



CARBON NEUTRAL PLAN

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Acknowledgement of Country

The City of Holdfast Bay acknowledges and respects Aboriginal people as the area's first people and recognises their traditional relationship with Country.

We acknowledge that the spiritual, social, cultural and economic practices of Aboriginal people come from their traditional lands and waters, and that the cultural and heritage beliefs, languages and laws are still of importance today.

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THE NEED FOR CLIMATE ACTION

Climate change affects us all. Global temperatures have increased on average by 1.1°C since the 1800s (United Nations, 2022) due to increasing amounts of greenhouse gases (GHG) being released to the atmosphere. The consequences of these changes to the climate include increased risk, severity and prevalence of bushfire, extreme heat events, sea level rise, flooding and drought, and an increasing loss of biodiversity. The impacts of a changing climate are already affecting the City of Holdfast Bay and it is essential that Council acts in the best interests of its community to prepare for, adapt to and mitigate the effects of climate change and works to reduce the causes of climate change.

In 2019 Council recognised that the world is in a state of climate emergency and there is an urgent need to act to avoid the most catastrophic impacts of climate change. Following the announcement of the climate emergency, Council committed to developing a Carbon Neutral Plan, with the aim of eliminating, reducing and offsetting emissions generated by Council by the year 2030.

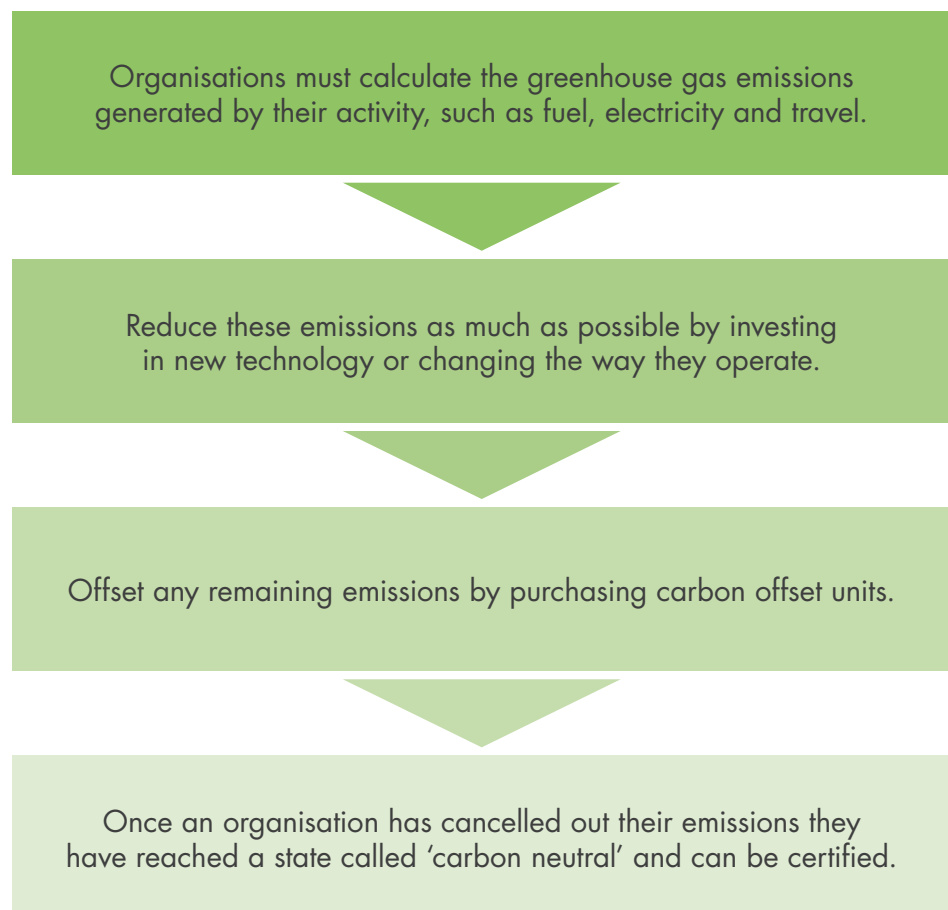
Through the 2030 carbon neutral target, Council is demonstrating its alignment to the Intergovernmental Panel on Climate Change (IPCC) recommendations to limit global warming to 1.5°C (CSIRO; Bureau of Meteorology, 2020). The 2030 target also aligns Council with a growing list of other local governments committing to carbon neutrality or net zero by 2030 and betters the South Australian and Australian Government targets of net zero by 2050 (Government of South Australia, 2022).

