

Climate Investment Update

2011: The year of low-carbon growth in emerging markets

In our first edition of 2011, we review the climate policy landscape, and conclude that positive momentum has strengthened in emerging markets and remains consistently positive across energy efficiency investment themes.

After the multiple headwinds that impacted climate investing in 2010, 2011 starts in a more optimistic place. Doubts about science have been replaced by the realities of extreme events and rising commodity prices. The shocks to European renewable incentives sparked by the fiscal crisis appear to have run their course, and efforts to drive energy efficiency will be intensified in the EU in the next 12 months. The Cancun climate negotiations also exceeded expectations and laid the foundations for a pragmatic bottom-up approach to climate diplomacy.

More significantly, key emerging markets, notably China and India, are poised to lay out their plans for achieving low-carbon growth this year: the highlight for low-carbon growth investors will certainly be the finalisation of China's next five-year plan in March. South Korea is even pushing through legislation to introduce carbon trading against the global grain. The one significant outlier to this trend is the USA, where last year's failure to pass federal climate legislation is set to be followed by efforts in the new Congress to roll back existing climate measures; US clean energy – containing renewables, efficiency, gas, nuclear and 'clean coal' – legislation remains a possibility but now looks unlikely.

In this note, we update our climate policy risk matrix that we first published last autumn (see *Climate Investment Update*, 7 October 2010). For 10 key countries – five industrialised and five emerging – we rate whether policy support for key low-carbon growth themes will improve (+), stay largely the same (=) or deteriorate (-). The detailed country-by-country analysis is contained on the following pages, and a summary of our overall views is laid out in the table below. This clearly shows strong positive momentum across emerging markets on nearly all themes, with an upgrade to our overall climate strategy and renewables scores since October. It also highlights the continuing strength of policy signals in the efficiency arena, most notably for buildings.

So, although we do not expect a global climate treaty to be signed this year, we believe there will be growing support at the national level, particularly in the emerging world.

Global Climate Policy Risk Matrix: expected momentum in 2011

Themes	Industrialized		Emerging	
	Previous*	New	Previous*	New
Renewables	=	=	++	+++
Low Carbon Power (Nuclear, CCS, Clean coal)	=	=	=	=
Building Efficiency (Lighting & HVAC)	++	++	+	+
Industrial Efficiency	=	=	++	++
Transport Efficiency (Fuel Efficiency and EVs)	+	+	++	++
Modal Shift (Rail)	+	=	+++	++
Carbon Markets	--	--	=	=
Climate Strategy	--	--	=	++

Source: HSBC estimates (*See Climate Investment Update, 7 October 2010)

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Industrialized Countries: Holding steady

Industrialized Countries Climate Policy Risk Matrix: expected momentum in 2011

Themes	EU		US		Japan		Australia		Russia	
	Prev*	New	Prev*	New	Prev*	New	Prev*	New	Prev*	New
Renewables	=	=	=	=	=	+	+	=	=	=
Low Carbon Power (Nuclear, CCS, Clean coal)	-	=	+	=	=	=	=	=	+	=
Building Efficiency (Lighting & HVAC)	+	+	+	+	+	+	=	=	+	+
Industrial Efficiency	=	=	=	=	=	=	=	=	+	+
Transport Efficiency (Fuel Efficiency and EVs)	+	+	+	+	+	+	=	=	=	=
Modal Shift (Rail)	+	=	+	=	=	=	+	+	+	+
Carbon Markets	=	+	-	-	-	-	-	-	-	-
Climate Strategy	=	=	-	-	-	-	-	-	-	-

Source: HSBC estimates (*See Climate Investment Update, 7 Oct 2010)

The European Union

The energy and climate policy outlook remains broadly steady in 2011. We do not expect the EU to raise its GHG reduction target from 20% to 30%. We have, however, upgraded to neutral from negative our score for low-carbon power as we expect the worst has passed after the enforcement of German nuclear tax starting this year. We are also upgrading our rating on carbon markets looking forward to a tightening of rules to curb the import of HFC offsets from 2013. On modal shift, the expected EU White Paper on Sustainable Transport has been published, but we see no additional incentives flowing in this area.

