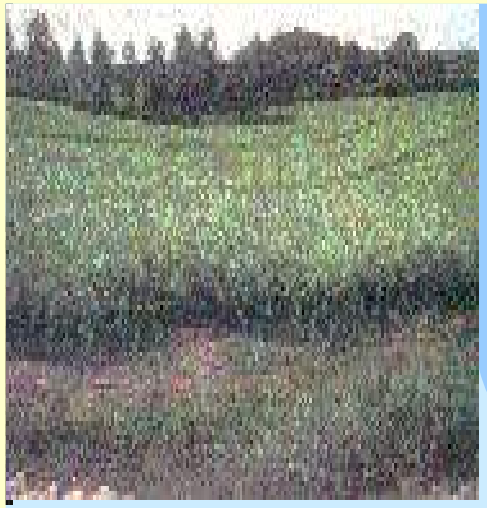
European Commission



The European strategy for Implementation of Biofuels for Transport in Europe (including SET-Plan)

A. González Finat
Principal Advisor
DG TREN

31 January 2008

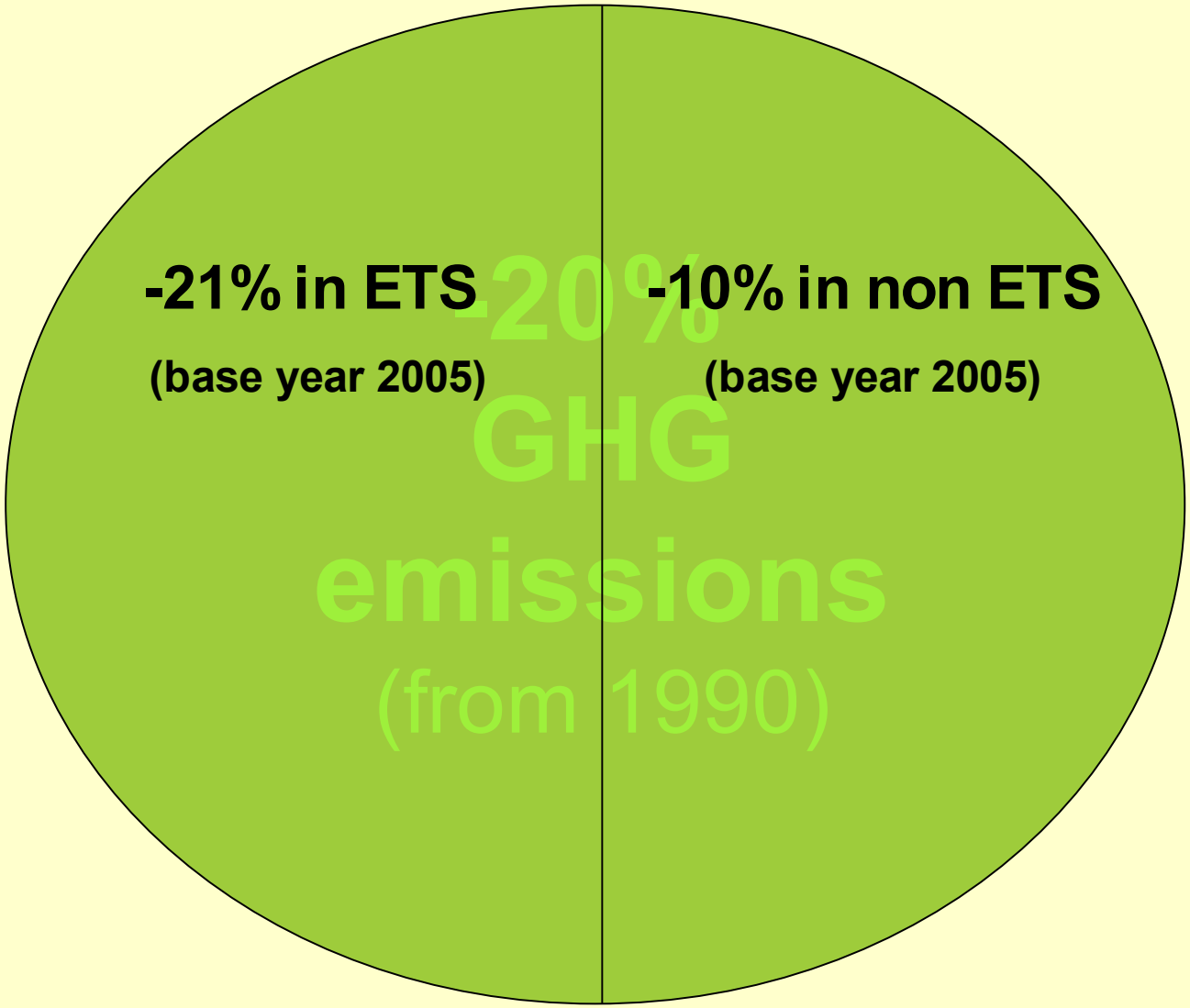
Energy Policy for Europe

• Green Paper	March 2006
•Energy Efficiency Action Plan	Oct 2006
• Strategy European Energy Review + Road map to renewables	Jan 2007
