

IEA Bioenergy Task 40

Sustainable International Bioenergy Trade - Securing Supply and Demand

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Fachgespräch Bioenergieforschung
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Selected topics

- **Handbook „International Bioenergy Trade“
(Junginger et al., 2014)**
- **Task37 & task40 joint study on biomethane trade
(Thrän et al., 2014)**
- **Possible new industrial user of torrefied biomass – study
(ongoing)**

Handbook „International Bioenergy Trade“



International Bioenergy Trade

History, status & outlook on securing sustainable bioenergy demand and markets

Series: » Lecture Notes in Energy, Vol. 17

Junginger, Martin, Goh, Chun Sheng, Faaij, André (Eds.)

2014, VI, 233 p. 56 illus., 36 illus. in color.

Source: <http://www.springer.com/energy/>

- Contributions from all T40 members
- Summary of 9 years monitoring on bioenergy trade, 20 workshops held on trade related topics and over 100 studies including country reports, newsletters etc.
- Overview and insights, large amount of practical experience in „what works and what doesn't“
- Outlook and „clear(er) view on how to proceed to build working sustainable international bioenergy markets in the future“.

Handbook content

A General Introduction to International Bioenergy Trade

Faaij, André (et al.)

Pages 1-15

Developments in International Liquid Biofuel Trade

Lamers, Patrick (et al.)

Pages 17-40

Global Woody Biomass Trade for Energy

Lamers, Patrick (et al.)

Pages 41-63

Development of Bioenergy Trade in Four Different Settings – The Role of Potential and Policies

Thrän, Daniela (et al.)

Pages 65-101

Optimization of Biomass Transport and Logistics

Searcy, Erin (et al.)

Pages 103-123

The Role of Sustainability Requirements in International Bioenergy Markets

Pelkmans, Luc (et al.)

Pages 125-149

Drivers and Barriers for Bioenergy Trade

Junginger, Martin (et al.)

Pages 151-172

Medium and Long-Term Perspectives of International Bioenergy Trade

Kranzl, Lukas (et al.)

Pages 173-189

Financing Bioenergy Trade: Making It Happen

Deutmeyer, Michael (et al.)

