IIGCC Member Newsflash

On April 13 the body established to assess the science related to climate change, the Intergovernmental Panel on Climate Change, released its latest report, this time focused on climate change mitigation and the economic cost of action. The below summary details the key points:

1. **Emissions continue to grow**

Emissions of greenhouse gases grew at a faster rate over the decade from 2000 to 2010 (2.2% per year) than they did over the previous three decades (1.3% per year), reaching the highest levels in human history, despite efforts to limit them.

CO2 emissions from fossil fuel combustion and industrial processes contributed about 78% of the total emission increase from 1970 to 2010, with a similar percentage contribution for the period 2000–2010.

2. **Significant temperature increases unless emissions reduced**

In order to keep warming under the agreed level of 2°C, greenhouse gas emissions in 2050 will have to be 40 to 70% lower than in 2010. By the end of the century they will need to be at zero, or could require taking carbon dioxide out of the atmosphere.

Without additional mitigation efforts, global mean surface temperature increases in 2100 would range from 3.7 to 4.8°C compared to pre-industrial levels. The range is 2.5°C to 7.8°C when including climate uncertainty.

3. **Policy action is being taken by more countries**

Policy action is accelerating around the world - in 2012, 67% of global GHG emissions were subject to national legislation or strategies versus 45% in 2007. However, this is not enough. Current pledges by the world's nations make it more likely than not that the 2°C limit will be broken. Delaying action any further will increase future costs. For the world to transition to a low-carbon path, the share of low-carbon electricity must increase from 30% now to more than 80% by 2050. Fossil fuel generation without carbon capture and storage (CCS) is phased out almost entirely by 2100.

4. **Low-carbon investment must increase substantially**

Substantial reductions in emissions require large changes in investment patterns. To limit warming to 2°C, a tripling to nearly a quadrupling of the share of zero and low-carbon energy supply by 2050 is needed – a rise of $147 billion annually, including CCS. And annual spending on fossil fuel plants must drop by $30 billion a year by 2030. Spending on energy efficiency measures for transportation, buildings and industry needs to increase by $336 billion.

Regardless of the preferred level of warming, investment is needed: To limit warming to around 2°C, a 145% increase in annual low carbon energy investment is required by 2030 and a 310% increase by 2050. Even to achieve 3.7 to 4.8°C of warming, annual low carbon energy investment must increase by 105% by 2030 and 190% by 2050.

5. **Mitigation is affordable**

Ambitious mitigation would reduce global consumption by around 0.06 percentage points a year, assuming business-as-usual growth of 1.6% - 3% annually. (The estimates do not take into account economic benefits of reduced climate change). The GDP loss would be higher if policy is disrupted and delayed. These costs would double if CCS is not widely deployed.

6. **The research is the most rigorous and in-depth of its kind**

1250 scenarios from scientific literature were analysed by over 800 scientists, compiled by 235 authors and approved by 194 governments. These scenarios were generated by 31 modelling teams around the world over the last four years to explore the implications of climate change and climate action, based on differing degrees of ambition.

The summary for policymakers and the full report is available here: http://mitigation2014.org/