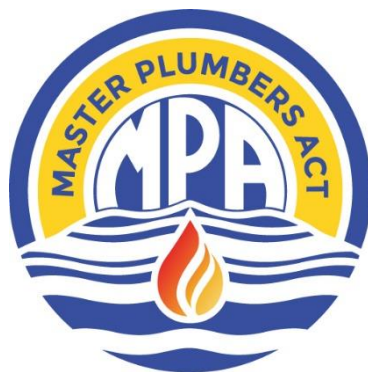


Master Plumbers ACT

Submission

to the

Inquiry into Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022 (Transition to 100% Electrification)



Master Plumbers Association ACT (MPA) was established in 1976 and is the region's peak organisation for the plumbing industry, aimed at supporting a strong and professional industry, a satisfied community, and a flourishing environment. We do this through our support of training excellence, industry leadership, an emphasis on environmental protection and sustainability, protection of public health and safety, and upholding highest ethical standards.

MPA's work importantly brings all groups together to underpin best outcomes for the ACT community & ACT Government through our collaborative endeavours.

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1. Introduction and Recommendations

Master Plumbers Association ACT is the peak membership association for the plumbing sector, with a vision of a thriving & professional industry, a satisfied community, and a flourishing environment.

MPA members include experts across the breadth of the industry including policy makers, contracting businesses from those with 200+ employees to sole operators, training organisations, apprentices across the breadth of the 6 years of study to become fully licensed, product suppliers and allied organisations. The purpose of MPA is to support our members in their efforts to uphold highest possible ethical and professional standards through knowledge sharing, professional development, networking and advocacy.

Our objectives include the promotion of a professional and ethical plumbing industry as a critical objective across government, business and the community; the promotion and advocacy of policies and practices that support public health and safety and environmental protection; the improvement of relative plumbing sector outcomes for vulnerable demographics and groups within the community; leadership and promotion of a collaborative environment encompassing all those with responsibility for and working in the plumbing industry; and support and advocacy for highest standards of training and continuing professional development across the industry.

MPA welcomes the invitation from the Chair of the ACT Standing Committee on Environment, Climate Change and Biodiversity to present a Submission to the Inquiry into Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022 - (Transition to 100% Electrification).

Recommendations

A. Recommendation 1: ACT Government implement a comprehensive funding package to enable MPA to support government, industry, and consumers through the transition to Zero Emissions

Our committed support to the transition to zero emissions is detailed in our Budget Submission, and reiterated in this Inquiry submission, where MPA is proposing to work with the ACT Government on a number of programs that are detailed below.

B. Recommendation 2: Undertake rigorous further consultation on the pathway forward for transitioning ACT's energy networks to zero emissions

MPA strongly recommends that before committing to the transition, considerable consultation is taken with the comprehensive suite of renewable gas experts across Australia and internationally.

C. Recommendation 3: Release detailed modelling for the transition to 100% electrification across all disadvantaged groups, including existing and future apartment owners and residents

MPA notes the lack of comprehensive modelling and strategic planning, in the ACT Government's push towards 100% electrification, to address transition challenges across all disadvantaged groups, including existing and future apartment owners and residents. Apartment dwellers are the fastest growing residential cohort across the ACT, and MPA calls on the ACT government to release detailed modelling and comprehensive planning documentation to support a fair and just transition for all disadvantaged groups, for the next 5, 10, 15 and 20 years to 2045.



D. Recommendation 4: Rescind the Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022

MPA raises significant concerns about the lack of attention to renewable gas advancements, the risks of shifting electrification network costs and ownership from government to individuals, and the environmental costs of 100% electrification: Problem-shifting. MPA therefore recommends that the Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022 is not passed through the ACT Legislative Assembly.

Our Submission draws attention to MPA's recent Media Release strongly cautioning the ACT Government against any premature decision to permanently shut down the ACT's extensive gas network, which would remove any chance of a potentially more cost-effective and environmentally-friendly green gas future.

2. Support for Zero Emissions transition

Our comprehensive 2022-23 Budget Submission (MPA ACT, 2022) clearly outlines our industry's support for a smooth transition to Zero Emissions by 2045. However, we strongly urge the government to refrain from making any decision that could permanently derail a future of green gas.

