NZGBC
TE KAUNIHERA HANGANGA TAUTAIAO

nzgbc.org.nz

Distributed energy is cheaper than LNG – and reduces costs for Kiwi families

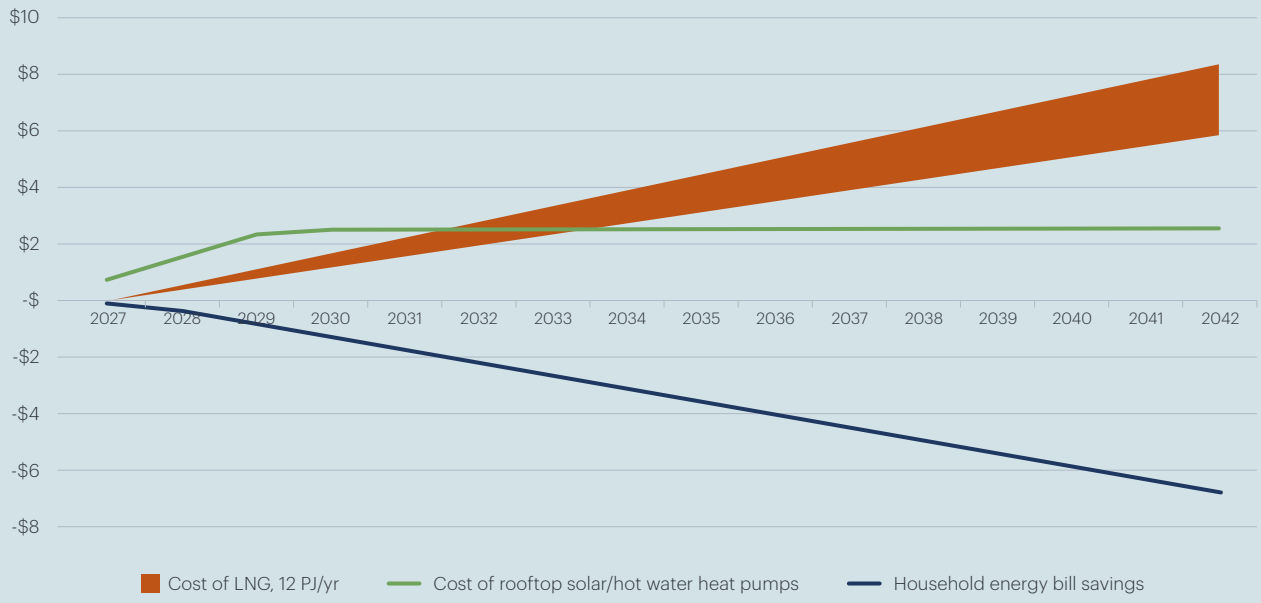
Source: www.interest.co.nz

This report is published by the New Zealand Green Building Council. It is intended to promote and provide information on the current state of New Zealand's energy market, and in our view what can be done to ease pressure on energy supply. We have thoroughly researched all our claims about the problems facing energy supply in New Zealand and how we believe this should be improved. However,the views, opinions and conclusions reached by the NZGBC and set out in this document are opinion only and intended to generate discussion. Contact us to find out more.

Key findings

- The plan to import up to 12PJ a year of LNG to produce electricity would cost $5.9b-$8.3b over 15 years, if the terminal is fully utilised.
- The same amount of electricity could be produced each year with a $2.5b investment in rooftop solar panels and hot water heat pumps, which would save households $6.8b off their energy bills over 15 years.
- The LNG plan is not commercially viable, relying on a large subsidy, funded by households and businesses through the proposed levy.
- Importing LNG exposes NZ to international gas prices–increasing energy prices for businesses already struggling. This will accelerate business closures and job losses.
- Strategically LNG is very risky. It is a single point of failure, while renewables are distributed.
- Rather than subsidising LNG imports, the proposed levy could be used for grants to help households with the cost of solar and hot water heat pumps, saving Kiwi families billions.

