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Press information

“PwC Low Carbon Achievement Index 2000-2008” and “The Low Carbon Challenge 2020-2050”

Global carbon emissions budget 10% off track for 2000-2050 and could run out by 2034

Zürich, 3 December 2009 – Very few of the G20 nations are on track to live within their carbon budgets for 2000-50 according to a new report by economists and climate change specialists at PricewaterhouseCoopers LLP (PwC). The report reviews G20 carbon intensity levels between 2000-2008 and the distance to go to 2050, underlining the case for an ambitious deal in Copenhagen.

The report estimates a maximum global carbon budget for the period from 2000 to 2050 of just under 1,300 $GtCO_2$, with national breakdowns for the G20 on an annual basis, to give the world a fair chance of limiting global temperature rises to no more than 2ºC (relative to pre-industrial levels), without sacrificing long term economic growth.

Against the levels implied by the estimates, global carbon emissions are already 10% off track, with even the EU currently 7% behind. At current rates of carbon intensity improvement, the world will already have exceeded its estimated global carbon budget for the first half of this century by 2034, 16 years ahead of schedule.

Such a ‘business as usual’ scenario could result in atmospheric greenhouse gas concentrations exceeding 1000ppm CO_2e by the end of the century with potentially disastrous implications for the climate system and the global economy.

Using PwC’s global long-term economic growth and energy consumption model, the study derives plausible annual carbon budgets and carbon intensity pathways for the global economy and the individual G20 economies between 2000 and 2050, consistent with a consensus view of a 2ºC stabilisation scenario. The PwC analysis estimates a global energy-related carbon emissions budget to be under 1,300 Gt CO_2 for the period from 2000 to 2050, to have a fair chance of restricting global warming to 2ºC.

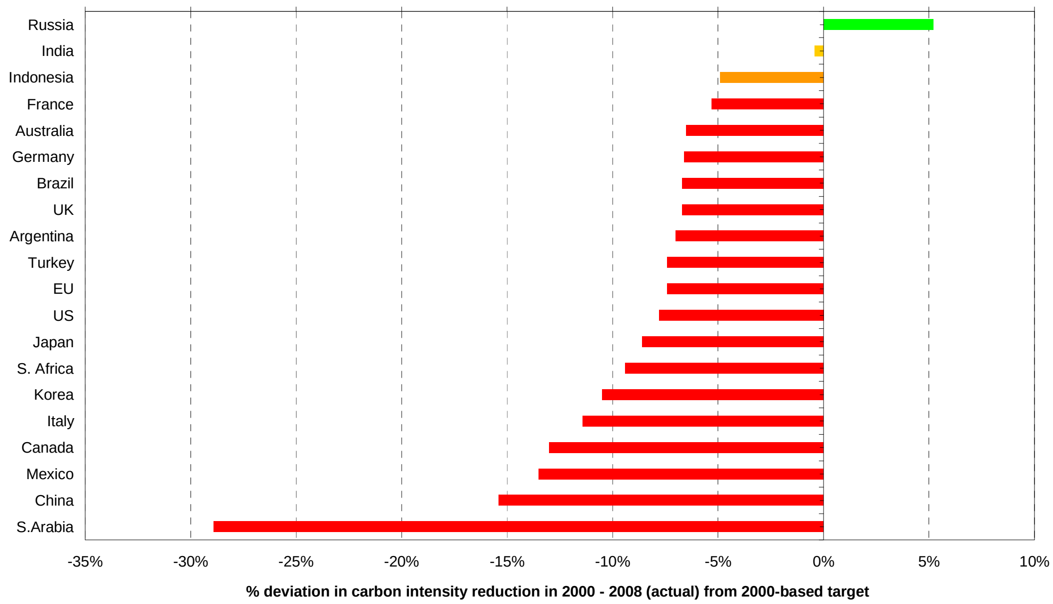
Markus Nöthiger, Sustainability Leader at PricewaterhouseCoopers Switzerland commented that: “The PwC Low Carbon Achievement index highlights that, despite the widening consensus around the need to decarbonise, few countries are doing enough to live within our estimates of their carbon budgets. If the world stays on this track we will have used up the entire global carbon budget for the first half of this century by 2034, 16 years ahead of schedule. Getting back on track to a low carbon economy requires early action by all the major economies and underlines the case for firm political direction to incentivise the investments in energy savings and low carbon technology that are needed. Setting challenging global carbon emission targets for 2020 and beyond, and taking further steps towards putting a global price on carbon, are key elements required from a deal in Copenhagen. Delays and inaction will just make it harder to avoid dangerous climate change."

