Sustainability of Electric Vehicles

Gasoline-powered cars account for 60.7% of the CO2 emissions produced by road transportation in the EU [1]. Electric vehicles (EV) have been marketed as an environmentally sustainable alternative to substitute gasoline-driven vehicles. While electric vehicles do not produce CO2 emissions during driving, their CO2 emissions at other stages of their lifecycle are quite high. In fact, manufacturing an electric vehicle requires twice as much energy as manufacturing a traditional car [2].

The batteries in EVs require lithium and cobalt, and mining these has major impacts on both the environment and the wellbeing of people. More than half of the world's lithium deposits are found in Argentina, Chile and Bolivia and extracting a ton of lithium in these dry conditions requires nearly two million liters of water [3]. Toxic chemical leaks from lithium mines are another concern. Such leaks have already contaminated nearby water sources for example in Tibet and Argentina [3]. While lithium is found in South America, Australia and China [4], cobalt can only be found in large quantities in the Democratic Republic of the Congo [3]. This makes cobalt mining in Congo a lucrative business at the cost of safety and ethical behavior [3]. Other environmental concerns caused by EVs include electricity required to charge the batteries and the eventual recycling of drained batteries.

Sources:

[1] European Parliament (2019) 'CO2 emissions from cars: facts and figures (infographics)'. Available at https://www.europarl.europa.eu/news/en/headlines/society/20190313STO31218/co2-emissions-from-cars-facts-and-figures-infographics

[2] M. Malhotra (2019). 'The Myth Around Electric Vehicles: Are They Really Eco-Friendly?' *Entrepreneur* Available at https://www.entrepreneur.com/article/334059

[3] A. Katwala (2018). 'The spiraling environmental cost of our lithium battery addiction.' *WIRED* https://www.wired.co.uk/article/lithium-batteries-environment-impact

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