

More green money on the table

More countries add green stimulus packages

- ▶ **Globally, we estimate governments have allocated over USD445bn to boost investment in a low carbon recovery, USD10bn more than in our February estimate**
- ▶ **Key beneficiaries include rail, water infrastructure, grid expansion and improved building efficiency; renewable energy has received limited support to date, except in the US**
- ▶ **We expect the emphasis on a low-carbon recovery to intensify as part of the G20 summit on 2 April and the Copenhagen negotiations**

The green stimulus total expands

Governments are facing a triple crisis of economic downturn, energy insecurity and climate change. We have analysed the degree to which government efforts to stimulate the economy are also consistent with the shift to a low carbon economy, examining stimulus packages and budgets in over 30 countries across the world. We published a detailed analysis in February in our report *A Climate for Recovery*, which concluded that some USD436bn was being allocated to HSBC's suite of climate change investment themes.

Since then, we have extended our analysis to the full Group of 20 (G20) countries and updated our evaluation to take account of new policy announcements, notably budgets presented in China and the US.

We found that the climate component of the stimulus in the seven countries that we added was limited. Notable exceptions include Norway, which is allocating around 30% of its stimulus to climate change themes, and Mexico and South Africa allocating around 10%. In summary, the total 'green stimulus' rises by USD10bn to USD446bn, with the overall proportion remaining around 15% of the total.

China and the US dominate the landscape in terms of the size of their overall stimulus plans as well as the extent of the 'green' dimension. China has 40% of its RMB4,010bn (USD586bn) package being allocated to our climate change investment themes – most notably rail, grids and water infrastructure. The US has the most broad-based plan overall. The American Recovery and Reinvestment Plan (ARRA) agreed in February commits USD787bn to kick-start the economy, allocating USD94bn to renewables, building efficiency, low-carbon vehicles, mass transit, grids and water.

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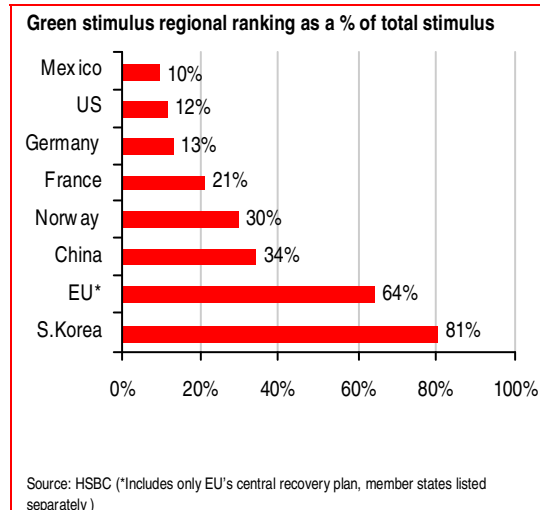
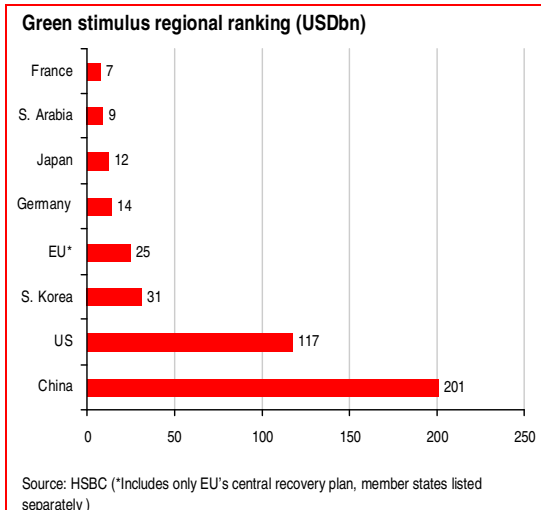
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China and the US lead

China: more detail emerges

On 6 March 2009, the Chinese government released more details of its stimulus and budgetary plans. The government confirmed that only RMB1.18trn of the total stimulus is new investment. In addition, it reduced the allocation to environmental protection from RMB350bn to RMB210bn, diverting the planned investment to the housing sector. As a result, we have reduced our allocation in the water and waste theme by a corresponding USD20bn.

