



EU Sustainable Transport Policy – EU Strategic Energy Technology Plan

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Systems**

24/03/2010

Directorate-General
for Mobility
and Transport



- **Europe 2020:**
“A European strategy for smart, sustainable and inclusive growth”. (COM(2010) 2020)

- **Smart growth** - knowledge and innovation economy
- **Sustainable growth** – resource efficient, greener, more competitive economy
- **Inclusive growth** – fostering high employment, social and territorial cohesion
- EU flagship initiative: “**Resource efficient Europe**” aim to de-couple economic growth from use of scarce resources
- Strategic themes: Climate, energy and mobility

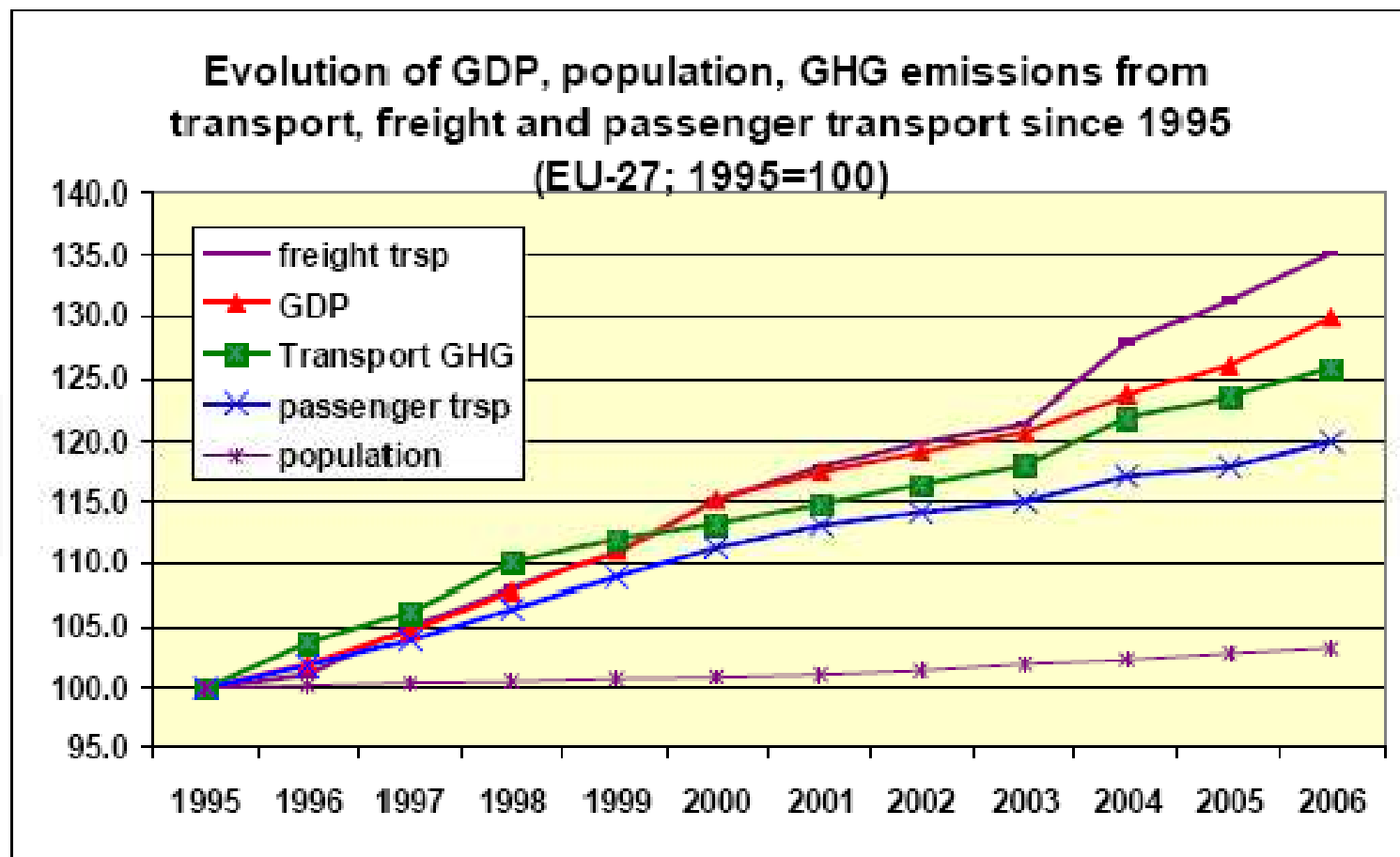
● Energy trends and challenges

- Worsening climate change and emissions
- Increasing dependence on imported oil and other fossil fuels
- Rising and volatile energy costs
- Loss of competitiveness

