



Country Update: Sweden



The Swedish Energy Agency intends, through its participation in the International Energy Agency (IEA) Bioenergy, to work toward strengthening Swedish knowledge and interests on an international arena. It also aims to enable Swedish actors to receive international knowledge about bioenergy via networking and especially about pyrolysis oil within Task 34.

Since BillerudKorsnäs declared to discontinue their NER300 pre-study on the production of green oil at the end of last year, there are needs for new initiatives on pyrolysis activities in order to regain momentum for possible implementation of fast pyrolysis in the Swedish industry.

"SWEPOIL-Initiative" is the result of discussions between a number of research players in Sweden, stakeholders from industry and the Swedish Energy Agency in order to nationally gather research and innovation around pyrolysis oil. The initiative is planned to start during the autumn of 2014 in the form of a number of priority projects.

Below is a short summary of specific sites with on-going activities of interest in Sweden.

Energy Technology Centre in Piteå (ETC)

Pilot-scale experimental R&D work on fast pyrolysis is performed around ablative cyclone pyrolysis (~20 kg/h plant). Experimental work is the current focus at ETC to understand the underlying phenomena and observable facts

related to condensation and cooling of pyrolysis oil (collaborations with NREL). Furthermore, studies on how tailor-made zeolite catalysts function in upgrading pyrolysis oil to high-grade hydrocarbon compounds are being performed in collaboration with Luleå University of Technology.

Royal Institute of Technology (KTH)

KTH is confronting the challenges of reducing the internal oxygen present in pyrolysis oil to levels suitable for the existing petrochemical industry through their catalytic steam pyrolysis process. The focus has been on the use of metal modified zeolite catalysts and modified reaction environment (using steam) in a continuous bubbling fluidised bed reactor (~5 kg/h setup).