

# [***-Rystad Energy - LNG's boost for renewables***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:5X11-3GD1-JD3Y-Y311-00000-00&context=1516831)

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**Body**

LNG export facilities are being geared towards electrification via renewables, delivering their owners significant savings, writes Gero Farruggio.

The electrification of the oil and gas sector is a huge opportunity for Australia's renewables industry. This has been highlighted by Chevron's and Woodside's announcement that their Kitimat LNG facility in Canada would be an electric design supplied by hydropower, and thus the lowest greenhouse emissions LNG facility in the world. Switching from gas power generation to renewables could save Australian LNG producers $ 1.7 billion annually and play into their stated goals of reducing their carbon footprint.

Australia has an LNG production capacity of 88 million tonnes per annum (mtpa), giving it the potential to save 410 billion cubic feet (bcf) of gas annually, almost the equivalent of the entire east coast gas demand of 438bcf. Electrification of these facilities would require up to 3.4GW of power. Even electrifying a small fraction of Australia's LNG facilities presents a significant opportunity for the renewables sector.

Santos recently became the first company in Rystad ***Energy***'s RenewableCube to enter the operational phase for utility-scale generation. The 2.12MW solar plant at Port Bonython in South Australia will generate just over 6% of the Santos facility's electricity needs. Another major, Eni, is constructing the 25MW Katherine solar farm in the Northern Territory, by far the largest solar farm in the territory. Total Eren has the largest renewables portfolio in Australia of all the oil and gas majors, most notably the 200MW Kiamal Stage 1 solar project under construction in Victoria.

Shell is looking to develop a 120MW solar plant in Queensland to power its local operations. If the project were to proceed it would be one of the state's largest committed or operating solar farms. LightsourceBP is developing multiple solar farms in NSW and Victoria. Woodside and ConocoPhillips both have plans to install batteries to replace one, if not multiple, gas turbines at their Goodwyn platform and Darwin LNG facility respectively.

Invest in sun power

If Australia were to reach LNG capacity in 2019 and 2020, an estimated 4.1 trillion cubic feet (tcf) of gas would flow through its LNG facilities. To transport this gas and cool it to -161-degreeC requires a vast amount of power, typically sourced from the volumes of gas itself. Here lies the opportunity for renewables: to replace this 'infield' gas usage with new, cheaper renewable (or grid) ***energy***.

The amount of gas consumed in the operations of an LNG facility can be as high as 10% of the gas that flows through it. Under this assumption, if 4.1tcf of gas were to flow through facilities in Australia, a staggering 410bcf of gas would be consumed in operations - almost enough to supply the entire 2019 Australian east coast gas demand of 438bcf.

Taking a step back and looking at the whole of Australia, saving 10% of the potential 88mtpa of LNG production would be the equivalent to saving $ 4.2 billion worth of LNG at December 2019 JKM futures pricing. With the ongoing cost of replacing this gas with electricity from the grid modelled at $ 2.5 billion (or about $ 85 per megawatt hour), we estimate electrifying all LNG facilities in Australia would create $ 1.7 billion of additional value annually for Australian LNG operators (excluding additional debt costs from electrification capex).

Assessing this from the C-suite, the average LNG project operator in Australia - with 12.5mtpa of capacity - has the potential to reduce their annual running costs by close to $ 245 million through the electrification of their operations.

With its excellent solar resource, Australia is well-positioned to tackle the LNG electrification opportunity with clean, renewable ***energy*** sources. The opportunity becomes more important as several oil and gas companies now have corporate drivers to decarbonize. Most notably Shell has committed to cut the net carbon intensity of their ***energy*** products they sell by around 50% by 2050.

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