

June 26, 2013

## Emerging economies lead switch to renewable energy

By Ed Crooks in New York and Pilita Clark in London

Renewable energy will provide more of the world's electricity than gas-fired power plants by 2016, the International Energy Agency has said, as sources such as hydro, wind and solar power grow rapidly in emerging economies, especially China.

The IEA, a think-tank backed by rich countries' governments, said it had raised its forecast for growth in renewable energy from last year's estimate and now expects renewables to provide about 24 per cent of the world's electricity in three years, just ahead of gas and roughly twice as much as nuclear power.

Maria van der Hoeven, the IEA's executive director, said two forces were driving the growth of renewable energy: its spread beyond Europe and the US to emerging economies in Asia, Latin America and the Middle East, and the continuing decline in costs that made it competitive with fossil fuels in some places.

She warned however that, in spite of the growth in renewables, coal-fired power plants would continue to threaten global warming unless their greenhouse gas emissions were curbed.

"If we don't do that, then coal-fired plants will continue to be there, and will still be as polluting as they are now," she said. She welcomed the plan set out by President Barack Obama on Tuesday to curb emissions from US power plants,

saying "we endorse and fully support [it]."

The IEA expects a slowdown in the expansion of renewable energy in Europe, where countries face challenges including integrating large amounts of power from variable wind and solar sources into their grids.

However, emerging economies, which have faster-growing electricity demand and more need to invest in new capacity are expected to pick up the pace.

China alone will account for about 40 per cent of all the growth in renewable generation capacity during 2012-18. It will be developing hydro, wind and solar power to meet demand for energy, to fight urban smog caused by coal and oil, and to curb imported-fuel bills, IEA said.

China's industry has faced problems, with about 20 per cent of its wind generation capacity not yet connected to the grid. However, the IEA is confident that Beijing's commitment to renewables and low-cost capital for suppliers mean production will continue to grow fast.

In several countries renewable electricity is at or close to the point where it can compete on equal terms with fossil fuels, including Brazil, Turkey, Mexico, Chile and South Africa.

The IEA is the latest body to predict a bigger role for renewable power in the global energy mix, with others including energy companies BP and ExxonMobil, and Bloomberg New Energy Finance, the research group.

Their forecasts vary depending on how much further each group thinks renewable energy prices will continue to fall, or how much the cost of carbon energy production might rise.

Onshore wind turbine prices fell by about 20 per cent over 2009-12, while solar photovoltaic system costs fell by about 40 per cent during 2011-12 alone, according to Bloomberg.

Some analysts think the pace of price declines will fade, especially in the battered solar industry where a global glut of production has forced some companies out of business, and the threat of EU tariffs on Chinese panels has raised fears of price rises.

Others think more mature wind and solar equipment will continue to fall in price as economies of scale and technological improvements take effect.

Although the spread of shale production around the world could lead to a rise in the use of natural gas for power generation, the IEA does not expect that to derail the long-term growth of renewables. Gas-fired generation will be needed to back up variable renewable sources such as wind and solar power.

Ms van der Hoeven said: "Renewables and gas are allies. The one enemy is coal: the most polluting energy source."

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