



Renewables Forum Germany 2008

Sustainability and certification of biomass and bioenergy in Germany, Europe and worldwide

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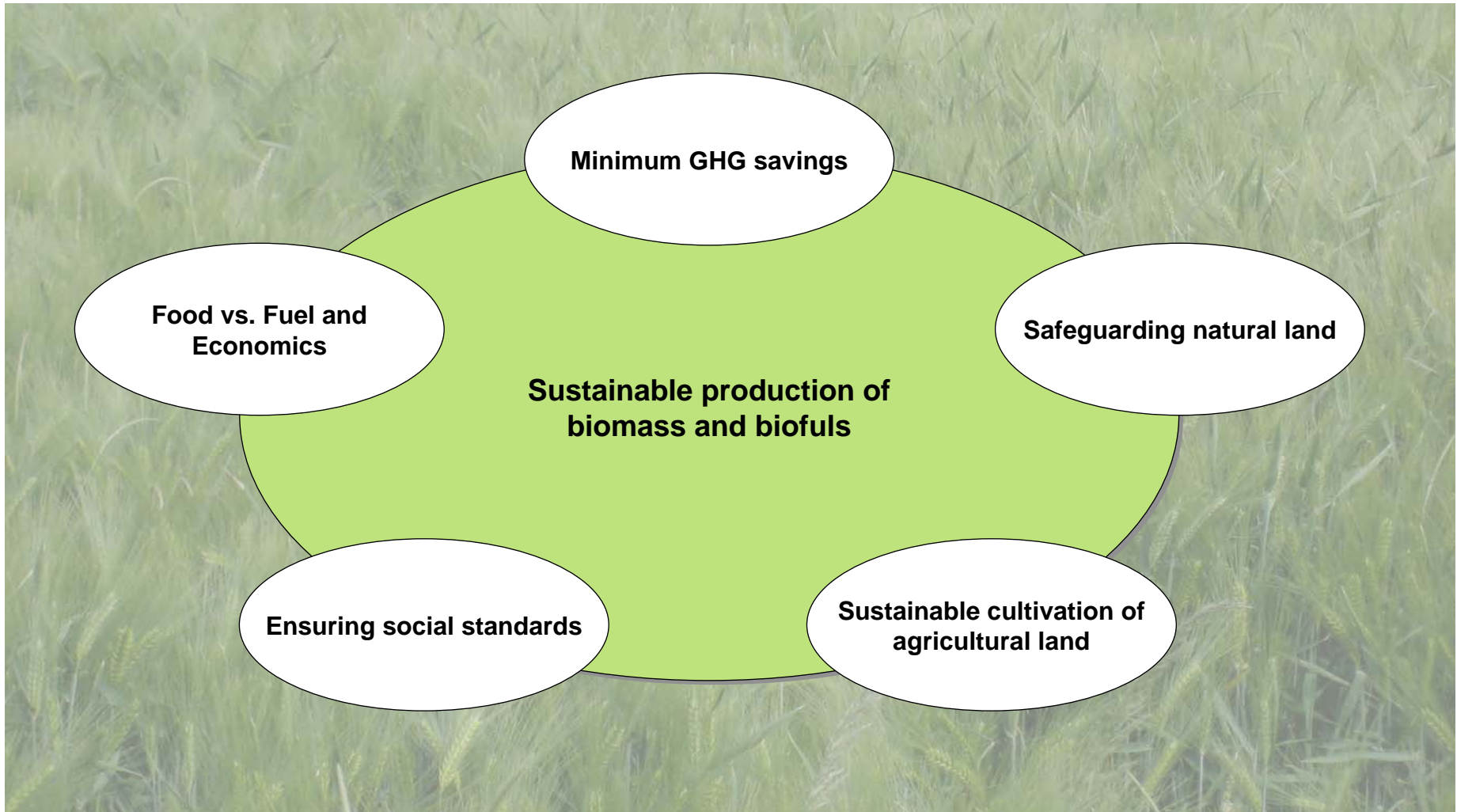
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Sustainability of biomass and biofuels

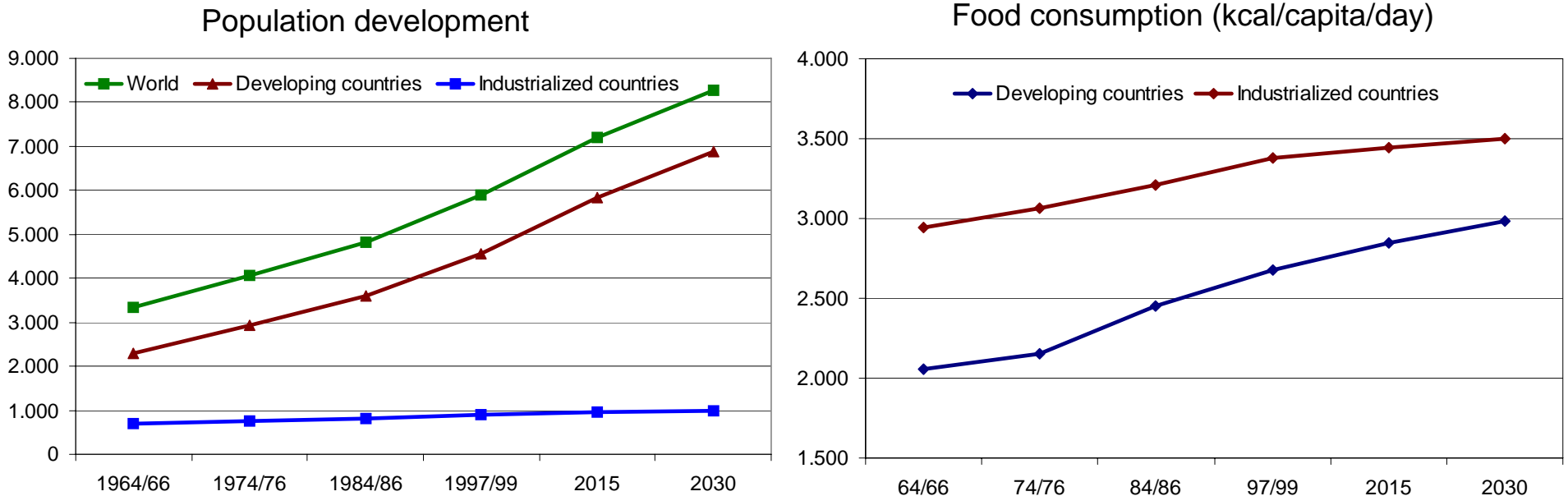
Today, biofuels are the scape goat for an increasing competition for agricultural land, rising feedstock prices and rainforest destruction



