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Biofuel policies for dynamic markets

ELOBIO: Effective and Low Disturbing Biofuel Policy Strategies

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Intelligent Energy Europe

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Key conclusions

- Substantial consumption of biofuels will not be achievable in 2020-25 without significant impacts,
  - Commodity markets
  - Food security
  - Land expansion
  - GHG emissions

- Lignocellulosic biomass might become scarce due to large demand for biomass in both transport and stationary energy sectors; biomass prices may increase.

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Key conclusions

- 2nd generation biofuels are still at the demonstration scale.

However, solutions are at hand!

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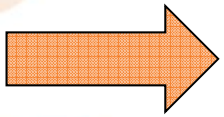
- Efforts to enhance agricultural productivity, particularly in less developed countries,
  - Technology advances and management practices,
  - Investment in irrigation infrastructure,
  - Information and skills of farmers



Requires an integrated approach among energy, agriculture and development polices

…the encouraging trend in the eradication of hunger since the early 1990s was reversed in 2008, largely due to higher food prices. The prevalence of hunger in the developing regions is now on the rise, ….

The Millennium Development Goal Report, 2008

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- Measures to bring 2nd generation technologies into the market,
  - Significant government support

European Industrial Bioenergy Initiative (EIBI) key objectives:
- Enabling commercial availability of advanced bioenergy at large scale by 2020, ……., and advanced biofuels covering up to 4 % of EU transportation energy needs by 2020.

Core activity:
-Selection and funding of Demonstration and/or Reference plants projects
Budget and timeline; 6-8 Billion € over 10 years, to fund 15 to 20 demonstration and / or reference plants

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- Synergies between stationary energy sector and biofuels production,
  - Utilizing access heat from biofuels, enabling 3rd parties to get access to district heating network
  - Securing the feedstock supply through co-firing

Such synergies can pave the way to first commercial plants

Danish lignocellulosic ethanol plant co-located with a power plant, and utilizes waste heat as a critical cost-reducing input in its system

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- Likely competition for lignocellulosic feedstocks calls for an integrated approach between forest-based industries and energy sector,
  - Mobilization of resources

- Establish and promote sustainability criteria and “best practice guides” for land use, and expand them to all biomass

“*We recognize the crucial role of reducing emission from deforestation and forest degradation ……. and agree on the need to provide positive incentives to such actions through the immediate establishment of a mechanism including REDD-plus, to enable the mobilization of financial resources from developed countries*” , COP15

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Who is this girl?

Intelligent Energy Europe

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Project partners

Partners: ECN (NL)
IIASA (AT)
VITO (BE)
Chalmers (SE)
COWI (DK)
IPEO/EC-BREC (PL)
CIEMAT (ES)

Duration: Nov 2007 – April 2010

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Thank you for your attention!

For further information please visit www.elobio.eu

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Extra slides

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Voluntary and mandatory targets for transport fuels in major countries

Country/Region	Mandatory, voluntary or indicative target
Australia	At least 350 million liters of biofuels by 2010
Canada	5% renewable content in gasoline by 2010
European Union	5.75% by 2010, 10% by 2020
Japan	0.6% of auto fuel by 2010; a goal to reduce fossil oil dependence of transport sector from 98% to 80% by 2030
New Zealand	3.4% target for both gasoline and diesel by 2012
United States	12 billion gallons by 2010, rising to 20.5 billion gallons by 2015 and to 36 billion gallons by 2022 (with 16 billion gallons from advanced cellulosic ethanol)
Brazil	Mandatory 25% ethanol blend with gasoline; 5 percent biodiesel blend by 2010.
China	2 million tons ethanol by 2010 increasing to 10 million tons by 2020; 0.2 million tons biodiesel by 2010 increasing to 2 million tons by 2020.
India	5% ethanol blending in gasoline in 2008, 10% as of 2009; indicative target of 20% ethanol blending in gasoline and 20% biodiesel blending by 2017.
Indonesia	2% biofuels in energy mix by 2010, 3% by 2015, and 5% by 2020.
Thailand	2% biodiesel blend by 2008, 10% biodiesel blend by 2012; 10% ethanol blend by 2012.
South Africa	2% of biofuels by 2013

•*Source: Fischer et al., 2009*

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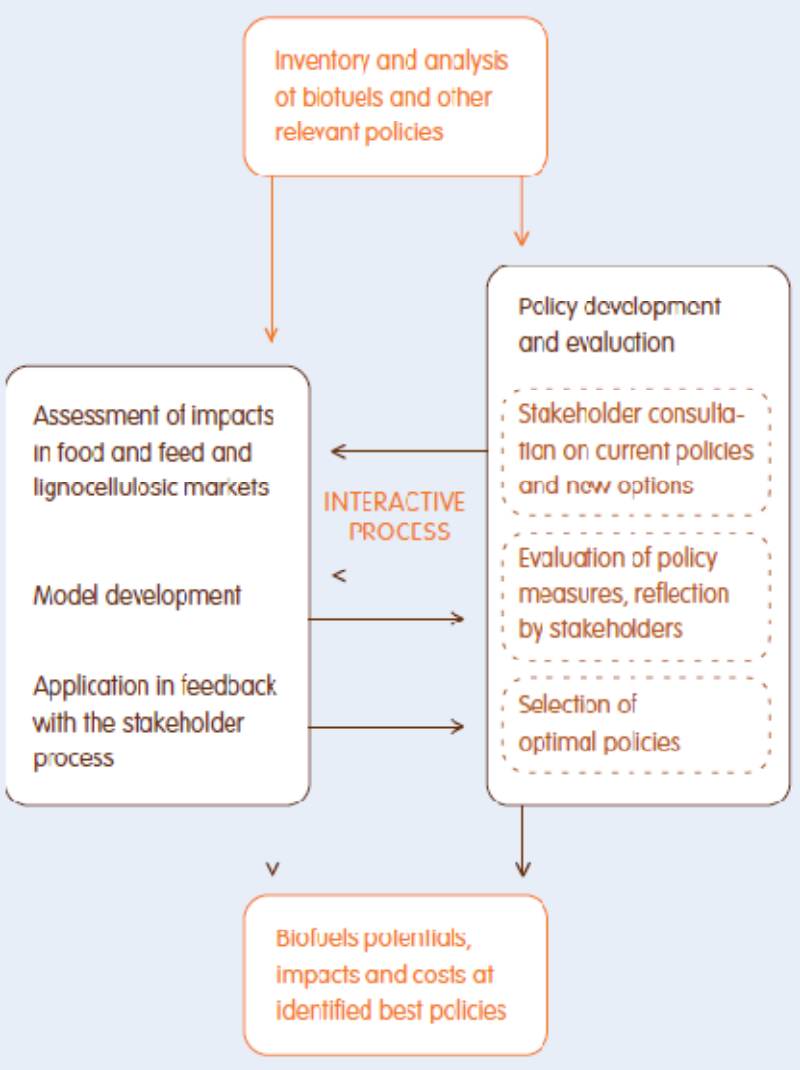
Project structure, partners



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