

EU Energy and EU transport policies

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Scope of presentation

- Energy and climate key issues
- Energy 2020 – Strategy for a competitive, sustainable and secure energy
- 2030 Framework
- Energy Roadmap 2050
- Energy efficiency
- Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system (White Paper)

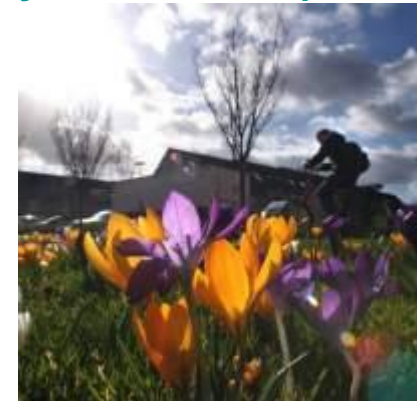


Extreme climate events – first quarter 2014

Warmest 3 january ever - Netherlands



Winter 2013- 2014:
Only 10 days with
frost (normally 40
days with frost)



Warmest March ever
(average 2°C above
normal)



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Extreme climate events – Second Q 2014

9 June 2014, East of
Utrecht

26 June 2014, Ameland



19 May 2014, first time >
30 Degrees in 2014

22 April 2014, 30 km east
of Utrecht



9 June 2014, Panic at
Pink Pop festival



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Extreme climate events – third quarter 2014



August second
wettest month ever
recorded (record was
in 2006)



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Extreme climate events – fourth quarter 2014

2 and 3 November
warmest month ever
recorded

3 November was 22,3
°C

October warmest month
ever recorded (until to
date)

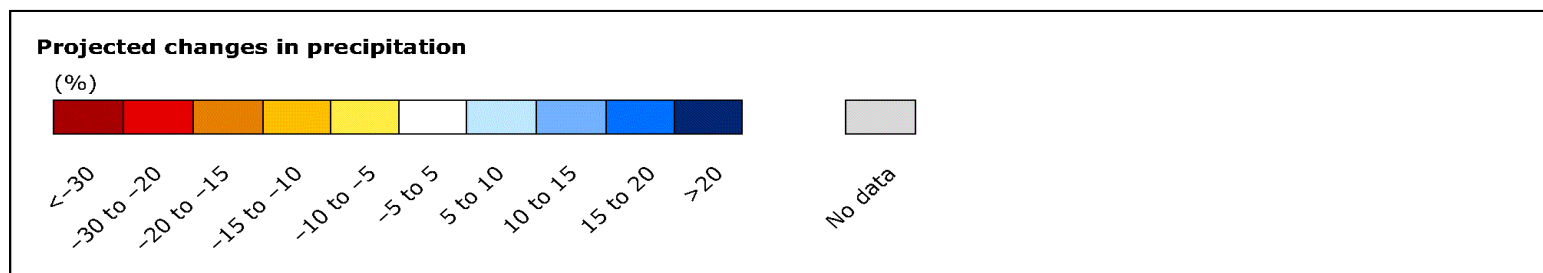
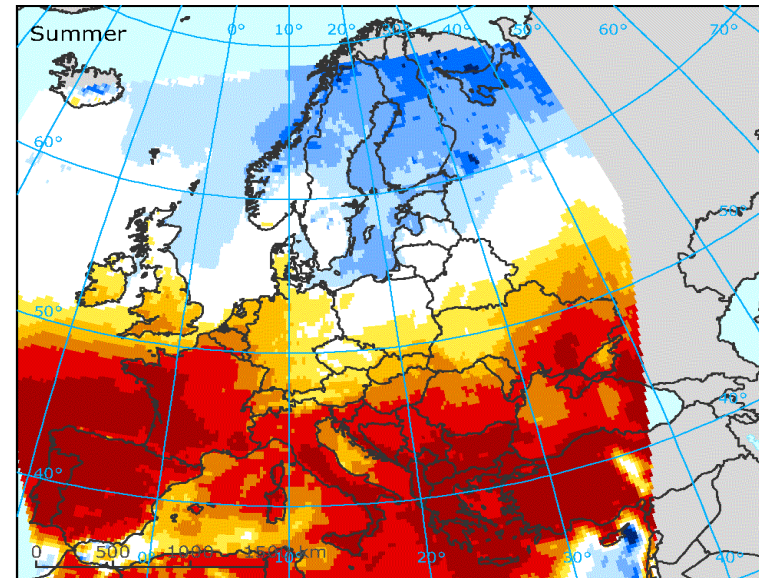
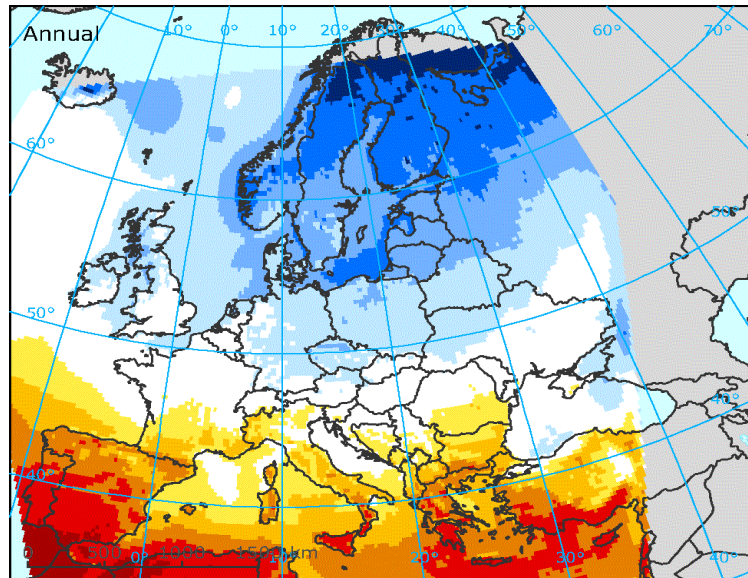
18 October was 24,1 °C



