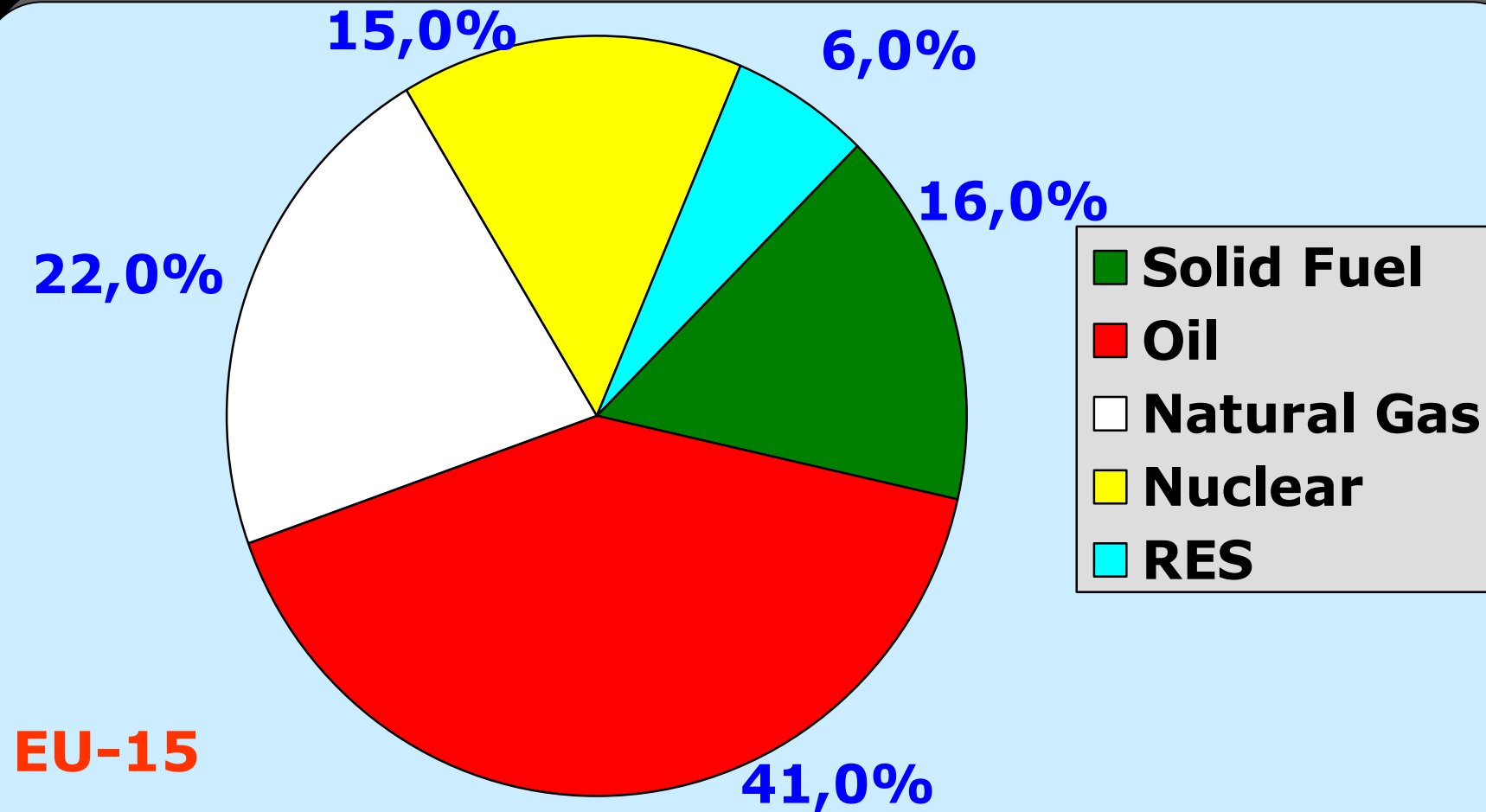




# EU strategy and instruments for promoting renewable energy sources



# European Union energy mix in 1998 (EUROSTAT 2001)

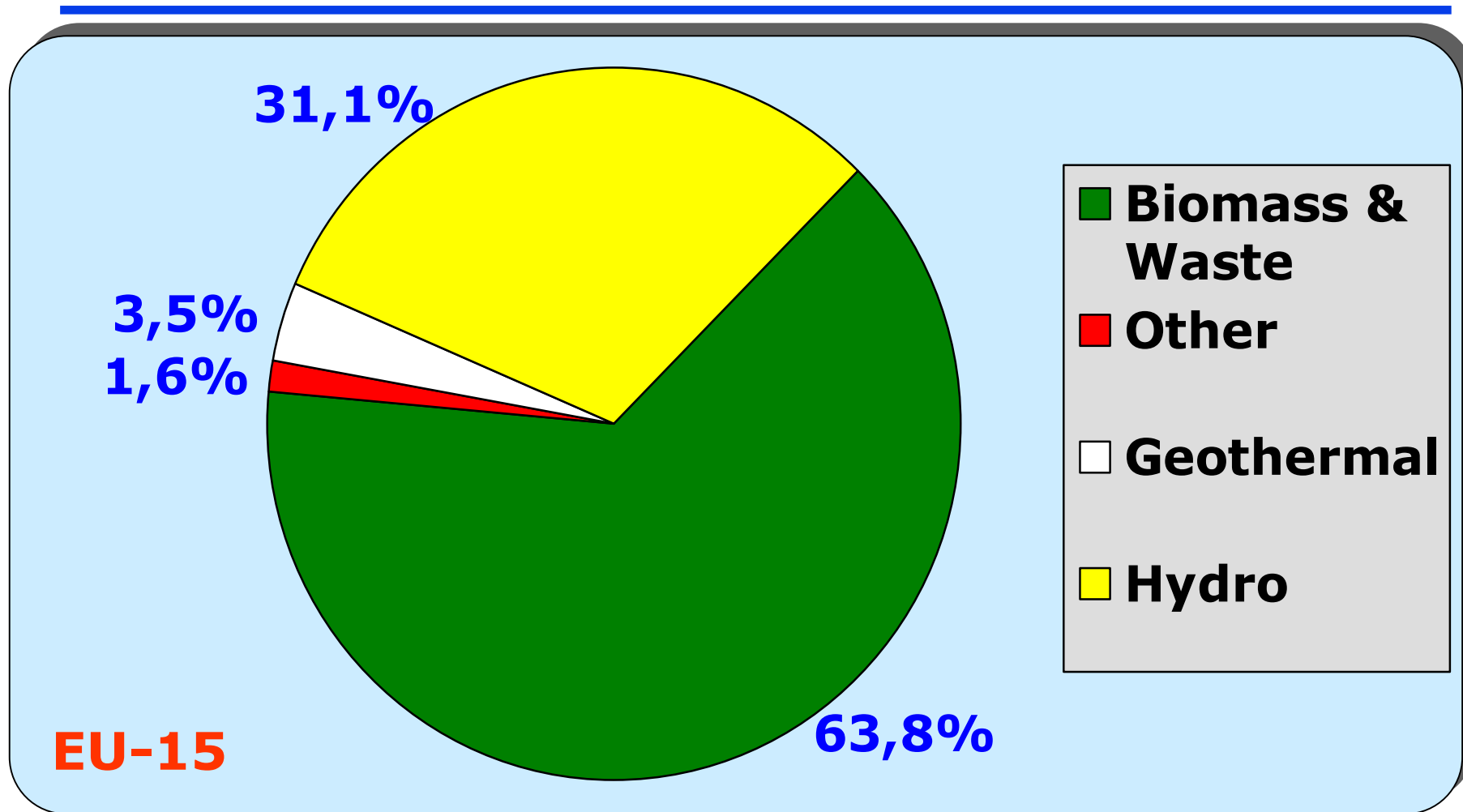


# RES Contribution in 1998 (EUROSTAT 2001)

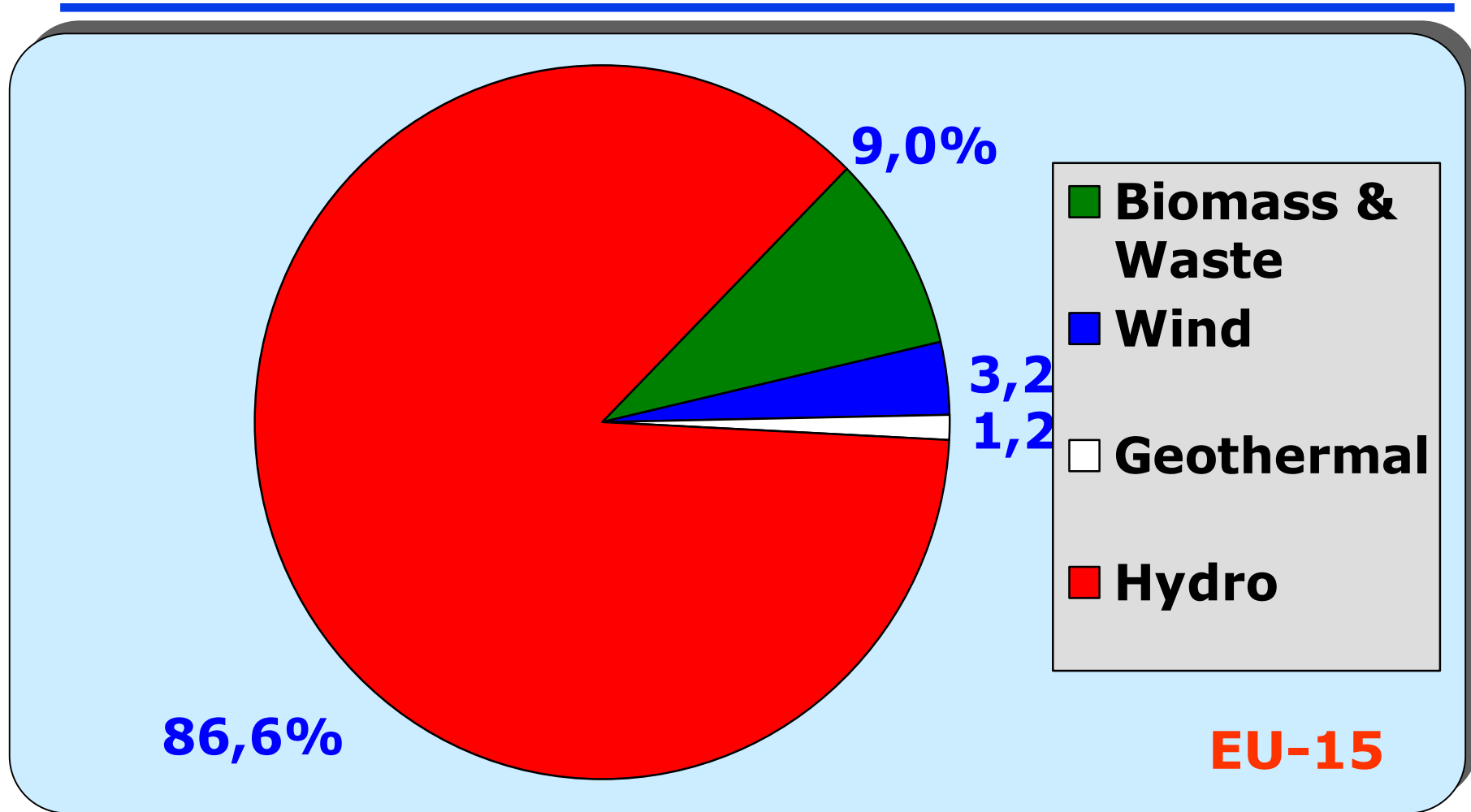
| Country      | Total Inland Consumption % | Total Electricity Generation % |
|--------------|----------------------------|--------------------------------|
| B            | 1,3                        | 1,3                            |
| DE           | 2,6                        | 4,8                            |
| DK           | 8,4                        | 10,4                           |
| GR           | 5,0                        | 8,2                            |
| E            | 6,3                        | 18,9                           |
| FR           | 6,9                        | 13,0                           |
| IRL          | 1,9                        | 5,6                            |
| I            | 7,7                        | 18,1                           |
| L            | 1,6                        | 13,8                           |
| NL           | 1,9                        | 4,3                            |
| A            | 22,8                       | 70,4                           |
| P            | 15,9                       | 36,5                           |
| FIN          | 21,5                       | 32,2                           |
| S            | 28,7                       | 48,9                           |
| UK           | 1,0                        | 2,5                            |
| <b>EU-15</b> | <b>6,0</b>                 | <b>14,3</b>                    |