● **Transport trends and challenges**

- **Ageing (public funds, skills' shortage, preferences)**
- **Migration and internal mobility**
- **Environmental challenges (emissions, global warming)**
- **Increasing scarcity of fossil fuels (dearer, dirtier)**
- **Urbanisation (congestion, local pollution)**
- **Global trends (population, globalisation)**

● GHG emissions



● Policy objectives

- Safe, secure and high quality energy and transport systems
- Well maintained and integrated networks
- More environmentally sustainable transport
- Global leader in energy and transport services and technologies
- Developing the human capital
- Smart prices
- Sound planning

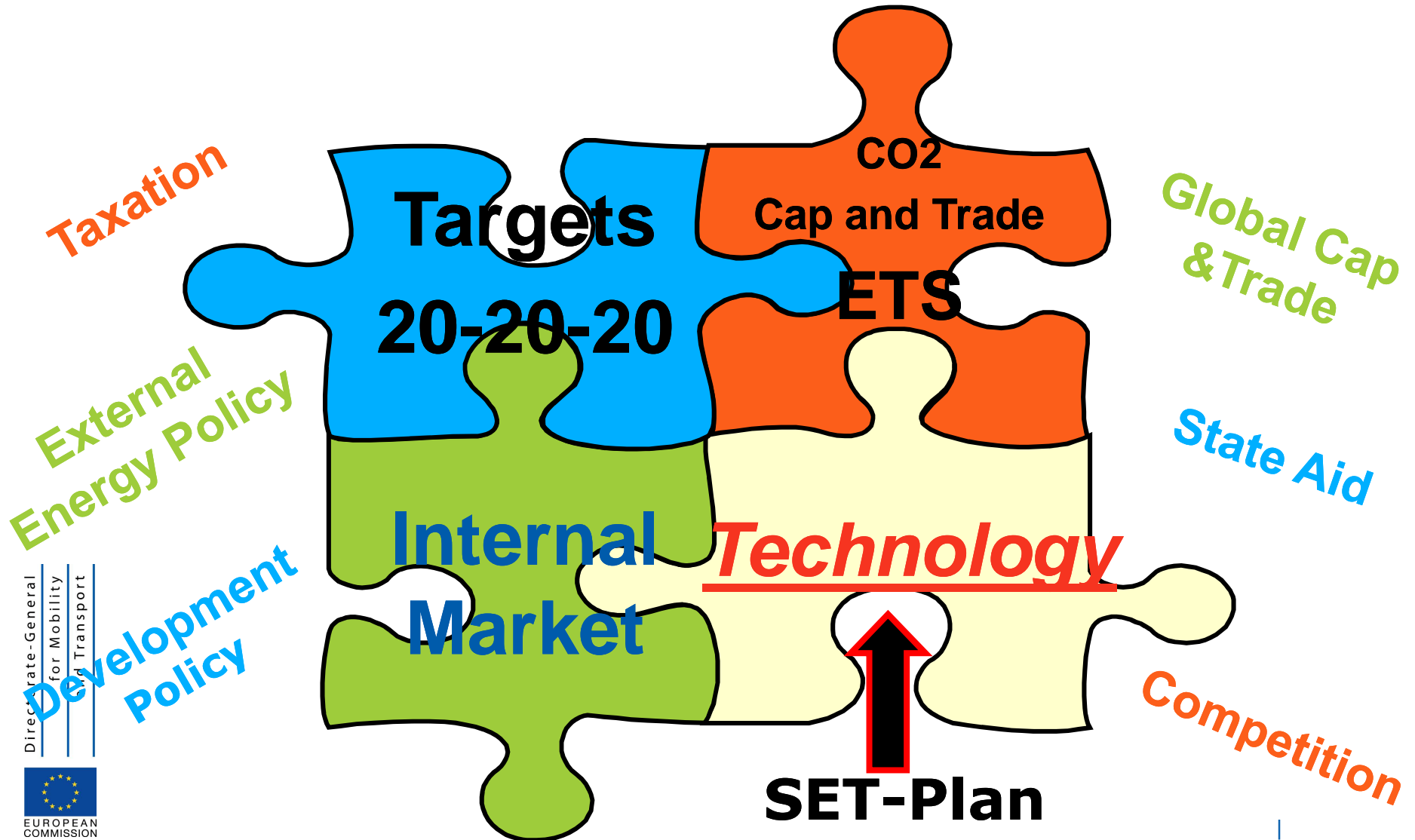
● Policy instruments

- Infrastructure policy: which priorities?
- Pricing and funding: internalisation
- Technology policy: RTD&D; standards
- Legislation: harmonisation and market opening
- Information, training and education
- Governance: the urban dimension
- External policy: global action and neighbouring policy

