



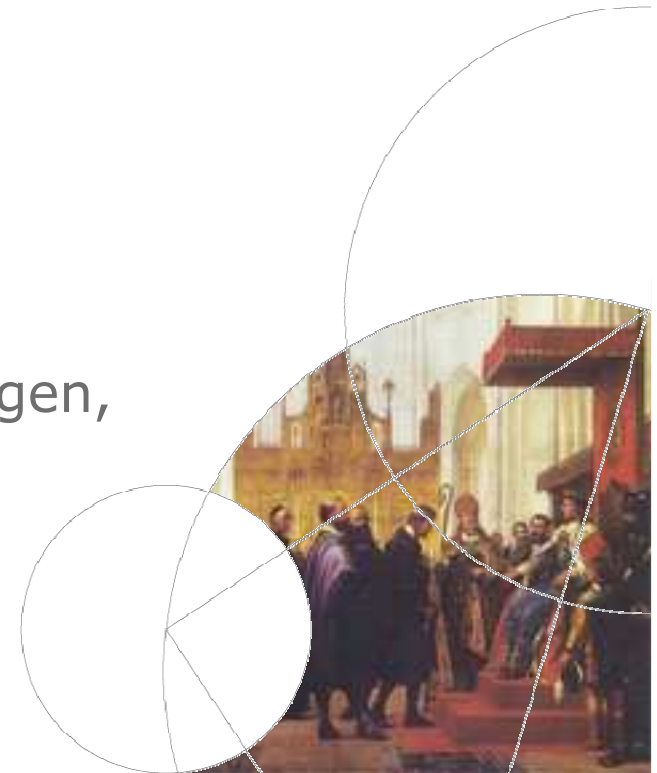
## Designing Law and Policy for the Transition to Sustainable Energy: The Case of Biofuels

University of Ottawa, 9 June 2011

# The EU Legal Toolbox for the Transition to a Low Carbon Future

**Anita Rønne**

Faculty of Law, University of Copenhagen,  
Anita.ronne@jur.ku.dk



# Overview

- 1) Setting the Context for Developments in EU
- 2) The European Union – The Lissabon Treaty
- 3) Evolution of EU Biofuel Policy
- 4) Legal Developments and the Different Measures
- 5) Overview of the Toolbox and Conclusions



# Setting the Context - A Triple Challenge

1) Security of supply is threatened by a high reliance of oil and gas

-> from politically unstable regions

↓  
2) Climate Change concerns. Current pledges not sufficient to stay below 2 degrees C

3) Fluctuating fossil-fuel prices

**1) Europe imports 54% of its energy**

**In 2030 = 70%**

**Denmark only EU27 MS that has self-sufficiency**

**Oil: 45% from the Middle East,**

**Gas: 40% from Russia, 30% from Algeria,**

**2) Global goal of keeping global temperature increase below 2°**

<b>1988-2003</b>	<b>15-30</b>	<b>USD/bl</b>
<b>2007</b>	<b>55</b>	<b>-</b>
<b>2008 – mid</b>	<b>140</b>	<b>-</b>
<b>2008 – late</b>	<b>40</b>	<b>-</b>
<b>2009 – Oct</b>	<b>&gt; 70</b>	<b>-</b>
<b>2011 -</b>	<b>~ 100</b>	<b>USD/bl</b>

## The Problem: Biofuels are transportation fuels

### The world

- Increasing demand and forecast to grow more rapidly than other sectors
- Depending upon oil
- No country has succeeded in decoupling economic growth and increasing demand in the transportation sector!
- Transport accounts for about 19% of global energy use and 23% of energy-related CO<sub>2</sub> emission
- IEA projects that transport energy use and CO<sub>2</sub> emissions are to increase by nearly 50% by 2030 and > 80% by 2050

