Press Release

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***IPCC carbon budget to 2100 will be used by 2034 according to PwC analysis***

* *Results show carbon budget limits are now within the planning cycle of major infrastructure and business investment decisions increasing the risk of stranded assets*

**According to PwC analysis, the world is on track to blow the 2°C carbon budget, estimated by the IPCC for the next 89 years, within 21 years.**

This puts the world on a path consistent with potential global warming of around 4°C by 2100, the most extreme scenario presented in the recent IPCC 5th Assessment Report on climate science.

The results, from the 5th annual *PwC Low Carbon Economy Index,* examine the amount of energy-related carbon emitted per unit of GDP needed to limit global warming to 2°C.

The report warns that this level of warming “will have serious and far reaching implications.” Current investment planning cycles for major business and infrastructure investments now need to factor this into their decision making.

It finds that policies and low carbon technologies have failed to break the link between growth and carbon emissions in the global economy. The world’s energy mix remains dominated by fossil fuels:

* Reductions in carbon intensity globally have averaged 0.7% per year over the past five years – a fraction of the 6% reductions now required every year to 2100
* The G7 averaged a 2.3% reduction while the E7 – which includes much of the manufacturing base of the global economy – only managed 0.4%
* US, Australia and Indonesia achieved significant reductions in carbon intensity in 2012, but no country has sustained major reductions over several years
* While the fracking revolution has helped lower emissions in US, cheaper coal contributed to higher coal usage elsewhere, for example in the EU, raising concerns that decarbonisation in one country can just shift emissions elsewhere.

If the world continues at current rates of decarbonisation, the carbon budget outlined by the IPCC for the period 2012 to 2100 would be spent in less than a quarter of that time, and be used up by 2034. Emissions over and above that budget would be increasing the chances of dangerous climate change, with average warming of surface temperature projected to be beyond 2°C.

Jonathan Grant, director, PwC Sustainability & Climate Change said:

“G20 countries are still consuming fossil fuels like there’s no tomorrow. Despite rapid growth in renewables, they still remain a small part of the energy mix and are overwhelmed by the increase in the use of coal. The results raise real questions about the viability of our vast fossil fuel reserves, and the way we power our economy. The 2 degrees carbon budget is simply not big enough to cope with the unmitigated exploitation of these reserves.”

Energy efficiency progress was one bright spot in the analysis. 92% of the small reduction in carbon intensity achieved last year is down to improvements in energy efficiency with the remaining 8% through a shift towards a cleaner energy mix. Italy, the UK and Turkey rank as the most energy efficient economies in the G20, consuming less energy for every $m of GDP generated than their counterparts. But the report warns that there is a limit to which we can cut energy use per unit of GDP.

Five years ago, our global decarbonisation target was 3.5% per annum, now the challenge nearly doubles to 6%. This is over eight times our current rate of decarbonisation, a level never achieved before, let alone sustained over decades. To achieve what the IPCC deems the ‘safe’ amounts of carbon in the atmosphere to limit the extreme impacts of climate change, would require halving carbon intensity within the next ten years, and reducing it to one-tenth of today’s levels by 2050. By 2100, the global energy system would need to be virtually zero-carbon.

Jonathan Grant, director, PwC sustainability and climate change said:

“Our analysis assumes long term moderate economic growth in emerging economies, and slow steady growth in developed economies. But, failing to tackle climate change is unlikely to result in such a benign scenario of steady growth. Something’s got to give, and potentially soon. This has implications for a raft of investments in carbon intensive technologies that are currently being planned and executed today.”

Leo Johnson, partner, PwC sustainability & climate change said:

"What we have yet to see is the quartet of CCS, nuclear, biofuels and energy efficiency decoupling growth from carbon. We've gone over the carbon cliff. It's time to figure out the steps that are going to get us back. We've also got to question now whether our assumptions of long term growth are reasonable and compatible with a future where we fail to limit climate change.”

Ends

**Notes**  
For an embargoed copy of the report contact: rowena.mearley@uk.pwc.com

1. The PwC Low Carbon Economy Index calculates the rate of decarbonisation of the global economy that is needed to limit warming to 2°C. In 2013, the Intergovernmental Panel on Climate Change (IPCC) issued its Fifth Assessment Report, which includes a carbon budget for the remainder of this century giving a reasonable probability of limiting warming to 2°C.
2. In 2008, the PwC LCEI, calculated that to maintain growth without exceeding two degrees of warming, the G20 needed to improve its carbon intensity at 3.5% per year. Over the next four years the rate of decarbonisation failed to exceed 0.7%. By 2012, to make up for lost ground, the rate had risen to 5.1%, requiring a rate of decarbonisation never achieved in a single year to be sustained for the rest of the century. This year’s report increases that rate to 6%.
3. Energy generation analysis in the LCEI:
   1. While the use of fracking has prompted hype around the world, the shale revolution is mainly confined to the **United States** currently. However the availability of cheap natural gas there, has depressed coal prices and raised coal consumption elsewhere, including the EU, pointing to concerns amongst key manufacturing nations of carbon leakage.
   2. The **UK** saw an increase of its electricity produced by coal from 30% in 2011 to 39% in 2012; with an equivalent reduction in gas from 40% to 28%.
   3. **China** has nearly tripled coal consumption since 2000, with an over 40% increase since 2007. However China also accounted for two-thirds of the increase in renewable energy consumption since 2007.
   4. **Europe** invested as much as the US, China and India combined into renewable energy throughout 2008-2012, and the **EU** continues to dominate the global share of solar PV capacity.
   5. **France** is top of the G20 table in terms of absolute carbon intensity because of its successful nuclear programme, which accounts for over 75% of its electricity generation.

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