However, China's 2009 budget includes additional green spending in addition to the amounts covered by the stimulus package. We estimate that RMB420bn of the RMB908bn public infrastructure spending announced in the budget would be additional to the stimulus package. We estimate that USD15.6bn of this will be allocated to climate change investment themes, focusing on rail infrastructure and water management.

USA: carbon revenues in the budget

The Obama administration reinforced its commitment to action on clean energy and climate change in its proposed 2010 federal budget submitted on 26 February. The budget reaffirms the administration's commitment to introduce a comprehensive energy and climate plan, cutting greenhouse gas emissions by 14% from 2005 levels by 2020, and 83% by 2050. These targets will be achieved through a 'cap and trade' programme, along with the introduction of a federal Renewable Electricity Portfolio Standard. The President remains committed to 100% auctioning of carbon allowances, which would raise an estimated USD646bn over 10 years, starting in FY2012. Of this, USD150bn would be invested in clean energy. The balance would be split between tax credits for low income households, tax cuts for middle-class Americans and fixing the growing fiscal deficit.

In terms of spending, the allocations included in the President's budget proposals mostly reprise the measures included in the ARRA. An additional USD4.9bn has been allocated to a high-speed rail state grant programme and the EPA's Clean Water State Revolving Funds.

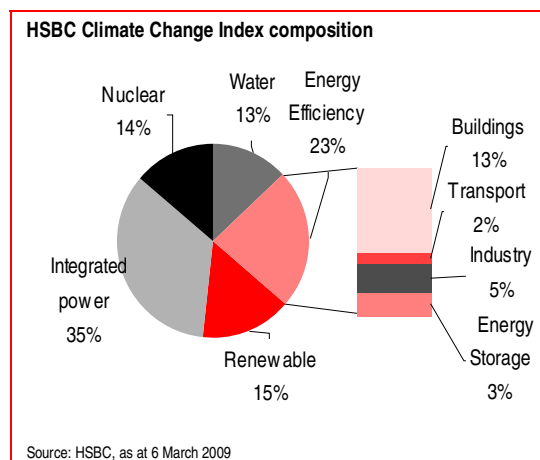
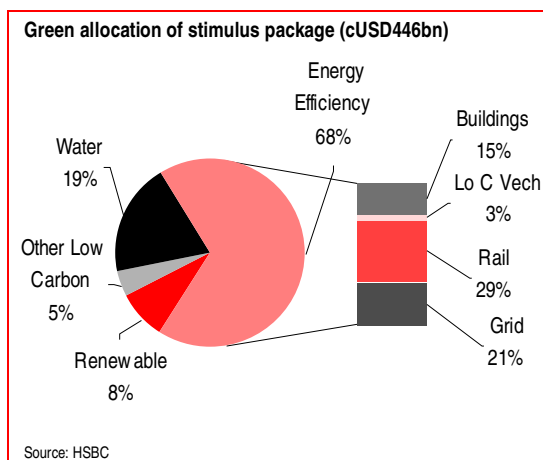
We expect the budget to be finalised in April, but there are already signs of opposition in Congress to the inclusion of carbon revenues in the package. It also remains to be seen whether the Obama administration will be able to pass its ambitious energy and climate legislation this year.

Europe: completing the recovery plan

At their spring summit on 19-20 March, EU leaders finalised the European Recovery Plan, involving total funding of over EUR400bn (c3.3% of the EU's GDP). The EU rejected calls from the US to increase this stimulus on the grounds that more spending would lead to increasing public debt and inflation. It also vetoed appeals for additional funding for central and eastern Europe to tackle the recession, opting for funding to be provided on case-by-case basis. The council finally agreed the allocation of the EUR5bn infrastructure plan, of which EUR3.9bn will be for energy, with EUR565mn for offshore wind and EUR1bn for carbon capture and storage (CCS). Separately, the European Investment Bank expanded its funding for low carbon vehicles. Decisions on the EU's negotiating mandate for Copenhagen have been delayed until its June summit.

Allocation of stimulus

The bulk of the spending allocated to climate change investment themes are targeted at a suite of green infrastructure options – notably buildings, grids, rail and water.