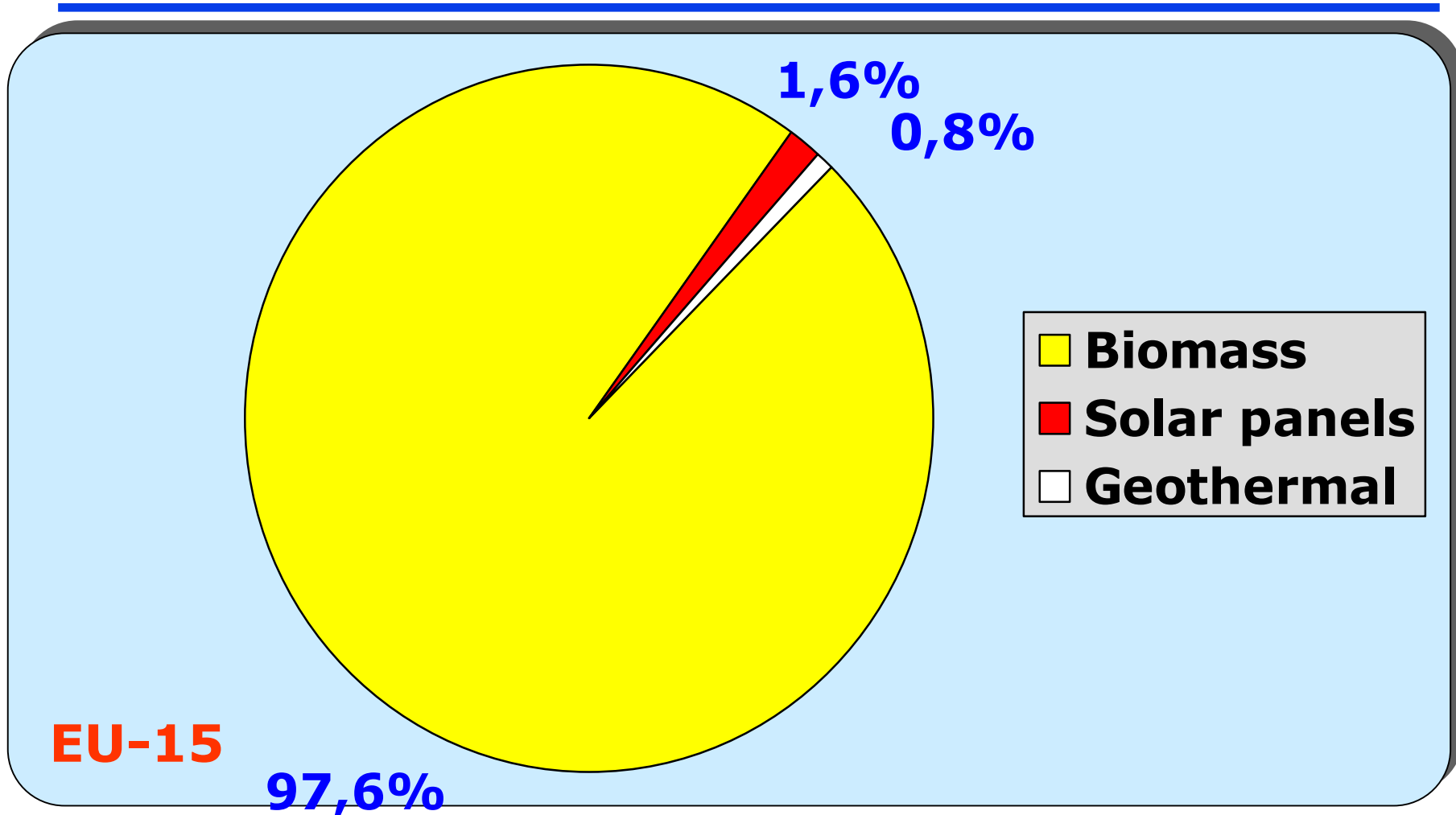
# Primary Energy Production of RES in 1998 (EUROSTAT 2001)



