

Adelaide City Council Administration Submission to the Ministerial Forum on Vehicle Emissions – April 2016

This submission has been prepared by Adelaide City Council Administration based on existing Council policy positions, and on an assessment of the contribution that different measures may make to Council achieving its policy objectives. It has not been endorsed by Council.

Policy background

Council's transport and carbon emissions reduction policies are:

Carbon Neutral Strategy 2015-2025

The Carbon Neutral Strategy 2015-2025 identifies three outcomes and the following targets for the Adelaide City Council area.

Outcomes

1. A carbon neutral city where economic growth and carbon emissions are decoupled.
2. A carbon neutral Council that is effecting change in the community.
3. Leadership that embraces and shares great ideas and opportunities.

Targets

1. The City of Adelaide has zero net carbon emissions by 2025.
2. The City of Adelaide has reduced its carbon emissions by 35% by 2020 (from the 2006–07 baseline year).
3. Adelaide City Council has zero net carbon emissions from its operations by 2020.
4. Establishment of a Carbon Neutral Adelaide partnership framework by 2016.
5. One million square metres of city floor space is committed to the Carbon Neutral Adelaide partnership framework by 2020.

Given the aspiration to be 'world's first', the actual year in which carbon neutrality is achieved may be earlier than 2025. However, this year reflects the substantial structural changes required to realise deep emission cuts in our transport and built environment sectors.

A Carbon Neutral Action Plan will be finalised during 2016.

Carbon Neutral Adelaide Partnership

Council and the South Australian State Government have signed an agreement to become the world's first carbon neutral city. This partnership has been formalised by:

- The joint signing of the Compact of Mayors by Council and the Compact of States and Regions by the Premier, and
- A Sector Agreement under the *Climate Change and Greenhouse Emissions Reduction Act 2007*.

A shared vision statement outlines what Carbon Neutral Adelaide will look like and how Council intends to make it a reality. The [Carbon Neutral Adelaide – Foundation Report](#) provides further information about city carbon emissions from 2007 to 2050.

Smart Move Strategy

The [Smart Move Strategy](#) is Council's Transport and Movement Strategy 2012-2022.

Outcome 4: *Green Travel* details Council's aspiration to attract more low-emission vehicles into the city and Council has adopted the following **2022 Targets**:

- »» Reduce carbon emissions from Council vehicles and plant by 30%.
- »» 85% of Council staff travel to work by non-car modes or car pool.
- »» Increase the number of car share vehicles available in the City to 100 vehicles.
- »» Increase the number of electric charging stations in the City to 10.

Strategies to achieve this include:

4.1 Reduce vehicle emissions in the City

4.1.1 Improve the sustainability of Council's vehicle fleet

4.1.2 Encourage City users to switch to electric and low-emission vehicles

4.1.3 Encourage scooters and low-emission motorcycles

Additional background

Adelaide and South Australia have a long history of innovation and leadership in our approach to climate change.

Council purchased a fully electric bus in 2007 which is still operational on our free community bus route; 'Tindo' was charged at a facility connected to a 30kW solar PV system and was therefore known as 'the world's first solar electric bus'. Council was also a Mitsubishi iMiEV foundation customer.

Council calculates greenhouse gas emissions that are generated by activities in the Adelaide City Council area using the *Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories* (GPC). In accordance with the GPC, Council uses a range of data sources and assumptions to estimate in-boundary and out-of-boundary transport movements. These inventories have been independently verified by consultants pitt&sherry.

Between 2007 and 2013, the City of Adelaide's carbon emissions reduced by 20% while the city economy grew by 28%, as shown in *Figure 2* below from Council's *Carbon Neutral Strategy 2015-2025*. At the same time, the City of Adelaide's residential population grew by 27% and office floor area increased by 16%.

