

# The Green Rebound

Clean energy to become an important component of global recovery plans

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**Nick Robins\***

Analyst  
HSBC Bank plc  
+44 20 7991 6778    nick.robins@hsbc.com

**Robert Clover\***

Analyst  
HSBC Bank plc  
+44 20 7991 6741    robert.clover@hsbcib.com

**James Magness\***

Analyst  
HSBC Bank plc  
+44 20 7991 3464    james.magness@hsbcib.com

View HSBC Global Research at: <http://www.research.hsbc.com>

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## Disclaimer & Disclosures

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- ▶ **Despite recessionary fears, political support for clean energy and action on climate change remains strong**
- ▶ **A reaffirmed EU commitment at the end of 2008 will be followed by the proposed USD825bn American Recovery and Reinvestment Plan, in which clean energy will be central**
- ▶ **Highlighted stocks: Iberdrola Renovables (Overweight (V), TP EUR3.50), and EDF EN (Overweight (V), TP EUR30)**

## The Green Leap Forward

Last year ended with the European Union agreeing the world's largest climate package, with renewable energy emerging as the main winner. The baton of climate leadership now passes to the US, where clean energy is expected to form a prominent part of President Barack Obama's American Recovery and Reinvestment Plan. This will reinforce the USD432bn that has already been committed to climate change themes in 15 national and regional stimulus packages. We expect the climate dimensions of government recovery packages will become more marked in 2009 – not least as governments move to make a positive contribution to a global climate agreement at Copenhagen in December.

We would expect these policies will act a positive stock market trigger, especially for the wind sector. However, in the short term, the availability of project finance remains a major stumbling block, with growth expectations rapidly deteriorating as developers find it more difficult to obtain financing. From a stock market perspective, we therefore expect the sector may well underperform in early Q1 2009 and possibly into Q2 2009, against a backdrop of weak corporate news flow and challenged project finance markets, but we expect a strong rebound thereafter. Our favoured stocks are Iberdrola Renovables (Overweight (V), target price EUR3.50), and EDF EN (Overweight (V), target price EUR30).

# Passing the Baton

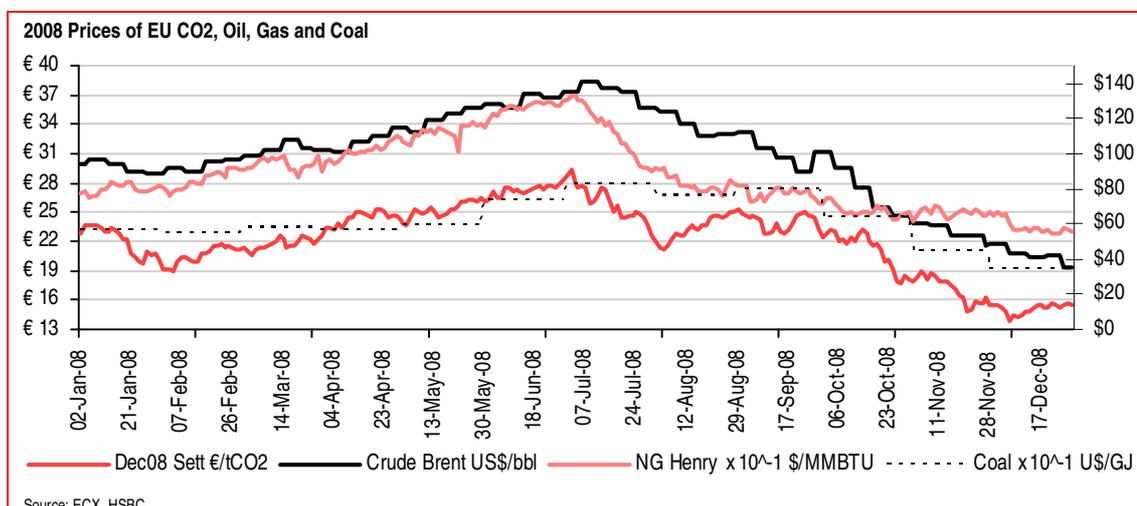
- ▶ 2008 ended with the EU agreeing the world's largest climate package; renewables emerged as the main winner and carbon costs were limited following intense lobbying.
- ▶ The baton of climate leadership now passes to the US, where clean energy is set to form a prominent part of President Obama's American Recovery and Reinvestment Plan.
- ▶ Emerging markets are also upgrading their policies, particularly in China and India, but we expect only an outline agreement (if that) to emerge from the Copenhagen climate summit in December.

