

# *Will cars go green in the ACT?*

## *A case study of the reformed vehicle stamp duty*

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### **Abstract**

*In the year to December 2013, emissions from Australia's transport sector increased by 53.5% compared to 1990 levels. The domestic transport sector now accounts for over 70% of liquid fuels consumed in this country,<sup>1</sup> with passenger vehicles being the largest source of emission in this sector. Currently, the Australian Government has no fiscal instruments for mandatory fuel efficiency or carbon emission targets to reduce road transport emissions. Part 1 of the two-part series provided ex-post evidence that reforming vehicle purchase taxes/stamp duty differentiated on the basis of CO<sub>2</sub> emissions was an effective measure to significantly reduce road transport emissions. In 2009, the Council of Australian Governments (COAG) recommended that vehicles purchase taxes be reformed on the basis of new vehicles' "environmental performance", and proposed the Australian Capital Territory's (ACT's) vehicle purchase tax/stamp duty as one model for this approach. However, the 2010 Henry Report rejected COAG's recommendation. This article revisits the COAG's recommendations and provides an analysis for Australia's policy makers on whether the tax design and price signal of ACT's vehicle purchase tax provides a model to be adopted by the rest*

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1 Australian Government, Department of the Environment, "Quarterly Update of Australia's National Greenhouse Gas Inventory: December 2013, Australia's National Greenhouse Accounts": 9. Available at [www.environment.gov.au/system/files/resources/d616342d-775f-4115-bcfa-2816a1da77bf/files/nggi-quarterly-update-dec13.pdf](http://www.environment.gov.au/system/files/resources/d616342d-775f-4115-bcfa-2816a1da77bf/files/nggi-quarterly-update-dec13.pdf). Accessed 27 April 2014.

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*of Australia, or whether an alternative instrument is recommended. The literature review suggests that to achieve significant reductions in average CO<sub>2</sub> emissions from new light vehicles will depend on the choice of tax design, a strong upfront price signal, level of tax differential, public acceptance, and the interaction of other complementary tax policy measures. The article will assist policy makers in designing tax policy measures for the proposed Energy White Paper in 2015. In turn, this proposal will meet the objectives outlined in the Issues Paper, that is, to encourage a behavioural change in buyers that could lead to their choosing fuel-efficient, low-carbon emitting new vehicles, as well as to help address the barriers and challenges to reforming vehicle purchase taxes/stamp duty.*

## 1. Introduction

This article is Part 2 of a two-part series that revisits and reviews the recommendation by the Council of Australian Government (COAG) in 2009 to reform vehicle purchase taxes differentiated on the basis of new light vehicles' "environmental performance". Part 1 of the two-part series provided the ex-post analysis and evidence that reforming vehicle taxes into a fiscal environmental tax<sup>2</sup> by differentiating the tax on the basis of CO<sub>2</sub> emissions was pivotal in EU member states' significantly accelerating the transition to low-carbon technology, and meeting the EU's mandatory CO<sub>2</sub> emission target of 130g/km by 2015.

In 2007, the European Commission (EC) advised member states of their important responsibility to adopt environmental fiscal measures through their taxation policies to drive consumer demand towards fuel-efficient cars, and to make it easier for the EU to deliver its CO<sub>2</sub> average new car fleet reduction target<sup>3</sup> of 130g/km by 2015. The EC encouraged member states to reform their car taxation policies differentiated on the basis of CO<sub>2</sub> emissions so as to "gradually induce a switch towards relatively less emitting cars"<sup>4</sup> The ex-post analysis and evidence in Part 1 of the two-part series support the reintroduction of the recommendation by COAG to reform vehicle purchase taxes (commonly known as stamp duty) for the purpose of increasing the demand for fuel-efficient, low-carbon emitting vehicles.<sup>5</sup> However, the recommendations that were submitted to the 2008 Henry Review on Australia's Future Tax System were rejected in the final Henry Report in 2010.<sup>6</sup>

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- 2 J Milne and MS Andersen (2012). "Introduction to environmental taxation concepts and research". *Edward Elgar Handbook of Research on Environmental Taxation*, 15–32 at 22. Environmental-related taxes are categorised according to their relative environmental and fiscal functions, such as incentive environmental taxes (also known as regulatory taxes), financing environmental taxes, and fiscal environmental taxes. The reforms of vehicle purchase taxes/stamp duty differentiated on the basis of CO<sub>2</sub> emissions are primarily aimed at generating revenue and altering behaviour for the benefit of the environment.
  - 3 European Commission, Communications from the Commission to the Council and the European Parliament, "Results of the review of the community strategy to reduce CO<sub>2</sub> emissions from passenger cars and light-commercial vehicles", (SEC) Brussels, February 2007, p 7. Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0019:FIN:n:PDF>. Accessed 12 April 2014.
  - 4 Ibid p 9.
  - 5 Australian Government, Department of Infrastructure and Transport (Cth), "Light vehicle CO<sub>2</sub> emission standards for Australia, Key Issues – Discussion paper", 2011. Available at [www.infrastructure.gov.au/roads/environment/co2\\_emissions/files/Light\\_Vehicle\\_CO2\\_Standards\\_Discussion\\_Paper.pdf](http://www.infrastructure.gov.au/roads/environment/co2_emissions/files/Light_Vehicle_CO2_Standards_Discussion_Paper.pdf). Accessed 1 April 2014.
  - 6 Treasury, Henry Final Report, *Australia's future tax system* (2010), p 363. Available at [www.treasury.gov.au](http://www.treasury.gov.au).

To date, Australia has no mandatory fuel efficiency standards, no CO<sub>2</sub> emission targets, and no effective fiscal or incentive environmental instruments to reduce road transport emissions. In 2012, road transport emissions comprised 84% of Australia's transport emissions, that is, 15% of total emissions.<sup>7</sup> Without reducing transport emissions, the Australian Government will find it difficult to meet its international obligation to reduce the nation's overall greenhouse gas emissions by 5% of 2000 levels. That is, the National Greenhouse Gas Inventory data for the year to September 2013 showed that transport emissions had increased by 2.0%, offsetting the 5.5% reduction in the electricity energy sector.<sup>8</sup> Transport represents more than one-third of Australia's energy use and generates 40% of all household emissions.<sup>9</sup> Furthermore, there are more new cars sold in Australia per capita than in any other market in the world.<sup>10</sup> In 2013, it was reported that sales were 2.2% higher than in 2012, and that it was a record year with sales totaling 1.136 million.<sup>11</sup> The industry new car sales dropped in 2014 to 1.113 million.<sup>12</sup> However the growth in vehicle sales has been in high-carbon emitting SUVs, which account for 30% of new vehicle sales.<sup>13</sup> Thus, almost one in three new vehicles now sold in Australia is a high-carbon emitting SUV.

In 2013, the Australian Government's Bureau of Resources and Energy Economics reported that the transport sector accounts for the largest share of Australia's end use

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- 7 Australian Government, Department of Climate Change and Energy Efficiency, "Transport Emissions Projections 2012". Available at [www.climatechange.gov.au/sites/climatechange/files/files/climate-change/projections/aep-transport.pdf](http://www.climatechange.gov.au/sites/climatechange/files/files/climate-change/projections/aep-transport.pdf). Accessed 12 April 2014.
  - 8 Australian Government, Department of the Environment, "Australian National Greenhouse Accounts Quarterly Update of Australia's National Greenhouse Gas Inventory September Quarter 2013". Available at [www.environment.gov.au/system/files/resources/e18788bd-2a8a-49d1-b797-307a9763c93f/files/quarterly-update-september-2013\\_1.pdf](http://www.environment.gov.au/system/files/resources/e18788bd-2a8a-49d1-b797-307a9763c93f/files/quarterly-update-september-2013_1.pdf). Accessed 22 February 2014.
  - 9 Australian Government, Department of Industry (Cth) "Report of the Prime Minister's Task Group on Energy Efficiency", July 2010, p 126. Available at [http://ee.ret.gov.au/sites/default/files/documents/03\\_2013/report-prime-minister-task-group-energy-efficiency.pdf](http://ee.ret.gov.au/sites/default/files/documents/03_2013/report-prime-minister-task-group-energy-efficiency.pdf).
  - 10 J Dowling (2013) "Australians are buying cars at a faster rate than other major economies", 8 January 2013. Available at [www.news.com.au/national/australians-buying-cars-at-faster-rate-than-us-japan-and-the-uk/story-fndo4eg9-1226549553197](http://www.news.com.au/national/australians-buying-cars-at-faster-rate-than-us-japan-and-the-uk/story-fndo4eg9-1226549553197). Accessed 8 September 2014. Car sales per capita were 1,112,032 (2012 sales) in a population of 22,864,983: 48,600 cars per million.
  - 11 Federal Chamber of Automotive Industries, "2013 New Vehicle Market". Available at [www.fcai.com.au/sales/2013-new-vehicle-market](http://www.fcai.com.au/sales/2013-new-vehicle-market). Accessed 8 September 2014. Australians bought a record 1,136,227 cars in 2013 and 1,112,032 vehicles in 2012. Business purchases in the SUV segment increased by 5.9%. Private sales were up a total 8.1%, which included 37.2% rise in private purchases of light commercial vehicles. Roy Morgan Research, "Australia's \$10 billion budget for large SUVs". Available at [roymorgan.com/~media/Files/Findings%20PDF/2013/October/5262-price-budgets-for-new-car-intenders-by-segment-august-2013.pdf](http://roymorgan.com/~media/Files/Findings%20PDF/2013/October/5262-price-budgets-for-new-car-intenders-by-segment-august-2013.pdf). Accessed 10 March 2014.
  - 12 Costello Mike., (2015) "2014 car sales: winners and losers", Caradvice. Available at <http://www.caradvice.com.au/328099/2014-car-sales-winners-and-losers/> Accessed 3 March 2015.
  - 13 Ibid.

consumption. That is, for the period 2000–01 to 2011–12, energy consumption of transport increased by an estimated average of 2.4% per annum per year.<sup>14</sup> Transport is the largest consumer of liquid fuels (including LPG and refined products), with road transport using the most final energy and accounting for 74% of liquid fuel consumption.<sup>15</sup> In this sector, passenger cars are the largest contributors to CO<sub>2</sub> emissions.

Reducing road transport emissions requires less dependence on fossil fuels, and the most cost effective way to reduce dependence on fossil fuels is to increase energy efficiency.<sup>16</sup> This can be achieved through improving vehicle efficiency and reducing CO<sub>2</sub> emissions, moving passenger kilometres to higher efficiency modes (modal shifting), or increasing vehicle occupancy.<sup>17</sup> The article will focus on improving vehicle efficiency through encouraging sales of fuel-efficient, low-emitting vehicles. It contends that this encouragement should be in the form of a strong price signal conveyed to new motor vehicle buyers at the time of acquisition to facilitate a behavioural shift toward buying fuel-efficient, lower-CO<sub>2</sub>-emitting vehicles.

Given that buying a car is one of the largest purchase considerations most people will make,<sup>18</sup> that the average life span of the vehicle chosen can be 20 years, and that about 4% of the fleet is retired each year,<sup>19</sup> a strong price signal will be an important mechanism for behavioural change. In the 1.7 million households that purchased a passenger vehicle between March 2011 and March 2012, purchase cost was considered to be a key factor (58%), followed by fuel economy and running costs.<sup>20</sup> In terms of non-financial factors, size and type of vehicle were the next most important considerations.<sup>21</sup> However, despite increased public awareness of the effect of greenhouse gases from passenger vehicles, environmental impact and carbon emissions were the *least* important considerations when buying a car in Australia in 2012.<sup>22</sup>

Shifting environmental impact from least important consideration to one of the most important considerations via a strong price signal at the time of acquisition

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14 Australian Government, Department of Resources, Energy and Tourism, Bureau of Resources and Energy Economics, (BREE) (2013) “Energy in Australia”, May 2013, p 21.

15 Ibid p 73.

16 ZP Enkvist et al, (2007) “A cost curve for greenhouse gas reduction”, *The McKinsey Quarterly*, 35–45.

17 United Kingdom, UK Energy Research Centre, “What policies are effective at reducing carbon emissions from surface passenger transport? A review of interventions to encourage behavioural and technological change” (Robert Gross et al) London, March 2009.

18 Australian Bureau of Statistics, “4102.0 Australian Social Trends, July 2013”.

19 Australian Government, Climate Change Authority, Light vehicle emissions standards for Australia, Research Report, June 2014, ch 2, p 23.

20 Australian Bureau of Statistics, above n 18.

21 Ibid.

22 Ibid.

(sufficiently differentiated) will provide the largest incentive for CO<sub>2</sub> reductions.<sup>23</sup> The article revisits the 2009 COAG recommendation to reform vehicle taxes for the purpose of reducing Australia's road transport emissions. It also reviews the ACT Government's reformed vehicles purchase tax/stamp duty known as the Green Vehicle Duty Scheme (GVDS) to ascertain if it is a possible model for state and territory governments to adopt, or whether an alternative instrument is recommended.

The structure of the article is as follows: section 2 discusses the importance of reforming vehicle taxes by policy makers who are under mounting international pressure to reduce the nation's CO<sub>2</sub> emissions; section 3 reviews COAG's recommendation to the Henry Review of Australia's Future Tax System in 2008 to adopt differentiation vehicle taxation; section 4 examines the effectiveness of the ACT's Green Vehicle Duty Scheme (GVDS) as a policy measure to reduce road transport emissions compared to the EU vehicle purchase taxes in Part 1; and section 5 reviews the barriers and challenges to reforming vehicle purchase taxes.

## 2. Australia to Increase its Future International Commitment

By 2020, Australia has an obligation to meet its international Kyoto Protocol commitment to reduce national greenhouse gas emissions by 5% of 2000 levels. Moreover, there is mounting international pressure on the Australian Government to increase its commitment to climate change.<sup>24</sup> Intense United Nations' climate change negotiations took place in 2014, with countries discussing their proposed commitment to reduce greenhouse gas emissions that will ultimately lead to a new global climate agreement in Paris in 2015 (to come into force from 2020).<sup>25</sup> In the first quarter of 2015, governments are expected to "intensify domestic preparations" for their contributions towards the agreement.<sup>26</sup> Consequently, the Australian Government will face growing international pressure to increase its commitment to reducing greenhouse gas (GHG) emissions.

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23 European Commission, European Commission's Directorate-General for Environment (2002), "Fiscal Measures to Reduce CO<sub>2</sub> Emissions from New Passenger Cars", Final Report. A study undertaken by COWI A/S, January 2002.

24 J Kehoe (2014) "Heat on Abbott as US urges climate action", *The Australian Financial Review*, 8–9 March, p 7.

25 United Nations Framework Convention on Climate Change (2014) "Background on the UNFCCC: The international response to climate change". Available at <https://unfccc.int/2860.php>. Accessed 8 March 2014.

26 United Nations Framework Convention on Climate Change, (2014) "Warsaw outcome". Available at [https://unfccc.int/key\\_steps/warsaw\\_outcomes/items/8006.php](https://unfccc.int/key_steps/warsaw_outcomes/items/8006.php). Accessed 9 March 2014.

Given this, the Australian Government will need to address its lack of policy instruments to reduce transport emissions. The International Energy Agency (IEA) estimates that if rigorous measures are implemented, fuel consumption of new light vehicles can be halved by about 2030, thereby cutting emissions and improving energy security.<sup>27</sup>

In its 2012 White Paper, the Australian Government discussed its reliance on higher oil prices, and on the transition to low energy transport and alternative fuels to achieve a reduction in GHG emissions. However, it acknowledged that “success will depend on the ability of these technologies to meet consumer needs.”<sup>28</sup>

In 2013, the Australian Government released an issues paper, which was a consultative paper that sought comment and consultation on possible measures to encourage changes in behaviour and uptake of technology to improve transport energy,<sup>29</sup> as well as any barriers to the uptake of electric vehicles and advanced biofuels<sup>30</sup> to be considered in the Energy White Paper.

In 2013, the Australian Government released the Emissions Reduction Fund Green Paper (known as the Direct Action Plan) in which it referred to activities that could reduce transport emissions, including switching to lower emission fuels and using more efficient vehicles. The Direct Action Plan also referred to measuring the reduction in transport emissions by using a baseline such as rewarding fleet operations that reduce emissions per tonne of freight per kilometre. The government claimed that the benefit of this approach is that emission reductions can be calculated and applied to fleets of different sizes.<sup>31</sup> In effect, the government’s policy is to pay businesses to pollute less through an Emissions Reduction Fund.