Community Carbon Emissions and Gross Regional Product

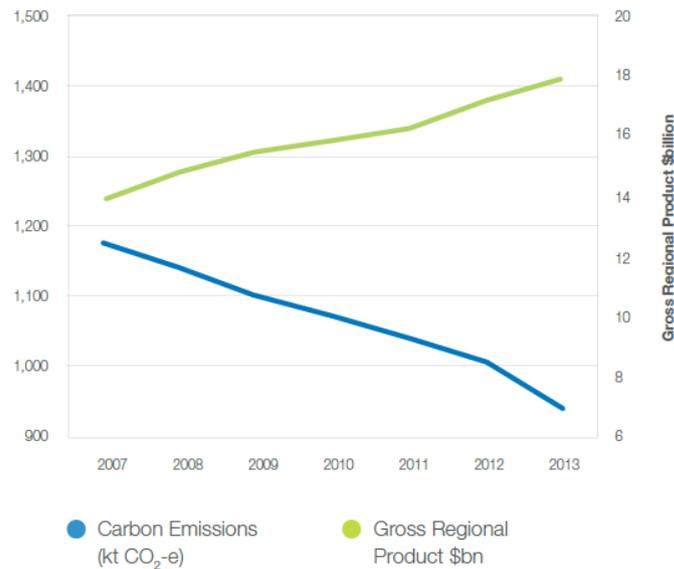


Figure 2: 2007 to 2013 City of Adelaide Community Carbon Emissions and Gross Regional Product

This decoupling of economic growth from carbon emissions is globally significant.

Transport emissions

In 2013, motorised transport contributed 35% of total carbon emissions and it remains entrenched as the second largest source of carbon emissions, as shown in *Figure 3* below from Council’s *Carbon Neutral Strategy*.

Significantly, reductions in transport carbon emissions have appreciably lagged behind the stationary energy sector causing the sector to grow as a percentage of total emissions. This trend will need to be mitigated or reversed by complementary transport actions to achieve reductions in transport emissions.

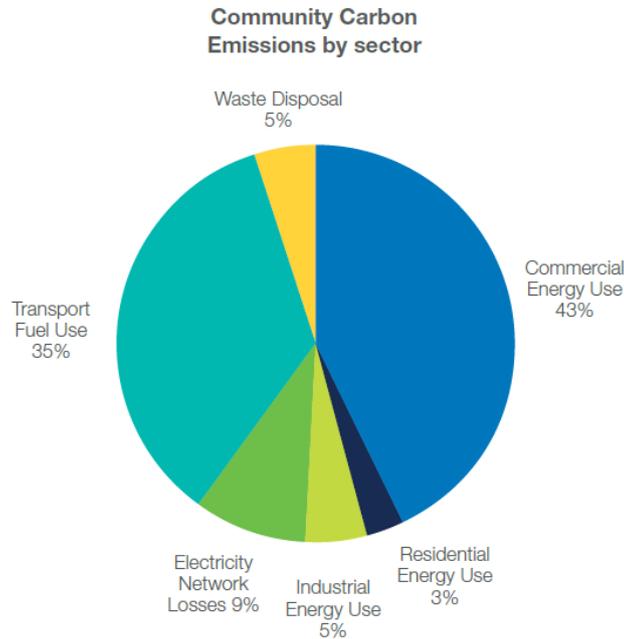


Figure 3: Breakdown of 2012–13 City of Adelaide Community Carbon Emissions by sector

Carbon emissions associated with the transport sector have steadily decreased by approximately 2% over the last 6 years from 339,106 tonnes CO₂ e in 2007 to 332,267 tonnes CO₂ e in 2013. This reduction has been largely attributed to growth in public transport use.

In 2013, passenger cars and light commercial vehicles accounted for approximately 90% of all transport carbon emissions.

Analysis of 2015 traffic survey videos, as shown in Table 1, confirms that:

1. passenger cars currently account for approximately 93.7% of all vehicles using City of Adelaide streets; and
2. without impacting upon commuter transport mode preferences, changing from internal combustion engines to electric propulsion systems could significantly reduce carbon emissions from city users and improve local air quality.

	Small Passenger Cars	Medium Passenger Cars	Large Passenger Cars	4WD	Van & LCV	Taxi	Motor Cycle	Rigid Trucks	Articulated Trucks	Public Transport Buses	Private Buses	TOTAL
Number of cars	3,484	30,399	2,653	4,638	5,775	1,668	441	849	78	1,827	74	51,886
% of fleet	7%	59%	5%	9%	11%	3%	1%	2%	0.2%	4%	0.1%	100%

Table 1: 2015 video survey results from four city intersections showing average fleet composition by vehicle type

The slow rate of renewal in the light passenger fleet (5-6% per year) and absence of major technological leaps in fuel efficiency for new internal combustion engines are potential barriers to achieving the Council and the Government of South Australia's shared vision for Adelaide to be the world's first carbon neutral city. Urgent changes to standards and technology are therefore required to ensure that the process of fleet renewal offers the potential of substantial carbon reduction by 2020.