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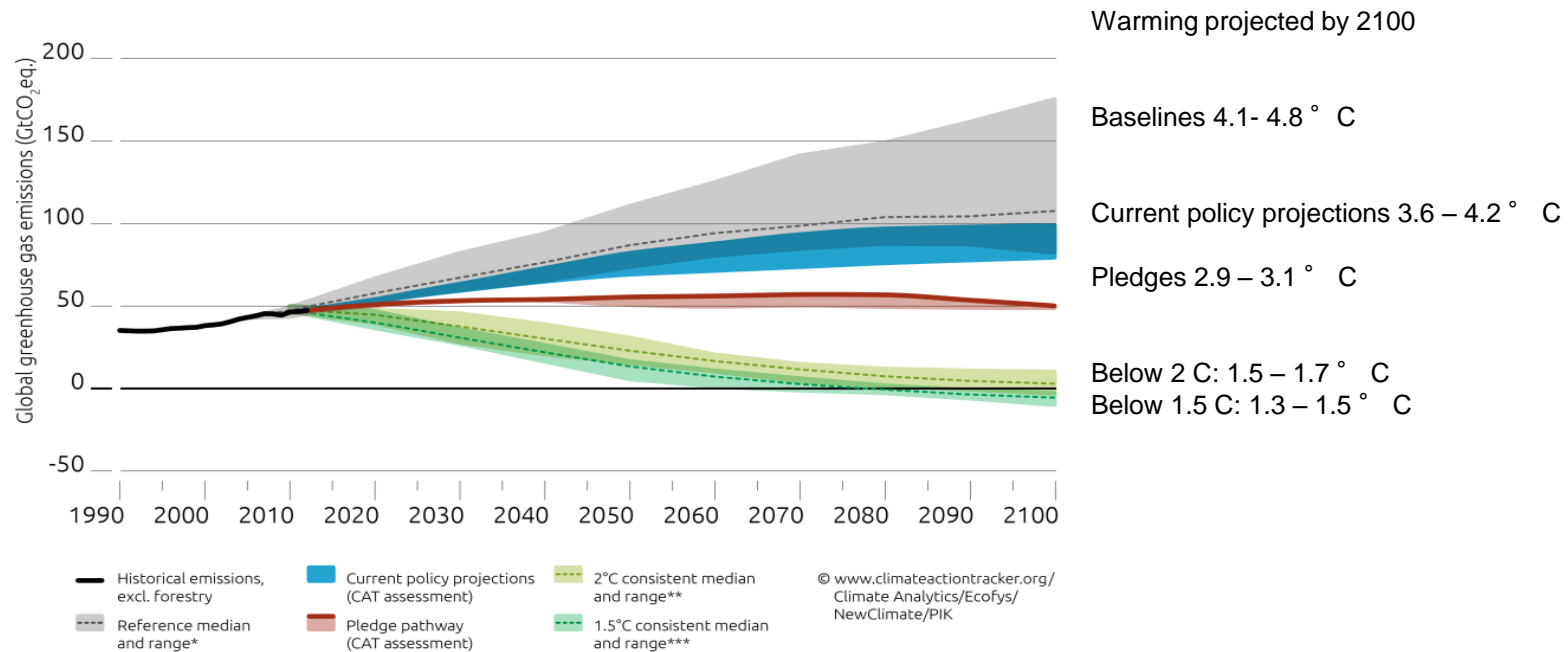
DANGEROUS CLIMATE CHANGE IS HAPPENING

Time is running out fast to prevent it



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Staying below 2 degrees Celsius



* 5-95th percentile of AR5 WGIII scenarios in concentration category 7, containing 64% of the baseline scenarios assessed by the IPCC
 ** Greater than 66% chance of staying within 2°C in 2100. Median and 10th to 90th percentile range. Pathway range excludes delayed action scenarios and any that deviate more than 5% from historic emissions in 2010.
 *** Greater than or equal to 50% chance of staying below 1.5°C in 2100. Median and 10th to 90th percentile range. Pathway range excludes delayed action scenarios and any that deviate more than 5% from historic emissions in 2010.