LNG imports vs cost of solar and hot water heat pumps: cumulative cost/savings ($billions) for 1500GWh/yr electricity



Summary

New Zealand is facing an energy crisis. Importing LNG is an expensive and risky option for New Zealand that would create higher energy prices for New Zealand families and businesses, and expose New Zealand to another volatile international energy market. LNG is not commercially viable - the plan depends on a $90-$180m per year taxpayer subsidy to the LNG importer.

The LNG terminal will increase energy prices because the marginal generation cost of gas will increase the price in normal years. This has been the experience in Australia. Once Eastern Australia was **exposed to international gas prices** the cost of gas electricity generation tripled. The higher costs for Kiwi businesses will accelerate deindustrialisation and increasing business closures and job losses.

A spokesperson from international LNG company Karpowership told BusinessDesk that New Zealand faced "upward pressure" on gas prices if an import terminal is built.

"Should LNG imports proceed, domestic gas pricing would increasingly be influenced by international energy markets as existing long-term contracts expire," the spokesperson said. "This has the potential to place upward pressure on gas prices over time." Gas-intensive industries in NZ were already facing cost pressures, which meant further increases in energy input costs could "accelerate structural challenges for parts of the industrial base".

Instead, the energy New Zealand needs can be supplied/saved through rooftop solar and more energy efficient next-generation hot water systems in our homes. The technologies needed - rooftop solar and hot water heat pumps - are already on the market and installed in a small percentage of homes, with uptake accelerating.

These technologies can rapidly fill New Zealand's energy gap. If all new homes built had rooftop solar and all new residential hot water systems sold were heat pumps, by 2030, more electricity would be being generated and saved than the LNG terminal would provide.

The UK is moving to require all new builds have solar installed, while the Australian state of Victoria is mandating that new hot water systems are heat pumps or solar-powered.

To accelerate uptake in New Zealand, the Government can use the funds that are planned to subsidise the LNG terminal to, instead, provide grants to help families with the cost of solar and hot water heat pump installations.

Strategically LNG is very risky. Importing LNG creates a single point of failure, while renewables are distributed, drastically reducing risk.

The proposal to import LNG would increase the cost of living to households and force more businesses to close. The energy we need can be made available more cheaply by installing rooftop solar and replacing old, inefficient hot water systems.

Context

Natural gas provides around 9% of New Zealand's electricity supply. An average of **30PJ a year** is burned to supply **4,000GWh a year of electricity**. Gas is used throughout the year for electricity production, although use is higher on average in the winter months, with gas-fired plants helping to meet increased demand in cold weather, including at demand peaks, and as an alternative to hydroelectric to maintain hydro storage lake reserves.

However, the supply of natural gas is rapidly dwindling. Supply has nearly halved in the past decade, including a 19% decrease in the year to September 2025, compared to the prior 12 months. Supply is now down to 100PJ a year, 25PJ a quarter, while demand for electricity generation is as high as 12PJ a quarter. The ability of domestic natural gas supply to meet electricity demand and demands from other sectors will only become more perilous with **official projections** forecasting production will fall by another third by 2030 and two-thirds by 2035. The potential early closure of the Maui field would only accelerate this decline.

As gas supply tightens, higher gas prices have forced industrial gas users to close or idle production. Consumers are facing record electricity prices driven by natural gas prices and Transpower is warning of increasing risk of electricity shortages as natural gas availability reduces. More energy needs to be made available.

LNG – an expensive option

The Government assessed five fossil fuel options to deliver 1.5TWh of electricity in winter, and has come to a preferred option to import natural gas. In October 2025, the Government sought **Registrations of Interest** for potential providers of a Liquified Natural Gas Import Facility capable of importing up to 12PJ of LNG over a three month period. Initially, the aim was to have the facility in operation for winter 2027, although officials have now **advised the Government** that winter 2028 is more realistic.