We compare the green components of the stimulus packages with the HSBC Climate Change Index. The index reflects current revenues earned by listed companies across the 18 climate change themes, providing a snapshot of existing business opportunities. The green components of the stimulus packages, by contrast, indicate where government policy is driving the future development of the climate economy. Significant differences between the two include:

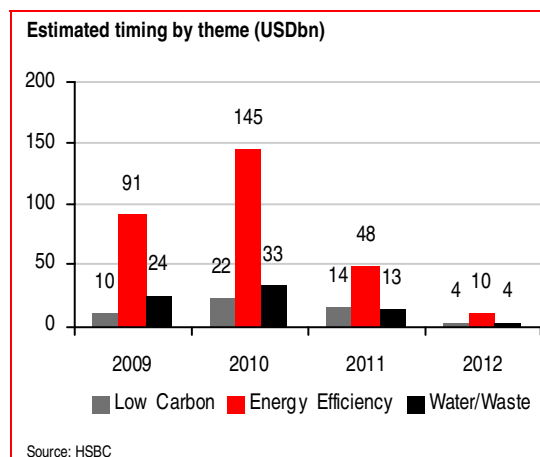
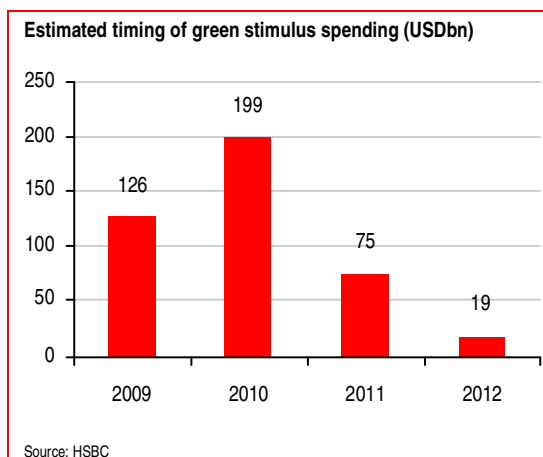
- ▶ Low-carbon power: the index is more heavily weighted towards renewables (15% versus 9% in stimulus packages). Nuclear is 13% of the index, but only Canada contains stimulus for this theme. Conversely, the stimulus plans have allocations to CCS, whereas this is not yet an investable theme.
- ▶ Energy efficiency: the main emphasis in stimulus packages is on energy efficiency, with just under 70% compared with only 23% in index. This divergence is largely due to the major allocation to rail and grid in China's revival plan (USD170bn). This emphasis on energy efficiency is in line with the

global climate change policy consensus that “energy efficiency improvements are by far the single most important action until 2020”.

- ▶ Water and waste: there is less emphasis on water and waste in the index than the stimulus plans.

Timing the stimulus

We expect 75% of the ‘green stimulus’ spending to be disbursed in 2009 and 2010, with the bulk in 2010. We believe the impact will be muted in the first half of 2009 – except perhaps in China – with a pick-up in the second half.



Multiplying the impact

As noted in *A Climate for Recovery* (February 2009), we see that the range of multipliers for government spending varies from less than one to more than four, depending on economic assumptions, the type of fiscal policy and the country concerned. We use a multiplier of just over 1 for the total spend of USD470bn in the next two years, resulting in total spending on climate change themes of some USD915bn.

The way forward

2009 will not be a normal year either for the global economy or for climate change. We expect the issue of promoting a low-carbon recovery to be on the agenda of the G20 summit on 2 April, which could result in further efforts to coordinate action ahead of the pivotal climate negotiations in Copenhagen this December.

At the national level, legislation will come before the US Congress to introduce a ‘cap and trade’ scheme and further boost renewables and energy efficiency. Imposing carbon curbs in a recession could face considerable political opposition, although we expect support for further measures to boost clean energy. In the UK, there could be a further, limited stimulus for low carbon investments in the Budget scheduled for 22 April.

Finally, the prospects for a ‘global deal’ on climate change at Copenhagen remain mixed, making it likely that substantive decisions will be delayed until 2010.