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27 International Energy Agency, (2009) “Transport, energy and CO2”, p 169. Available at [http://ee.ret.gov.au/sites/default/files/documents/03\\_2013/report-prime-minister-task-group-energy-efficiency.pdf](http://ee.ret.gov.au/sites/default/files/documents/03_2013/report-prime-minister-task-group-energy-efficiency.pdf).

28 Australian Government, Department of Industry, “2012 Energy White Paper: Australia’s energy transformation”, para 3.3.8. Available at [www.ret.gov.au/energy/facts/white\\_paper/Pages/energy\\_white\\_paper.aspx#what](http://www.ret.gov.au/energy/facts/white_paper/Pages/energy_white_paper.aspx#what). Accessed September 2013.

29 Australian Government: Department of Industry (2013) “Energy White Paper Issues Paper, December 2013”, p 38. Available at [http://ewp.industry.gov.au/sites/ewp.industry.gov.au/files/energy-white-paper-issues-paper\\_0.pdf](http://ewp.industry.gov.au/sites/ewp.industry.gov.au/files/energy-white-paper-issues-paper_0.pdf). Accessed 3 February 2014.

30 Ibid p 33.

31 Australian Government, Department of the Environment (2013) “Emissions Reduction Fund Green Paper”, p 54. Available at [www.environment.gov.au/system/files/resources/66237232-3042-4cd8-99a3-040705fead3b/files/erf-green-paper\\_1.pdf](http://www.environment.gov.au/system/files/resources/66237232-3042-4cd8-99a3-040705fead3b/files/erf-green-paper_1.pdf). Accessed 4 April 2014.

However, with the release of the 2014 Emissions Reduction Fund White Paper, the government has conceded that:<sup>32</sup>

“... direct funding approaches may not be the most efficient means of increasing the uptake of more efficient vehicles ... because choices are often affected by non-price considerations such as size, colour, function and branding. This means that even relatively large incentives may do little to change consumer preference. In these circumstances, emissions reductions are likely to be achieved more efficiently through other measures ...”

Here, the government suggested that changing consumer preference for fuel-efficient vehicles can be promoted through other government measures.<sup>33</sup>

However, for Australia to meet its current and future international commitments, the Australian Government will require state and territory governments to improve fuel efficiency and reduce CO<sub>2</sub> emissions from road transport. This review will assist Australian Government policy makers to either revisit and adopt COAG's 2009 recommendations, or consider an alternative tax policy design to influence consumers' choice of fuel-efficient and low carbon-emitting vehicles.

### 3. COAG Supports Reforming Vehicle Purchase Taxes/Stamp Duty

In 2009, the Vehicle Fuel Efficiency Report was prepared in response to the request in 2007 from Mr Kevin Rudd, the then prime minister and chair of COAG, for the Australian Transport Commission (ATC) and the Environment Protection Heritage Council (EPHC) to form a Vehicle Fuel Efficiency Working Group (Working Group) and “develop jointly a package of vehicle fuel efficiency measures designed to move Australia towards international best practice”.<sup>34</sup> The scope of the Working Group was to focus on measures that would improve the “greenhouse emission performance of new vehicle models relative to existing models”, increase the overall proportion of lower greenhouse emission vehicles in the vehicle population, and deliver improved transport greenhouse efficiency reductions in the short to medium term (5–20 years).<sup>35</sup>

At the time, the Australian Government acknowledged that “complementary measures” would be required as road transport emissions would not be adequately

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32 Australian Government (2014) “Emissions Reduction Fund White Paper”, p 40 para 2.7.

33 Ibid p 40.

34 Australian Transport Council and Environmental Protection and Heritage Council Vehicle Fuel Efficiency Working Group (2008) “Vehicle fuel efficiency, potential measures to encourage the uptake of more fuel-efficient, low-carbon emission vehicles” (*Australian Transport Council*) Canberra, September 2008, p 5.

35 Ibid p 6.

addressed with the introduction of a “cap and trade” emission trading scheme known as the Carbon Pollution Reduction Scheme (CPRS) which was proposed to commence on 1 July 2010.<sup>36</sup> However, due to lack of bipartisan support, the CPRS was finally shelved in June 2010.<sup>37</sup>

The Working Group referred to the various European Commission reports on transport CO<sub>2</sub> emission mitigation policies, such as the 2002 European COWI Study<sup>38</sup> and the 2008 UK King Review.<sup>39</sup> All of these reports concluded that measures directed at improving vehicle fuel efficiency are the most effective strategies in reducing CO<sub>2</sub> emissions from road transport.<sup>40</sup> The Working Group referred to the experience of many Member States, which suggested that strong fiscal signals around purchase and ongoing ownership costs (registration costs) of vehicles could be an effective mechanism in influencing behavioural changes in both the consumer, in purchasing a more efficient vehicle, and the manufacturers, in supplying more fuel-efficient vehicles to the market.<sup>41</sup>

The Final Vehicle Fuel Report released by the Working Party in April 2009 recommended the following fiscal measures to encourage the demand for fuel-efficient and low-emission vehicles:

“State and territory governments give consideration to revising their stamp duty and/or registration regimes for new light vehicles to establish differential charges linked to environmental performance. Limiting the scheme to new vehicles would be easier to implement and raise fewer equity issues.”<sup>42</sup>

“Any differential stamp duty and/or registration charges should utilise the environmental ratings published on the Australian Government’s Green Vehicle Guide as the measure of environmental performance. (The ACT stamp duty system provides one model of this approach.)”<sup>43</sup>

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36 Ibid p 15.

37 P Garrett (2010) “Garrett first heard of ETS shelving in newspaper”, *ABC Online News*. Available at [www.abc.net.au/news/2010-06-05/garrett-first-heard-of-ets-shelving-in-newspaper/855030](http://www.abc.net.au/news/2010-06-05/garrett-first-heard-of-ets-shelving-in-newspaper/855030). Accessed 8 May 2013.

38 European Commission, European Commission’s Directorate-General for Environment, above n 23.

39 Great Britain, British Government (2007) “King Review of low-carbon cars” (Professor Julia King) Birmingham, March 2007.

40 Australian Transport Council and Environmental Protection and Heritage Council Vehicle Fuel Efficiency Working Group, above n 34, p 32.

41 Ibid p 28.

42 Ibid p 29, Recommendation 2.1.

43 Ibid p 29, Recommendation 2.2.

“Revenue neutrality should be considered as a design feature for any differential charges to assure the community that the objective is not simply higher public revenue.”<sup>44</sup>

The 2009 report was the first acknowledgement that Australian state and territory governments had agreed on a comprehensive strategy to accelerate energy efficiency to combat climate change.<sup>45</sup> On 2 July 2009, COAG called on the Henry Tax Review<sup>46</sup> to consider the merits of the recommendations for financial incentives to encourage the purchase of fuel-efficient vehicles through a differentiated vehicle taxation regime linked to environmental performance.<sup>47</sup> However, the 2010 Henry Review rejected COAG’s recommendation.

### 3.1 *The 2010 Henry Review rejects reforming vehicle taxes*

The 2010 Henry Review stated that, “targeting vehicle fuel efficiency as a means of achieving reduced emissions is a blunt instrument compared to targeting emissions directly by reflecting the cost of carbon emissions in fuel prices.”<sup>48</sup> The Report recommended that differential stamp duty and registration schemes aimed at encouraging the purchase of more fuel-efficient vehicles should be abolished once the emission trading scheme (CPRS) or equivalent scheme was introduced.<sup>49</sup> The Report considered that a market-based mechanism such as the CPRS was the most cost-effective way to reduce Australia’s carbon emissions,<sup>50</sup> and supplementary policies would only be required as a result of “clearly identified market failures that create barriers to the take-up of cheaper abatement opportunities.”<sup>51</sup>

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44 Ibid p 29, Recommendation 2.3.

45 Australia, Council of Australian Governments, *COAG Meeting July 2009*. Available at [www.coag.gov.au/node/66#4.%20Climate%20Change](http://www.coag.gov.au/node/66#4.%20Climate%20Change). Accessed 13 May 2013.

46 In 2008, the Australian Government announced a major review into Australia’s future tax system chaired by the former Secretary to the Treasury, Dr Ken Henry (called the Henry Review). The terms of reference for the review were to create a tax transfer structure that would position Australia to deal not only with current tax design problems, but also to focus on the changes required to meet future demographic, social, economic and environmental challenges. In this way, duty/registration charges could be reformed into an environmental tax.

47 Australia, Council of Australian Governments (2009), above n 45.

48 Australian Government, (2010) *Australia’s future tax system*, p 363. Available at [http://taxreview.treasury.gov.au/content/content.aspx?doc=html/pubs\\_reports.htm](http://taxreview.treasury.gov.au/content/content.aspx?doc=html/pubs_reports.htm). Accessed 29 September 2014.

49 Ibid p 364. The CPRS was to commence on 1 July 2010, under the Carbon Pollution Reduction Scheme.

50 Ibid p 362.

51 Ibid p 363.

The 2010 Henry Review did not support the Australian Government's argument that there is market failure in increasing the uptake of low-emission vehicle technology,<sup>52</sup> and rejected the "complementary measures" recommended by COAG's Working Groups, such as that differential stamp duty/registration charges should be linked to environmental performance. The Report recommended that such taxes and charges should remain as revenue raising, and not be reformed into an environmental tax.<sup>53</sup>

Duff (2003) explained that many economists promoting an emission trading scheme assume that the market is efficient and believe taxes should affect the market outcomes as little as possible as they are often regarded as distorting market signals.<sup>54</sup> The literature does not support the "fuel user" as an economically rational consumer in an efficient market. Greene et al (2009) stated that consumers undervalue fuel economy because of the combined effects of uncertainty about the cost and value of fuel economy, and loss aversion behaviour that leads to market failure.<sup>55</sup> Van Dender (2009) found that the loss aversion argument provides a theoretical argument for consumers' low willingness to pay for fuel economy improvements up front in return for uncertain reductions in fuel expenditure.<sup>56</sup> Such findings clearly identify market failure, support the need for environmental fiscal instruments to overcome uncertainty and loss aversion, and influence consumers in choosing fuel-efficient vehicles at the time of acquisition, which subsequently reduces CO<sub>2</sub> emissions.<sup>57</sup>

#### 4. Australian Capital Territory: Green Vehicle Duty Scheme

The ACT Government is the first and only jurisdiction in Australia to reform vehicle purchase taxes/stamp duty by setting differential stamp duty costs for new light vehicles on the basis of these vehicles' "environmental performance". The taxation policy measure is called the Green Vehicles Duty Scheme (GVDS) and was introduced

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52 Australian Transport Council and Environmental Protection and Heritage Council, above n 34, p 18.

53 Australian Government, above n 48, p 362. Recommendation 66:

"The revenue raising component of State taxes on motor vehicle ownership and use should be made explicit and over time only be used to recover those costs related to road provision."

54 D Duff (2003) "Tax policy and global warming", *Canadian Tax Journal*, 2063–2118.

55 DL Greene, J German and MA Delucchi, (2009) "Fuel Economy: The Case for Market Failure. In Sperling", D James Cannon (eds), *Reducing Climate Impacts in the Transportation Sector*. Springer Science, Springer, 2008, pp 181–206.

56 K Van Dender, (2009), "Energy policy in transport and transport policy" 37 *Energy Policy* 3854–3862, at 3857. Loss aversion means that consumers evaluate outcomes in terms of changes from a reference state of wealth, and that losses are valued more than equivalent gains (to a larger extent than can be explained by declining marginal utility).

57 A Mortimore, (2014), "Reforming Vehicle Taxes on New Car Purchases can reduce Road Transport Emissions – Ex Post Evidence" 29 *Australian Tax Forum*, SSRN-id247142.pdf (2–40).

in September 2008 to provide “an incentive for the purchase of low-emission vehicles and a disincentive against the purchase of vehicles with poor environmental performance”.<sup>58</sup>

#### 4.1 Overview

The reform was part of the ACT Government’s climate change response entitled “Weathering the change – the ACT climate change strategy for the period 2007–2015”.<sup>59</sup> In October 2010, under its *Climate Change and Greenhouse Gas Reduction Act 2010* (ACT), the ACT Government introduced the country’s most ambitious greenhouse gas targets for the ACT: zero net greenhouse gas emission by 2060; 40% reduction of 1990 levels of emissions by 2020; 80% of 1990 levels of emission by 2050<sup>60</sup>, compared to the national commitment of reducing the country’s emissions by 5% of 2000 levels by 2020.<sup>61</sup>

In its report, the ACT Government set a new benchmark for Australia’s most ambitious greenhouse gas reduction targets, with the ACT Minister for the Environment, Climate Change and Water, Mr Simon Corbell, stating that:

“Around Australia, people have become disenchanted with the lack of real action to address climate change. By passing the Climate Change and Greenhouse Gas Reduction Bill 2010, the Act is showing the rest of the country what must be done.”

The ACT Government stated that the growth in emissions from passenger vehicles averaged around 1.2% since 1990,<sup>62</sup> and that significant emissions and cost savings are associated with the move toward fuel-efficient vehicles in the short to medium term.<sup>63</sup> The government referred to the Australian National Transport Commission’s report that showed that if Australians had purchased new vehicles with “best-in-class emissions”, national average carbon emissions from the passenger vehicle fleets

58 Australian Capital Territory Government, *Summary of Actions* (2013). Available at [www.transport.act.gov.au/\\_\\_data/assets/pdf\\_file/0006/397383/Summary\\_of\\_Actions\\_EDS\\_ACT\\_Transport\\_Policy\\_FA\\_final\\_web.pdf](http://www.transport.act.gov.au/__data/assets/pdf_file/0006/397383/Summary_of_Actions_EDS_ACT_Transport_Policy_FA_final_web.pdf). Accessed on 16 May 2014.

59 ACT Government, “Weathering the Change”. Available at [www.environment.act.gov.au/\\_\\_data/assets/pdf\\_file/0015/240333/strategy\\_plan\\_version4.pdf](http://www.environment.act.gov.au/__data/assets/pdf_file/0015/240333/strategy_plan_version4.pdf). Accessed 11 March 2014.

60 Australian Capital Territory Government, “Environment and Sustainable Development” (2012). Available at [www.environment.act.gov.au/climate\\_change/greenhouse\\_gases\\_in\\_the\\_act](http://www.environment.act.gov.au/climate_change/greenhouse_gases_in_the_act). Accessed 16 May 2014.

61 Australian Government, “Clean Energy Future” (2011). Available at [www.cleanenergyfuture.gov.au/transport-fuels/](http://www.cleanenergyfuture.gov.au/transport-fuels/). Accessed 4 September 2010.

62 Australian Capital Territory, “A new climate change strategy and action plan for the Australian Capital Territory” 2012, p 57. Available at [www.environment.act.gov.au/\\_\\_data/assets/pdf\\_file/0004/254947/AP2\\_Sept12\\_PRINT\\_NO\\_CROPS\\_SML.pdf](http://www.environment.act.gov.au/__data/assets/pdf_file/0004/254947/AP2_Sept12_PRINT_NO_CROPS_SML.pdf). Accessed 26 February 2014.

63 Ibid p 59.

would have been reduced to 126g/km. This would have meant a reduction of 34%<sup>64</sup> on Australia’s average carbon dioxide emissions for new passenger vehicles and light commercial vehicles of 192g/km for 2013<sup>65</sup>

The ACT Government deliberated on the opportunities required to encourage vehicle buyers to choose “best-in-class”. It considered the introduction of “environmental performance-based charging” for registration and/or stamp duty on the acquisition of new motor vehicles<sup>66</sup> because it “targets people at the time of vehicle purchase rather than after they’ve already bought a car”.<sup>67</sup> That is, the existing vehicle purchase tax/stamp duty was reformed into a “fiscal environmental tax”, which is a tax/duty that is primarily aimed at generating revenue and designed to have a significant positive effect on the environment.<sup>68</sup>

## 4.2 Green Vehicle Duty Scheme

The vehicle purchase tax/stamp duty rates in place before the introduction to the GVDS are shown in Table 1 below.

