



City of Ryde

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Ryde Resource Efficiency Policy 2023

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1.0	October 2023	Arefeh Hesaraki	Developed to align with adopted Net Zero Emissions Pathway - replaces 'Ryde Resource Efficiency Target (2020) D20/42878'

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1. Scope

In 2020, the council adopted a Resource Efficiency Target (RET) as part of its Renewable Energy Target, which was achieved in 2022. The RET was developed based on the NSW Government Resource Efficiency Policy (GREP) and has:

- continually improved resource efficiency in the areas of energy and water, with significant opportunities for long-term savings across all premises owned and operated by the Council.
- contributed to Council's adopted Net Zero Emissions (NZE) Operational target by 2035 (or sooner), adopted in 2022.
- assisted to reduce the council's utility cost on energy and water.

As part of an updated policy position, new action items from the NZE Pathway have now been introduced, together with a clear framework and direction for Council Business Managers when delivering projects or enhancements to ensure Council will meet its NZE target.

The new action items include Council reporting on embodied emissions from civil works delivery, the transition from natural gas to electric, the use of LED as a standard

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lighting provision for Council and improving efficiency of buildings and appliances in Council owned buildings under license arrangements.

2. Purpose

The aim of the Ryde Resource Efficiency Policy (REP) is to ensure that the City of Ryde demonstrates sustainable leadership reducing greenhouse gas emissions from three main areas: energy, water, and embodied emissions. By responsibly and efficiently using resources over the long term, the council can reduce the economic cost shift and impact caused by fluctuating utility costs, contribute to mitigating the impacts of climate change long term and delivering effective and responsible resource use.

3. Principles / Responsibilities

The policy is designed to support and assist asset managers, project planners, and capital works delivery, and to help the council achieve its adopted Net Zero Emissions target by 2035 (or sooner) for council operations. The policy outlines different requirements within three main areas: Energy, Water, and Embodied Emissions.

Table 1 Overview of Ryde Resource Efficiency Policy

Ref	Title	Targets
Energy		
E1	Minimum NABERS Energy ratings for new buildings	E1.1) 5.5-star NABERS Energy Commitment Agreement (without GreenPower) for new buildings and fit out over 1000 m ²
E2	Minimum NABERS Energy ratings for offices and data centres	E2.1) 5-star NABERS (without GreenPower) for leased or owned offices over 1000 m ² E2.2) 4.5-star NABERS (without GreenPower) for leased or owned data centres over 1000 m ²
E3	Minimum standards for new electrical appliances and equipment	E3.1) Refrigerant with lower global warming potential in appliances on replacement or failure E3.2) Minimum Energy Star Rating
E4	Electrification	E4.1) Installation of solar PV on suitable Council-owned sites E4.2) No new gas installation and phase out all gas appliances by 2030

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		E4.3) Installation of heat pumps in buildings requiring domestic hot water.
E5	LED lighting	E5.1) All new and replacement lighting owned, or operated by Council is to be LED Lighting: • public domain; • streetlighting, • council lit pathways, • sports fields, • amenities in Parks, • Council's buildings
Water		
W1	Minimum NABERS Water ratings for office buildings	W1.1) 4-star NABERS water rating for leased or owned offices over 1000 m ²
W2	Minimum standards for new water-using appliances	W2.1) Minimum Water Star Rating
Embodied Emissions (Emissions from key materials in Civil works)		
EE1	Report on embodied emissions	EE1.1) Contractors to report on embodied emissions for the top five nominated materials when submitting a response to RFP/ RFQ/ RFT to the contact Council officer (Emissions can be found at Carbon intensity tool: http://epicdatabase.com.au/)

3.1. Energy

The Energy target aims to ensure that all premises owned and operated by the City of Ryde optimise the efficient use of energy in buildings, appliances, and equipment and make use of renewable energy sources such as solar PV systems and heat pumps. Improving energy efficiency and using onsite renewable energy use contribute to improving the overall resilience of these assets long term and will assist to reduce the cost pressures associated with rising energy costs.

E1) Minimum NABERS Energy ratings for new buildings

E1.1.) Any new or refurbished facilities, including office buildings, fit-outs, and other building types over 1000 m², will be required to sign a 5.5-star NABERS Energy Commitment Agreement or NABERS Agreement to Rate (without GreenPower). Once the first official rating is achieved, subsequent ratings are to be obtained before the expiry of the current rating certificates for the Base Building, Tenancy, or Whole Building, as relevant.

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E2) Minimum NABERS Energy ratings for offices and data centres

E2.1.) Any owned or leased office building over 1000 m² will be required to achieve and maintain a minimum 5-star NABERS Energy rating (without GreenPower) for the Base Building, Tenancy, or Whole Building, as relevant.