- ▶ For renewables, we believe the worst is now behind us in terms of cuts to feed-in tariffs, although we do see the possibility of further feed-in tariff reductions in Italy and the Czech Republic. One positive likely to emerge from the UK is the passage of new legislation to introduce a feed-in tariff – implemented via a contract for difference – for large-scale renewables; this will be matched by a floor price to carbon, a carbon emissions performance standard for new coal power plants, and low-carbon capacity payments.
- ▶ Turning to efficiency, the key issue for the year is whether the EU translates its voluntary target of improving energy efficiency by 20% by 2020 into a mandatory commitment. This will be high on the agenda at the February Heads of State summit, with new energy efficiency action plans due from the 27 member states by June. At the moment, we do not think there is sufficient political will to achieve a mandatory efficiency commitment; this could change, particularly if concerns about energy insecurity continue to mount. However, even without this, the building efficiency sector will benefit from the adoption of a common European energy certification scheme for all non-residential buildings and from new product standards for boilers, water heaters, air conditioning appliances and commercial refrigerators. Transport efficiency also has positive momentum as industry prepares for the implementation of the 130gCO₂/kg standard for new cars from 2012 and the inclusion of aviation in the EU Emission Trading System (ETS) from 2012. Furthermore, member states will come up with plans to utilise the EUR8bn allocated for energy efficiency from the Cohesion Fund.

The USA

We expect overall climate strategy in the USA to head in a negative direction in the year ahead – but this is no change from our October rating. There is now no chance of passing federal climate legislation in this session of Congress – and the new Congress is likely to make suspending EPA authority to regulate

carbon a priority. Last year's federal and state elections have also led us to downgrade our view for Modal Shift from positive to neutral.

- ▶ For renewables, the extension of the Section 1603 Treasury grants at the end of last year has kept alive support for wind and solar in 2011. According to the AWEA, the extension of the tax credit programme alone is projected to increase wind project installations by c50% in 2011. We still regard the passage of a bipartisan energy bill supporting renewables, efficiency, natural gas, nuclear and 'clean coal' as a possibility this year, but no longer likely. As a result, we have downgraded our rating for low-carbon energy from positive to neutral and kept renewables the same.
- ▶ In the energy efficiency arena, we continue to see a positive policy momentum for buildings and transport. The implementation of the new CAFÉ standard (35.5mpg by 2016) mandate for light duty vehicles (LDVs) will take place this year. Fuel standards for medium and heavy-duty trucks in model years 2014-18 will be finalised and discussions started for new LDV standards for model years 2017-25. The Home Star energy efficiency bill, which has been stalled in the US Senate for months, could see the light of day in 2011, supported by the one-year extension energy efficiency tax credits as part of the broad tax legislation passed in December 2010.
- ▶ From 2 January, new EPA rules came into force to regulate carbon from new facilities emitting more than 100,000tCO₂e. These facilities now have to obtain Prevention of Significant Deterioration (PSD) permits, which would mandate using energy efficient technologies or cleaner energy sources like natural gas. However, this could be short-lived. There is a clear majority in the Republican-dominated House of Representatives for a suspension of EPA authority. Already Republican Shelley Moore Capito has introduced a bill entitled Protect America's Energy and Manufacturing Jobs Act to delay any action by the EPA for two years; we also believe that there could be a majority in the Senate also. Although President Obama has stated that he would veto a stand-alone bill to suspend EPA authority, these measures could be linked to other essential pieces of legislation, making a veto impossible. Furthermore, US budget funding for the EPA as well as international 'fast start' finance is likely to be cut back.
- ▶ The focus of attention will shift back again from the federal to the state level. California will continue work in 2011 to start its multi-sector cap-and-trade programme from 1 January 2012; Massachusetts will also detail its plans to cut GHG emissions 25% below 1990 levels by 2020.

Japan

Japan goes into 2011 with delays to its plans to introduce emission trading by 2013 and a clear commitment that it will not take part in a second commitment period of the Kyoto Protocol in Cancun. This confirms our negative score for both carbon markets and climate strategy. The only positive action expected in 2011 on climate strategy is the proposal from Japan's tax commission to introduce an environment tax from October 2011, which will impose higher tax rates on fossil fuels, depending on the degree of carbon dioxide emitted.

- ▶ In 2011, Japan's government will look to promote renewables by introducing legislation that will mandate power utilities to buy electricity generated with renewable energy sources at relatively high fixed prices from 2012. This gives a positive score, which is an upgrade from our previous analysis.

- ▶ Building efficiency would get new policies in addition to successful programmes like ‘Top Runner’ to achieve 40% of houses to be energy efficient by 2015. Also new policy moves are expected to achieve 50% market share of next generation vehicles by 2020.

Australia

We expect continuing uncertainty over Australia’s strategy to regulate carbon this year, resulting in negative ratings for carbon markets and climate strategy. We have downgraded our momentum score for renewables from positive to neutral, as we do not expect any new additional incentives on top of the enhanced Renewable Energy Target (RET) that came into force in January. Building efficiency is also in the neutral zone as the government has recently revised the Building Code of Australia (BCA) for 2010, which enhanced energy efficiency provisions for residential buildings; this will come into effect from 1 May 2011. Modal shift continues to get a positive score as government plans to initiate feasibility study for a first high-speed rail network.

