

OLEOFUELS 2015

National Policy Implementations

Frankfurt, Germany, June 10th 2015

1. Situation in Portugal

In 1990, oil constituted about two-thirds of energy consumption in Portugal either in transport, in industry or in the production of electricity.

The share of renewable energy (biomass for heating purposes and hydroelectricity) was 18% of the total energy consumption, which meant an energy dependence of about 82%.

1. Situation in Portugal (continuation)

It can be said that dependence on energy in Portugal was excessive and that within it, oil dependency was so great that, in the event of global instability, the country was vulnerable to an economic and social disaster for lack of power supply. It was necessary to diversify sources and invest in renewables.

1. Situation in Portugal (continuation)

It was necessary and it happened.

In 2013, oil dependency had dropped to 43% of the total energy, internally produced or acquired and, thanks to a rainy and windy year, renewable energy production exceeded 27% of the total, but national energy dependence was still 71%.

1. Situation in Portugal (continuation)

In Portugal, energy consumption in transport increased by 50% between 1990 and 2013.

However, during this period, annual consumption of gasoline during this period declined from about 1,750 million liters to less than 1,370 million liters.

But the annual diesel consumption, more than doubled in that period, from 2,500 million liters to about 5,000 million liters.

1. Situation in Portugal (continuation)

So, about 340 million liters of biodiesel were by law, added annually to diesel fuel that was sold to the consumers.

This amount mean't 7% in volume of the diesel fuel consumed by year, in line with the 7% limit in its FAME content, and, also, approximately 5,5% in energy content of all the fuels used in transportation, accomplishing the national 2014 target for biofuels.