E2.2.) Any owned or leased data centres over 1000 m² will be required to achieve and maintain a minimum 4.5-star NABERS Energy rating (without GreenPower) for IT equipment, infrastructure, or the whole facility, as relevant.

Table 2 Minimum NABERS Energy ratings for offices and data centres

Type of building	Type of rating	Star rating
New buildings	NABERS Commitment Agreement or NABERS Agreement to Rate	5.5- star NABERS (without GreenPower)
Owned/ leased office buildings	Base/ Tenancy/ Whole building	5-star NABERS (without GreenPower)
Owned/ leased data centre	IT equipment/ infrastructure/whole facility	4.5-star NABERS (without GreenPower)

E3) Minimum standards for new electrical appliances and equipment

E3.1) Upon failure or recharge, replace refrigerants containing R22, R407c with lower global warming potential refrigerants (such as R448A, R32, or R444B etc) (Table 3). This measure aims to reduce the City of Ryde's contribution to global warming by phasing out refrigerants that have high global warming potential and replacing them with alternatives that have lower global warming potential.

Table 3 Refrigerant with lower global warming potential in appliances on replacement or failure

Existing Refrigerant	Replaced by Refrigerant
R22	R448A
R407c	R32, R444B

E3.2) All new electrical equipment purchased by City of Ryde or purchased by lessors of City of Ryde-owned buildings or canteen or clubrooms with a minimum of five years lease arrangement must be at least 0.5 stars above the market average star rating or comply with high efficiency standards specified by this measure, see Table 4. This measure aims to encourage investment in high-efficiency electrical equipment, to reduce the city's energy consumption and provide savings long term. Appliance efficiency ratings have been

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expanded to include long lease tenancies to ensure utility costs and risks to Council assets are reduced long term.

Table 4: Minimum energy standards for new electrical appliances and equipment

Appliance Item	Minimum energy requirement
Refrigerators	2.5 stars
Clothes dryers (up to 10 kg)	3 stars
Washing machines	3.5 stars
Dishwashers	4 stars
Pool pumps	7.5 stars
Fridge/freezers	3.5 stars
Freezers	3 stars
Air-to-air heat pumps and air-conditioners	4 stars if less than 4 kW and 3 stars if greater than 4 kW (applies to both heating and cooling for reverse cycle air-conditioners)
Televisions	5 stars (Tier 2 rating).
Computers (i.e., desktops, notebooks and tablets, workstations, small-scale servers and thin clients), Printers, Photocopiers, DVD players.	Have an ENERGY STAR® label recognising its high efficiency
Refrigerated commercial display cabinets	AS1731.14
Distribution transformers	AS2374.1.2
Electric motors	AS1359.5
External power supplies	AS4665.2.
Air-cooled liquid chilling packages	IPLV of 5.1
Water-cooled liquid chilling packages	IPLV of 9.6
Closed-control air-conditioners	AEER of 3.3

E4) Electrification

E4.1) Incorporate PV into any new or upgraded buildings where:

- Site is owned or leased for at least the next five years.
- Sites with at least 50m² of unshaded, preferably northern aspect roof.
- Sites with average electricity consumption greater than 10,000 kWh per year
- Return on investment from the installation does not have a payback longer than 7yrs (this to include installation costs)

Where any new buildings are to have subtenants, suitable metering to be installed to enable billing of tenants by the City of Ryde for mains and solar electricity supply (via an embedded network or other model).

E4.2) The City of Ryde will not install any new gas appliances or infrastructure and will work towards phasing out existing gas appliances by 2030. This measure responds to

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the health and environmental concerns associated with gas appliance use and the volatility of and rising costs of gas prices.

E4.3) Incorporate electric boosted heat pump into any new or upgraded buildings requiring domestic hot water.

E5) LED lighting

E5.1.) The LED lighting target provides an adopted standard for lighting from Council works delivery in public domain, streetlighting, council lit pathways, sports fields, amenities facilities in parks, and Council's buildings. This target will ensure:

- efficient lighting design and installation through a consistent approach to provide minimum lighting standards across the city.
- not incur increased energy costs from lighting projects.
- achieving Council's Net Zero Emissions operational target by 2035

3.2. Water

The water target aims to ensure that all premises owned and operated by the Council are equipped with water-efficient fixtures and appliances. Achieving this target will assist the City of Ryde to lead by example in promoting water efficiency and becoming more resilient to future water shortages or restrictions induced by climate change, whilst minimising cost impacts on tenants and the Council in the long term. The following measures have been put in place to achieve this water target:

W1) Minimum NABERS Water ratings for office buildings

W1.1) All leased office buildings (over 1000 m²) will be required to achieve and maintain a minimum 4-star NABERS Water rating for Base Building/Tenancy/Whole Building as relevant.