# Electricity RES Energy Production in 1998 (EUROSTAT 2001)



# Heat Energy Production of RES in 1998 (EUROSTAT 2001)



# Clear Energy Policy Targets

## ○ Meeting Kyoto Objectives

8% CO<sub>2</sub> reduction between 2008 - 2012 compared to 1990

## ○ Doubling the Share of Renewable Energies

From 6% to 12% of gross inland energy production 2010

## ○ Improving Energy Efficiency

Increase by 18% until 2010 compared to 1995

## ○ Maintaining Security of Supply



# How to Achieve the Energy Targets?

## The Tools

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- **White Paper on Energy Policy**
- **White Paper on RES & Action Plan**
- **Green paper on security of supply**
- **Draft Directives**
- **Support programmes**



# White paper on Energy Policy 1/2

Com(95) 682 Final January 1996

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## Objectives:

- Environmental protection
- Security of Energy Supply
- Industrial Competitiveness

**RE technology consistent with these objectives**



# **White paper on Energy Policy 2/2**

## **(The renewable content)**

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- Invites National and Community authorities to adopt policies mobilizing significant resources for RES**
- Foresees specific programmes or subsidies least harmful to competition**
- Acknowledges that RES constitute in the long term the main sustainable energy source and calls for a strategy on RES development**



# How to Achieve the Energy Targets?

## The Tools

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- Draft Directives
- Support programmes



# White Paper on Renewable Energies

COM(97)599, 26.11.97

- Sets out Community Strategy and an **Action Plan** to double the share of Renewable energy from 6 to 12 % in Gross Inland Production by 2010
- Establishes Sub-targets in the various sectors.
- Preserves flexibility in view of Community enlargement.
- Instigates a tri-annual review procedure.



# Action Plan



- Internal market measures
- Reinforce Community policies
- Support measures
- Campaign for take off
- Improve co-ordination with Member States



# How to Achieve the Energy Targets?

## The Tools

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# Green Paper on Security of Energy Supply

On 29 November 2000, the Commission adopted a Green Paper on supply security, in order to launch a debate on the :

- geopolitical
- economic &
- environmental

stakes involved in securing the E.U.'s energy supply.

