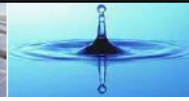




WIP



## Global Assessment of Biomass and Bioproduct Impacts on Socio-economics and Sustainability



Rainer Janssen, Dominik Rutz

WIP – Renewable Energies

European Union – Canada Workshop

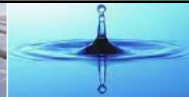
Pisa, Italy, 16-17 June 2009



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## Global-Bio-Pact

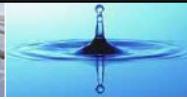
- Supported in the 7th Framework Programme of the European Commission
- Coordinator: WIP Renewable Energies
- Duration: 3 years
- Expected start: December 2009



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EU-Canada Workshop, Pisa, 2009

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## Global-Bio-Pact Idea


Development and harmonisation of sustainability schemes for biofuels and bioproducts to prevent negative socio-economic impacts



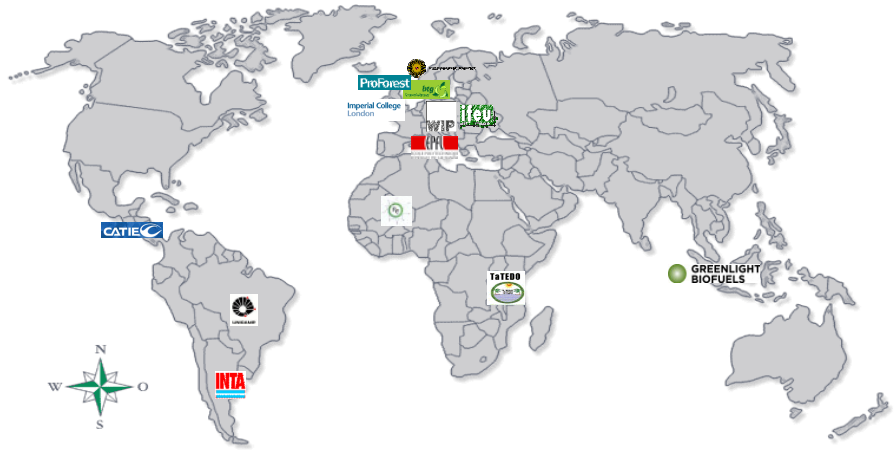
## Consortium: 14 Partners


- **WIP – Renewable Energies**, Germany
- **Imperial College London**, United Kingdom
- **Utrecht University**, The Netherlands
- **BTG Biomass Technology Group**, The Netherlands
- **Institute for Energy and Environmental Research**, Germany
- **ProForest**, United Kingdom
- **Ecole Polytechnique Fédérale de Lausanne**, Switzerland
- **Universidade Estadual de Campinas**, Brazil
- **National Institute for Agricultural Technology**, Argentina
- **Tropical Agricultural Research and Higher Education Center**, Costa Rica
- **Tanzania Traditional Energy Development and Environment Organization**, Tanzania
- **Mali-Folkecenter**, Mali
- **Greenlight Biofuels Indonesia**, Indonesia





## Global-Bio-Pact Partners




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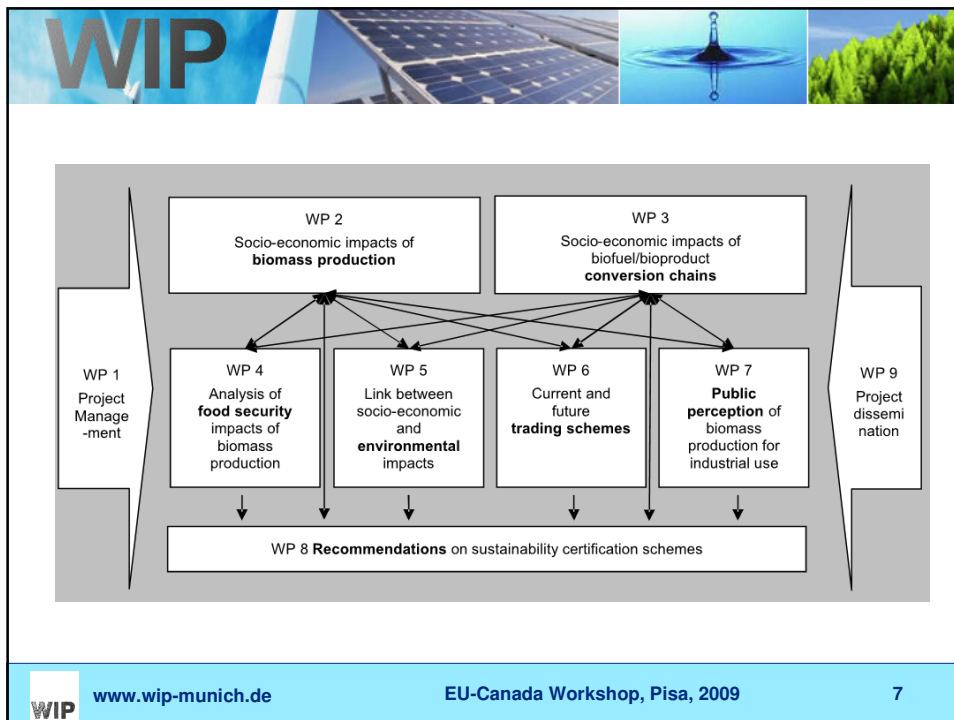


