

Biofuels Sustainability & Certification

Practical Analysis of Biofuels Certification Schemes

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Table of Content

1 Requirements of the German Sustainability Decree

2 Implementing a global certification scheme: Pilot project overview

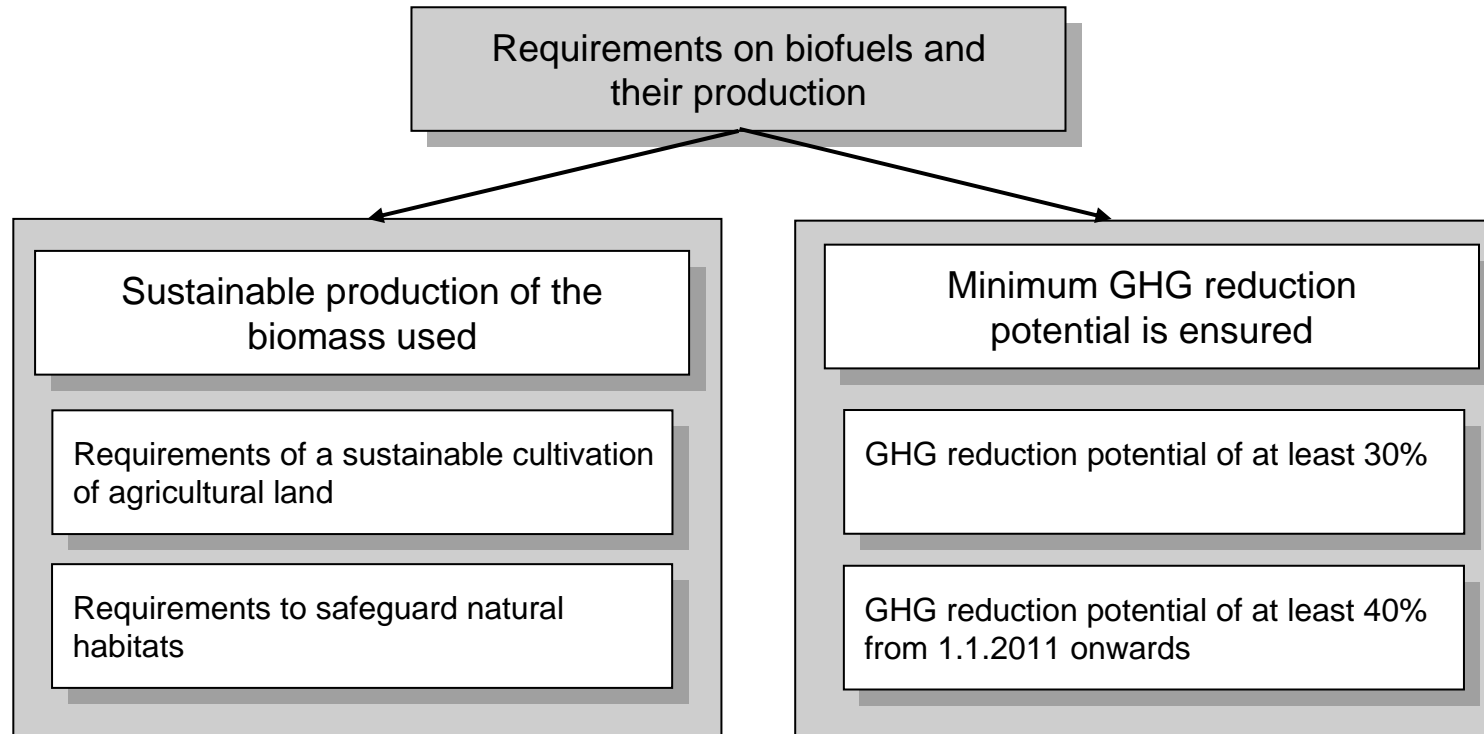
3 Order and delivery process within different CoCs and meta system

1

Requirements of the German Sustainability Decree

Once the Sustainability Decree is implemented, it will have major impact on the entire biofuels market*

Biofuels will be only credited to the quota obligations and are only eligible for tax reductions if the fulfillment of the requirements of the Sustainability Decree is proofed