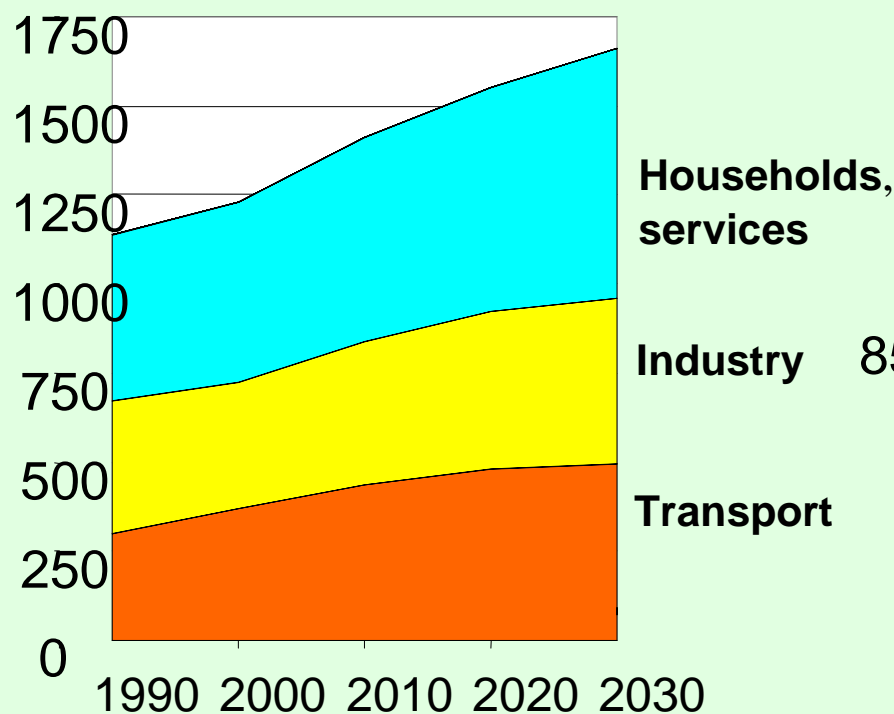


# The Basic Facts About Energy

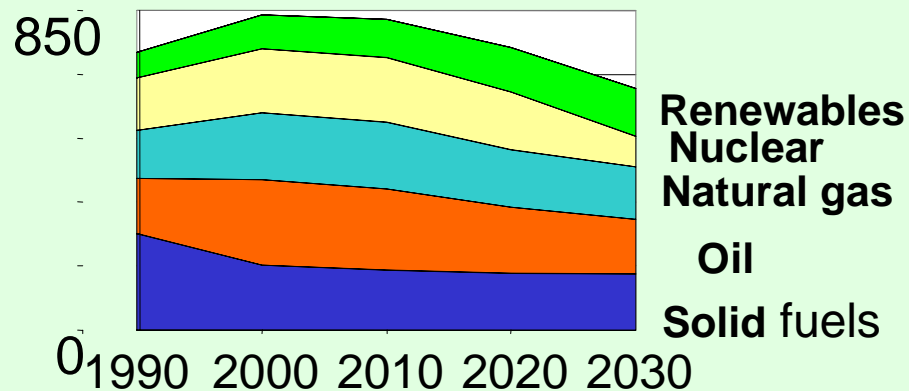
Energy self sufficiency is impossible to achieve

Europe-30: (in mtoe)

*Consumption*



*Production*



**An energy-intensive economy: consumption + 1 to 2%/ year**



# Tomorrow's priorities:

## A. Curbing the growth in demand by:

- **Completing the internal market**
- **Review of energy taxation**
- **Energy saving and diversification plans**
- **Dissemination of new technologies**



# Tomorrow's priorities:

## B. Managing the dependence on supply by:



- **Development of less polluting energy sources**

**New and renewable** forms of energy are the first options for action in relation to security of supply, the environment and rural populations