Major sustainability issues

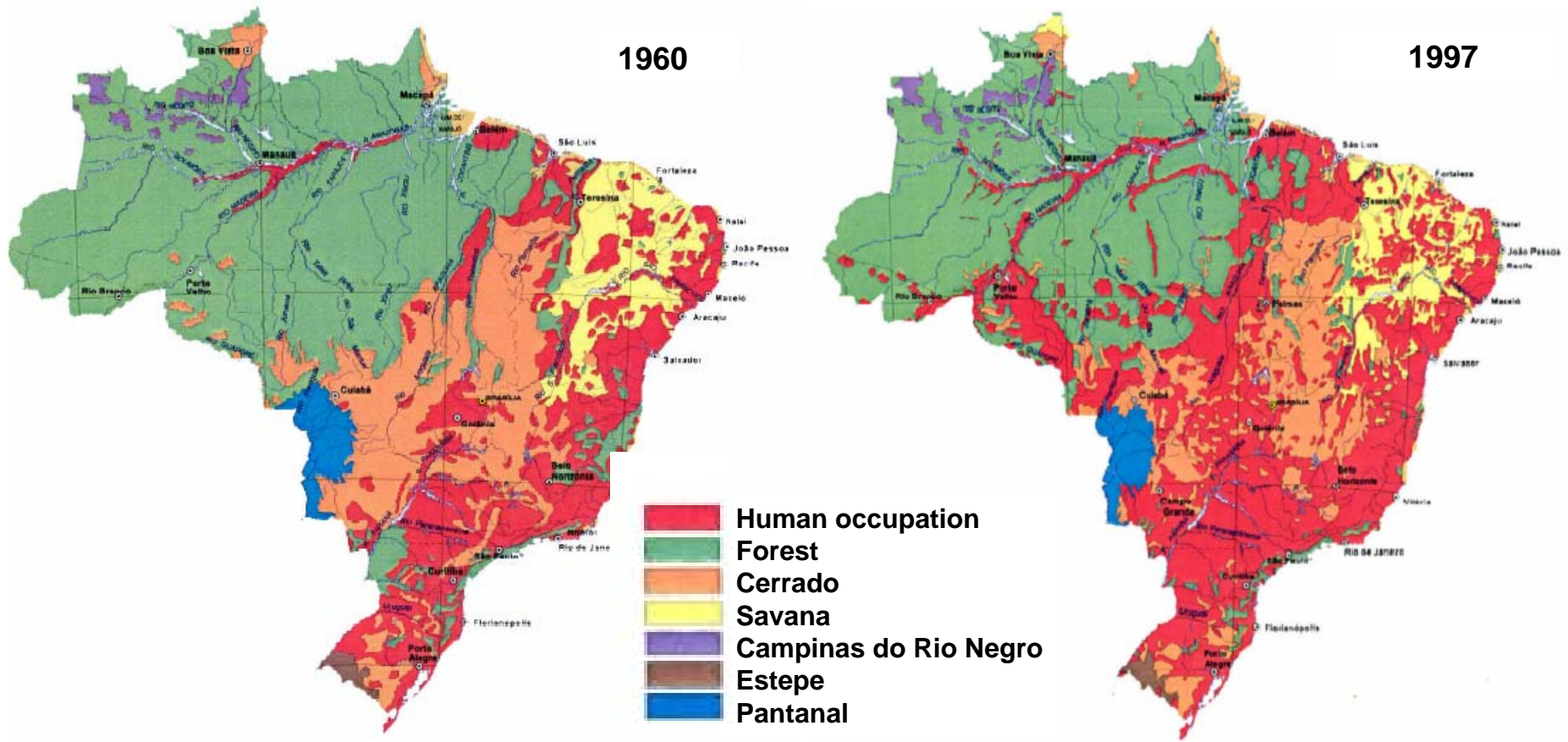


Highest pressure on agricultural land is caused by an increasing population and food consumption per capita



