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Go Green With Energy Adelaide City Council Carbon Neutral Council Action Plan 2008–2012

Adelaide City Council's Commitment to reducing carbon emissions.

Adelaide City Council is committed to addressing climate change through the following strategies:

1. Transform the environmental performance of Council's operations by reducing energy use and by pursuing carbon neutrality; and
2. Reduce the City's carbon emissions through projects with businesses, residents and organisations.
3. Mitigate and adapt to the effects of climate change through assessing risks and developing and implementing response plans.

(Source: Creating our future, the City of Adelaide Strategic Plan 2008–2012)

To deliver the first strategy, Adelaide City Council has set a target to reduce carbon emissions from its own operations by 60% by 2012¹ on the road to achieving carbon neutrality by 2020.

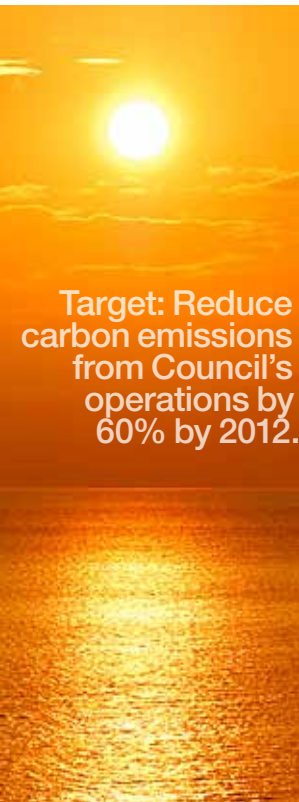
¹ From 1994 levels

To reduce carbon emissions, Adelaide City Council has established a guiding principle that establishes a hierarchy of actions that focus on:

- Reducing and avoiding carbon emissions
- Using renewable energy
- Offsetting emissions
- Whilst also adapting to climate change

(Source: Environmental Sustainability Strategy 2009–2012)

Adelaide City Council has produced Go Green with Energy, the Adelaide City Council Carbon Neutral Council Action Plan 2008-2012, to identify specific strategies, projects and costs for meeting its emissions reduction target.

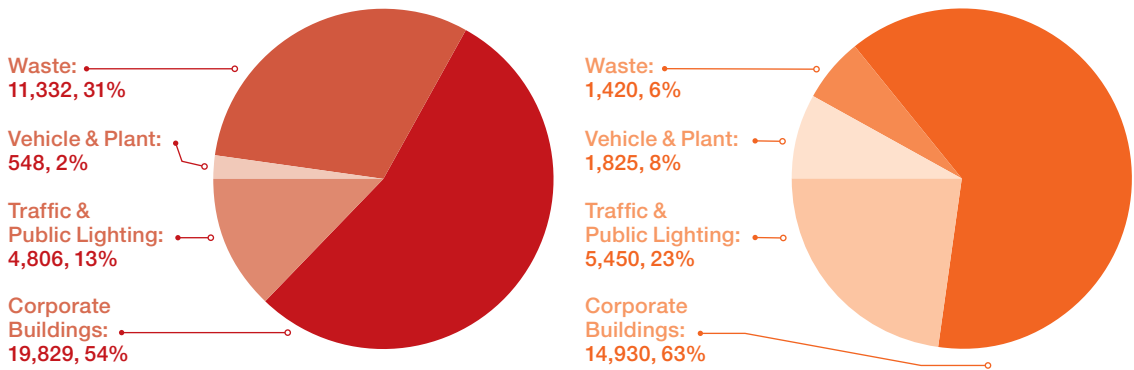


Adelaide City Council's carbon emissions profile

- Adelaide City Council generated 36,515 tonnes of carbon emission in 1994.
- In 2006/07 Adelaide City Council generated 23,625 tonnes of carbon emission. This reduction of 35% from 1994 levels was achieved primarily from waste sources through the capture of methane from landfill for electricity generation.

- In 2006/07 corporate buildings (63%) and traffic and public lighting (23%) were the highest energy users.
- Adelaide City Council needs to reduce its carbon emissions by a further 10,252 tonnes to reach its target of 60% reduction from 1994 emission levels.

Figure 1: Carbon emissions (Tonnes CO_{2-e}) generated from Adelaide City Council's own operations in (a) 1994; and (b) 2006-07



(Source: City of Adelaide Carbon Emissions Inventory (International Council for Local Environmental Initiatives, Cities For Climate Protection Program))

Go Green Strategies and Projects

The Go Green with Energy Action Plan identifies strategies (Table 1) and projects (Table 2) that will achieve the targeted reduction of 10,525 tonnes of carbon emissions.

Projects were compared for the extent to which they addressed climate change, mitigated carbon emissions, and their cost effectiveness (see Appendix 1).

Table 1: Go Green with Energy Reduction Strategies

Reduction strategy	Estimated reduction of carbon emissions (Tonnes CO _{2-e}) by 2012	Estimated Cost (\$'000)	Estimated annual savings in energy cost (\$)
Reduce carbon emissions from corporate building sector by 25%.	3290	1550	630
Reduce carbon emissions from both traffic and public lighting by 20%	1100	790	150
Reduce Emissions from vehicles and plant	200	-	60
Increase procurement of accredited renewable electricity to 50% and increase in-house production of renewable electricity	5235	1312	14
Offset the remaining emissions	700	90	
	10525	3742	794



**Table 2:
Go Green
With Energy
Projects**



Adelaide City Council's efforts will avoid at least 22,000 tonnes of carbon emissions from its operations

