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16. Abstract <p>This study was designed to evaluate the relative amounts of greenhouse-gas emissions from driving a battery-electric vehicle (BEV) compared with greenhouse-gas emissions from driving a traditional gasoline-powered vehicle in different countries of the world. The reasons for conducting such a country-by-country comparison are that (1) the indirect emissions from BEVs depend on the mix of fuel sources used to generate electricity, and (2) countries differ widely in their fuel-source mix. (Emissions associated with manufacturing each vehicle type were not considered in this analysis.)</p> <p>The analysis used two key sets of data: (1) BEV miles-per-gallon-equivalent values based on well-to-wheels emissions of various electricity fuel sources calculated by the Union of Concerned Scientists, and (2) country-specific electricity production by fuel source compiled by the International Energy Agency. Specifically, for each individual country, the calculations derived an equivalent fuel-economy value at which both BEVs and gasoline-powered vehicles produce the same amount of greenhouse-gas emissions. In other words, the calculations derived, for each country, a fuel-economy value that a gasoline-powered vehicle would have to exceed to produce lower emissions than a typical BEV, and vice versa.</p> <p>The calculated fuel-economy-equivalent values for individual countries vary greatly, depending on the mix of fuels used to generate electricity within each country. On one extreme is Albania (which generates 100% of its electricity from hydroelectric power) with 5,100.0 MPG<sub>ghg</sub> (0.05 L/100 km); on the other extreme are Botswana and Gibraltar (which generate 100% of their electricity from coal and oil), each with 29.0 MPG<sub>ghg</sub> (8.1 L/100 km). The corresponding value for the United States is 55.4 MPG<sub>ghg</sub> (4.2 L/100 km), while the average for the world is 51.5 MPG<sub>ghg</sub> (4.6 L/100 km). The values for all 143 examined countries are presented in tabular form, as well as in a color-coded world map.</p>					
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