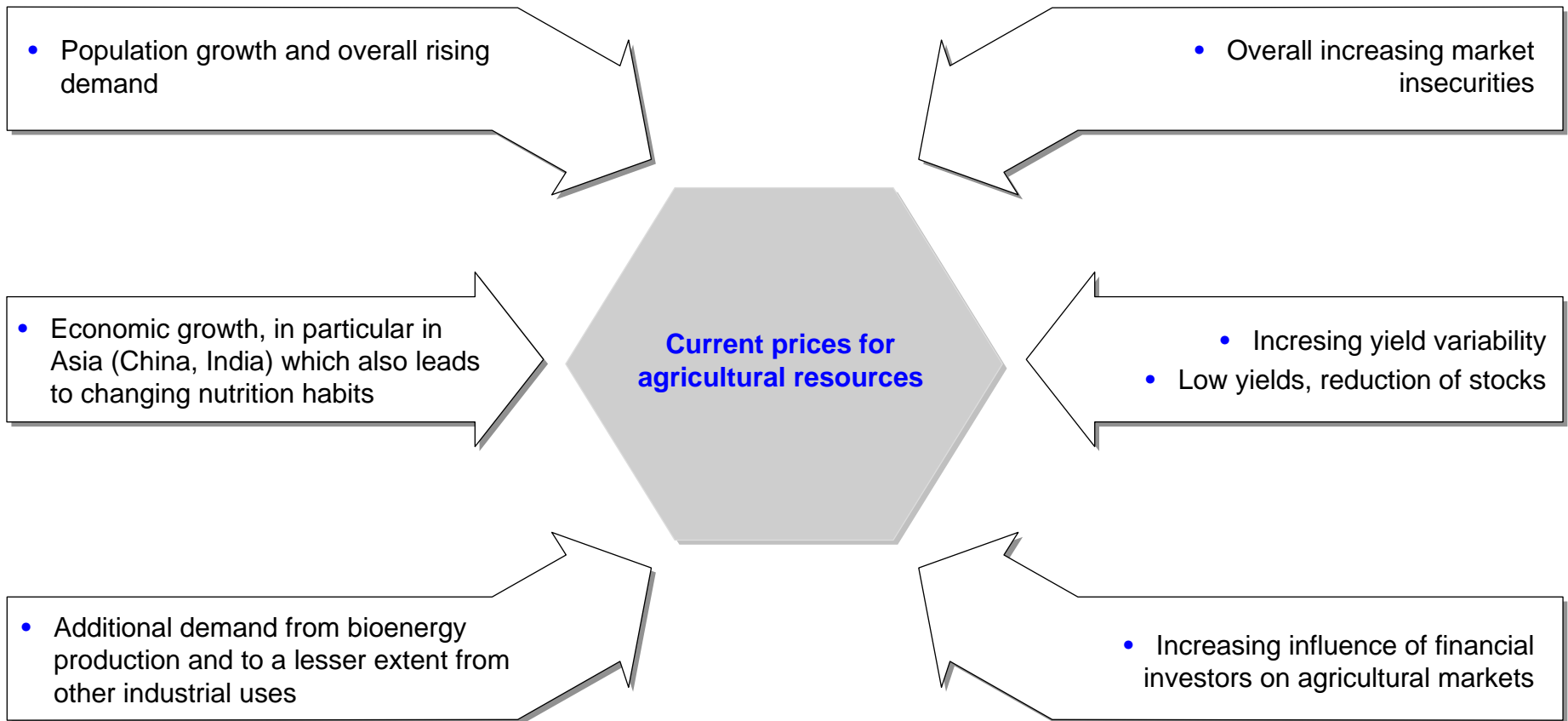
- Until 2030, world population keeps increasing to more than 8 billion
- Most of this growth comes from developing countries
- Food consumption per capita remains higher in industrialized countries. However, developing countries keep catching up. Economic growth leads to changing nutrition habits and more meat consumption. This will even increase the need of agricultural land

Land conversion is not a recent problem. Wood exploitation and cattle ranching have contributed mainly to the destruction of the Amazon forest



Source: Silva, Jose (2007)

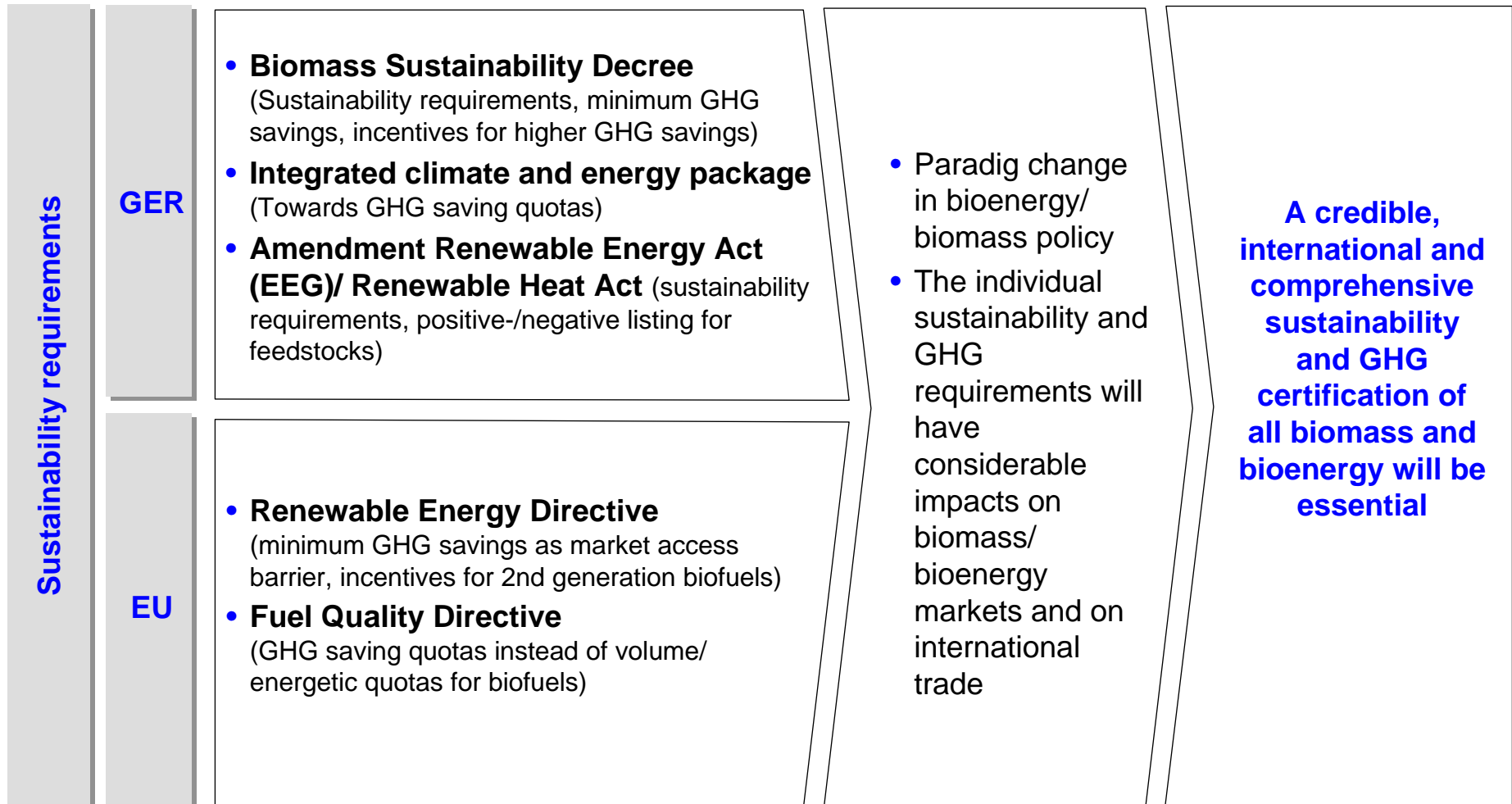
Population and economic growth and the rising meat consumption increases demand for agricultural feedstock and sets prices under pressure