Through reducing emissions produced from its own operations, services and activities, Council will eliminate, avoid and where necessary offset emissions to achieve carbon neutrality by 2030. This plan provides a roadmap for Council to achieve its carbon neutral goal by 2030 through undertaking emission reduction activities over the 2022/2023 – 2029/2030 period.

All levels of government must take action to ensure a sustainable world for current and future generations. As a community leader, Council has a responsibility and desire to work with partners, businesses and communities to tackle climate change together.

WHAT DOES CARBON NEUTRAL MEAN?

The most common carbon neutral standard in Australia is known as Climate Active (Department of Industry, Science, Energy and Resources, 2022). To become carbon neutral under Climate Active guidelines, organisations must undertake the actions outlined below.



This Carbon Neutral Plan has been created based on the requirements outlined above, in line with both global best practice standards and Australian Government requirements.

COUNCIL'S EMISSIONS PROFILE

An emissions profile is a term used to describe the total amount of greenhouse gas (GHG) emissions produced by an organisation, product, service, event, state or country. There are a range of GHG emissions. Each type of GHG has a global warming potential that is different to other greenhouse gases. For example, methane has a global warming potential 28 times that of carbon dioxide. In order to standardise the global warming potential of multiple greenhouse gases, the term carbon dioxide equivalent (CO₂-e) is used. Figure 1 below tells us that the global warming potential of nitrous oxide is higher than that of carbon dioxide. In general terms, we refer to CO₂ emissions. The CO₂-e can then be used to describe the carbon equivalent emissions.

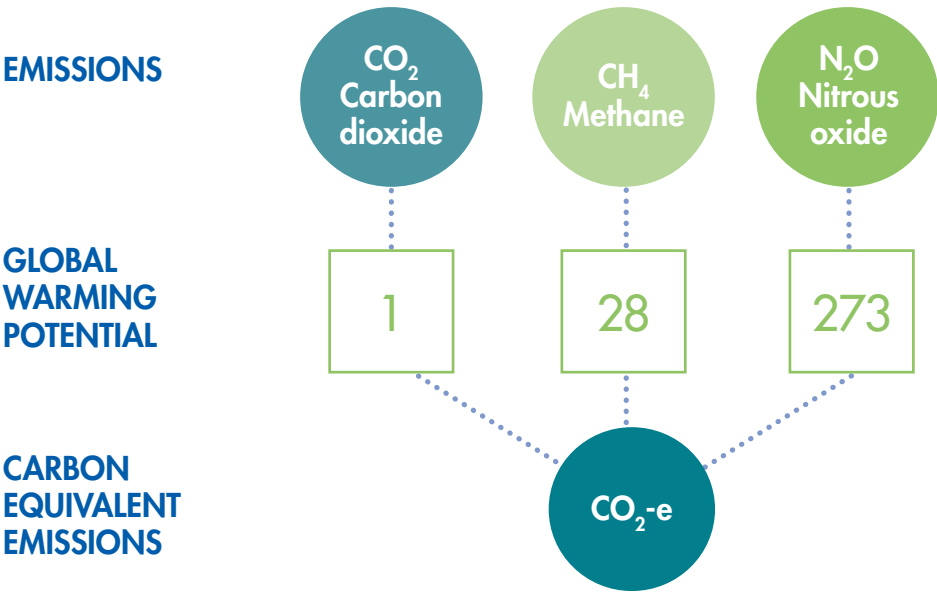


Figure 1. Carbon dioxide equivalent emissions is a term used that allows for measuring of the overall global warming impact of different GHGs in a common metric

The City of Holdfast Bay's calculated total emission's profile for the 2020/2021 financial year period is 17,785 tonnes of carbon dioxide equivalent (t CO₂-e). By 2030 total emissions are projected to increase by almost 10% to 19,695 t CO₂-e. Growth in Council's emissions inventory is expected to increase in line with localised population growth and the increasing need of Council to service a growing population.