## A climate of recession?

The climate and clean energy agenda starts 2009 in a paradox. Recession is clearly deflating the readiness of some in government to introduce tough carbon constraints. But this is more than outweighed for the moment by the growing support for linking plans for an economic recovery with climate change investment – and

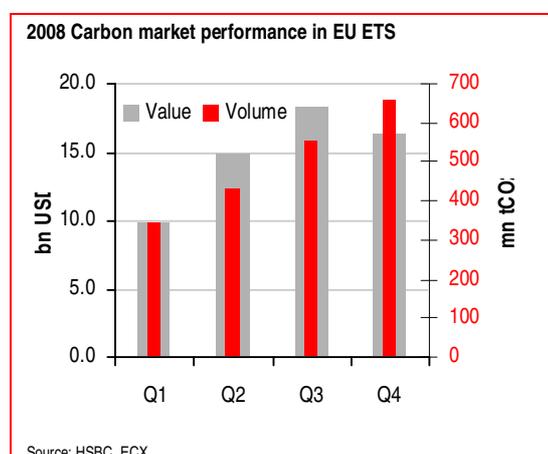
we have yet to see President-elect Barack Obama's plans for a 'green New Deal'.

The convergence of political commitment and high oil prices that had provided a powerful tailwind for climate action has certainly faltered. Oil prices fell from a high of USD147 in July to USD35 by the end of 2008. In the European Union, carbon prices also plunged from a peak of



EUR28.77 at the end of June to just EUR13.7 on 15 December and stabilised at EUR15 by the end of the year.

In spite of the downturn, volumes in the carbon markets were the highest ever in the fourth quarter of 2008. The decline in the carbon price meant, however that the market's value fell below Q3, resulting in a total year-end value of USD118bn – still 84% higher than 2007.



## Greening the recovery

Central to climate change investing in 2009 will be the interplay with the deepening economic downturn. We see two forces at work – a strengthening strategic tailwind in favour of clean energy, set against a worsening financial and economic downdraft. Which will dominate is likely to depend on the extent to which climate change and sustainability are built into government plans for economic recovery.

We have reviewed 15 plans that have been made at the national or regional level since September, and summarise the extent to which they promote climate change investment below. The results are quite striking, with the proportion ranging from 0% in Poland to some 34% in China, on the back of a substantial boost to rail infrastructure, with South Korea at the extreme, dedicating almost its entire package (69%) to green investments. HSBC's Hong Kong Construction & Engineering equity analysts estimate that the extra investment in China could lift railway investment growth to 42.2% from the previously expected 11.3% CAGR for 2008-10e (*China Infrastructure Construction, 25 November 2008*).

### Green New Deals? Climate Change Investment Themes in 2008 Stimulus Packages (USD bn)

Country	Stimulus Package	Total Package	Low Carbon Power (Renewables, CCS)	Energy Efficiency, R&D, Modal Shift	Waste, Water Treatment & Pollution Control	Green Investments (%)	Other Infra	Period	Status
Chile	Anti-crisis stimulus package	4.0	-	-	-	-	0.7	2009	Pending
China	NDRC Stimulus Package	581.2	-	147.6	50.9	34%	239.9	2009-2010	Passed
EU	Recovery Plan	253.6	19.0	15.5	-	14%	8.0	2009-2010	Passed
France	Revival Plan	32.9	0.8	2.0	-	8%	18.7	2009-2010	Pending
Germany	Stimulus Plan	63.4	-	11.9	-	19%	-	2009-2010	Pending
India	Stimulus Package	6.8	-	-	-	-	2.0	2009	Passed
Israel	Stimulus Plan	5.0	-	0.1	-	2%	2.3	2010 onwards	Passed
Italy	Emergency Package	101.4	-	1.2	-	1%	-	2009 onwards	Passed
Japan	Stimulus Package	476.0	-	11.0	-	2%	2.2	2009 onwards	Pending
Poland	Stimulus Package	30.0	-	-	-	-	-	2009 onwards	Pending
South Korea	Green New Deal	38.1	-	8.5	17.8	69%	-	2009-2012	Passed
Spain	Stimulus Package	13.9	0.8	0.6	-	10%	11.2	2009	Passed
Thailand	Stimulus Package	8.7	-	-	-	-	-	2009	Pending
United Kingdom	Pre-budget report 2008	29.7	0.6	1.4	-	7%	26.5	2009	Pending
United States	Emergency Economic Stabilization Act	700.0	12.0	1.7	-	2%	0.9	Next 10 years	Passed
	Economic Stimulus Package	825.0	10.4	85.9	32.3	16%	9.2	2009-2010	Pending
<b>Total Funds Unveiled</b>		<b>3170</b>	<b>43.5</b>	<b>287.4</b>	<b>101.0</b>	<b>14%</b>	<b>321.5</b>	<b>Available from 2 to 10 yrs</b>	

Source: HSBC

Overall, we estimate that over cUSD432bn has been allocated to climate change themes, of which we expect perhaps as much as 50% to be effective during 2009.