2. European Legislation

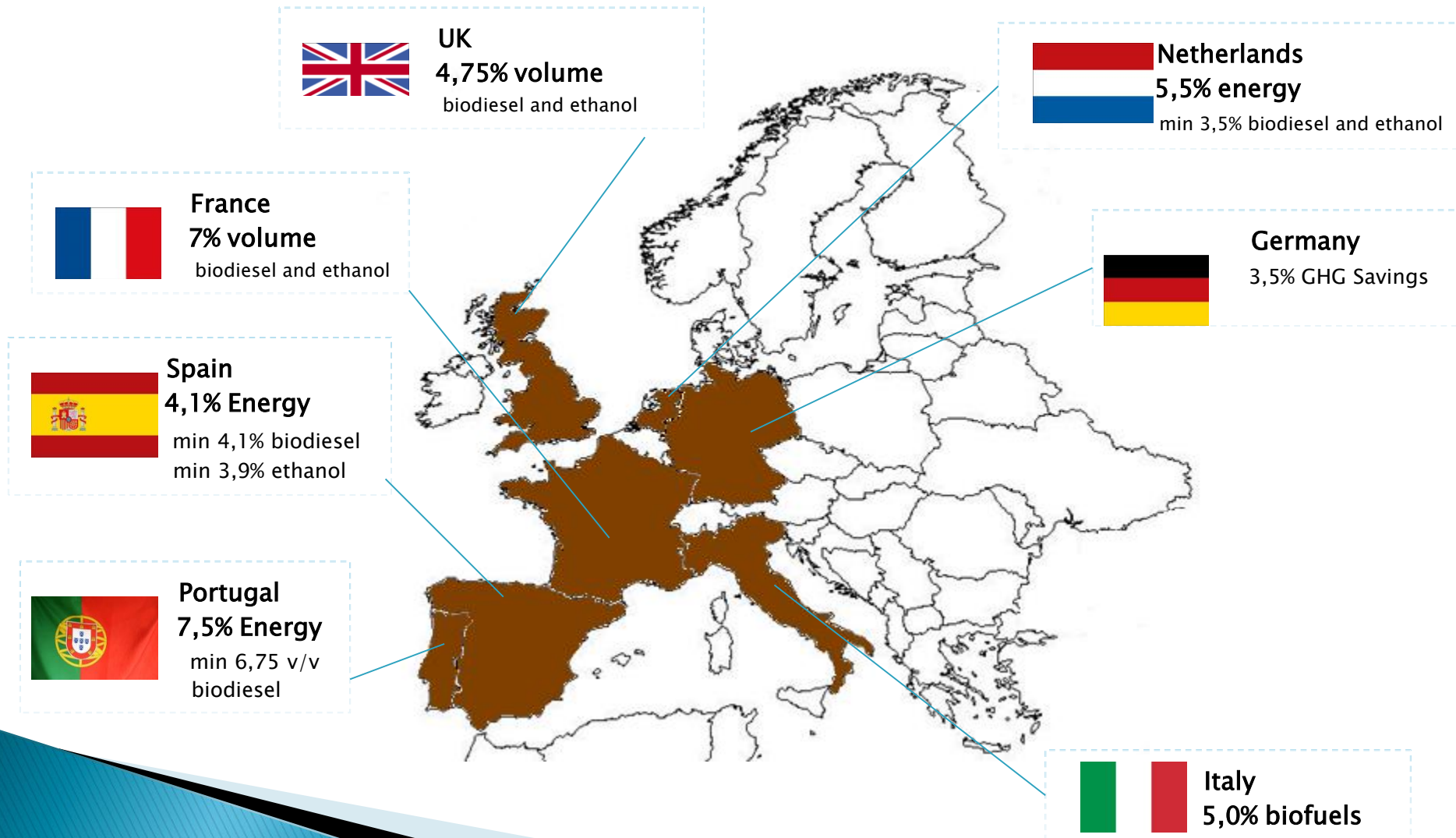
Directive 2009/28/CE

- Promote the use of renewable energy with emphasis on the transport sector.
- Sets a binding target of 10% energy from renewable sources in energy consumption in transport by 2020.
- Imposition of sustainability criteria for biofuels
- Introduction of double counting mechanism to promote more sustainable technologies (second generation) in order to make Europe "shift" of the current first generation technology for the latter.

Directive 2009/30/CE

- Create mechanisms to monitor and encourage the reduction of GHG emissions by the transport sector.
- Recommendation 10% reduction in GHG emissions of biofuels:
 - 6% through use of biofuels and other means of and increases production efficiency.
 - 2% for carbon capture and storage technology electric vehicle;
 - 2% for the transaction of credits.

2. European Legislation - Goals of Biofuels in the EU in 2015



3. Nacional Legislation

**DL117/2010 of
25 of October**

- Establishes sustainability criteria for the production and use of biofuels and bioliquids.
- National authority is ENMC – National Entity for the Fuel Market coordination of the process of verification of compliance with the sustainability criteria.

Reduction of GHG emissions	Land Use
<ul style="list-style-type: none"> ▸ 35% until December 31, 2016 (50% for new installations from 01/01/2011) 	<p>The soils used in the cultivation of raw materials can not:</p> <ul style="list-style-type: none"> ▸ be rich in biodiversity (primary forest, pasture land, that was until January 2008) ▸ possess either high carbon stock (wetlands) or be peatlands.
<ul style="list-style-type: none"> ▸ 50% from 01 of January of 2017 	
<ul style="list-style-type: none"> ▸ 60% from 01 of January of 2018 valid only for new plants 	

3. Nacional Legislation

**D.L.117/2010 of
25 of October**

- Defines the limits of mandatory incorporation of biofuels for the years 2011 to 2020, transposing Articles 17. ° to 19. And Annexes III and V of the Directive no.2009/28/EC.
- Double counting for Biofuels produced using waste, non-food cellulosic material, lignocellulosic material and microalgae as raw materials.
- Reduction of GHG emissions if use of degraded land.

	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020
% Addition of biofuels in fossil fuels (energy content)	5	5,5	7,5	9	10
% Addition of ethanol in gasoline (energy content)	0	0	2,5	2,5	2,5

4. Development prospects

Portugal aims to meet by 2020 the contribution of 10% renewable Energy of the consumption recorded in the transport sector.

The required goal for 2015/2016 is 7,5%.

Can contribute for this purpose:

- Biodiesel and other alternatives
- Bioethanol or Bio-ETBE
- The use of electricity

4. Development prospects (continuation)

Electricity consumption in transport is now almost confined to the rail network.

The goal of 7,5% must be mainly fulfilled with the use of biofuels.

By law, gasoline must incorporate 2,5% of biofuels in Energy content.

4. Development prospects (continuation)

On the other side, the 1st generation biodiesel (FAME) on other methyl esters are limited to an addition 7% by volume to commercial diesel.

Today, Portugal must import biofuels to add to the diesel fuel, mainly HVO – Hydrogenated Vegetable Oils, which is for the moment the cheapest alternative.

Thank You for attention!

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