The industry considers the transition of the ACT's natural gas network to zero emissions to be potentially one of the most significant decision points in the long and proud history of the gasfitting industry in the ACT. It is an industry which has provided reliable, safe and low-cost energy for generations of Canberran families, employed many thousands of workers, and fuelled manufacturing and industry. Due to our industry's vital role, we continue to seek to work with the ACT Government to ensure a carefully balanced transition keeps the health of our economy front of mind, together with the health of our community and environment.

The size of the ACT plumbing industry, including gasfitting, is significant. Our industry injects around \$700m to the economy, and encompasses great diversity - from large companies with 200+ employees turning over up to \$50m each, through to sole operators ([Ibisworld Stats, 2022](#)). There are over 3,600 plumbing licenses in operation in the ACT, as well as many thousands of administrative staff and allied organisations and workers supporting the industry ([Joboutlook, 2022](#)).

ACT's gasfitting industry alone is comprised of 1,800 licenses across both liquid and vapour phases, and we are seeking to maintain a strong and viable industry, and to preserve our energy options by protecting the ACT's significant economic asset which is worth \$350m.

The plumbing industry is heavily reliant on a large fleet of light vehicles, excavators and heavy equipment, which spend 20-30% of time on ACT roads – every day. As Transport contributes more than 60% of the ACT's greenhouse gas emissions, we would like to work in partnership with the government to transition to zero emissions vehicles across the industry ([ACT Government, 2022](#)).

We urge the ACT Government to avoid the potentially costly impacts of removing renewable gas as an option to replace fossil gas. This would ensure we can: maintain electricity reliability while new demands emerge; transition to more sustainable gaseous fuels with minimal disruption to



end-users; maintain the reliability, affordability, and safety of gas supply whilst managing uncertainty during the transition; and transition the ACT economy efficiently and equitably.

Our committed support to the transition to zero emissions is detailed in our Budget Submission, where MPA has proposed to work with the ACT Government on a number of programs, including:

- Programs to enable the plumbing industry to provide the community with information and support to streamline the transition to zero emissions. The plumbing industry is uniquely placed to actively lead this knowledge sharing through our direct contact with the ACT's 430,000+ residents.
- Programs to help transition the sector successfully to lower or zero emissions vehicles;
- Programs to successfully transition resource usage away from fossil gas;
- Programs to upskill the gasfitting industry through the evolving transition
- Research economic and environmental challenges from a proposed 100% reliance on electricity, including the environmental impact of heavy metal extraction for batteries, plus battery de/re-commissioning;
- Provide updates to government on the advances made towards hydrogen and biomethane transition as technology and pricing becomes more favourable;

Proposal

Support government/industry/consumers through the transition to Zero Emissions

Financial commitment required: \$150,000 i.e. \$50,000 per annum for three years

Estimated ACT Government/community cost-saving: A more economically-viable, supported and streamlined transition to Zero Emissions by 2045

We reiterate our call for support to this Inquiry, and would appreciate strong consideration of our proposal by the whole of government in order to support our collective transition to zero emissions.

3. Renewable Gas advancements + Issues with removing ability to retrofit

MPA has previously made strong recommendations on the path forward regarding renewable energy innovation ([MPA ACT, 2021](#)). MPA also draws the ACT Government's attention to the relevant Plumbing Industry Climate Action Centre submission to the Victorian Government's Gas Substitution Roadmap' ([Engage Victoria | Victorian Government, 2022](#)).

There are important advancements being made in terms of increased availability and reduced costs of Biomethane and green Hydrogen. These innovations over the next decade could enable us to flick on a relatively simple switch to transition the fossil fuel gas in our existing infrastructure to environmentally friendly green gas.



