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Sun, wind power cheaper than fossil fuel by 2030: report

A Bureau of Resources and Energy Economics' report on projected electricity prices associated with 40 different technologies has concluded that some renewable energy sources will generate electricity more cost-competitively than fossil-fuel-based technologies by 2030.

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The release of the **Australian Technology Energy Assessment (AETA) report** means that for the first time policy-makers have a tool to properly weigh up the benefits or otherwise of different technologies, according to an ANU researcher associated with the AETA.

'This is a landmark event, not only in Australia, but worldwide,' said Professor Ken Baldwin.

'For the first time, a detailed study using carbon pricing compares the levelised cost of electricity generated by technologies, including fossil fuels, renewables, biomass and nuclear power, to enable decision-making on the transition to a carbon-free economy.

'Moreover, the process includes a number of variables, such as the market carbon price, or the investment discount rate, to enable a number of future scenarios to be played out. This provides an updatable dynamic tool that can be used for decision-making by both government and industry to determine Australia's energy future.'

Professor Baldwin also noted that the AETA report – which projects electricity generation costs up to 2050 – had thrown up a few surprises.

'It indicates that a number of technologies – notably nuclear and wind power – are already competitive, with other renewable technologies like commercial solar-cell farms joining the mix in the very near future.'

WorleyParsons developed the cost estimates, while the Australian Energy Market Operator and CSIRO made technical contributions. The report's other projections include:

Increasing costs associated with several fossil fuel-based technologies due to the carbon price and higher projected market fuel prices

Falling costs of solar photovoltaic technologies as a result of a rapid increase in the global production of photovoltaic modules

Parity over time between the cost of fossil fuel and renewable electricity generation technologies

Today's most cost-competitive renewable technologies, biogas and biomass, should remain so up to 2050

By 2030 some renewable technologies, such as solar photovoltaic and wind on-shore, are expected to have the lowest LCOE of all of the evaluated technologies[1]

'Australia's energy future is likely to be very different to the present,' concludes the report. 'This has profound implications for electricity networks, how energy is distributed, and Australia's ability to meet its targeted greenhouse gas emissions reductions.'

Sources: ANU and Bureau of Resources and Energy Economics

1 The levelised cost of energy (LCOE) is the price at which electricity must be generated from a specific source to break even. It is an economic assessment of the total cost of the energy-generating system including all the costs over its lifetime: initial investment, operations and maintenance, cost of fuel, cost of capital, and is very useful in calculating the costs of generation from different sources.

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