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We are now heading for possible average of plus 4.2 degrees C

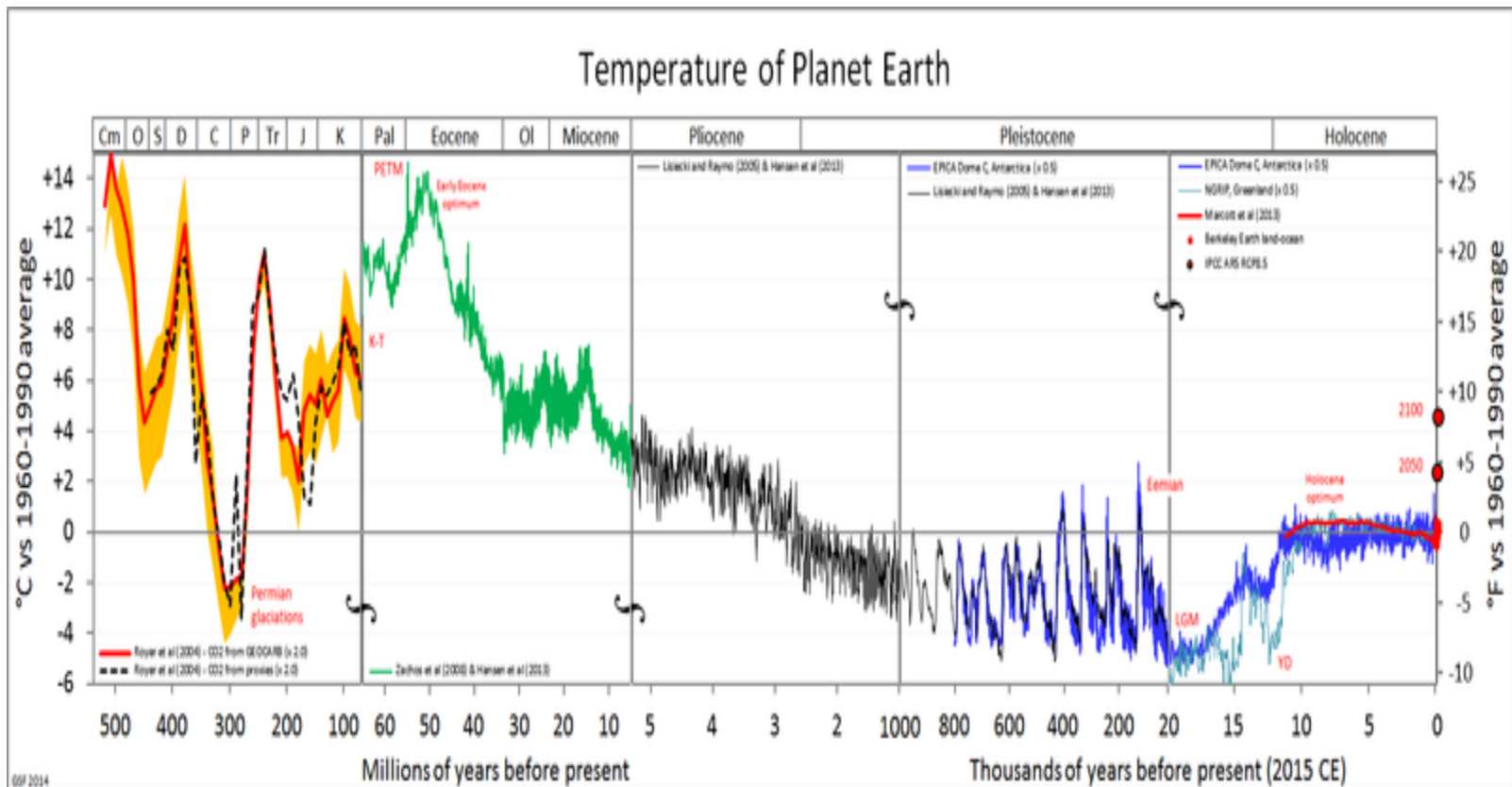
Netherlands 12000 years ago – 4.2 degrees C



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We are now heading for possible average of plus 4.2 degrees C

Netherlands 12000 years ago – 4.2 degrees C



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Energy 2020 – Strategy for a competitive, sustainable and secure energy

- Well-being of our people, industry and economy depends on safe, secure, sustainable and affordable energy.
 - **But**: World energy demand is rising rapidly
 - **But**: Global GHG emissions trend alarming
 - **But**: Climate Change is already a reality

