

Renewable energy to eclipse gas by 2016

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The dash for gas is being outrun by the race for renewables. According to the [latest projections](#) from the International Energy Agency, by 2016 global electricity generation from wind, solar, hydro and other forms of renewable power will exceed that from natural gas – and should be double that provided by nuclear plants.

This surge is being driven in large part by emerging economies. China is leading the way, accounting for 40 per cent of the projected global growth in renewables between 2012 and 2018, the IEA – a Paris-based body with 28 member countries – notes.

So are we on track to transition from coal to a low-carbon future based around renewables, with natural gas as a temporary "bridge fuel"?

Not yet, say energy analysts: major changes in policy are still needed if the world is to avoid tipping over the 2 °C threshold that climatologists say constitutes ["dangerous" global warming](#).

New economies

In the US, a [boom in shale gas production](#) has eclipsed efforts to expand renewables. Growth of renewables has also slowed in Europe. But the new economic powerhouses of China, India and Brazil are taking up the slack. "It's clear that renewables have been on a very rapid upswing," says [Richard Newell](#), who heads the Duke University Energy Initiative in Durham, North Carolina.

At face value, that seems to fit with a narrative in which natural gas fills in for a decade or two before giving way to a future based on renewable energy. But there are problems with this picture – principally a lack of long-term policies in many countries to encourage sufficient investment in renewable power plants.

"Today, policy uncertainty represents the largest barrier," IEA executive director [Maria van der Hoeven](#) told the [Renewable Energy Finance Forum Wall Street](#) in New York City on 26 June.

The big problem with the idea that gas is merely a bridge fuel is that gas-fired plants being commissioned now could have a lifetime of three to four decades, says [Michael Obeiter](#), an analyst in the Climate and Energy Program of the World Resources Institute, a think tank in Washington DC. This will make it hard to phase out fossil fuels on the timescale needed to avoid dangerous climate change – which requires major cuts from 2030 onwards.

Indeed, the IEA itself warned in a 2011 report that fossil-fuel plants due to be built over the next five years are [already likely to lock the planet into 2 °C of warming](#).

Investment potential

What is needed, say energy analysts, are long-term assurances to investors that renewable plants being built now will deliver a better economic return than those fired by coal or natural gas. That's a weakness of [US President Barack Obama's climate plan](#), announced earlier this week, which lacks the long-term targets that could be set if he were able to convince Congress

to pass new legislation.

And although China's rapid growth in hydro, solar and wind power is impressive, it has to be viewed alongside the nation's expanding demands for energy and its continuing heavy reliance on coal.

China's leaders are reportedly planning to ensure that the country's greenhouse gas [emissions will peak in 2025](#), and then decline. Even so, analyses by the [China Energy Group](#) at the Lawrence Berkeley National Laboratory in California paint a sobering picture.

According to [David Fridley](#), one major problem is that China depends on coal not just for electricity generation, but also for uses such as steel production and making fertilisers – which also generate large amounts of greenhouse gases. So even aggressive expansion of renewables and nuclear power would leave China relying on coal for up to half of its total energy needs by 2050.

Putting all of this together, the chances of avoiding dangerous climate change still seem slim. "There would have to be major, major changes in existing proposals for policy," says Newell.