• European Council	March 2007
• Internal Market (3rd package)	Sept 2007
• SET-Plan	Nov 2007
• Climate & Energy Package	Jan 2008

The context

-20%
GHG
emissions
(from 1990)

The context


-21% in ETS
(base year 2005)
-10% in non ETS
(base year 2005)
-20%
GHG
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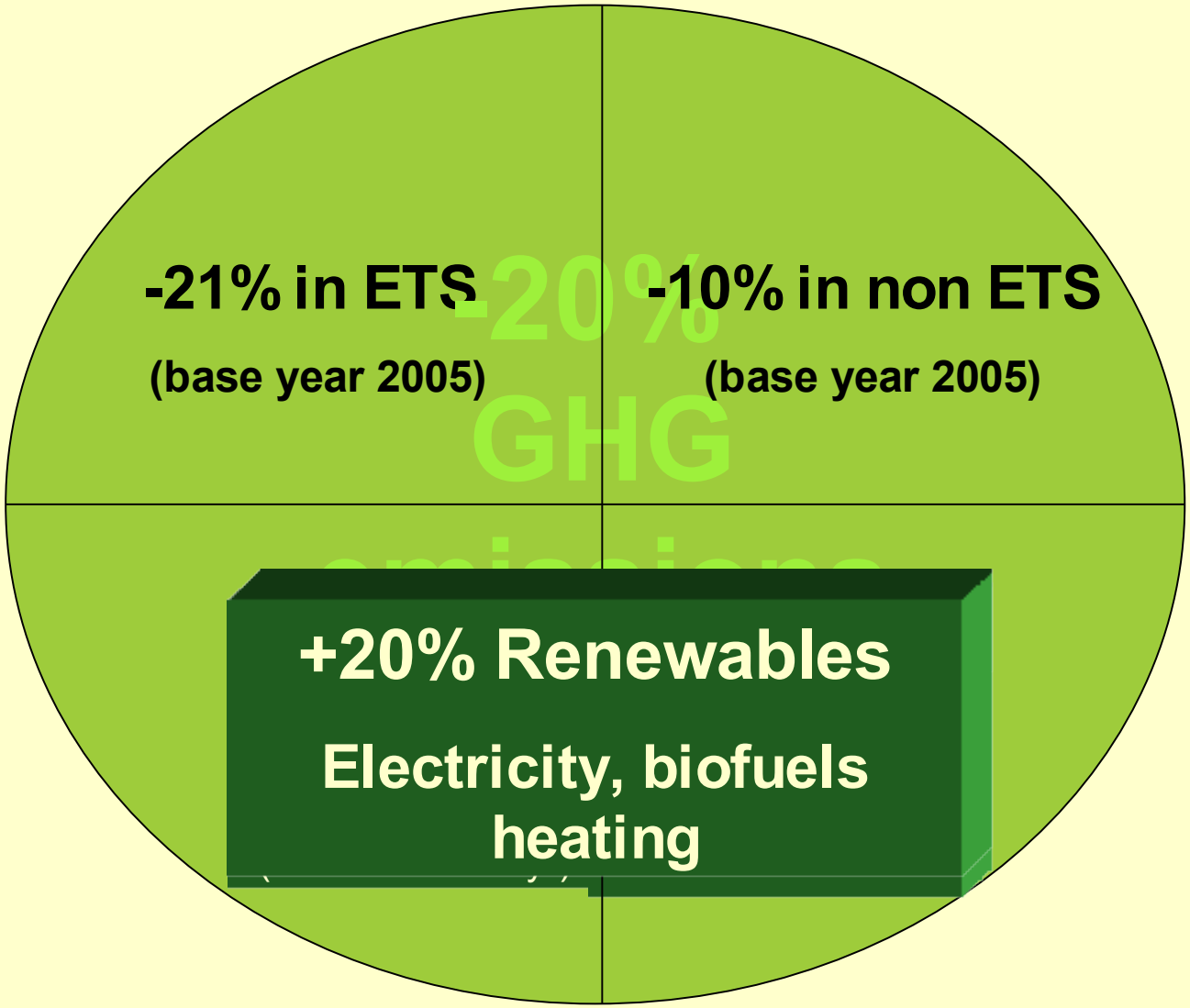
(from 1990)