PwC's carbon budget analysis provides the basis for constructing two new PwC Low Carbon Economy indices, examining carbon intensity reduction achievements between 2000-2008 as compared to estimated carbon budges for this period (the PwC Low Carbon Achievement index), and the mountain the world now needs to climb to get back onto a low carbon trajectory by 2020 (PwC Low Carbon Challenge Index) and continue on this track to 2050.

PwC Low Carbon Achievement Index 2000-2008: **G20 running on borrowed time**

Key points from the PwC Low Carbon Achievement Index are that:

- Almost a fifth of the total global carbon budget for the first half of this century has been used in the last eight years
- PwC projects that the world would have needed to achieve 2% per annum intensity reductions in 2000-8 to stay within the estimated budget. To date, we have achieved less than half this rate of decarbonisation (0.8% per annum on average in 2000-8)
- The resultant cumulative global carbon debt in 2000-8 is estimated at around 13 $GtCO_2$, roughly equivalent to the annual carbon emissions of China and the US combined in 2008
- Global carbon intensity in 2008 was already around 10% above the budget for that year
- The EU, which claims a leadership position in the climate change agenda, is estimated to be around 7% off track in 2008, having improved carbon intensity by 1.8% a year in 2000-8 as opposed to 2.6% in the 2000-based pathway
- The UK, one of the first economies to set a legally binding carbon budget, has recorded an intermediate performance in the assessment compared to other EU states, coming eighth in the G20 index (behind France and Germany but ahead of Italy), about 6-7% adrift from the low carbon pathway
- Only Russia has reduced its carbon intensity by more since 2000 that the budgeted amount, helped by very rapid improvements in energy efficiency over this period, albeit from a relatively low starting point.



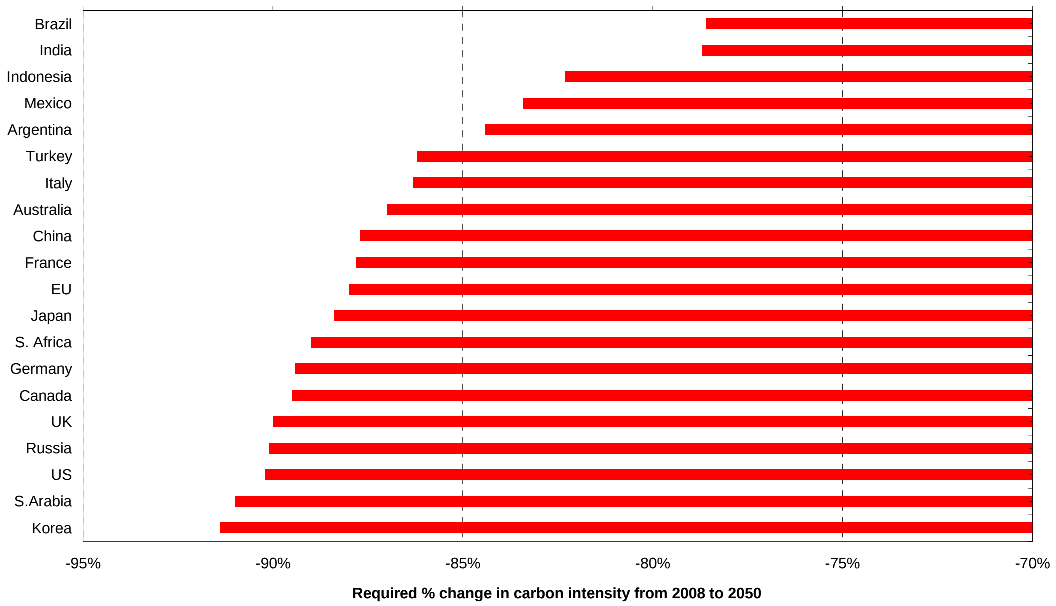
The Low Carbon Challenge 2020-2050: a mountain to climb