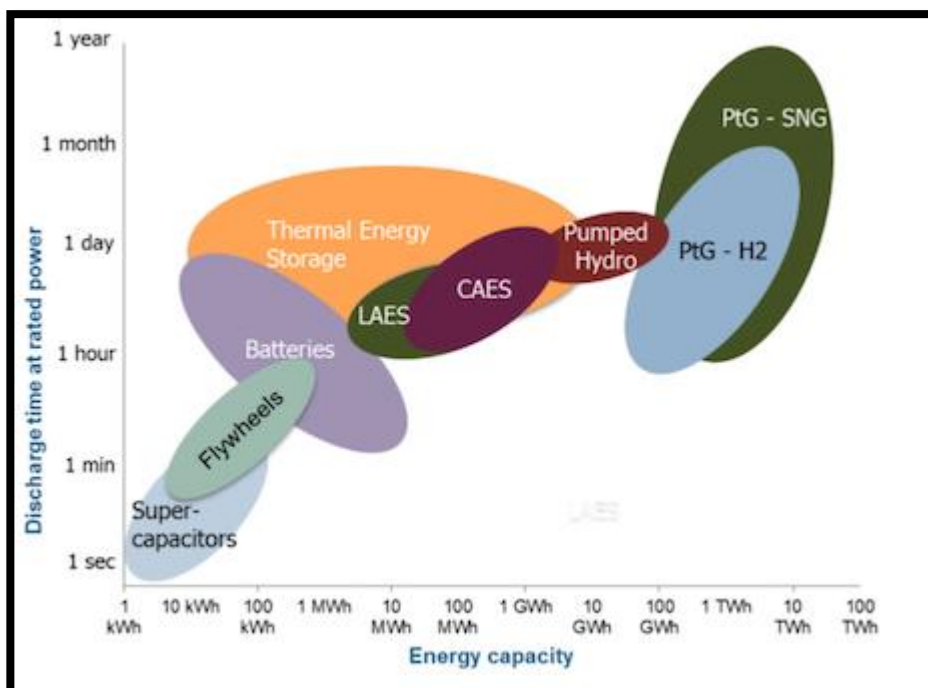
We're seeing jurisdictions around Australia and globally who are forging ahead with green gas projects and funding, and we don't want the ACT community to bear the expensive brunt of mistakes our government may make at this early stage (MPA ACT, 2022).

MPA understands that the ACT has seen consistent use of natural gas of around 8,000 Terajoules per year, with the number of gas connections increasing from 110,000 to 140,000 across the Territory. More than 2,000 of these came online just over the last year. If consumers continue to seek and rely on the gas network, MPA strongly believes the hydrogen future option is worth looking at.

The natural gas energy sector in the ACT is supported by \$380m worth of infrastructure, which is 100% Biomethane and 95% Hydrogen ready. This currently provides storage to meet morning and evening peak heating demand. Our collective of experts strongly urges the ACT government to avoid writing off this option moving forward. Hydrogen may well play a critical role, for example, in allowing us to usefully store excess renewable generation. The figure below represents the storage capacity and discharge times of a variety of storage technologies. It is evident from this figure that Hydrogen and Biomethane exhibit the greatest advantages across storage capacity and discharge times.

Storage Capacity and Discharge times of different storage technologies

From: (Electrification Strategy EU, 2022)



There's a great deal of work underway across Australia and around the globe to modify existing appliances and tweak infrastructure, at low cost, to support the introduction of cheaper green Hydrogen coming down the line. And the momentum is increasing. A few examples of relevant publications are as follows:

- [CSIRO Hydrogen Map: current Hydrogen projects Australia-wide](#) (CSIRO, 2022)



- [Australian Government Website: "Growing Australia's Hydrogen Industry"](#) (Federal Department of Climate Change, Energy, the Environment and Water, 2022)
- [Australia's National Hydrogen Strategy](#) (Federal Department of Industry, Science and Resources, 2022)
- [Malabar Biomethane Project](#) (Jemena, 2022)
- [Hydrogen Park South Australia](#) (Government of South Australia, 2022)
- [The ACT will be gas-free in 2045: Your 'burning' questions & concerns so far](#) (RiotACT, 2022)
- [ACT missing out on renewable gas](#) (Australian Pipeliner, 2022)
- [Cost of switching from gas to electric appliances in the home](#) (Frontier Economics, 2022)
- [No new gas connections for Canberra homes and businesses from next year](#) (MPA ACT, 2022)
- [MPA says future uncertain for 1,800 gasfitters in the ACT](#) (ABC News, 2022)
- [No new gas connections for ACT homes and businesses from 2023 under plan to phase out fossil fuels](#) (ABC News, 2022)
- [Gas or electric cooking - Where do you stand?](#) (ABC News, 2022)
- [Global infrastructure solutions leader joins leading Australian industry as country advances \\$1.4 billion plan to build a hydrogen industry](#) (Black & Veatch, 2022)