Pages 191-212

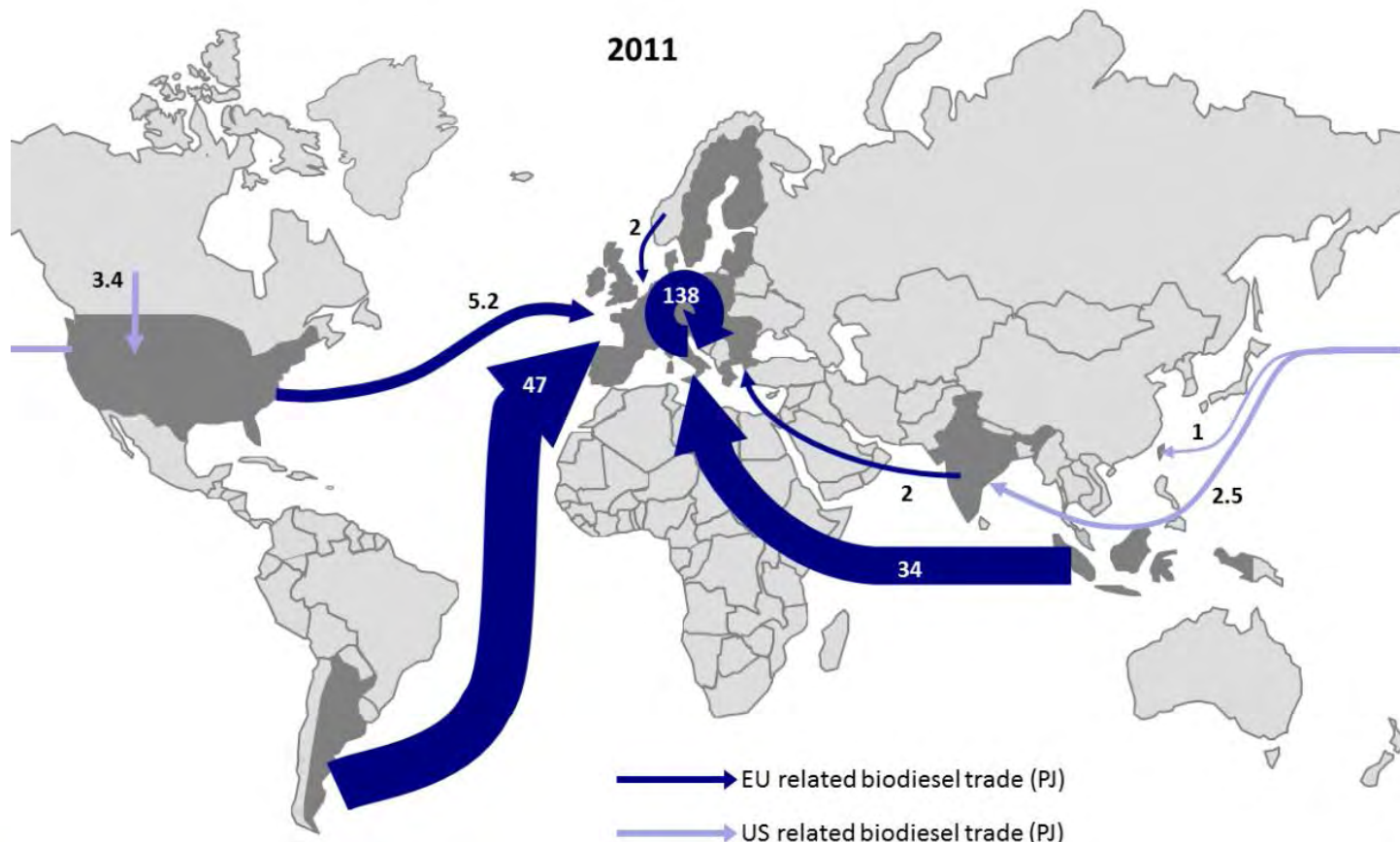
Synthesis and Recommendations

Junginger, Martin (et al.)