### The European Union

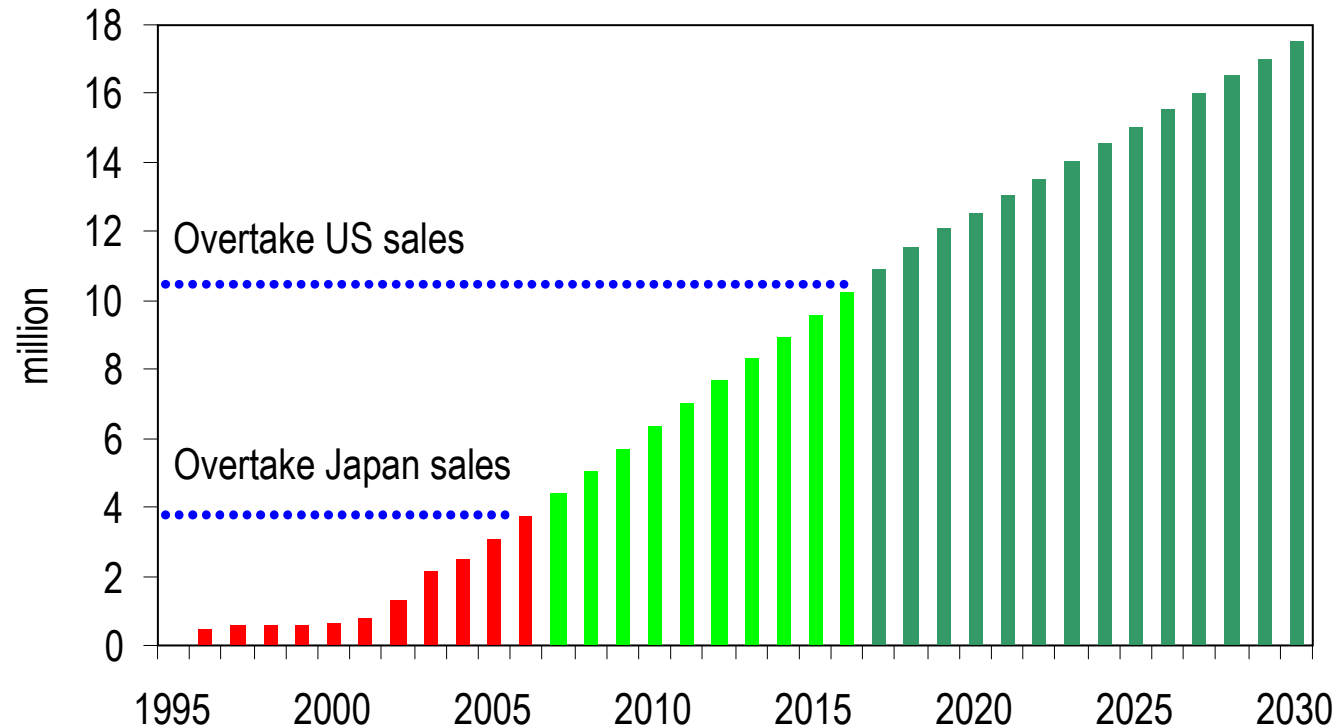
- From 1990–2005 - EU-27 emissions fell 7.9% BUT
- Transport emissions rose 27% !
- Represent roughly 1/3 of EU's total CO<sub>2</sub> emissions
- 98% of transport fuel consumed in the EU is accounted for by fossil sources
- Sector highly exposed to the global oil markets
- Biofuels can be produced in Europe

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# Increase in Car Sales

Without strong global action, car ownership worldwide is set to triple to over two billion by 2050.



**China: Car ownership jumps to 140 per 1 000 people from 20 today  
-> China's oil imports reach 13 mb/d in 2030**



# The European Union - briefly

Constitutional Framework:

## Treaty of Lisbon

entered into force 1/12 2009

- Amends the Treaty on the European Union (TEU)
- Amends the Treaty establishing the European Community (EC Treaty)
- *EC Treaty is now the Treaty on the Functioning of the European Union (TFEU)*

## Member states:

EU 15 (1994) → EU 25 (2004) →

EU 27 (2007)

## The legislative bodies (2 chambers)

- **The Council** (of Ministers) → one portfolio minister per MS
- **The European Parliament**
  - MEPs are directly elected
  - Almost same legislative powers as the Council

## The European Commission

- Executive branch of the EU, incl. proposing legislation and upholding EU law
- 27 commissioners,
  - incl. one for energy