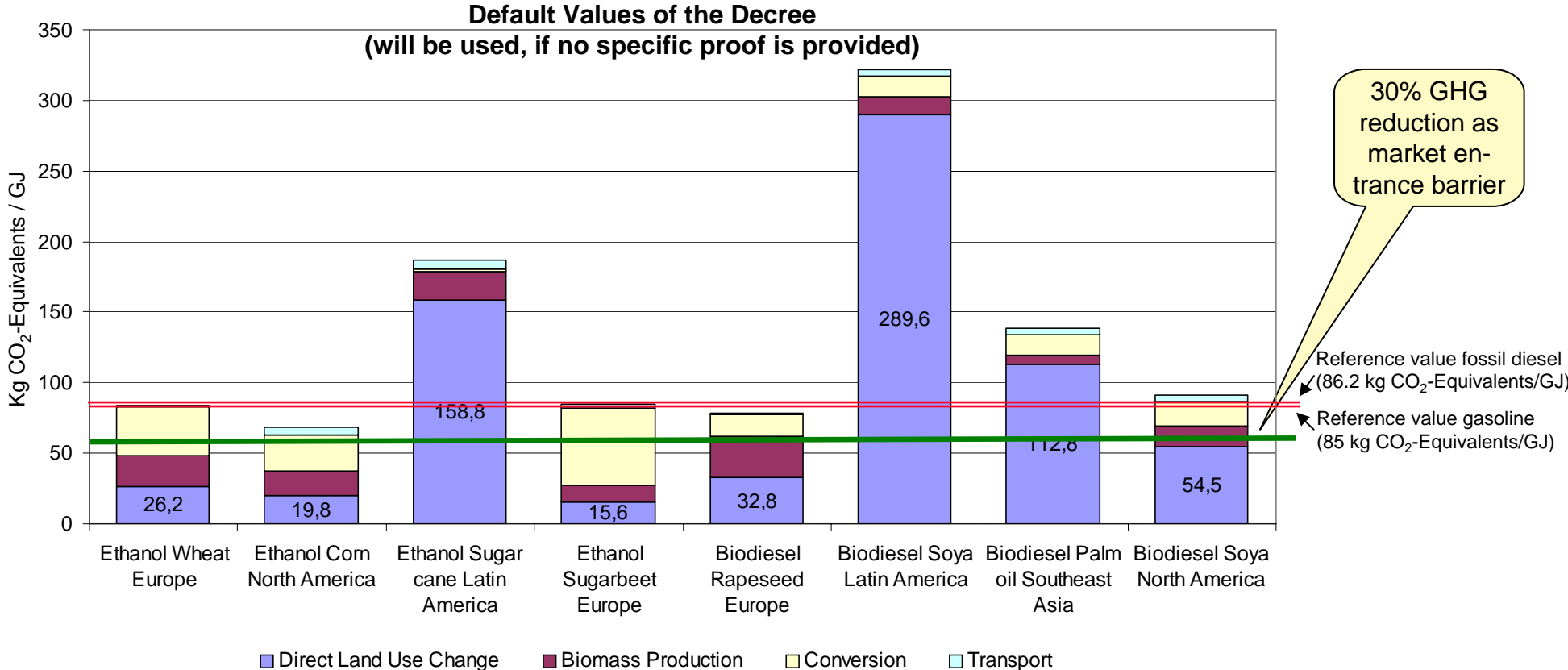
* The Directive has been passed by Cabinet in Dezember 2007. It has been notified to the European Commission and the WTO. However, possible regulations on the EU level (Renewable Energy Directive, Fuel Quality Directive) will have priority over the German Directive

Good Agricultural Practice and the prescriptions of Cross Compliance are prerequisites for a sustainable land cultivation