We expect the climate dimensions of government recovery packages will become more marked in 2009, driven in part by the need to make a positive contribution to the Copenhagen process, and also by relatively resilient demand from the public for climate action in spite of the downturn.

## EU still a climate leader (just)

At the last moment, the EU Heads of State reached a grand compromise at their December summit that kept faith with its 20:20:20 vision but toned down the carbon costs for Eastern Europe and industry. The result is the world's largest climate plan, covering 493 million inhabitants, and representing 15% of global greenhouse gas (GHG) emissions. The overall package contains four interlocking pieces of legislation on renewable energy, the Emission Trading System, emission cuts outside the ETS, and CCS; two other directives on emissions from cars and fuel quality were also completed. Critically, no change was made to the overall target of a 20% cut in GHGs, rising automatically to 30% if a global deal is made at Copenhagen.

### Doubling renewable energy

The most positive news came with the Renewable Energy Directive, which emerged strengthened from the interventions of the European Parliament. The EU is now committed to sourcing 20% of total energy consumption – for electricity, heat and fuels – from renewables in 2020, with national targets ranging from 10% in Malta to 49% in Sweden. That would more than double the share of renewables, up from 9.3% in 2005.

The target will be implemented through national action plans to be submitted by 2010. Investors had been concerned about the possibility of a mid-

term review giving clean energy laggards an opportunity to reduce their commitments. A review will still take place in 2014, but with a focus on improving the efficiency of co-operation mechanisms among member states. The plan also allows countries to include green electricity imported, for example, from solar thermal plants in North Africa, and requires member states to give renewable electricity priority or guaranteed grid access. The one weak point is the lack of penalties for member states that miss the targets.

To reach the 2020 goal, the European Renewable Energy Council projects that wind will grow by 8.5% a year from 2010 to 2020 to a total installed capacity of 180GW. Solar PV will be close behind at 150GW and annual growth of 23.6%. Hydro will fall from first place to third, followed by biomass and solar thermal, which would display the fastest annual growth, 31%. From 2011 to 2020, EREC estimates that hitting the wind targets alone will drive around EUR120bn of investment and also avoid EUR20.5bn of fuel costs, along with EUR8.5bn in carbon costs.

Mounting concerns about the wider impact of biofuels led to changing the proposal for 10% of fuels to come from biofuels in 2020 into a 10% renewable-energy target for transport. As a result, green electricity to power trains can count towards the target, while second-generation non-food crops will be double counted and renewably powered electric cars will be counted at 2.5 times. In essence, that means that a country could hit the target if 4% of its fleet switched to green-powered electric vehicles.

In addition, to count towards the target, biofuels will have to be at least 35% less carbon-intensive than fossil fuels; from 2017, emission savings from existing facilities will rise to at least 50% and from new installations to at least 60%. Finally, sustainability criteria covering social performance and biodiversity will also be

enforced. All this underlines the centrality of electricity as the carrier of choice in a sustainable-energy economy and the limited growth potential for first-generation biofuels.

## Curbing carbon costs

Threats of vetoes from Poland and Italy along with strong opposition to making industry pay for their carbon allowances from Germany proved highly effective in the revamped Emissions Trading System. Nevertheless, the carbon cap will continue to tighten by 1.7% a year from 2013 through 2020.

- ▶ Power generation: 100% auctioning remains the norm from 2013, but for coal-dependent countries like Poland, 70% of allowances will be free, growing to 100% in 2020.
- ▶ Industry: Only 20% auctioning will be required from 2013, rising to 70% by 2020; for sectors at competitive risk from 'carbon leakage', all allowances will be free until 2020.

Overall, the compromise means at least 60% of ETS allowances will be auctioned by 2020, compared with around 3% in the current phase. Importantly, the EU rejected proposals for price caps on carbon.

- ▶ Auction revenues: Less auctioning means less revenue, down from a projected EUR50bn to around EUR40bn. The summit could not agree on a fixed formula for spending the revenues, but made a broad commitment to use half to tackle climate change, within the EU and internationally.
- ▶ Offsets: Up to 50% of the ETS emission reductions could be delivered by buying offsets through the Clean Development Mechanism or Joint Implementation. This is a positive boost for carbon developers in emerging markets, but will serve to drive down the price of carbon, initially projected to be EUR40 per tonne of carbon by 2020.

The use of offsets could be even higher, around two-thirds, in the parallel Effort Sharing Directive which sets a goal of 10% emission cuts in non-ETS sectors such as agriculture, buildings, services and road and sea transportation.

