



CONSERVATION COUNCIL

ACT REGION

Submission re ACT DV 373: removing the mandatory requirement for gas infrastructure

MARCH 2020

TO: Territory Plan Section, EPSDD, terrplan@act.gov.au

The Conservation Council ACT Region is the peak non-government environment organisation for the Canberra region. We have been the community's voice for the environment in the Canberra region since 1979. Our mission is to achieve an ecologically sustainable and net-zero carbon society through advocacy, education, research and engagement with community, the private sector and with government.

We represent more than 45 member groups who in turn represent over 20,000 supporters. We harness the collective expertise and experience of our member groups and networks. We work collaboratively with Government, business and the community to achieve the highest quality environment for Canberra and its region.

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Introduction

The Conservation Council ACT Region welcomes the opportunity to comment on Draft Variation 373 to the *Planning and Development Act 2007*.

The IPCC and global climate scientists have made it clear that humanity must rapidly and urgently reduce greenhouse gas (GHG) emissions to have a reasonable chance of keeping the Earth's temperature from increasing by more than 1.5° above pre-industrial levels.

In response, the ACT Government has demonstrated commendable leadership through the implementation of its 100% renewable electricity target by 2020 and the setting of nation-leading, ambitious, legislated GHG emissions reduction targets. In addition, the Conservation Council acknowledges the commitment outlined in the ACT's Climate Change Strategy 2019–25 to phase out the use of natural gas by 2045, making the ACT the first jurisdiction in Australia to start to address the long-term demand for gas.

The ACT's Climate Change Strategy notes that “from 2020, the use of gas is expected to make up 21% of the ACT's greenhouse gas emissions. Transitioning to 100% renewable electricity presents an opportunity to transition away from gas by electrifying our heating and cooling systems”.

Draft Variation 373 (DV373) “proposes to remove the mandatory requirement for gas connection to blocks in new suburbs from the Estate Development Code in the Territory Plan. The provision of gas will now be optional rather than mandated.” This will bring the ACT into line with other Australian jurisdictions.

The Conservation Council maintains that simply removing the mandatory requirement for gas infrastructure in new suburbs is an inadequate response to the ACT Government's May 2019 declaration of a ‘climate emergency’, and, in isolation, will do little to reduce GHG emissions from the gas network.

Preventing the uptake of gas by new customers in all new developments in both new and established suburbs is the easiest opportunity to secure emissions reductions over the next five years, and rather than require residents to change from gas to electricity, just means that we need to build energy efficient, “cheap to run”, all-electric residences.

The ACT Government's 2045 timeline requires more detail so as to communicate clearly to home-owners and developers who can then make appropriate purchasing decisions when replacing appliances or when constructing new dwellings. Not having a detailed timeline for transition risks creating more stranded assets, both at a network level and at a personal household level.

On February 27th 2020, Evoenergy released [‘Evoenergy gas network 2021 draft plan: Evoenergy gas network 2021–26 access arrangement review’](#) (GN21 draft plan), which indicates Evoenergy's intention to cease rolling out gas infrastructure to new ACT suburbs from 2021, in alignment with ACT Government policy as driven by this Draft Variation.

However, the GN21 draft plan clearly identifies Evoenergy's desire to continue to grow its customer base through market expansion within existing suburbs. This constitutes \$34.8m of capital expenditure over the 5-year period on “new services, mains, and meters to connect new customers” including “new homes, medium/high density residential developments, and commercial and industrial customers”. This is problematic because it potentially increases

GHG emissions for the next six years, and locks in gas consumption in multi-unit developments, making transition to electricity in the future more challenging.

In the GN21 draft plan, Evoenergy has mapped at least three potential future pathways for achieving net-zero emissions, including complete transition away from gas to renewable electricity by 2045, in anticipation of changes in Government policy. The company's commercial preference under current policy conditions appears to be retaining the network, supplying 'renewable' gas, with some shift to electricity. However, Evoenergy is clearly already prepared to adapt its strategy should the Government provide a stronger policy signal to transition.