W2) Minimum standards for new water-using appliances

W2.1) All new water-using appliances purchased by the City of Ryde or purchased by lessors of City of Ryde-owned buildings, canteen, clubrooms with a minimum of five years lease arrangement must be at least 0.5 stars above the average Water Efficiency Labelling and Standards (WELS) star rating by product type, except for toilets and urinals, which must be purchased at the average WELS star rating. See Table 5 for more details. Appliance efficiency ratings have been expanded to include long lease tenancies to ensure utility costs and risks to Council assets are reduced long term.

Table 5 Minimum standards for new water-using appliances

Appliance	Minimum requirement
showerheads	3.5 stars

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toilets and urinals	4 stars
washing machines	4.5 stars
dishwashers	5 stars
taps and flow controllers	5 stars

3.3. Embodied Emissions

Embodied carbon emissions generated from civil works projects and infrastructure, have been identified as one of the main sources of greenhouse gas emissions contributing to up to 40% of emissions that will remain in perpetuity from the asset and building footprint, if not addressed in the design phase of projects.

EE1) Report on embodied emissions – Capital works/ Construction

EE1.1) The proposed action involves requiring project contractors to prepare a construction emissions schedule for the top five materials supplied for concrete, asphalt, timber, glass, steel at the completion of construction projects or with each invoice submission, (using Table 6).

Embodied emissions from materials can be calculated through the EPiC Database at <http://epicdatabase.com.au>. The objective of the target is to commence emissions tracking and reporting Council's civil works projects towards the Net Zero Emissions operational target. Benefits include driving continuous improvement for business emissions reporting, accurately calculating environmental (carbon emission) impact from works to further mitigate and to encourage the use of low-emissions and recycled materials and support local manufacturing and work.

Table 6: Schedule to report embodied emissions from materials in civil works

Type of material	Quantity (kg)	Carbon emissions (kg CO _{2eq} / kg material) (http://epicdatabase.com.au/)	Total carbon emissions (kg CO _{2eq})
Concrete with 30% fly ash	10,000	450	4500000
Normal Concrete	10,000	630	6300000

The 'top 5' areas for (initial) reporting include crushed concrete/ brick/ asphalt used in drainage lines, fly ash in concrete pavements, recycled rubber underlay content in parks rubber softfall, and recycled/lower carbon/carbon neutral steel/ concrete.

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The proposed target areas nominated align with those identified in the SSROC 'Pave the Way' recycled materials civil contract that Council is actively using and has been developed in partnership with the construction industry contractors to improve reporting for carbon emissions, prioritise the use of recycled/reused materials in civil works, encourage the use of low-carbon materials and encourage industry improvement for prioritising the use of recycled material content for reducing landfill impacts long term.

The joint SSROC's procurement specifically incorporates recycled crushed glass into asphalt, pipe bedding, and non-structural concrete. These actions align with the Council's adopted Notice of Motion in June 2020 for prioritising the use of recycled materials in (council) civil works and the (council) Procurement Policy 2020, which aims to promote sustainable practices and establish 2025 "green procurement" operational targets of 50% recyclable material purchases and 70% sustainable service contracts.

4. References and Legislation

All targets and measures in Ryde Resource Efficiency Policy are aligned with global efforts to mitigate the impacts of climate change and transition towards a more sustainable future. By implementing these measures, the City of Ryde can significantly reduce its greenhouse gas emissions, improve the energy and water efficiency of its operations, and contribute to a healthier and more resilient community.

This policy is in alignment with relevant commitments, such as the NSW Government's Climate Change Policy Framework, which aims to achieve net-zero emissions by 2050, the Government Resource Efficiency Policy (GREP), and the NSW Waste and Sustainable Materials Strategy, which local governments are encouraged to adopt. It also aligns with Sustainable Buildings State Environmental Planning Policies (SB SEPP) requirements.

It is important to note that achieving these targets requires a concerted effort and cooperation from all stakeholders, including Council staff, tenants, contractors, and the community. The process must commence at the project business case and scoping phase is to be successful and communicated through to the final delivery stage.

Regular monitoring and reporting of progress towards the targets can help identify areas for improvement and ensure that the City of Ryde remains on track to achieve its sustainability goals.

- *SSROC – Memorandum of Understanding: Joint Procurement of Recycled Civil Works Materials (2020) (D21/ 93028)*

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- (City of Ryde) *Procurement Policy 2020* – policy number: CL200623, endorsed 23 June 2020, (D15/16158)
- Notice of Motion, *'Reducing the amount of waste being sent to landfill from Ryde and Prioritising recycled materials in further City of Ryde Procurements'* 20 May 2018, (D13/14757)

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