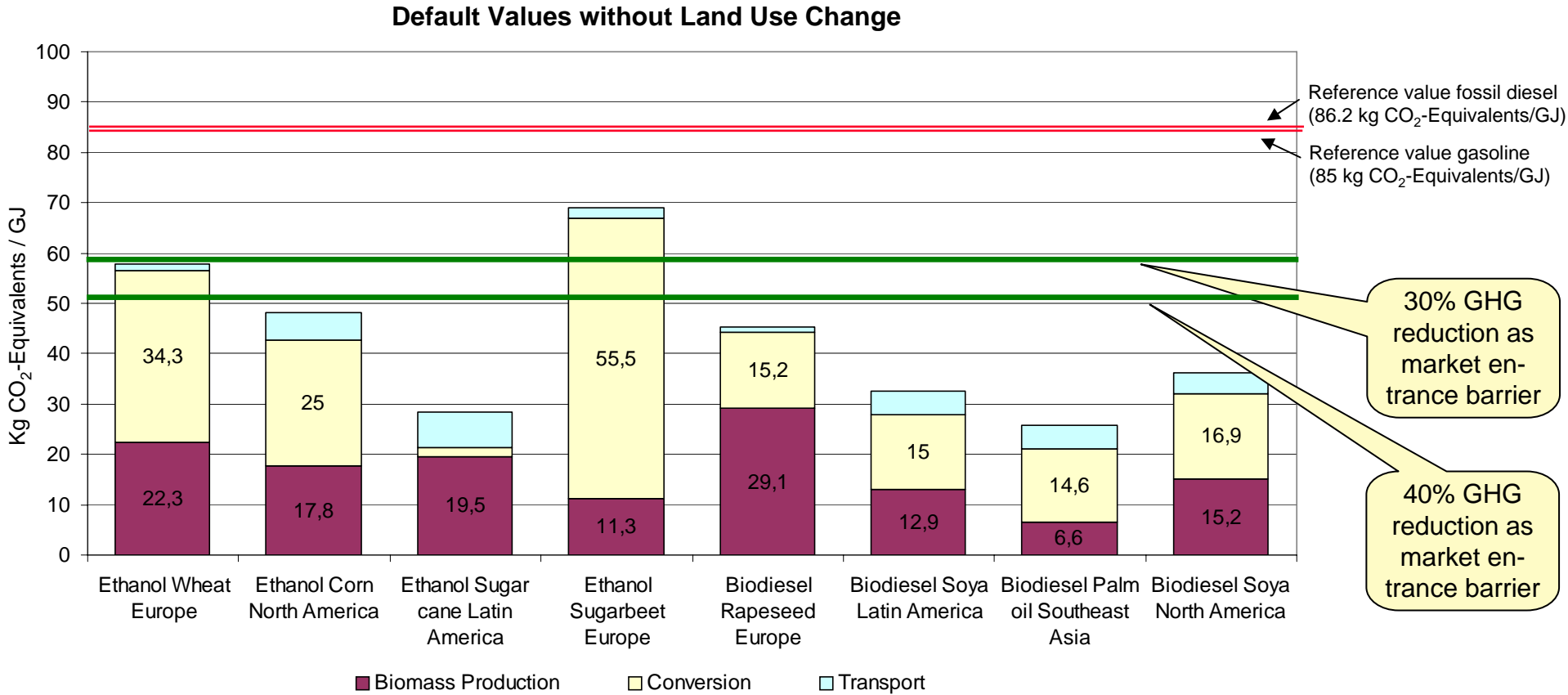
Good Agricultural Practice / Cross Compliance	Similar prescription	No similar prescriptions
<ul style="list-style-type: none"> The requirements for a sustainable land cultivation are fulfilled, if the biomass is produced according to the requirements of the Good Agricultural practice or according to the prescriptions of Cross Compliance 	<ul style="list-style-type: none"> The requirements for a sustainable land cultivation are fulfilled in other countries, if prescriptions like Good Agricultural Practice or other comparable decrees / prescription exist, and the biomass is produced according to these requirements 	<ul style="list-style-type: none"> If no similar prescriptions exist, the requirements are fulfilled if the following requirements with impact on global natural habits are fulfilled: <ul style="list-style-type: none"> No significant increase in emissions of acidic, eutrophic, ozone reducing or toxic substances No significant deterioration of soil functions and soil fertility (e.g. safeguarding organic substances, avoiding erosion) No significant deterioration of water quality and water balance No significant deterioration of species and biological diversity Use of pesticides and fertilizers according to environmental requirements

GHG emissions have to be proofed on a biomass and conversion specific base

The default values quoted in the Sustainability Decree are not sufficient to achieve the minimum GHG savings set (30%, 40% from 2011 onwards). Therefore, a specific proof has to be provided by the biofuels producers