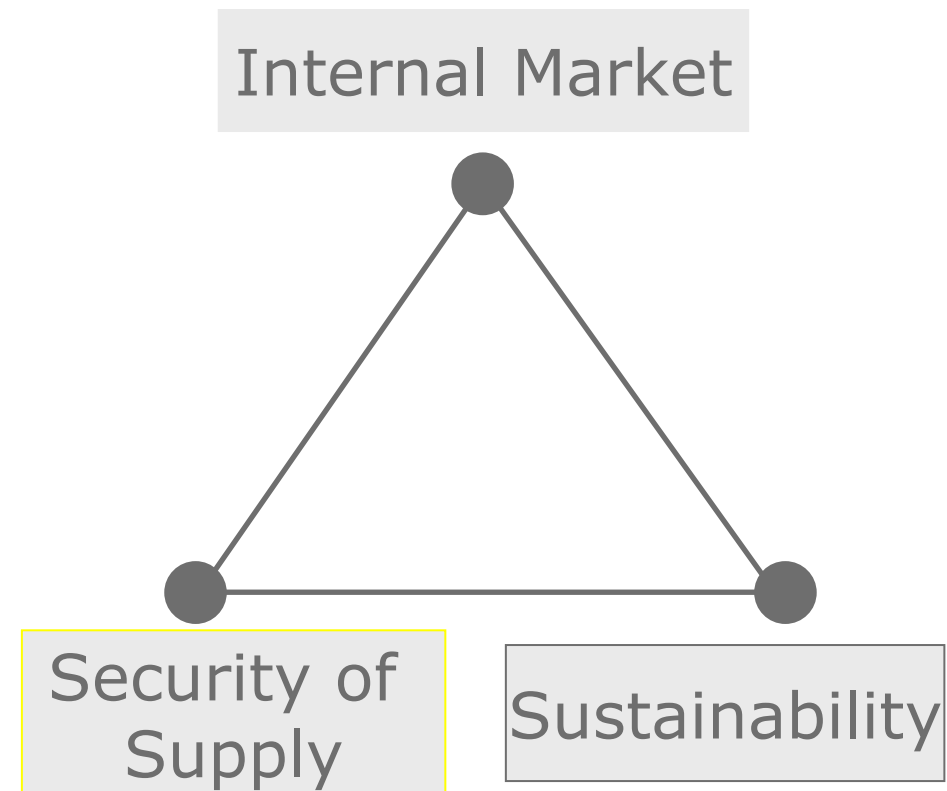


# Treaty on the Functioning of the European Union

## New Art. 194 on energy:

Union policy on energy shall aim, *in a spirit of solidarity*, to:

- Ensure the functioning of the internal market;
- Ensure security of supply;
- Promote energy efficiency and the development of renewable forms of energy;
- Promote the interconnection of energy networks