## Capturing carbon

Carbon capture and storage has long been seen as a pivotal technology to cut emissions from coal and gas power plants, and in 2007, the EU committed to put 12 demonstration plants in place by 2015. But the technology has still to be proved on a commercial scale. It is estimated to cost EUR60 to EUR90 per tonne of CO<sub>2</sub> abated, far above any likely EU ETS price. Extra financing is required; McKinsey estimates an EU programme of 10 to 12 CCS projects would need EUR7bn to EUR12bn in additional funding. As part of the negotiations for the world's first piece of CCS legislation, the European Parliament had proposed providing 350 million allowances from the new-entrants fund for plants that captured carbon. That was scaled back to 300 million, which at current carbon prices would yield around EUR4.5bn, perhaps rising to EUR6bn in total, the bare minimum that's needed to get the technology tried and tested. In addition, the EU has agreed state aid can be provided for super-critical coal plants that are 'carbon-capture ready'.

## Extra green stimulus

HSBC estimates that around 14% of the EU's proposed Economic Recovery Plan is linked to climate-change and clean-energy investment themes. At the summit, further support was given to a EUR30bn package of new loans in 2009 and 2010 from the European Investment Bank, of which additional lending within the energy and climate-change package will amount to EUR6bn per year. That includes a clean transport facility for the automotive and other transport industries, their original equipment manufacturers and component suppliers. The facility will target

significant CO2 reduction through research, development and innovation expenditure, as well as tangible fixed assets in related infrastructure and production plants. The EIB is also designing a 2020 European equity fund for energy, climate change and infrastructure.

### Bolstering the strategic case

The long-term rationale for Europe to break the current cycle of rising energy consumption and mounting dependence on external producers of fossil fuels was underscored in November with the publication of the Second Strategic Energy Review. From a climate change perspective, the review included three important themes:

- ▶ Identifying the urgent need to construct essential energy infrastructure, including a Mediterranean energy ring for solar and a North Sea offshore grid
- ▶ Tabling a new energy-efficiency package to tighten existing building and labelling measures, driving a reduction in consumption of 6% to 8% by 2020
- ▶ Reinforcing the importance of renewables as the EU's largest source of indigenous energy. The review projects wind will account for a third of electricity production by 2020 and almost 40% by 2030.

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#### EU energy and climate-change package - summary

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##### Emission trading scheme directive

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Targets and Enforcement	Automatic adjustment to 30% reduction by 2020 on international deal; 50% by 2035 and 80% by 2050 Penalty extended to Non-ETS sectors Member states can exceed emission cap by only 5%
External Offsets/obligation	3% of emissions equivalent to 50% reduction effort Opt out for 12 member states with 4% of 2005 emissions, equivalent to c90% of emissions-cutting effort
Project Credit Offset Types	Only high-quality credits
Threshold for ETS	25,000 tCO2 excluding hospital sector
Scope	Other GHG gases like N2O, PFC from chemical industries
Auctioning Allowances	Power sector: 100% auction by 2013 and for coal-dependent countries 70% allowances free and 100% auction by 2020 Factories: 20% auction in 2013 and 70% in 2020 and 100% in 2027 and for leakage risk industries 100% till 2020 State aid for super efficient plants from 2013-16 Review by 31 March 2011
Allocating Allowances	88% to member states as planned; 10% as per capita income and RES production; remaining 2% to Eastern European states; extra EUAs to Lithuania against nuclear power
Auction revenue utilization	Only 50% of the revenue for internal abatement options
Carbon Price Cap	No price cap till 2013. After 2013, if the price of EUA for 6 months is thrice the average price over past 2 years, then commission calls for forward auctioning

##### Renewables Directive

Targets and enforcement	20% RES by 2020. By 2011-12, 20% towards target; by 2013-14, 30%; by 2015-2016, 45% and by 2017-18, 65% States should submit NAPs by 2010 No penalty but bounded by infringement proceedings by EP
Flexibility mechanism	Allowed 'statistical transfers', but only if the selling member state has reached its interim renewable targets.
Biofuels target	10% biofuel restructured to 10% RES in transport
Biofuels criteria	60% GHG reduction by 2015 from high biodiversity and high carbon stock source

**Energy Efficiency Directive** On 17 December, EU adopted the ecodesign regulation to reduce standby energy consumption of all household and office products by almost 75% by 2020.

Targets and enforcement	Not legally mandated
Transport Efficiency	120g/km by 2012 and 95 gCO2/km by 2020 Applies to only 65% of new cars in 2012, 75% in 2013, 80% in 2014 and 100% in 2015. Fine 2012 - 2018: €5 for first gCO2, €15 for the 2nd g, €25 for 3rd g and €95 from the 4th g onwards and From 2019: €95 fine for each g exceeding the target

##### Creation of ENTSO -E

42 European transmission-system operators responsible for running the highest-voltage interconnected grid signed an agreement on 19 December to establish ENTSO-E (European Network of Transmission System Operators for Electricity). Existing associations such as ETSO, UCTE and Nordel will be dissolved and their tasks and functions will be shifted to the new organisation, to help streamline the transmission of electricity from distributed networks, especially from wind projects

##### Geological storage of carbon dioxide Directive

Limit on Power plants	No limits
Financial support	Only 300 million allowances free with 15% of total cost support from member states

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Source: EU Commission and HSBC

## The 'green-collar' president

After the EU, the US is the world's second-largest market for clean energy – and for the first time ever, it will be led by a President whose views on climate change and clean energy are not only at the global cutting edge – which Obama shares with the Clinton-Gore administration in the 1990s – but who also should have the ability to win Congress's approval for a new global treaty on climate change, an ability which President Bill Clinton famously lacked.

