# Article information:

The economics of electric roads - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0968090X21000255>

# Article summary:

1. This paper presents a method for evaluating the social benefits of electric roads for heavy traffic, applied to a large-scale road network and real transport flows.

2. The benefit of electric roads depends on the number of trucks using them, which is determined by the profit that haulage companies can make from replacing diesel trucks with hybrids.

3. The cost of electric roads is assumed to be overhead power lines, but other technologies such as wireless dynamic charging may be relevant in future years.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides an interesting overview of the economics of electric roads and their potential benefits for reducing carbon emissions from heavy trucks. The authors present a method for evaluating social benefits and undertake a cost-benefit analysis with a detailed spatial resolution, focusing on long range heavy trucks rather than light traffic. They also consider different scenarios for the size and distribution of the electric road network, as well as varying prices for diesel and electricity in order to calculate the net benefit cost ratio (NBCR) and cost recovery.

The article appears to be reliable overall, providing evidence-based arguments and exploring counterarguments where appropriate. However, there are some potential biases that should be noted. For example, while the authors acknowledge that other technologies such as wireless dynamic charging may be relevant in future years, they focus solely on overhead power lines in their analysis due to its current maturity level. This could lead to an underestimation of potential benefits from other technologies or an overestimation of costs associated with overhead power lines if these become outdated in future years. Additionally, while the authors consider different scenarios for the size and distribution of the electric road network, they do not explore how changes in population density or freight flows might affect these scenarios over time.

In conclusion, this article provides an interesting overview of the economics of electric roads and their potential benefits for reducing carbon emissions from heavy trucks. While it appears to be reliable overall, there are some potential biases that should be noted when considering its findings.

# Topics for further research:

* Wireless dynamic charging
* Cost-benefit analysis
* Social benefits of electric roads
* Overhead power lines
* Population density and freight flows
* Net benefit cost ratio (NBCR)

# Report location:

<https://www.fullpicture.app/item/fb9a2c5b32865b5b008e754a13ec09a0>