## Evolution of Biofuel Policy at EU level

1992: Common Agricultural Policy: Bioenergy crops on compulsory set-aside

1997: White paper on renewable energies

2000: Green paper on energy supply security

2001: Communication on alternative fuels for road transport

### **2003: Biofuels Directive**

Amendment of Energy Taxation Directive

2005: Biomass Action Plan

2006: EU Biofuels Strategy

2006: Action Plan on Energy Efficiency

2007: Renewable Energy Roadmap

2007: Biofuels Progress report

### **2007: Climate and Energy Package**

### **2009: New Renewable Energy Directive 2009/28/EC – all forms**

2009: Fuel Quality Directive amended

2010: Energy Strategy 2020

### **2011: Roadmap 2050**

2011: Energy Efficiency Plan

### **2011: Roadmap for Transport and later Roadmap on Energy**



## Evolution of Biofuel Policy at EU level

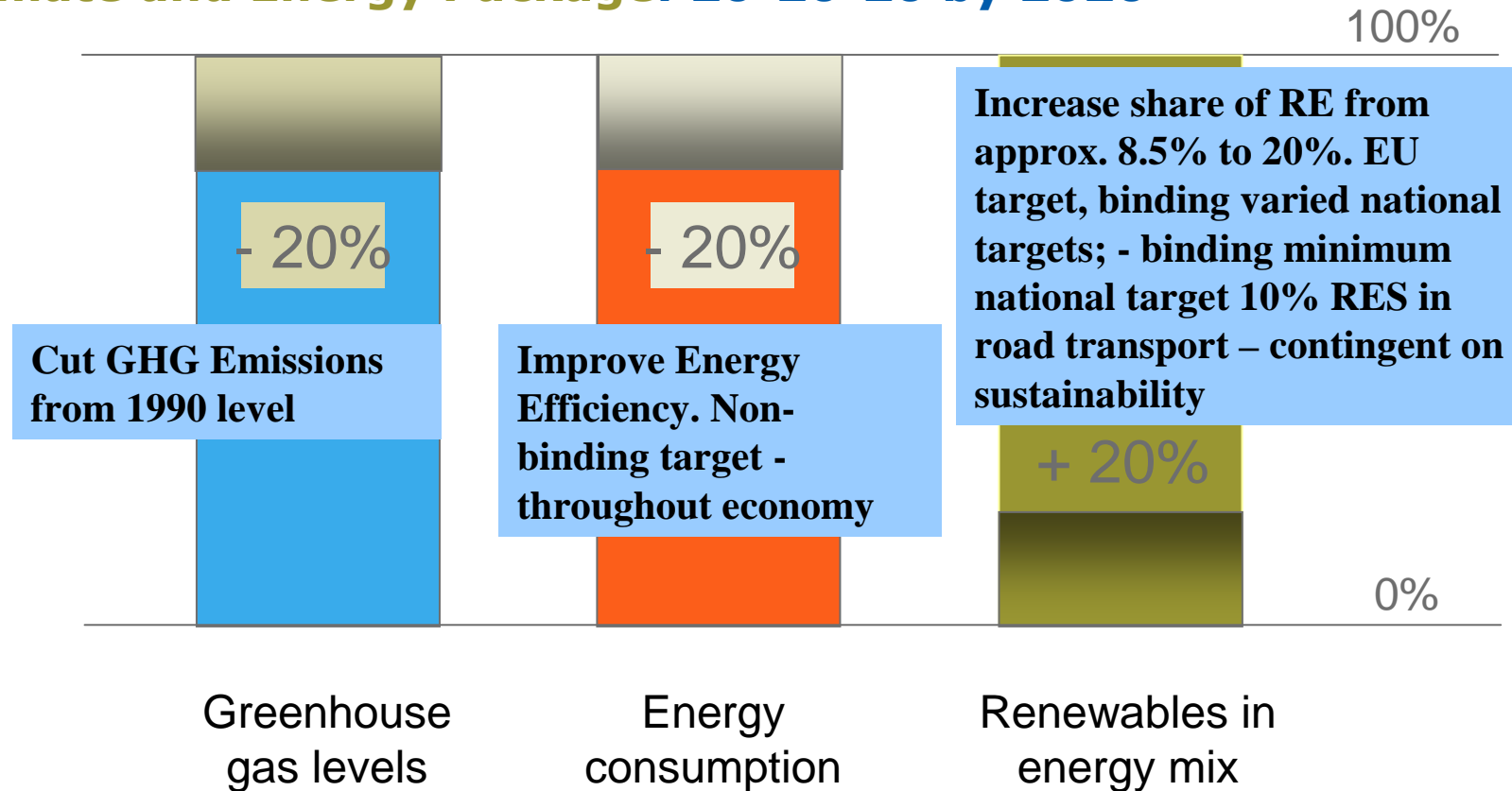
- **Directive 2003/30/EC on the promotion of biofuels**
  - ❑ Required MSs to set indicative targets for a min. proportion of biofuels to be placed on the market.
  - ❑ Targets were set at 2% in 2005 and 5.75% in 2010.
  - ❑ No requirement to achieve these targets, deviation allowed if MSs give a reasoned justification
  - ❑ Limited Environmental Safeguards – study environmental and social/economic consequences of increasing use of biofuels
- **2007- Biofuels Progress report:**
  - ❑ in 2005, biofuels reached only 1% of the market and
  - ❑ EU would not meet its 5.75% target for 2010
- **Stronger Action needed to be taken!!**
- The Climate and Energy Package
  - agreed in March 2007, and implemented in 2009



## Evolution of Biofuel Policy at EU level

*Integrated approach to climate and energy policy with the goal of transforming EU to a low carbon, energy efficient economy*

### Climate and Energy Package: 20-20-20 by 2020



## The new regulatory pillars

1. Directive 2009/28/EC of 8 May 2003 on the **promotion of the use of renewables** (a single directive for all RE)
2. Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the **taxation of energy products** and electricity (new proposal in 2011)
3. Directive 2009/30/EC of 23 April 2009 as regards the **specification** of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce GHG emissions
4. Directive 2009/33/EC of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles

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# The Renewable Directive 2009/28/EC: **Objectives & Scope**

Increase the use of renewable energy for:

- Reducing GHG emissions
  - Increasing security of energy supply
  - Advancing technological development
  - Promoting opportunity for regional development
- 
- It covers all RES: biofuels, biomass, biogas, wind, solar, geothermal, ocean energy and hydropower
- 
- Sectors: transport fuel, heating & cooling, electricity
- 
- In force June 2009
  - MS must have implemented in national leg. by Dec 2010



## The Renewable Directive 2009/28/EC:

- It sets national binding targets for RE
- Some measures for achieving these targets
- Sustainability criteria for biofuels and bioliquids