Since his election in November, President-elect Obama has reaffirmed his commitment to a cutting edge energy and environment. That has been reflected in the key appointments made to date. They include:

- ▶ A new cabinet level 'climate tsarina', Carol Browner, former administrator of the Environment Protection Agency (EPA) under Clinton;
- ▶ Peter Orszag, an expert on climate change policy, specifically cap and trade policies, to head the Office of Management and Budget;
- ▶ A Nobel physics laureate, Dr. Stephen Chu, a noted advocate of strong climate policies, as secretary of energy;
- ▶ Former environmental lawyer and U.S. Senator Ken Salazar as interior secretary;
- ▶ The New Jersey environment chief Lisa Jackson to head the EPA; and
- ▶ Dr. John Holdren, a Harvard physicist renowned for his work on climate and energy, as science adviser to the president.

## A green American recovery

In line with Obama's initial proposal on the American Recovery and Reinvestment Plan, the Democratic leaders have proposed an USD825bn economic stimulus package, which is expected to

be approved by the White House by mid-February 2009. Clean energy and Energy Efficiency form an important component of the proposed stimulus package. On 8 January, Obama announced he would double the share of alternative energy in power supply in three years: currently about 10% of electricity generation comes from renewable sources (including hydro), but less than 3% of that is from alternative sources, such as biomass, geothermal, solar and wind. This target can be achieved not purely from an outright doubling in installed base, but will be helped by demand destruction (from Energy efficiency measures) and perhaps retirement of some of the most inefficient coal-fired power plants. He also announced plans to improve energy efficiency in 75% of federal buildings. Tactical measures that have been proposed include USD22bn in spending on public transit to reduce fares and expand service, USD8bn in renewable-energy, with additional USD2.4bn for CCS demonstration projects, USD2bn for vehicle batteries, USD 6.2bn to help weatherise homes to cut energy costs and USD6.7bn for energy efficiency improvements in Federal buildings. Also, additional investment will go into upgrading the power grid, an essential precondition to expanding renewable production.

Longer term, Obama is committed to investing USD150bn over the next decade in energy efficiency and renewables, in an effort to cut oil imports, and to create 5 million 'green collar' jobs. Additional focus areas include second- generation biofuels, commercialising plug-in hybrids, and boosting renewable power through a federal Renewable Portfolio Standard for 25% of electricity to come from renewable sources by 2025. Obama has also reaffirmed his commitment to reduce CO<sub>2</sub> by 80% from 1990 levels by 2050, introducing a federal 'cap and trade' system to drive the cuts.

Responding to the recent fall in oil prices, Obama said, “We cannot be lulled into complacency simply because the price at the pump has – for now – gone down from \$4 a gallon”. Obama has underscored that building a new energy economy “will be a leading priority of my presidency”.

### Upper hand in the upper house

In the November Congressional elections, the Democrats improved their Senate position by eight, to reach 57 seats, with the two independents continuing to caucus with the Democrats for a total of 59. That is one short of the 60 seats that would give it enough votes to cut off debate and force bills to a vote.

But coal-producing Democratic states might not toe the party line, and it is important for the Democratic leadership to work across the aisle. The recent replacement of the powerful Representative John Dingell, (Democrat) from Michigan, the home of the US auto industry, as the chairman of the House Energy and Commerce Committee by Representative Henry Waxman (Democrat) from California is a positive development from the point of view of changing to a more aggressive stance, as the latter has been known for his pro-green stance. However, we must keep in mind that working diplomatically with all parties might prove to be much more important.

The real test of the investment materiality of the Green New Deal will come after Obama is inaugurated on 20 January. We expect clean energy will form a central part of President Obama’s first 100 days in office, with initial ideas revealed in his inaugural State of the Union address at the end of January. In addition, Obama has certainly not given up on a cap and trade system for the US, and key appointments in the administration have strengthened the hand of climate enthusiasts. But conservative Democrats and moderate Republicans from the Midwest and South still need to be won over to the cause of carbon costs at a time of austerity. We expect legislation for a federal system to come forward in 2009, but with a soft start and limited ambitions on emission cuts before 2020.