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Policy challenges



Currently, biomass and bioenergy policy focusses increasingly on sustainability and GHG requirements



In the area of biofuels German and European proposals for the introduction of sustainability requirements exist

	 Biomass sustainability decree	 Fuel Quality Directive	 Renewable Energy Directive
GHG savings	<ul style="list-style-type: none"> – Proof of minimum GHG savings: 30%/ 40% from 2011 – Otherwise no accounting on quota or tax reduction possible 	<ul style="list-style-type: none"> – 10% GHG savings per unit of energy until 2020 (1% p.a. from 2011) 	<ul style="list-style-type: none"> – Proof of minimum GHG savings: 35% is necessary for accounting towards biofuel targets
Sustainable cultivation	<ul style="list-style-type: none"> – Cross Compliance/ Good Agricultural Practices or similar regulations – Otherwise compliance with certain regulation 	<ul style="list-style-type: none"> – n.a. 	<ul style="list-style-type: none"> – Production according to environmental criteria of Cross Compliance (EC 1782/2003)
Protection of natural habitats	<ul style="list-style-type: none"> – No cultivation in high nature value areas 	<ul style="list-style-type: none"> – n.a.. 	<ul style="list-style-type: none"> – No feedstocks from high biodiversity land, wetlands, untouched peatland, continuously forested areas
Social sustainability	<ul style="list-style-type: none"> – n.a. 	<ul style="list-style-type: none"> – n.a. (is being asked for in current discussions) 	<ul style="list-style-type: none"> – n.a. (is being asked for in current discussions)

On an international level, California and UK are working on similar policies

	 RTFO	 CAL
GHG savings	<ul style="list-style-type: none"> – Reporting on net GHG savings is required – No threshold value 	<ul style="list-style-type: none"> – Low carbon fuel standard in 2010. Lower carbon intensity (CO₂-equiv.) of transportation by 10% per unit of fuel by 2020
Sustainable cultivation	<ul style="list-style-type: none"> – Information on origin, production method and sustainability of supplied biofuel is required 	<ul style="list-style-type: none"> – As far as relevant for GHG balance
Protection of natural habitats	<ul style="list-style-type: none"> – Information on origin, production method and sustainability of supplied biofuel is required 	<ul style="list-style-type: none"> – Land use change is likely to be included in GHG calculation
Social sustainability	<ul style="list-style-type: none"> – Provision of biofuels without causing social harm 	<ul style="list-style-type: none"> – n.a.