**Table 1: Vehicle purchase tax/stamp duty before GVDS**

Duty payable on vehicles < or equal to \$45,000	Duty payable on vehicles with value greater than \$45,000
3% of the dutiable value	\$1,350 + 5% of dutiable value exceeding \$45,000

Only two duty rates applied as a percentage of market value, depending on whether the market value was less than, equal to, or greater than \$45,000. Market value and purchase value of a new light motor vehicle include GST and a luxury car tax (LCT) (if applicable).

The GVDS introduced by the ACT Government on 3 September 2008 differentiated the duty rates on the basis of new light vehicles’ “environmental performance score”

64 Australian Government, National Transport Commission (2013) “Carbon Dioxide Emissions from New Australian Vehicles”, p 22. Available at [www.ntc.gov.au/filemedia/Reports/CarbonEmisNewAustVeh2013.pdf](http://www.ntc.gov.au/filemedia/Reports/CarbonEmisNewAustVeh2013.pdf). Accessed 25 May 2014.

65 Ibid p 23.

66 Australian Capital Territory Government, “Weathering the Change”, above n 59.

67 Australian Capital Territory Government, “Green Vehicle Duty Scheme” (2013). Available at [www.rego.act.gov.au/assets/PDFs/Green\\_Vehicle\\_A5\\_brochure.pdf](http://www.rego.act.gov.au/assets/PDFs/Green_Vehicle_A5_brochure.pdf). Accessed 16 May 2013.

68 K Maatta, (2006) “Environmental Taxes”, 1 *Edward Elgar Handbook of Research on Environmental Taxation*, 114, at 20. The primary purpose of the taxes is to generate revenue, but may have a significant positive effect on the environment. The GVDS is not an incentive environmental tax as the primary purpose of the tax/duty is to generate revenue for the government.

determined from the Green Vehicle Ratings of “A”, “B”, “C” or “D” provided in the Commonwealth’s Green Vehicle Guide (GVG) (as discussed in section 4.2.1 below).<sup>69</sup>

**Table 2: Vehicle purchase tax/stamp duty payable on new motor vehicles**

Green vehicle rating	*Duty payable on vehicles < or equal to \$45,000	*Duty payable on vehicles with value greater than \$45,000
A	Nil	Nil
B	2% of the dutiable value	\$900 + 4% of dutiable value exceeding \$45,000
C	3% of the dutiable value	\$1,350 + 5% of dutiable value exceeding \$45,000
D	4% of the dutiable value	\$1,800 + 6% of the dutiable value exceeding \$45,000

\* ACT Government: ACT Revenue Office: Green Vehicle Rating for s 208(1) of the Duties Act 1999.

The price signal (shown in Table 2) indicates a nil rate of duty for vehicles with an “A” rating, an increase in the tax rate/duty for vehicles with a Green Vehicle Rating of “B”, no change in tax rate/duty for vehicles with a “C” rating, and a 1% increase in the tax rate/duty for vehicles with a “D” rating.

The ACT Government claimed that the above differential stamp duty rates for new light vehicles when applied at the time of purchase have a “greater potential to change people’s purchasing behaviour” by providing an incentive for the purchase of low-emitting vehicles and a disincentive against the purchase of vehicles with poor environmental performance.<sup>70</sup> The “price signal” of ACT’s GVDS can be compared with the previous duty rates as shown in Table 3 below.

69 Australian Capital Territory Government, *Motor vehicle registration duty calculator* (2013). Available at <http://revenue.act.gov.au/calculators/motor-vehicle-registration-duty-calculator>. Accessed 10 May 2013.

70 Australian Capital Territory Government, (2013) *Green Vehicle Duty Scheme*, above n 67.

**Table 3: Price signal of differentiated rates under GVDS compared with former duty rates**

Vehicle	CO <sub>2</sub> g/km	Green vehicle rating	Fuel	*Retail price \$	ACT stamp duty payable under old system	% Duty old system	ACT GVDS	% Duty under GVDS	Savings/extra taxes
Prius 1.8L 4cyc	89	A	Hybrid	37,389	1,121	3.0	Nil	0	-1,121
Ford Focus 4 cyc, 2.0L	154	B	Petrol	36,289	1,088	3.0	725	2.0	-363
Citroen C4 e-HDI Seduction	101	B	Diesel	30,690	920	3.0	613	2.0	-307
Holden VF Commodore	222	B	Petrol	40,690	1,221	3.0	819	2.0	-402
Toyota Aurion GSV50R	215	B	Petrol	40,139	1,204	3.0	802	2.0	-402
Hyundai i30 Active GD	160	B	Petrol	27,764	834	3.0	555	2.0	-279
Ford Focus 4cyc, 2.0L	144	C	Diesel	40,139	1,204	3.0	1,204	3.0	No change
Toyota Camry	183	C	Petrol	35,002	1,050	3.0	1,050	3.0	No change
Hyundai 2013 i30 Active	122	C	Diesel	28,424	852	3.0	852	3.0	No change
Ford Falcon G6E EcoBoost	201	C	Petrol	51,408	1,670	3.2	1,670	3.2	No change
Toyota Prado	232	D	Petrol	61,589	2,179	3.5	2,795	4.5	+616

\* Recommended retail price (inclusive of GST) from [www.redbook.com.au](http://www.redbook.com.au).

The ACT Government promoted the introduction of the GVDS by advising new car buyers that models in the “B” category would generally be cheaper to buy, and that other models “will either receive a reduction in duty, or no change”<sup>71</sup> compared to the former rates of duty applicable prior to 3 September 2008 (as shown in Table 3).

Nonetheless, Table 3 questions the effectiveness of the GVDS tax design, and whether the price signal will encourage buyers to choose fuel-efficient, lower-emitting vehicles when new vehicles with high CO<sub>2</sub> emissions (Holden VF Commodore: 222g/km) are “B” rated and receive a reduction in duty, and new diesel-fuelled vehicles with lower CO<sub>2</sub> emission (Ford Focus: 144g/km; Hyundai Active: 122g/km) are “C” rated and receive no reduction in duty.

This questions the GVDS tax design in adopting the Green Vehicle Ratings, and whether the minor changes in the tax/duty rates are sufficiently differentiated to provide a strong enough price signal at the time of purchase to influence buyers to choose a lower-emitting vehicle.

Part 1 of the two-part series stated that the success of the tax policy measure in reducing road transport emissions depended on the tax design, as well as on a strong up-front price signal that was differentiated in such a way that taxes for all energy effective cars were significantly lower than taxes for cars with poor energy efficiency.<sup>72</sup> Simple tax increases (as shown in Table 3) that do not involve changes to the tax base provide only very small CO<sub>2</sub> reductions.<sup>73</sup>

#### 4.2.1 GVDS tax policy design: adopting Green Vehicle Guide rankings

The Green Vehicle Guide (GVG) is a government website prepared by the Commonwealth Department of Infrastructure, Regional Development and Local Government. Under the Australian Design Rules, car manufacturers are required to provide emission and consumption data on all new light vehicles. According to the *Motor Vehicle Standards Act 1989* (Cth), all new light vehicles sold in Australia are allocated a 1 to 5 star rating based on the new vehicle’s overall “environmental performance” score of 20. The environmental performance score is the sum of the new light vehicle’s greenhouse gas emissions rating score out of 10, and the air pollution rating score out of 10<sup>74</sup> (as shown in Table 3). Buyers of new cars can compare the

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71 Australian Capital Territory Government, (2013) *Green Vehicle Duty Scheme*, above n 67.

72 European Commission, European Commission’s Directorate-General for Environment, above n 23, p 1.

73 Ibid.

74 Australian Government, *Green Vehicle Guide* (2013). Available at [www.greenvehicleguide.gov.au/gvgpublicui/Information.aspx?type=RatingsAndMeasurements](http://www.greenvehicleguide.gov.au/gvgpublicui/Information.aspx?type=RatingsAndMeasurements). Accessed 16 May 2013.

environmental performance and star ratings from 1 to 5 of all new car models on the market with details on the GVG website.<sup>75</sup>

#### 4.2.2 Green Vehicle Guide (stage 2) incorporated into design of GVDS

Maatta (2006) stated that the design of a policy instrument should meet the transparency principle, so that a tax levied on a product is clear to taxpayers in terms of what is and what is not taxable, and that taxes related to attributes such as CO<sub>2</sub> emissions can be monitored and observed.<sup>76</sup> Further, Greene et al (2009) stated that the decision-maker must have a clear picture of the choice problem he or she faces, and should be fully aware of the set of alternatives from which to choose.<sup>77</sup>

Under the GVDS, the consumer does not have a “clear picture” of the vehicle purchase tax/stamp duty payable on the new vehicle they choose to buy. That is, duty payable on the new vehicle is not “transparent” to the consumers in Table 2 because the tax/duty is based on “green vehicle ratings” determined from another policy instrument, that is, the GVG. Fundamentally, the effectiveness of the GVDS depends on the accuracy of the “green vehicle ratings” in the GVG prepared by the Australian Government, which is not “monitored and observed” but adopted by the ACT Government as being an accurate assessment of the new vehicles “environmental performance”. Rather, the “green vehicle ratings” in Table 3 provide imperfect and misleading information to the consumer, resulting in lower taxes/stamp duty payable on higher-emitting vehicles and higher taxes/stamp duty payable on lower-emitting vehicles.

Nor is it “transparent” to consumers that the GVG (stage 2) allocated air pollution ratings<sup>78</sup> for new diesel-fuelled motor vehicles that are low and out of date. That is, the ratings in the GVG (stage 2) are based on Euro 4 (ADR 79/02)<sup>79</sup> and not on the current stringent Euro 5 standards that have applied in the European Union since 1 January 2011. These standards apply to the registration of new cars sold in the

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75 Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government, Green Vehicle Guide website available at [www.greenvehicleguide.gov.au](http://www.greenvehicleguide.gov.au).

76 Maatta (2006), above n 68, p 43.

77 Greene et al, above n 55, p 182.

78 The air pollution performance rating (a rating out of 10) is based the level of air pollution rating for the emission of carbon monoxide (CO), hydrocarbons (HC) and oxides of nitrogen (NO<sub>x</sub>). Additionally, diesel vehicles must also meet a limit for the emissions of particulate matter (PM). The air pollution ratings is determined under the Australian Design Rules (ADR) 79 air pollutant emission standards to which each vehicle model is certified before being available for supply to the market.

79 Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government, Green Vehicle Guide website at [www.greenvehicleguide.gov.au](http://www.greenvehicleguide.gov.au). The initial ratings were launched in 2004, reviewed in 2005, and took effect from 1 January 2006.

market;<sup>80</sup> however, they will not apply in Australia until 1 November 2016. The Euro 6 standards set even lower emission limits that will apply to the registration of new vehicles in the EU from 1 January 2015, but will not apply in Australia until 1 July 2018.<sup>81</sup> Many imported diesel-fuelled vehicles are Euro 5 compliant,<sup>82</sup> which means that the air pollution ratings out of 10 in the GVG (stage 2) are imperfect. In effect, the green vehicle ratings for petrol-fuelled vehicles shown in Table 4 are more favourable because of the “lower pollution ratings” applied to diesel-fuelled vehicles in Table 5.

**Table 4: ACT Government green vehicle rating guide for petrol-fuelled vehicles**

Green vehicle rating	Environmental performance score (out of 20)	Petrol-fuelled vehicles	CO <sub>2</sub> g/km comb	GHG rating 10 = best	Air pollution rating 10 = best	
A – Environmental leading edge models	16+ 5-star rating	Holden TM Barina	158	7.5	8.5	
		Toyota Prius	89	9.0	8.5	
		Holden Volt	27	10.0	8.5	
		Toyota Camry Hybrid	121	8.0	8.5	
B – Models with environmental performance significantly above average	14+ 4- to 4½-star rating	Honda Jazz Hybrid	121	8.5	6.5	
		Toyota Aurion	215	6.0	8.5	
		Holden JH Cruze SRI	186	6.5	8.5	
		Holden VE Commodore	230	5.5	8.5	
		Holden WM SIDI				
		Caprice	236	5.5	8.5	
Holden VE SIDI Calais	234	5.5	8.5			

80 Europa, “Summaries of EU legislation, Reduction of pollutant emissions from light vehicles”. Available at [http://europa.eu/legislation\\_summaries/environment/air\\_pollution/l28186\\_en.htm#amendingact](http://europa.eu/legislation_summaries/environment/air_pollution/l28186_en.htm#amendingact). Accessed 31 May 2013. Euro 6 standards will come into force on 1 September 2014 for the approval of new vehicles, and from 1 January 2015 for the registration and sale of new types of cars.

81 Australian Fleet Management Association, (2013) “Submission to the Australian Productivity Commission: Review of the Australian Automotive Manufacturing Industry”, 27 November 2013, p 7. Available at [www.pc.gov.au/\\_data/assets/pdf\\_file/0017/130157/sub041-automotive.pdf](http://www.pc.gov.au/_data/assets/pdf_file/0017/130157/sub041-automotive.pdf). Accessed 8 September 2014.

82 Australian Fleet Management Association, (2012) “Submission to the Department of Infrastructure and Transport regarding the proposed changes (Stage 3) to the Green Vehicle Guide”. Available at [www.afma.net.au/documents/item/452](http://www.afma.net.au/documents/item/452). Australian Government, Department of Infrastructure and Regional Development, “Vehicle Emission Standards”, p 6. Available at [www.infrastructure.gov.au/roads/environment/emission/](http://www.infrastructure.gov.au/roads/environment/emission/). Accessed 8 September 2014.

C – Models with average environmental performance	9.5+	Ford FG Falcon XR6	279	4.5	5.5
	3-star and 3½-star rating	HoldenVE Calais	292	4.0	6.5
		HoldenVF SIDI	216	6.0	6.0
		Commodore	274	3.0	6.5
		Ford FG Falcon F6	300	5.5	6.5
		Ford Falcon XT			
		Ecoboost	236	6.5	6.5
D – Models with below average environmental performance	Under 9.5	Ford RG Falcon	303	3.5	4.5
	2½-star to 1-star rating	Landcruiser 200	313	3.5	5.5
		Toyota Prado	306	3.5	5.5

\* Australian Government: Green Vehicle Guide <http://www.greenvehicleguide.gov.au/gvgpublicui/Information.aspx?type=RatingsAndMeasurements>, Accessed 2014.

Most new vehicles with a “B” rating emit over 200g of CO<sub>2</sub>/km, and are described in Table 4 as “models with environmental performance significantly above average”. Similarly, new vehicles with a “C” rating have even higher emissions, and are described as models with “average environmental performance”. Table 4 shows that the GVG (stage 2) favours most Australian-made vehicles with a green vehicle rating of “B”, even though they are considered to be high-emitting vehicles and their emissions exceed Australia’s 2012 average CO<sub>2</sub> emissions for new passenger vehicles of 190g of CO<sub>2</sub>/km.<sup>83</sup> When compared to the European Union’s 2012 average carbon emissions from new passenger vehicles of 132g/km,<sup>84</sup> all these Australian vehicles would be reclassified with a green vehicle rating of “D”, or as being models with “below average environmental performance”.

Notwithstanding that the diesel-fuelled vehicles may have lower CO<sub>2</sub> emissions as displayed in Table 5, the “out-of-date” air pollution ratings in GVG (stage 2) result in an overall lower environmental performance score and green vehicle rating compared to the petrol-fuelled vehicles in Table 4.

83 Australian Government, National Transport Commission, above n 64.

84 Ibid p 31.

**Table 5: ACT Government green vehicle rating guide applied to diesel-fuelled vehicles**

Green vehicle rating	Environmental performance score (out of 20)	Diesel-fuelled vehicles	CO <sub>2</sub> g/km comb	GHG rating 10 = best	Air pollution rating 10 = best
A – Environmental leading edge models	16+ 5-star rating	No 5-star rated diesel vehicles			
B – Models with environmental performance significantly above average	14+ 4-to 4½-star rating	Citroen DS3 Volvo 2011 Drive Honda Civic	95 104 105	9 8.5 8.5	6 6 6
C – Models with average environmental performance	9.5+ 3-star and 3½-star rating	Ford Focus Trend Holden JH Cruze Ford Fiesta Mazda Golf TDI	142 176 117 150 144	7.5 7.0 8.5 7.5 7.5	5.0 6.0 5.0 5.0 6.0
D – Models with below average environmental performance	Under 9.5 2½-star to 1-star rating	Ford SZ Territory Landcruiser 200	232 273	5.5 4.5	3.0 3.0

\* Australian Government, “Green Vehicle Guide”. Available at [www.greenvehicleguide.gov.au/gvgpublicui/Information.aspx?type=RatingsAndMeasurements](http://www.greenvehicleguide.gov.au/gvgpublicui/Information.aspx?type=RatingsAndMeasurements). Accessed in 2014.