## India gets strategic

India is already the world's fourth-largest market for wind and the second-largest beneficiary of the CDM. The publication of India's National Action Plan on Climate Change (NAPCC) on 30 June 2008 marked an important stage in the evolution of the country's approach to climate change. Launched ahead of the G-8 Hokkaido summit, the plan highlighted India's role as a pivotal country – not just in the ongoing global negotiations, but also in its attractiveness to investors seeking growth opportunities in this burgeoning arena.

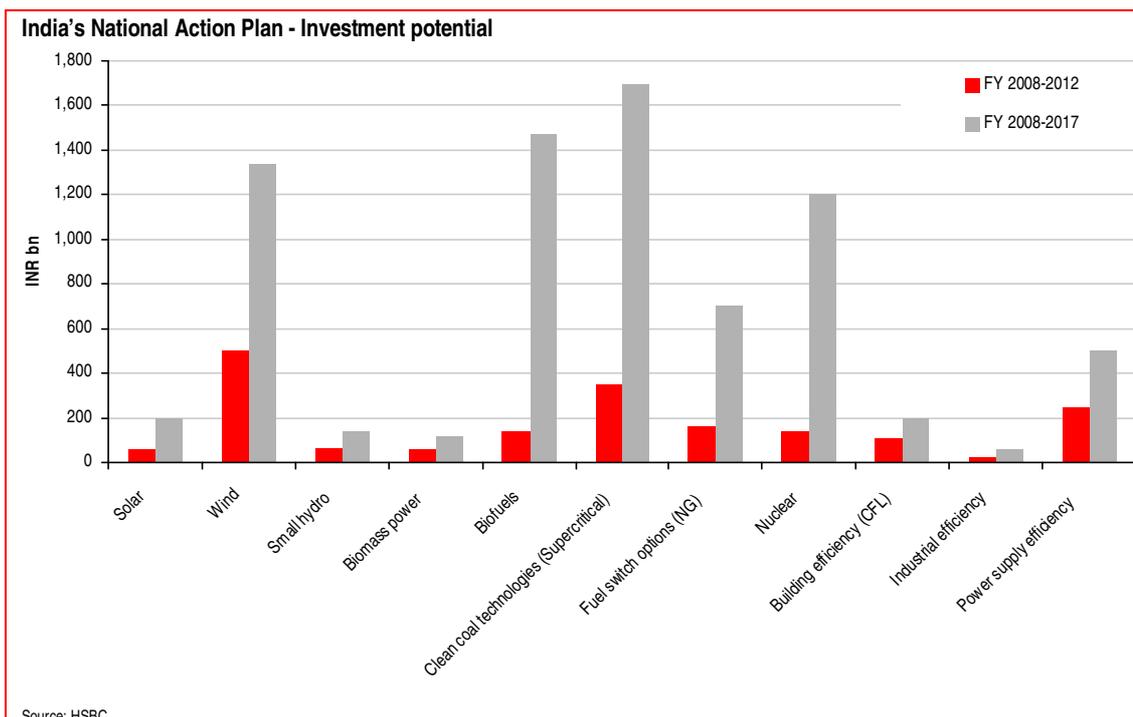
As discussed in our 27 November 2008 report, entitled *Wide Spectrum of Choice*, we see the NAPCC as the starting point of a marathon which will last many decades. In essence, it is a plan for a plan, setting up eight national missions that will become the pillars of India's effort on climate related aspects. The eight missions were due to report to the Prime Minister's Council on Climate Change by December 2008, recommending the specific measures needed to boost solar power, energy efficiency and waste management as well as

strengthen the resilience of agriculture, forests and water resources. Each mission will also report publicly on its annual performance. These reports will be critical to enable investors to judge the scale of incentives that the government intends to put in place to drive this agenda. Early indications suggest that the government is likely to increase its ambitions in solar power and energy efficiency.

### The investment potential

We estimate the investments over five-year and 10-year time frames, aligned with the government's current five-year plan (FY2008-2012) and the next (FY2013-2017). Based on the trajectory laid out by the NAPCC, India's existing policies and our own analysis, we have identified 11 investment themes that have sizeable market drivers and a range of companies with material exposure. These themes, with a total investment potential of INR7.6trn, are shown in the chart at the bottom of the page.

We expect policy innovation will slow in 2009, ahead of the national elections scheduled for April-May.



## China deepens its efforts

In 2007, China signalled its commitment to play a serious role in confronting climate change with the publication of its National Climate Change Programme (CNCCP) in June (see December 2007 Index Review). In November 2008, China issued a white paper on climate change, providing an update on its progress and pointing to future priorities.