The plan puts the capital and operating costs of the LNG terminal at $90m-$180m a year. These costs would be funded by the taxpayer, paid for by a levy on electricity of $2-$4 per MWh.

The plan **estimates** that LNG electricity generation would cost $200-$250/MWh, more than twice the **cost of new renewable generation**. However, this is excluding the $90m-$180m a year fixed cost of the LNG terminal and, so, underplays the actual cost of LNG-generated electricity to New Zealand.

The full cost of LNG-generated electricity to New Zealand would depend on the amount of LNG imported - the more LNG imported, the more fuel cost, but the fixed cost would be divided among more MWh. Under utilising the terminal would decrease total costs but increase costs per megawatt hour generated.

Adding the terminal costs ($90m-$180m/yr) to the generation costs ($200-$250/MWh), the Government's numbers show the following annual costs:

LNG-generated electricity costs

Average annual LNG imports, PJ	Electricity generated, GWH	Cost of electricity	Cost of terminal	Total annual cost	Cost per MWh	15 year cost to New Zealand
5	625	$125m-$155m	$90m-$180m	$215m-$335m	$345-$540	$3.2b-$5.0b
12	1500	$300m-$375m	$90m-$180m	$390m-$555m	$260-$370	$5.9b-$8.3b

Over 15 years, importing LNG to generate electricity would cost the country up $5.9b-$8.3b, if the terminal was fully utilised. If only 5PJ a year was imported on average, the cost would still be $3.2b-$5.0b. $1.4b-$2.8b of these costs would be borne through the LNG levy.

Because half of the energy content of natural gas is lost during the electricity generation process (and more in Huntly's Rankine units), this would generate a relatively small amount of electricity. 12PJ of LNG would result in 1500GWh of electricity, less than 3.4% of annual supply. 5PJ is enough for only 625GWh, 1.4% of electricity supply.

Flow on effects of LNG imports

The Government's **plan** states that LNG would only be imported when needed to avoid electricity shortages in winters of dry years. But it acknowledges that, as domestic natural gas production continues to fall as forecast, LNG would become a fulltime alternative natural gas supply and the price-setter for natural gas.

Importing LNG would also flow through to the wider natural gas market, not just electricity generation, as natural gas is a fungible commodity. That means that if LNG were added to the New Zealand market, the price to supply it would become the marginal price of supply and likely set the new wholesale price for all natural gas. The cost would flow through to all users, including households and industries, which are already struggling with elevated gas prices.

The subsidised $200-$250/MWh cost, which could be significantly higher, would become the market price for wholesale electricity whenever LNG is needed, which would become every year as the domestic supply of natural gas falls and gas producers alter behaviour so they can maximise revenue by having LNG setting the market price for gas as much as possible. Gas power plant operators, also, would be incentivised to make use of their access to government-subsidised LNG as much as possible, as it would increase their revenue while spreading their fixed plant costs.

The costs of LNG would fall on households, directly through higher gas prices and indirectly through electricity prices, higher costs for products, and job losses as businesses are forced to close. Moreover, it would expose New Zealand's gas market to international price and supply shocks, just as we experience in our oil supply.

Adding an expensive new supply of energy to New Zealand's system does not solve the problem of our lack of affordable energy.

Rooftop solar and hot water heat pumps

While LNG imports may be cheaper than doing nothing or undertaking other fossil fuel projects, there are other options to supply the energy that New Zealand needs much more cost-efficiently, while reducing the cost of living and not driving further deindustrialisation of the economy.

Ramping up installation of rooftop solar and hot water heat pump systems can deliver as much energy as the LNG terminal at full capacity, for a fraction of the cost, without driving up natural gas and electricity prices, and reducing household energy bills.

Rooftop solar now costs around **$2,000KW** to install. Each KW of solar installed generates 1.3MWh of electricity per year on average. A typical 5KW installation on a home produces around 6.6MWh per year of electricity, which can be used to offset the need to buy from the grid or be sold back to the grid at a reduced price.