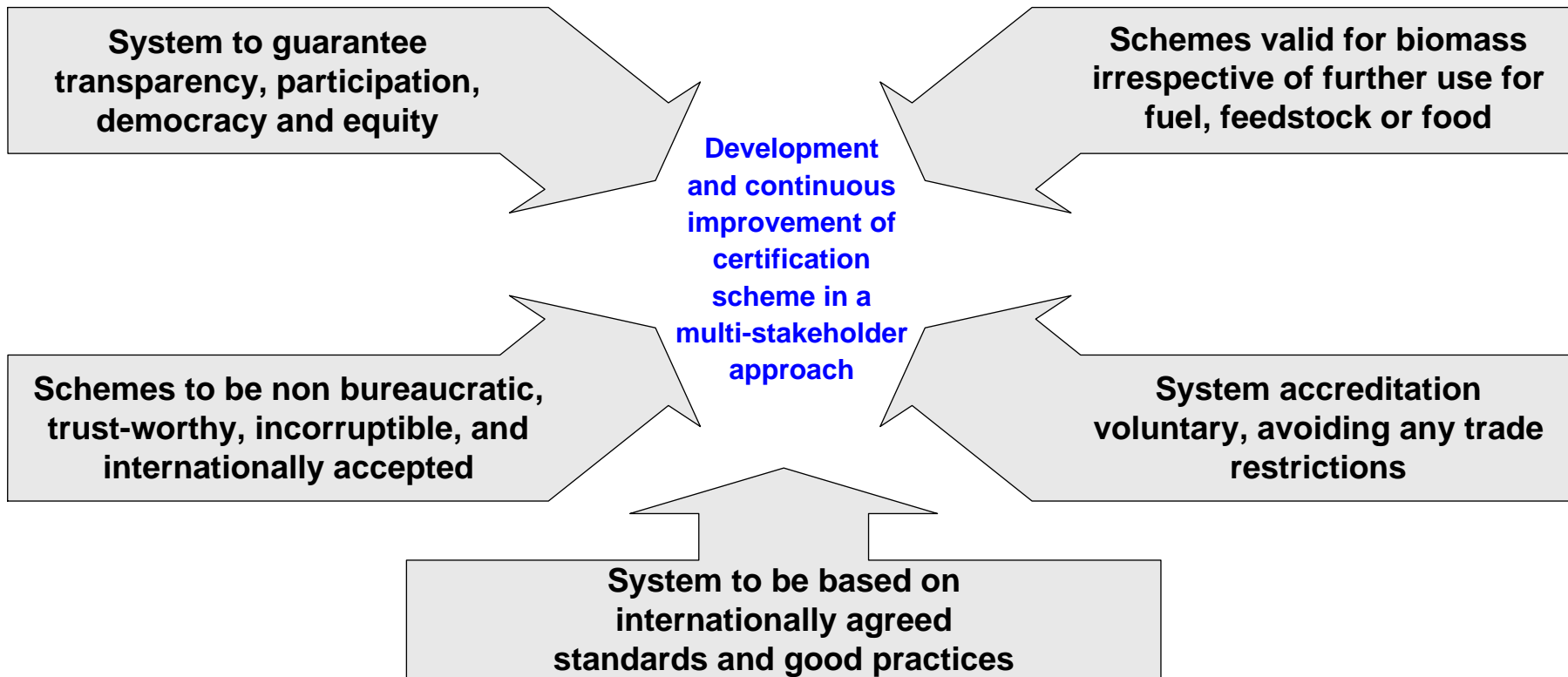
For the enforcement of sustainability requirements the implementation of an international sustainability certification scheme is necessary

- So far, a global feedstock and biofuel market exists that does not differentiate between sustainable and unsustainable production
- Today, the market does not set incentives for a sustainable production. The fulfillment of certain sustainability requirements as proposed in the German and European proposals can help to overcome this market failure
- The necessary market differentiation can only take place by certification
- So far, a certification scheme that covers the relevant sustainability requirements and information about the greenhouse gas emissions does not exist
- Today, only some and differently advanced initiatives exist. These are mostly feedstock specific approaches and none of them covers all sustainability requirements. Practical experiences on the implementation of suitable that cover all end-uses of biomass
- There is a danger that the co-existence of different systems can lead to multiple uses of individual certificates, double and multiple certification processes, high costs, and a reduction of credibility and effectiveness
- Against this background the pilot project on sustainability certification of biomass and bioenergy, supported by BMELV/ FNR was initiated. As a so-called “metasystem” it shall build upon already existing schemes and initiatives

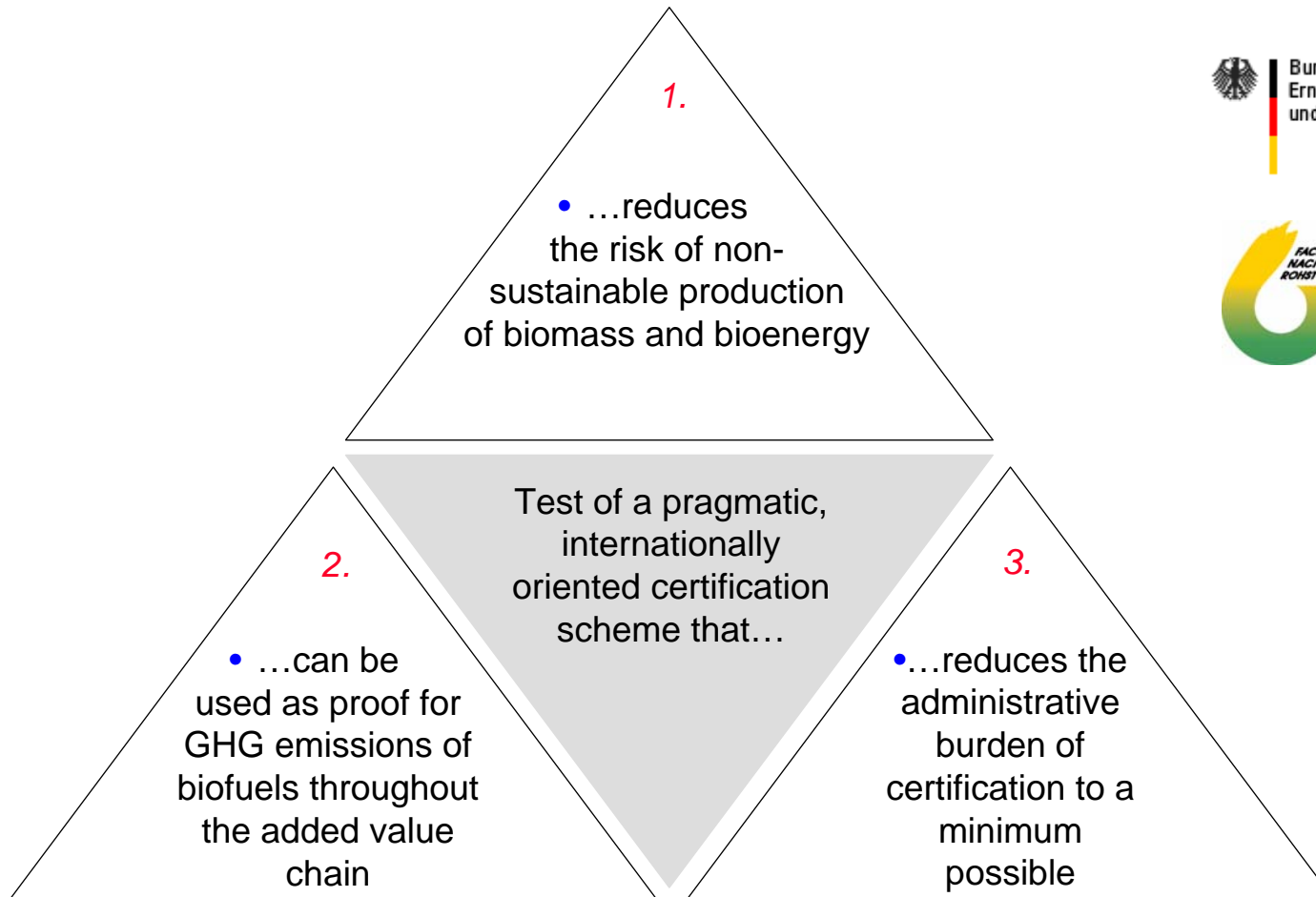
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Pilot project sustainability and greenhouse gas certification