Pages 213-224

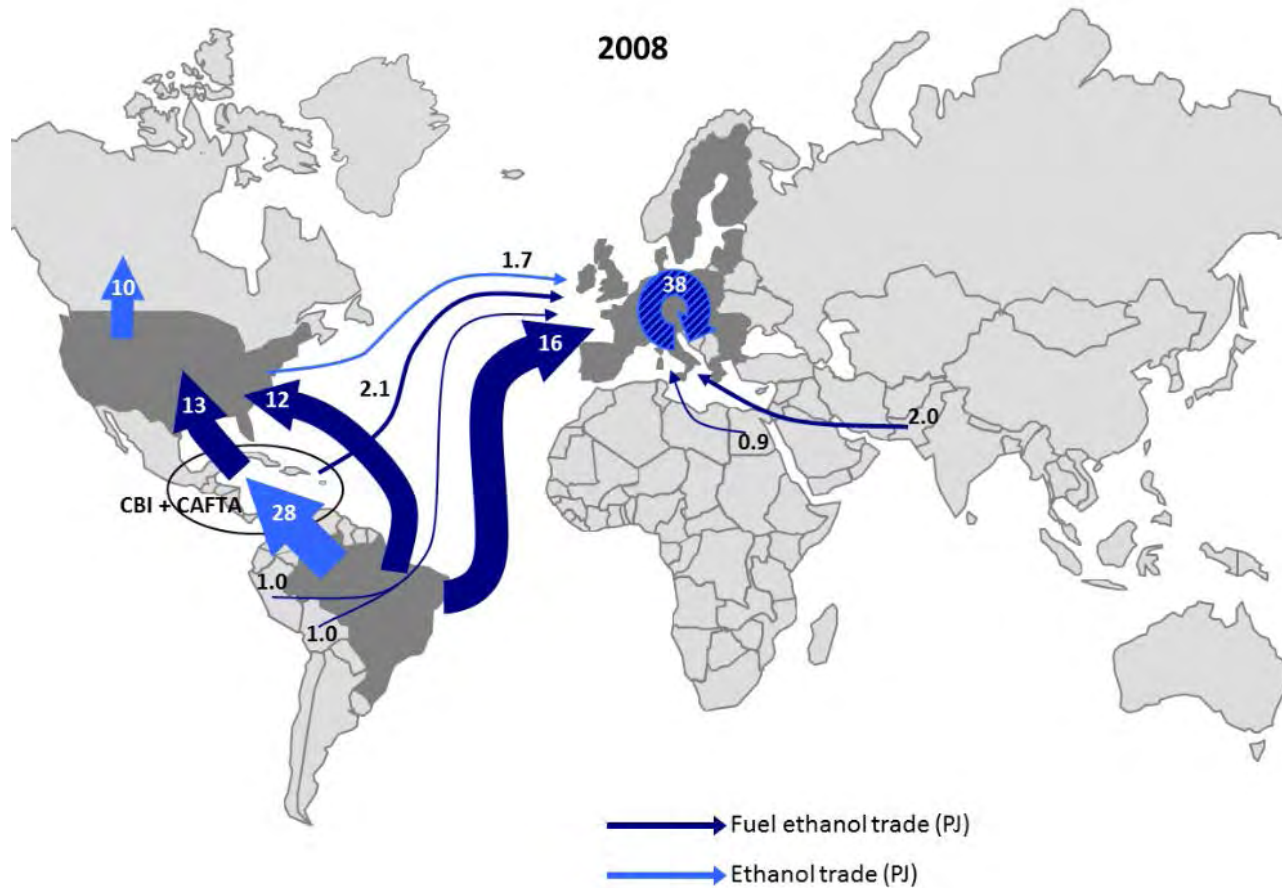
Handbook content

World Biodiesel Trade Streams in 2011 (PJ) (minimum 1 PJ)