The Conservation Council has concerns about sustaining the gas network with the aim of supplementing 'natural' (ie fossil) gas with hydrogen or so-called 'renewable' biogas at some unspecified point in the future. Ultimately, using gas contributes to climate change and other environmental impacts, and imposes unnecessary costs on households. The ACT already has a viable, zero-emissions electricity network so the Government's priority should be to rapidly transition from gas to all-electric suburbs.

With Evoenergy yet to submit its GN21 draft plan to the Australian Energy Regulator, there is an opportunity for the ACT Government to clarify its implementation timeline in regards to the transition away from gas in the ACT between now and 2045. However, once the network access arrangements are set for the five-year period 2021–26, there will be less scope for the ACT Government to influence Evoenergy's short-term capital investment plans.

The Government could provide immediate certainty for the energy industry and the Canberra community via this Draft Variation by prohibiting the rollout of new gas infrastructure in new suburbs, as well as prohibiting the connection and reconnection of newly constructed residences in established suburbs. Implementing regulatory changes now could enable the beginnings of substantial GHG emissions reductions from the gas network within the next five years, consistent with the stated ambition of the ACT Climate Change Strategy and achievement of the legislated interim target of 50–60% reduction below 1990 levels by 2025. The Conservation Council supports a rapid phase-out of gas over the next ten years as a way to support meeting our interim emission reduction targets, and as a meaningful response to the urgency of the climate change crisis.

Recent research has found that the vast majority of atmospheric methane originated from modern human use, not from natural Earth processes as previously thought ([National Geographic 2020](#)). This means that we have the power to significantly reduce atmospheric methane concentrations by cutting our use of methane. The most effective way to decarbonise gas consumption is to stop extracting, making and using it.

Recommendations

The Conservation Council recommends that the ACT Government amend DV373 to:

- Immediately prohibit the rollout of gas connections in new suburbs (rather than making it optional);
- Prohibit gas infrastructure or new connections in newly-constructed dwellings, including multi-unit buildings, in all suburbs; and
- Prohibit reconnection to the gas network after rebuilding in established suburbs.

The case for prohibition now

Removing the *mandatory* requirement to provide gas infrastructure leaves the door open to market driven decisions

In September 2018, the ACT Government approved Variation to the Territory Plan 356 “making the provision of gas utility services to blocks in Stage 1 of Ginninderry Estate, West Belconnen, an optional rather than a mandatory requirement”. In May 2019, Variation 362 extended this exemption to Stage 2 of the development.

The vision of the Joint Venture between the Riverview Group and the ACT Government is for the Ginninderry Estate, eventually to house around 30,000 people, to be “[all-electric](#)”. With knowledge of this aspiration, as stated in a June 2018 Briefing to industry bodies, Evoenergy negotiated a Memorandum of Understanding with the Joint Venture to install gas reticulation in Stage 1 “to allow [its] customers to have a choice of their energy source including connecting to gas at houses that are part of Stage 1 ... and for all other future stages in the estate. Evoenergy remains committed in ensuring natural gas will be available for all existing and new homes in Canberra.” Evoenergy’s Annual Planning Report 2019 stated that “Stage 1 reticulation to supply 311 dwellings [was] completed and energised”, and “Stage 2 to supply 814 dwellings [is] currently in design”.

Of the approximately 5000 people so far registered with Ginninderry, only two applicants indicated they would be unwilling to buy a home without gas, and no homeowners in Stage 1 will connect to the network (pers. comm, Jessica Stewart, Ginninderry Sustainability Manager). This renders Evoenergy’s infrastructure in Stage 1 as a stranded asset and wasted investment capital, with costs borne by existing network customers.

Evoenergy published its GN21 draft plan in February 2020, detailing its proposed access arrangements for the period 2021–26. Section 3.3 states Evoenergy’s assumption that “reflecting the ACT Government’s strategy to remove the mandating of reticulated gas in new suburbs, the gas network will not be expanded into new suburbs in the ACT.” It is likely that Evoenergy’s experience of zero uptake of gas in Ginninderry Estate provided a clear business case to support this revision of its intentions.