● Internalisation is important

- Take into account all externalities and provide fairer comparison with other sectors
- Give incentives to 'right' behaviour
- Promote the 'right' technologies
- Provide signals for investments
- Collect resources for better transport

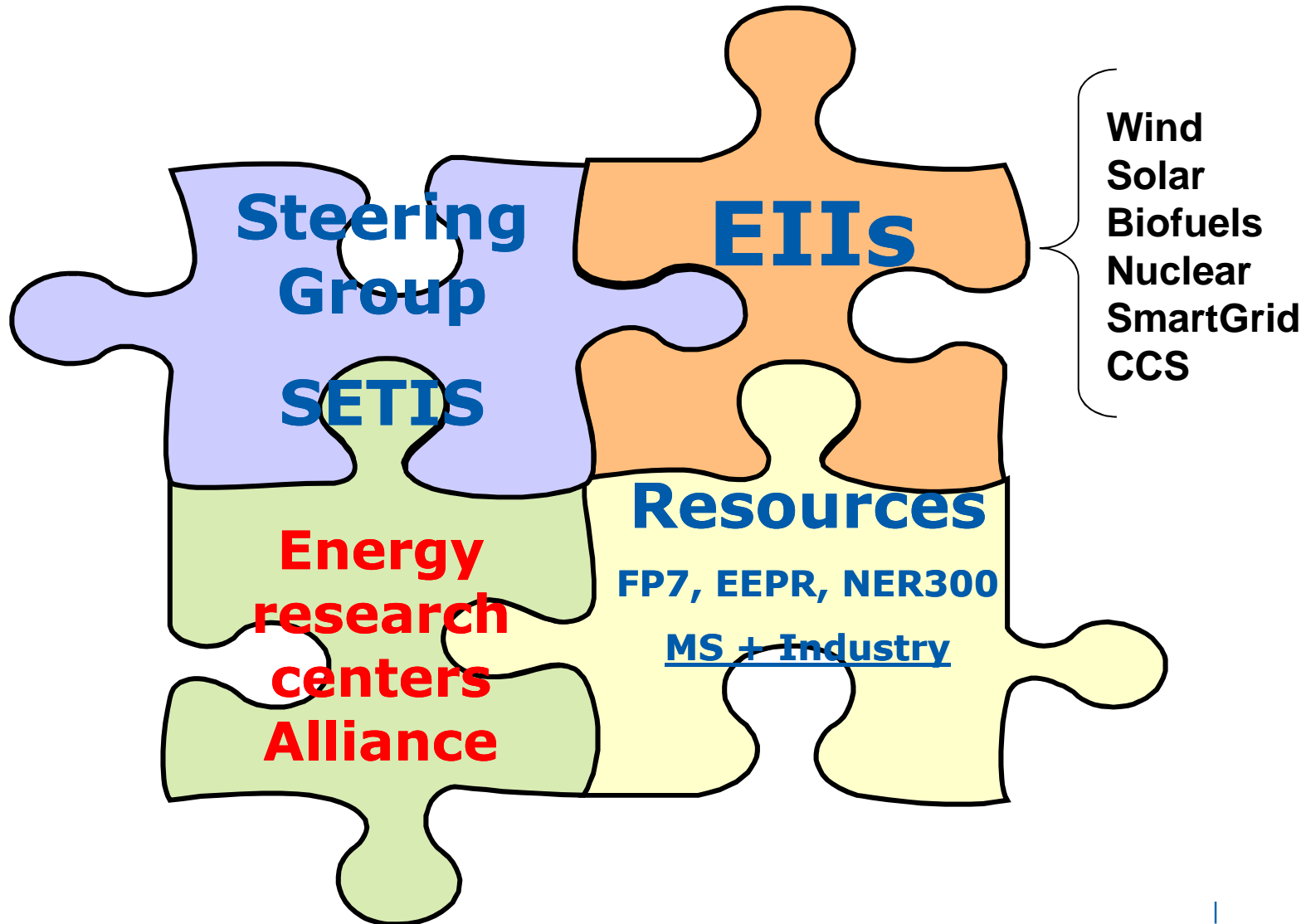
The European energy policy jigsaw



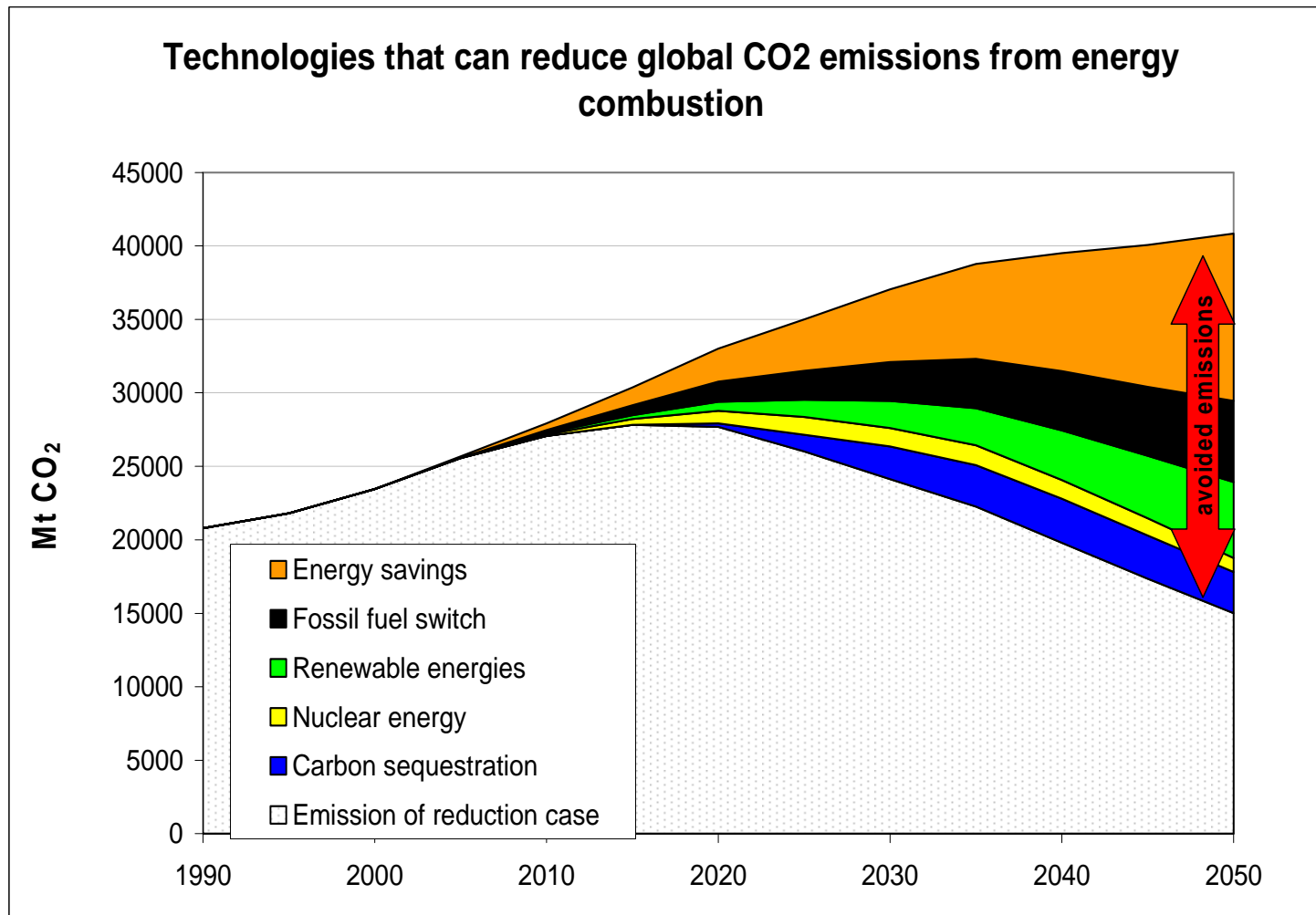
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● SET-Plan lines of action



Possible, in theory ...



● Investment in energy technologies has to increase

Need for a step change in investment - from 3b€ to 8b€ per year (public and private)
= an additional investment of 50b€ over the next 10 years

[IEA World Energy Outlook 2009: additional 10.5 trillion \$ over baseline up to 2030]