The context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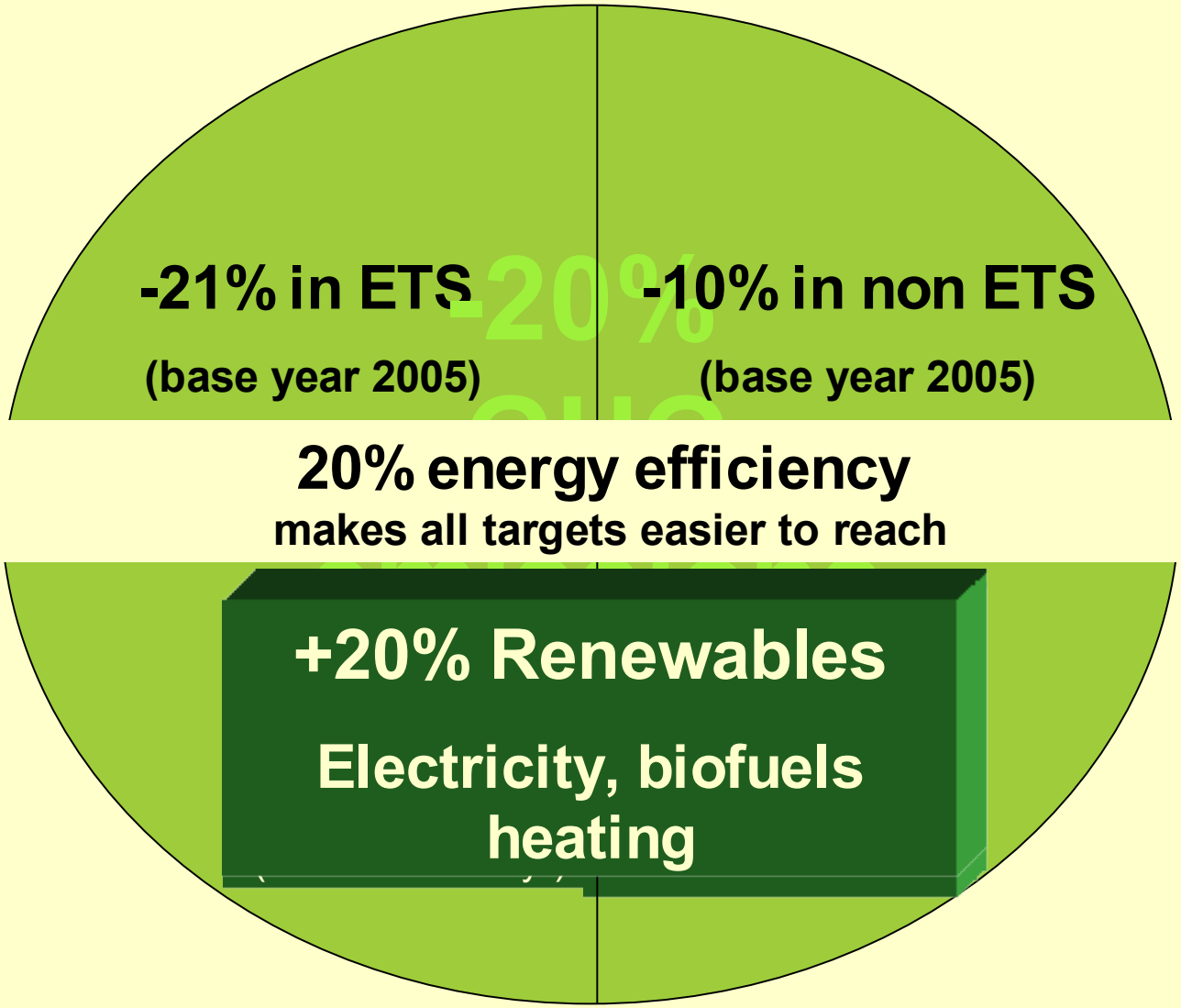
+20% Renewables
Electricity, biofuels
heating