Russia

At the time of last year’s drought and forest fires, links were made by Russian policymakers with climate change. However, we see no major shift in climate strategy, which continues at negative for the coming year. Russia also continues to be opposed to a second commitment period to Kyoto. We have downgraded our positive view on nuclear to neutral. We see the maintenance of some positives in the energy efficiency arena, flowing from the implementation of the 2009 Climate Doctrine of the Russian Federation.

Emerging Economies: The year of low-carbon growth

Emerging Economies: Climate Policy Risk Matrix: expected momentum in 2011

Themes	China		India		Brazil		South Korea		South Africa	
	Prev*	New	Prev*	New	Prev*	New	Prev*	New	Prev*	New
Renewables	+	+	+	+	+	+	=	+	+	+
Low Carbon Power (Nuclear, CCS)	+	+	=	=	=	=	=	=	=	=
Building Efficiency (Lighting & HVAC)	+	+	=	=	=	=	+	+	+	+
Industrial Efficiency	+	+	+	+	=	=	+	+	+	+
Transport Efficiency (Fuel Eff. and EVs)	+	+	=	+	+	=	+	+	+	+
Modal Shift (Rail)	+	+	+	+	+	+	+	+	+	=
Carbon Markets	+	+	=	=	=	=	+	+	=	=
Climate Strategy	=	+	=	+	=	=	+	+	+	+

Source: HSBC estimates (*See Climate Investment Update, 7 Oct 2010)

China

2011 will be a big year for climate and energy policy development in China. The next 12th five-year plan (2011-15) will be finalised in March 2011 and will flesh out measures to promote the country’s seven new Emerging Strategic Industries, including energy conservation, environmental protection, new energy technologies and electric vehicles, along with bio-technology and high-end manufacturing (high-speed rail). The new ‘Magic 7’ are projected to generate revenues that will grow from 3% of GDP to 15% of GDP by 2020. In addition, the five-year plan will lay out measures to implement the first phase of China’s 40-45% carbon intensity reduction commitment by 2020, where environmental imperatives are converging with the industrial priority of curbing over-capacity. More impetus on energy efficiency will come as China’s first demand-side management regulations came into effect from 1 January 2011. High-speed rail will also get a boost with the launch of the Beijing-Shanghai link in June 2011 and we can

expect plans to double the current 7,000 km of high-speed rail to 13,000 km by 2012. According to the Chinese government, 2011 alone is expected to result in cUSD106bn spend in building railways. Plans to achieve a nuclear target of 70-80GWe by 2020 are also expected to be detailed in the five-year plan. Although we do not expect a national carbon cap and trade system to be introduced yet, we do expect city, provincial and sectoral pilot schemes to get underway.

India

India's Planning Commission is scheduled to release this year its strategy laying down how the country will implement its voluntary target to reduce emissions 20-25% below 2005 levels by 2020. As a result, we have upgraded the country's climate strategy rating to positive. After its launch in November, 2011 will be the first full year of operation of the new Renewable Energy Certificate trading system, which aims to deliver a 1% annual increase in the share of renewable power, from around 4% currently. We also expect the launch of a 'Green Bank' to manage the +USD1bn in revenues from the cUSD1/ton levy on coal announced in the 2010 Budget.

The momentum behind industrial efficiency remains positive with the introduction of the first cycle of the Performance, Achieve and Trade energy trading scheme from April 2011; over 600 facilities in intensive sectors will be given specific energy targets (per tonne of product). In the transport sector, 2011 will also see the introduction of fuel efficiency standards proposed by Bureau of Energy Efficiency and the implementation of incentives of USD21m for the makers of electric vehicles. These developments upgrade the transport efficiency score to positive from neutral.

Brazil

Our analysis of climate risk for Brazil remains stable. In 2011, support for the renewable sector will continue to be backed by the alternative energy reserve auctions, especially in the wind sector. Rail infrastructure and other transport efficiency measures like Bus Rapid Transit systems will get a boost through increased infrastructure spending as Rio de Janeiro gets ready to host the Soccer World Cup in 2014 and the Summer Olympics in 2016. In 2011, almost USD1.7bn will be invested in the city and by 2016 total investments are estimated to top USD6.4bn. However, we have downgraded Brazil's transport efficiency rating as we do not expect new announcements in the sector.