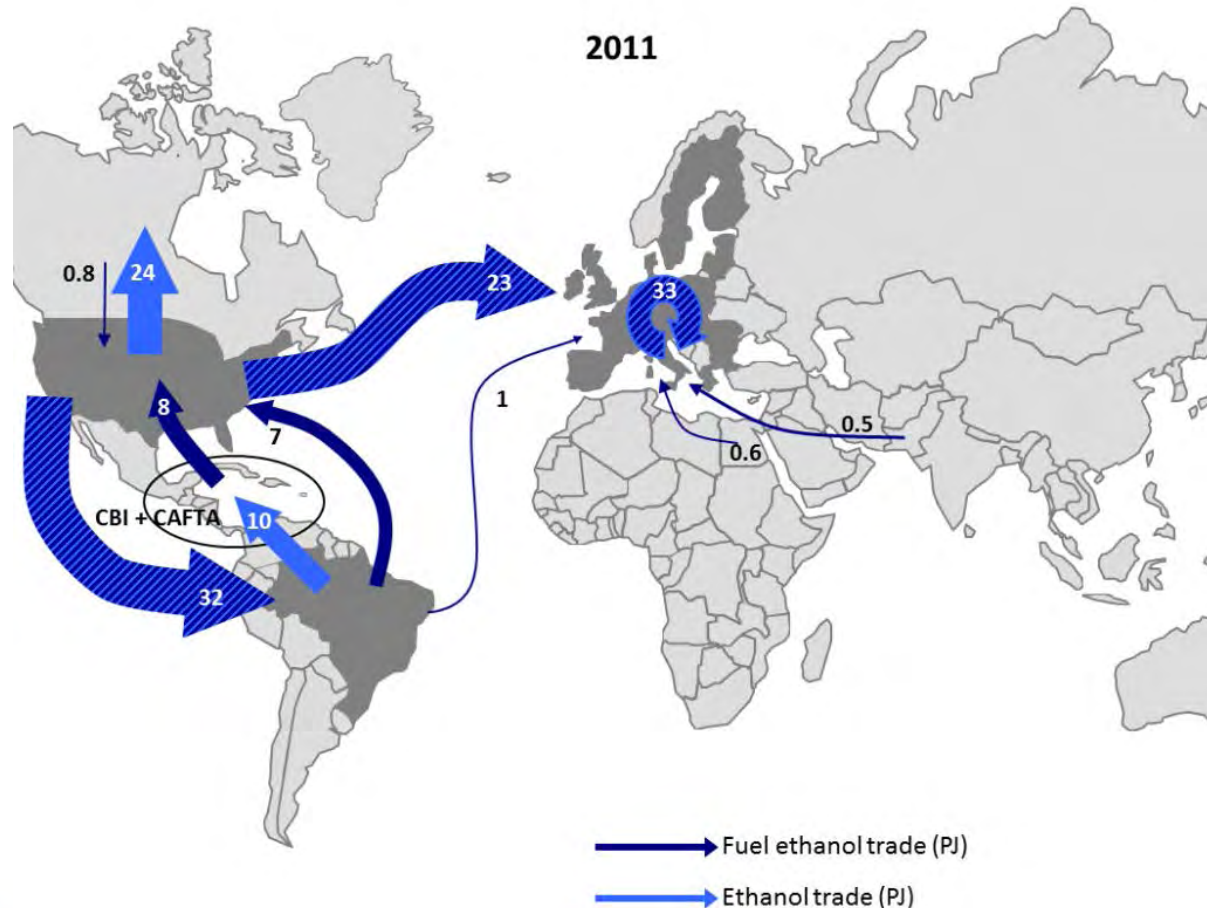
Handbook content

World (Fuel) Ethanol Trade Streams in 2008 (PJ) (minimum 1 PJ)



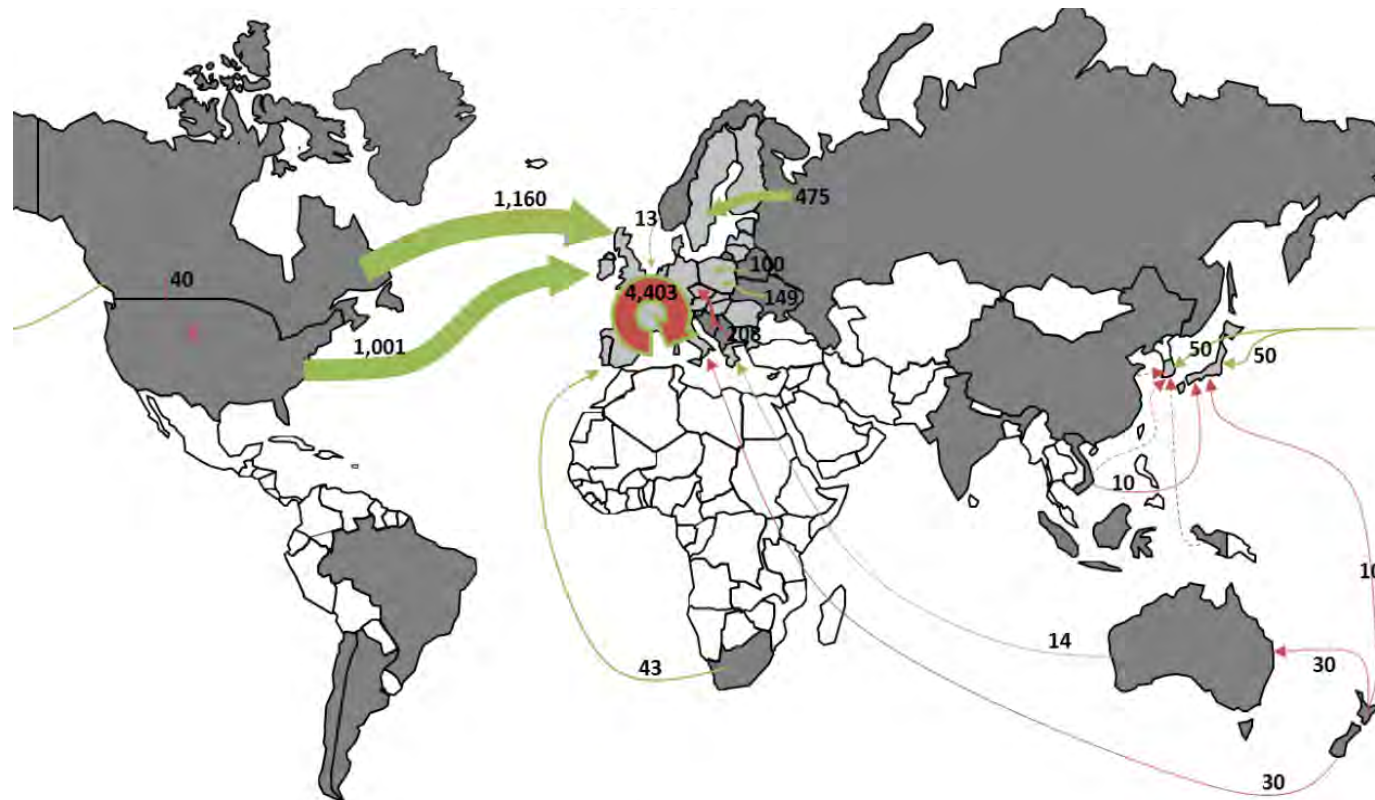
Handbook content



World (Fuel) Ethanol Trade Streams in 2011 (PJ) (minimum 0.5 PJ)