Translates into huge global market opportunity

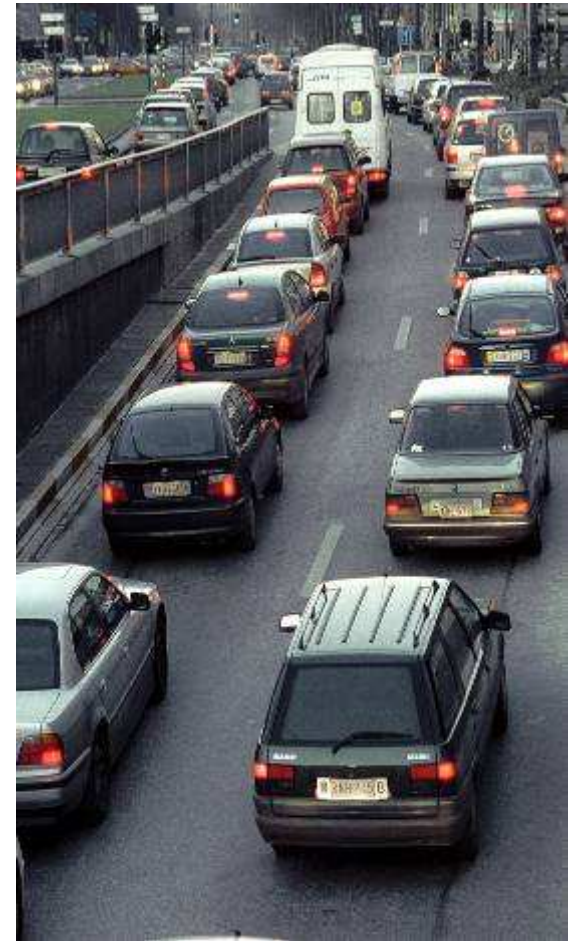
● EU Transport Policy

- ‘The Future of Transport’
 - » Evaluation of past policies
 - » Focus Groups meetings and report
 - » “TRANSvisions” study on future scenarios
 - » 1st Stakeholders’ Conference
 - » Communication on the Future of Transport
 - » Consultation of stakeholders
 - » 2nd Stakeholders’ Conference
 - » Studies and research
- White Paper in 2010

Sustainable transport & energy efficiency in Europe: a priority for cities and towns

Transport and energy efficiency are of highest priority for local authorities

- 72% of the Europe's citizens live in towns and cities
- 85% of Europe's GDP is generated in cities
- Some 40% of Europe's CO₂ emissions from road transport and 70% of other pollutants are due to urban traffic





- **An integrated approach is needed to address these transport challenges:**

- **Promote market introduction of clean, energy efficient, safe and competitive vehicles;**
- **Link urban, inter-urban and international networks;**
- **Promote Intermodal and Co-modal transport;**
- **Develop and demonstrate new technologies : Clean, efficient vehicles; ITS applications for traffic management and information;**
- **Develop and disseminate Best Practice: Support towns and cities in achieving their sustainable transport objectives;**

● Recent Commission Transport Policy Initiatives

- Freight Transport Logistics Action Plan;
- European Economic Recovery Plan
- Action plan for the deployment of Intelligent Transport Systems in Europe
- Green Paper - TEN-T: A policy review - Towards a better integrated transeuropean transport network...
- Green Paper “A sustainable future for transport...”
- Action Plan on Urban Mobility

● Perspectives for Alternative Fuels

Market share

Aim for full substitution of oil in the long term

➔ Consistent step-up process required

Biofuels: Domestic resource base; mature for the broad market
Broadening of resource base with 2nd generation biofuels
➔ Political support, economic incentives, pilot plants

Hydrogen: Diversification of resource base as energy carrier
Improvement of energy efficiency with fuel cells
➔ Research + development, demonstration projects

Electricity: Diversification of resource base as energy carrier
Improvement of energy efficiency with electric motors
➔ Demonstration, early markets, research + development

● **RTD&D on alternative fuels**

- **Demonstrating 70.000 bio-ethanol vehicles; contributing to standards for E80; E90; E95**
- **Demonstrating bio-methane and 2nd generation vegetable oils; contributing to fuel standard;**
- **RTD on advanced ICE drivetrains and components – hybrids, batteries, supercaps**
- **Large scale electromobility demonstration addressing vehicles, infrastructure, standards**
- **Fuel cell and Hydrogen Joint Undertaking – Public Private Partnership**
- **Aim: accelerate commercial roll out**

● Summary

- **Growing need for oil substitution in transport**
 - Concerns on security of energy supply
 - Necessity of CO₂ emission reductions in transport
- **Package of new policy initiatives and actions**
 - Support to R&D – technologies, policy,
 - Promotion of market introduction; public procurement
 - Market regulation (targets on energy, CO₂, pollutants)
 - EIB loans; Structural Funds; State aid; tax relief
- **Transition to multiple fuel mix expected**
 - Progressive oil substitution with combinations of new fuels
 - Biofuels, natural gas, electricity, hydrogen
 - Planned, integrated approach to infrastructure build up – exploit synergies for production, distribution and storage

● Near Term Actions

- **Progressing SET-PLAN** – establishing EIs
- **Implement transport action plans** – urban mobility, ITS, Freight Transport Logistics;
- **White Paper on Transport** –aiming for adoption late 2010 - address perspectives for future transport fuels (all modes)
- **Continue R&D, EIB support** for clean vehicle and key component technologies under **Green Car Initiative**;
- **Review funding requirements** and instruments in context of **Financial Perspective 2014-2020**;



Thank you for your attention!