Hot water heat pumps cost an average of **$3,300** more than a conventional resistance electric or natural gas hot water system, but consume **70% less energy**, resulting in average annual energy savings of 1.8MWh.

Unlike LNG, which carries with it hundreds of millions of dollars per year in fuel costs, rooftop solar and hot water heat pumps are one-off capital costs, with long system lives (15 years for hot water heat pumps, 30 years for solar). This means that, over a 15 year timeframe, the cost of LNG is much larger than the cost of rooftop and solar, and households save energy costs from having these installed.

Rooftop solar and hotwater heat pump costs and savings

	Annual energy produced/ saved, MWh	Unit cost (total cost of solar. HWHP cost incremental to conventional systems*)	Units needed to produce/ save 1500GWh (half solar/half HWHP)	Total cost of units	Household energy savings over 15 years
Rooftop solar (5KWh)	7	$10,000	115,000	$1.1b	$2.8b
Hot water heat pump	1.8	$3,300	410,000	$1.4b	$4.0b
Total				**$2.5b**	**$6.8b**

*As new and replacement hot water systems must be installed anyway, the relevant cost of hot water heat pumps is the incremental cost over installing a conventional system, with the savings being the energy used by a heat pump system compared to a conventional system.

For $2.5b, New Zealand can produce/save as much electricity with rooftop solar and hot water heat pumps as the maximum enabled by an LNG terminal, at only 30-42% of the $5.9b-$8.3b cost. And, over 15 years, households would save $6.8b off their energy bills.

The equation continues to improve in favour of solar and hot water heat pumps rather than LNG in outyears.

Timeframe

Installation on this scale can be achieved more rapidly than might be assumed.

An average of 35,000 homes are built per year. If all these homes had solar on them (as the UK is requiring), it would take under four years to install the required units.

125,000 hot water systems are **sold each year**, only 2% of them currently heat pump systems. If all new hot water systems sold were heat pumps, the required units would be installed in under four years.

With government leadership, New Zealand can rapidly install the system required to fix the energy crisis without needing LNG. If all new homes had solar installed and all new residential hot water systems sold were heat pumps, by 2030 more electricity would be made available than the LNG terminal operating at maximum capacity would enable.