South Korea

We expect Korea's positive 'green growth' momentum to continue over the next 12 months. Under the country's green growth plan, cKRW1trn (cUSD0.9bn) is expected to be spent in 2011 to develop new and renewable energy sources with a plan to achieve cUSD40bn in exports in the sector by 2015. This yields a positive score for renewables, an upgrade from our previous neutral score. Korea also aims to certify all buildings for their energy efficiency by 2012, and all incandescent bulbs will be banned from 2013 as a step to promote LEDs. Tax cuts are being planned to get introduced in 2011 which will reduce the price tag of an electric car by up to cKRW3.3m (cUSD2,837). On the high-speed rail front, 2011 could see plans from the government to phase in additional investments for the railroad, to expand capital investment from the current cKRW4trn (USD3.4bn) a year to cKRW6trn (cUSD5.1bn). From a global perspective, forthcoming legislation to establish an emission trading scheme is perhaps the most significant, as this goes somewhat against the grain. The draft legislation will be introduced in the National Assembly in February, with a view to launching the scheme in 2013. The ETS will bolster a

requirement for 374 companies to set emission reduction targets by September 2011, which will drive industrial efficiency.

South Africa

For South Africa, this will be a pivotal year for climate policy, with the 17th Conference of the Parties taking place in Durban at the end of the year. Domestically, we expect a White Paper in the middle of the year to finalise the National Climate Change Response strategy after the Green Paper published in November 2010. The White Paper will also contain draft proposals for a carbon tax following the discussion paper released last December. The discussion document stated that a tax of ZAR75/tCO₂ (cUSD11/tCO₂) of all emissions of CO₂ from energy, with an increase to around ZAR200/tCO₂ (cUSD29/t) (at 2005 prices) could be feasible. The introduction of such a carbon energy tax would build on South Africa's existing carbon tax on new vehicles, which started September 2010; in March this year, this tax will be extended to vans (double cabs). On the renewable front, the South African government may begin signing power purchase agreements with private renewables developers in early 2011 and has already identified 20GW of renewable and 4GW of co-generation farming part of the renewable energy procurement. Over the next year, we also expect further efforts to improve building, industrial, mining and transport efficiency en route to a suite of targets for 2015. We downgrade our rating for modal shift from positive to neutral as the plan's three high-speed rail projects – Johannesburg to Durban, Johannesburg to Cape Town and Johannesburg to Musina – have now been finalised.

Upcoming events

The global climate calendar for 2011

Year	Milestone	Outcome
January 2011	US Congress	We expect renewed efforts in the new Congress to suspend EPA regulation of carbon under the Clean Air Act; President Obama has stated that he would veto such legislation.
4 Feb 2011	EU Energy Summit	Focus on EU energy market reform with possible adoption of two important strategic documents, namely Energy 2020 strategy and the EU new energy efficiency action plan.
21 Feb 2011	UNFCCC - Request for inputs on new mechanisms and Adaptation Committee	Governments to submit views on possible new mechanisms to promote mitigation for consideration at CoP 17 as well as views on the new Adaptation Committee.
21 Feb 2011	UNFCCC – Inputs on CCS	Deadline for inputs on issues of leakage & permanence related to CCS.
Feb 2011	South Korea emission trading bill	South Korea to introduce legislation to legalise proposed domestic emission trading system. We expect a successful passage of Korea's emission trading bill to induce other countries to take equivalent action, adding to positive momentum to global climate change policy.
March 2011	China National People's Congress – 12 th Five-Year Plan	We expect the National People's Congress to approve the next Five-Year Plan containing measures to achieve China's 40-45% GHG intensity target and support low-carbon industries (the 'Magic 7')
March 2011	UNFCCC – Green Climate Fund	First meeting of Transitional Committee to develop operational documents and financial instruments that the Fund can use to achieve its priorities for discussion in CoP 17
28 March 2011	UNFCCC – Request for inputs on MRV	Governments to submit views on development of guidelines on MRV by developing countries
6-7 April 2011	Clean Energy Ministerial of Major Economies Forum	We expect further details on global coordinated efforts to promote clean energy outside the UN
Early 2011	IPCC – Special Report on Renewable Energy	We expect the special report on Renewable Energy and Climate Change to be released in early 2011
May 2011	UNFCCC – Fast Start Finance	First deadline for developed countries to submit information on the disbursement of fast start finance
5-13 May 2011	33rd session of the Intergovernmental Panel on Climate Change	Decision on implementation of outcome of IAC review report
June 2011	EU second round of National Energy Efficiency Action plans	Deadline for EU member states to submit action plans to achieve 20% EE target by 2020. We expect new energy efficiency policy measures to be introduced if EU succeeds in pushing mandatory target to 20% EE target in first half of 2011.
Mid 2011	IPCC Special report on adaptation	Special Report on 'Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation'
28 Nov - 9 Dec 2011	UNFCCC – CoP17 in Durban, South Africa	17th Session of the Conference of the Parties to the UNFCCC (COP 17) in Durban, South Africa to include discussion of a global goal for peaking emissions and then reductions by 2050.

Source: HSBC

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