A Climate of Recovery? The climate change investment dimension of economic stimulus plans (Mar 2009)

Region/Country	Fund USD bn	Period Years	Green Fund USD bn	% Green Fund	Low Carbon Power		Energy Efficiency (EE)			Water/ Waste		
					Renewable	CCS/Other	Building EE	Lo C Vech+	Rail	Grid		
Asia Pacific												
Australia	26.7	2009-2012	2.5	9.30%	-	-	2.48	-	-	-	-	
China (NDRC Stimulus)	586.1	2009-2010	200.8	34.30%	-	-	-	1.5	98.65	70	30.69	
China (Budget 2009)	61.4	2009	15.6	25.40%	-	-	-	-	4.95	-	10.63	
India	13.7	2009	0	0.00%	-	-	-	-	-	-	-	
Indonesia	5.9	2009	0.1	1.60%	0.07	-	-	-	0.03	-	-	
Japan	485.9	2009 onwards	12.4	2.60%	-	-	12.43	-	-	-	-	
South Korea	38.1	2009-2012	30.7	80.50%	1.8	-	6.19	1.8	7.01	-	13.89	
Saudi Arabia	126.8	2009	9.5	7.50%	-	-	-	-	-	-	9.45	
<i>Sub-total Asia Pacific*</i>	<i>1347.9</i>		<i>271.6</i>	<i>20.10%</i>	<i>1.9</i>	<i>0</i>	<i>21.1</i>	<i>3.3</i>	<i>110.6</i>	<i>70</i>	<i>64.7</i>	
South Africa	7.5	2009-2011	0.8	9.40%	0	0	0.1	0	0.6	0	0.1	
Europe												
European Union**	38.8	2009-2010	24.7	63.70%	0.65	12.49	2.85	3.88	-	4.85	-	
Germany	104.8	2009-2010	13.8	13.20%	-	-	10.39	0.69	2.75	-	-	
France	33.7	2009-2010	7.1	21.20%	0.87	-	0.83	-	1.31	4.13	-	
Italy	103.5	2009 onwards	1.3	1.30%	-	-	-	-	1.32	-	-	
Spain (recent)	14.2	2009	0.8	5.80%	-	-	-	-	-	-	0.83	
United Kingdom	30.4	2009-2012	2.1	6.90%	-	-	0.29	1.38	0.41	-	0.03	
Other EU States	200.6	2009	1.9	1.00%	0.4	-	1.2	0.3	-	-	-	
<i>Sub-total EU</i>	<i>526.1</i>		<i>51.9</i>	<i>9.90%</i>	<i>1.9</i>	<i>12.5</i>	<i>15.5</i>	<i>6.3</i>	<i>5.8</i>	<i>9</i>	<i>0.9</i>	
Norway	2.9	2009	0.9	29.70%	0.2	0	0.2	0	0.3	0	0.2	
<i>Sub-total Europe</i>	<i>529</i>		<i>52.7</i>	<i>10.00%</i>	<i>2.1</i>	<i>12.5</i>	<i>15.7</i>	<i>6.3</i>	<i>6.1</i>	<i>9</i>	<i>1.1</i>	
Americas												
Canada	31.8	2009-2013	2.6	8.30%	-	1.08	0.24	-	0.39	0.79	0.27	
Mexico	7.7	2009	0.8	9.70%	-	-	0.75	-	-	-	-	
US EESA***	185	10 Years	18.2	9.80%	10.25	2.6	3.34	0.76	0.33	0.92	0.52	
US ARRA	787	10 Years	94.1	12.00%	22.53	3.95	27.4	4	9.59	11	15.58	
US Budget 2010#	4.9	2010	4.9	-	-	-	-	-	1	-	3.9	
<i>Sub-total Americas##</i>	<i>1024.1</i>		<i>121.2</i>	<i>11.80%</i>	<i>32.8</i>	<i>7.6</i>	<i>31.7</i>	<i>4.8</i>	<i>11.3</i>	<i>12.7</i>	<i>20.3</i>	
Grand Total	2908		446	15.30%	36.8	20.1	68.6	14.4	128.6	91.7	86.1	

(*Includes Thailand stimulus; ** Only EUR30bn from direct EU contribution considered; *** USD700bn under TARP for bank bailouts not considered; # Includes only additional spending; ## Includes Argentina and Chile stimulus; +Low Carbon Vehicles)
Source: HSBC

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