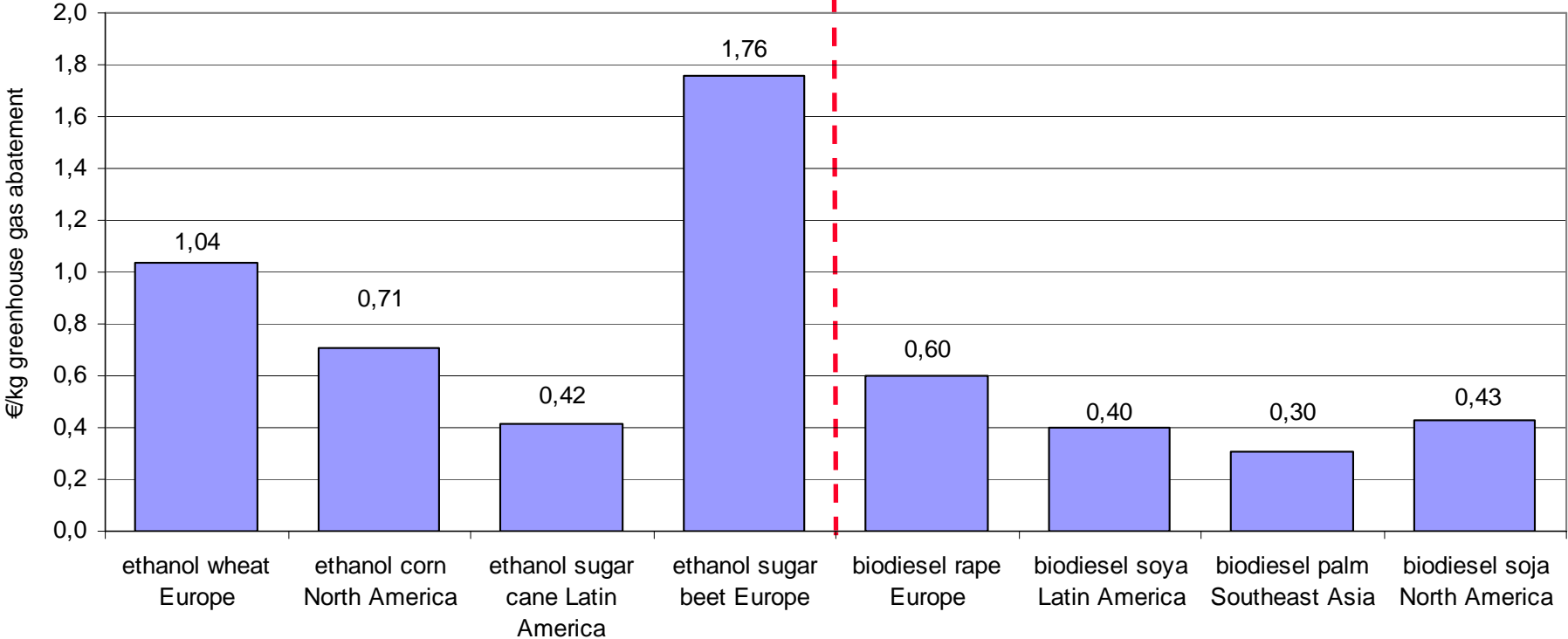


If land use change is excluded through appropriate certification, imported biofuels have a big advantage



Costs for the mineral oil industry for the abatement of 1 kg of greenhouse gas emissions differ tremendously between biofuels

Abatement costs for 1 kg of GHG (based on biofuel production costs, incl. tariffs and transport and on default values of the German Biomass Sustainability Ordinance without land use change)*



Source: meó, based on NVO

* Rough estimates

2

Implementing a global certification scheme: Pilot project overview

The German Ministry of Agriculture and the FNR support a project to implement and test a global certification system for biofuels

Assignment:

- In October 2006, BMELV/FNR started to support a project of a consortium managed by meó. A first concept was successfully developed in 2007
- In February 2008, BMELV/FNR decided to support a project of a consortium managed by meó to implement and test the concept in a pilot phase

Project objectives:

- Test of a pragmatic, internationally oriented certification scheme that...
- ... reduces the administrative burden of certification to a minimum possible
- ... reduces the risk of non-sustainable production of biomass and bioenergy
- ... can be used as proof for GHG emissions of biofuels throughout the value chain

The project will:

- ... take account of political developments concerning biomass, bioenergy and sustainability
- ... seek acceptance in the different political framework conditions
- ... test and analyze different chain of custody options
- ... include relevant stakeholders
- ... take account of existing certification schemes and activities by other countries



Key features of the pilot project

Core features

Process development to ensure the sustainability of the added value chain considering different chains of custody

Specific **calculation of GHG emissions** for the biofuels certified (methodology, default values for different biomass, biofuels, regions)

