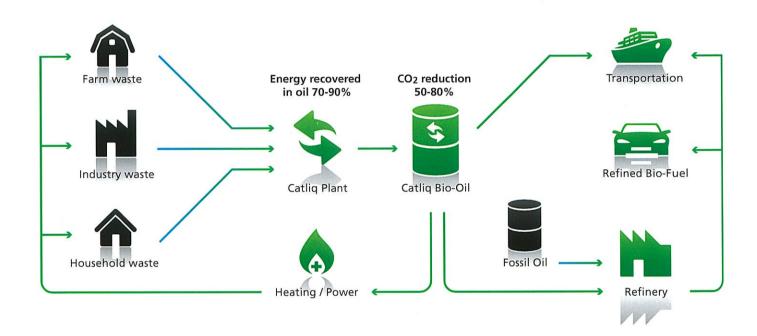


# Waste to Energy

Catliq® - the sustainable oil well



## Feed flexibility

- Sludge from waste water treatment
- Manure from livestock production
- Residues from food processing
- Residues from ethanol or bio-diesel production
- Organic fraction of household waste

## Catliq® bio-oil

- Catlig bio-oil offers high fuel flexibility
- Direct substitute for fossil fuels in several applications
- Lower heating value: 33-37 MJ/kg
- Low sulphur, chlorine and ash content
- Catlig bio-oil can be stored



### Catliq® - the sustainable oil well

The Catliq process is an efficient and environmentally friendly process that enables the conversion of waste into green oil. An oil that will help fight climate changes and increasing  $CO_2$  emissions. Using one litre of Catliqoil instead of one litre of fossil oil will reduce  $CO_2$  emission with up to 80%. Additionally, the Catliqoil may in many applications such as heating, power generation and transportation be used as a direct substitute for fossil oil making Catliq the sustainable oil well of the future.

#### The Catliq process and oil usage

SCF Technologies has developed the Catliq® process that is able to convert feeds such as sludge, various waste materials and traditional biomasses into a low sulphur and low chlorine oil with high energy density (33-37 MJ/kg).

There will be an increasing demand for renewable energy over the coming decades. The demand increase is driven by a strong political support from most regions of the world where discussions and targets are being replaced by binding targets as most recently seen with the Renewable Energy Directive in the EU.

The unique and patent pending Catliq® process has been developed by SCF over the past 10 years and is characterised by its high feed side flexibility and its high quality oil output. The Catliq-oil may be used as a substitute for fossil fuels in oil fired power plants, coal fired power plants, CHP plants, diesel generators and may be further processed into fuels for transportation.

One application is to use the Catliq-oil directly in existing power stations. For existing plants that already have been re-built to support co-firing with biomasses the Catliq-oil may be used as a substitute for fossil fuels and thereby further lower the dependency on traditional energy sources as well as reducing the CO<sub>2</sub> footprint. For power stations that have not been rebuilt to support co-firing with biomasses the Catliq-oil will offer a way to introduce green fuels without additional investments in new equipment and the introduction of operational issues related to co-firing of various biomasses.

#### **Feed Flexibility**

SCF Technologies has been running a demo plant since 2007 on its premises in Copenhagen. One of the key characteristics of the plant is its feed flexibility. A Catliq plant is not dependant on a single source of feed material but will be able to use several different feed materials. Such as:

- Sludge from waste water treatment
- Manure from livestock production
- Residues from food processing
- Residues from ethanol or bio-diesel production

#### **SCF Technologies A/S**

SCF Technologies A/S was established in 2003 as an MBO from the FLSmidth Group (OMX: FLS) and was listed on the Copenhagen stock exchange in 2007 (OMX: SCFT). SCF is a green-tech company which develops and commercializes technologies based on high pressure and temperature used to refine products, enhance processes and produce intelligent materials. SCF has more than 15 patents and patent applications related to its core technologies.

#### **SCF Technologies A/S**

Smedeholm 13B 2730 Herlev, Denmark Phone: +45 88 30 32 00

www.scf-technologies.com



Demo plant, Copenhagen Denmark