Adelaide City Council Administration Response to Appendix 4

The following table provides the Council Administration's response to questions in Appendix 4 of the *Ministerial Forum on Vehicle Emissions Discussion Paper* that was released on 11 February 2016.

Key Points:

Council Administration believes the following will contribute to Council achieving its strategic objectives:

1. the introduction of Euro6 standards;
2. Australian Government investment in public transport fleet renewal to bring forward the uptake of Euro 6 vehicles;
3. improvements to fuel standards in-line with the technical requirements of modern engines;
4. adoption of an average standard with a three-year implementation period;
5. tax reform to preference the purchase of zero emission electric vehicles and extended-range plug-in hybrid electric vehicles;
6. standards that are configured to:
 - a. secure a technology jump from internal combustion engines to electric propulsion systems;
 - b. maximise energy productivity; and
 - c. eliminate tailpipe pollution to enhance urban air quality, improve public health and city living;
7. the adoption of an emission and roadworthiness testing scheme to protect consumers and improve public health;
8. the establishment of an open access electric vehicle charging network that:
 - a. brings forward an accelerated and coordinated roll-out of standardised charging infrastructure;
 - b. facilitates market entry for energy service entrepreneurs;
 - c. minimises charging infrastructure duplication;
 - d. enables mobile bundling of residential, business and transport electricity use to a single customer account; and
 - e. maximises service provider competition.
9. a review to consider whether noxious emissions standards for motorcycles should be adopted in Australia; and
10. a number of complementary or alternative measures that could be adopted to encourage the purchase and supply of more fuel-efficient vehicles.

Adelaide City Council Administration response

Question	Council Administration Response
Options to reduce vehicle emissions	
Adopt Euro 6/VI noxious emission standards for light and heavy vehicles	
<p>Q2 If Euro 6/VI standards were adopted, when would be an appropriate start date and why?</p>	<p>A three-year implementation plan with emissions standards enforced from no later than 2020, would:</p> <ul style="list-style-type: none"> • be consistent with transition periods in other countries; • give due weighting to industry requirements; • contribute to Australia achieving international obligations arising from the 2015 Paris Agreement under the United Nations Framework on Climate Change; and • support achievement of Council’s aspiration for the City of Adelaide to be carbon neutral by 2025 or earlier.
<p>Q4 Are there other ways governments could encourage the purchase and supply of vehicles that meet Euro 6/VI emissions standards?</p>	<p>The Australian Government could provide financial incentives for state and local governments to bring forward investments in new Euro 6 buses, and underwrite income for the provision of higher frequency services. This would reduce the average age of bus fleets, support higher passenger utilisation rates by improving perceptions of services, reduce operating costs, and fast track noise and air quality improvements in cities.</p>
<p>Q5 What measures could governments adopt to ensure vehicles continue to comply with noxious emission requirements beyond the point of supply to the market?</p>	<p>Council Administration supports adoption of an emission and roadworthiness testing scheme to:</p> <ul style="list-style-type: none"> • ensure emissions are aligned with car manufacture and maintenance standards; • improve road safety; • enhance the fuel-efficiency of the existing fleet by supporting the achievement of national, state and local government targets, including Adelaide City Council's carbon neutral target; • increase the demand for new vehicles; and • create employment and business opportunities in after-sales service.
<p>Q6 Should the Australian Government conduct a review to consider whether noxious emissions standards for motorcycles should be adopted in Australia?</p>	<p>Council Administration supports this suggestion as:</p> <ul style="list-style-type: none"> • motorcycles are a growing transport mode, being preferred by an increasing number of commuters and considered as a way to beat congestion; • dedicated on-street parking has been increased in response to demand;