Contacts

Website Clean Transport and Urban Transport:

http://ec.europa.eu/transport/urban/index_en.htm

Europe 2020

http://ec.europa.eu/commission_2010-2014/president/news/documents/pdf/20100303_1_en.pdf

CIVITAS Website:

www.civitas.eu

Action Plan on Urban Mobility

http://ec.europa.eu/transport/urban/urban_mobility/urban_mobility_en.htm

e-mail: William.Borthwick@ec.europa.eu

● Events in 2010

- **ETP Conference: 11th-12th May**



- *Theme: “Working together on Societal Challenges;”*
- *“Sustainable transport” session;*
- *Three workshops:*
 - » *Decarbonisation of transport*
 - » *Urban Mobility*
 - » *Safety & security**(organised in conjunction with the Technology Platforms)*

- **Transport Research Arena – Europe, June 2010**



- **CIVITAS Forum Conference, Malmö, 27-29 September, 2010**

- **Fuel Cells and Hydrogen Stakeholder General Assembly, November 2010**



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● EU-Activities on Alternative Fuels

- **Communication on alternative fuels (11/2001)**
Biofuels, natural gas, hydrogen
- **Directive on the market share of biofuels (5/2003)**
market share 2% in 2005, rising to 5.75% in 2010
- **Directive on the taxation of energy products (10/2003)**
lower taxation of alternative fuels enabled
- **Renewable Energy Directive**
Binding target: 10% share by 2020 (April 2009)
- **Technology Platforms, Joint Technology Initiatives**
Hydrogen/fuel cells(TP:2004; JTI:2008), Transport(2004),
Biofuels(2005)
- **European Economic Recovery Plan Green Cars Initiative**
Electromobility projects (call in June 2009)