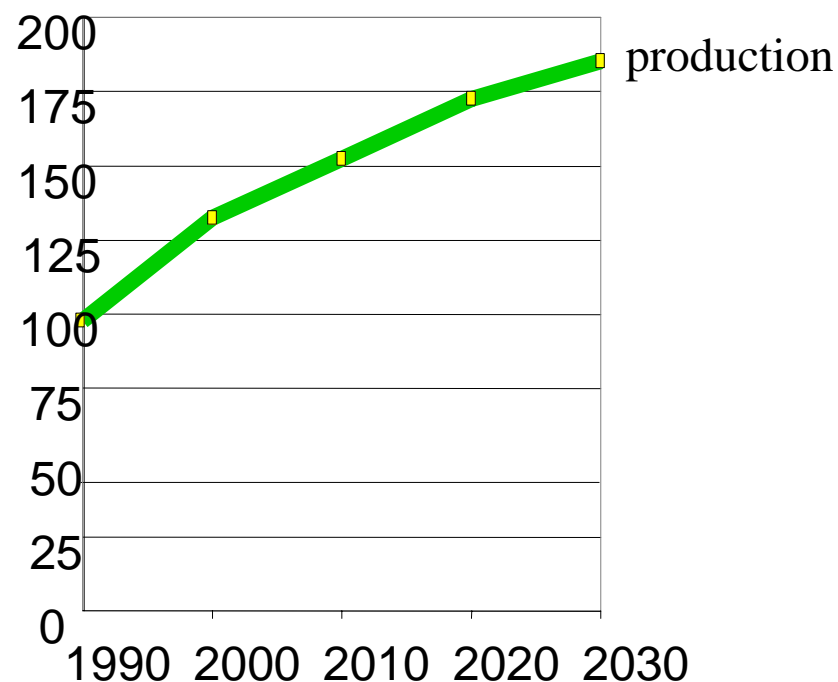
- **Maintaining access to resources**

- **Ensuring external supplies**

# New and renewable energy sources: a political priority

- Renewables offer a potential to be exploited
- EU target: 12% of total energy consumption in 2010
- They have differing growth prospects
- Their takeoff assumes that financial or tax incentives will be provided

*Europe-30: renewables  
(reference scenario in mtoe)*



# Development of less polluting energy sources

## Targets and Associated instruments

**Target : 12% of energy consumption in 2010**

### **mobilising support for renewables**

Renewable do not have the same development facilities that other sectors had.

Aid for RES is justified on the grounds that conventional energies do not contribute much towards the external cost they entail.

RES could be financed by temporary levies on a share of the profits of other conventional operators in the energy sector



# How to Achieve the Energy Targets?

## The Tools

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- **White Paper on Energy Policy**
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- **Support programmes**



# Draft Directives

- **Directive on the promotion of electricity from renewable energy sources in the internal electricity market**

- **Directive on Combined Heat and Power (CHP)**

**Target: doubling the share of CHP from 9% (1994) to 18% (2010) Special provision for renewable.**

- **Directive on Liquid Biofuels**

**mandate for a minimum use of biofuels and their de-taxation**



# The Directive on the promotion of electricity from renewable energy sources

## 1. National Targets for electricity from renewable energy sources ('RES-E')

- **Member States** are **obliged** to **establish national targets** for **future consumption** of **RES-E**. The Directive gives in its **Annex** *indications* for these national targets.
- If the targets are met, **consumption of electricity from renewable energy sources** will rise from 14 % in 1997 to **22% by 2010**
- The **Commission** will **monitor** progress made by Member States towards **achieving** their **national targets**



# The Directive on the promotion of electricity from renewable energy sources

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## 2. Support systems for RES-E

- The Directive **abstains** from proposing a **harmonised Community wide support system** for RES-E
- The Directive **obliges** the Commission to make *if necessary* a **proposal** for such a **harmonised support system within 4 years**, taking into account the **experiences** gained in Member States with the operation of the **different national support systems**



# The Directive on the promotion of electricity from renewable energy sources

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## 3. Technical issues to promote RES-E

The Directive **obliges** Member States to :

- assure **guaranteed access** for RES-E
- issue **guarantees of origin** of RES-E
- assure that the **calculation of costs** for connecting new producers of RES-E should be **transparent and non-discriminatory**.



# How to Achieve the Energy Targets?

## The Tools

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- **White Paper on Energy Policy**
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# Support Programmes on Renewables

## 1. The Vth Framework Programme (ENERGIE),

The main objective is technological development  
Budget of 1,042 MEuro (1998 - 2002)

## 2. The ALTERNER II Programme

Fills the gap between demonstration & commercialization -  
Non technological actions and studies aiming at  
overcoming non technical barriers.  
Budget of 74 MEuro (1998- 2002)

## 3. Regional Policy & Structural Funds

Budget dedicated for deployment of RES in most  
promising EU Regions Budget of 487 Meuro (2000-2003)



# Conclusions (1/3)

**Development of RES  
should become a political  
priority for the European  
Union**



# Conclusions (2/3)

**The EU strategy for RES  
will be successful provided  
political impetus is  
seconded by adequate and  
timely legal and financial  
initiatives**

# Conclusions (3/3)

**To attain the ambitious targets set for 2010, apart from public financing, private investment in RES will be crucial in the coming years**