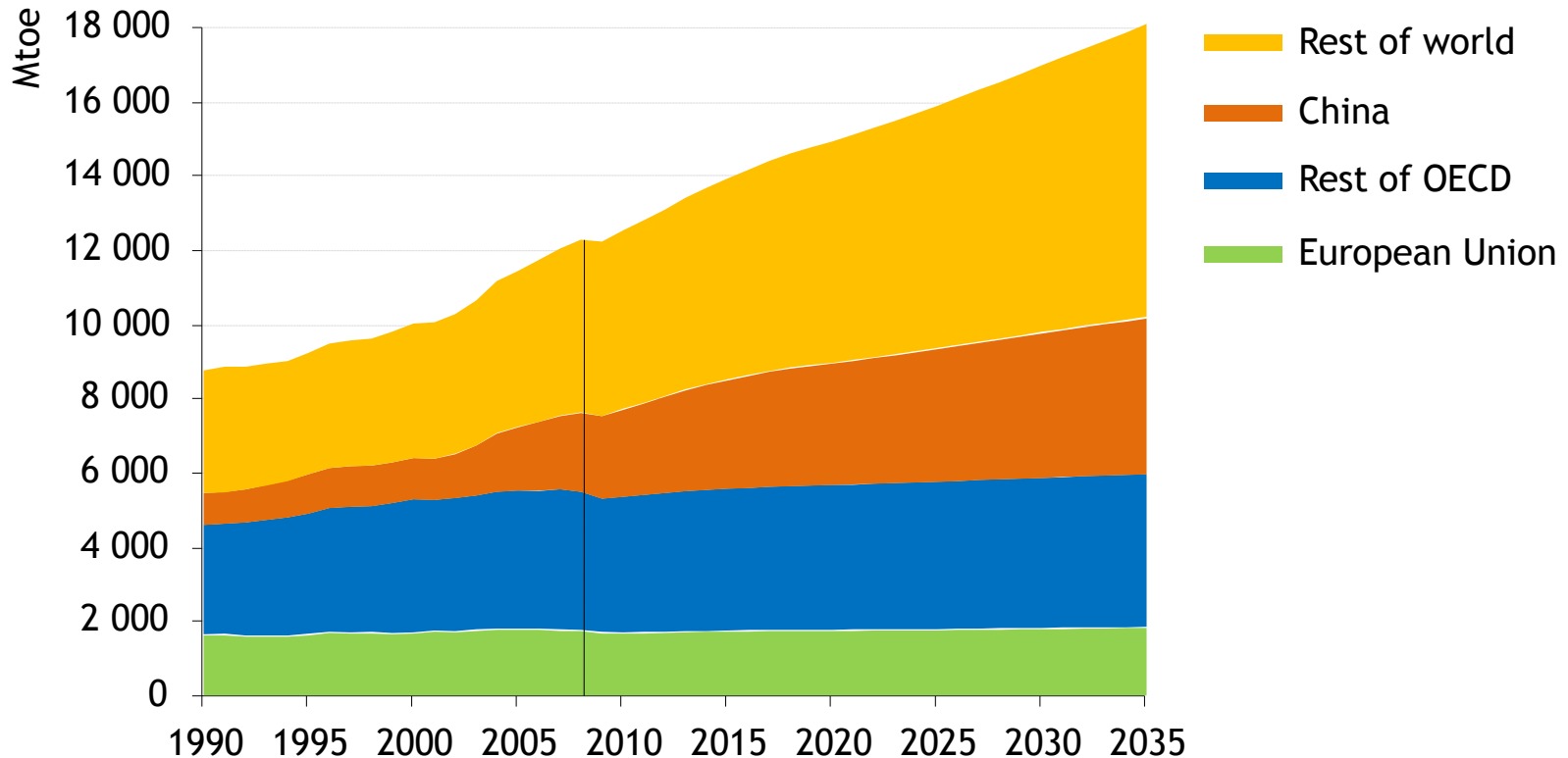


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Energy 2020 – World Energy demand is rising



EU energy consumption is expected to level out in future but world energy consumption will continue to grow due to global population growth and economic catching up. Overall, world energy demand may grow by 45 % between 2006 and 2030. In China and India, demand will nearly double.