The Australian government has seen the massive potential for green Hydrogen, evidenced by an investment of \$1.4 billion to build an Australian Hydrogen industry, and the Australian National Hydrogen Strategy is our comprehensive plan to grow this industry and position Australia as a major player by 2030.



<https://www.industry.gov.au/policies-and-initiatives/growing-australias-hydrogen-industry>

Growing Australia's hydrogen industry | Department of Industry, Scien...

Our vision is to **build** a clean, innovative, safe and competitive **hydrogen industry** that benefits all Australians. Prioritising **hydrogen**. The Australian Government is investing **\$1.4 billion** in building a **hydrogen industry**. Australia's National **Hydrogen** Strategy is a plan to grow this **industry** and position Australia as a major player by 2030.

In the ACT we're seeing an unfortunate push to take infrastructure options off the table that are needed in a planned transition to fully renewable fuels. It would be foolish to put all our eggs in one basket when energy technology and delivery costs are changing so rapidly.

The ACT needs to utilise the next decade as a vital buffer to make an informed decision, providing space for the rapidly evolving technologies across all energy sources to be fully considered. It's also difficult to understand why the ACT Government isn't using the carbon trading scheme to support the transition to green gas, in the same way the electricity sector is being supported.

Gas network operators around the country are investing in green gas projects with this is mind. There are a lot of exciting, world leading green gas projects taking place around Australia,



including Malabar's Biomethane Project and Hydrogen Park South Australia, and in Canberra we have the Hydrogen test Facility at CIT and the Hydrogen Refuelling Station at Fyshwick.

The ACT Government's announced decision to ban future gas infrastructure installation, via the introduction of the Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022, is a decision which will have potentially devastating and irreversible impacts on these ACT residents when renewable gas becomes the energy source of least cost and least environmental impact. For example, new subdivisions which will not have in-built gas infrastructure will not have the ability to retrofit for the best choice energy source of renewable gas due to verges being too narrow to accommodate supply pipelines.

4. The risks of shifting electrification network costs and ownership from government to individuals, and the resultant massive shockwave driving societal inequality

MPA is concerned at the increasingly apparent trajectory of the ACT government's plan to transfer significant costs of the energy network/storage ownership via batteries to individuals, rather than being the collective responsibility of the Australian community via State and Federal Governments.

The ACT government appears to be making a strong push for financially-capable house-owners to install individual-owned and community-owned batteries, which come at high environmental cost to mine the necessary metals and minerals, have significant issues with recycling at end-of-life, and have a relatively limited-lifespan.

This trajectory significantly disadvantages those who have the least ability to fund 'private electrification', and there is currently no planned support to ensure a fair and just transition for the less financially advantaged members of the community, for example those living in apartments.

The number of people anticipated to live in apartments across the ACT is projected to increase rapidly over the next decade, yet the government has not provided any detail on how this rapidly growing cohort of apartment owners and residents is supported to transition. This includes, as one example, detailed planning to support apartment owners to take advantage of electric vehicles. Retrofitting for electric vehicles incurs significantly higher costs to accommodate power upgrades, and doesn't allow for privately-owned renewable energy feed-ins. This is simply the result of apartment residents not having the ability to install individual solar panels or batteries, nor the option of retrofitting vehicle charging to individual apartments without incurring exorbitantly higher costs than their ACT house-owner counterparts.

It is a glaring oversight that this specific transition has not been comprehensively incorporated into the government's modelling, nor has there been detail provided on the impact this will have on full electrification costs or network capacity.