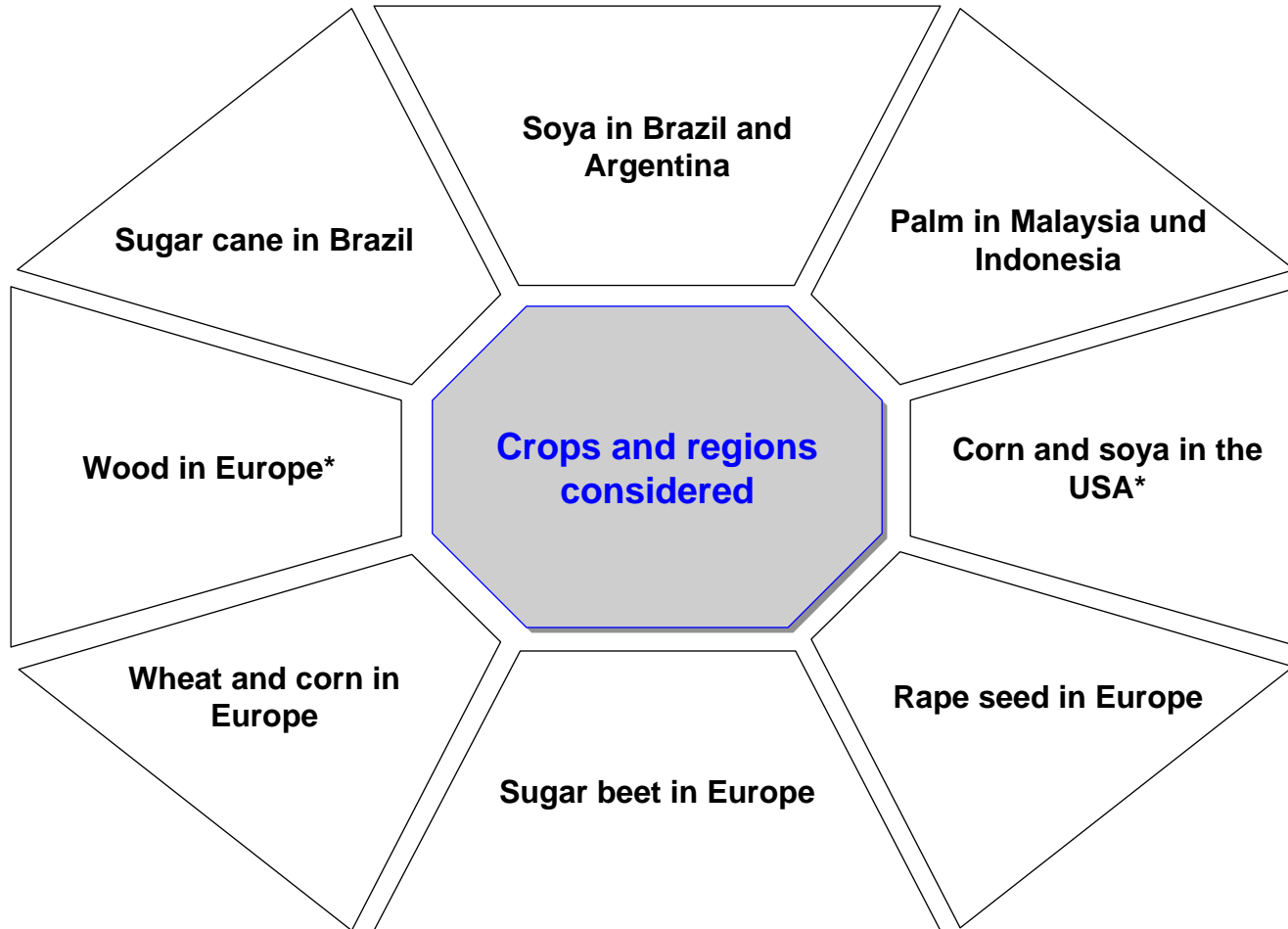
Establishment of **verification and monitoring components** (certificates, registration unit, market place for certificates, etc.)

Development of a **meta-system** (Harmonisation of different certification schemes) incl. organisation and processes

Development and operationalisation of **crop** and **region specific minimum standards** for certification

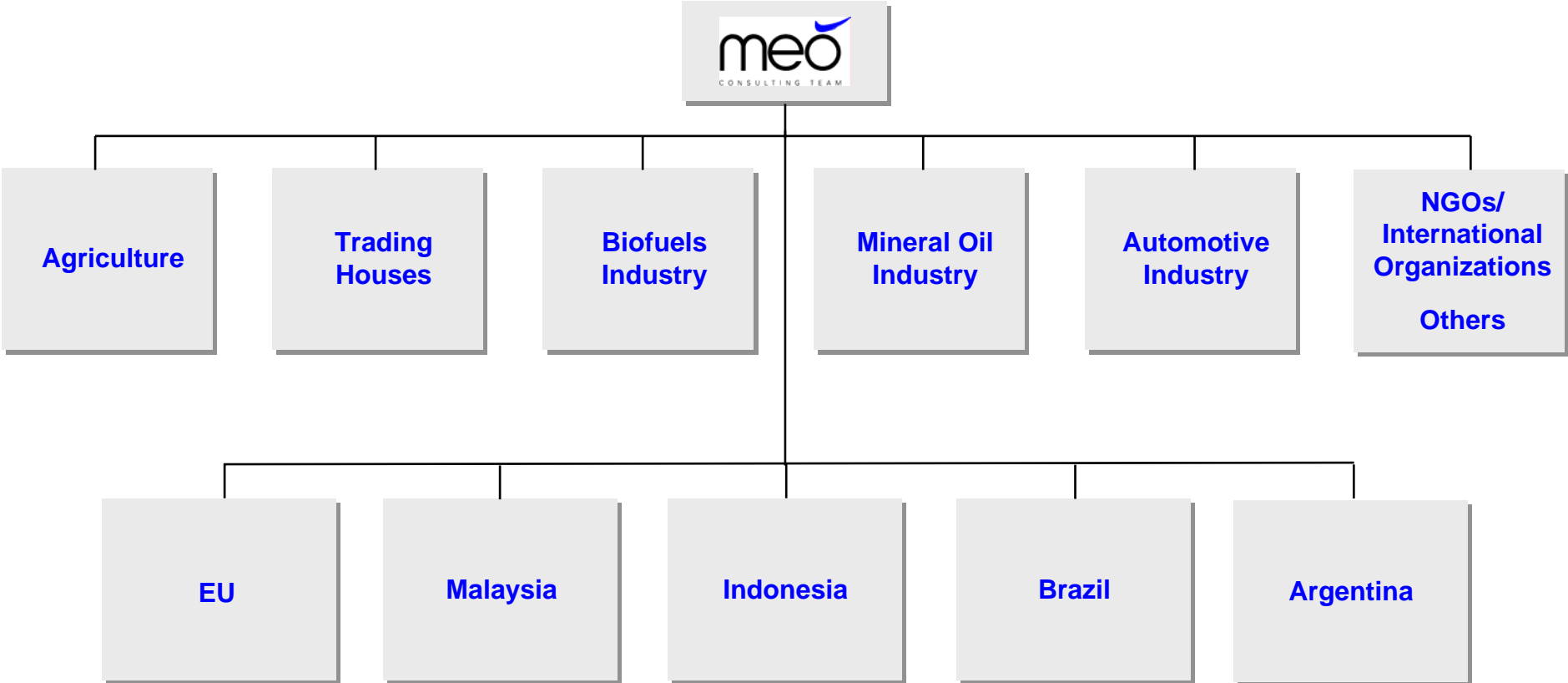
Validation of the interaction of the different system components

