

Harmonisation Land Use Planning Team
City of Parramatta Council
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Re: Draft City of Parramatta Harmonisation Development Control Plan

The Energy Efficiency Council (EEC) welcomes the opportunity to comment on the City of Parramatta's proposed Harmonisation Development Control Plan. The EEC is Australia's peak body for energy efficiency and management, with a membership of businesses, universities and governments working to guide Australia on the path to an efficient, prosperous net zero economy.

The EEC would like to express its strong support for the objectives of the proposed Environmental Performance section of the Harmonisation Development Control Plan ('the DCP'). The EEC commends the City of Parramatta's intention to encourage healthy, comfortable buildings which are zero emissions-ready.

In particular, the EEC strongly supports the position that new buildings should be all-electric for general building services. Efficient electrification uses technologies that are readily commercially available to ensure that new buildings are ready to take advantage of renewable energy generation, and can operate without emissions once the electricity grid decarbonises.

However, the EEC would like to raise two concerns relating to section 5.4 of the plan.

All-electric buildings should include residential developments

Firstly, the requirement for buildings to be all-electric expressed in section 5.4.3 applies only to non-residential development. The EEC strongly suggests that this section should apply to both residential and non-residential development, for two reasons. Firstly, detached or semi-detached residential dwellings are the easiest building types to electrify, and no substantial barriers exist to creating all-electric new homes.

Secondly, for apartments and other higher-density dwellings, failing to specify all-electric operation for new builds risks locking in fossil fuel operations into these buildings, which will be needlessly costly to replace later to achieve emissions reduction targets. Rather, designing a residential building as all-electric from the start avoids these costs, and creates zero emissions-ready buildings from day 1.

Low-GWP refrigerants

The EEC supports the Council's objective of encouraging the use of refrigerants with a low global warming potential expressed in section 5.4.6. However, the EEC is concerned that implementation of this requirement should not jeopardise the rapid deployment of heat pumps to reduce reliance on gas consumption for space and water heating.

EEC members have raised concerns about the practical ability of the control measure requiring all air-conditioning and refrigeration systems to use refrigerants with a GWP of less than 10. Currently, there is extremely limited availability of products in the air-conditioning space that utilise these refrigerants. Furthermore, many refrigerants with a GWP of 10 or less are based on simple hydrocarbons which are highly flammable, and members have raised significant concerns that these refrigerants can be unsafe for applications where significant charges of flammable refrigerant is

circulated inside the building, especially in residential buildings. While we appreciate that the control provides an exception to deal with higher cost or limited availability of suitable product, we are concerned that proving exemption from the control introduces an additional barrier to using all-electric appliances.

This highlights an apparent inconsistency in the DCP – while all developments are subject to the low-GWP requirement in 5.4.6, only non-residential developments are subject to the all-electric requirement in 5.4.3. This means that while non-residential developments are compelled to either comply with 5.4.6 or demonstrate an exemption, residential developments would be free to not demonstrate an exemption from 5.4.6 and install space or water heating appliances instead. This is a circumstance that should be avoided as far as possible.

While climate risks from refrigerant are certainly tangible, work done for [Victoria's Gas Substitution Roadmap](#) demonstrates that the refrigerant-related emissions associated with the installation of 10 million heat pumps would be approximately 9.5 Mt CO₂-e to 2050 – or around 0.32 Mt CO₂-e per year. This is dwarfed by the emissions from natural gas use in that state - around 10 Mt CO₂-e per year, of which 60 per cent arises from residential and small commercial water and space heating. This means that that even with the climate risk posed by some refrigerants, there is a strong interest ensuring the fastest possible deployment of heat pumps. The EEC would encourage the City to ensure that the proposed DCP does not unnecessarily introduce barriers to rapid heat pump deployment, maximising decarbonisation opportunities.

Additionally, we have two further minor comments on this section:

- It appears that 5.4.6 does not apply to heat pump hot water systems, although this would benefit from explicit clarification. In general, the refrigerant risk posed by heat pump water heaters is very low, as most units are sealed systems with respect to refrigerants that do not require on-site refrigerant charging or discharging.
- We would encourage the City to reconsider the terminology of 'Natural refrigerants'. While a number of refrigerants with a low GWP are compounds originally found in nature, there are also emerging low-GWP refrigerants which are synthetic (such as hydrofluoroolefins). The use of the term 'natural' refrigerants could suggest connotations of enhanced safety or non-toxicity over synthetic refrigerants, which may or may not be the case. For example, while butane and ammonia are 'natural' refrigerants, butane is a highly flammable gas and ammonia has high toxicity, meaning they should be treated with the same caution as any other chemical substance. We would recommend using terminology of Low GWP refrigerants, to avoid unnecessarily stigmatising any synthetic refrigerants which could meet the City's policy objectives.

Please do not hesitate to contact me at alex.stjohn@eec.org.au or on 0413 698 181 if I can provide any further information.

Yours sincerely



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