The context


-21% in ETS
(base year 2005)
-10% in non ETS
(base year 2005)
20% energy efficiency
makes all targets easier to reach
+20% Renewables
Electricity, biofuels
heating

The renewables Directive

1. **Sets mandatory national targets for renewable energy shares, including 10% biofuels share, in 2020 (***Articles 3 and 5)*

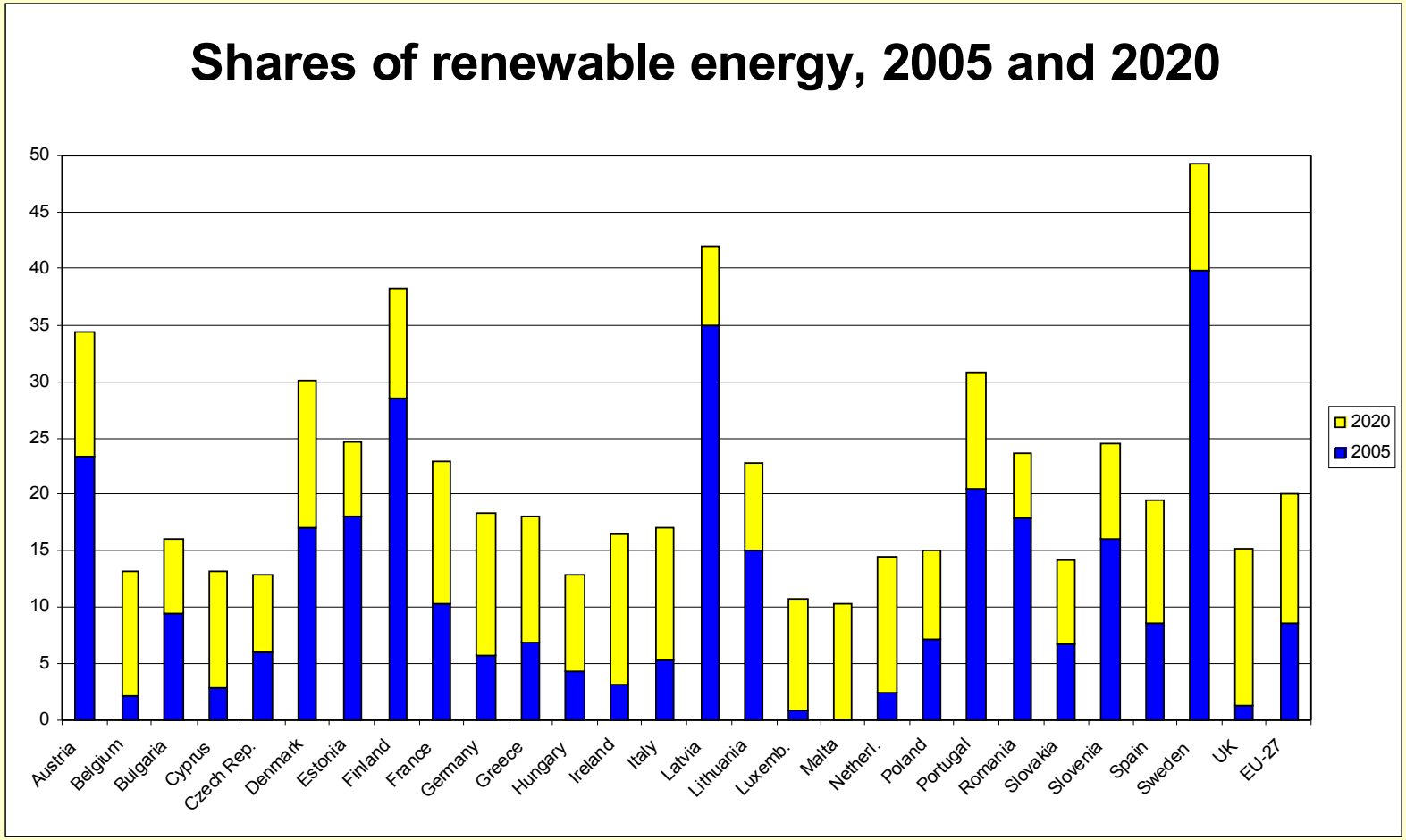
3. **Requires national action plans** *(Article 4)*

