

**Senate Standing Committee on Economics**  
ANSWERS TO QUESTIONS ON NOTICE  
Innovation, Industry, Science and Research Portfolio  
Supplementary Budget Estimates Hearing 2009-10  
21 October 2009

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**AGENCY/DEPARTMENT:** COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

**TOPIC:** Carbon Footprint - Electric Cars

**REFERENCE:** Question on Notice (Hansard 21 October 2009, E17-18)

**QUESTION No.:** SI-23

**Senator ABETZ**—In relation to CO<sub>2</sub> issues, has the CSIRO done any study on the carbon footprint of wholly electric cars—not hybrids but plug-in electric vehicles? If those electric vehicles had to be fuelled, or refuelled, from the electricity grid, which uses brown coal, would the CO<sub>2</sub> footprint of those battery powered vehicles be worse, courtesy of the brown coal that is being burned, than if they were using petrol?

**Dr Clark**—With any electric vehicle that connects to the grid, how the grid is powered and managed of course are completely connected.

**Senator ABETZ**—Absolutely, and that is why I am asking the question. Have you done any studies? I assume the answer is either yes or no as to whether you have looked at that.

**Dr Clark**—In terms of the detail of our modelling on electric cars, Dr Bev Ronalds covers that area. We continue to do modelling and will continue to do further modelling in the future in these particular areas of trade-off and interactions.

**CHAIR**—Senator Abetz, we also have questions from Senator Joyce, Senator Macdonald and possibly Senator Heffernan.

**Senator ABETZ**—In that case, I will quickly put some other questions on notice. But can we just have this cleared up: is there a specific study in relation to the CO<sub>2</sub> footprint of the refuelling of electric powered vehicles if their power source is from brown coal?

**Dr Ronalds**—As part of our modelling, and particularly the Future Fuels Forum work that we undertook a couple of years ago, we looked at a range of options for hybrid vehicles and plug-in vehicles compared to a range of fuels. The particular question you are asking may or may not have been one of those permutations, and we could take that on notice and investigate.

**ANSWER**

CSIRO has done some preliminary modelling to understand the relationship between electric vehicles and the source of electricity used to charge them and how this compares with various fuels in terms of carbon footprint, but results from this work are not yet ready for publication.