Prerequisites for a successful certification scheme



The overall objective of the project supported by the German Government (BMELV/FNR) is to start a practical field test



The project builds upon a concept developed in 2006 and 2007

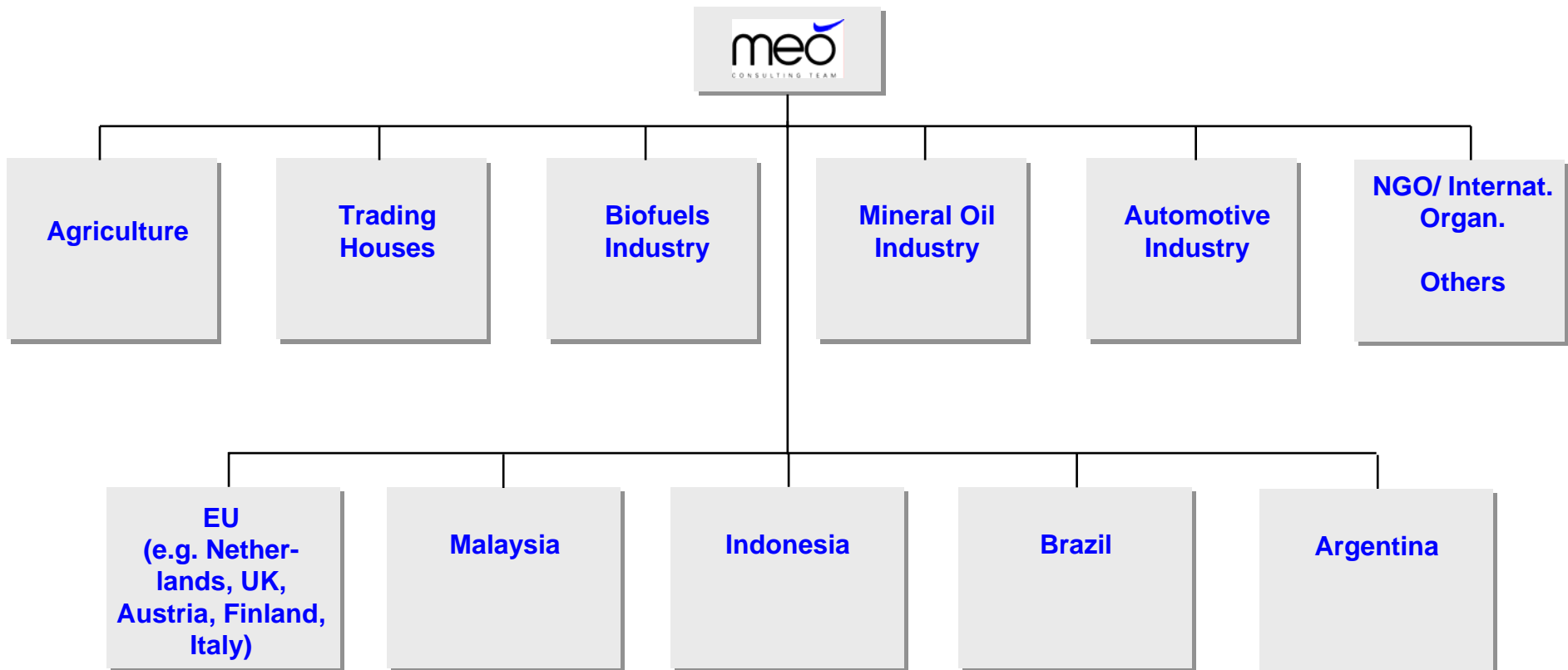
Background

- In 2006 and 2007 BMELV/FNR have supported a project on the development of a certification concept for biomass and bioenergy.
- The project was led and coordinated by meo. Numerous partners from agriculture, industry, trading houses, science and society were part of the project team.
- The focus of the project is not to add another study on sustainability. The project rather explicitly focuses on the development and practical test of a certification system that takes account of the needs of industry and society.