Market Regulation

- **Regulation of pollutant emissions**

Reduction of pollutant emissions through EURO standards

- **Regulation of CO₂ emissions**

Cars: 130g/km by 2015; 95g/km by 2020

Light Duty Vehicles: 175 g/km by 2017

- **Renewable energy Directive**

10% share of renewable energy sources in motor fuels by 2020

- **Fuel quality Directive**

Reduction of CO₂ intensity of fuels by 6 % by 2020

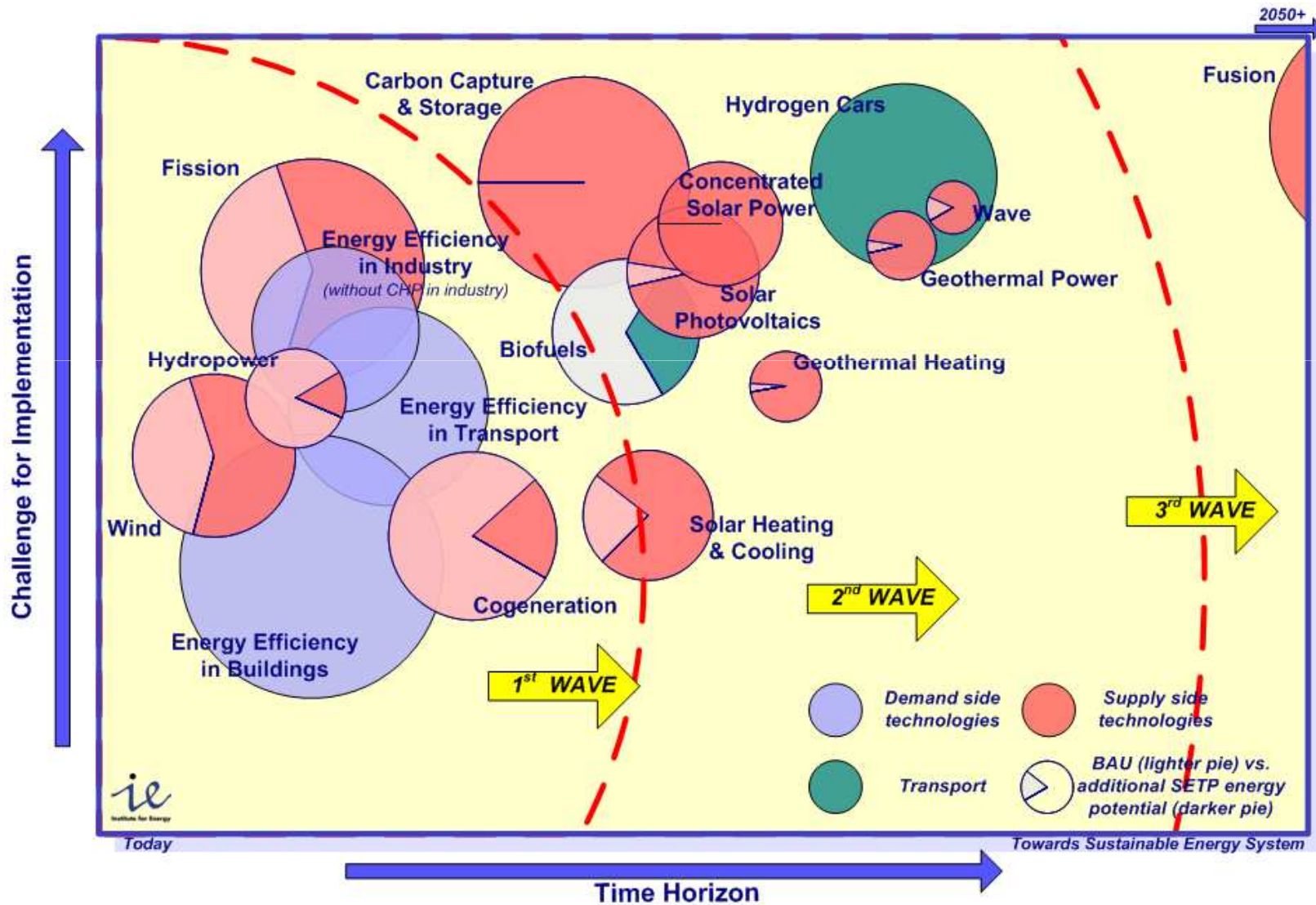
- **Promotion of clean and energy efficient vehicles in public procurement**

Directive requiring to include energy consumption, CO₂, and pollutant emissions in the purchase decision

