26 February 2021

Michael Masson
Chief Executive Officer
Infrastructure Victoria
Via: https://www.infrastructurevictoria.com.au/project/30-year-strategy/

Dear Michael,

Energy Networks Australia welcomes the development of an Infrastructure Strategy for Victoria

Energy Networks Australia welcomes the opportunity to provide input during the consultation period on Victoria's draft 30-year Infrastructure Strategy.

Energy Networks Australia is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

To date, the focus of decarbonisation has been on the electricity sector, but gas networks are on their own decarbonisation journey. Customer tell us that they are seeking a clean energy future and are engaged in achieving emission reductions from gas use. New renewable fuels, such as hydrogen and biomethane, have the potential to become mainstream and complementary energy solutions that will use existing energy infrastructure. Our gas networks businesses are leading the development of renewable gas projects and will shortly begin blending renewable hydrogen in the Adelaide and Sydney gas distribution networks.

Decarbonising gas is underway

Australia has committed to the Paris Agreement on climate change. This requires reaching maximum emissions as soon as possible combined with reaching net zero emissions in the second half of the century. Each State and Territory has further set targets of reaching net-zero emissions by 2050 or earlier. Industry has responded to this through Gas Vision 2050 (www.energynetworks.com.au/projects/gas-vision-2050).

Gas networks are already progressing the demonstration and blending of renewable gas in networks. Over 2 MW of electrolysers is operating or under construction in Australia to produce renewable hydrogen. Early in 2021, renewable hydrogen blending will commence in Adelaide and in by mid-year, blending will commence in the Sydney gas network. Further to this, a project is also under construction in Sydney to blend biomethane into the local gas network.

The next steps for networks are to expand renewable gas options and to become fully CO_2 free in the 2030's.

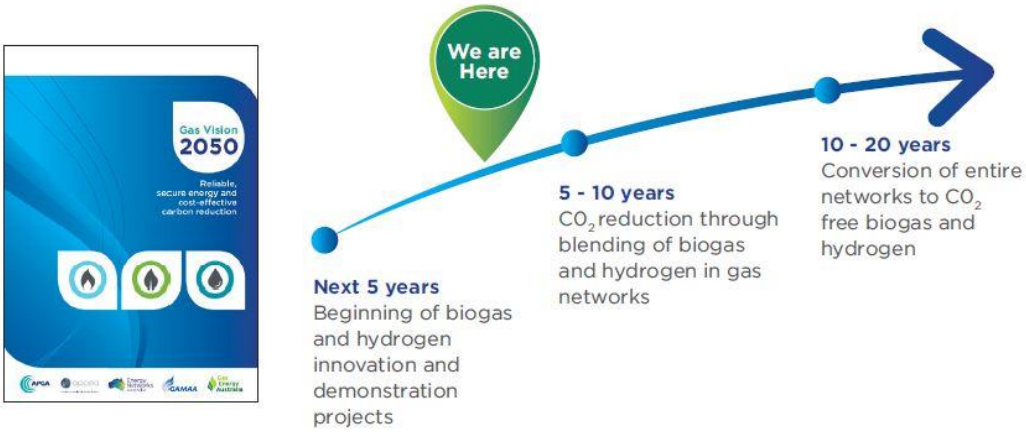


Figure 1: Renewable gas pathway (Source: Gas Vision 2050: Delivering a Clean Energy Future)

Decarbonising gas can be done at half the cost of electrification

Decarbonising gas networks will adopt a range of transformational technologies including hydrogen, biomethane and carbon capture and storage. All of these technologies will be complementary to the range of technologies to decarbonise the electricity sector.

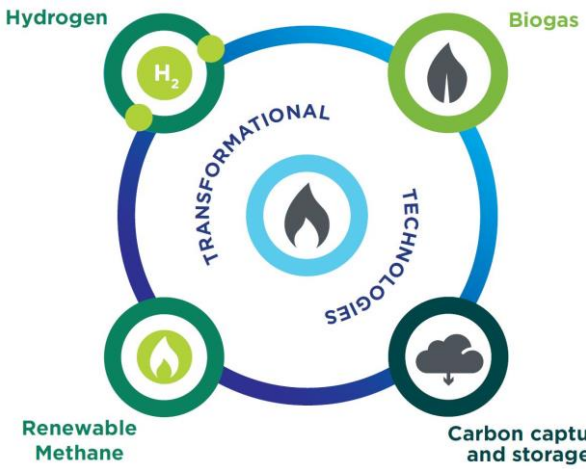


Figure 2: A range of options are available to decarbonise gas networks (Source: Gas Vision 2050)