TERM	MEANING
Scope 1	Direct emissions from activities owned or controlled by the organisation in the baseline year (e.g., fuel combustion from company vehicles, refrigerants).
Scope 2	Indirect emissions associated with the organisation's consumption of purchased electricity in the baseline year.
Scope 3	All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Table 1. Definitions of the three scope categories

Council's emissions profile can be divided into three categories, called scopes (see Table 1).

THE SCOPE CATEGORIES INCLUDE EMISSIONS FROM THE FOLLOWING CATEGORIES:

Scope 1

- Fuels (petroleum, diesel) used in Council vehicles.
- Any fuels used for stationary equipment.
- Emissions from refrigerant usage, such as those used in heating ventilation air-conditioning systems.

Scope 2

- Purchased electricity sourced from the South Australian electricity grid.

Scope 3

- Purchased goods and services.
- Capital goods.
- Fuel and energy related emissions generated from outside of Council.
- Generated waste and resources.
- Business travel and;
- Employee commuting.

Figure 2 outlines the percentage and numeric split of emissions produced by Council operations and services over the 2020/2021 financial year period. It can be seen that the majority of Council's emissions sit in Scope 3 (89%). Scope 1 emissions represent 721 t CO₂-e (4%) of emissions whilst Scope 2 emissions represent 1,214 tonnes of CO₂-e (7%).