Crops and regions considered in the pilot phase



*: In the current project application wood in Europe as well as corn and soya in the USA are not covered

International expertise along the value chain is included in the project team



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Order and delivery process within different CoCs and meta system

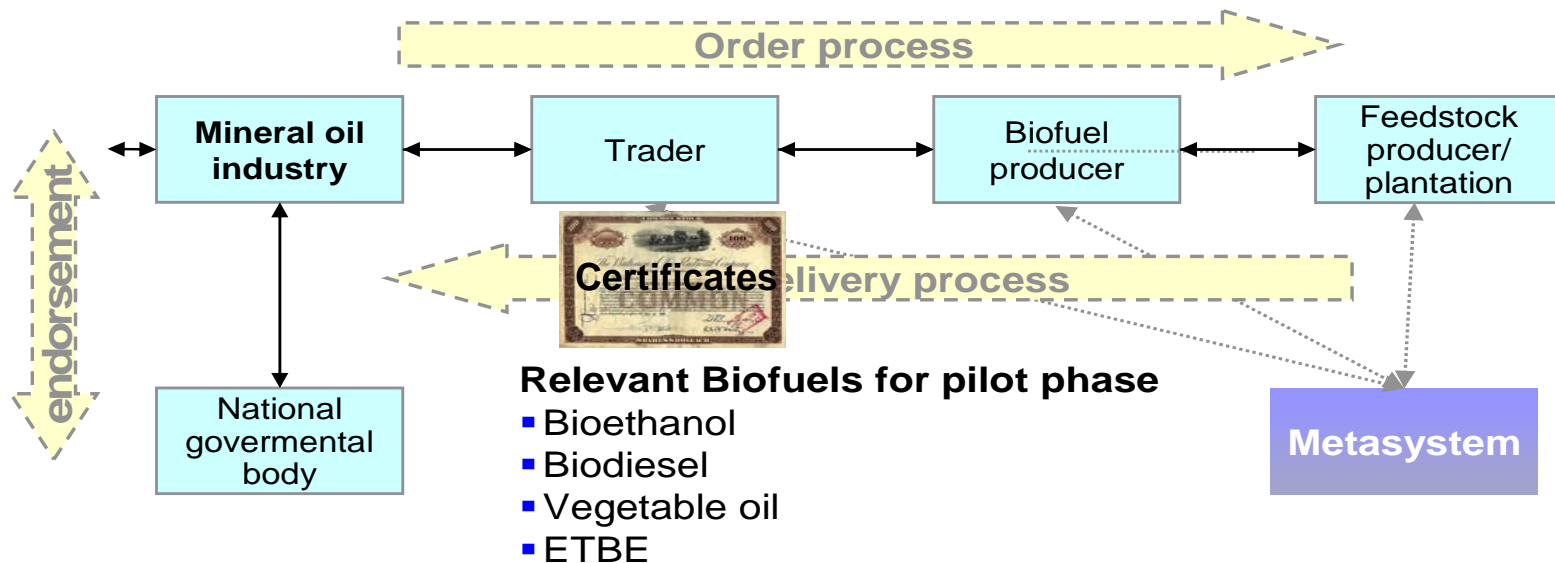
The simulation and analysis of order and delivery processes for different biofuels and chains of custody is a first pilot task