## Objectives

- Identify socio-economic impacts of **feedstock production**
- Identify socio-economic impacts of **conversion chains**
- Analyse impacts on **food security**
- Investigate link: socio-economic and **environmental impacts**
- Review current and future **trading** schemes
- Analyse **public perception**
- Make recommendations for **certification**




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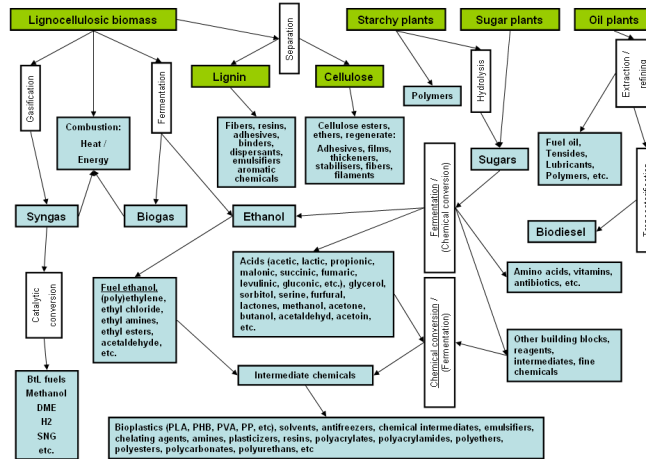
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## Case Studies

- Argentina: Soy production and conversion
- Indonesia: Palm oil production and conversion
- Tanzania / Mali: Jatropha cultivation
- Costa Rica / Brazil: Bioethanol production from sugarcane
- EU / N-America: Impacts of 2nd generation biofuels

The world map shows red dots marking the locations of the case studies: Argentina (South America), Brazil (South America), EU (Europe), N-America (North America), Tanzania/Mali (East Africa), and Indonesia (Southeast Asia).

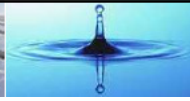
## Investigated Conversion Chains



## Food security and biomass production

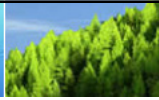
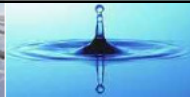
- Impacts of lignocellulose on food security
- Global analysis and model on food security





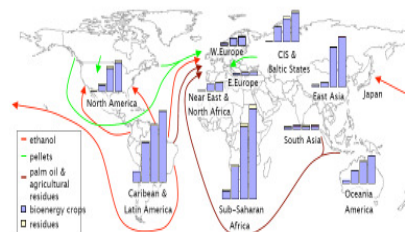
## Link socio-economic and environmental impacts

- Identification of conflicts and synergies between socio-economic and environmental impacts
- Example: Land use competition between biodiversity, food production and feedstock production
- Assessment tools for different land types, idle land, grassy biomass

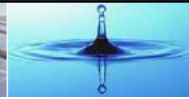


## Current and future trading schemes

- Assessment of current trading regimes for biomass/ biofuels/ bioproducts
- Impacts of biofuels/bioproducts trade and certification on developing countries and Europe
- Impacts of new legislation (RES-Directive) on trade

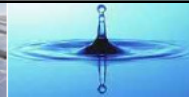


Source: Smeets et al. 2004; IEA Task 40

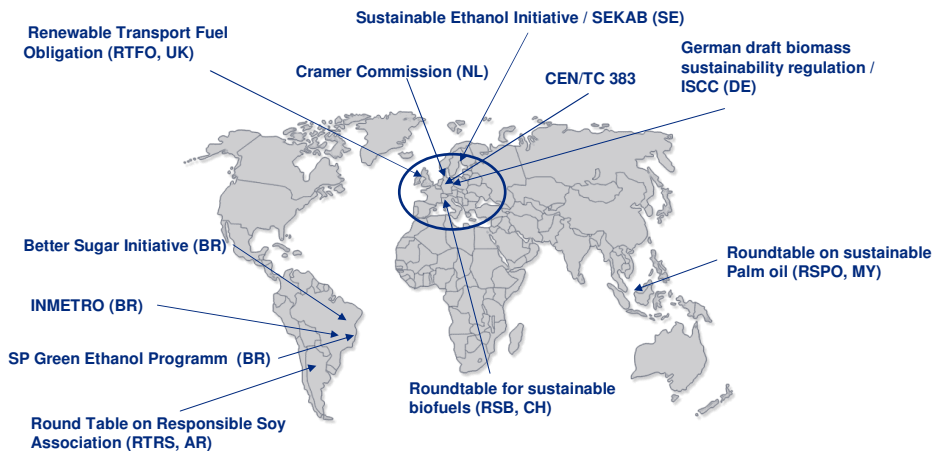


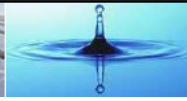
## Public Perception of biomass production for industrial use

- Public consultation process including interviews and a media analysis
- Public perception workshop
- How should public perception be considered in policies?



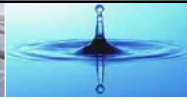
## Recommendations - Harmonisation





## Recommendations - Harmonisation

- Assessment of existing socio-economic principles, criteria, and indicators
- Elaboration of a set of socio-economic criteria and indicators
- Test audits
- Recommendations for EU legislation
- Recommendations on harmonisation



## THANK YOU VERY MUCH FOR YOUR ATTENTION!

### *Contact*

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[dominik.rutz@wip-munich.de](mailto:dominik.rutz@wip-munich.de)