5. **Standardises "guarantees of origin" (certifying the renewable origin of electricity or heat) and enables the transfer of these to provide flexibility to Member States** *(Articles 6, 7, 8, 9 and 10)*

7. **Requires reduction of administrative and regulatory barriers to the growth of renewable energy** *(Article 12),* **improvements in provision of information and training** *(Article 13)* **and improves renewables' access to the electricity grid** *(Article 14)*

9. **Creates a sustainability regime for biofuels** *(Articles 15-18)*

National renewables targets



National action plans

- **National action plans**
  - Sectoral targets now set by Member States
  - Measures adequate to achieve the targets including planned development of biomass resources
  - Provides policy stability for investment

Promotion of biofuels (1)

Sustainability criteria for biofuels :

- GHG savings – minimum of 35%
- No raw material from undisturbed forests, biodiverse grassland, nature protection areas (unless taken harmlessly)
- No conversion of wetlands and continuously forested areas for biofuel production (to protect carbon stocks)
- All EU biofuels must meet "cross compliance" environmental rules

Promotion of biofuels (2)

- **Consequences of not meeting the criteria:**
  - Biofuels do not count towards targets
  - Not eligible for national biofuel obligations
  - Not eligible for tax exemptions and similar financial support

- **Verification of compliance:**
  - Responsibility of Member States
  - To reduce the administrative burden, Commission can decide that “certification schemes” give reliable proof of compliance
  - If so, all Member States have to accept these certificates as proof

Promotion of biofuels (3)

- **Other measures (Article 18):**

  - **Introduction of diesel blends with 7% biodiesel (2010) and 10% biodiesel (2014) - limit today is 5%**

  - **Member States to give a bonus in their biofuel obligations to biofuels from wastes, residues, cellulosic and ligno-cellulosic material**

Why a SET-Plan? (1)

Technology is vital to achieve our policy objectives

Today we are falling short:

- not on a pathway to meet our policy objectives
- lack of innovation drivers for the industry
- insufficient energy research budgets in the EU

Intrinsic weakness in energy innovation:

- long lead times, incumbent technologies, system inertia
- no natural market appetite for new energy technologies
- social acceptance issues and up-front integration costs

Why a SET-Plan? (2)

Europe should lead the world:

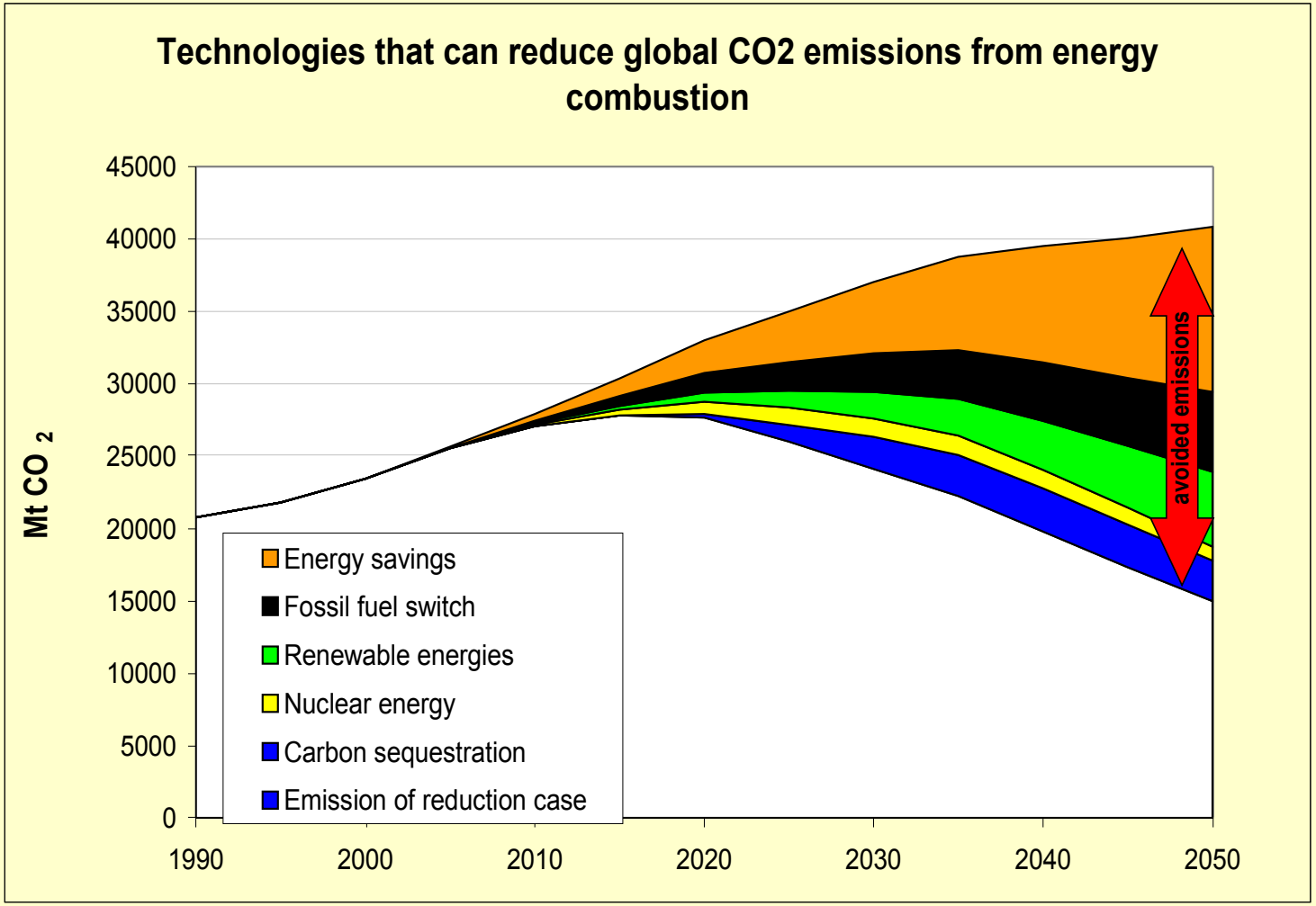
- growing international competition
- MSs working alone will struggle
- mastery of technology vital to competitiveness