First pilot tasks

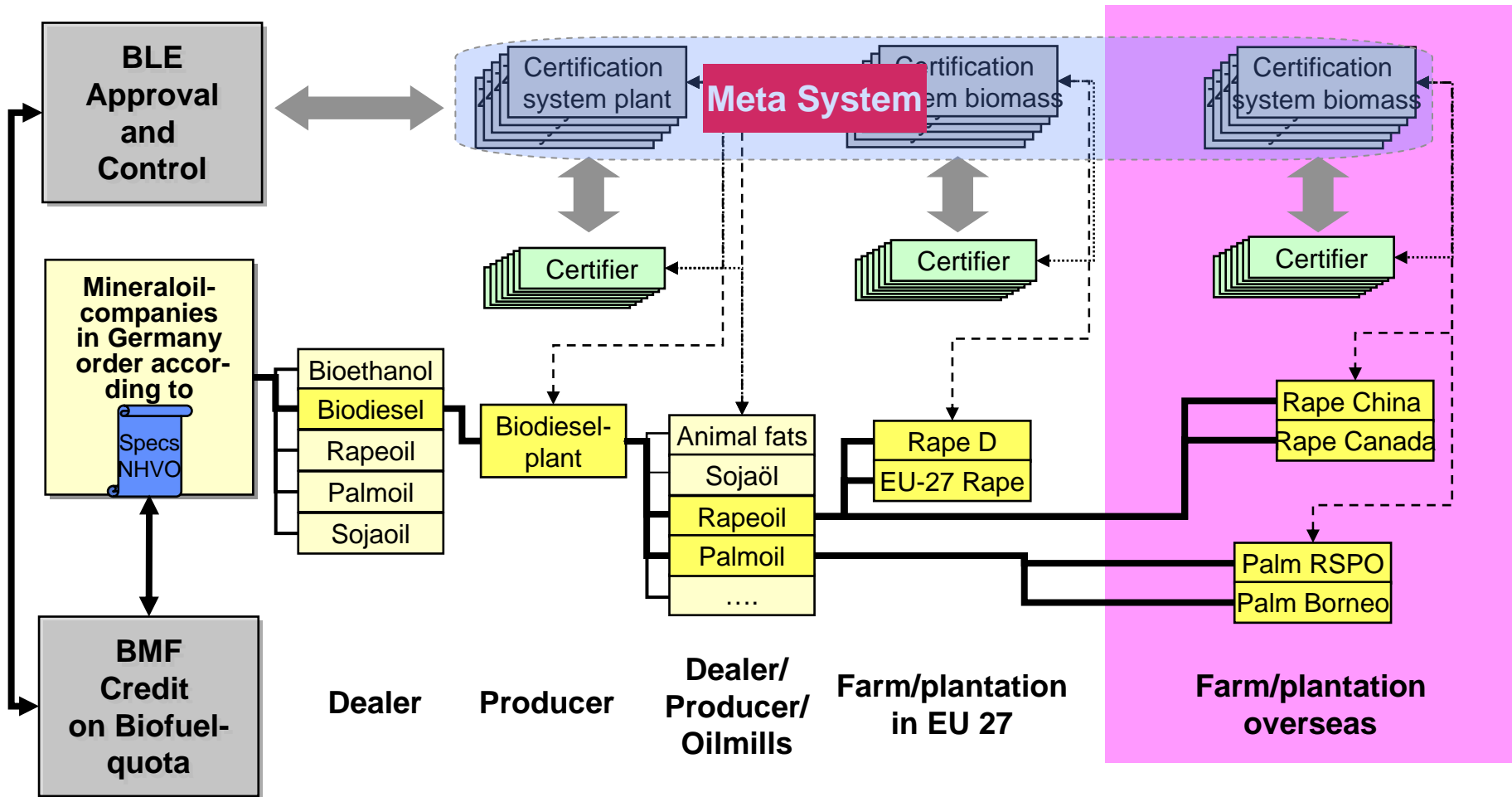
- Simulation of the order and delivery process for different biofuels, countries and Chain of Custody systems (e.g. book & claim, mass balance, track & trace)
- Analysis of lessons learnt, implications for other certification system elements and recommendation for improvement and implementation

