

# Sustainable Biofuels and Beyond: The Role of Europe

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**presented at the Panel “European Biofuels Legislation: Complexities and Challenges” Ethanol Summit, June 27-28, 2013 in Sao Paulo, Brazil**



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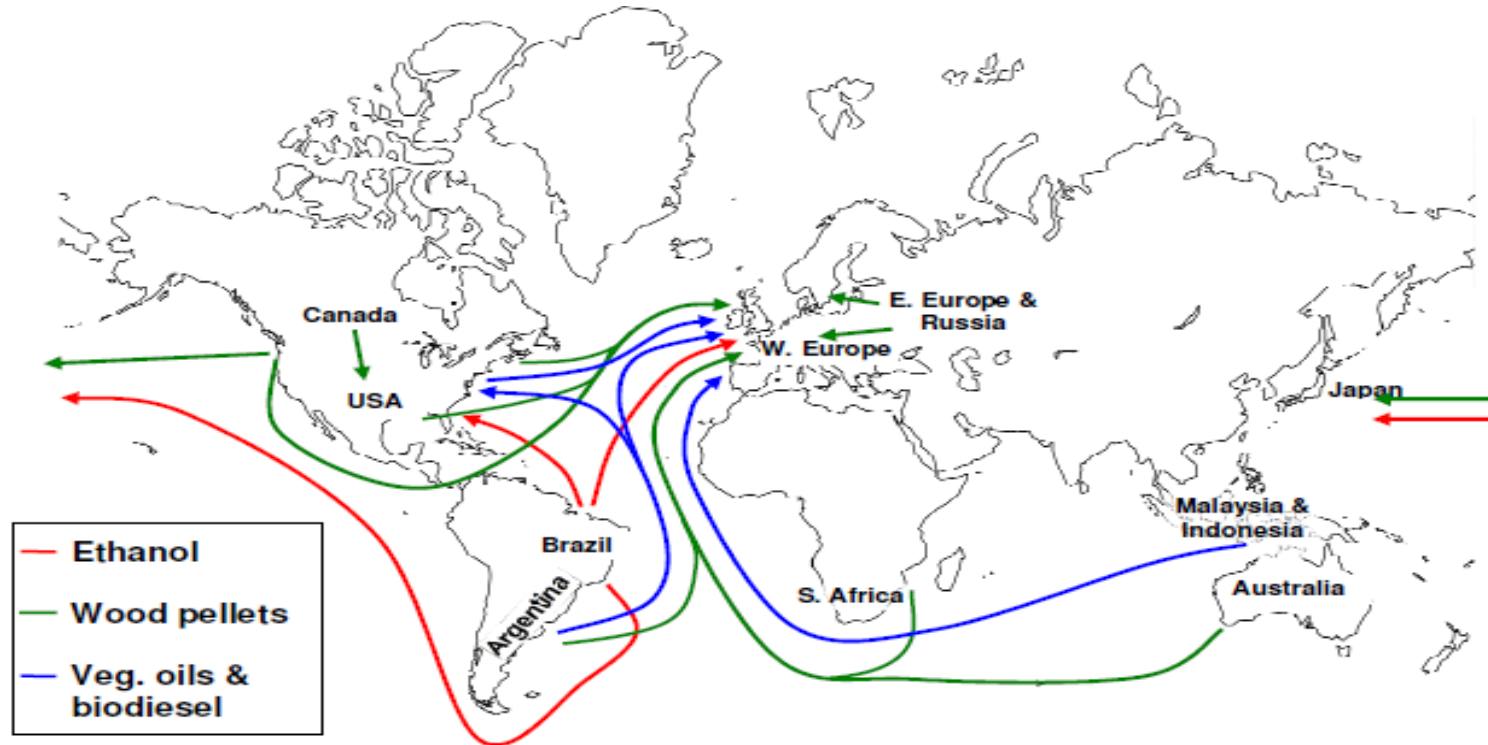
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# Bioenergy: EU and the world

- EU has significant **domestic** sustainable bioenergy potential, but **costs** are comparatively high
- Interest beyond biofuels: co-firing, biorefineries, biomaterials...
- **Imports** to EU-27 could increase – but how much and from **where?**
  - CO<sub>2</sub> prices under ETS very low → interest for bioenergy imports **reduced**, but ETS back-loading under debate
  - If RED **revised** (5% cap on 1G biofuels from edible feedstocks), **biofuel imports** might go **down** also



# Global bioenergy trade and EU



Source: IEA Bioenergy Task 40: data for 2010 - 2012

# Sustainability Beyond Biofuels



- 2<sup>nd</sup> generation biofuels and biorefineries will use lignocellulose feedstocks: role of biomass from forests, and SRC (land use?)
- Advanced biomaterials + co-firing of bioenergy will increase
- **Coherent** sustainability requirements for **all** bioenergy (electricity, heat, transport) **and** biomaterials needed



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# A European Debate...

## Sustainability Criteria and Indicators for Solid Bioenergy from Forests

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# EU and Sustainable Bioenergy



- **EU bioenergy “pull”** requires sustainability of imports: RED **extension** (iLUC, C debt..) could provide safeguard against environmental risks, but lacks social criteria
- Developing countries **need** social safeguards: **voluntary certification** and criteria for **project financing** (EIB, GEF, World Bank...)
- EU reporting on RED: base for bi- and mult-ilateral agreements?



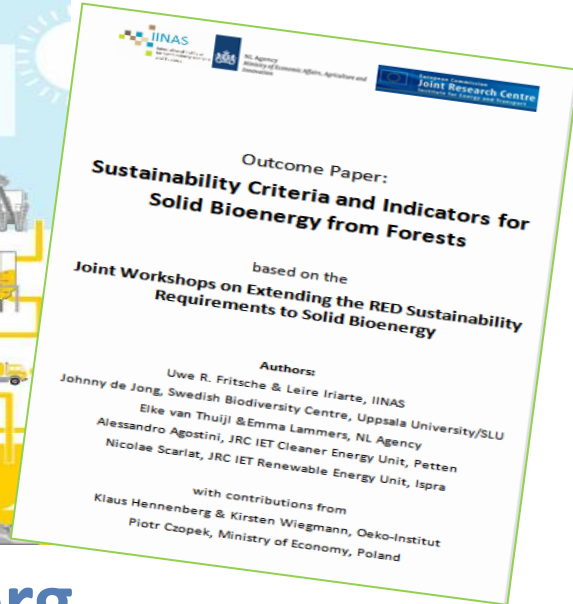
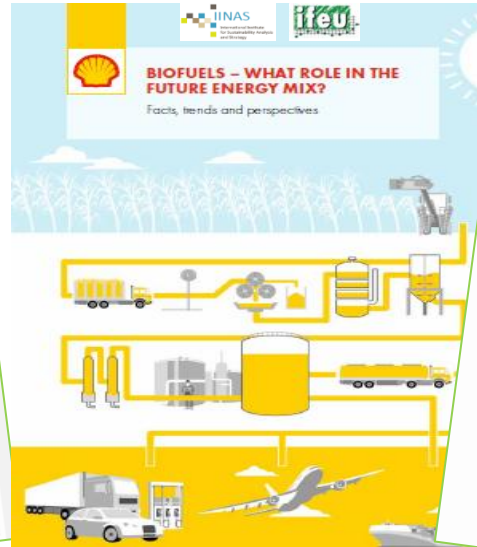
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