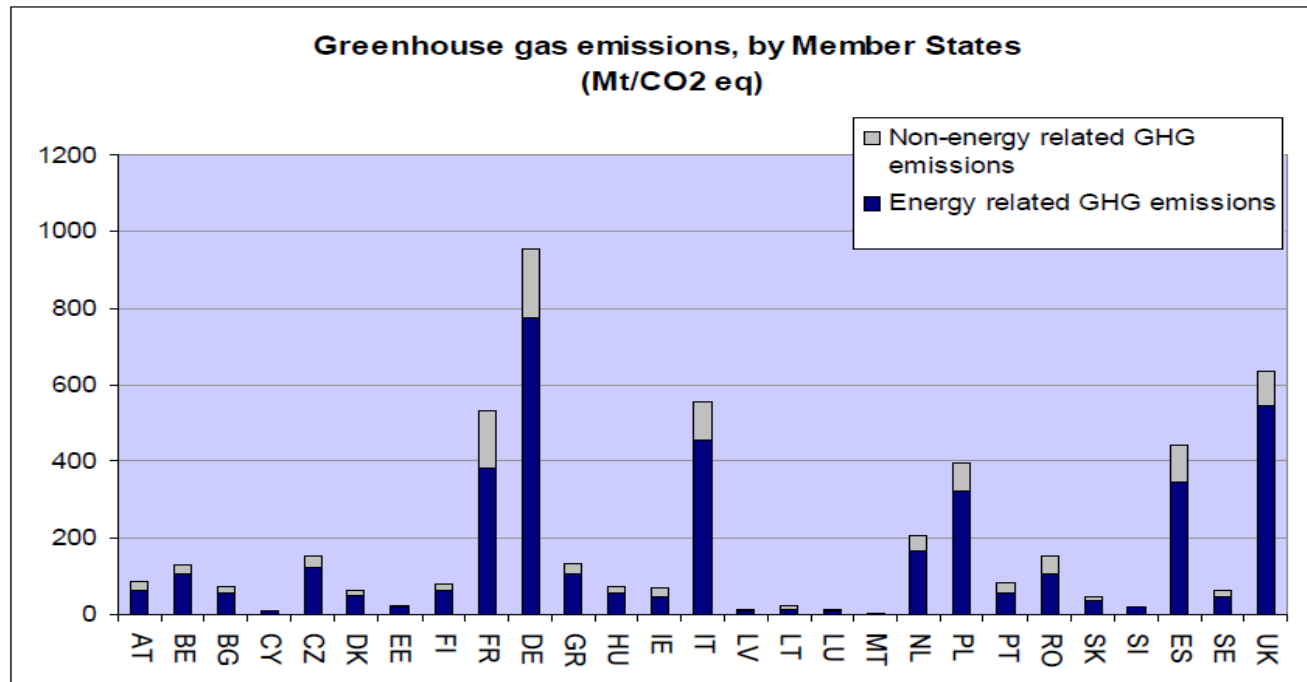


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Energy related emissions account for almost 80% of the EU's total greenhouse gas emissions



Source: EEA 2010

Market Observatory for Energy

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EU 2020 Strategy for a competitive, sustainable and secure energy

- **Energy challenge context:**

- Energy related emissions account for almost 80% of the EU's total greenhouse gas emissions
- EU 27 energy imports dependency
- 20-20-20 targets: Climate and Energy Package