That's the same as 4,900 cars off the road for a year

Project	Cost (est. \$'000)	Estimated savings per year (est. \$'000)	Annual reduction of carbon emissions (est. tonnes CO _{2-e})
Reduction Strategy: Reduce carbon emissions from corporate building sector by 25%.			
UPark Lighting Upgrade lighting and electrical systems in Council's UPark car parks	400	300	1,400
Aquatic Centre Cogeneration (CHP) Plant Establish a Combined Heat and Power (CHP) system at the Adelaide Aquatic Centre to generate electricity.	700	150	1,000
Energy Efficient Central Market Conduct energy and carbon emissions audit of the Central Market and implement its recommendations.	200	100	500
Colonel Light Centre Building Refurbishment Study Identify design options for retrofit of the Colonel Light Centre to meet 5 Star ABGR for the 'Whole Building'.	50	n/a	n/a
Power Management of IT Systems Optimise of energy management (sleep) features in Council's PC, printer and MFD network in accordance with Energy Star.	0	10	50
Climate Savers Smart Computing Join as an Affiliate Member to the Climate Savers Smart Computing Initiative and adopt its standards for energy efficient IT procurement.	20	30	100
Replacement of Exit Signs with LED Retrofit existing exit signs and emergency lighting with energy efficient cold cathode or/and LED globes as part of annual maintenance program.	-	40	240
Enterprise Energy Management System Purchase and integration of an information technology based energy and carbon emissions management system.	180	n/a	n/a
Reduction Strategy: Reduce carbon emissions from both traffic and public lighting by 20%			
Retrofit Traffic Lighting Complete retrofit of Traffic Lights in the City with Light Emitting Diode (LED) globes.	390	70	350
Reduce emissions from Public Lighting Installation of state of the art public lighting control systems (e.g. on North Toe, King William St)	400	80	750
Reduction Strategy: Reduce Emissions from vehicles and plant			
Replacement of major plant, light fleet and minor equipment with low carbon emission options during scheduled fleet renewal purchases.	0	n/a	200
Reduction Strategy: Increase procurement of accredited renewable electricity to 50% and increase in-house production of renewable electricity			
Increased procurement of renewable energy Increase procurement of accredited renewable energy from 20% to 40% in 2008/09 and to 50% thereafter.	1112	0	5165
Major Solar Panels Initiative Establish a 50kW solar photovoltaic system on the roof of Rundle UPark in association with the Rundle Lantern in partnership with the Australian Government Solar City Project	200	14	70
Reduction Strategy: Offset remaining emissions			
Carbon Offsets Procurement of appropriately certified carbon credits if required.	90	-	700
	3742	794	10525

Implementation and monitoring

The Go Green with Energy Action Plan is funded through Adelaide City Council's Climate Change Action Initiatives Fund, which provides \$1.3 million per year (over three years) for projects that reduce carbon emissions.

To monitor progress of implementing Go Green with Energy, project milestones are reported to Council on a quarterly basis.

**Appendix 1:
Go Green with
Energy Project
Selection**



Adelaide City Council's efforts will avoid at least 22,000 tonnes of carbon emissions from its operations

That's the same as the annual emissions of 2,750 households

The projects included in The Go Green with Energy Action Plan were compared by being scored against their ability to respond to the guiding principles of:

• **Addressing Climate Change** – The highest score was given to projects that reduce emissions, then to those that use renewable energy. The lowest score was given to initiatives that offset emissions.

• **Carbon Mitigation Benefit** –

The highest score was given to projects that most significantly reduced emissions.

• **Carbon Mitigation Cost Effectiveness** –

The highest score was given to projects that most significantly reduced emissions for the least cost.

Guiding Principle	Project Response	Score
Addressing Climate Change	Reducing emissions	5
	Using renewable energy	3
	Offsetting emissions	1
Carbon Mitigation Benefit (Tonnes CO _{2-e})	Significant measurable emissions reduction	5
	Limited measurable emissions reduction	3
	Measurable emissions reduction	1
Carbon Mitigation Cost Effectiveness (\$/Tonnes CO _{2-e})	Below \$100/Tonne of CO _{2-e}	5
	Between \$100 and \$1000/Tonne of CO _{2-e}	3
	Above \$1000/Tonne of CO _{2-e}	1

Project	Addressing Climate Change	Carbon Mitigation Benefit	Mitigation Cost Effectiveness	Total Score
UPark lighting	5	5	4	14
Adelaide Aquatic Centre Cogeneration Plant	5	5	4	14
Energy Efficient Central Market	5	5	4	14
Colonel Light Centre Refurbishment Study	4	5	4	13
Power Management of IT Systems	4	5	4	13
Climate Savers Smart Computing Initiative	4	5	4	13
Replacement of exit signs with LED	4	3	4	11
Enterprise Energy Management System	5	4	5	14
Retrofit of traffic lights	5	5	4	14
Reduce emissions from public lighting	5	4	5	14
Vehicles and plant	5	3	3	11
Increased procurement of renewable energy	4	5	4	13
Major Solar Panels Initiative	4	3	5	12
Carbon offsets	1	5	5	11

**Appendix 2:
Indicative
Reduction
Strategies
to achieve
carbon neutral
Council
operations
by 2020**

Estimated reduction of carbon emissions (Tonnes CO _{2-e}) 2012-2020	Reduction Strategy
5,600	Reduce carbon emissions from corporate building by 50%.
2,500	Reduce Emissions from public lighting by 50%.
-	Continue with procurement of accredited renewable electricity (50% of energy requirements)
900	Convert all vehicles and plant to electric and electric hybrid technology
4,100	Offset the remaining emissions