Moreover, the CO<sub>2</sub> emissions of the “C” rated diesel-fuelled new vehicles in Table 5 are lower than most of “B” rated petrol-fuelled new vehicles in Table 4.

#### 4.2.2.1 Monitoring and review of GVG (stage 2)

The “environmental performance” data provided in Tables 4 and 5 cannot be assessed against any mandatory average CO<sub>2</sub> emission targets or fuel efficiency targets because Australia has no such targets. According to the luxury car tax (LCT) regime, the Australian Government defines a “fuel-efficient car” as having a fuel consumption that does not exceed 7 litres/100 kilometres.<sup>85</sup> This equates to emissions of 162g of CO<sub>2</sub>/km (discussed further in section 5.4.1 below). In applying this emission standard to Table 4, most of the petrol-fuelled vehicles would have failed to meet the government’s fuel efficiency threshold, despite the new vehicle having a “B” rating and being described as a model with “environmental performance significantly above

85 S 6(4) of the *Tax Laws Amendment (Luxury Car Tax) Act 2008*.

average”. Further, while all diesel-fuelled vehicles in Table 5 would have satisfied the fuel efficiency threshold, they have been allocated a “C” rating.

#### 4.2.2.2 GVG (stage 3) proposed

In 2012, the GVG (stage 2) ratings were reviewed for the new GVG (stage 3). This is because it was acknowledged that an “increasing proportion of vehicles will receive higher ratings” at a time when governments around the world are introducing more demanding mandatory standards for air pollution and CO<sub>2</sub> emissions.<sup>86</sup>

The proposed GVG (stage 3) will abolish the (star) ratings and consumers will be able to compare vehicles on the basis of CO<sub>2</sub> emissions (in g/km) of all new vehicles while continuing to provide information on other features such as fuel consumption, energy consumption and air pollution standard.<sup>87</sup> The government will provide supplementary information on the GVG website, providing an explanation of how to interpret the CO<sub>2</sub> emission data through an analysis of average new vehicle CO<sub>2</sub> emission from the previous year, and to any future regulatory CO<sub>2</sub> emissions standards.<sup>88</sup>

The Australian Government assumed that consumers were “more knowledgeable about the environmental impacts than they were when the GVG was first launched in 2004”. However, the Australian Bureau of Statistics consumer survey shows that when buying a new car, consumers rank fuel efficiency as the second most important consideration and the environmental impact as the least,<sup>89</sup> indicating buyers of new vehicles may not be aware that fuel efficiency is directly correlated to CO<sub>2</sub> emissions.<sup>90</sup>

The proposed new standards were to take effect from 1 January 2012.<sup>91</sup> However, they were postponed to 1 January 2013, and then further postponed to be “launched

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86 Australian Government, Department of Infrastructure and Transport, “Discussion paper on a new approach to comparing the environmental performance of vehicles on the Green Vehicle Guide”, issued July 2012, p 3.

87 Australian Government, “Green vehicle guide: what’s new”. Available at [www.greenvehicleguide.gov.au/GVGPublicUI/Information.aspx?type=WhatsNew](http://www.greenvehicleguide.gov.au/GVGPublicUI/Information.aspx?type=WhatsNew). Accessed 15 September 2014. Consumers will be able to compare vehicles on the following new default rank order as follows: CO<sub>2</sub> emissions (in g/km); energy consumption (in Wh/km); air pollution emission certification level (Euro 4, 5 or 6); fuel consumption (combined, then urban, then extra urban in L/100km; noise emissions.

88 Australian Government, Department of Infrastructure and Transport, above n 74, p 5.

89 Australian Bureau of Statistics, “4102.0 Social Trends, July 2013”.

90 International Energy Agency, “Global Fuel Economy Initiative”. Available at [www.iaea.org/media/files/GlobalFuelEconomyInitiativePlanofAction20122015.pdf](http://www.iaea.org/media/files/GlobalFuelEconomyInitiativePlanofAction20122015.pdf). 50% more fuel efficient by 2050 worldwide.

91 Australian Government, Department of Infrastructure and Transport, “Stage 3 Ratings for Green Vehicle Guide: Discussion Paper”, issued 16 May 2011. Available at [www.infrastructure.gov.au/roads/environment/files/GVG\\_Stage3\\_Ratings\\_Discussion\\_Paper\\_May\\_2011.pdf](http://www.infrastructure.gov.au/roads/environment/files/GVG_Stage3_Ratings_Discussion_Paper_May_2011.pdf).

sometime in 2014”<sup>92</sup> Clearly, the new GVG (stage 3) standards need to be introduced as soon as possible given the imperfect information provided in GVG (stage 2).

#### **4.2.2.3 COAG’s recommendation to utilise GVG as a measure of environmental performance**

In effect, COAG’s recommendation that any differential stamp duty should utilise the environmental ratings published in the GVG as a measure of the new vehicle’s “environmental performance” is not supported. The GVG (stage 2) green vehicle rating system used in the tax design of the GVDS does not meet the key role of providing sufficient consumer information to influence consumer choice in favour of those cars that use less fuel and thereby emit less CO<sub>2</sub>. Instead, the GVG (stage 2) provides imperfect information, which Greene et al (2009) claimed can cause market failure and “almost certainly contributes to or exacerbates the uncertainty/loss aversion market deficiency”.<sup>93</sup>

Nor will the proposed GVG (stage 3) be a “measure of environmental performance” as it will be relying on consumers to individually compare and assess the environmental performance of vehicles based on data provided by the government rather than choosing new vehicles on the basis of green vehicle ratings.

#### **4.2.3 GVDS tax policy design should be a flexible**

Policy instruments must be flexible to react to external changes. These include amendments to legislation or regulatory standards<sup>94</sup> and to any amendments at any given point of time.<sup>95</sup> However, the tax design of the GVDS is inflexible when changes need to be made to the GVG. That is, without star ratings in the proposed GVG (stage 3), the tax design of the GVDS will not be able to calculate the vehicle purchase tax/stamp duty rates for new vehicles released onto the market.<sup>96</sup>

Therefore, in order to maintain the current GVDS tax design, the ACT Government needs to introduce CO<sub>2</sub> emission ratings to calculate the duty rates. In turn, this

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Accessed 6 June 2013.

92 Australian Government, Department of Infrastructure and Transport, “What’s New – A new Green Vehicle Guide website will be launched in 2014”. Available at [www.greenvehicleguide.gov.au/GVGPublicUI/Information.aspx?type=WhatsNew](http://www.greenvehicleguide.gov.au/GVGPublicUI/Information.aspx?type=WhatsNew). Accessed 25 February 2014.

93 Greene et al, above n 55, p 204.

94 WJ Baumol and WE Oates, (1988) *The Theory of Environmental Policy*, 2<sup>nd</sup> ed, Cambridge, Cambridge University Press, p 192.

95 E Rehbinder, (1993) “Environmental Regulation Through Fiscal and Economic Incentives in a Federalist System” 20(1) *Ecology Law Quarterly* 57–83, 60–61.

96 S Corbell (2102), Minister for the Environment and Sustainable Development, Response to discussion paper on “A new approach to comparing the environmental performance of vehicles on the Green Vehicle Guide”, 13 September 2012. Accessed 1 March 2014.

would provide a crucial price signal to encourage consumers to choose fuel-efficient low-emitting vehicles (as discussed in section 4.2.7 below).

Alternatively, the GVDS tax design could be made more flexible by adopting “carbon emission bands” that would be easier to amend or correct at any given point of time,<sup>97</sup> thus providing clear, accurate and direct information to buyers of new light vehicles. Whether the tax/duty rate influences consumers’ choice of new vehicles will depend on whether the “price signal” between each band of CO<sub>2</sub> emissions is strongly differentiated.<sup>98</sup> This will determine the effectiveness of policy measures in achieving the government’s policy objective of reducing road transport emissions within the given time schedule.<sup>99</sup>

#### 4.2.4 GVDS tax policy design: assess the effectiveness of the price signal

In Australia, all state governments and territories are responsible for imposing their own vehicle taxes. Each state government determines its own vehicle purchase tax/stamp duty as shown in Table 6 below.

**Table 6: State and territory government vehicle purchase tax/stamp duty**

State/ territory	Duty payable on total market value of vehicle (including GST)
NSW	Stamp duty/vehicle purchase tax is calculated on the market value of the vehicle or the price you paid, whichever is the greater: <sup>100</sup> 3% of the vehicle price up to \$45,000 \$1,350 plus 5% for every dollar over \$45,000
Victoria	Duty is payable on the market value of the vehicle: <sup>101</sup> 3% of the vehicle price to \$60,316 5% of the vehicle price more than \$60,316
South Australia	Rate of duty is based on the “value of the vehicle”: <sup>102</sup> \$60 for the first \$3,000 of the vehicle price 4% for every dollar over \$3,000

97 Baumol and Oates, above n 94, p 192.

98 Mortimore, above n 57.

99 Maatta, above n 68, p 8.

100 New South Wales Government, Office of State Revenue. Available at [www.osr.nsw.gov.au/taxes/vehicle](http://www.osr.nsw.gov.au/taxes/vehicle). Accessed 15 September 2014.

101 Victoria Government, Vicroads, “Motor vehicle duty” for vehicles transferred on or after 1 July 2013 and before 1 July 2014. Available at [www.sro.vic.gov.au/sro/sronav.nsf/childdocs/-34FAD0EFB8AFF8BE0CA2575A100442101-E35A67FBAB847FF1CA2575D10080A69F-B3293FEA7710298CCA2577510083B133-D869AB57C060532BCA257B8900226281?open](http://www.sro.vic.gov.au/sro/sronav.nsf/childdocs/-34FAD0EFB8AFF8BE0CA2575A100442101-E35A67FBAB847FF1CA2575D10080A69F-B3293FEA7710298CCA2577510083B133-D869AB57C060532BCA257B8900226281?open). Accessed 15 September 2014.

Tasmania	Rate of duty based on the “vehicle market value”: <sup>103</sup> 3% of the vehicle market value price up to \$35,000 11% for every dollar between \$35,000 and \$45,000 4% for every dollar over \$45,000
Western Australia	Rate of duty is based on the “dutiable value”: <sup>104</sup> 2.75% of the vehicle price up to \$25,000 a sliding scale is used between \$25,000 and \$50,000 from 2.75% to 6.5% 6.5% for every dollar over \$50,000
Queensland	Rates of duty is based on the “dutiable value”: <sup>105</sup> Electric/hybrid (any number of cylinders): 2% of purchase price. All other cars: up to 4 cylinder: 3% of purchase price up to 6 cylinder: 3.5% of purchase price 7 or more cylinder: 4% of purchase price

Most state and territory governments (with the exception of Queensland) impose a vehicle purchase tax/ stamp duty based on the purchase price<sup>106</sup> of the vehicle (as shown in Table 6). The Queensland Government calculates duty based on a fixed fee component that increases according to vehicle size (such as the number of cylinders),<sup>107</sup> and applies a lower rate of duty for hybrid or electric vehicles.<sup>108</sup> The “price signal” of state and territory governments’ vehicle purchase tax/rate of duty is shown below in Table 7.

102 South Australia, “Stamp Duty on Motor Vehicles”. Rate of duty is based on the “value of the vehicle” which is the recommended retail price or manufacturer’s list price (including GST and luxury car tax, where applicable). Available at [www.revenuesa.sa.gov.au/taxes-and-duties/stamp-duties/motor-vehicles#Rateofstampduty](http://www.revenuesa.sa.gov.au/taxes-and-duties/stamp-duties/motor-vehicles#Rateofstampduty). Accessed 9 March 2014.

103 Tasmania Government, Department of Infrastructure, Energy and Resources, “Transport duty rates”. Available at [www.transport.tax.gov.au/fees/duty\\_rates](http://www.transport.tax.gov.au/fees/duty_rates). Accessed 9 March 2014.

104 WA Government, Circular V.L.D 4 “Definition of dutiable value”. The “dutiable value” of a car is the price fixed, which is structured on the basis that GST is payable on every vehicle (including the luxury car tax). Available at [www.finance.wa.gov.au/cms/content.aspx?id=3085](http://www.finance.wa.gov.au/cms/content.aspx?id=3085). Accessed 19 September 2014.

105 Queensland Treasury Department, “Vehicle registration duty”. Dutiable value of a new vehicle is the list price, which includes luxury car tax and GST. Available at [www.osr.qld.gov.au/duties/vehicle-registration-duty/index.shtml](http://www.osr.qld.gov.au/duties/vehicle-registration-duty/index.shtml).

106 Purchase price includes GST and luxury car tax, if applicable.

107 Australian Government, Australian Bureau of Statistics, “4629.0.55.001 – Discussion Paper: Environmental taxes in Australia – Experimental new statistics, 2000–2011”.

108 Queensland Government, (2013) Registration fees and labels. Available at [www.tmr.qld.gov.au/Registration/Registration-fees-and-labels.aspx](http://www.tmr.qld.gov.au/Registration/Registration-fees-and-labels.aspx). Accessed 10 May 2013.

**Table 7: Comparison of state and territory government stamp duty on new passenger and SUV vehicles to Ireland's vehicle purchase tax**

State government	CO <sub>2</sub> g/km	Duty payable on new motor vehicle and % of duty payable to purchase value**							
		\$ GST (incl)	* ACT	* QLD	* NSW	* Vic	* SA	* WA	*** Ireland
Prius 1.8L 4cyc GVG rating A	89	37,389	Nil	748 (2%)	1,121 (3%)	1,196 (3%)	1,436 (3.8%)	1,723 (4.6%)	5,234 (14%)
Ford Focus (petrol) 4 cycl, 2.0L GVG rating B	154	36,289	726 (2%)	1,089 (3%)	1,088 (3%)	1,064 (2.9%)	1,392 (3.8%)	1,611 (4.4%)	7,257 (20%)
Ford Focus (diesel) 4 cycl, 2.0L GVG rating C	144	40,139	1,206 (3%)	1,206 (3%)	1,204 (3%)	1,286 (3.2%)	1,548 (3.8%)	2,015 (5%)	8,027 (20%)
Holden 6 cycl GVG rating B	222	40,690	814 (2%)	1,220 (3%)	1,220 (3%)	1,306 (3.2%)	1,568 (3.8%)	2,075 (5%)	13,835 (34%)
Landcruiser 200 (diesel) 8 cycl 4.6L GVG rating D	273	126,231 incl. LCT <sup>109</sup> \$15,142 = 126,231	6,674 (5.2%)	5,052 (4%)	5,415 (4.3%)	6,572 (5.2%)	4,992 (3.9%)	8,205 (6.5%)	39,992 (36%)
Commodore VF SS; 8 cycl, 6.0L GVG rating C	274	54,769	2,388 (4.3%)	2,192 (4%)	1,840 (3.3%)	1,753 (3.2%)	2,132 (3.8%)	3,559 (6.5%)	19,716 (36%)

\* State and territory governments new motor vehicle stamp duty calculated as at 15 September 2014. Available at [www.strattonfinance.com.au/car-finance/learn/articles/motor-vehicle-stamp-duty-guide.aspx](http://www.strattonfinance.com.au/car-finance/learn/articles/motor-vehicle-stamp-duty-guide.aspx).

\*\* Purchase value for all state and territory governments is the manufacturer's list price, including the GST and luxury car tax (LCT), which applies to vehicles with a value (including GST) of more than LCT threshold of \$60,316 for the 2013–14 financial year.<sup>110</sup>

\*\*\* Ireland applies a VAT of 23% as from 1 January 2013. The above estimates have not been adjusted for the VAT. The calculations show the impact of Ireland's vehicle purchase tax. Available at [www.revenue.ie/en/tax/vat/rates/current-historic-rates-vat.html#rates](http://www.revenue.ie/en/tax/vat/rates/current-historic-rates-vat.html#rates).