### **Mandatory targets for renewable energy shares by 2020**

- Overall EU share of 20 % (varies from MS to MS)
- **10 % fuel transport share binding for every MSs**
  - **All types of RE are eligible**
- Gives signal for the future for investors, car makers, industry and the oil market



# Measures for Achieving the Targets

- National action plans
  - (Binding template, 1st NAPS submitted in 2010)
- Requires reduction of administrative and regulatory barriers (financial support schemes ok)
- Requires improvements in provision of information and training
- Creates sustainability criteria for biofuels
- Reporting requirements
- Options for flexible mechanisms for trading/cross-financing to achieve targets



## Sustainability criteria for biofuels

- Biofuels can only be counted towards RE obligations if they meet certain environmental criteria
- to prevent mass investment in cheaper but environmentally harmful biofuels
- The sustainability criteria apply both to domestically and imported biofuels
  
- Ensure a minimum GHG saving
  - (at least 35% growing to 50%)
- Avoid losses of highly biodiverse land
- Prevent conversion of high carbon-stock land
- Reporting obligations for operators (to be detailed by the commission)
- In 2012 Commission to report on estimated impacts on air, soil and water
- No further inclusion of other environmental or social concerns but the Commission to report biannually

AND MORE TO COME TOMORROW!

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# The taxation Directive 2003/96/EC

MSs may apply total or partial exemptions or reductions in the level of taxation to, *inter alia*,

- Biofuels
  - These tax concessions are considered as state aids,
  - which may not be implemented without prior authorization by the Commission in order to avoid undue distortion of competition and over-compensation.
- Revision of Directive proposed on 13 April 2011
- To split the energy tax into 2 parts:
    - CO2 tax and Energy consumption tax
    - Biofuels will be fully exempted from CO2 tax if meeting the sustainability requirements
    - MSs may also exempt biofuels from energy consumption tax until 2023



# Fuel Quality Directive 2009/30/EC

- Improve air quality and reduce GHG-emissions through environmental standards for fuel.
- Introduces for 1st time a reduction target for GHG- emissions from fuels.
- Requires fuel suppliers to cut life-cycle greenhouse gas emissions from road fuels by 6 % over the decade from 2010 to 2020
- Commission will assess progress in 2012 and may propose additional cuts
- Maximum vapour pressure limit kept unchanged (ethanol blends), but Member States may release the limit, subject to approval by the Commission
- Sustainability Criteria as in the RES-Directive



## European Energy Policy – 2010/2011 ->

Europe 2020 Strategy confirms 20-20-20 by 2020 targets

7 flagship initiatives → **“Resource Efficient Europe”**

- 2020 Energy Strategy
- Energy Infrastructure Package
- Energy Efficiency Plan
- **Roadmap for moving to a competitive low carbon economy in 2050**
  - defines pathways as to how to reach EU's objective of cutting GHG emissions by 80-95% of 1990 levels by 2050,
  - directions to each sector
- **2050 Roadmap on Transport**
- **2050 Roadmap on Energy - in the autumn**
- External energy policy



## 2050 Roadmap on Transport of 28 March 2011

Among the major objectives:

- Reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60% by 2050

By 2050, key goals include

- No more conventionally-fuelled cars in cities
- 40% use of sustainable low carbon fuels in aviation
- At least 40% cut in shipping emissions
- A 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport



## Overview of the toolbox

- 1) New EU Constitutional Framework
- 2) Evolution of and monitoring via EU Biofuel (& RE) Policy
  - Strategies, Action Plans, Roadmaps
  - White and Green Papers, Progress Reports,
- 3) Implementation through legal Instruments - many different
  - Command and control, economic, collaboration, communication
  - New Directives and Revisions of existing ones
    - From indicative to binding targets, set up national plans, streamlining procedures, reporting obligations, sustainability criteria
    - Tax exemptions, state aid
    - Fuel Standards
- 4) Research and Developments (and information programmes)
  - Programmes and Funds
  - Demonstration Projects
  - Biofuel Technology Platform



## Conclusions:

- EU sets the framework, MSs formulate national RE-policies
- EU uses a phased approach
  - indicative->binding, reporting -> requirements
- EU promotes and regulates much more intensively, and at all stages in the biofuel chain
- The toolbox is very comprehensive
  - (but also focus on administrative and other barriers)
- EU has a desire to show the way by example



**Thank you for your  
attention!**

**Anita Rønne  
Faculty of Law  
University of Copenhagen,  
Denmark  
Email:  
[anita.ronne@jur.ku.dk](mailto:anita.ronne@jur.ku.dk)**

