

# Environmental Impact Of Electric Vehicles Battery

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## Full Text

R. S. Sandhya Devi,<sup>1</sup> P. Sivakumar<sup>2</sup> and B. Vinod<sup>2</sup>

1. Kumaraguru College of Technology, Department of EEE, Coimbatore – 641 049, Tamil Nadu, India

2. PSG College of Technology, Department of EEE, Coimbatore – 641 004, Tamil Nadu, India

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## Abstract

Environmental pollution and high fuel costs have increased demands for an alternative energy source for transportation. Battery will be key element of alternative vehicles. Used electric vehicle batteries could be a critical and inexpensive part of the solution. In this paper, the environmental performance of electricity storage using a life cycle assessment methodology analyze the impacts of the construction, disposal/ end of life and usage of each of the systems. Batteries are identified as a problem material in the waste stream. Batteries are made from a variety of chemicals to power their reactions. Some of these chemicals, such as nickel and cadmium, are extremely toxic and can cause damage to humans and the environment. In particular, they can cause soil and water pollution and endanger wildlife. The environmental impacts assessed are climate change, human toxicity, particulate matter formation and fossil resource depletion. Determining which battery technology is to be used preferably in electric vehicles and to indicate how to further improve the overall environmental friendliness of electric vehicles in the future. There is considerable scientific, political and public interest in the potential of electric vehicles (EV) as replacements for internal combustion engine vehicles. Depending on the electricity mix used, these vehicles could potentially offer considerably reduced greenhouse gas emissions. Battery-powered electric cars (BEVs) play a key role in future mobility scenarios. However, little is known about the

environmental impacts of the production, use and disposal of the lithium ion (Li-ion) battery. The major contributor to the environmental burden caused by the battery is the supply of copper and aluminum for the production of the anode and the cathode, plus the required cables or the battery management system. This study provides a sound basis for more detailed environmental assessments of battery based e-mobility.

Keywords

Environmental, Electric vehicle, Battery, Recycling

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