109 Luxury car tax: total luxury car value, including GST: \$111,089 - \$60,316 (LCT threshold) = \$50,773; subtract the GST included in this amount \$50,773 x 10/11 = \$46,157; apply LCT 33% x \$46,157 = \$15,232 LCT payable. Therefore, the purchase value of the car is: \$111,089 (incl GST) + LCT of \$15,232 = \$126,321.

110 Australian Tax Office, "Working out the LCT on a sale". LCT does not apply to fuel-efficient vehicles under \$75,375 which were delivered or imported after 3 October 2008. A "fuel-efficient car" has a fuel consumption that does not exceed seven litres per 100 kilometres as a combined rating under the vehicle standards in force under s 7 of the *Motor Vehicle Standards Act 1989*. If the value is above this balance, the 33% LCT rate applies. The conversion of 7 litres/100 kilometres is 162g of CO<sub>2</sub>/km. Available at [www.ato.gov.au/Business/Luxury-car-tax/How-to-work-out-the-LCT-amount/Working-out-the-LCT-on-a-sale/](http://www.ato.gov.au/Business/Luxury-car-tax/How-to-work-out-the-LCT-amount/Working-out-the-LCT-on-a-sale/). Accessed 10 March 2014.

Table 7 shows that the ACT and Queensland (Qld) are the only governments in Australia that discount stamp duty/vehicle purchase tax for hybrid, electric vehicles, and vehicles that have an environmental performance rating of “A” in the GVG (stage 2). Consumers buying a hybrid car in the ACT will pay no stamp duty, whereas in Queensland the duty will be discounted to 2% compared to other states where the tax rate/duty can range from 3% in New South Wales (NSW) to the highest rate of 4.6% in Western Australia (WA).

For “B” rated vehicles, the ACT discounts tax/duty to 2%, whereas state governments’ tax/duty range from 3% (Qld, NSW, Vic) to 4.4% in WA. Most territory/state tax/duty for “C” rated vehicles is 3% (Act, Qld, NSW, Vic), while WA imposes tax/duty of 5%. For the highest CO<sub>2</sub>-emitting vehicles (those with a “D” rating), the tax/ duty varies from 3.3% in NSW to the highest rate of 6.5% in WA.

In terms of ACT Government’s tax initiative in penalising or discouraging consumers from choosing high emitting vehicles, the vehicle purchase tax/stamp duty paid at the time of purchase in the ACT is not significantly different from that of other state governments. Furthermore, the highest duty of 4.3% for the higher emitting “D” rated vehicles is lower than the tax/duty of 6.5% in WA (which is not differentiated on the basis of environmental performance).

Nonetheless, the “price signals” from all state and territory tax/duty are not sufficiently “differentiated” to significantly shift buyer choice towards new light vehicles, compared to the “strong differentiated price signal” adopted in Ireland (as shown in Table 7). That is, ACT’s reformed tax rates/duty under the GVDS range from 0% to 5% compared to Ireland’s tax/duty (differentiated on the basis of CO<sub>2</sub> emissions bands), which ranges from 14% to 36%<sup>111</sup>. In Ireland, for instance, the tax/duty of 36% of the new vehicle’s purchase price (including VAT of 23%), which is applied to new vehicles with emissions that exceed 226g/km,<sup>112</sup> has had a significant impact on altering private car purchasing patterns. This is in direct comparison to ACT’s highest tax/duty rate of 4.3% for “D” rated vehicles, which has had no impact on vehicle purchase decisions (discussed further in section 4.2.6 below).

Thus, the above analysis shows the importance of regularly reviewing and monitoring tax design, and assessing whether or not the differentiation in the price signal of tax/duty is influential in shifting buyers’ choice of vehicles by penalising those buyers choosing a high CO<sub>2</sub>-emitting vehicle.

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111 Independent Vehicle Registration Tax Guide and Motoring Site, “CO<sub>2</sub> emissions VRT system”. Available at <http://vrt.ie/vrtDetail.php?page=14>. Accessed 14 April 2014. Ireland’s VRT rates vary from the lowest tax rate of 14% for new vehicles with CO<sub>2</sub> emissions in the band 0 to 80g/km to the highest tax rate of 36% for new vehicle with CO<sub>2</sub> emissions in the band 226 and more.

112 Mortimore, above n 57.

#### 4.2.5 ACT Government's policy on review and monitor of GVDS

The ACT Government's strategy in addressing its emission reduction targets has been documented in various reports.<sup>113</sup> In 2007, the ACT Government launched the Climate Change Strategy Report for the period 2007 to 2025 entitled "Weathering the Change Action Plan". In this report, the ACT Government outlined its ambitious emission reductions targets (discussed in section 4.1 above), and the reform of the territory's vehicle purchase tax/stamp duty (GVDS) introduced on 3 September 2008. But it was not until 2012 that the ACT Government released an update to its Climate Change Strategy Report entitled "A new climate change strategy and action plan for the Australian Capital Territory" (known as the AP2 Report), which set out its strategic pathway through a summary of actions.<sup>114</sup>

The AP2 Report released the performance of the GVDS for the period 2008 to mid-2011 (discussed in section 4.2.6 below). The report stated that the review of the GVDS duty scheme would be completed in 2011–12, and that amendments to the scheme would be considered to increase the incentives towards "best-in-class" green vehicle purchasing. According to action 25 in the AP2 Report, the ACT Government would evaluate the GVDS to identify how it could better encourage the purchase of lower emission vehicles.<sup>115</sup>

In June 2014, the ACT Government released a "Low emission vehicle strategy discussion paper", which proposed various options to encourage the purchase of low-emission vehicles. For the GVDS, other than proposing greater incentives at the time of purchase (rebates or fee bates) to encourage buyers to choose low-emission vehicles,<sup>116</sup> there were no proposals to change the price signal or design of the policy instrument. Rather, the government included the abovementioned AP2 Report (see Table 8) in the discussion paper, and stated that the GVDS was influencing a market shift in the new vehicle market.

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113 The GVDS was initiated as an action under the 2007 Report entitled "Climate Change Strategy: Weathering the Change" Action Plan 1, above n 59.

114 Australian Capital Territory, AP2 Report, above n 62. The Action Plan target is to reduce 138,000 tonnes of CO<sub>2</sub> transport emissions by 2020, p xiv. In terms of reducing transport emissions, Action 25 required the ACT Government to evaluate the ACT Green Vehicle Stamp Duty Scheme to identify how it could better encourage the purchase of lower emission vehicle, p xi.

115 Ibid p xi.

116 ACT Government, (2014) "Low emission vehicle strategy: discussion paper", June 2014, pp 1–19 at p 11. The consultation period commenced on 24 June 2014 and ended on 19 August 2014. Available at [www.transport.act.gov.au/policy\\_and\\_projects/transport\\_planning\\_studies/Low-Emission-Vehicle-Strategy/Low-Emission-Vehicle-Strategy-discussion-paper](http://www.transport.act.gov.au/policy_and_projects/transport_planning_studies/Low-Emission-Vehicle-Strategy/Low-Emission-Vehicle-Strategy-discussion-paper). Accessed 3 October 2014.

In terms of reporting, the AP2 Report stated that independent assessment and reporting would be carried out every three years from 2014 to 2020 by the Office of Commissioner for Sustainability and the Environment.<sup>117</sup>

Furthermore, the 2012–2031 Transport for Canberra Report released in 2012 stated that the target for transport emissions was to increase the efficiency of travel by decreasing the intensity of ACT’s passenger fleet. This intensity would be measured by reviewing the annual report on emissions of Australian vehicle fleet reported in the National Transport Commission (NTC) annual report<sup>118</sup> (discussed further in section 4.5 below).

#### 4.2.6 ACT Government’s review and monitor of GVDS tax design and price signal

The GVDS was introduced on 3 September 2008, but it was not until 2012 that the ACT Government released the performance of the GVDS in the AP2 Report (as shown in Table 8). However, no comments have been made on the tax design or price signal in any of the reports, nor has the performance of the GVDS been updated since June 2011.

**Table 8: Movement in ACT vehicle sales under the Green Vehicle Duty Scheme for the period: September 2008 to June 2011**

Green vehicle rating	Percentage of new cars sales: Sept 2008	Percentage of new cars sales: June 2011	Comparison 2008 to 2011
A	2%	7%	+5%
B	9%	27%	+18%
C	75%	54%	-21%
D	12–14%	12–14%	0%

Source: ACT Government, AP2 – “A new climate change strategy and action plan for the Australian Capital Territory”, 2012, p 58.

In the period September 2008 to June 2011, there was a 5% increase in consumers choosing “A” rated vehicles, an increase of more than 18% in consumers choosing

117 Australian Capital Territory, AP2 report, above n 62, p xi. The AP2 report outlined the ACT Government’s new public reporting framework, which would be subject to an independent assessment and reporting by the Office of Commissioner for Sustainability and the Environment. (OCSE), through the publication of Implementation Status Reports (ISR) every three years from 2014 to 2020, which would assess the performance against the achievement of AP2 outcome.

118 ACT Government, “Transport for Canberra, Transport for a sustainable city 2011–2031”, p 60. Available at <http://timetotalk.act.gov.au/storage/Transport%20Policy%2014%20October%20Full.pdf>. Accessed 13 March 2014.

“B” rated vehicles, and a 21% decrease in consumers choosing “C” rated vehicles. However, it is not possible to state unequivocally that there has been an increase in fuel-efficient, low-emitting vehicles because the misleading green vehicle ratings in GVG (stage 2) can vary widely, depending on whether the vehicle is petrol-fuelled or diesel-fuelled (as shown in Table 9 below).

**Table 9: Comparison of CO<sub>2</sub> emissions for vehicles in green vehicle rating fuelled by petrol and diesel**

Green vehicle rating	CO <sub>2</sub> emission in g/km for petrol-fuelled vehicles in Table 4	CO <sub>2</sub> emission in g/km for diesel-fuelled vehicles in Table 5
A	CO <sub>2</sub> emissions range from 89g/km to 159g/km	Nil
B	CO <sub>2</sub> emissions range from 121g/km to 236g/km	CO <sub>2</sub> emissions range from 95g/km to 105g/km
C	CO <sub>2</sub> emissions range from 216g/km to 300g/km	CO <sub>2</sub> emissions range from 117g/km to 176g/km
D	CO <sub>2</sub> emissions range from 303g/km to 313g/km	CO <sub>2</sub> emissions range from 232g/km to 273g/km

Source: ACT Government, AP2 – “A new climate change strategy and action plan for the Australian Capital Territory”, 2012, p 58.

Nevertheless, if 16.6 million vehicles were registered in 2013, 79.9% were petrol-fuelled vehicles, and 17.2% were diesel-fuelled vehicles,<sup>119</sup> then it is highly likely that most of the 18% increase in “B” rated vehicles were petrol-fuelled vehicles. If so, it is not possible to assess whether there has been an actual reduction of GHG emissions from consumers choosing lower-emitting vehicles, when the CO<sub>2</sub> emissions in the “B” rated green vehicle category can range from 121g/km to 236g/km (as shown in Table 9).

Ranking vehicles according to their “environmental performance” and not according to their “CO<sub>2</sub> emissions” makes it difficult to assess whether there has been an actual reduction of GHG emissions because of a wide disparity among emissions for new vehicles rated “B” and those rated “C” (as shown in Table 9). Furthermore, the fact that there was no shift in the “D” rated high-CO<sub>2</sub>-emitting vehicles (303g/km to 313g/km) supports the argument that the level of tax differentiation for the higher CO<sub>2</sub>-emitting vehicles is not a “strong price signal” in discouraging consumers to choose such vehicles.

119 Australian Bureau of Statistics (2013) “9309.0 Motor Vehicle Census”, 31 January 2013, p 6.

The performance of the ACT's GVDS cannot be compared with state governments' vehicle purchase tax/stamp duty scheme. Nor can it be compared with any mandatory CO<sub>2</sub> standard or equivalent fuel economy standards, as there are none. The Transport for Canberra Report states that monitoring and progressive reporting for transport emissions will be included in the annual report on emissions of Australian Vehicle Fleet by the National Transport Commission (NTC). However, monitoring and assessing the performance of GVDS in the NTC report is not possible because average CO<sub>2</sub> emissions for new passenger vehicles for each individual state and territory are not provided (as shown in section 4.5 below).<sup>120</sup>

Notwithstanding that there is no mandatory emission target to assess the performance of the GVDS (shown in Table 8), the mechanism can be assessed against the performance of Ireland's vehicle purchase tax.

#### 4.2.7 GVDS tax policy design compared with Ireland's vehicle purchase tax

Part 1 of the two-part series discussed the ex-post analysis of the successful reform of EU member states' vehicle purchase taxes.<sup>121</sup> The article highlighted important differences between policy instruments, and provided evidence that policy choice, design and price signal all play crucial roles in meeting the policy objective of reducing road transport emissions. The case study of Ireland in Part 1 showed that by 2007, technological efficiency improvements in private cars were being offset by car purchasing trends for higher emitting vehicles, resulting in no net improvements in the energy efficiency of the car fleet.<sup>122</sup> Ireland's reform of vehicle purchase tax — differentiated on the basis of CO<sub>2</sub> emissions — resulted in greater than expected CO<sub>2</sub> emission savings within the first year (as shown in Table 10), thereby outperforming results achieved in the first three years following the introduction of the ACT Government's GVDS (as shown in Table 9).

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120 ACT Government, "Transport for Canberra, Transport for a sustainable city 2012–2031", p 60. Available at [www.transport.act.gov.au/\\_\\_data/assets/pdf\\_file/0003/397245/Pages\\_from\\_EDS\\_ACT\\_Transport\\_Policy\\_FA\\_final\\_web.pdf](http://www.transport.act.gov.au/__data/assets/pdf_file/0003/397245/Pages_from_EDS_ACT_Transport_Policy_FA_final_web.pdf). Accessed 1 April 2014. The report recorded the monitoring and reporting action as ACTION 33 "Release an annual Transport for Canberra update report from 2012–2013 and review and update Transport for Canberra in five years".

121 Mortimore, above n 57.

122 BP O'Callachoir, M Howley, S Cunningham and M Bazilian, (2009) "How private car purchasing trends offset efficiency gains and the successful energy policy response" 37 *Energy Policy* 3790–3802.

**Table 10: Vehicle sales compared before and after the reform of Ireland's vehicle taxes**

CO <sub>2</sub> emission bands	CO <sub>2</sub> g/km	Vehicle purchase tax (%) per vehicle after 1.7.2008	Pre-reform new car sales 1 July 2007 to 30 June 2008 %	Year 1 of new car sales 1 July 2008 to 30 June 2009 %	Percentage (%) change in first year
A – B	0–140g	14–16	18	55	+37
C – D	141–170g	20–24	48	34	–14
E – G	171–226g+	28–36	34	11	–23

Source: F Rogan, E Dennehy, H Daly, M Howley, and B Gallachoir (2011) "Impacts of an emission based private car taxation policy – first year ex-post analysis" 45 *Transportation Research Part A* 583–597 at 588.

The price signal of Ireland's vehicle purchase tax ranged from 14% to 36%, calculated on the purchase price/market selling price of a vehicle (inclusive of VAT of 23%).<sup>123</sup> Within the first year of reform, there was a 37% increase in consumers choosing low-emission vehicles (CO<sub>2</sub> emission bands 0–140g), and a 23% (171–226g) decrease in consumers choosing higher emitting vehicles (as shown in Table 10). In total, 89% of buyers in Ireland chose new vehicles that emitted less than 171g of CO<sub>2</sub> compared to 66% before the tax reform.<sup>124</sup>

However, it is not possible to compare the ACT Government's GVDS determined on the basis of "environmental performance" (as shown in Table 8) to Ireland's CO<sub>2</sub> emission bands (as shown in Table 10). For instance, 55% of Ireland's new vehicles categorised in the CO<sub>2</sub> emission bands of "A" and "B" emitted between 0g to 140g of CO<sub>2</sub>/km, compared to 34% of new vehicle sales in ACT (as shown in Table 8) that were rated with an "environmental performance" score of "A" and "B" but emitted between 89g to 236g of CO<sub>2</sub>/km (as shown in Table 9).