Improving energy efficiency remains core. The current target is to reduce energy use per unit of GDP by 20% from 2005 levels by 2010. The country has already reduced energy intensity by 1.6% in 2006 and 3.7% in 2007 and is expected to hit the 20% target on schedule, according to the US Energy Information Agency. To achieve this reduction, more than 1,000 enterprises, accounting for 33% of China's total energy consumption, have conducted energy audits and installed energy saving plans. China also aims to shut inefficient power plants, totalling c50 GW, around 8% of its total generating capacity, by 2010. China is also getting tough with dirty producers and in 2007, the government shut down 14.4 GW of small power producers, 46 m tonnes of steel capacity and 52 m tonnes of cement capacity.

Expansion of renewable energy – notably hydro, wind and biomass – continues to receive strong support on the back of long-term capacity targets. The white paper reports installed wind capacity grew 148% in 2006 and 2007, and the government is keen to expand local production of wind equipment. With renewable-power capacity poised to grow by 180% by 2020, China's renewable-energy targets translate into around USD250bn in investment, or nearly USD19bn per year.<sup>1</sup>

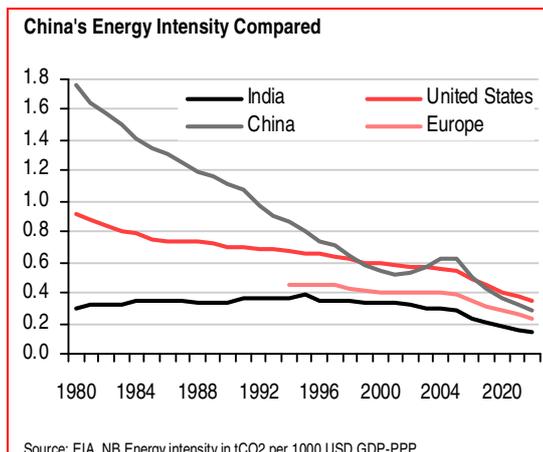
China's Renewable Energy Targets

Renewable Power	2007	2010	2020
Hydro	145	190	300
Wind	6	10	100
Solar	0.1	0.3	1.8
Biomass	3	5.5	30
Total	154.1	205.8	431.8

Source: NDRC, NEF

Finally, the fiscal stimulus programme China announced on 9 November also produced a three-fold increase in railway investment growth (see below).

During 2009, the design of the 12th Five Year Plan (2011-2016) will begin, which will indicate the degree to which action on climate change will be reinforced further.



<sup>1</sup> China Insight Call, NEF, 2008

## Negotiating a global deal

The 14th Conference of the Parties of the UN Framework Convention on Climate Change in Poznan, Poland, was a half-way staging post to the critical date in December 2009 when a global deal is scheduled for completion in Copenhagen. With the EU haggling in Brussels and the new US administration not yet in the negotiating seat, ambitions were set at a low level. The focus was on putting the finishing touches to the formal negotiating plans for the year ahead. No breakthroughs were expected, and none came.

The backdrop to the meeting was considerably more positive than at Bali a year before, with Brazil, India and China all releasing their own climate-change plans during 2008. During Poznan itself, South Africa committed to peaking its emissions between 2020 and 2025, while Mexico stole the show with its pledge to halve emissions from 2002 levels by 2050 – close to what the G8 has committed to. At the meeting, however, all the tough decisions in terms of mid- and long-term targets, finance, technology and adaptation were postponed to 2009, leading India to accuse the industrialised world of "callousness, strategising and obfuscation."

### Long-term targets

Within the negotiating group on long-term cooperative action, a range of proposals has now been compiled. Small island states proposed limiting warming to 1.5 degrees Celsius; the EU and many others proposed 2 degrees. A 50% cut in emissions by 2050 remains the likely outcome.

Both the EU and China have converged on the need for industrialised countries to cut emissions 80% to 95% by 2050. For the EU, this is part of a wider settlement in which emerging markets also agreed to curb their emissions, starting with a 15% to 30% cut below business as usual by 2020. Although a growing number of emerging economies have

indicated a willingness to restrain emissions as part of wider sustainable development plans, few are ready to set precise targets.

### Designing Kyoto2

A 25% to 40% cut in emissions from industrialised countries by 2020 remains the benchmark for the next phase of the Kyoto Protocol, but this has yet to be formally agreed. The EU and key emerging economies back such a cut, but even under an Obama administration, it will be difficult to get the US to agree. Obama has signalled only a return to 1990 levels by 2020. Measured from a 2005 baseline, both the EU and Obama positions would deliver a 15% reduction.

### Finding the Money

The UN estimates that additional finance of at least USD200bn to USD210 billion will be needed to reduce emissions by 25% by 2030; a further USD60 to USD183bn will be needed for adaptation. Leading emerging economies have made it clear that a deal at Copenhagen depends on new money being on the table for climate assistance. China has called for 1% of developed-country GDP to be provided. India has set a target of 0.5% of GDP to pay for the full incremental costs of climate action in the developing world. With recession deepening in the US and Europe, most OECD countries are keeping quiet about what, if anything, they can afford. Norway has proposed a new fund supported by auctioning international emission allowances. Switzerland is suggests a global fossil fuel levy of USD2/tCO<sub>2</sub>.