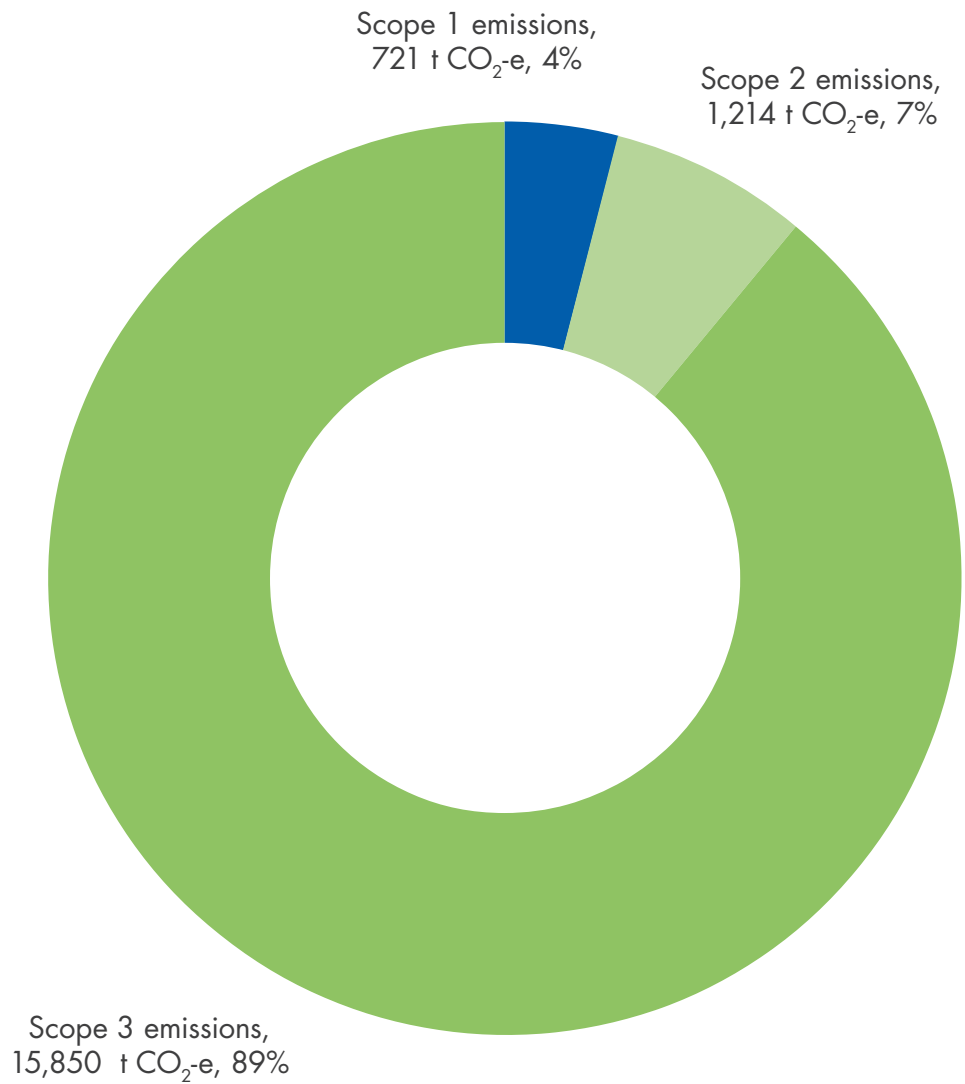


Figure 2. The City of Holdfast Bay Council emissions, broken down by the three Scope categories.



WHAT HAS COUNCIL DONE ALREADY?

A 273 tonne reduction in waste sent to landfill in 2019.

Participation in Resilient South, a partnership between state and local government organisations in southern Adelaide to respond to climate change.

Reducing GHG emissions from fuel by 2.3%.

Transitioning Council's vehicle fleet to hybrid vehicles.

Reducing GHG emissions from electricity by 13.6% by converting streetlights to LED.

Council has already taken significant action to address climate change. Now that Council have a greater understanding of where emissions are sourced from, a significant opportunity exists to target specific activities. This will require the use of new technologies, strategic stakeholder partnerships and policy mechanisms to drive down the emissions produced by Council and to work with the community to investigate options for reducing the community's emissions profile.

This Carbon Neutral Plan provides a pathway for transitioning to activities that not only reduce GHG emissions but also assist Council to save money. Building on the actions taken so far, we have developed a plan to:

1. Determine the quantity of emissions produced by Council.
2. Establish an evidence-based approach to reducing emissions.
3. Create a proposed implementation plan of actions from 2022/23 to 2029/30 and have this plan endorsed by Elected Members.
4. Carry out the actions and activities listed in the plan.

HOW WILL COUNCIL REDUCE EMISSIONS?

IMPLEMENTATION PLAN

The following tables outlines the proposed implementation plan for Council to achieve carbon neutrality by 2030.

- = Council decision or endorsement required for budget and/or plan/initiative approval
- ** = Already occurring and/or included within existing budgets
- = Indicative time period during which each action will be implemented.

INITIATIVE DESCRIPTION		TARGETS	ESTIMATED COSTS	ADDITIONAL COST	STAFF TIME	EXISTING BUDGET	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
1. Low Emissions Transport														
1.1	Fleet Transition Plan	Complete plan and endorsed by Council by June 2023	New initiative bid for 2022/23, \$20,000	✓	✓		○							
1.2	Install electric charging stations for charging of fleet vehicles	N/A	35 charging stations = \$35,000 over 4 years	✓				■	■	■	■			
1.3	Purchase electric passenger vehicles	All passenger vehicles to be 100% electric by 2027	17 vehicles @ \$10,300 (net) = \$175,100 (net cost after trade in)	✓				■	■	■	■			
1.4	Purchase other electric fleet (e.g. utes, vans, buses, sweeper)	Key vehicles to be low CO ₂ by 2030 (electric, hydrogen, hybrid)	Unknown, pending technology improvements.	✓							○	■	■	■

INITIATIVE DESCRIPTION	TARGETS	ESTIMATED COSTS	ADDITIONAL COST	STAFF TIME	EXISTING BUDGET	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
2. Sustainable Street and Public Lighting													
2.1	Investigate and plan for the implementation of sustainable street and public lighting	Complete plan and endorsed by Council by June 2023	Within existing resources		✓	✓	○						
2.2	Continue to implement sustainable public lighting	100% completion by 2028	Estimated cost \$800,000 over 5 years. Cost saving with LED through lower power use.	✓									
3. Renewable Energy													
3.1	Advocate for the purchase of 100% accredited renewable energy as part of LGA procurement for a new electricity contract due early 2023**	N/A	Within existing resources		✓								
3.2	Purchase of 100% accredited renewable energy as part of LGA new electricity contract (commencing early 2023)	N/A	Within existing resources. Cost details to be determined in late 2022.			✓							
4. Tracking and Reporting Emissions													
4.1	Track carbon emissions and update the emissions inventory**	N/A	Additional staff time 0.25 FTE. \$30,000 to \$35,000 per year ongoing.		✓								
4.2	Improve annual reporting of Council's emissions**	N/A	Within existing resources		✓								