While Evoenergy’s GN21 draft plan suggests it will not install infrastructure in new ACT suburbs, its intentions in NSW are unclear, and the draft plan also includes the alternative scenario of ‘business as usual’ expansion of the gas network into new suburbs as a possibility. The GN21 draft plan also makes no mention of whether Evoenergy intends to

revise its plans to extend the gas network into new estates in Molonglo Valley, West Belconnen and Gungahlin, as detailed in its Annual Planning Report 2019. And at the least, even if Evoenergy implements the intention outlined in the GN21, rollout of gas infrastructure could possibly continue until mid-2021 when Evoenergy's GN21 plan comes into effect.

The Ginninderry case demonstrates that if gas infrastructure is economically viable then there would be little disincentive to proceed with installation, regardless of a government's climate change policy. Thus, whilst gas infrastructure remains optional as per DV373, there is little to prevent an energy company or developer pursuing gas connections if they were prepared to absorb the cost or pass the cost on to home-buyers in some way.

To be assured of meeting the interim targets in the Climate Change Strategy by reducing emissions from the gas network, the Government needs to act quickly to explicitly prevent new infrastructure and connections, rather than rely on the goodwill of corporate entities driven by commercial imperatives. The success of the Ginninderry Estate in attracting potential homeowners demonstrates that prohibiting new gas is both politically and commercially feasible, creating the potential for an 'easy win' for the Government.

Evoenergy intends to conduct business (more or less) as usual

Until the Ginninderry Variations 356 and 362 and the issuance of DV373, Evoenergy was required by Territory law to provide gas to all homes, and its planning documents all reflect this. But with these Variations and the more ambitious interim targets in the Climate Change Strategy 2019–25, the imperative for gas is shifting.

Although Evoenergy's GN21 suggests it will discontinue installing gas in new suburbs, the company cites policy and technology 'uncertainty' and 'complexity' of decarbonisation while planning to spend \$34.8m to continue installing gas in new buildings and connecting customers to the gas network in established suburbs, pouring further capital into an asset it already recognises will be 'stranded' (p5) under decarbonisation policy. This action is inconsistent with the ACT's emissions reduction targets, the IPCC's urging for rapid phase-out of fossil fuels and Evoenergy's own stated intention to support net-zero emissions by 2045. Evoenergy's use of the phrases 'decarbonising our gas network', 'net-zero emissions' and 'renewable gas' implies an intention to continue operating the network indefinitely if it can offset emissions from it, regardless of other reasons for decommissioning it, such as unnecessary duplication of energy access costs for Canberra households.

Further to this, Jemena (owned by China and Singapore Government corporations, 50% owner of Evoenergy) has a clearly stated intention to expand the national gas network and supply. For instance, in July 2019, Jemena commenced construction of the 60km Atlas Gas Pipeline in Queensland. Jemena is 'working hard ... to bring new gas to Australian homes and businesses', and 'gas will play an increasingly important role in complementing intermittent renewable technologies'. ([Jemena news, 8 July 2019](#))

The ACT Government published its first climate change strategy, 'Weathering the change', in 2007 with the goal of reducing GHG emissions by 60% of 2000 levels by 2050. The Chief Minister's message said "while it may be tempting to put the excuse of short-term financial costs above the benefit of long-term abatement, if nothing is done the eventual outcome will be unaffordable in environmental, economic and social terms". Over the subsequent 12 years, that ambition (nominally at least) progressively increased. Evoenergy, and the gas industry in general, has had fair warning of the need to phase out gas and plenty of time to 'carefully consider' a strategy to do so.

Evoenergy is conducting public consultation about its GN21 draft plan until 2nd April 2020 then submitting the plan to the Australian Energy Regulator in June. The AER will invite stakeholder submissions in July–August before making its decision in November. This provides a narrow window of opportunity for the ACT Government to implement decisive policy instruments to curtail the gas network and compel Evoenergy to revise its strategy before it is locked in for the following five years.

The ACT Government has a strong basis for rapid phase-out of gas

As noted in sections 2.4 and 2.5 of DV373, there are multiple ACT Government strategic documents, including the Climate Change Strategy, the Planning Strategy and the Sustainable Energy Policy, that provide a framework and justification for ambitious, proactive action to eliminate GHG-emitting fuels from Canberra’s infrastructure, buildings and services. Additionally, the *Territory-owned corporations ACT 1990*, applicable to Icon Water (50% owned by the ACT Government) and its subsidiary Evoenergy (50% owned by Icon Water), directs Territory-owned corporations to comply with ACT Government policy and contains the guiding principle that “ecologically sustainable development is of equal importance with financial sustainability”.