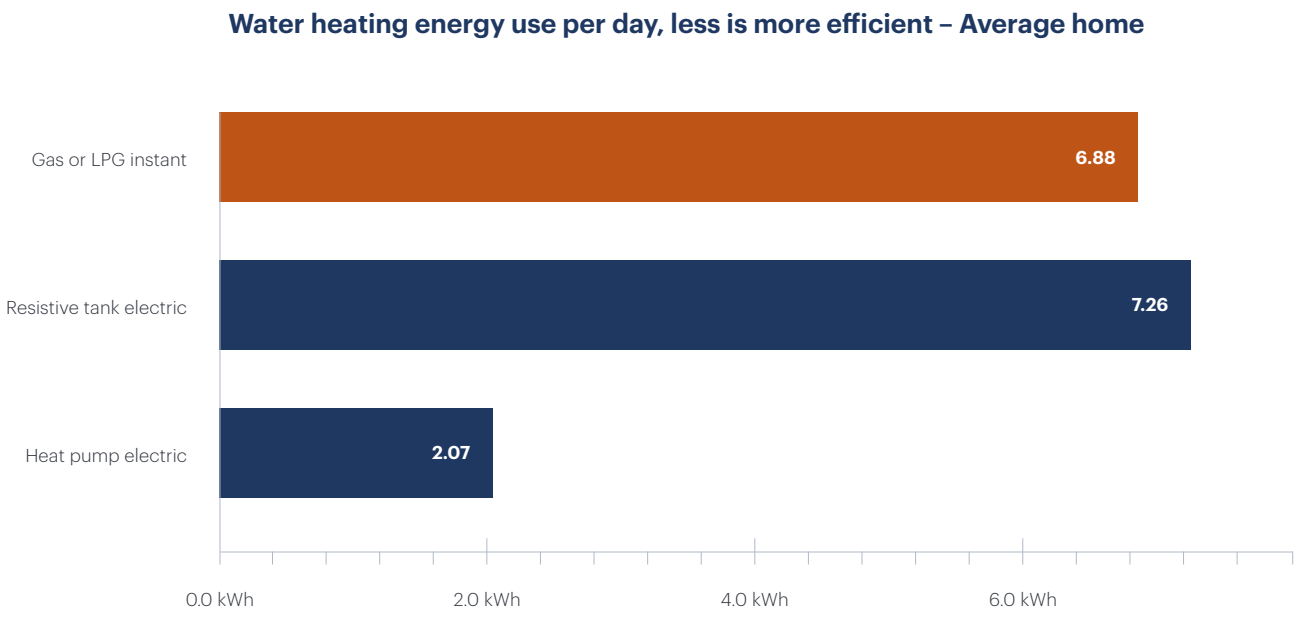
A levy Kiwi families can get behind

A levy is proposed on electricity users to support gas infrastructure. This will increase the price of a fuel which is relatively low carbon while subsidising gas, a fuel, which New Zealand wants to use less of. The planned LNG levy would raise $90m-180m a year in revenue - that's a substantial $1.4b-$2.7b over 15 years. Rather than being used to heavily subsidise LNG, this money could be used as grants to help households with the upfront costs of rooftop solar and hot water heat pumps, accelerating uptake.

Meeting winter peaks

LNG proponents may argue that the electricity is needed in winter mornings and evenings, when solar generation is at its lowest, and it would require large new energy storage investments for solar and hot water heat pumps to do the job LNG imports would do. This is incorrect.

Households tend to use more hot water in winter, and at peak demand times in the morning and evening. This means that reducing energy demand from hot water heat pump systems can both directly reduce the electricity demand that is currently being met by gas-fired power plants, which LNG imports would supply, and reduce the residential demand



Source: Page 32 – Electric Homes – Rewiring Aotearoa – March 2024

for natural gas, making more of it available for other uses, such as electricity generation.

It is also not as simple as solar only working in summer and gas being needed in winter. Gas is burned for electricity throughout the year, with an increase in winter, and solar still produces in winter, albeit at decreased levels. This means that solar generation throughout the year can alleviate the need for LNG in winter. By replacing the need for gas-fired and hydroelectricity production in the warmer months, rooftop solar means more energy to be stored both in the hydro lakes and at the Ahuroa gas storage facility for winter demand. Over the past five years, the hydro storage lakes have been 500-2,000GWh below their **maximum storage capacity** in May. The Ahuroa facility has had an average of 3PJ of unused **gas storage** available at the beginning of winter for the past five years.

Solar electricity produced in the warmer months can effectively be stored for winter by utilising existing storage, while hot water heat pumps decrease the size of winter demand peaks. This offsets the need for LNG without large investments in new grid-level storage.

Note on cost/savings estimates

Calculations in this report rely on the figures presented by the Government in the **factsheet** accompanying the 9 February 2026 LNG announcement, data supplied by EECA to Rewiring Aotearoa for their **Electric Homes** report on solar and hot water heat pumps, and latest energy data from **MBIE**. These estimates do not factor in:

- Future LNG, natural gas, and electricity cost increases.
- The impact on energy prices of more energy production/savings.
- Future decreases in the cost of solar and hot water heat pumps.
- Any potential for a rising share of new builds to have solar or growth in hot water heat pump market share without policy intervention.
- End of life for any solar or hot water heat pump units installed.

Thank you to research reviewers:

- Alan Brent, Professor of Sustainable Energy Systems, Te Herenga Waka Victoria University of Wellington
- Christina Hood, Head, Compass Climate

These reviews were provided in a personal capacity and do not confer endorsement from them or their employers.