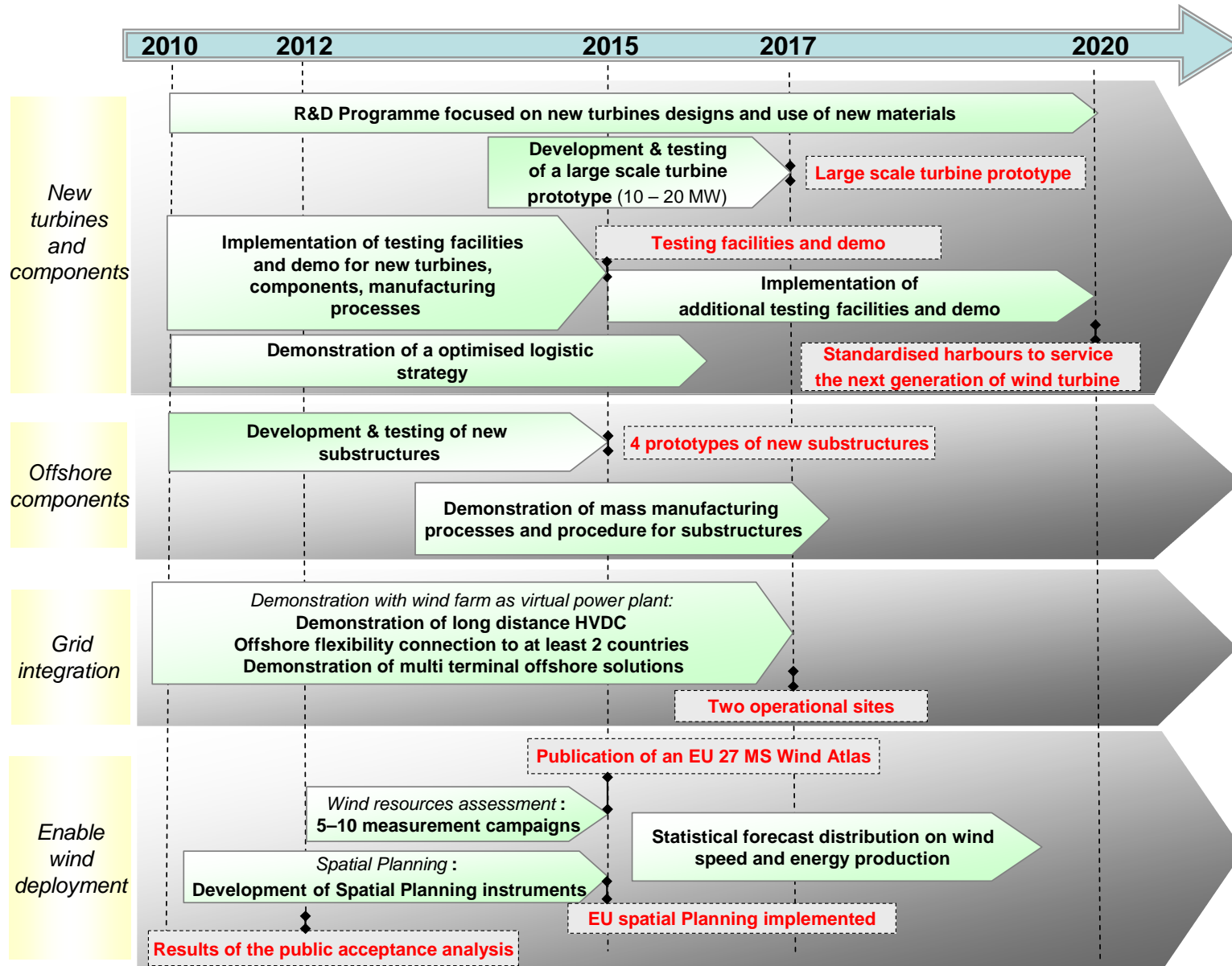
- **Greening Transport**

Internalisation of external costs into vehicle operation through distance related and differentiated charging

Potential of the technologies



WIND - Technology Roadmap 2010-2020





Success stories

Downvind project
Off-shore wind park
with 5 MW turbines

*Scotland, North Sea,
2009*





**Ongoing EU Project :
Solar Power Plant** - first commercial tower in the world

Sevilla, Spain, 2009



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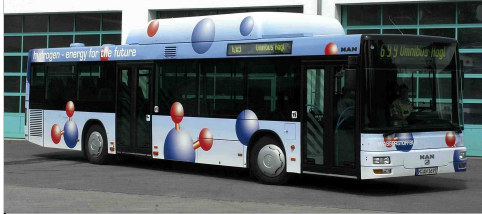


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FP6: Hydrogen for Transport Demonstration Projects ~ 105 M€ (EC support :48 M€)

HyFLEET:CUTE



ZERO REGIO



HyCHAIN



HyLIGHTS –
Monitoring and Preparation of «**Lighthouse projects**»

● Fuel Cells and Hydrogen Joint Undertaking

- Public-Private-Partnership– established June 2008; Commission / Industry/ Research
- EU support: 470 M€ (2007-2013);
- Overall objective: accelerate market deployment – 2015-2020 horizon
- Autonomous Programme Office established March 2010
- Responsible for Annual and Multi-Annual Implementation Plans – organisation, execution of annual calls and contracts
- Scope: Fuel Cells and Hydrogen for Transport, CO2 free Hydrogen Production, Stationary Fuel Cells, Portable and early markets; Cross-cutting, incl standards;

● Electromobility Demonstration Project

Objective

- Testing the viability of different types of electrical vehicles for market maturity
- Accelerating market roll-out of electric vehicles in Europe
- Scope: Demonstration and validation of
 - » Vehicles
 - » Infrastructure
 - » Standards

Call closed 14 January 2010

EU contribution: 23 M€ (46 M€ total budget)

● CIVITAS : linking technology and policy

Themes addressed

- Alternative fuels, energy efficient vehicles;
- Collective transport and integration modes;
- Demand management strategies;
- Mobility management;
- Safety and security;
- Less car dependent lifestyles;
- New concepts for goods distribution;
- Innovative telematics systems;



● Funding

- **R+D Community Framework Programme**

Priority support to clean vehicles and alternative fuels
Urban mobility projects in CIVITAS (since 2002: 180 M€)
Green Cars Initiative in FP-7 (500 M€)

- **Structural and Cohesion Funds**

Dedicated support for clean vehicles and transport infrastructure

- **European Investment Bank**

Loans for clean vehicles in Green Cars Initiative (4 b€)

- **State aid**

Community guidelines on state aid for environmental protection



- Expert Group: Future Transport Fuels

- Contribution to White Paper
- Covering all transport modes
- Representation from broad range of stakeholder associations
- Aim to explore alternatives for future fuel mix, de-carbonisation of transport by 2050
- Considering capacities, economics, resource and geo-political implications, safety, acceptance



Thank you for your attention!