Particularly in the wake of the extreme bushfire and storm events of the summer of 2019–20, there is widespread public support for and understanding of the need to urgently phase out polluting energy sources, including by regulatory instruments. The Conservation Council conducted a community petition over the summer, gathering the signatures of almost four hundred Canberrans calling on the Government to stop rolling out new gas (Appendix A to this submission).

The ACT Climate Change Strategy suggests that “unlike electricity, emission reductions in [the transport and gas] sectors are less influenced by Government and will require active participation of the whole community”. The Conservation Council contends that consumer action is insufficient to drive down emissions from the gas network when Evoenergy’s GN21 draft plan indicates new customers will be connected to the gas network as part of their “market expansion”. To address this, ACT Government policy and programs must clearly guide both corporate action and community transition.

There is precedent for prohibiting new gas

The City of Berkeley, California, recently passed Ordinance No. 7,672–N.S. “prohibiting natural gas infrastructure in new buildings”, effective January 2020 and citing climate change as the substantive justification. 50 other cities and counties across California are considering policies to support all-electric new construction.

Beyond Zero Emissions’ [Zero Carbon Australia Buildings Plan](#) demonstrates that eliminating gas from buildings could be achieved within a decade. The Conservation Council advocates this ambition of rapid transition.

Gas extraction causes increasingly unacceptable environmental damage

Easy-to-access, ‘conventional’ fossil gas deposits have been exhausted. The industry continues to spend billions of dollars developing ‘unconventional’ technologies, such as hydraulic fracturing, to find, access and exploit ever-more marginal deposits, with ever-decreasing energy return on investment. For example, gas production in Bass Strait is declining, with questions about supply beyond winter 2025. In addition to GHG emissions, on

land, extracting these deposits fragments fragile native habitat, disrupts subterranean aquifers essential to farming and wildlife, and damages Aboriginal cultural sites. In oceans, deep-sea drilling rigs damage the sea floor and poison the water and marine life. Carbon capture and geosequestration (injection underground) techniques used to 'decarbonise' fossil fuels have potentially similar impacts and lack of long-term research.

The Australian and global publics are increasingly opposed to the unnecessary risks posed by gas industry activities, and are withdrawing their social licence. The insurance and finance industries are similarly becoming more risk-averse about funding fossil fuel projects.

Substitutes to sustain the gas network cannot perpetuate emissions

Hydrogen

The gas industry is beginning to promote introducing hydrogen into existing gas networks (for instance, in [South Australia](#) and Evoenergy's GN21) to reduce GHG emissions from the network, promoting this as a 'clean' solution.

To be a 'clean' or 'green' fuel, hydrogen must be made by using renewable (ie solar, wind or hydro) electricity to split water. In addition, using electricity to generate hydrogen by splitting water is not an efficient use of energy compared with directly powering electric appliances such as heat pumps. For example, valuable renewable electricity can be used to power an energy-efficient heat pump to produce about five times as much heat as generating hydrogen from electrolysis and then burning that hydrogen in a furnace for space heating. .

However, hydrogen can be produced by a variety of means and most is produced by steam reformation of methane (either fossil or bio) that is heated to high temperatures using fossil fuel. This process emits carbon dioxide.. The differing technical requirements of the smaller hydrogen molecule compared with the standard methane mix mean that hydrogen could only contribute 2–20% of the gas mix in our pipes before the network would require significant revision and householders would be required to incur private costs to change their appliances to be hydrogen compatible ([NREL 2013](#)). The gas network would also continue to contribute significant ongoing GHG emissions as compared to using electricity generated with renewable technologies, and negatively impact on our capacity to meet emission reduction targets. The impacts of water consumption must also be considered.

The Conservation Council acknowledges that in the future there may be value in using 'green' hydrogen as a fuel source for transport or industry, or storage for renewable electricity. However, given we already have 100% renewable electricity, and energy-efficient and effective electric technologies to heat our homes and water, and cook our food with, it is currently unnecessary to utilise gas. The future promise of hydrogen should not be used as a reason to delay definitive action now to reduce GHG emissions using existing technologies, or as a justification for maintaining gas networks, particularly as its viability is not yet proven.