Handbook content

Global wood pellet trade streams in 2011 (kt) (minimum 10 kt)



 mainly pellets for large scale end user (kt)
 mainly pellets for small scale end user (kt)

Biomethane trade

Biomethane

Status and Factors Affecting Market Development and Trade

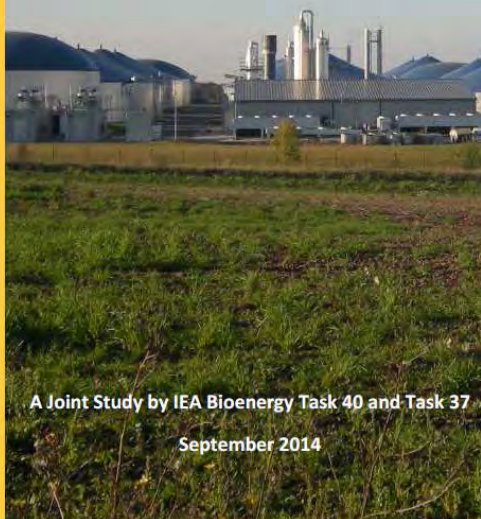
This publication focusses on the status of biomethane (which includes upgraded biogas and bio-SNG) production, grid injection and use in different IEA countries. It also illustrates the options and needs for the development of biomethane supply strategies with the focus on improved trade. Further, an overview of expected future development of the biomethane sector is given.

As part of the study, results from a dedicated questionnaire were assessed to get an insight into the opportunities and barriers for biogas and biomethane in the market in a number of countries.

This study has been compiled as a joint effort by experts from the Task 37 and 40 of the IEA Bioenergy Implementing Agreement.



IEA Bioenergy



A Joint Study by IEA Bioenergy Task 40 and Task 37

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Biomethane trade – content (selected)

- **Production technologies for biomethane**
 - Technical standards for the use of biomethane as vehicle fuel, grid injection and as LNG
- **Frame conditions, barriers and opportunities for biomethane production and use**
 - Environmental demands and sustainability standards
 - Cost of biomethane production
- **Expectation of the future development**

Biomethane trade – recommendations (selected)

- Development and implementation of widely-accepted technical standards regarding uniform biomethane injection to the natural gas grid (standardisation of biomethane quality – e.g. calorific value, degree of purity)
- Sustainability standards for all kinds of biomethane application including possibilities to trade sustainable biomethane between countries.
- Certification and registries for a transparent national and international market of biomethane (e.g. no double support)
- Roadmaps for mid-and long-terms targets in order to clearly define the incentive

Possible new industrial users of torrefied biomass - study

ongoing

Authors

- Lappeenranta University of Technology (LUT)
- Wild & Partner LLC
- Utrecht University (UU)

The industries looked at will be

- Iron and steel
- Chemical and petrochemical industry
- Paper, pulp and printing
- Non metallic minerals (glass, ceramic, cement, etc.)
- Transport equipment and fabricated metal products, machinery and equipment

Participation and Co-Operation within task 40, 3rd Triennium



- Participation or leading studies and publications
 - Torrefaction – trade and legislative aspects
 - Long Distance Supply Chain Study
 - International Bioenergy Trade; Chapter 5 „Optimization of Biomass Transport and Logistics“
 - Biomass Trade Equity Funds
 - Liaising with task 32 on torrefaction

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<http://www.biomassstorrefaction.org>

Preliminary Results and Relevance



- More and more Technologies maturing and in market implementation phase (two co-developed by Andritz AG)
- Sector is becoming international, not only European initiatives
- Standardisation of product and diverse permissions needed along the supply chain either in place or in development
- Torrefaction does decrease transport costs and CO2 footprint significantly. Catchment areas of biogenic fuels can by thisbe expanded significantly
- Marginal lands and untouched by products can be transformed to tradeable products
- This will support international trade of biomass for energy and the development of commodity trading tools for biomass
- Transport costs close to coal, hence international trade not only limited to „seafront“ producers/consumers