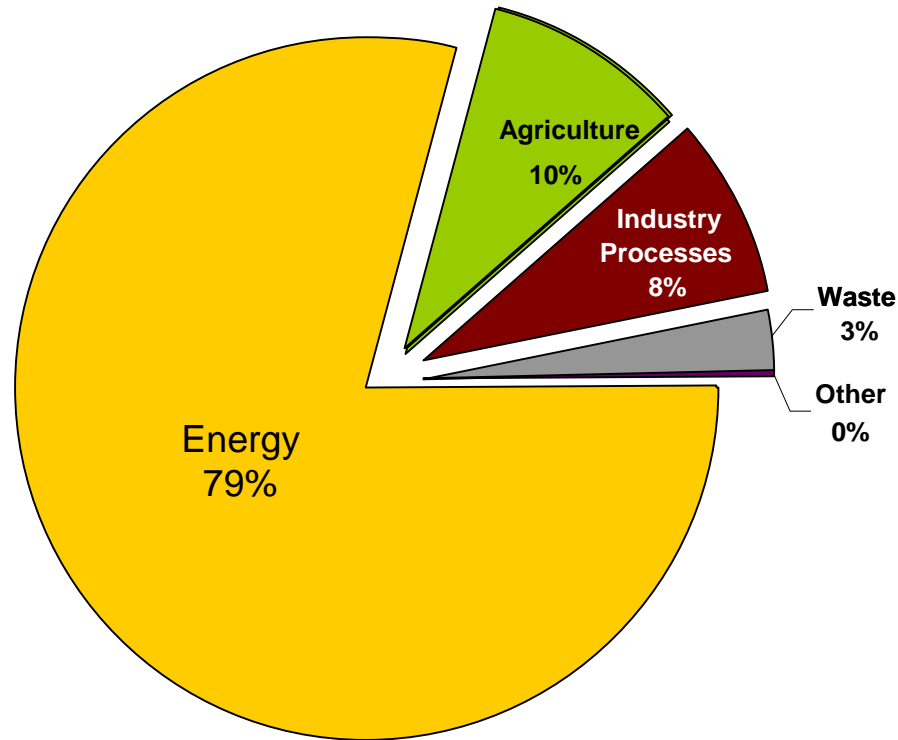
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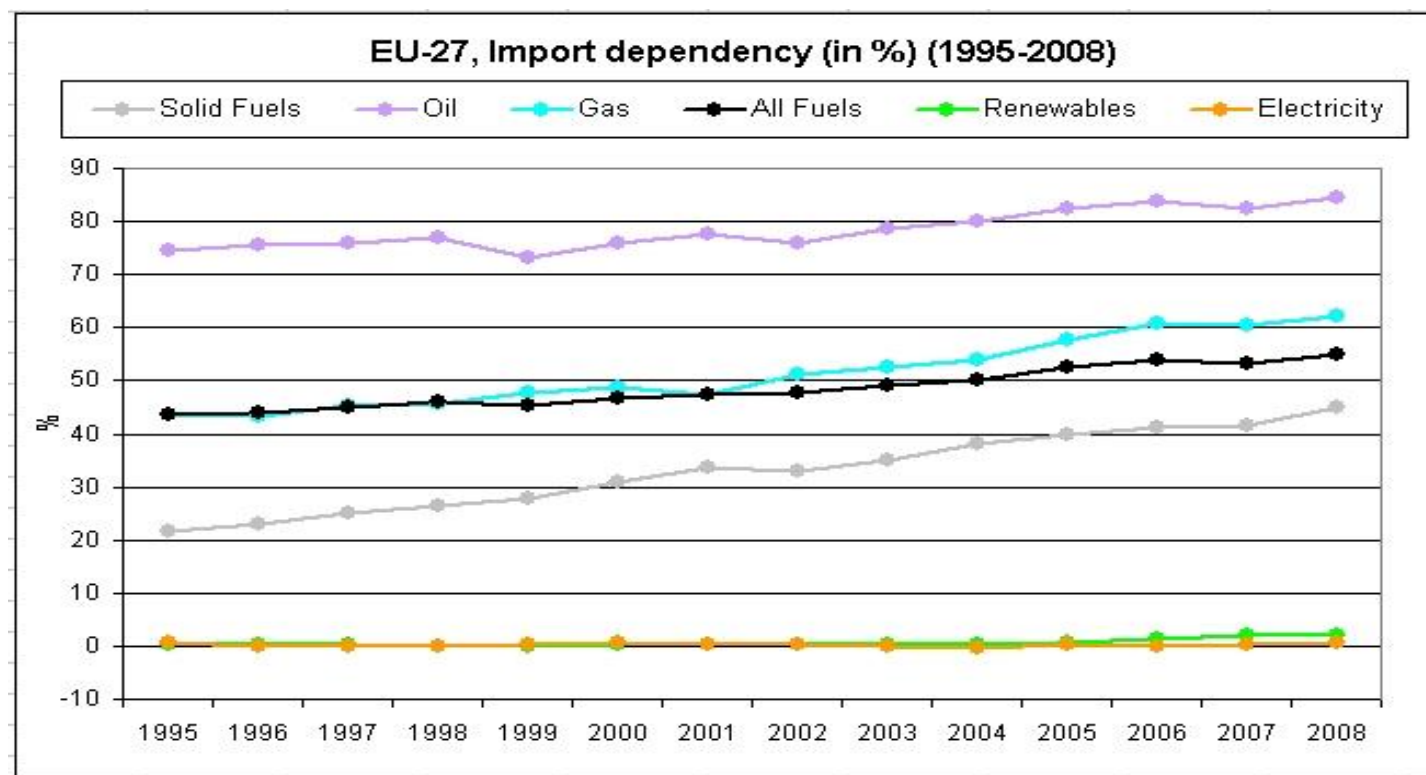
A major source of emissions

Share of greenhouse gas emissions in 2008



The use of energy is responsible for the majority of greenhouse gas emissions, with the energy sector representing 31%, transport 19%, industry 13%, households 9% and others 7%.