		<ul style="list-style-type: none"> • all motorised transport modes must be improved to achieve carbon reduction; and • improvements to air quality will enhance the liveability and productivity of Australian cities.
Develop Fuel Efficiency (CO2) Standards		
Q7	What are the costs and benefits of adopting a fleet average standard for fuel efficiency (CO2)?	<p>Adopting an average standard would bring forward investment in new vehicles that will:</p> <ul style="list-style-type: none"> • reduce carbon emissions; • enhance the city experience; • improve public health; and • contribute to economic activity.
Q9	How would standards affect the range of vehicles offered in Australia?	<ul style="list-style-type: none"> • Increase industry certainty about performance requirements in the Australian market, removing the disadvantage for manufacturers importing low and zero emission vehicles. In turn, this could increase consumer choice and quality. • Influence community perceptions and support demand for manufacturers to import vehicles that offer low or zero emission options, including electric vehicles. • Prevent manufacturers disposing of stock in Australia that they can no longer sell in other markets where standards prevail. • Due to the phasing out of high-emission models, manufacturers may elect to bring forward new model release dates to the Australian market.
Q10	Apart from standards, are there any complementary or alternative measures that could be adopted to encourage the purchase and supply of more fuel efficient vehicles?	<p>Tax Reform:</p> <ul style="list-style-type: none"> • Introduce tax reform to novated lease expenses to remove the perverse incentive for vehicles to be driven additional kilometres each year to improve the tax advantages of ownership. Changes should send a clear signal to private owners and fleet managers to preference the lower fuel and servicing costs of electric vehicles. • To secure a cost neutral outcome for government, consideration could be given to phasing out liquid fuel deductions. Additional income to government would be offset against reduced fuel excise income and generous expense allowances for electric vehicles that can demonstrate they are powered by 100% renewable electricity that is either contracted through a power purchase agreement, GreenPower or generated onsite. • Encourage state governments to provide stamp duty (point of sale and annual insurance) and registration discounts for electric vehicles. This would generate additional revenue to the Australian Government through reduced expense claims in novated leases and business costs. • Amend the Fringe Benefits Tax laws as the high capital cost of cars coupled with the low operating costs adversely impact upon owners of electric vehicles. Introducing a limit to total liquid fuel expenses would remove the incentive for excessive driving and provide government savings that are required to incentivise electric vehicle, including plug-in hybrid (PHEV),

		<p>purchase.</p> <ul style="list-style-type: none"> Remove import restrictions such as tariffs from countries manufacturing EV/PHEVs. Provide luxury car tax exemptions until 2020 to support demand for higher capital cost vehicles. This should only be applied to 100% EV's or PHEVs with a range greater than 50 kilometres to cover average daily commute distances in electric mode and deliver benefits to government through lower carbon emissions and improved air quality. Governments could be supported and encouraged to: <ul style="list-style-type: none"> purchase electric vehicles to increase national demand to attract a greater range of models to the Australian market; demonstrate leadership and raise community awareness of the benefits of ownership; generate a supply source for the second-hand market that accelerates community uptake; enable tax off-sets for individuals to encourage purchase of zero emissions; provide stamp duty and lower registration costs; build public recharging infrastructure; and provide incentives for purchasers (as Adelaide City Council currently does through its Sustainable City Incentives Scheme, which provides up to \$500 to support installation of charging systems).
<p>Q12</p>	<p>Should the Australian Government conduct a review to consider whether fuel efficiency measures for motorcycles should be adopted in Australia?</p>	<p>Council Administration supports a review as:</p> <ul style="list-style-type: none"> motorcycles are a growing transport mode, being preferred by an increasing number of commuters and considered a way to beat congestion; fuel-efficient motorcycles, including zero emission electric models, could support achievement of air quality and carbon reduction targets; and motorcycles provide an alternative motorised transport option for city residents and reduce the need for space-intensive onsite car parking, reducing the cost of high-density developments.

