



Clean Power for Transport Initiative

An EU sustainable alternative fuels strategy including the appropriate infrastructure: Biofuels

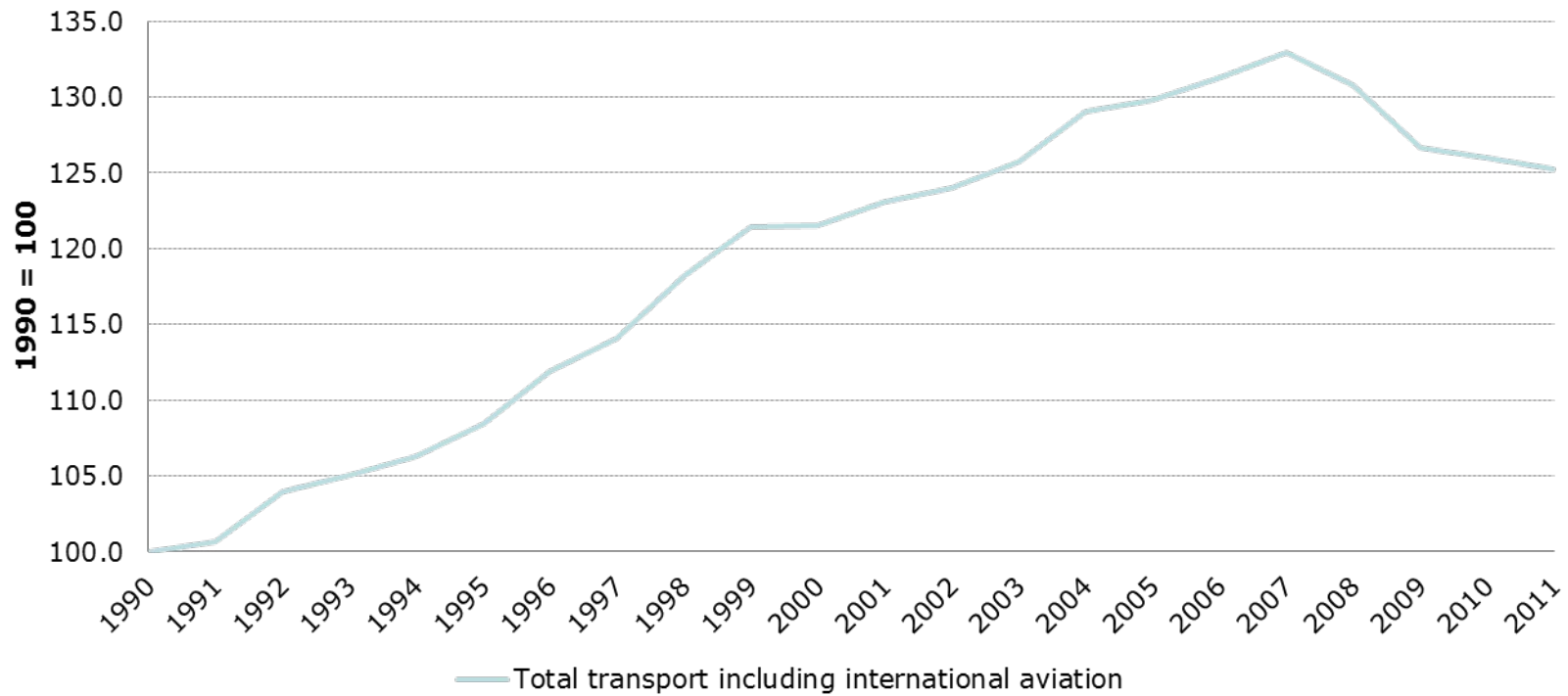
RECOIL Conference
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The facts

Transport:

- Uses almost 30% of the EU primary energy
- Produces about 24% of EU CO₂ emissions including international maritime transport
- Is mainly supplied from oil 94% (the high dependence on oil can cause a problem of security of supply in the mid and long-term)
- Has become substantially more efficient in recent years

Greenhouse emissions from transport



The EU strategy

Fuel	Mode	Road-passenger			Road-freight			Air	Rail	Water		
		Short	Medium	Long	Short	Medium	Long			Inland	Short-Sea	Maritime
LPG												
	LNG											
Natural gas	CNG											
	Bio-methane											
Electricity												
Biofuels (liquid)												
Hydrogen												
Synthetic fuels												

Why biofuels? Contribution to the Security Supply

- Biofuels can be produced from a wide range of feedstock through technologies in constant evolution and used directly or blended with conventional fossil fuels.
- According to the e4tech project the availability of sustainable advanced biofuels based on agricultural and forestry residues and waste could contribute between 12 and 15% of energy for the transport sector by 2030.

