



# The EU Strategy To Integrate Renewable Energy

*Prof. Maria da Graça Carvalho*  
Member of European Parliament



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- Cost of inaction according to the Stern report will be 5-20% of global GDP, an order of magnitude more than the cost of action.
- Price rises in for oil and gas have revealed the importance of competing for energy resources and the profitability of energy efficiency and renewables.

European Council underlines the importance of achieving the objective of increasing temperature to no more than 2 degree C. Developed countries should continue to take the lead in reducing GHG emissions.



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# The overall strategy

On 10 January 2007 the European Commission proposed a **European Strategy for energy and climate change**

Its contribution to a global agreement for the period beyond 2012:

- Set precise legally binding targets
- 20% GHG emission in 2020
- 30% if there is an international climate agreement
- 20% share of renewables by 2020
- 20% more energy efficiency by 2020
- To stay inside the triangle of the 3 pillars of the EU energy policy
  - Security of supply
  - Competitiveness
  - Sustainability



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**On January 2008 the European Commission proposed a Directive on the promotion of the use of energy from renewable sources:**

**Objective: to get to 20% RES by 2020**

**The attainment of this objective will require a massive growth in all three renewable energy sectors: electricity, biofuels, and heating and cooling, supplemented by a minimum target for biofuels of 10%.**

**"Burden" sharing between the Member States, on the basis of the current share of RES and the GDP projections**

The Commission puts forward a **five-step** approach:

- The share of renewable energy in 2005 is modulated to reflect national starting points and efforts already made for Member States that achieved an increase of above 2% between 2001 and 2005
- 5.5% is added to the 2005 modulated share for every Member State
- This remaining effort is weighted by a GDP/capita index
- These two elements are added together to derive the full renewable energy share of total final energy consumption in 2020



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## The establishment of certificates of guarantees of origin for ever sectors derived from RES

A guarantee of origin was created to facilitate domestic or international trade in renewable electricity and to increase transparency in consumers choice between renewable and non renewable electricity.

2001/77/EC established minimum requirements but their use is voluntary but standards are applied differently across Member States thus increasing transaction costs.

The JAN 2007 package examined the standardisation of the information requirements on the guarantee of origin to create a unique and robust certification which is accurate, reliable and fraud resistant.

This proposal was included in the JAN 2008 package



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	Share of energy from renewable sources in final consumption of energy, 2005 (S2005)	Target for share of energy from renewable sources in final consumption of energy, 2020 (S2020)
Belgium	2.2%	13%
Bulgaria	9.4%	16%
The Czech Republic	6.1%	13%
Denmark	17.0%	30%
Germany	5.8%	18%
Estonia	18.0%	25%
Ireland	3.1%	16%
Greece	6.9%	18%
Spain	8.7%	20%
France	10.3%	23%
Italy	5.2%	17%
Cyprus	2.9%	13%
Latvia	34.9%	42%
Lithuania	15.0%	23%
Luxembourg	0.9%	11%
Hungary	4.3%	13%
Malta	0.0%	10%
The Netherlands	2.4%	14%
Austria	23.3%	34%
Poland	7.2%	15%
Portugal	20.5%	31%
Romania	17.8%	24%
Slovenia	16.0%	25%
The Slovak Republic	6.7%	14%
Finland	28.5%	38%
Sweden	39.8%	49%
United Kingdom	1.3%	15%

# Renewables



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## The establishment of a market for such certificates

### **Risks associated:**

- Uncertainty surrounding distributional impacts, and
- Risks associated with changes to support schemes

Could have an impact on growth, innovative technology, promotion measures and reduce the pressure on governments to remove barriers to large scale renewable technology.

### **Benefits:**

- Transfer of Guarantees of Origin could lead to a net financial transfer towards countries with a lower target (low income countries) and a relatively high renewable potential.

**The Commission's preferred the option is to create the regime enabling the transfer of GOs and to leave sufficient discretion to Member States in terms of the level and pace of transferability.**



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A SPECIFIC 10% target for sustainable renewable based fuels in transport, in each Member State, subject to the fact that biofuels are sustainable and that the 2nd generation biofuels becomes economically available

Biofuels cost more than other forms of renewable energy and without a separate minimum target for biofuels, they will not be developed.

→ **This matters because greenhouse gas trends are worst in transport, and biofuels are one of the few measures realistically making a significant impact on greenhouse gas emissions from transport in the short and medium term.**

- This measure aims at securing consistency in transport fuel specifications and availability.
- Member States which do not have the relevant resources to produce biofuels will easily be able to obtain renewable transport fuels from elsewhere.
- It is more desirable that Member States meet their biofuels needs through a combination of domestic EU production and imports from third countries.



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## With sustainability criteria for biofuels

The Directive sets out stringent environmental sustainability criteria to ensure that biofuels that are to count towards the European targets are sustainable and that they are not in conflict with the Commission's overall environmental goals.

In particular:

- 1) They must achieve a minimum level of greenhouse gas savings (at least 35%).



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# The Strategic Energy Technology Plan

**Objective : To develop the energy technologies which will allow for a new industrial revolution and deliver competitive growth with low carbon emissions**

**The Set Plan issued in November 2008 proposes to deliver the following results:**

- 1) The joint strategic planning will enable a better combination of efforts and would be the seed to bring together our researcher and our industry.**



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# The Strategic Energy technology Plan

## 2) For **effective implementation** more powerful mechanisms are needed.

- European Wind Initiative: focus on large turbines and large systems validation and demonstration (relevant to on and off-shore applications).
- Solar Europe Initiative: focus on large-scale demonstration for photovoltaics and concentrated solar power
- Bio-energy Europe Initiative: focus on 'next generation' biofuels within the context of an overall bio-energy use strategy.
- European CO2 capture: focus on the whole system requirements, including efficiency, safety and public acceptance, to prove the viability of zero emission fossil fuel power plants at industrial scale.
- European Electricity Grid Initiative: focus on the development of the smart electricity system, including storage, and on the creation of a European Centre to implement a research programme for the European transmission network.
- Sustainable Nuclear Fission Initiative: focus on the development of Generation-IV Technologies



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# The Strategic Energy technology Plan

## 3) Resources

Two challenges need to be addressed: **mobilising additional financial resources**, for research and related infrastructures, industrial-scale demonstration and market replication projects; and **education and training** to deliver the quantity and quality of human resources required to take full advantage of the technology opportunities that the European energy policy will create

At the end of 2008 the Commission intends to present a *Communication on financing low carbon technologies* that will address resource needs and sources, examining all potential avenues to leverage private investment, including private equity and venture capital, enhance coordination between funding sources and raise additional fund



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# The Strategic Energy technology Plan

**4) International cooperation** should be a fundamental pillar in our European strategy.

We need to take our international cooperation on energy technology to a new dimension. The measures proposed in the SET-Plan (e.g. the Steering Group, European Industrial Initiatives and the European Energy Research Alliance) should bring about a reinforced international cooperation strategy.

Also need to ensure that the EU increasingly speaks with one voice in international fora, where appropriate, to achieve a more coherent and stronger partnership effect.



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**Knowledge, intelligence and political action allows Europe to simultaneously achieve :**

- . Sustainability**
- . Security of energy supply**
- . Competitiveness of the industry**
- . Quality of life**



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