123 European Commission, "VAT Rates Applied in the Member States of the European Union". Available at [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/vat/how\\_vat\\_works/rates/vat\\_rates\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/how_vat_works/rates/vat_rates_en.pdf). Accessed 1 March 2014.

124 F Rogan, E Dennehy, H Daly, M Howley, and B Gallachoir, (2011) "Impacts of an emission based private car taxation policy – First year ex-post analysis" 45 *Transportation Research Part A: Policy and Practice* 583–597.

#### 4.2.8 COAG's recommendation for differential stamp duty: ACT's GVDS as one model

The failure of the GVDS to significantly reduce CO<sub>2</sub> emissions in road emissions is not an indication that the measure is ineffective, but rather a failure in the tax design and price signal adopted by the ACT Government. That is, the GVDS is not an efficient tax in terms of reducing CO<sub>2</sub> emissions because the price signal is ineffective, and the tax design's adoption of the GVG as a measure of new vehicle's environmental performance lacks transparency and flexibility.

### 4.3 *Environmental taxes combined with direct regulation*

According to Maatta (2006), environmental taxes are often applied in conjunction with direct regulation such as mandatory CO<sub>2</sub> emissions or fuel efficiency standards.<sup>125</sup> Moreover, such regulation (commonly referred to as command and control policies) force consumers and producers to change their behaviour.<sup>126</sup> However, the Australian Government failed to introduce light vehicle CO<sub>2</sub> emission standards announced in its discussion paper back in 2011.<sup>127</sup> In effect, then, the performance of the GVDS could not be assessed against any regulated CO<sub>2</sub> emissions target for new light vehicles. And nor could the GVDS, based on new vehicles GVG environmental performance, be assessed against the EU's regulated CO<sub>2</sub> emissions standards.

The function of taxes differentiated on the basis of CO<sub>2</sub> emission bands (such as those shown in Table 10) were introduced in Ireland to provide an incentive to reduce emissions below a regulated emission level.<sup>128</sup> Notwithstanding that the beneficial effect of the environmental tax in achieving the mandatory standards is by no means certain<sup>129</sup> and is often determined on the basis of hypothetical effects, the impact on the environment may be difficult to verify.<sup>130</sup> Faure et al (2012) stated that environmental taxes require emissions to be monitored as closely as possible to ensure their effectiveness, even if this is difficult.<sup>131</sup>

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125 Maatta, above n 68, p 23.

126 G Santos, H Behrendt, L Maconi, T Shirvani and A Teytelboym, (2010) "Part I: externalities and economic policies in road transport" 28 *Research in Transportation Economics* 2–45, at p 2.

127 Australian Government: Department of Infrastructure and Transport (2011) "Light vehicle CO<sub>2</sub> emission standards for Australia – Key Issues", Discussion Paper, 2011.

128 Mortimore (2014), above n 57, para 4.1.

129 Maatta, above n 68, p 20.

130 Ibid p 20.

131 MG Faure and Weishaar, (2012) "The role of environmental taxation: economics and the law", *Edward Elgar Handbook of Research on Environmental Taxation*, 399 – 4, 408.

#### 4.4 *Regulating the monitoring fiscal environmental taxes*

The beneficial effects of fiscal environmental taxes will require regular review and monitoring to ensure that the measure is effective in reducing CO<sub>2</sub> emissions, or require the tax design or price signal to be adjusted and/or complementary measures to be introduced or adjusted.

For example, in order to meet the EU's Kyoto Protocol emissions reduction target,<sup>132</sup> a monitoring and reporting mechanism known as Monitoring Mechanism Regulation (MMR) was established in 1993, revised in 2004, and came into force on 8 July 2013.<sup>133</sup> This mechanism reflected the sum of national inventories and relied on the member states to monitor their own GHG emissions and to keep track of their progress towards meeting their emission targets for 2013–2020.<sup>134</sup> Additional reporting requirements were introduced to enhance reporting processes that were essential to recognise the efforts made by the member states to meet their commitments. Each member state has their own annual reporting requirements for emissions, and is expected to outline the projected progress towards meeting their obligations.<sup>135</sup> Every two years, the Commission assesses the progress of each of the member states<sup>136</sup> to allow for corrective action.

In Ireland, the European Commission assigned a reduction target of 20% GHG reduction relative to 1990 levels by 2020.<sup>137</sup> This required a reduction of 1.29% annually between 2009 and 2020.<sup>138</sup> Ireland's challenge was to address consumers' growing preference for buying larger vehicles. This necessitated a strong price signal in order to shift consumers towards choosing fuel-efficient, low-emission vehicles. The strong price signal incorporated in Ireland's vehicle purchase tax enabled the country to reduce its average CO<sub>2</sub> emissions for new passenger cars from 166g/km in 2007 to 145g/km in 2008. This represented a 13% reduction in CO<sub>2</sub> emissions in

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132 European Commission, "EU-15 over-achieves first Kyoto target". Available at [http://ec.europa.eu/clima/policies/g-gas/index\\_en.htm](http://ec.europa.eu/clima/policies/g-gas/index_en.htm). Accessed 25 March, 2014. The 15 countries that were EU member states when the Kyoto Protocol was agreed in 1997, committed to reduce their collective emissions in the first Kyoto Protocol's first period (2008–2012) to 8% below the level of their various base years, which was 1990 in most cases.

133 Ibid. Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level, relevant to climate change.

134 European Commission, "Monitoring and reporting of GHG emissions". Available at [http://ec.europa.eu/clima/policies/g-gas/monitoring/index\\_en.htm](http://ec.europa.eu/clima/policies/g-gas/monitoring/index_en.htm). Accessed 25 March 2014.

135 European Parliament and of the Council, Decision No. 406/2009/EC of 23 April 2009 on the effort of member states to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

136 Ibid, para 24.

137 Mortimore (2014), above n 57, para 4.1

138 Ibid.

the first year the tax policy measure was introduced relative to average CO<sub>2</sub> emissions before the vehicle purchase tax changed.<sup>139</sup> By 2012, the average CO<sub>2</sub> emissions for new passenger cars had reduced further to 125g/km in 2012, that is, 36% lower than the ACT's average CO<sub>2</sub> (197g/km) emissions for 2012.<sup>140</sup>

Similar taxes in operation in other member states of the EU have also been effective in significantly reducing road transport emissions (as detailed in Part 1 of the two-part series).<sup>141</sup> In the period 2007 to 2012, vehicle taxes reduced road emissions by 16.4% in Belgium, 18.8% in the United Kingdom, 24.2% in Ireland, 25.7% in Denmark, and 25.1% in the Netherlands.<sup>142</sup>

The ex-post analysis indicates that vehicle purchase tax is an effective fiscal environmental measure in significantly reducing road transport emissions, providing that the tax design is effective and the price differential signal is strong, as was the case in Ireland and which led to “greater than expected emissions savings.”<sup>143</sup> Administratively, it is relatively simple, since the tax system is already in place.<sup>144</sup> Further, Santos et al (2010) stated that such taxes will continue to generate revenue, but can be reformed into corrective taxes by correcting market failure.<sup>145</sup> That is, the taxes can be reformed to correct distortions and change behaviour to restore efficiency by providing either incentives or disincentives for buyers' behaviour by increasing the marginal costs of certain activities.<sup>146</sup>

#### 4.5 *CO<sub>2</sub>-based vehicle taxes to be adopted by all state and territory governments*

To reduce road transport emissions, policy makers will need to require all state and territories to reform vehicle purchase taxes/stamp duty. Table 11 shows the number of new light vehicles acquired, total number of vehicles, and government buyers' average CO<sub>2</sub> emissions for new light vehicles achieved by state and territory buyers in 2013 compared to 2012.

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139 Ibid.

140 Australian Government, National Transport Commission, “Carbon Dioxide Emissions from New Australian Vehicles 2012”. Available at [www.ntc.gov.au/filemedia/Reports/CO2EmissionsNewAustVeh2012InfoPa.pdf](http://www.ntc.gov.au/filemedia/Reports/CO2EmissionsNewAustVeh2012InfoPa.pdf). Australian Government on 4 March 2014.

141 Mortimore (2014), above n 57.

142 European Automobile Manufacturers Association, “The Automobile Industry Pocket Guide 2013”, 1–81, p 63. Available at [www.acea.be/uploads/publications/POCKET\\_GUIDE\\_13.pdf](http://www.acea.be/uploads/publications/POCKET_GUIDE_13.pdf). Accessed 25 May 2014.

143 Rogan et al, above n 124.

144 Santos et al, above n 126, p 19.

145 Ibid p 18.

146 Ibid p 18.

**Table 11: New motor vehicle sales and average CO<sub>2</sub> emissions for new passenger and light commercial vehicles by government buyers**

State/ territory	No of passenger vehicles by state/territory 2013***	No of new motor vehicle sales 2013*	Government buyers CO <sub>2</sub> 2012 average CO <sub>2</sub> emissions g/km**	Government buyers CO <sub>2</sub> 2013 average CO <sub>2</sub> emissions g/km****
Australian Capital Territory	229,060	17,860	194	197
New South Wales	3,877,515	351,050	211	208
Victoria	3,446,548	307,292	214	209
Queensland	2,556,581	233,139	214	223
South Australia	1,016,590	70,491	203	207
Western Australia	1,476,743	125,544	217	213
Tasmania	305,913	19,458	208	209
Northern Territory	91,071	11,393	215	217
	13,000,021	1,136,227		

\* Federal Chamber of Automotive Industries. Available at [www.fcai.com.au/sales/2013-new-vehicle-market](http://www.fcai.com.au/sales/2013-new-vehicle-market). Includes light vehicles, passenger vehicles, SUV's and light commercial vehicles.

\*\* Australian Government, "2012 National Transport Commission Report".

\*\*\* Australian Bureau of Statistics, 4102.0 Social trends, July 2013. Passenger vehicles includes: cars, four wheel drive passenger vehicles, people movers, but excludes motorcycles, utility vehicles and light commercial vehicles.

\*\*\*\* Australian Government, "2013 National Transport Commission Report".

The 2013 National Transport Commission report shows that the national average emissions from new passenger and light commercial vehicles was 192g/km, and that the average emissions on cars chosen by buyer type ranging from the lowest to the highest were private buyers (186g/km), business buyers (198g/km), followed by government buyers (210g/km).<sup>147</sup>

The average CO<sub>2</sub> emissions (197g/km) for new passenger vehicles chosen by the ACT Government in 2013 may have been the lowest compared to all other state governments; however, the average is 1.5% higher than in 2012 (194g/km) and 5.5% higher than the average for Australian private vehicle buyers (186g/km).<sup>148</sup> The ACT

147 Australian Government, National Transport Commission, above n 64, p 16.

148 Australian Government, National Transport Commission, above n 64, p 24.

Government's average CO<sub>2</sub> emissions (197g/km) may be even higher than the average emissions for private buyers in the ACT. Unfortunately, such statistics are not provided in the NTC report.

In effect, the ACT Government is not necessarily an exemplary example of its own policy objective that buyers choose fuel-efficient, low-emitting vehicles. Furthermore, it will be difficult to convince business and private buyers to agree to higher vehicle purchase taxes/duty when government buyers are choosing vehicles that are less efficient and more emission intensive (as shown in Table 11).

On the other hand, the ACT Government may have supported locally produced vehicles and chosen vehicles with a "B" ranked environmental performance on the basis of the information provided in the GVG (stage 2) when, in fact, the new vehicle is a high CO<sub>2</sub>-emitting vehicle (as discussed in section 4.2.1). For example, Victoria (209g/km) and South Australia (207g/km) have high average CO<sub>2</sub> emissions because both state governments have adopted the Australian Government Fleet Vehicle Selection Policy, and predominately purchase Australian-made vehicles with average CO<sub>2</sub> emissions of 210g/km. Toyota had the lowest emissions (179g/km) followed by Holden (213g/km), while Ford had the highest emissions (237g/km).<sup>149</sup>

With no mandatory national CO<sub>2</sub> emission targets, Australian average CO<sub>2</sub> emissions levels for new passenger vehicles is significantly higher (44%) than in the EU (190g/km compared with 132g/km).<sup>150</sup>

Furthermore, the NTC does not provide each state and territory with respective annual average CO<sub>2</sub> emissions of new light vehicles by buyer type. This means that monitoring the performance of each state and territory in reducing CO<sub>2</sub> emissions is not possible. Table 11 shows that NSW was the most populous state in terms of the number of vehicles and government buyers, whereas QLD had the highest CO<sub>2</sub> emissions of all state and territory governments.

Policy makers considering reform of vehicle purchase taxes will need the NTC to provide annual reports on average emissions by buyer type in each state and territory for the purposes of reviewing and monitoring the performance of the environmental tax design and price signal. In addition, the performance of each state and territory will need to be assessed against an overall national reduction target. This target figure will need to be agreed on by COAG and by the Australian Government in order to achieve the national objective of reducing greenhouse gas emissions.

The Victorian and South Australian governments may only agree to reform their vehicle purchase taxes once the local car industry ceases production in 2017. However,

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149 Australian Government, National Transport Commission, above n 64, p 18.

150 Australian Government, National Transport Commission, above n 64, p 31.

this timeline may need to be brought forward if the Australian Government finds that road transport emissions must be reduced to meet its international commitment to climate change (as discussed in section 2 above).

## 5. Barriers and Challenges to Reforming Vehicle Purchase Taxes/stamp Duty

The success of the environmental fiscal measure will depend on policy makers' actions or responses to the challenges and barriers to reforming vehicle purchase tax on the basis of CO<sub>2</sub> emissions. Anderson (1995) stated that environmental taxes are often applied on the basis of least political resistance.<sup>151</sup> Braathen (2012) argued that a tax would never be chosen due to the financial cost it would represent for the lobbying polluters.<sup>152</sup> Inevitably, reforming vehicle purchase taxes/stamp duty through imposing a strong price signal will bring strong opposition from powerful lobby groups such as the Australian Motor Vehicle Industry and the Automobile Association of Australia. The fear is that the competitiveness of the most affected industrial sectors could be significantly negatively affected.<sup>153</sup>

Further challenges for policy makers include the interaction of vehicle purchase tax/stamp duty with other complementary tax policy instruments, public acceptance of higher taxes, and the provision of information to the public regarding the reform of vehicle taxes on the basis of CO<sub>2</sub> emissions. This could depend on each government's political economy of environmental policy at the time of reform, as Boyer and Laffont (1999) found that politicians exercise discretion in pursuing the private political agendas of their electoral base.<sup>154</sup> Further discussion is outside the scope of this article.

### 5.1 Lobby group: the Australian Motor Vehicle Industry

As the Australian Motor Vehicle Industry (MVI) would be the "losers" in any vehicle tax reform, it would be motivated to lobby against measures that would adversely affect their interests. Likewise, policy makers would be reluctant to undertake measures that would impose a heavier burden on certain sectors of society.<sup>155</sup> Given that the Australian MVI will be manufacturing cars up until the end of 2017, the Australian Government is unlikely to support any reform of vehicle purchase taxes on

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151 MS Anderson, (1995) "The use of Economic Instruments for Environmental Policy: A Half Hearted Affair, in TemaNord 1995" 588, *Sustainable Patters of Consumption and Production*, Nordic Council of Ministers, pp 55–69.

152 NA Braathen, (2012) "The political economy of environmental taxation", *Edward Elgar Handbook of research on environmental taxation*, 230–245 at 234.

153 Ibid 237.

154 M Boyer and J-J Laffont, (1999) "Toward a political theory of the emergence of environmental incentive regulation", 30(1) *Spring RAND Journal of Economics* 137–57 at 152.

155 Maatta, above n 68, p 26.

the basis of CO<sub>2</sub> emissions during this period. Such reform would undoubtedly have an impact on sales for the Australian MVI.

