rated considerably. Second, history suggests strong

performance does not follow strong performance. Third, companies will continue to destroy value, in our view.

Underweight Europe

Europe: To the surprise of many investors European equities outperformed their global peers in 2012. The gains have come despite a worrisome earnings backdrop — Continental European EPS have declined by more than 10% since 3Q 2011. Outperforming stock markets, combined with underperforming EPS, have made for a notable re-rating of European equities. The valuation gap between Continental Europe and the US has closed so we believe corporate profits will be a more important driver of performance from here. This is why we believe European equities could lag. Earnings momentum in Continental Europe remains sluggish. This is unlikely to improve given our economists' forecasts of continued recession in the Euro Area.

Neutral UK

UK: Within Europe we prefer the UK. While UK EPS momentum has been weak, at least plenty of bad news is in the price. At the beginning of the year, the UK traded at a discount to Continental Europe based on 12 month forward EPS. As our strategists note, the UK is a relatively open market for corporate control which should bode well for further dividends, buybacks and M&A as companies take advantage of the debt-equity arbitrage.

Sectors

We have a mixed global sector strategy. Utilities are now our preferred defensive. IT is our preferred cyclical and Energy replaces Materials as our preferred commodity sector. We are Underweight two of the more expensive cyclical sectors (Consumer Discretionary and Industrials). Telecoms are now our least preferred defensive.

Upgrade Utilities, downgrade Health Care

Weak share price performance and stabilising EPS momentum means we have upgraded Utilities to Overweight from Neutral. Relative earnings trends in Utilities are no worse than at the start of last year but stock prices have underperformed. Global Utilities now trades at the smallest PE premium in almost two years. The sector also enjoys the second highest dividend yield at almost 5%. Utilities were one of the worst performers in 2012, along with Energy, and we have found that contrarian trades tend to work well at the start of the year.

Our upgrade of Utilities was at the expense of Health Care, which we downgraded to Neutral. Health Care enjoyed strong performance in 2012. Valuations are attractive and EPS momentum remains stable. Meanwhile, the sector remains one of the biggest capital returners which also help support share prices. Given the strong performance, we hope to buy back in at lower valuations.

Upgrade Energy, downgrade Materials

Within the commodity sectors we now prefer Energy to Materials. The bounce in the iron ore price in 4Q certainly helped Materials performance as did the prospect of more capital returns. However, with the sunset of the super cycle upon us we believe it will be difficult to get sustained performance from a sector with little pricing power. Our upgrade of Energy to Overweight came after a period of underperformance. We agree with our analysts that cost inflation and capex will continue to squeeze margins however much seems to be discounted with single digit PE multiples and sustainable dividends yields of more than 3%.

Overweight Global IT

Our other Overweight sector is Global IT. This sector is dominated by the big US Tech companies, which have high and sustainable margins and are able to generate strong cash flow. Business models in this area are largely sound and the prospect of serious competition seems remote for most of these companies. Now we believe is an opportune time to consider Global IT given its recent Underperformance.

Notes

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Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

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Dominik Frauendienst, Analyst, holds a long position in the securities of Infineon Technologies.

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