Energy 2020 – EU 27 energy imports dependency



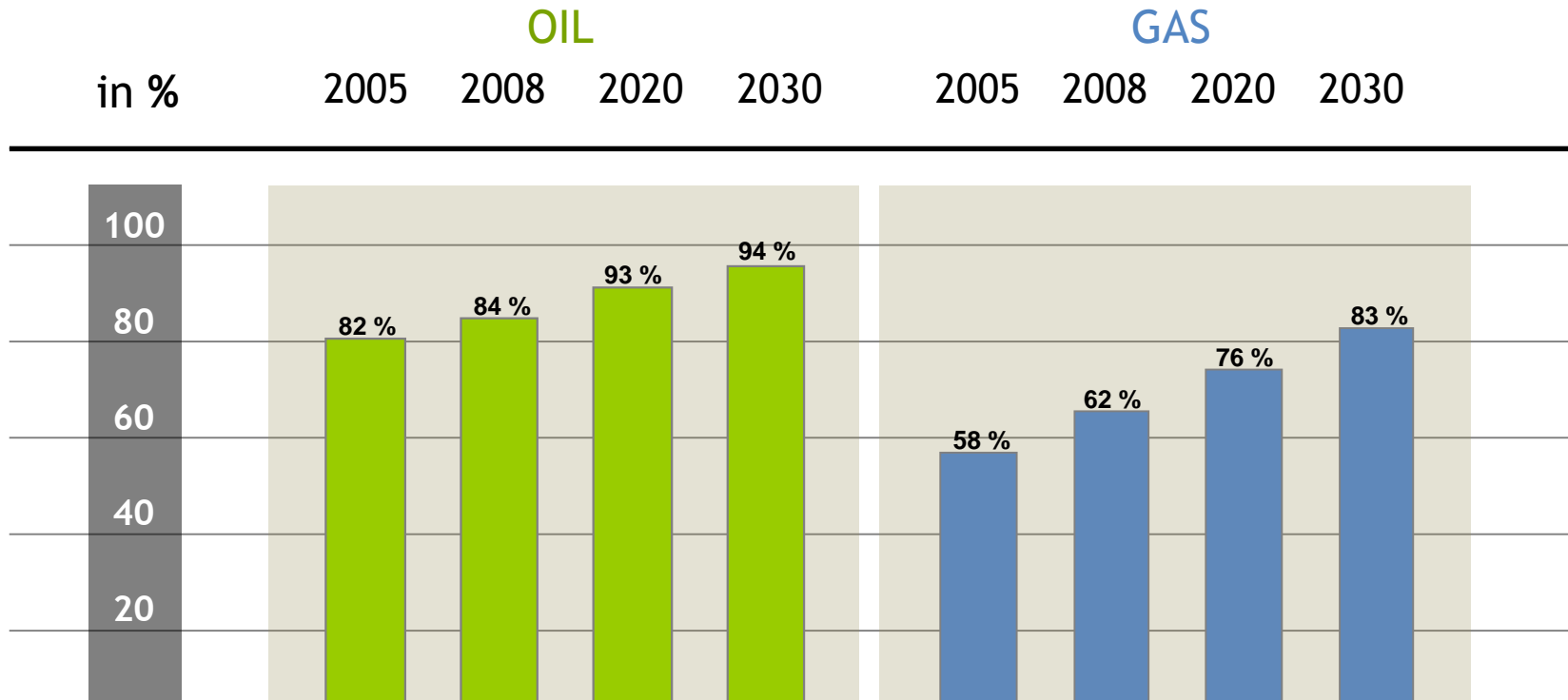
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Dependence on imports is likely to grow

« Business as usual » scenario based on 2009 figures



Today, Europe imports more than half of the energy it uses. If nothing changes, our dependence on fossil fuel imports will rise by 2030.



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Energy policy – Challenge

- The **energy challenge** is one of the greatest tests which Europe has to face.
- Europe's energy systems are **adapting too slowly**, while the scale of the challenges grows
- Forthcoming **enlargements** of the EU will make this challenge even greater as the Union takes in countries with **outdated infrastructure and less competitive energy economies**



