

Setting	
Country	Sweden
Location	Göteborg
Project start date	2008
Project end date	2010
Technology keywords	Forestry and energy crops
Host sector	Oil industry

Technical summary of the project

Objective of the project	As the first refinery in the world Preemraff Göteborg shifts its production so that biomass from the Swedish Forests will be refined to diesel.
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Project description

Preemraff Göteborg is retrofitted at a cost of 280 million SEK and will 2010 refine 100 000 tons of biomass to diesel. The adjustment makes it possible to refine not only crude oil, but also different kinds of raw material such as vegetable oils and animal fat to high-quality diesel fuels. Preem will primarily use wood based raw material in the purpose of not competing with the food industry.

As a step in the process Preem has become part-owner of the company Sunpine together with Södra Forest Owners and Sveaskog. A new plant is to be built in Piteå at a cost of 250 million SEK. Sunpine will produce diesel raw material from pine oil which is a bi-product from the pulp industry. In the Preem refinery in Göteborg the pine oil will be refined to ordinary diesel which will be sold to the customers of Preem.

In the bio refining process the storage permanence and the combustion properties of the pine oil is improved at the same time as the energy content increases. In addition sulphur and other pollutants are removed from the product in the refining. When the 100 000 tons of raw pine oil is used in the vehicle traffic instead of fossil fuels, the direct emissions are reduced by 250 000 tons CO₂ per year.

The first goal is that 10 percent of all Swedish diesels should be made from renewables instead of crude oil, at the latest in 2011. The vision of Preem is to continue the retrofitting to a green refinery by investing in gasification plant. Preem also does research on how algae could be used for fuel production in the refinery.

Environmental and social benefits

(Estimate of) Greenhouse Gases abated (in metric tons of CO ₂ -equivalent)	Annual: When the 100 000 tons of raw pine oil is used in the vehicle traffic instead of fossil fuels, the direct emissions are reduced by 250 000 tons CO ₂ per year.
Number of reduction units (EAU, CER, ERU, AAU)	
Socio-economic aspects What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project?	
Methodology used (if applicable: approved baseline methodology or study done - refer to this; and monitoring organisation)	

<i>Economic data</i>	
Capital costs	280 million SEK = 27 million Euros
Financing scheme	
Financing organisation (if third party)	

<i>Project developer</i>	
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<i>Host organisation</i>	
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