

## **D5-8 Initial assessments on process integration to identify bottlenecks and pinch points in the biorefinery system**

An initial assessment of biorefinery concepts has been performed in order to select those suitable for further evaluation and model development.

The evaluation has primarily been focused on critical aspects, which may be “show-stoppers”, identification of any products or by-products, which may be critical in a biorefinery operation. Furthermore, an evaluation of the biomass potential and its significance with respect to a potential development of biorefineries in Europe has been assessed.

Analysis of the biomass resources indicated that, from a resource availability point of view, a relatively large number (~300) of smaller refineries (with capacity ca. 25,000 tpa) and a small number (10) of larger plants (with capacity ca. 750,000 tpa) may be installed in Europe.

Specific parameters for pinch point analysis have not been identified, since these parameters have to be selected when the final models have been developed and all input parameters determined. Parameters, which will most likely be important with respect to the sensitivity analysis, are (not in order of significance):

- Major mass distribution between main product (biofuel) and value added chemicals
- Energy and carbon efficiencies
- Feedstock costs, quality and availability
- Inhibitors (identification and possibly handling)
- Separation technologies/costs
- Distribution of products
- Market elasticity for various special products

**Lead author**

Statoil ASA

Forusbeen 50

4035 Stavanger

Norway

Tel: +47 41 61 15 82

Fax: +47 73 58 42 82

Email: [BTBO@Statoil.com](mailto:BTBO@Statoil.com)

web: [www.statoil.com](http://www.statoil.com)