Other complementary measures

Fuel Quality Standards

Q15	To what extent, if any, do current fuel quality standards limit the choices of vehicles/technologies in Australia and why?	Standards are required to reflect technical requirements of modern vehicles, to minimise and eliminate transport carbon emissions and to improve air quality and public health in cities.
Q16	Are there other measures that governments could adopt to encourage the supply and purchase of higher quality fuels?	The Australian Government's fuel excise is currently applied as a fixed cost per litre that is equally applied to liquid fuels in each category. To support use of higher-quality fuels, the excise formula should be modified to reduce or equalise the price difference between low and high-quality fuels. Revenue should be applied to off-set lost tax revenue through electrification of the Australian vehicle fleet.
Fleet Purchasing Policy		
Q23	What role, if any, should the Government fleet purchasing policy play in encouraging the supply and purchase of more efficient vehicles?	<p>1. The Government fleet purchasing policy should:</p> <ul style="list-style-type: none"> • create national demand that will attract a greater range of models in the Australian market for electric vehicles (EV and PHEV); • demonstrate leadership and raise community awareness of the benefits of ownership; • generate a supply source to the second-hand market that accelerates community uptake. This has been demonstrated through government purchase of hybrids, which has catalysed a change in the taxi fleet where it is reported that 90% are now hybrid; and • support early demand for companies investing in recharging infrastructure. <p>Each year, this would provide a large percentage of the Australian population with exposure to these leading technologies. It would promote the benefits of ownership and correct any incorrect perceptions about electric vehicle technologies.</p>
Tax policy		
Q24	How could taxes and charges for motor vehicle purchase and/or use be reformed to encourage the purchase and supply of more efficient vehicles?	<p>Refer to Council Administration's response to Question 10.</p> <p>To minimise the cost to government and maximise change within the vehicle fleet, incentives should only be provided to zero emission electric or PHEVs with a range greater than 50 kilometres on a single charge.</p>
Q25	To ensure incentives do not have any unintended consequences on air quality, should incentives include noxious emissions	Performance requirements should cover both carbon and noxious emissions standards. Incentives should secure a technology jump from internal combustion engines to electric vehicles (EVs and PHEVs) rather than dieselisation of the vehicle fleet, which will not maximise the benefits to government and the community.

	<p>requirements as well as CO2 requirements, or do current noxious emissions standards sufficiently mitigate this risk?</p>	<p>Focussing upon a technology leap to electric propulsion systems, rather than incremental technology changes to internal combustion engines, will:</p> <ul style="list-style-type: none"> • bring forward achievement of emission reduction targets; • support higher standards of living; • enhance city living; • improve public health; • reduced health system costs and premature deaths from respiratory diseases; and • climate change adaptation costs.
<p>Alternative Fuels and electric vehicles</p>		
<p>Q26</p>	<p>What measures could be adopted to improve consumer awareness of the benefits of alternative fuelled and electric vehicles, particularly where they complement environmental benefits?</p>	<p>Additional incentives for the car hire and taxi sectors to support zero emission EVs or extended-range PHEVs. This would permit a large proportion of the population to be exposed to these leading technologies. It would promote the benefits of ownership and correct any erroneous perceptions about the technologies.</p>
<p>Q27</p>	<p>What measures could be adopted to encourage the supply of alternative fuelled vehicles and supporting infrastructure, to reduce emissions from road transport?</p>	<p>The Australian Government could partner with Local and State Governments, private car park and petrol filling station operators to co-fund a nationwide roll-out of on- and off-street recharging infrastructure. This infrastructure should be an open-access model that allows mobile bundling of residential, business and transport electricity use to a single customer account. The coordinated development of this charging network would maximise market competition, accelerate roll-out and secure standardisation of the network.</p>
<p>Q28</p>	<p>How might fuel standards need to be adapted to accommodate alternative fuels?</p>	<p>In relation to electric vehicles, consideration should be given to :</p> <ul style="list-style-type: none"> • Use of full fuel cycle emissions factors (Scope 2 and 3 emissions) for electricity that is used to charge electric vehicle batteries; and • standards being set for carbon emissions, air pollution and energy efficiency (productivity) per kilometre travelled. <p>Standards should be configured with a long-term objective to maximise energy productivity and to eliminate tailpipe pollution. This approach will ensure the economic advantages of embracing innovation and change are captured by the Australian community and</p>

		ensure the transport sector is transformed to secure deep and lasting cuts to carbon emissions and urban air pollution.
Vehicle Emissions Testing		
Q29	Should the Australian Government conduct a testing program to assess the effectiveness of UN Regulations in reducing real-world emissions?	To protect consumers and ensure standards effectively and efficiently contribute to Government carbon reduction initiatives, Australian vehicle regulations should require manufacturers to demonstrate that their vehicle emissions meet standards in an on-road setting. The regime of random inspections and penalties should be increased to present a credible threat to manufacturers for non-compliance.
Q30	How should the costs of a testing programme be met?	As a consumer protection measure that delivers ongoing financial benefits to the purchaser, consideration should be given to an increase to fuel excise costs. The application of this 'levy' to liquid fuels would further strengthen the market signal for consumers to purchase zero-emission vehicles. Cost-recovery should not occur at the point of sale of new and second-hand vehicles as this would discourage fleet renewal.