

Teixeira, Ana Carolina Rodrigues; Machado, Pedro Gerber; Borges, Raquel Rocha; Brito, Thiago Luis Felipe; Santos, Edmilson Moutinho dos; Mouette, Dominique. The use of liquefied natural gas as an alternative fuel in freight transport – Evidence from a driver's point of view.

**Energy Policy**, . 149, p. 1-12, art. 112106, feb. 2021. Disponível em:

<https://doi.org/10.1016/j.enpol.2020.112106>. Acesso em: 02 fev. 2021.

### **ABSTRACT**

Nearly one-quarter of global greenhouse gas emissions are from the transport sector and around 30% of this are from road freight transport. Seeking to diversify the energy matrix and to reduce air pollution, we studied performance, emissions, and advantages/disadvantages of several alternative fuels compared to the conventional one (Diesel). This paper aims to analyze the driver's view about the use of Liquefied Natural Gas (LNG) in freight transport and set policy recommendations about it. A survey was conducted through a structure questionnaire in São Paulo (Brazil) to evaluate different aspects related to truck drivers in the use of LNG fuel technology. The results show that despite the lack of knowledge on LNG trucks, most of the respondents related it to an environmentally friendly and more economic option. Despite the higher purchase price, 68% of them would pay a loan for a longer period to acquire the technology. The main aspect about buying a conventional truck is safety (22.4%), however for LNG trucks, a tax reduction (23.1%) is the most crucial one. Lack of knowledge is a considerable barrier to the introduction of LNG for freight transport regarding technology, performance, prices, maintenance, and safety, which represent uncertainty when acquiring the technology.

### **Keywords**

Heavy-duty vehicles Liquefied natural gas Truck drivers Consumer preferences Survey