

2025 consultation

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NSW Net Zero Commission – Discussion Paper

Q19. What additional measures could accelerate electrification and increase energy efficiency of new and existing buildings?

Incentives to Support the Uptake of Low-GWP Heat Pumps

Heat pumps offer major energy efficiency benefits compared to traditional heating, cooling, chilled water and hot water systems. By transferring heat rather than generating it directly, heat pumps can deliver 3 to 5 times more heat energy than the electricity they consume. This translates to electricity savings of 30–75% for heating compared to conventional electric or gas systems.

Heat pumps, using a natural refrigerant with low global warming potential, are a scalable, climate-friendly solution well-suited for both new construction and existing building retrofits for domestic, commercial, industrial and government/public buildings.

There is clear and consistent evidence from both Australia and internationally that government incentives are a major driver of heat pump uptake rates.

- In New South Wales, the Clean Energy Regulator noted that a combination of the federal government's Small-scale Renewable Energy Scheme and state-based incentives contributed to a 12-fold increase in heat pump units installed in the third quarter of 2023, compared with the corresponding period a year earlier.
- Similar trends have been observed in Victoria due to the Solar Homes program and Victorian Energy Upgrades.
- In the United States, generous federal tax credits and rebates (up to \$8,000 for low- and middle-income households) have been cited as key drivers for projected large-scale heat pump adoption, aligning with national decarbonisation goals.

There is also clear evidence that policy uncertainty and a decline in government incentives have contributed significantly to the recent drop in European heat pump sales.

Heat pumps have played a crucial role in Europe's energy shift. According to the European Heat Pump Association (EHPA), in 2024 alone they helped avoid 24 billion cubic metres (bcm) of gas use. However, after a decade of continuous growth, fuelled by supportive Government policies, the European heat pump market saw a notable downturn in 2023 with sales falling by around 5% compared to the previous year. The decline accelerated in 2024, with sales dropping by 22–23% in key markets.

For example, in Germany and France, two of Europe's largest heat pump markets, sales fell sharply in 2024 (by 48% and 39% respectively), with analysts specifically citing regulatory uncertainty and delays or changes in subsidy programs as major factors behind the drop.

Recommendations

Stable, predictable, and sufficiently generous government incentives are crucial to sustaining and growing the heat pump market in NSW, especially when combined with consumer education and regulatory support.

Accordingly, consistent with our response to Q21, Next Cycle recommends:

a) Regulatory Phase-Out and Minimum GWP Standards

- Implement staged bans on new heat pump installations using refrigerants with GWP >10.

- Align refrigerant phase-out timelines with international trends (e.g. the EU F-gas regulations).

b) Incentivise Natural Refrigerants Through Rebates and Procurement

- Subsidise the upfront cost of low-GWP systems like R290 heat pumps for households, businesses, and industrial users.
- Include R290 systems in existing energy efficiency schemes (e.g. the NSW Energy Savings Scheme).
- Prioritise R290-based technologies in public sector procurement frameworks and retrofits.
- Provide a scaled approach to rebates and incentives, prioritising the most energy efficient and sustainable heat pump technology through the award of higher levels of financial incentive vs less environmentally effective heat pump technologies.

c) Support Education

- Educate end users; residential, commercial, and industrial on the climate benefits, safety, and performance of heat pumps that use natural refrigerants.
- Provide certifications or labels for “climate-safe buildings” to encourage consumer awareness.

d) Support Workforce Readiness

- The International Energy Agency (IEA) projects global employment in heat pump supply could nearly triple to over 1.3 million workers by 2030, with significant growth in installation, maintenance, and manufacturing roles. That could translate into thousands of new jobs annually in Australia. Relevant NSW government agencies will need to play a central role in the development of training and licensing programs for HVAC&R technicians that cover the installation and servicing of R290 systems.

Question 21: What approaches could NSW consider to eliminate refrigerants with a GWP >10 from buildings?

Embracing and Incentivising low-GWP Technology

To achieve its legislated emissions reduction targets, New South Wales (NSW) must take urgent action to eliminate Hydrofluorocarbons (HFCs), high Global Warming Potential (GWP) refrigerants from its building stock. HFCs are widely used in heating, ventilation, air conditioning, and refrigeration (HVAC&R) systems and can have GWPs exceeding 2,000, potent climate pollutants.

In recent years both the Australian and Victorian Governments have taken small but important steps towards phasing out the importation and installation of air conditioning systems and heat pumps that use refrigerants with a high Global Warming Potential (GWP).

- From 1 July 2024, the Australian Government prohibited the import and manufacture of small air conditioning equipment, including reverse cycle air conditioners, that use refrigerants with a GWP over 750. The restrictions were extended to larger, multi-head systems in July 2025.
- The Victorian Energy Upgrade program capped the GWP for hot water heat pumps at 700 from 1 July 2024, encouraging the adoption of low-GWP refrigerants in heat pump products.

The Way Forward

NSW has an opportunity to build on these regulatory initiatives by providing strong incentives to promote the uptake of natural refrigerant products with a GWP of less than 10. With the growing availability of quality R290 products (GWP=3) in our market, progressive policy settings could see NSW lead the nation in the uptake low-GWP refrigerants across our built environment.

Next Cycle Pty Ltd, the exclusive distributor of Maxa Heat Pump technology (NSW, QLD, VIC, ACT, TAS), strongly recommends measures to stimulate the widespread adoption of R290 refrigerant heat pumps. R290 refrigerant is an ultra-low GWP solution (GWP = 3) with a zero Ozone Depletion Potential (ODP=0) and European-made, R290 Heat Pump technology, backed by government rebates and education programs, has proven to deliver market-leading performance levels, energy-efficiency, and low environmental impact in Europe. They are a ready-made environmental and cost of living solution for the residential, commercial, industrial and public built environments in NSW and Australia.

An overview of the environmental benefits and industry-leading performance delivered by the Maxa i-290 inverter monoblock heat pump for domestic and commercial application is below:
R290 Refrigerant (GWP=3)

- Industry leading heating with COP 4.94 (for 16kW model)
- Industry leading cooling with EER 3.35 (for 12kW model)
- Up to 75°C/78°C** hot water production. Highly efficient for domestic hot water. (**21.0kW models and above)
- Down to 5°C chilled water production. Ideal for Hospitals, Hotels and Universities
- Italian made

- 7-Year Warranty and Care Program for domestic application and 5-Year Warranty & Care Program for commercial application
- Tested and certified for all Australian conditions by VIPAC Engineers & Scientists
- Queensland Gas Device Type B approved
- Eurovent Certified: (W35°C/W65°C): A+++/A++
- Installation and Safety is supported by the Maxa Green Training program

R290 heat pump technology is aligned with Australia's shift away from fossil fuel-based systems, such as gas boilers and split refrigerant systems using HFCs. The i-290 heat pump design also eliminates the need for indoor refrigerant piping, reducing installation complexity and leakage risk.

While high quality R290 Heat Pump systems such as Maxa's is available in NSW, there are a number of factors that are currently a barrier to the state benefitting from the widespread adoption of the technology.

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- Provide certifications or labels for "climate-safe buildings" to encourage consumer awareness.

d) Support Workforce Readiness

- Develop training and licensing programs for HVAC&R technicians that cover the installation and servicing of R290 systems.