Time is of the essence:

- decisions taken now will have lasting consequences
- cost of inaction will be much higher in the long run

We need to use the ambition and the targets of the Energy Policy for Europe to create a new European policy for energy technology

Reduction pathways - its is possible!



Source: GCNRS/LEPII-EPE/RIVM/MNP/ICCS-NTUA/CES-KUL study

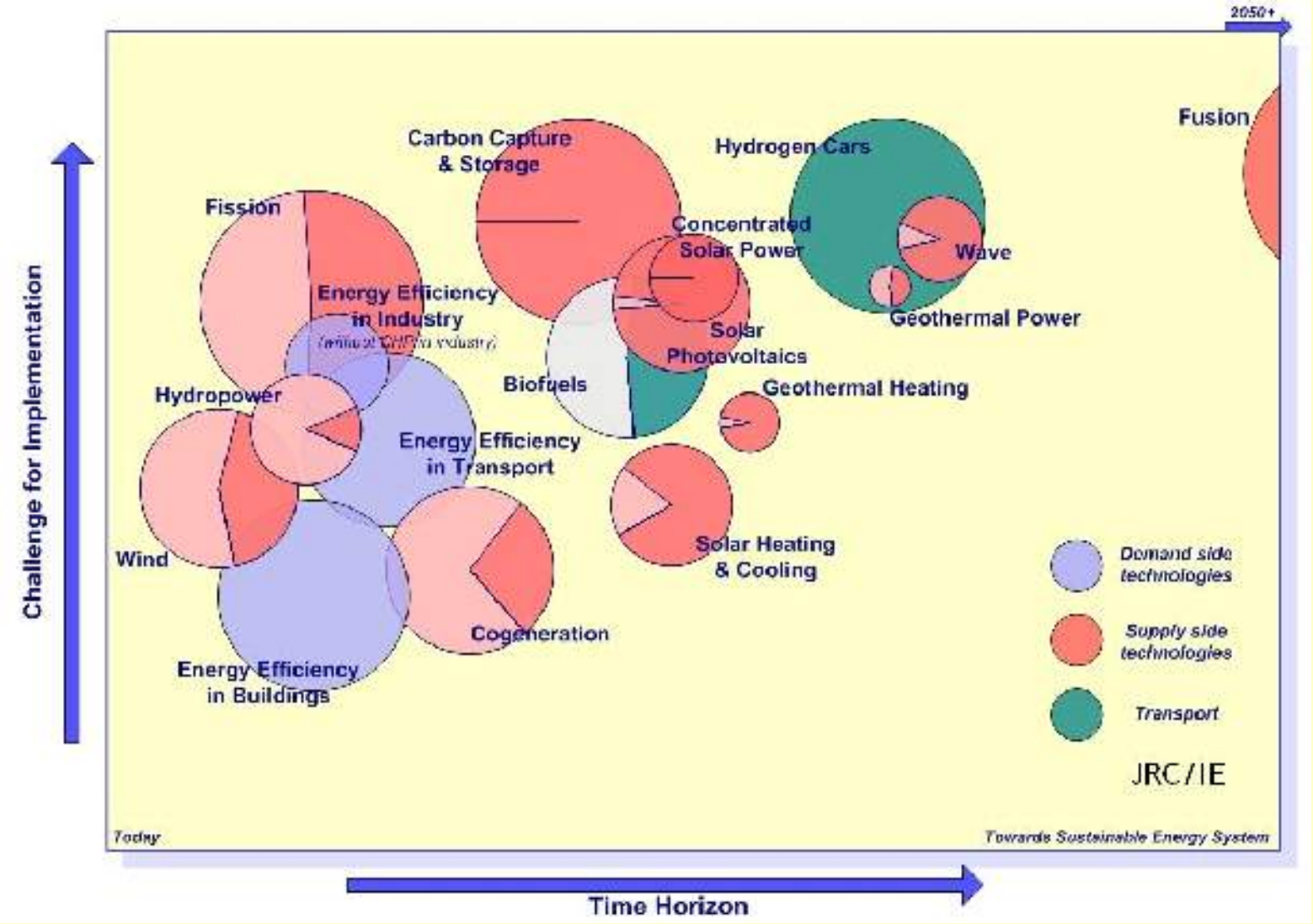
Achieving the political vision - What has to happen?

