Clean-coal cheaper option than renewable

Malcolm Turnbull is under pressure to deliver relief for households, small businesses and manufacturers. Picture: AAP

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The construction of a new high-efficiency, low emissions coal-fired power station, being considered by the Turnbull government, would cost $2.2 billion — considerably less than the $3bn of subsidies handed out to renewable projects each year, a new technical study shows.

With Australians facing further hikes in their electricity and gas bills following moves by - energy companies over the weekend to increase bills by up to 20 per cent, Malcolm Turnbull is under pressure to deliver relief for households, small businesses and manufacturers.

New analysis, compiled by power and energy sector specialists GHD and Solstice Development Services, reveals it would cost $2.2bn to build a 1000MW ultra-supercritical (USC) coal-power plant and that it would deliver the cheapest electricity on the market.

The HELE coal plant, which the Turnbull government has not ruled out funding, would produce electricity at $40-$78 per megawatt hour, compared with gas at $69-$115/MWh and solar at $90-$171. The 550-page technical study, commissioned by the Minerals Council of Australia and the COAL21 Fund, reveals that clean-coal plants would drive down energy prices, and offers the Prime Minister an economic blueprint on the viability of new coal-fired stations.

It comes just four months after it was revealed taxpayer subsidies to meet state and federal renewable energy targets reached $3bn in the 2015-16 financial year, with about 75 per cent of the cost being collected from consumers paying extra in their electricity bills.

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The overall cost of subsidising renewable energy generation has nearly doubled since 2011, and the RET continues to be a political headache for the Turnbull government. It is sticking to the 23.5 per cent target by 2020, despite calls by former prime minister Tony Abbott, who was involved in establishing the RET, to freeze it at the current rate of 15 per cent — a move he says would dramatically lower power bills.

COAL21 chief executive Greg Evans, who is also an executive director of the Minerals Council, said the report showed that HELE coal plants, which would have “operating lives of several decades”, were viable and affordable options to replace the nation’s ageing coal-fired power stations. “The report confirms that USC coal generation can deliver on the priorities of affordability, reliability and low emissions,” he said, adding that coal-fired generation remained the “cheapest and most reliable energy source in Australia, available 24 hours a day, every day”.

Mr Evans, whose COAL21 Fund has invested $300 million in low-emission coal technologies since 2006, said the report estimated the current construction cost of a modern HELE plant, or USC black-coal station, at $2.2m/MW, or $2.2bn for 1000MW capacity. “It (the report) notes electricity prices paid by manufacturers have doubled in the past decade and that USC coal is able to lower the cost of generation across the National Electricity Market, given current wholesale electricity prices.”

The report stipulates that cost comparisons assume that the power plant’s revenue be “underwritten” in the form of a long-term government agreement covering the purchase of the output or capacity of the plant.

Industry chiefs and Coalition MPs concerned about the retirement of coal plants in NSW and Victoria have identified opportunities for new investment in coal plants, using low-emissions technology including viable carbon capture and storage options.

With up to 1200 HELE plants being planned or built in Asia, and similar technology anchoring electricity production in Japan and Germany, senior government MPs, including Mr Abbott, have backed investment in coal-fired energy. Mr Turnbull said last month his government remained open to using cleaner-coal technology to replace existing generators, in what he said would be a “long-term commitment”.
The Turnbull government has asked the Australian Energy Market Operator for advice on how to best ensure “new continuous dispatchable power is provided”.

Resources and Northern Australia Minister Matt Canavan has said cleaner coal-fired power stations could potentially save up to 30 per cent in carbon emissions, as well as additional savings on operational costs. He has predicted the construction of a new coal-fired power plant would take “about three years”. “They do cost a little bit more to build, but overall they come out at the same cost or cheaper than the older coal-fired power stations that we have right now,” he said. He said investors in Asia and Australia were interested in selling cleaner-coal technology and some were open to the idea of “owning a station here”.

The government has adopted 49 of the 50 recommendations made in a review led by Chief Scientist Alan Finkel, aimed at delivering a blueprint for the future of the electricity market.

The Finkel report, which did not rule out new coal-fired power plants as being part of the nation’s energy mix, analysed how the government could work to secure energy supply, drive down prices and cut emissions. Dr Finkel’s final recommendation for a Clean Energy Target is expected to return to cabinet over the winter break, and to the partyroom, where conservative MPs have argued against new emissions regimes.

In its analysis, GHD and Solstice Development Services provides details of how construction costs for a new HELE plant could be driven down by building it at “an existing power plant location”. Mr Evans said the report showed such coal plants should “figure prominently in our electricity system, complementing and supporting other technologies including renewables”. “The report authors reviewed and costed different technology options that are capable of replacing retiring capacity. These were considered on their merit using a range of sources cross checked against published studies and their respective assumptions.”

The Minerals Council of Australia says the nation faces an energy shortfall, with 8GW of coal plants to retire by 2030, and a total of 25GW by 2040, and that if all existing plants in Australia were upgraded to modern HELE technology, it would reduce emissions by 45 million tonnes a year. “It (the report) concludes that the imminent retirement of coal plants in NSW and Victoria provides opportunities for constructing and replacing them with USC plants by the early 2020s. Additional capacity may also be required in Queensland,” he said.