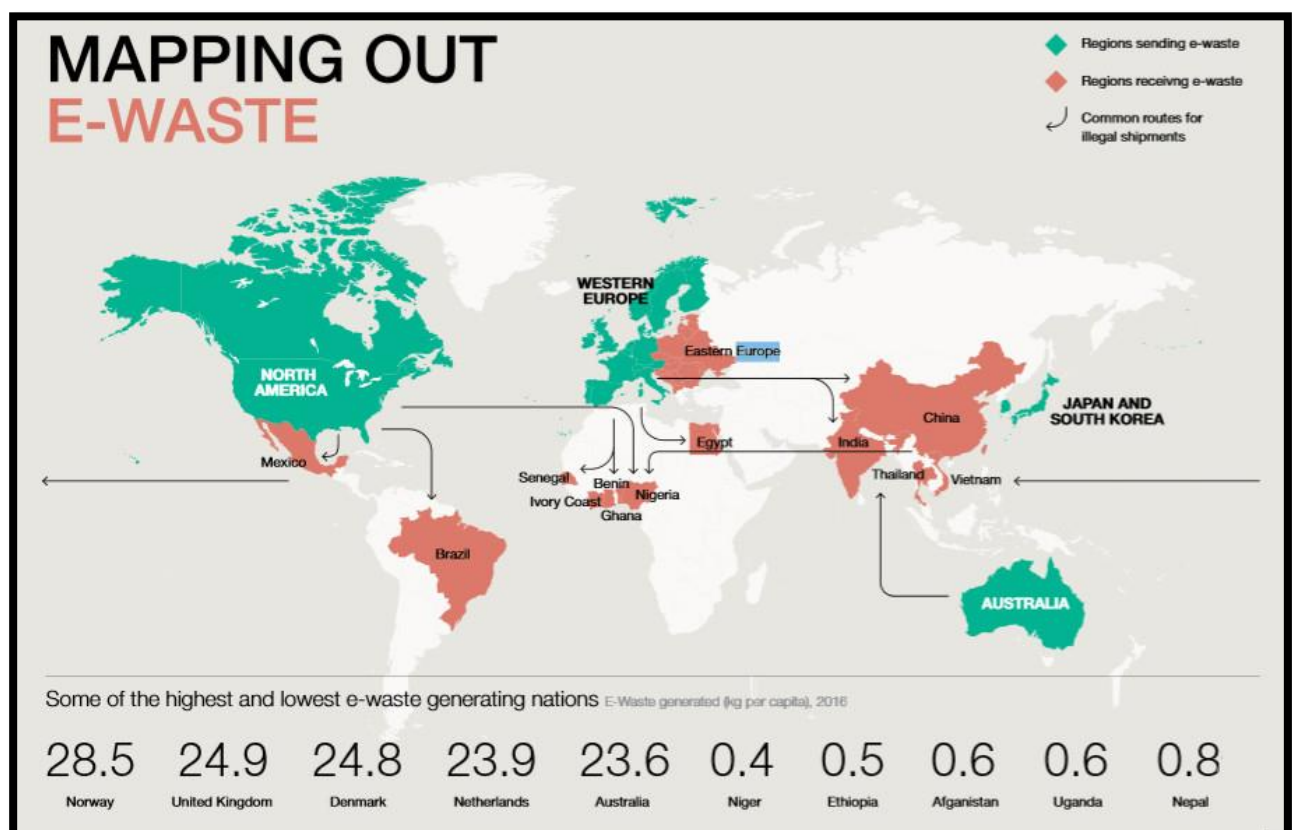
5. The environmental costs of 100% electrification: Problem-shifting

MPA remains highly critical of the push for electrification to be seen as ‘clean and green’, rather than acknowledging the immense 2-fold environmental impact of lithium-ion battery production, and end-stage disposal. This is in addition to the enormous environmental impacts from the production and end-of-life disposal of solar panels and wind turbines.

There is a plethora of information detailing the massive Carbon footprint that is left from producing lithium-ion batteries. Where lithium, cobalt and other critical metals are needed to produce these technologies, mining, processing, and disposing of these metals can seriously contaminate drinking water, land and environment (Institute for Energy Research, 2020).

E-waste, electronic waste, e-scrap and end-of-life electronics (as shown in the mapping Figure below) are terms often used to describe used electronics that are nearing the end of their useful life, and are discarded, donated or given to a recycler. The UN defines e-waste as any discarded products with a battery or plug, and features toxic and hazardous substances such as mercury, that can pose severe risk to human and environmental health (Geneva Environment Network, 2022).