Biogas

The gas industry is also investigating 'renewable' biogas or biomethane, either recovered from landfill or anaerobic digestion of organic feedstock material (eg forest timber, food waste, agricultural waste, sewage, other putrescible waste or purpose-grown crops), to supplement or replace fossil gas in existing networks. However, biogas is mostly methane, that is, exactly the same molecule or chemical substance as fossil-derived 'natural' gas, so while it is technologically more feasible than hydrogen to substitute into existing gas networks, it is in itself a potent greenhouse gas, and when burnt, releases carbon dioxide into the atmosphere.

While the gas industry describes biogas as ‘carbon-neutral’, this claim depends heavily on the specific processes, feedstocks and end use. At a time when we should be planting more trees and other plants to draw down carbon from the atmosphere, a push toward biogas could place pressure on green infrastructure and divert organic waste streams away from other uses. Demand for waste and organic material to convert to biogas energy could compete with agricultural land or encourage deforestation or weaken recycling programs and local composting. Also, like hydrogen, biogas will be less efficient and economical than modern electric appliances such as heat pumps.

Recovering methane from landfill or sewage treatment plants and utilising this for producing electricity is preferable to releasing that methane into the atmosphere. However, making use of excess methane from landfill is very different to investing in a ‘feed-the-beast’ system to produce biogas for the gas network. When biogas is distributed through a network of pipes and combusted in thousands of individual household appliances (water heaters, space heaters, cooktops and ovens), the carbon dioxide produced is released to the atmosphere. In addition, the production and distribution processes are susceptible to unintentional fugitive emissions. The gas industry estimates fugitive emissions to be around 2% of production, but recent research suggests this is a gross underestimate ([EDF Methane Research Series](#)). Both methane and carbon dioxide are potent greenhouse gases and it would be near impossible to eliminate all fugitive emissions.

The Conservation Council advocates that Government and the community should focus on reducing the creation of waste in the first instance and recycling of as many materials as possible, not encouraging the use of green “waste” for residential energy.

Recent research has found that the vast majority of atmospheric methane originated from modern human use, not from natural Earth processes as previously thought ([National Geographic 2020](#)). This means that we have the power to significantly reduce atmospheric methane concentrations simply by cutting our use of methane. While biogas might be preferable to fossil gas, the most effective way to decarbonise gas consumption is to stop extracting, making and using it.

The Conservation Council therefore contends that the ACT should not sustain the gas network with the aim of supplementing fossil gas with hydrogen or biogas at some point in the future. Ultimately, using gas contributes to climate change and other environmental impacts, and imposes unnecessary health and financial costs on households. The ACT already has a viable, zero-emissions electricity network so the Government’s priority should be to rapidly transition from gas to all-electric suburbs.

The future is electric

The fossil fuel industry has for decades touted gas as a ‘transition fuel’, justifying it as being cleaner than coal-fired electricity. But, the ACT’s electricity network is now powered by 100% renewable electricity, that is, Canberra residents already have access to a clean, reliable and affordable energy supply. Therefore, the fastest and most economically efficient means of reducing GHG emissions from buildings in the ACT is to switch residential space-heating, cooking and water-heating appliances to electricity.

With the cost of renewable electricity continuing to decrease while the cost of gas increases, Canberra’s residents could potentially save significantly on their household energy bills by making the switch to all-electric houses now. ‘My Efficient Electric Home’ Facebook group has more than 12,000 members across Australia getting their homes off gas. Homes with solar photovoltaic panels can take advantage of their own electricity production to meet most of

their energy needs. Omitting gas pipework from new buildings delivers the triple benefit of avoided emissions, avoided construction costs and avoided consumer consumption costs. Modern electric appliances, such as heat pumps and induction cooktops, have additional advantages over gas appliances including higher energy efficiency (switching winter heating demand from gas to electricity would not require 1-for-1 energy as Evoenergy imply).