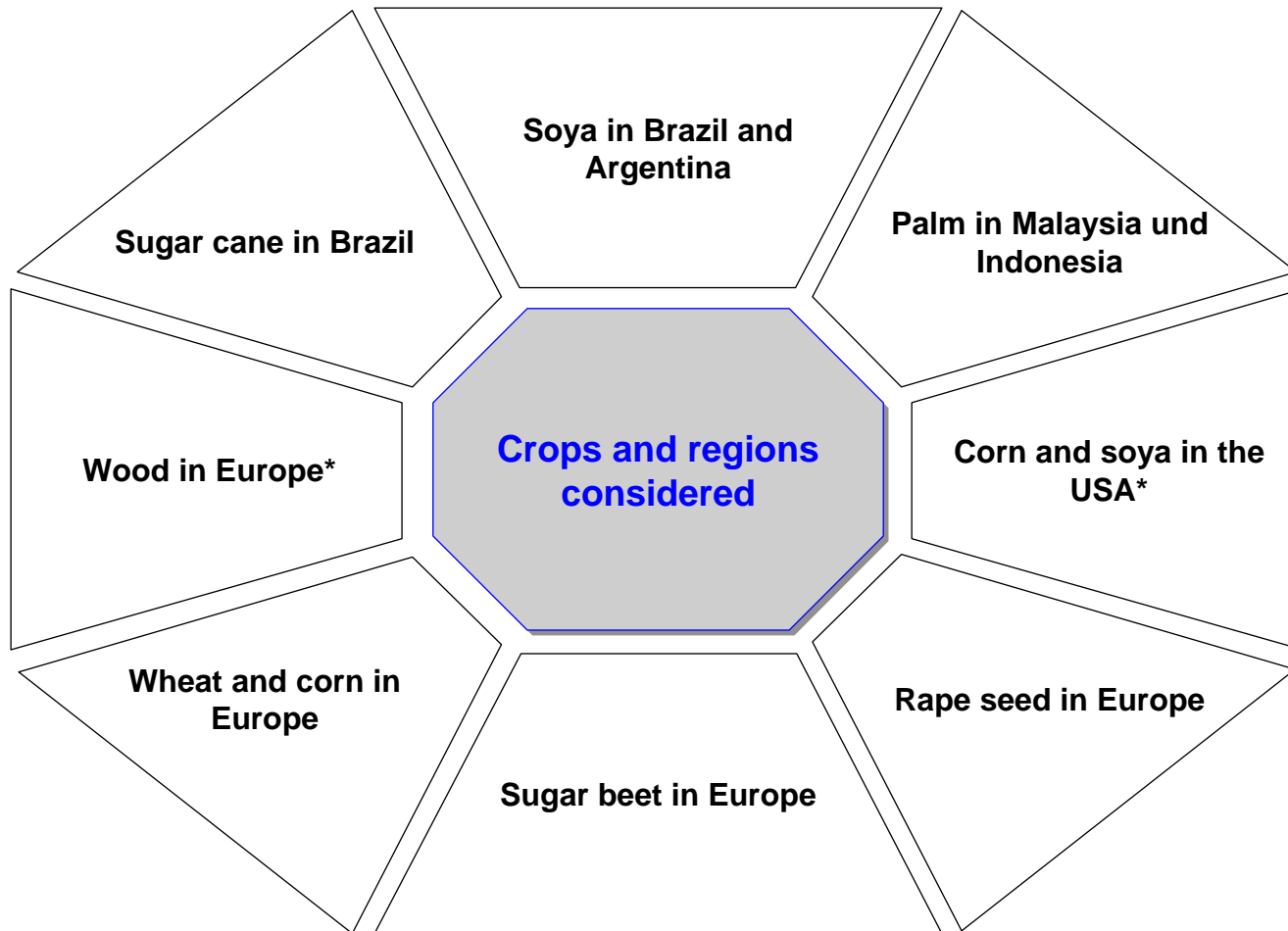
Framework conditions

- Consideration of current political development in the area of biomass, bioenergy and sustainability (GBEP/ G8, EU, Deutschland).
- Orientation of the project on the framework conditions currently developed by the EU (renewable energy directive, fuel quality directive)
- Consideration of existing certification systems and activities in other countries
- Inclusion of relevant players from the EU, Latin America and Southeast Asia
- After completion of the project handover of the system to an international organization

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



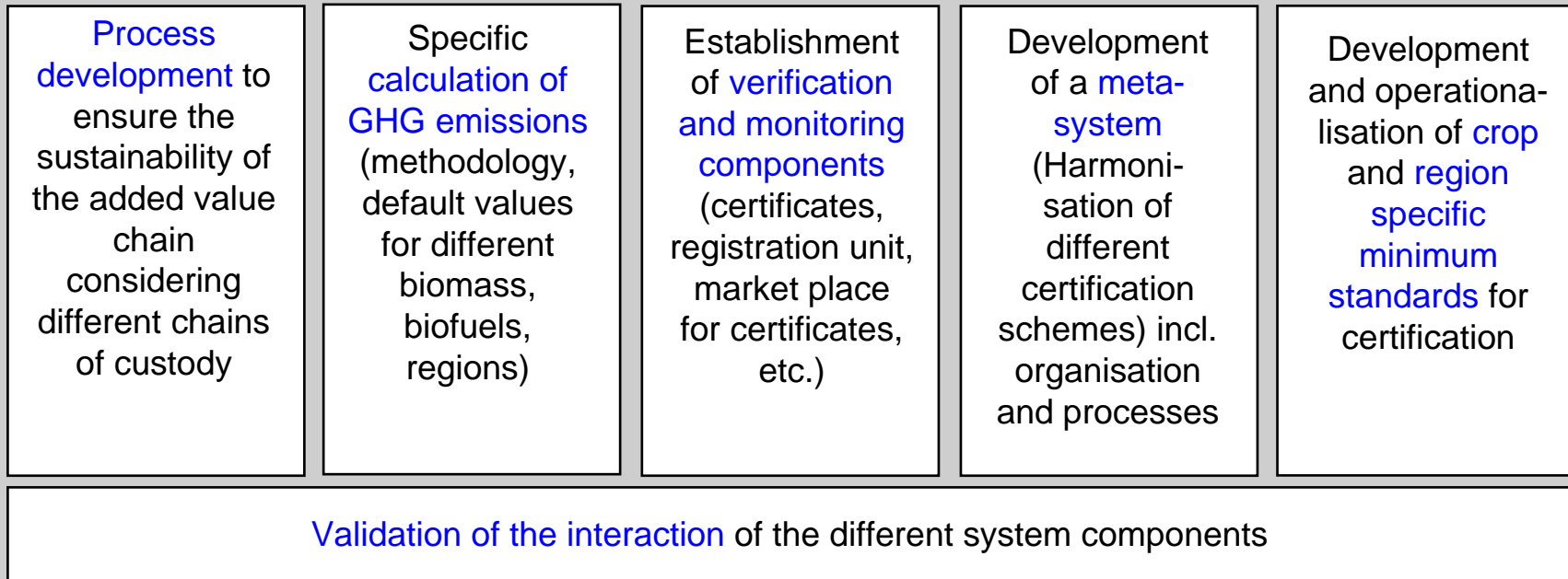
Crops and regions considered in the pilot phase