Negotiators now have a wealth of proposals on the amounts and mechanisms for financing a global deal. But governments are putting off decisions until much later in the process, and the worsening downturn is limiting options for major transfers to the developing world to drive low carbon growth. An investor coalition led by IIGCC, INCR, and IGCC, representing 150 institutions worth USD9tn, did support the

conclusion of a global deal. In the corridors, attention focused on ways public finance could be used at the margins to mobilise capital from institutional investors.

### Boosting clean technology

A Poznan Strategic Programme on Technology Transfer was adopted at the conference, but fundamental differences remain, particularly over how private-sector intellectual property rights are respected, with developing countries calling for compulsory licensing of clean technologies.

### Adapting to change

Considerable attention was given to how risk-transfer and risk-reduction strategies could help build resilience to the physical impacts of climate change. That could include insurance mechanisms, catastrophe bonds and weather derivatives. The Adaptation Fund, with perhaps USD400m to USD1.5bn from 2008 to 2012, was also put into operation.

### Crunch Time in Copenhagen

If 2008 was a tale of two cities – Brussels and Poznan – then 2009 will be determined by two others: Washington and Copenhagen.

The fast-deteriorating economic backdrop means the odds against an agreement at COP-15 in Copenhagen have worsened considerably. Furthermore, it is unlikely that the new Obama administration will have passed the necessary legislation through Congress to enable the US to make international commitments by December. Following Poznan, the mood is sour and the time is short.

We believe a face-saving package will be agreed in Copenhagen. But it will be more a framework for a final agreement, with the details to be fleshed out in 2010 for implementation in 2013.

*We gratefully acknowledge the assistance of R Chaturvedi, S Goel and D Saravanan of the HSBC Climate Change Centre of Excellence in the preparation of this report.*

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#### 2009 climate watchlist

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<b>Brazil</b>	Finalisation of National Plan on Climate Change, implementation of Amazon Fund
<b>China</b>	Design of 12 <sup>th</sup> Five Year Plan (2011-2016) commences: critical indication of degree to which action on climate change will be integrated
<b>European Union</b>	The Climate Package needs to be go through all the European institutions prior to the European Parliament elections in June
<b>India</b>	Reports of the 8 National Missions on Climate Change will be published; national elections will take place by May
<b>USA</b>	State of the Union Address in January expected to include clean energy package; 'cap and trade' legislation expected to be submitted in Congress
<b>Global</b>	Draft agreement has to be ready in June for completion at COP15 at Copenhagen in December – a

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Source: HSBC

## Additional disclosures

- 1 This report is dated as at 19 January 2009.
- 2 All market data included in this report are dated as at close 15 January 2009, unless otherwise indicated in the report.
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**Issuer of report**

**HSBC Bank plc**

8 Canada Square

London, E14 5HQ, United Kingdom

Telephone: +44 20 7991 8888

Fax: +44 20 7992 4880

Website: [www.research.hsbc.com](http://www.research.hsbc.com)

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# Global Alternative Energy & Climate Change Research Team

## HSBC Climate Change Indices

**Joaquim de Lima**  
*Global Head of Equity Quantitative Research*  
+44 20 7991 6836 joaquim.delima@hsbcib.com

**Vijay Sumon**  
+44 20 7991 6839 vijay.sumon@hsbcib.com

## Alternative Energy

**Robert Clover**  
*Global Sector Head, Alternative Energy*  
+44 20 7991 6741 robert.clover@hsbcib.com

**James Magness**  
+44 20 7991 3464 james.magness@hsbcib.com

**Charanjit Singh**  
+91 80 3001 3776 charanjit2singh@hsbc.co.in

**Christine Wang**  
+8862 8725 6024 christineccwang@hsbc.com.tw

**Burkhard Weiss**  
+49 211 910 3722 burkhard.weiss@hsbc.de

**Christian Rath**  
+49 211 910 3049 christian.rath@hsbc.de

**Murielle André-Pinard**  
+33 1 56 52 43 16 murielle.andre.pinard@hsbc.com

**Pedro Herrera**  
+1 212 525 5126 pedro.herrera@us.hsbc.com

**Yiannis Sinapis**  
+30 210 6965 215 yiannis.sinapis@hpss.hsbc.gr

## Climate Change Centre of Excellence

**Nick Robins**  
+44 20 799 16778 nick.robins@hsbc.com

**Roshan F Padamadan, CFA**  
+44 207 991 6715 roshanpf@hsbc.com

## Credit Research

**Madeleine King, CFA**  
+44 20 7991 6789 madeleine.king@hsbcib.com

## Utilities

**Verity Mitchell**  
+44 20 7991 6840 verity.mitchell@hsbcib.com