**Mapping out e-waste from the report
“A New Circular Vision for Electronics – Time for a Global Reboot”**



Source: (Geneva Environment Network, 2022)

It is important to note from the Figure above that Australia is already one of the highest e-waste generating nations, and we are ‘exporting’ this ‘problem’ to neighbouring LMIC regions. Is this shocking reality really the legacy we want to leave for future Australian generations?



6. Conclusion and Recommendations

The plumbing industry needs strong ACT Government support to navigate both the changing economic environment as well as the transition to Zero Emissions by 2045, with the ACT Government, our community, and our environment being direct beneficiaries of this support.

MPA makes this comprehensive submission to support best outcomes for all parties across the next several decades, and urges the government to acknowledge renewable gas advancements, the risks of shifting electrification network costs and ownership from government to individuals, and the environmental costs of 100% electrification (problem-shifting), as discussed in detail in our submission. We also urge the government to implement the 4 recommendations proposed by MPA as follows:

Recommendations

- A. **Recommendation 1: ACT Government implement a comprehensive funding package to enable MPA to support government, industry, and consumers through the transition to Zero Emissions**

Our committed support to the transition to zero emissions is detailed in our Budget Submission, and reiterated in this Inquiry submission, where MPA is proposing to work with the ACT Government on a number of programs that are detailed below.

- B. **Recommendation 2: Undertake rigorous further consultation on the pathway forward for transitioning ACT's energy networks to zero emissions**

MPA strongly recommends that before committing to the transition, considerable consultation is taken with the comprehensive suite of renewable gas experts across Australia and internationally.

- C. **Recommendation 3: Release detailed modelling for the transition to 100% electrification across all disadvantaged groups, including existing and future apartment owners and residents**

MPA notes the lack of comprehensive modelling and strategic planning, in the ACT Government's push towards 100% electrification, to address transition challenges across all disadvantaged groups, including existing and future apartment owners and residents. Apartment dwellers are the fastest growing residential cohort across the ACT, and MPA calls on the ACT government to release detailed modelling and comprehensive planning documentation to support a fair and just transition for all disadvantaged groups, for the next 5, 10, 15 and 20 years to 2045.

- D. **Recommendation 4: Rescind the Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022**

MPA raises significant concerns about the lack of attention to renewable gas advancements, the risks of shifting electrification network costs and ownership from government to individuals, and the environmental costs of 100% electrification: Problem-shifting. MPA therefore recommends that the Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022 is not be passed through the ACT legislative assembly.

Our Submission draws attention to MPA's recent Media Release, strongly cautioning the ACT Government against any premature decision to permanently shut down the ACT's extensive gas



network, which would remove any chance of a potentially more cost-effective and environmentally-friendly green gas future.

MPA appreciates the opportunity to make this submission and contribute to best possible public health and safety outcomes, and to ensure protection of our precious environment. Please do not hesitate to contact us should you require additional information or have any queries in relation to this submission.

