

# Fossil-Free Transportation By 2030 For A Food And Beverage Manufacturer In Sweden

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Environmental sustainability is an up-to-date global topic and decreasing the dependency on fossil fuels is getting on top of the agendas of many organizations. This thesis aims to develop a plan for a Swedish company that serves in the food and beverage industry to become fossil-free in the transportation operations at the organizational level by 2030. We hope that the roadmap will help other companies to start this change as well.

Today's supply chains have become more global than ever before, where people choose online shopping from global companies, in order to obtain a reduction in cost and the best possible quality. However, this habit has also brought a big increase in environmental damage, such as carbon dioxide (CO<sub>2</sub>) emission which causes a big damage to the atmosphere. Luckily, in the last few years, customer priorities have started to change, and customers have become more conscious about the environment and started demanding environmentally friendly solutions and products. Companies value customer demand to survive in the global market and try to satisfy their customers. Therefore, the companies have started taking action on becoming more environmentally friendly.

The Swedish Food Federation has started working towards an environmentally friendly future by initiating a sustainability manifest. The focal company signed this sustainability manifest in April 2019 together with many other food manufacturers in the Skåne region in Sweden. The manifest has five goals and this thesis focuses on the first goal. This goal aims to have a fossil-free industry by 2030 and the focal company has been working on sustainable production successfully. Moreover, as a first attempt, this project is executed to become fossil-free in transportation by 2030.

After conducting interviews with the stakeholders and analyzing the data, we developed a roadmap for the focal company to become fossil-free by 2030 in transportation operations. The roadmap includes personal vehicles, trucks, tractors, and forklifts. This means that the study covers both internal and external transportation activities regardless of how big or small the impact they have on the environment. We have also defined key performance measurements (KPIs) for each type of vehicle to monitor the progress for ten years. Measuring the performance is specifically important for forklifts and tractors since it is not possible to make these operations fossil-free at the moment. The KPIs will help the focal company keep track of the improvements.

By analyzing the current transportation operations and their emission levels, we have given recommendations for how each transportation type should be changed in order to not use any fossil fuels. The first recommendation is to change their leasing vehicles from diesel and hybrid cars to only electric vehicles. Instead of using mixtures of biofuels and diesel in their truck deliveries, they should start using only biofuel (HVO). Their current fossil-fueled forklifts need to be replaced with forklifts that are driven only on electricity. Lastly, their tractors that are driven on diesel, need to be exchanged with tractors that can be driven on biofuels or electricity.

Collaborating with the focal company and its two main logistics service providers, we aimed to help them achieve fossil-free transportation by 2030. Transportation operations that are not dependent on fossil fuels will provide a better environment for today's society and the future generations.

This popular scientific article is derived from the master thesis: *Sustainable transportation and mapping of logistics activities with the goal of having fossil-free transportation by 2030*, written by Bengisu Özer & Therese Lantto (2020) at the department of Industrial Management and Logistics at Lund University.