There are health, safety and cost-saving co-benefits of removing gas from homes. When gas is used in homes, it may release pollutants detrimental to human health, such as carbon monoxide and nitrogen oxides. Low-income families with poorly maintained appliances and inadequately ventilated rooms are at greatest risk of respiratory and other health conditions. Accumulated gas can be explosive, and open flames also pose a safety hazard. And, given that all Canberra households already connected to the electricity network for lighting and power could use electricity also for heating, hot water and cooking, families with gas connections are paying unnecessarily for a second source of energy.

Gas is no longer needed as a transition fuel. Rather than continue to sink capital expenditure into what will very soon be a stranded asset, Icon Water, Evoenergy and ACTEWAGL would do better to minimise investment in the gas network, noting that additional investment might be required into the electricity network to meet the rapidly evolving demands of an all-electric future, regardless of phasing out gas. Prohibiting all new gas would provide the Territory-owned corporations with the clear imperative to develop and implement such a strategy.

The Conservation Council recommends that the ACT Government expand energy-efficiency programs, public education, and support for low-income, vulnerable and public housing households, and rental tenants and landlords to switch from gas to electric appliances. In collaboration with the ACT Council of Social Services and Better Renting, the Government should prioritise these households so that those who have least capacity to adapt are not the last households connected to the obsolete gas network and bearing disproportionate network costs. For instance, ACTEWAGL's '[Staying connected](#)' program that provides support to prevent customers experiencing hardship disconnecting from the gas network should be redesigned to help them disconnect from the gas network, delivering substantial ongoing cost savings (see also [ACTCOSS energy hardship factsheet](#)). Incentivising solar PV and batteries could further relieve cost-of-energy pressures and demand on the electricity network. Residents in multi-dwelling units may also require Government assistance to transition due to the complexity of retrofitting apartment buildings.

Community and industry need a detailed timeline

Section 2.6 of DV373 describes the Interim Effect of the draft variation: “the Territory, the Executive, a Minister or a territory authority must not, during the defined period, do or approve the doing of anything that would be inconsistent with the Territory Plan if it were varied in accordance with the draft variation.”

The Conservation Council recommends that the Government immediately notify the proponents of all current and proposed development applications of the immediate applicability of removal of the mandatory requirement for gas connection to blocks in new suburbs.

Simultaneously, the Government should immediately rewrite DV373 to prohibit new connections to the gas network, taking advantage of the opportunity to influence Evoenergy's GN21 plan before it is submitted to the Australian Energy Regulator in June this year.

Beyond this, Canberra businesses, residents, developers, and gas appliance and service businesses need a definitive but adaptable timetable for the retirement of the gas network to enable them to plan their own transition and investment. The Conservation Council recommends the Government urgently set a target of zero emissions from the gas network by 2030, then plan the transition of the gas network's 150,000+ customers to all-electric buildings. A suggested tactic is to target older suburbs early as aging infrastructure and appliances may need replacing. Proven alternatives for households are already available.

Transition is economically, technologically and politically feasible and relatively straightforward. Eliminating the 21% of emissions due to the gas network (as of 2020) would contribute significantly to achieving the ACT's legislated interim target of 65–75% emissions reduction by 2030 and buy some time to tackle emissions reductions in the more challenging transport, construction and waste sectors. This would also be consistent with the IPCC's recommendation for rapid decarbonisation, and provide the ACT economy with the certainty now to make investment decisions that avoid locking in emissions-intensive technologies.

Appendix A: Conservation Council Community Petition: No new gas

The Conservation Council conducted a community petition over the summer of 2019–20, collecting 391 signatures on paper and through our website database (attached). The text of the petition follows.

Gas is a dirty polluting fossil fuel. To reach our emissions targets, and build a safe climate, the ACT needs to get off gas. With the ACT running on 100% renewable electricity, running clean energy houses is easier than ever. A national leader, the ACT has committed to zero net emissions by 2045, and our Climate Change Strategy commits **to getting off gas by 2045.**

BUT, Evoenergy is continuing to roll out the gas network to new suburbs, and expand their customer base over the next 5 years. The ACT Government has made no moves to stop the gas network expansion, despite this being the cheapest and easiest way to reduce emissions over the next 5 years.

I call on the ACT Government to:

1. Immediately remove the existing mandate for gas infrastructure in new developments in the ACT.
2. Stop the roll out of new gas networks in all new suburbs.
3. Stop all newly constructed residences from joining the gas network.