- First and foremost, energy efficiency
- 2020 targets: reinforced research and pro-active support measures
- 2050 vision: develop new generation of technologies through breakthroughs
- A collective endeavour to deliver results
- Actions for industry, Member States, the European Community and at global level

The Community as enabler

- Pooling of resources and sharing of risks
- Strategic planning for technology and energy system
- Regular and reliable data and information
- Coherence and critical mass in international cooperation
- Address common problems and non-technological barriers

Technology Map for the SET-Plan



Some key technological challenges

- First and foremost, **energy efficient** buildings, appliances, equipment, industrial processes and transport
- Developing **biofuels**, in particular 2nd generation **biofuels**
- Getting large scale **offshore wind** competitive within the short term
- Getting **photovoltaic** electricity competitive to harness solar energy
- Creating a European **smart, bi-directional, RES friendly grid**
- **Fuel cell and hydrogen** technologies for decentralised generation and transport
- **Sustainable coal** and gas technologies, particularly carbon capture and storage
- **Fourth generation fission nuclear** reactors and future fusion technology

The SET-Plan

- Measures
- Joint strategic planning
- Effective implementation
- Increase in resources both financial and human
- International cooperation

FP7 - ACTIVITY ENERGY 3: RENEWABLE FUEL PRODUCTION

Areas to be addressed under TREN demonstration calls:

- AREA ENERGY.3.1 : **1st GENERATION BIOFUELS PRODUCTION**
- AREA ENERGY.3.2 : **2nd GENERATION BIOFUELS PRODUCTION**
- AREA ENERGY 3.3 : **BIOREFINERY**
- AREA ENERGY 3.4: **BIOFUELS FROM ENERGY CROPS**
- AREA ENERGY.3.5 : **ALTERNATIVE ROUTES TO RENEWABLE**
- **FUEL PRODUCTION**
- AREA ENERGY.3.6 : **BIOFUELS USE IN TRANSPORT**
- AREA ENERGY.3.7 : **CROSS-CUTTING ISSUES**

FP7 - ACTIVITY ENERGY 3: Topics already opened

In 2007 Call

2. *Bioethanol (residue use, cost, energy efficiency)*
3. Biodiesel (same + FAEE + use of glycerol)
4. *Hydrogenated oils*
5. Synthetic biofuels

In 2008 Call

8. Biomethane (anaerobic digestion)
9. Bioethanol from lignocellulosics

In 2009 Call

12. Biorefineries (possibly with US)

Conclusions

The European Commission strongly supports Bioenergy & biofuels with legislative actions & various programmes for technological advances & market penetration

High oil prices = high profile for bioenergy

Bioenergy's progress is solid but not fast enough to meet objectives

Plenty more work to be done at all levels

THANK YOU FOR YOUR ATTENTION !!