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7. References

1. ABC News. (2022, August 2). *Gas or Electric Cooking - Where do you stand.*
Retrieved from <https://www.facebook.com/abccanberra/photos/a.81880677124/10160724986967125/>
2. ABC News. (2022, August 7). *Master Plumbers Association says 1,800 Canberrans are facing an uncertain future of gasfitting.*
Retrieved from <https://www.facebook.com/abccanberra/photos/a.81880677124/10160732676492125/>
3. ABC News. (2022, August 4). *No new gas connections for ACT homes and businesses from 2023 under plan to phase out fossil fuels.*
Retrieved from <https://www.abc.net.au/news/2022-08-04/act-no-new-gas-connections-from-2023-new-homes/101299552>
4. ACT Government. (2022, 05 04).
Retrieved from <https://www.environment.act.gov.au/cc/zero-emissions-vehicles>
5. Australian Pipeliner. (2022, August 28). *ACT missing out on renewable gas.*
Retrieved from <https://www.pipeliner.com.au/2022/08/09/act-missing-out-on-renewable-gas/>
6. Black & Veatch. (2022, July 31). *Global infrastructure solutions leader joins leading Australian industry as country advances \$1.4 billion plan to build a hydrogen industry.*
Retrieved from <https://idadesal.org/global-infrastructure-solutions-leader-joins-leading-australian-industry-as-country-advances-1-4-billion-plan-to-build-a-hydrogen-industry/>
7. CSIRO. (2022, August 8). *Australian Hydrogen Projects.*
Retrieved from <https://www.csiro.au/en/maps/Hydrogen-projects>
8. Electrification Strategy EU. (2022, August 28). *Hydrogen is the better technology for energy storage.*
Retrieved from <https://electrificationstrategy.eu/faq/costs-benefits-and-distributional-impacts/hydrogen-is-the-better-technology-for-energy-storage>
9. Engage Victoria | Victorian Government. (2022, May 11).
Retrieved from <https://engage.vic.gov.au/help-us-build-victorias-gas-substitution-roadmap>
10. Federal Department of Climate Change, Energy, the Environment and Water. (2022, August 28). *Growing Australia's Hydrogen Industry.*
Retrieved from <https://www.dcceew.gov.au/energy/hydrogen>
11. Federal Department of Industry, Science and Resources. (2022, August 28). *Australia's National Hydrogen Strategy.*
Retrieved from <https://www.industry.gov.au/data-and-publications/australias-national-hydrogen-strategy>
12. Frontier Economics. (2022, June 24). *Cost of switching from gas to electric appliances.*
Retrieved from <https://www.gasenergyaus.au/get/1945/frontier-economics-report-gamaa-july-2022.pdf>



13. Geneva Environment Network. (2022, August 28). *The Growing Environmental Risks of E-Waste*. Retrieved from <https://www.genevaenvironmentnetwork.org/resources/updates/the-growing-environmental-risks-of-e-waste/>
14. Government of South Australia. (2022, August 28). *Unpacked: Green hydrogen and how it can help power SA's clean energy future*. Retrieved from <https://www.environment.sa.gov.au/goodliving/posts/2022/06/green-hydrogen-south-australia>
15. Ibisworld Stats. (2022, April 29). Retrieved from <https://www.ibisworld.com/au/industry/plumbing-services/324/>
16. Institute for Energy Research. (2020, November 12). *The Environmental Impact of Lithium Batteries*. Retrieved from <https://www.instituteforenergyresearch.org/renewable/the-environmental-impact-of-lithium-batteries/>
17. Jemena. (2022, August 28). *Malabar Biomethane Project*. Retrieved from <https://jemena.com.au/about/innovation/malabar-biomethane-project>
18. Joboutlook. (2022, April 29). Retrieved from joboutlook.gov.au
19. MPA ACT. (2021, April). Retrieved from <https://masterplumbersact.asn.au/wp-content/uploads/2021/05/MPA-ACT-Submission-to-the-ACT-2021-Inquiry-into-Renewable-Energy-Innovation-FINAL.pdf>
20. MPA ACT. (2022, August 4). *Disappointing announcement considering Monday's Media Release*. Retrieved from <https://www.facebook.com/MasterPlumbersACT/posts/pfbid05GuHrs65HnzupjW5XQAV4WwHnCU36LiWXK2FKAJYnr5biYvAP4C6Bnbj8c6zjGvI>
21. MPA ACT. (2022, July). *Master Plumbers ACT Submission to the ACT 2022-23 Budget Consultation*. Retrieved from <https://masterplumbersact.asn.au/wp-content/uploads/2022/05/Submission-to-the-ACT-2022-23-ACT-Budget-Consultation.pdf>
22. MPA ACT. (2022, August 1). *MPA Media Release: Don't cost our community by switching off an ACT future of Green Gas*. Retrieved from <https://mailchi.mp/masterplumbersact/alert-no52-media-release-green-gas?e=3aa56d7e1a>
23. RiotACT. (2022, August 28). *The ACT will be (fossil) gas-free in 2045: your 'burning' questions, concerns so far*. Retrieved from <https://the-riotact.com/the-act-will-be-gas-free-in-2045-your-burning-questions-concerns-so-far/582605>