Biofuel value chain

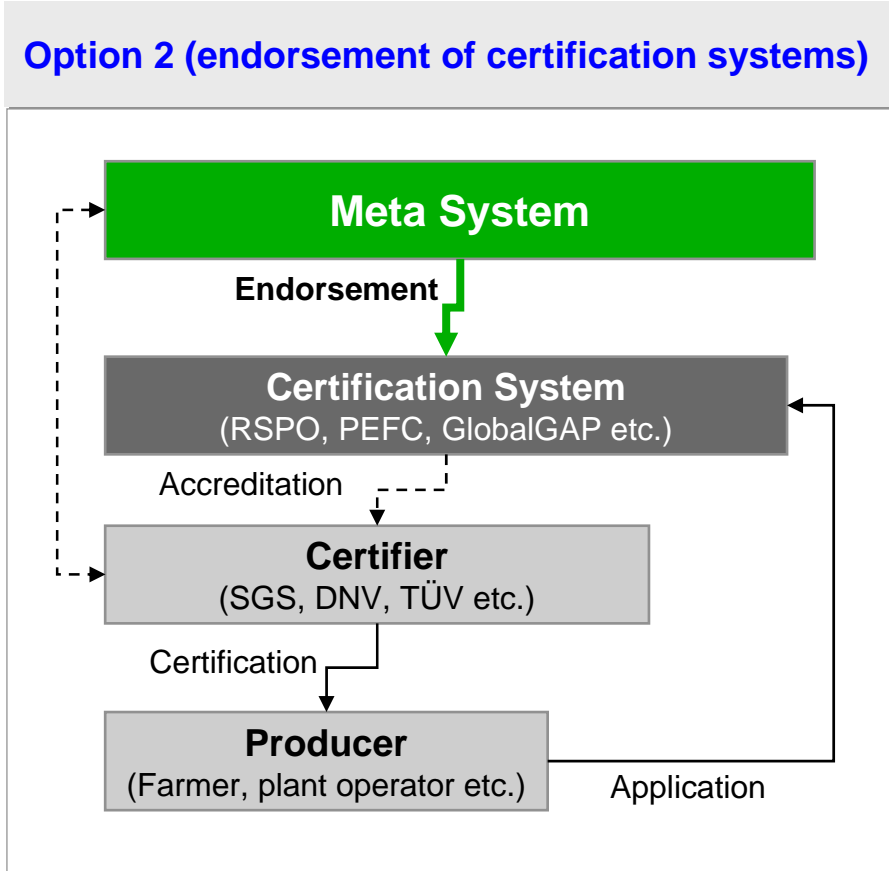
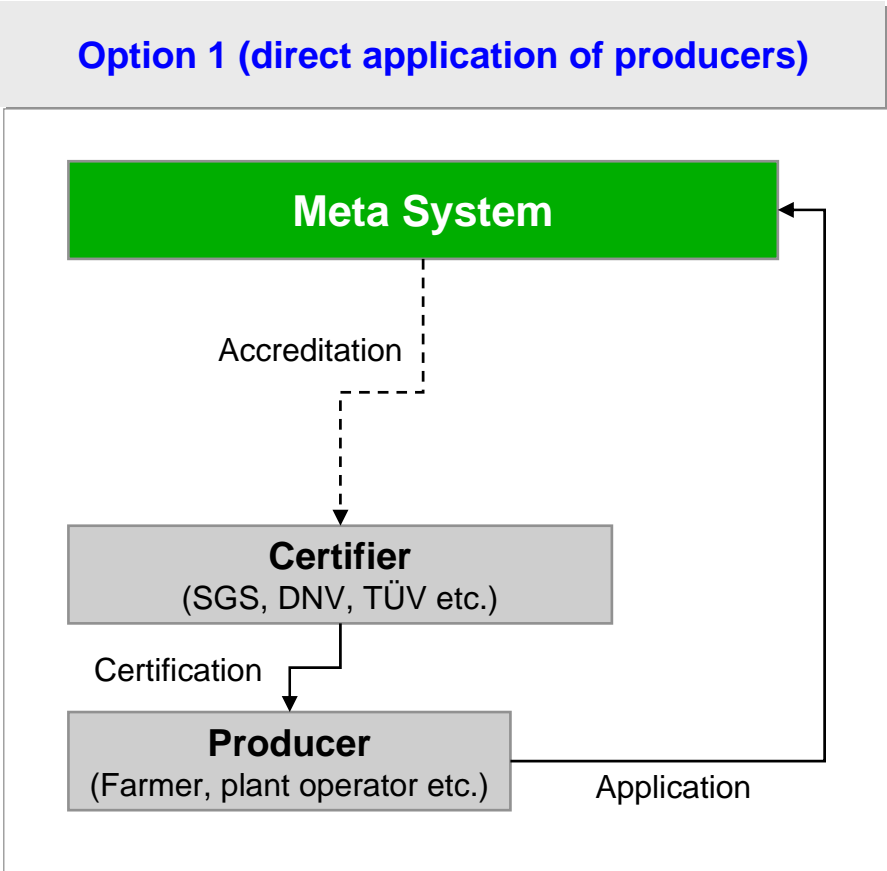
(illustrative, as it may be different for different biofuel types and sourcing alternatives)



A meta certification system will be applied; example Germany



The proposed meta system is open for direct application by producers as well as endorsement of established certification systems



Expected contribution and results of the pilot project

The project will lead to sustainability and greenhouse gas certification of biofuels

- Different order and delivery processes of biofuels (chain of custody systems) will be tested and analyzed (effectiveness, efficiency, costs, pro and cons, etc.)
- Translation of sustainability criteria into real certification of biomass and biofuel production from different feedstock and in different countries
- Establishment of a meta-system for certification
- Establishment of registry for sustainability certificates and of trading platform
- Real and credible sustainability and GHG certification of biofuels from different countries throughout the entire value chain. Supply of sustainable biofuels
- Contribution to European and international debate on:
 - biofuels sustainability
 - methodology of GHG balances
 - certification of biomass, biofuels and bioenergy
- Operative meta-system for the sustainability certification of biomass and bioenergy