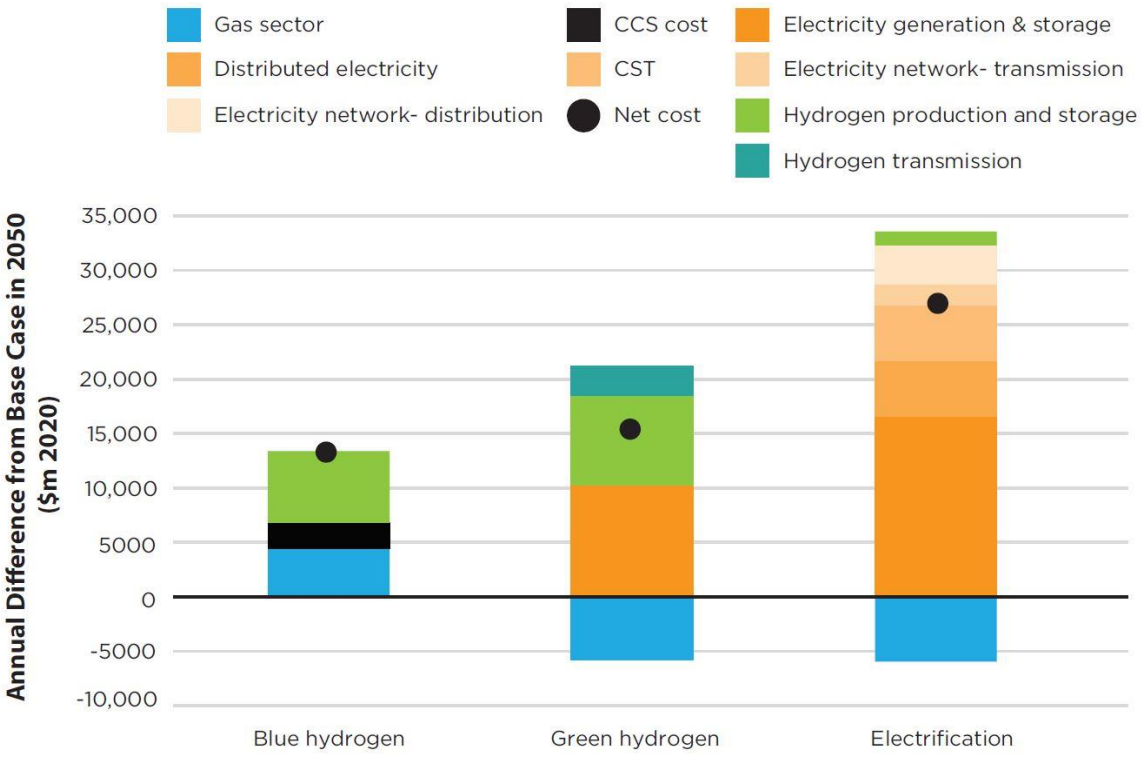
Maintaining both gas and electricity networks, that both deliver decarbonised energy, provides more options for customers and improves energy reliability and security while also providing customers with choice. Economic analysis completed as part of *Gas Vision 2050 – Delivering a Clean Energy Future* showed that decarbonising gas can be done at half the cost compared to electrification of the gas load. This reflects the opportunity to repurpose existing gas infrastructure because electrification may impose system-wide costs for grid reinforcement on customer bills.

The Role of Gas Infrastructure

ENA notes that a major focus of the draft Strategy is the energy transition. It is unfortunate that the draft Strategy appears to underplay the potential role of gas infrastructure in this energy transition.

We understand that Infrastructure Victoria is conducting further analysis into the role of gas infrastructure and has recommended a review of current gas policies. We recommend that the energy supply industry (covering electricity and gas and renewable gas supply, and electricity distribution, transmission, and gas distribution and transmission) is engaged in the ongoing development of the infrastructure plan to deliver clean energy to customers. A full systems approach is required so that all these sectors can play their role in achieving emission reduction target.

The analysis by Frontier economics showed that green hydrogen could be produced from renewable electricity in allocated renewable energy zones and that this hydrogen would then be shipped to demand centres using new dedicated hydrogen pipelines. There may be opportunities to repurpose existing pipelines – if they are no longer required to transport natural gas AND are located in the correct regions – which would further reduce the cost of delivering green hydrogen to customers. Future work for the Infrastructure Strategy could provide more detailed information on the role of energy infrastructure and the potential of repurposing existing pipelines. and ongoing use of the gas distribution network.



Source: Frontier Economics (2020)

Figure 3: Costs of decarbonisation scenarios (Source: Gas Vision 2050: Delivering a Clean Energy Future)

ENA is currently working with DNV GL to develop a high-level plan for the conversion of natural gas networks and pipelines to deliver renewable and decarbonised gases to customers. This plan is expected to be completed mid-year.

If you have any questions or would like a to discuss this further, please do not hesitate to contact our Head of Gas - Dr Van Puyvelde on (02) 6272 1548 or dvanpuyvelde@energynetworks.com.au.

Yours sincerely

Andrew Dillon
Chief Executive Officer