INITIATIVE DESCRIPTION	TARGETS	ESTIMATED COSTS	ADDITIONAL COST	STAFF TIME	EXISTING BUDGET	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
5. Reduced Emissions Procurement													
5.1	Reduce supply chain emissions	5% reduction of scope 3 emissions every 3 years	0.25 FTE	✓	✓								
5.2	Reduce road and other infrastructure emissions through improving the materials and methods used for construction	5% reduction of scope 3 emissions every 3 years	TBA - likely ~ 5% additional costs initially, reducing over time.	✓	✓								
6. Advocacy and Behaviour Change													
6.1	Educate, liaise and support community and businesses to move towards carbon neutrality**	N/A	Within existing resources		✓	✓							
6.2	Implement a community energy program	N/A	Estimated \$10,000 as start-up funding.	✓	✓								
6.3	Participate in the Resilient South climate partnership**	N/A	Within existing resources		✓	✓							
7. Events													
7.1	Certify all council events as carbon neutral.	All major council events certified carbon neutral. (e.g., NYE.)	~\$10,000 per annum	✓	✓			○					

INITIATIVE DESCRIPTION		TARGETS	ESTIMATED COSTS	ADDITIONAL COST	STAFF TIME	EXISTING BUDGET	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
8. Offsetting Emissions														
8.1	Develop and implement an Urban Forest Strategy to increase tree canopy cover. ***	Targets to be set in Urban Forest Strategy. Complete strategy and endorsed by Council by June 2023.			✓		○							
8.3	Seek independent expert advice and quotes about purchasing carbon offsets.	N/A	Cost unknown - to be determined.	✓										
8.4	Implement purchase of carbon offsets		Likely to be >\$70/tonne CO ₂ equivalent by 2030	✓	✓									○
9. Certification														
9.1	Climate Active Certification		Fees required annually, and 3rd party re-assessment every 3 years. Current estimate \$13,250 over 3 years including audit, technical assessment, 3rd party validation and certification fees.	✓	✓									○

KEY MESSAGES

Through undertaking the emissions reduction activities described above, modelling shows that Council could reduce emissions by over 7,115 tonnes of CO₂-e by the year 2030. The reduction of Council's emissions by this number, would see council almost eliminate Scope 1 and Scope 2 emissions.

In addition to the emissions reduction initiatives previously discussed, the South Australian electricity grid is in the process of transitioning to a 100% renewable grid system. Electricity from the grid is expected to be net 100% renewable by 2030. This has significant implications for all South Australian electricity users and will assist the entire state, including residents and businesses of Holdfast Bay to reduce emissions from electricity use.

Modelling suggests that by 2030, after implementation of the listed emissions reduction initiatives, 12,580 tonnes of CO₂-e will remain. These emissions are sourced almost entirely from council's Scope 3 emissions, meaning that they are not in the direct control of Council, which makes them much more difficult to reduce. Council will continue to incorporate emissions reduction and carbon neutral products and services into procurement processes and utilise its influence to preference those suppliers who are actively reducing emissions of their goods and services. However, the primary focus of Council actions are on controlling the emissions that are directly emitted by Council and influencing the suppliers of Council products and services.