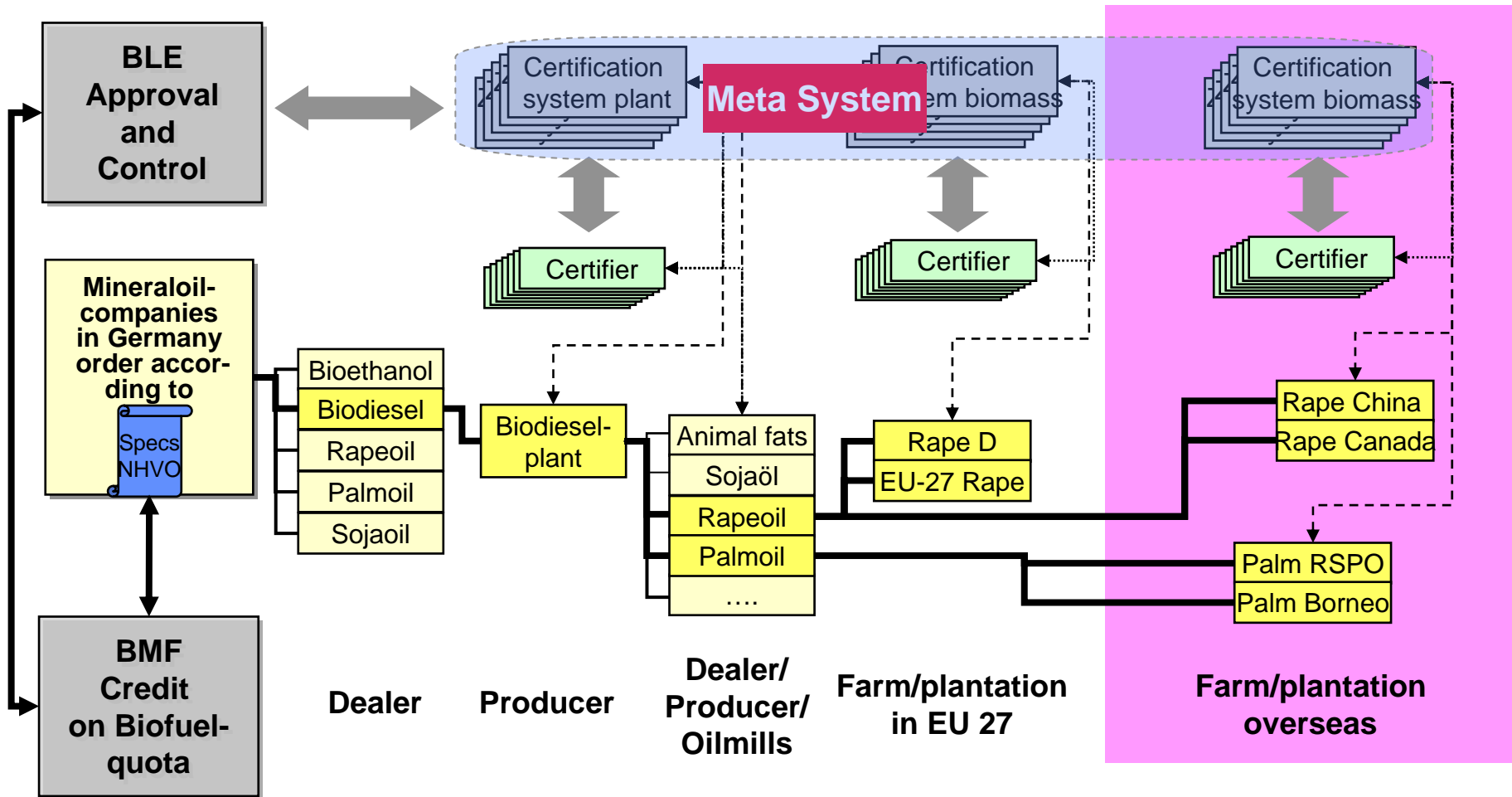
*: In the current project application wood in Europe as well as corn and soya in the USA are not covered

Existing supply chains will be analyzed to build the basis for the development of the different system components

Core features of the project



A meta certification system will be applied; example Germany



The certification allows to differentiate between good and bad biofuels

What are the prospects of the project?

- Establishment of incentives for a sustainable biomass and biofuel production with low greenhouse gas emissions
- Translation of sustainability criteria into real certification of biomass and biofuel production from different feedstock and in different countries
- Continuation of the dialogue on sustainability with important stakeholders in Europe, Latin America and Asia
- Provision of credible certificates for sustainability and greenhouse gas savings
- Strengthening of acceptance of biofuels in society by guaranteeing sustainability of production
- Cost reduction by the harmonization of different certification systems and initiatives (metasystem). Avoidance of double or multiple certifications
- International transparency and reliability by the set-up of a registry for production areas and certificates
- Leading the way in sustainability and certification of biomass and bioenergy