Analysis: Cost and emissions savings for NSW households if councils require gas-free and all-electric new builds

Background

On Monday August 19 September, City of Canada Bay voted in support of kickstarting the process of requiring new homes and businesses to be all-electric and gas-free. The proposed new rules are expected to be implemented through changes to its planning regulations via its Development Control Plan (DCP) and emulates the approach of City of Sydney, which passed a very similar motion on 28 August 2023.

The motion was in response to 350 Australia's 'Electrify Your Council' campaign, and comes after a number of similar moves by local, state and territory governments. ACT passed a law in June 2023 banning gas connections in new homes, and in July the Victorian Government announced it will do the same.

On July 31st, Premier Chris Minns said he wouldn't follow Victoria's and the ACT's lead in banning gas connections to new developments. Frustrated by inaction at the state level, councils across NSW, including City of Sydney, Waverley Council, Parramatta Council, and now the City of Canada Bay, are taking action locally.

The City of Sydney and Canada Bay decisions come after other councils have taken action. In December 2022, Waverley Council passed a DCP prohibiting the installation of gas cooktops, ovens and heaters in new residential developments. In 2021, Parramatta Council banned gas appliances in commercial and residential developments in the city centre.

The momentum to electrify new development is in response to increasing pressure over the negative health impacts of gas, its role in driving greenhouse gas emissions, and the impact of high gas prices for low income households. According to health experts, a child living with a gas stove faces a similar asthma risk to a child exposed to secondhand cigarette smoke.[1]

Summary cost and emissions savings

New analysis by Strategy Policy Research, commissioned by 350 Australia, demonstrates that there are substantial cost and emissions savings to be had if City of Canada Bay and other NSW councils connected to the gas network proceed with banning gas and requiring all-electric new homes and businesses. The analysis shows that if the City of Canada Bay required all new residential and commercial buildings to be all-electric and gas free:

[1] Knibbs, L. et al. Damp housing, gas stoves, and the burden of childhood asthma in Australia. Medical Journal of Australia. 2018 (7): 299-302

- Each new household would save an average of $430 per year on their energy bills, or $5,500 in today's dollars over a 40 year period. This amounts to $44.9 million in bill savings for all new homes across Canada Bay over the same period. At a state level, the savings are $9.3 billion for all new homes over the same period.

- Savings for local businesses would be up to $4.7 million total for Canada Bay, over the same 40 year period, in today's value. Extrapolated to the state level, the savings are $3.3 billion in today's value.

- Greenhouse gas emissions across the City of Canada would be reduced by 344,343 tonnes over the same 40 year period, totalling 40 million tonnes for the entire state if all new residential and commercial buildings were required to be all-electric without gas.

About the modelling

Strategy Policy Research quantified the impact that banning gas from new residential and commercial developments would have on projected greenhouse gas emissions and energy costs. The model uses a 40 year timeframe based on an average 40 year dwelling lifespan, commencing in financial year 2024.

The model used projected dwelling and building stock construction rates across each local government area (LGA) using Australian Bureau of Statistics (ABS) data, and energy consumption data (electricity and gas) from the Australian Energy Regulator.

The business-as-usual assumption is that new homes and businesses continue to connect to gas at the same rate as the current average in each local government area (LGA).

The model factored in the current and projected emissions intensity of the electricity grid, the proportion of renewable energy contribution to the grid, rooftop solar PV uptake rates, and projected energy efficiency improvements over time (see below for more details about the model).

Assumptions included in the model

- Electricity and gas consumption data from the Australian Energy Regulator, assuming ongoing energy efficiency improvement over time (greater for electricity, minimal for gas);
- The current proportion of homes connected to the gas network for each LGA;
- Bill savings include avoiding the annual gas network connection fees, assumed to average $1 per day;
- Both gas and electricity prices are assumed to rise at 1% (after inflation) per year - the financial savings projected by the model would be higher if these energy prices were to increase more rapidly;
- Rooftop PV uptake by LGA is included in the model, and bill savings do not double-count the savings from solar; and
- The model shows that emissions would increase in the first two years, due to the emissions intensity of the electricity grid, which still relies on a significant amount of fossil-fuel generated electricity. However, this is assumed to fall over time, in line with the Australian Energy Market Operator's *Step Change* forecasts. Nevertheless, emissions continue to rise at a faster rate over the same two year period under the BAU scenario.

For more information:

- Philip Harrington, Strategy Policy Research, 0419 106 449 philip_harrington@strategypolicyresearch.com.au
- Lucy Manne, 350 Australia, 0417 387 516, lucy@350.org.au