Why biofuels? Reduction of emissions

The range of WTT, WTW and TTW GHG emissions (CO₂ equivalents) for different biofuels for 2010.

Source: JEC (2014b) Appendix

Alternative fuel	WTT g CO ₂ /km	TTW g CO ₂ /km	WTW g CO ₂ /km
Biodiesel (Neat fuel equivalent)	-101 to -22	125	44 - 103
B7	14 - 19	120	137 - 140
Ethanol (Neat fuel equivalent)	-127 to 30	146	19 - 176
E10	17 - 28	150	166 - 178
E20	6 - 28	148	154 - 176
E85	-82 to 29	143	61 - 171
Conventional gasoline	29	156	185
Conventional diesel	25	120	145

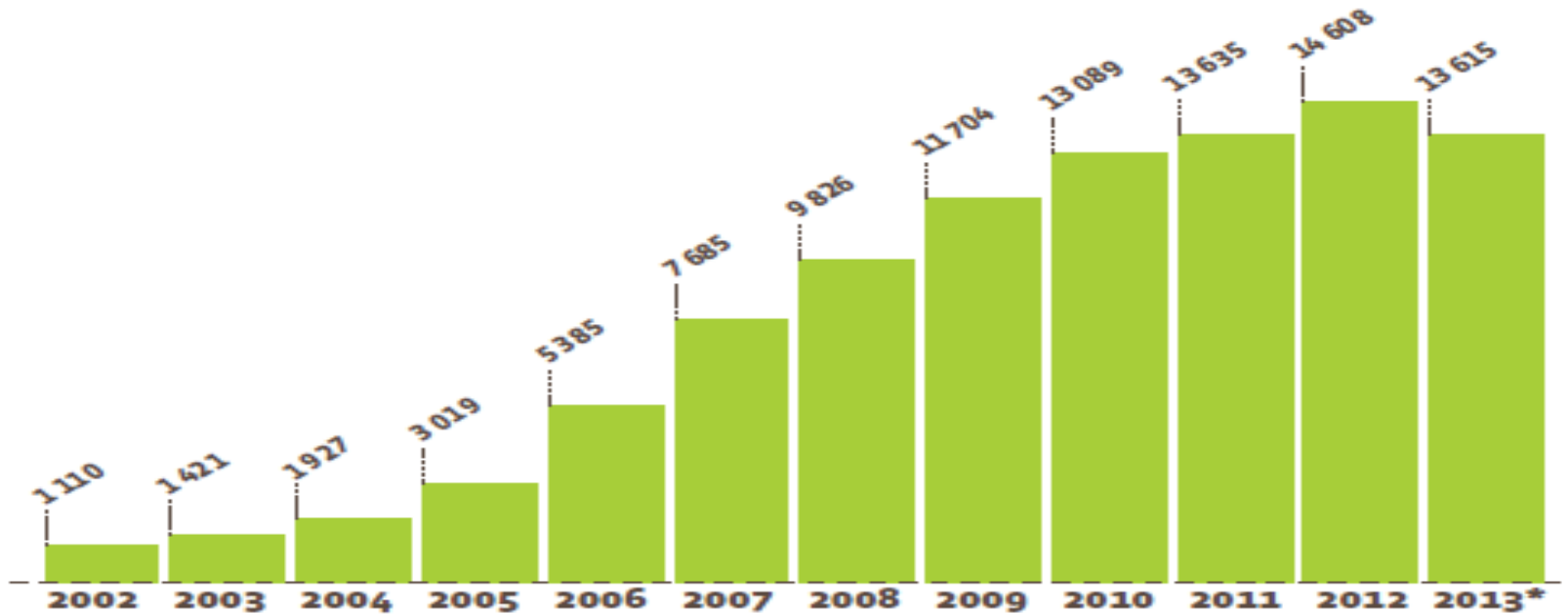
Advantages of biofuels as fuels for vehicles

- high energy density
- compatible with existing ICE engines (spark ignition engines and compressed ignition engines)
- distribution via the existing refuelling infrastructure (low blends and advanced fuels)
- could technically substitute oil in all modes and in all distances

The Biofuel Consumption

Graph. n° 1

Trend of the European Union (EU-28) biofuel consumption for transport (ktoe)



* Estimate. Sources: Data from 2002 to 2011 (Eurostat 2013), data from 2012 to 2013 (EurObserv'ER 2014).