Furthermore, Stigner's (1971) theory of how firms can capture policies for their own benefit, and push for benefits that a state could provide to the industry,<sup>156</sup> applies to the Australian MVI. For instance, the Australian Government's Fleet Vehicle Selection Policy was introduced to support the local car industry, in that Commonwealth agencies operating under the *Financial Management and Accountability Act 1997* (Cth), and other government agencies that have "opted in" under this Act, are required to select passenger and light commercial vehicles that are manufactured in Australia unless it can be "demonstrated that no suitable vehicle is available".<sup>157</sup> The policy states that "environmental considerations such as fuel efficiency" is not a consideration for choosing an alternative vehicle.<sup>158</sup>

In 2012–13, the Commonwealth, Victorian and South Australian Governments, all of which have a preferential purchasing policy to buy Australian manufactured vehicles, accounted for 56% of fleet purchases, compared to 21% of fleet purchases by the remaining jurisdictions.<sup>159</sup> However, the total number of vehicles purchased by all governments together is less than 50,000 annually, which is small given that over 1.1 million new vehicles are acquired each year.<sup>160</sup> It is envisaged that this policy will continue until Australian motor vehicle manufacturers in Victoria and South Australia cease production at the end of 2017.<sup>161</sup> As a result of this policy directive, the Australian Government and the Victorian and South Australian state governments may not support the reform of vehicle purchase taxes/stamp duty. This supports Braathen (2012) findings that interest groups such as the local car industry have so much influence on political decisions that they could block the introduction

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156 GJ Stigler, (1971) "The theory of economic regulation" 2(1) *Bell Journal of Economic and Management Science* 3–21.

157 Australian Government, Productivity Commission Inquiry Report (2014), "Australia's Automotive Manufacturing Industry" No. 70, 31 March 2014, pp 1–340 at p 171.

158 Australian Government, Department of Finance, (2012) "Fleet Vehicle Selection Policy (as at April 2012). Available at [www.finance.gov.au/vehicle-leasing-and-fleet-management/fleet-guidance-and-related-material.html](http://www.finance.gov.au/vehicle-leasing-and-fleet-management/fleet-guidance-and-related-material.html). Accessed 25 August 2014. The policy states "A Commonwealth agency that purchases an imported passenger vehicle must provide a business case detailing the operational requirements that preclude the selection of a vehicle that was produced in Australia," Department of Finance 2012.

159 Australian Government, Productivity Commission Inquiry Report (2014), above n 157, p 169.

160 *Ibid.* Governments with preferential purchasing policy included the Australian Government, Victoria and South Australian state governments. All other state/territory governments did not adopt a preferential purchasing policy.

161 *Ibid* p 88. The Productivity Commission prepared the following Draft Proposal 3.2: "The Australian, Victorian and South Australian governments, by 2018, should remove fleet procurement policies that require government agencies to purchase vehicles manufactured in Australia".

of instruments.<sup>162</sup> Moreover, Rajan (2006) pointed out that policy makers' attempts to introduce policy options remain hemmed in by strong lobbies at federal and state government levels.<sup>163</sup>

The Productivity Commission considered that such fleet procurement policies act as a subsidy to producers, which can impose costs on government and, in turn, on taxpayers. Thus, the Commission recommended the removal of the policy when the local car industry ceases operations at the end of 2017.<sup>164</sup>

Nevertheless, it is now an opportune time to reintroduce discussion on reforming vehicle taxes. Such discussion will provide information, increase public acceptance, and bring about the progressive implementation of environmental fiscal taxes.<sup>165</sup>

## 5.2 *Vehicle purchase taxes regarded as non-tariff barriers*

The Productivity Commission would not support reforming vehicle purchase taxes on the basis of carbon emissions, as the Commission would consider such taxes as non-tariff barriers. For example, Australia has bilateral trade arrangement with Thailand under which there is zero tariff.<sup>166</sup> Thailand is the third largest importer of vehicles and components from Australia; nonetheless, Thailand imposes a 40% excise tariff<sup>167</sup> on the imported Australian manufactured Ford Territory (249g/km).<sup>168</sup> Thailand's excise tax is based on engine size, and from 1 January 2016, excise taxes will be differentiated on the basis of CO<sub>2</sub> emissions.<sup>169</sup>

Consequently, Thailand's excise taxes are part of that country's environmental taxation policy measure to reduce national transport emissions. In 2014, the Productivity Commission Inquiry Report on Australia's Automotive Manufacturing Industry

162 Braathen, above n 152, p 233.

163 SC Rajan, (2006) "Climate change dilemma: technology, social change or both? An examination of long-term transport policy choices in the United States" 34 (2006) *Energy Policy* 664–679 at 670.

164 Australian Government, Productivity Commission Inquiry Report (2014), above n 157, p 172. Recommendation 5.7 "After Ford, Holden and Toyota have ceased manufacturing motor vehicles in Australia, the Australian, South Australia and Victorian governments should remove fleet procurement policies that require government agencies to purchase vehicles manufactured in Australia". The Australian Government supports this recommendation that the "policy will be redundant once no manufacturing remains in production".

165 Maatta, above n 68, p 31.

166 Australian Government, Productivity Commission, Inquiry Report (2014) "Productivity Commission on Car Industry" March 2014, above n 157, pp 1–287 at p 67.

167 Ibid p 67.

168 Australian Government, Department of Infrastructure and Transport, "Green Vehicle Guide" — Ford SZ Territory Titanium Petrol emits 249g of CO<sub>2</sub>/km. Available at [www.greenvehicleguide.gov.au/GVGPUBLICUI/SearchResults.aspx](http://www.greenvehicleguide.gov.au/GVGPUBLICUI/SearchResults.aspx). Accessed 6 April 2014.

169 M Swire, Tax News, "Thailand Restructures Vehicle Taxes". Available at [www.tax-news.com/news/Thailand\\_Restructures\\_Vehicle\\_Taxes\\_\\_\\_\\_58922.html](http://www.tax-news.com/news/Thailand_Restructures_Vehicle_Taxes____58922.html). Accessed 7 April 2014.

stated that Thailand's vehicle excise tax should be removed, because "Australia's interest would be best served by multilateral reductions in trade barriers".<sup>170</sup> However, policy measures do not contravene the General Agreement on Tariffs and Trade (GATT) as they are imposed on all vehicles sold in Thailand, whether they are imported or manufactured domestically, for the protection of the environment.<sup>171</sup>

On the other hand, Australia's failure to impose such non-tariff barriers is allowing high-emitting vehicles into Australia, and is not discouraging consumers from choosing such vehicles. Braathen (2012) argued that emission cuts in participating countries would be offset by emission increases elsewhere.<sup>172</sup> In effect, Australia's increasing road transport emissions will not only offset emission cuts in other sectors of the country, but will also offset emission cuts in participating countries such as Thailand. The OECD (2009) indicated that imposing such border tax adjustments could be one way of preventing carbon leakage.<sup>173</sup>

### 5.2.1 Lobby groups claim taxes are to blame for Australia's high car prices

The Australian Automobile Association (AAA) claims Australian car prices are among the highest in the world. That is, the AAA submission to the 2013 Productivity Commission Review of the Australian Automotive Industry reported on an international price comparison among Australia, the United States and Canada of four vehicles on the basis of the "manufacturer's suggested retail price (MSRP) excluding GST and VAT".<sup>174</sup> The AAA stated that the cost of almost \$90,000 for the BMW 528i 2.0L in Australia was \$30,000 more than for the same model in Canada. According to the AAA, Australia has some of the "world's most expensive cars due in large part to the distortionary effect of the LCT".<sup>175</sup>

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170 Australian Government, Productivity Commission 2014, above n 157, p 43.

171 World Trade Organization, "WTO rules and environmental policies: GATT exceptions". For a trade-related measure to be eligible for an exception under article XX, paras (b) or (g) must establish that there is a connection between its stated environmental policy goal and the measure. That is, para (b) requires the measure to be necessary for the protection of human, animal or plant life or health, or (g) relates to the conservation of exhaustible natural resources. Available at [www.wto.org/english/tratop\\_e/envir\\_e/envt\\_rules\\_exceptions\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm). Accessed 17 September 2014.

172 Braathen, above n 152, p 238.

173 OECD (2009), "The Economics of Climate Change Mitigation", Paris, France: OECD.

174 Australian Automobile Association, (2013) "Review of the Australian Automotive Manufacturing Industry" (preliminary findings). Available at [www.pc.gov.au/\\_\\_data/assets/pdf\\_file/0013/130504/sub077-automotive.pdf](http://www.pc.gov.au/__data/assets/pdf_file/0013/130504/sub077-automotive.pdf).

175 Ibid.

On the website known as the “Red book for Australian vehicles”, the MSRP provides a manufacturers’ price guide for the sale prices of vehicles (including GST<sup>176</sup> but excluding costs such as “stamp duty and other government charges”).<sup>177</sup> Further, the MSRP does not include the LCT. The MSRP is determined by vehicle manufacturers ahead of time, and provides a guideline for dealers to establish their initial asking price for consumers looking to buy a new car.<sup>178</sup> The MSRP is determined by taking into account manufacturing costs associated with shipping the car to the dealer, the car makers and the car dealers’ profits, the vehicle make and model, how popular the model is, and where it is sold.<sup>179</sup> The MSRP differs from the dealer’s invoice, which is the final price the dealer pays to the manufacturer for the car. LCT of 33% is imposed on the GST-inclusive value of luxury cars over the relevant threshold, which is payable at the time the luxury car is sold.<sup>180</sup>

In effect, AAA’s submission to the Productivity Commission claiming the LCT is for a “large part” responsible for the high prices of new vehicles is not justified. The manufacturers and dealers determine the prices of the imported vehicles, which do not include LCT. Yet, while the AAA calls on the Productivity Commission to “consider the future of this tax and its current and future effects on affordability, consumer choice and road safety”,<sup>181</sup> no mention is made of the importance of reducing CO<sub>2</sub> emissions and protecting the environment.

The Federal Chamber of Automotive Industries (FCAI) did not support AAA findings; that is, the FCAI compared Australian new vehicle prices with equivalent models in the United Kingdom and New Zealand, and found that the majority of the 13 models examined were cheaper than their UK equivalents.<sup>182</sup> However, the FCAI comparisons did not include associated costs such as stamp duty, registration

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176 RedBook, The Pricing Authority. Available at [www.redbook.com.au/cars/research/new/details/2014-bmw-528i-f10-lci-694520?R=694520&Silo=spec&Vertical=car&Ridx=1&eapi=2](http://www.redbook.com.au/cars/research/new/details/2014-bmw-528i-f10-lci-694520?R=694520&Silo=spec&Vertical=car&Ridx=1&eapi=2).

177 Ibid. The Redbook price is referred to EGC, which refers to the price provided by a manufacturer as MSRP — manufacturer suggested retail price — for a vehicle that excludes costs such as options, dealer delivery, stamp duty and other government charges.

178 CarsDirect, “What is the Difference between the Sticker Price and MSRP?” Available at [www.carsdirect.com/car-pricing/what-is-the-difference-between-the-sticker-price-and-msrp](http://www.carsdirect.com/car-pricing/what-is-the-difference-between-the-sticker-price-and-msrp). Accessed 10 April 2014.

179 Ibid.

180 Australian Taxation Office, “Luxury car tax”. Available at [www.ato.gov.au/Print-publications/Luxury-car-tax/?page=2#LCT\\_payable\\_on\\_supplying\\_a\\_luxury\\_car](http://www.ato.gov.au/Print-publications/Luxury-car-tax/?page=2#LCT_payable_on_supplying_a_luxury_car). Accessed 17 September 2014. The luxury car tax thresholds for the relevant financial year applies in the financial year the car was imported, acquired or sold. The LCT thresholds for the 2014–15 financial year: \$75,375 for fuel-efficient vehicles and \$61,884 for other vehicles.

181 Australian Automobile Association (2013), above n 182.

182 Federal Chamber of Automotive Industries, (2014) “Vehicle price and specification comparison”. Available at [www.fc.ai.com.au/specification/vehicle-price-and-specification-comparison](http://www.fc.ai.com.au/specification/vehicle-price-and-specification-comparison). Accessed 17 September 2014.

and other taxes, because they can vary from market to market.<sup>183</sup> The FCAI report was prepared to correct the “distorted views” on the price of cars in Australia and to educate the community about the differences in car prices.<sup>184</sup> However, Mr Weber of the FCAI admitted that the comparisons among more expensive cars became irrelevant because the “very hefty rate of tax” under the LCT regime became a major factor in making such vehicles expensive.<sup>185</sup>

Nevertheless, the AAA and FCAI international comparisons of new vehicle prices currently do not refer to “buyers’ purchase cost”, and should include all taxes and charges such as GST, LCT and vehicle purchase taxes/stamp duty. These would demonstrate to the public that Australian car prices are lower than international car prices, because economic instruments are being introduced or reformed to encourage the acquisition of low-emission vehicles.

### 5.3 *Public acceptance through provision of information on environmental taxes*

The greatest impediment to policy makers’ implementing environmental taxes is public acceptability.<sup>186</sup> Public opposition to instruments that are perceived to be unfair can create resistance to efficiency-enhancing taxes and regulations.<sup>187</sup> Here, the views of interest groups such as AAA may be problematic in terms of achieving public acceptance, particularly when the public has been misinformed that Australia’s car prices are among the highest in the world, even before considering the reform of vehicle purchase taxes.

Literature shows that one important reason for public opposition to environmental taxes is that the public “does not seem to understand — or trust — the main rationale for such Pigouvian taxes”.<sup>188</sup> In their study of fuel taxes, Kallbekken and Saelen (2011) found that any increase in taxes was supported, providing people understood and believed that the taxes would have positive environmental consequences.<sup>189</sup> Thus, it is important that the public is informed about the evidence that reforming vehicle purchase taxes is an effective environmental fiscal measure in reducing road transport emissions (as shown in Part 1).<sup>190</sup> Support also relies on individuals’ perceptions of the

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183 Ibid.

184 T Beissmann, (2014) “Australians pay less for cars than buyers in other countries, says FCAI”, 2 August 2014. Available at [www.caradvice.com.au/299926/australians-pay-less-for-cars-than-buyers-in-other-countries-says-fcai/](http://www.caradvice.com.au/299926/australians-pay-less-for-cars-than-buyers-in-other-countries-says-fcai/). Accessed 17 September 2014.

185 Ibid.

186 S Kallbekken and H Saelen, (2011) “Public acceptance for environmental taxes: self-interest, environmental and distributional concerns” 39 *Energy Policy* 2966–2973.

187 Ibid.

188 Ibid p 2967.

189 Ibid p 2972.

190 Mortimore (2014), above n 57.

environmental consequences of the taxes to themselves and to other people.<sup>191</sup> That is, it is important to inform the public of the growing number of countries that now impose higher vehicle purchase taxes on all new light vehicles sold in their country (either locally produced or imported) to meet emission reduction targets.

Comments made by AAA that Australian car prices are among the “highest in the world” are distortionary and may lead to public opposition of higher vehicle purchase taxes. Rather, AAA and FCAI international comparisons of new vehicle prices should refer to “buyers’ purchase cost” and include all taxes and charges such as GST, LCT and vehicle purchase taxes/stamp duty, as shown in Table 12.

**Table 12: New vehicle purchase price for Holden Commodore in ACT compared with Ireland**

Vehicle purchase tax & GST	Taxes %	Commodore VF SS 8 cycl (274 g/km)		Landcruiser 200 (diesel) 8 cycl 4.6L (273 g/km)	
		Ireland	Australia	Ireland	Australia
Purchase cost		49,790	49,790	100,990	100,990
GST	10		4,979		10,099
VAT	23	11,451		23,227	
Vehicle purchase tax*	36	22,047		44,718	
ACT stamp duty**	3.3		1,840		
	5.0				5,766
LCT***	33				15,232
Purchase price		83,288	56,609	168,935	132,087
Total charges		33,498	6,819	67,945	31,097
Taxes as a % of vehicle cost		40%	12%	40%	24%

Source: Redbook at [www.redbook.com.au](http://www.redbook.com.au).

\* Vehicle purchase tax of 36% applies if new vehicle CO2 emissions is more than 225g/km. <http://www.revenue.ie/en/tax/vrt/vrt-guide.html#section6>

\*\* ACT Stamp Duty on Commodore VF SS was C rated; and Landcruiser 200 (diesel) was D rated in the green vehicle guide.

\*\*\* Luxury car tax threshold for 2013-14: \$60,316.

