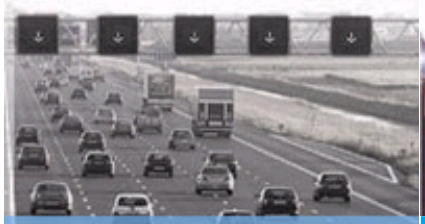

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Indirect energy associated with Swedish road transport

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Abstract

Typically when transport systems are considered from an energy or environmental perspective it is primarily the energy use associated with the propulsion of vehicles that is addressed. There are however other significant energy categories associated with transport systems, labelled as indirect energy – construction, operation, maintenance and demolition of infrastructure; manufacturing, service and scrapping of vehicles; and fuel production.
In this paper the indirect energy is calculated to slightly more than 45% of the total energy use in the Swedish road transport sector. In detail, infrastructural energy stands for approximately 22%, vehicular energy at least 14%, and fuel production about 9% of the total energy use.
In conclusion, the insight into the significance of the indirect transport energy should have implications on transport policy, for example, the design of means of control to reduce energy use and environmental impact. Four scenarios involving energy-saving measures are tested, and even though direct energy use remains the single largest item, policy-makers concerned with reducing road sector CO2-emissions cannot focus exclusively on the consumption of petrol and diesel for propulsion, but should also give heed to the energy use associated with infrastructure and vehicles.

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