

# Work Case 2



## GHG emission calculation of a biodiesel supply chain

### APPROACH

MCS conducts the project in 4 basic steps:

1. Definition of system boundaries
2. Data collection and analysis
3. Development of GHG calculator
4. Provision of results and discussion of improvement potentials

### OVERVIEW

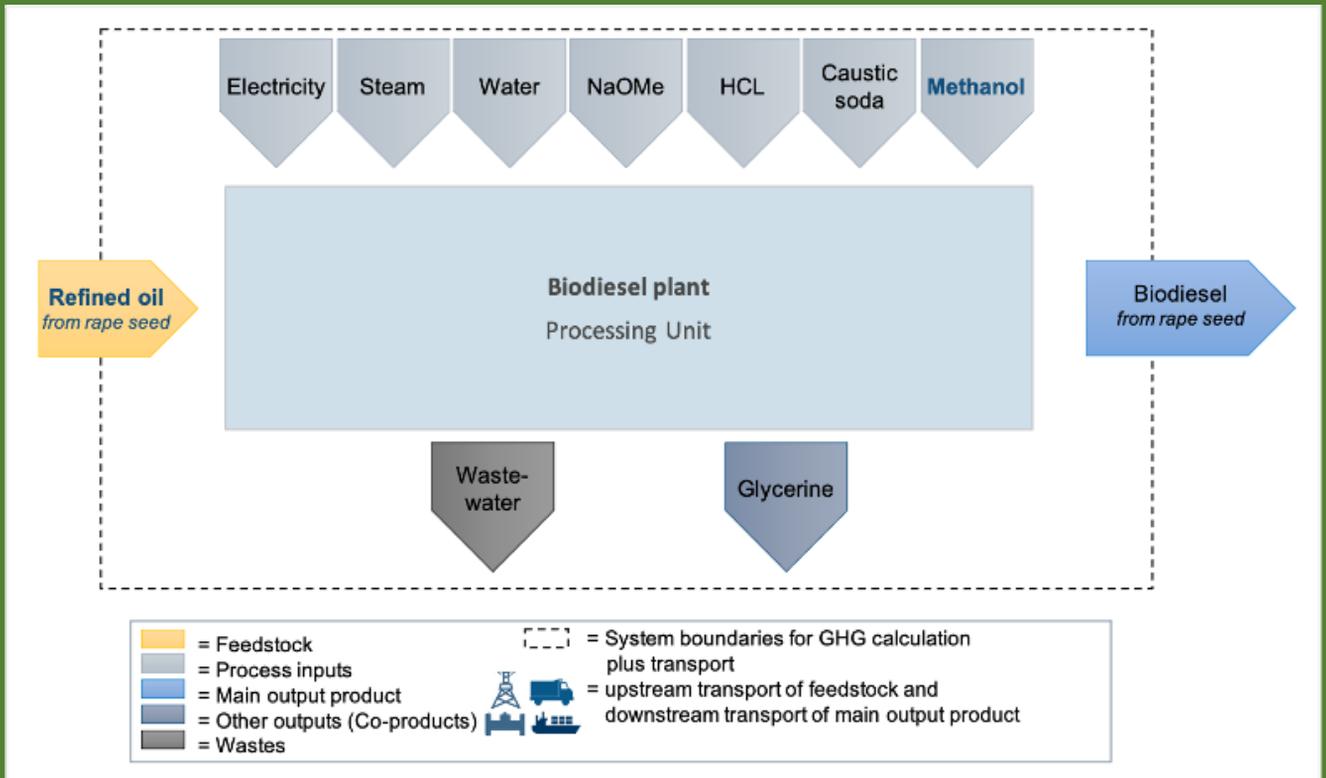
A biodiesel producer in Europe produces biodiesel made from rapeseed and would like to get its supply chain emissions calculated to be able to sell it on the European biofuel market, which is regulated by the Renewable Energy Directive (RED).

The producer has asked Meo Carbon Solutions to do the GHG emission calculation for the biodiesel production from cradle-to-gate, meaning from the cultivation of rapeseed to the final biodiesel ready for distribution.

## Step 1: Definition of System boundaries

The basic step for each GHG emission calculation is the definition of system boundaries for the respective supply chain and production pathway to determine which inputs and resulting emissions need to be included in the calculation.

Please see below a figure of the system boundary for this work case.



## Step 2: Data collection and analysis

Based on the defined system boundaries of the supply chain, resulting necessary information and data by the biodiesel producer is collected via individualized data templates. Once received, MCS checks the data on completeness and detects potential missing data necessary to do the GHG calculation.

## Step 3: Development of GHG calculator

MCS uses the collected company information and process data to develop the individual GHG calculator for the whole supply chain including all production steps from cradle-to-gate which means cultivation, process and transport emissions.

## Step 4: Provision of results and discussion of improvement potentials

At the end of the project MCS provides to the biodiesel producer an open, transparent and audit-ready GHG calculator including results and emission values for each supply chain step, the final biofuel and respective savings values with reference to the RED regulations. The calculator in its form can be used to apply for a certification under a sustainability certification scheme requiring a GHG calculation in the audit.



### Economic Result

New access to the European biofuel



### Ecologic Result

Calculated GHG emissions as basis for



### Social Result

Meeting the global demand for