Biofuels consumption projection

Ethanol and biodiesel consumption in road transport by region in the New Policies Scenario (Mboe/d). Source: IEA, 2014. IEA (2014) World energy outlook, 2014

	Ethanol		Biodiesel		Total		Share of road-transport	
	2012	2040	2012	2040	2012	2040	2012	2040
OECD	0.6	1.6	0.3	0.8	0.9	2.4	4%	13%
Americas	0.5	1.4	0.0	0.3	0.6	1.7	4%	15%
United States	0.5	1.3	0.0	0.3	0.6	1.6	5%	17%
Europe	0.1	0.2	0.2	0.5	0.3	0.7	5%	14%
Non-OECD	0.2	1.7	0.1	0.4	0.4	2.1	2%	6%
E. Europe/Eurasia	0.0	0.0	0.0	0.0	0.0	0.0	0%	2%
Asia	0.0	0.8	0.0	0.1	0.1	1.0	1%	5%
China	0.0	0.5	0.0	0.0	0.0	0.5	1%	5%
India	0.0	0.3	0.0	0.0	0.0	0.3	0%	5%
Latin America	0.2	0.8	0.1	0.2	0.3	1.0	9%	22%
Brazil	0.2	0.7	0.1	0.1	0.3	0.8	17%	32%
World	0.8	3.3	0.4	1.2	1.3	4.5	3%	8%
European Union	0.1	0.2	0.2	0.5	0.3	0.7	5%	16%

The Directive on alternative fuel infrastructures

1. Minimum requirements on alternative fuels infrastructure build up, to be implemented through Member States' national policy frameworks
 - Investments encouraged
2. EU common technical specifications
 - Interoperability
3. Consumer information
 - Fuel / vehicle compatibility
 - Confidence for investors & consumers

Art 3 The National policy frameworks Biofuels are included

- Assessment of the **state and future development of the market of alternative fuels** in the transport sector, in the light of the development of alternative fuels infrastructure and considering trans-border continuity
- National **targets and objectives and measures** necessary to ensure the achievement of the national targets
- Measures that can promote the deployment of alternative fuels infrastructure in public transport services
- Support measures for alternative fuels infrastructure shall be implemented in compliance with the state aid rules contained in TFEU

The Directive: Art 7 user information

Member States shall ensure that relevant, consistent and clear information **is made available on the compatibility of the fuels and vehicles**. Such information shall be made available in motor vehicle manuals, at refuelling and recharging points and motor vehicle dealerships

Where appropriate, **when displaying fuel prices at a fuel station, in particular for natural gas and hydrogen, comparison between the relevant unit prices shall be displayed for information purposes**. The Commission shall be empowered to adopt, by means of implementing acts, a common methodology for alternative fuels unit price comparison

UCO: Other Experiences. CIVITAS City of Graz

In 2004 around 280,000 kg of waste oil from restaurants and 75,000 kg waste oil from private houses was collected and converted into biodiesel

From 2005 all city buses are running with 100% BioDiesel produced from used frying oil

CIVITAS –La ROCHELLE

In early 2007 a survey was carried out among 400 restaurant

In April 2008, the cooking oil recycling plant was opened. 60 agreements were signed between the Urban Community of La Rochelle and restaurant owners for the recycling of used oils.

In January 2009, authorisation was given by the French Government for the use of cooking oils as biofuel. –

See more at: <http://civitas.eu/content/recycling-cooking-oil-biofuels#sthash.8M1mf0kx.dpuf> –

Final remarks

Biodiesel from UCO and advanced biofuels could contribute significantly to the decarbonisation of transport

Biodiesel from UCO is a suitable and sustainable fuel to be used, in particular, in public fleets

Biodiesel from UCO could be part of the National Policy Frameworks to be submitted under the Directive on the Deployment of alternative fuels infrastructures and therefore could benefit of incentives

The production of biodiesel from UCO has increased significantly over the latest years, from 320 million liters in 2008 to 1,000 million liters in 2014. Its production could be increased significantly in short term because it does not require complex technological processes



Thank you for your attention!

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