To make up the lost ground since 2000, the research measured the distance to go for individual G20 nations, against the estimated global carbon budget for 2000-2050. This carbon budget analysis emphasises the key role of China, the US, the EU and India in any global climate change deal. Together these 'Big 4' economies account for around 63% of the cumulative global carbon budget for 2000-50, underlining the central importance of these economies to a global deal in Copenhagen.

Key points from the PwC Low Carbon Challenge index are that:

- To get back on a smooth 2000 based trajectory to a low carbon economy, the world needs to reduce its carbon intensity by around 3.5% a year by 2020, or 35% cumulatively between 2008 and 2020, and by around 85% in total between 2008 – 2050
- Because of the cumulative effect of any shortfall, if policymakers set lower interim targets for 2020 than this, then we will need to deliver dramatically more ambitious reductions from 2020 though to 2050 with a consequent greater danger that this will come at a serious economic cost relative to a smoother transition pathway
- Reduction rates required in 2000-20 are four times faster than the actual rate of carbon intensity reduction achieved globally since 2000
- Globally, PwC estimates indicate that carbon emissions from energy use need to peak by around 2015 and decline back to 2009 levels by 2020 in order to get back on the pathway to a low carbon economy

- Although the low carbon pathway for China assumes similar improvements in carbon intensity to the US and EU, aggregate emissions in China will continue to grow until 2025 as its rapid industrialisation process continues
- Even on a low carbon pathway, China's per capita emissions are projected to rise in the next few years to just over 6 tCO_2 in 2020, but will need to fall back by 2050. This compares with around 9 t CO_2 per head in the UK today
- India, which still has a long way to go in its industrialisation process, has a lower decarbonisation target of just over 75% for the period to 2050. India is one of the very few countries where per capita emissions will be higher in 2050 than now, but only by a small margin and against a backdrop of a rapidly growing economy



Markus Nöthiger commented: "If we had started on a low carbon pathway in 2000, we would have needed to decarbonise at around 2% a year up to 2008. Between 2000-8 we managed only around 0.8% in 2000-08. We now have to decarbonise at a rate of 3.5% a year to get back on track by 2020 - four times more than we have managed at the global level since 2000. To keep within the estimated carbon budget we will need to reduce our global annual carbon emissions from energy use by 2050 to around half what they were in 2008. All this while sustaining a global economy nearly four times as large as today and a population around one and a half times as large. This is a radical decoupling of carbon from growth. Is it doable? China has decarbonised since the 1990's at an average rate of over 4% a year, some way above the 3.5% a year reductions in intensity we need globally to 2020. The technology is known, the policy framework is known. What we need now is the political will and direction to implement."

Commenting on the analysis of the policy commitments made by the Big 4 largest emitting economies, Markus Nöthiger, said: “Achieving emissions targets is ultimately much more important than setting them, but political commitment to ambitious targets is a crucial first step. The announcements from Washington and Beijing this week – with the US offering a 17% cut in emissions and China promising a cut of at least 40% in carbon intensity, both by 2020 – have put new political momentum behind the talks. Financing still needs to be agreed, and this is a critical issue, particularly for less developed nations. But main pieces of the jigsaw have started to come together for Copenhagen. There may not be sufficient time to lay out all the details, but an ambitious political deal will pave the way for a legally binding treaty in 2010, and this in turn will drive new policies and regulation at a national level. Business needs to get ready for a change of gear on climate.”

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