Table 12 compares the purchase price of the GM Holden Commodore in Australia to the purchase price if the car had been imported into Ireland (excluding any general tariffs). Interest groups have argued that cars imported into the Australia market exceed

191 Kallbekken and Saelen, above n 197, p 2968.

the cost of the vehicles in the imported country, and the same argument could apply to Holden Commodores imported into Ireland. The cost of a locally produced GM Holden Commodore is 28% higher in Ireland than in Australia due to the higher taxes and charges imposed on the new vehicle in Ireland (40%) compared to Australia (12%). Ireland's vehicle purchase tax of 36% is a fiscal environmental tax applied to new vehicles with CO<sub>2</sub> emissions more than 225g, which is intended to discourage consumers from choosing this vehicle.

In the case of a Landcruiser imported into Australia compared to Ireland, even with the imposition of a LCT, taxes are 16% higher in Ireland (40%) than in Australia (24%). Interest groups should acknowledge that such environmental taxes are a part of the importing countries' environmental policy objectives for reducing road transport emissions.

Furthermore, vehicle purchase taxes can lower the cost of a fuel-efficient, low-carbon vehicle as shown below in Table 13.

**Table 13: New vehicle purchase price for a Toyota Hybrid in Australia compared with Ireland**

Vehicle purchase tax and GST	Taxes %	Ireland \$	Australia \$
<b>Vehicle price*</b>			
Toyota Prius Hybrid (89g/km)		45,990	45,990
GST	10		4,599
VAT	23	10,577	
Vehicle purchase tax**	15	8,485	
ACT stamp duty	0		Nil
Purchase price		65,052	50,589
Total charges:		19,062	4,599
Taxes as a % of vehicle cost		29%	9%

\* Redbook new vehicle prices available at [www.redbook.com.au](http://www.redbook.com.au).

\*\* Vehicle Purchase Tax of 15% applies to vehicles with CO<sub>2</sub> emissions more than 80g/km and up to an including 100g/km. <http://www.revenue.ie/en/tax/vrt/vrt-guide.html#section6> Accessed 4 March 2015.

The purchase cost of a Toyota Hybrid is 20% less in Australia (9%) than in Ireland (29%) because of higher VAT rates and a CO<sub>2</sub>-based vehicle tax of 15% compared to nil in the ACT territory. The Irish case study shows that the lowest emission band for vehicles with CO<sub>2</sub> emissions between 0g/km to 80g/km is 14% of the value of the

vehicle (including VAT).<sup>192</sup> The ACT's purchase prices for hybrid electric vehicles are among the lowest internationally because of the low GST and vehicle purchase tax/stamp duty. However, the transition to low-emission vehicles is slow.

Contrary to the opinion of some interest groups,<sup>193</sup> VAT and vehicle purchase taxes in EU member states such as Ireland are generally higher than taxes imposed by state and territory governments in Australia.

#### 5.4 *Interaction of vehicle purchase tax/stamp duty with other tax policy instruments*

Environmental taxes are part of the legal tax system because they are instruments of taxation and environmental policies, and therefore must be integrated into both concepts.<sup>194</sup> In this way, the effectiveness of reforming existing vehicle purchase tax/stamp duty into a fiscal environmental tax will depend on interaction with other tax policy instruments such as the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) (GSTA), the luxury car tax (LCT), and the car benefit under the *Fringe Benefits Tax Assessment Act 1986* (Cth) (FBTAA). Most new vehicles sold in Australia are imported, which means that the general 5% tariff will apply and will be included in the purchase price/market-selling price.<sup>195</sup>

##### 5.4.1 Luxury car tax

With the LCT threshold set at \$60,316 for 2013–14, it is unlikely that the LCT will have an impact on the majority of vehicle sales as the average private buyer is likely to spend around \$35,000 on their next new car.<sup>196</sup> With private car buyers acquiring just over half of all new car sales annually, this equates to around \$19b annually or approximately 1.3% of Australia's annual GDP.<sup>197</sup> It is estimated that the second largest sales bracket will be on large SUVs costing more than \$70,000. Further, it is anticipated that Australians will outlay an estimated \$10b on the biggest available

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192 Ireland Department of Community and Local Government, "Motor Tax Rates based on CO2 Emissions". Available at [www.environ.ie/en/LocalGovernment/MotorTax/MotorTaxRates/MotorTaxRatesbasedonCO2Emissions/](http://www.environ.ie/en/LocalGovernment/MotorTax/MotorTaxRates/MotorTaxRatesbasedonCO2Emissions/). Accessed 12 April 2014.

193 Federal Chamber of Automotive Industry, (2014) "Car Policy had good ignition but has crashed", *Canberra Times*, 26 February 2014. Available at [www.canberratimes.com.au](http://www.canberratimes.com.au). Accessed 14 April 2014. Mr Kellar stated that, "Motorists pay fuel tax, goods and services tax, luxury car tax, registration fees and stamp duty. The family car is absolutely a cash cow".

194 M Rodi and H Ashiabor, (2012) "Legal authority to enact environmental taxes", 73 *Edward Elgar Handbook of Research on Environmental Taxation* 59–81.

195 Australian Government, Productivity Commission, Inquiry Report (2014), above n 157, p 89.

196 Roy Morgan Research, (2013) "Australia's \$10 billion budget for large SUVs", 28 October 2013. Available at <http://roymorgan.com/~media/Files/Findings%20PDF/2013/October/5262-price-budgets-for-new-car-intenders-by-segment-august-2013.pdf>. Accessed 10 March 2014.

197 Ibid.

SUVs by 2017,<sup>198</sup> irrespective of the LCT of 33% and the tax-exempt incentive for fuel-efficient vehicles<sup>199</sup> under the threshold of \$75,375 for 2013–14.

This data implies that consumers are prepared to buy a high-value, high-carbon emitting new vehicle regardless of the tax, and are not encouraged to buy “new fuel-efficient vehicles”. This is because the vehicle they choose to buy is not within the threshold range \$60,316 to \$75,375.

The 2010 Henry Report recommended the LCT should be abolished because the “\$75,375 threshold for fuel-efficient luxury cars is a costly and ineffective way of limiting greenhouse gas emissions”.<sup>200</sup> The 2014 Productivity Commission Report also recommended the removal of the LCT.<sup>201</sup>

While it may be an ineffective measure in limiting CO<sub>2</sub> emissions, without the LCT, more consumers may have been encouraged to choose such high-emitting vehicles. The Australian Government has announced that it will review the LCT in its Taxation White Paper because it is a “higher cost and less efficient method of raising revenue”.<sup>202</sup> Policy makers would be well advised to incorporate such taxes into the reform of the vehicle purchase tax, which can be significantly differentiated for higher emitting vehicles that, generally speaking, are the vehicles that fall within the LCT. Future discussion is outside the scope of this article.

#### 5.4.2 Car benefits under the FBTA and GSTA

Business, government and rental fleet buyers acquire over half of all new vehicles sold annually, and most are likely to be under the FBT regime.<sup>203</sup> The COWI Study (2002)

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198 Ibid.

199 Australian Government Tax Laws Amendment (Luxury Car Tax) Bill 2008, revised supplementary Explanatory Memorandum. A “fuel efficient car” is defined as a car that “has a fuel consumption not exceeding 7 litres per 100 kilometres (162g of CO<sub>2</sub>/km) as a combined rating under vehicle standards in force under Sec 7 of the *Motor Vehicle Standards Act 1989*.”

200 Australian Government, (2010) *Australia's Future Tax System* (the Henry Report), 2 May 2010, para E8–2. Available at [www.taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/publications/Papers/Final\\_Report\\_Part\\_2/chapter\\_e8-2.htm](http://www.taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/publications/Papers/Final_Report_Part_2/chapter_e8-2.htm). Accessed 28 March 2014.

201 Australian Government, Productivity Commission Inquiry Report (2014), above n 157, p 33. Recommendation 5.6: the Australian Government should in its forthcoming Taxation White Paper consider the removal of the luxury car tax.

202 Productivity Commission (2014), n 157, p 33. Recommendation 5.6: the Productivity Commission recommended that the Australian Government should in its forthcoming Taxation White Paper to consider more efficient sources of revenue to replace the LCT. The Australian Government supports this in principle but must consider “any sources of government revenue with which to replace these measures...”

203 A Mortimore, (2011) “What now for environmental sustainability? Government fails to link the Australian Car FBT concessions to vehicle emissions” *Australian Tax Forum* 501–543 at 520.

stated that company cars can have an enormous impact on the size and composition of the country's car fleet as a whole, and on its CO<sub>2</sub> emissions profile.<sup>204</sup>

The Copenhagen Report (2009) found that company cars acquired for employees under a salary package scheme encouraged the acquisition of large vehicles which generally tend to be more expensive, more powerful, and high carbon emitting.<sup>205</sup> The 2002 COWI Study found that this is partly explained by the fact that many of these cars are used by more affluent motorists such as professionals, managers, and company executives who tend to prefer larger and more expensive cars than the fleet average.<sup>206</sup> The tax treatment reduces the real costs to the buyers, thereby encouraging the trend toward larger cars.<sup>207</sup> For example, vehicles acquired as a car benefit under the FBTAA may be entitled to a rebate<sup>208</sup> for the GST paid on the vehicle (as shown in Table 12 and 13), which is a significant loss of tax revenue to the community. Moreover, reforming vehicle purchase taxes/duty with a higher price signal may not shift behaviour toward purchasing lower carbon vehicles. This is because the tax burden of business is lower than that of consumers given that business has access to tax deductions that consumers do not.<sup>209</sup>

Policy makers will most likely defer any reform to such complementary tax measures until the local car industry ceases production at the end of 2017. In addition, the current tax regime benefits car importers in an open market, as there is no fiscal measure that discourages the importation of high polluting vehicles. After 2017, the FBT measure could be reformed<sup>210</sup> in order to reduce the undesirable behaviour discussed above,<sup>211</sup> and reflect the negative externalities of transportation choices.<sup>212</sup> Further discussion on the FBT measure and GST regime is outside the scope of this article.

## 6. Conclusion

Part 1 of the two-part series provided the ex-post analysis and evidence regarding the success of reforming vehicle purchase tax in various EU member states in order

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204 European Commission, European Commission's Directorate-General for Environment, above n 23, pp 32, 48.

205 Ibid p 54.

206 Ibid p 48.

207 Ibid p 48.

208 Div 11 (Creditable acquisitions) of the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) (GSTA). Employers registered for GST (s 23 GSTA) will be entitled to input tax credits for their creditable acquisitions (s 11-1 GSTA).

209 Maatta, above n 68, p 52.

210 Mortimore, above n 203.

211 Maatta, above n 68, p 5.

212 R Mann, (2005) "On the Road Again: How Tax Policy Drives Transportation Choice" *Virginia Tax Review*, 587-665.

to significantly reduce road transport emissions. This conclusion was supported by literature that indicates that a fiscal environmental policy instrument can influence consumer vehicle choice and affect low-carbon technology acceleration to reduce CO<sub>2</sub> emissions in road transport.<sup>213</sup> Such a policy instrument could achieve the objective proposed by the Australian Government in its 2013 Issues Paper to the Energy White Paper for 2015 for measures that encourage changes in consumers and the “uptake of technology to improve transport energy efficiency”.<sup>214</sup>

It is recommended to policy makers that state and territory governments’ vehicle purchase tax/stamp duty should be reformed into a fiscal environmental tax and be sufficiently differentiated on the basis of CO<sub>2</sub> emissions.<sup>215</sup> However, COAG’s proposal in 2009 to consider the ACT Government’s GVDS as a possible model for reforming vehicle purchase taxes/stamp duty for all other state and territory governments is not supported.

Furthermore, COAG’s recommendation in “utilising the environmental ratings” published in the GVG (stage 2) as a measure of the new vehicles’ “environmental performance” is also not supported. The GVG (stage 2) Green Vehicle Ratings are distorted and misleading, with lower duty applying to higher emitting vehicles, and higher duty applying to lower emitting, diesel-fuelled vehicles. Monitoring and measuring the performance of the GVDS on the basis of “environmental performance” in reducing CO<sub>2</sub> emissions is inaccurate given that the range of CO<sub>2</sub> emissions can vary widely among green vehicle rankings. The GVDS’ poor performance was evident in the 2013 National Transport Commission report where it was shown that the ACT Government’s average carbon emissions from its choice of new passenger vehicles and light commercial vehicles (197g/km) was higher than the average for Australian private buyers (186g/km) in 2013. Additionally, the average carbon emissions for the vehicles chosen by the ACT Government in 2013 (197g/km) compared to those chosen in 2012 (194g/km) had increased by 1.5%.

Further, the price signal of the ACT’s GVDS was not “strongly differentiated”, and only varied slightly in comparison to state governments’ price signals. The performance of the GVDS was reported three years after the measure was introduced on 3 September 2008; however, no review was made. Consequently, the extent to which road transport emissions had been reduced was inconclusive. Moreover, it supports the 2002 COMI Study’s findings that simple increases in taxes that do not involve changes to the tax base provide only very small reductions in CO<sub>2</sub> emissions.<sup>216</sup>

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213 C Brand, J Anable and M Tran (2013). “Accelerating the transformation to a low carbon passenger transport system: the role of car purchase taxes and scrappage incentives in the UK” 49 *Transportation Research part A* 132–149 at 146.

214 Australian Government, Department of Industry (2013) “Energy White Paper, Issues Paper” above n 30, p 33.

215 European Commission, European Commission’s Directorate-General for Environment, above n 23.

216 Ibid.

The GVDS failure to significantly reduce CO<sub>2</sub> emission in road transport emissions is not an indication that the environmental tax policy measure is ineffective; rather, it is a failure of the tax design and price signal adopted by the ACT Government. As a result, it is not recommended as an appropriate model for policy makers in reforming vehicle purchase taxes, because the linkage between the fiscal environmental tax and amount of emission reduction is crucial to environmental effectiveness.<sup>217</sup>

The review indicates to policy makers the importance of annually monitoring tax design, and whether or not the level of price differentiation is sufficient to influence a behavioural change in encouraging the uptake of fuel-efficient or alternatively fuelled vehicles. In this way, the tax design could adopt CO<sub>2</sub> emissions bands that are differentiated so that taxes for very energy effective cars are lower than taxes for cars with poor energy efficiency. The advantage of using CO<sub>2</sub> emission bands in the tax design is that it is a flexible system, and the CO<sub>2</sub> emission bands can be lowered for the purposes of meeting the average CO<sub>2</sub> emissions target for new light vehicles. Furthermore, the CO<sub>2</sub> emission bands abide by the transparency principle, which offers certainty to buyers regarding the level of tax applicable for their choice of new light vehicle. Alternative tax designs are discussed in Part 1 of the two-part series.

However, the adoption of CO<sub>2</sub> emission bands requires both COAG and the Australian Government to set national mandatory fuel efficiency or CO<sub>2</sub> emission targets. Every state and territory government will be expected to meet their commitment, which will require annual reporting on their performance. The National Transport Commission currently provides an annual report on CO<sub>2</sub> emissions from new Australian vehicles, which could be further extended to include the performance for each state and territory government, and include each buyer type.

For the tax design to be effective, it should not be offset by interaction of other taxation policy measures that are advantageous to certain buyer types through subsidising vehicle costs at the expense of the community and the environment. If certain buyers are being advantaged, then policy makers need to neutralise the impact of such tax policy measures by either imposing a higher rate of tax or surcharge, or reforming and aligning tax measures such as the car benefits under the FBT regime and the input tax credits available under GSTA. That is, the tax design of the vehicle purchase tax should maintain neutrality and equity among buyer types and be complementary to other related tax policy measures. Whether this can be achieved will depend on the amount of power that particular interest groups have, and how this power is wielded in the political process.<sup>218</sup>

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217 S Smith, (1995) "Green taxes and charges: policy and practice in Britain and Germany", *The Institute for Fiscal Studies* 21–23.

218 RW Hahn, (1990) "The political economy of environmental regulation: towards a unifying framework" 22 *Public Choice* 21–47.

Finally, it is important that the public is fully informed that reforming vehicle purchase taxes will have a positive effect in reducing CO<sub>2</sub> emissions, and that it will assist the Australian Government in meeting its international commitments to reduce the nation's greenhouse gas emissions.