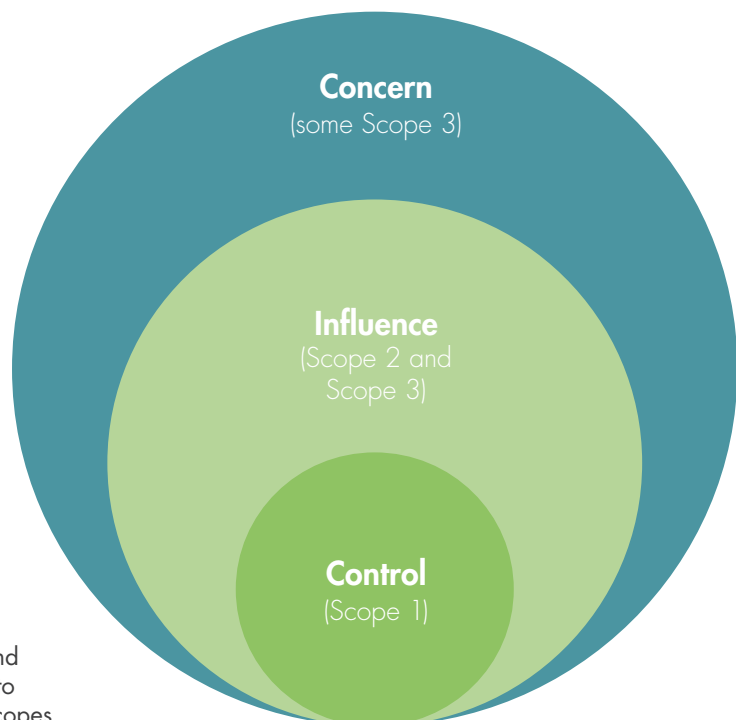


Figure 4. Circles of control, influence and concern in relation to different emission scopes.

RANK	REDUCTION INITIATIVE	T CO ₂ -E	\$/T CO ₂ -E	TOTAL SAVINGS/COST
1	100% renewable energy	2,774	-\$229	-\$635,994
2	EV fleet transition	1,724	-\$65	-\$111,321
3	LED public lighting	362	-\$130	-\$86,770
4	Energy efficient buildings	75	-\$111	-\$8,358
5	Lower carbon construction materials	1,078	Unknown	Unknown
6	Improved procurement	4,758	\$13	\$60,888

Table 2. The projected emissions reduction potential and costs/savings potential of each modelled emissions reduction initiative.

Table 2 provides a projection of the total amount of emissions saved through the implementation of key emissions reduction initiatives and the saving or cost of the initiative, listed as per tonne of CO₂-e. Emissions reduction initiatives are ranked in Table 2 according to the total financial benefit to Council, not the emissions reduction potential of the initiative. Results from analysis of Table 2 demonstrate that implementation of all the initiatives will reduce emissions and importantly reduce costs for Council by a net estimate of \$1,518,127.

The column titled t CO₂-e represents the total emissions saved as a result of the implementation of the listed reduction initiative. The reduction initiatives coloured green represent cost savings to Council. The initiative coloured yellow are unknown and the initiative coloured red represents a cost to Council to implement the initiative. Costs are inclusive of both up-front and ongoing costs.

It can be seen that a 100% renewable energy contract, LED public lighting, the transition of the existing fleet to electric vehicles and making our buildings more energy efficient will provide Council with significant cost savings. The costs of using of lower carbon construction materials are unknown and the implementation of improved procurement is projected to be a cost to Council but are offset by the cost savings in green.

All initiatives will assist Council in reducing emissions. The initiatives that will have the greatest impact in reducing emissions (excluding the costs or savings of the initiative) are as follows, in order of impact:

1. Improved procurement (4,758 t CO₂-e).
2. 100% renewable energy (2,774 t CO₂-e).
3. EV fleet transition (1,724 t CO₂-e).
4. Lower carbon construction materials (1,078 t CO₂-e).
5. LED public lighting (362 t CO₂-e).
6. Energy efficient buildings (75 t CO₂-e).

The remaining emissions will need to be offset, with a decision to be made closer to 2030, regarding the type and quantity of offsets required to achieve carbon neutrality. The International Monetary Fund estimates that the cost of offsets could be up to \$70 per tonne CO₂ by 2030. At 2030 Council's remaining emissions are modelled to be 12,580 tonnes, which would make the cost of purchasing offsets approximately \$880,600.

In addition, Council will need to make a decision in 2028/29 about carbon neutral certification, which would be required to be purchased annually. There are several options for certification, or there is the option to self-declare. There are costs to all of these options such as the auditing and validation of emissions and offsets, which are estimated to be approximately \$13,000 to \$14,000 every three years.

FIND OUT MORE

This plan draws on details in the City of Holdfast Bay Carbon Neutral Plan Technical Report 2022, which also includes a plan for the Alwyndor aged care facility.



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