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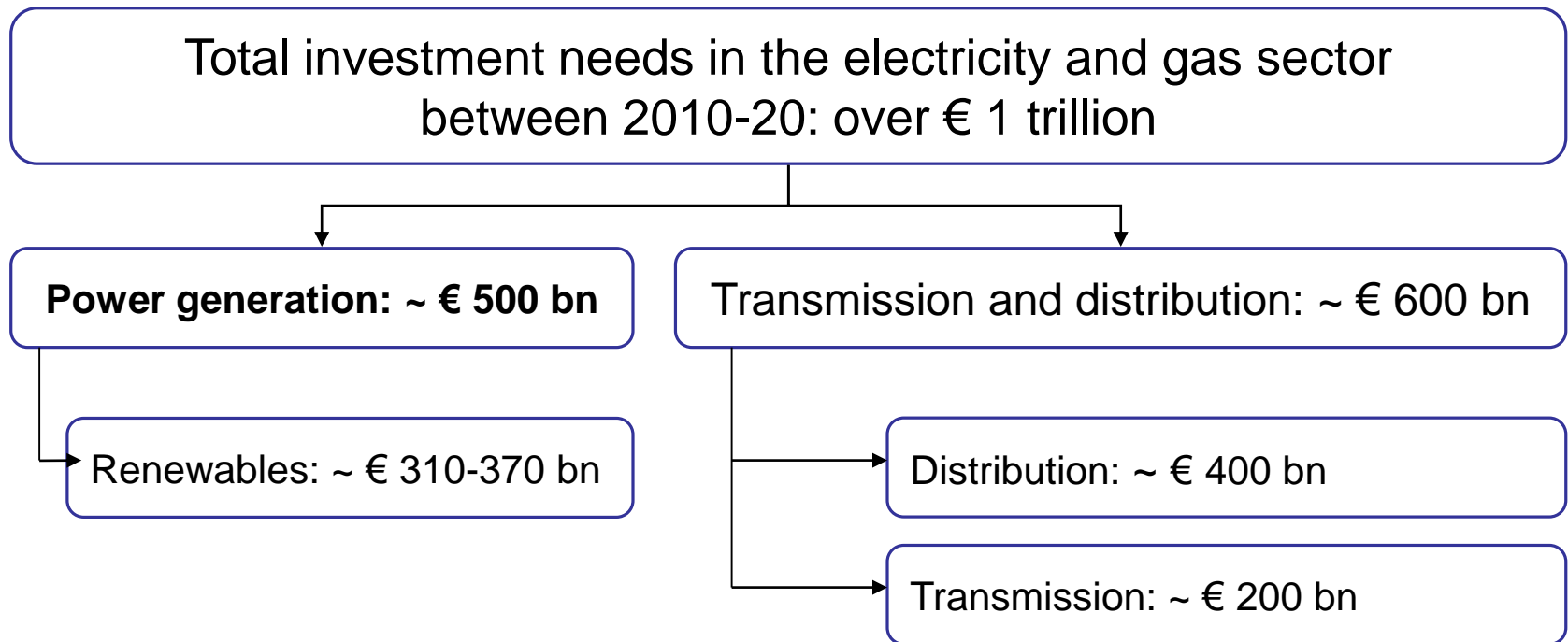
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Energy policy – Challenge

- **Energy prices** will be affected by the huge need for energy sector investments, carbon pricing and higher international energy prices.
- Competitiveness, security of supply and climate objectives will be **undermined** unless:
 - electricity grids are upgraded
 - Obsolete plants are to be replaced by competitive and cleaner alternatives
 - Energy is used more efficiently throughout the whole energy chain



Massive modernisation investment is needed



Investments of over € 1 trillion will be needed by 2020 to replace obsolete power plants, to modernise and adapt infrastructure to the latest technologies and to cater for demand for low carbon energy.



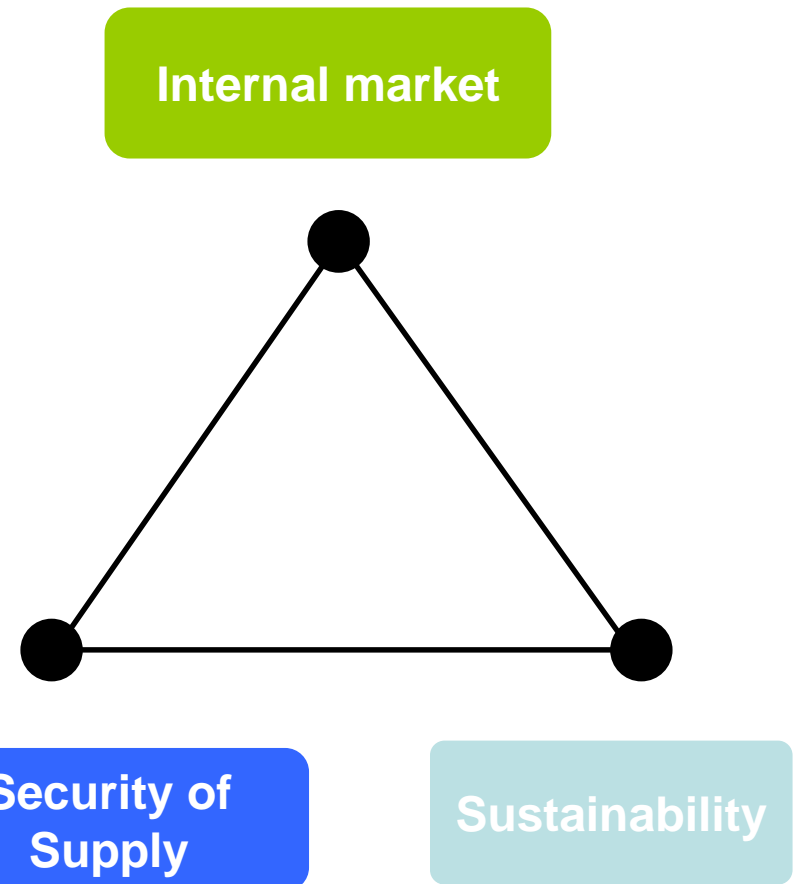
EU Energy Roadmap

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



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Challenges ahead: 2050 Decarbonisation

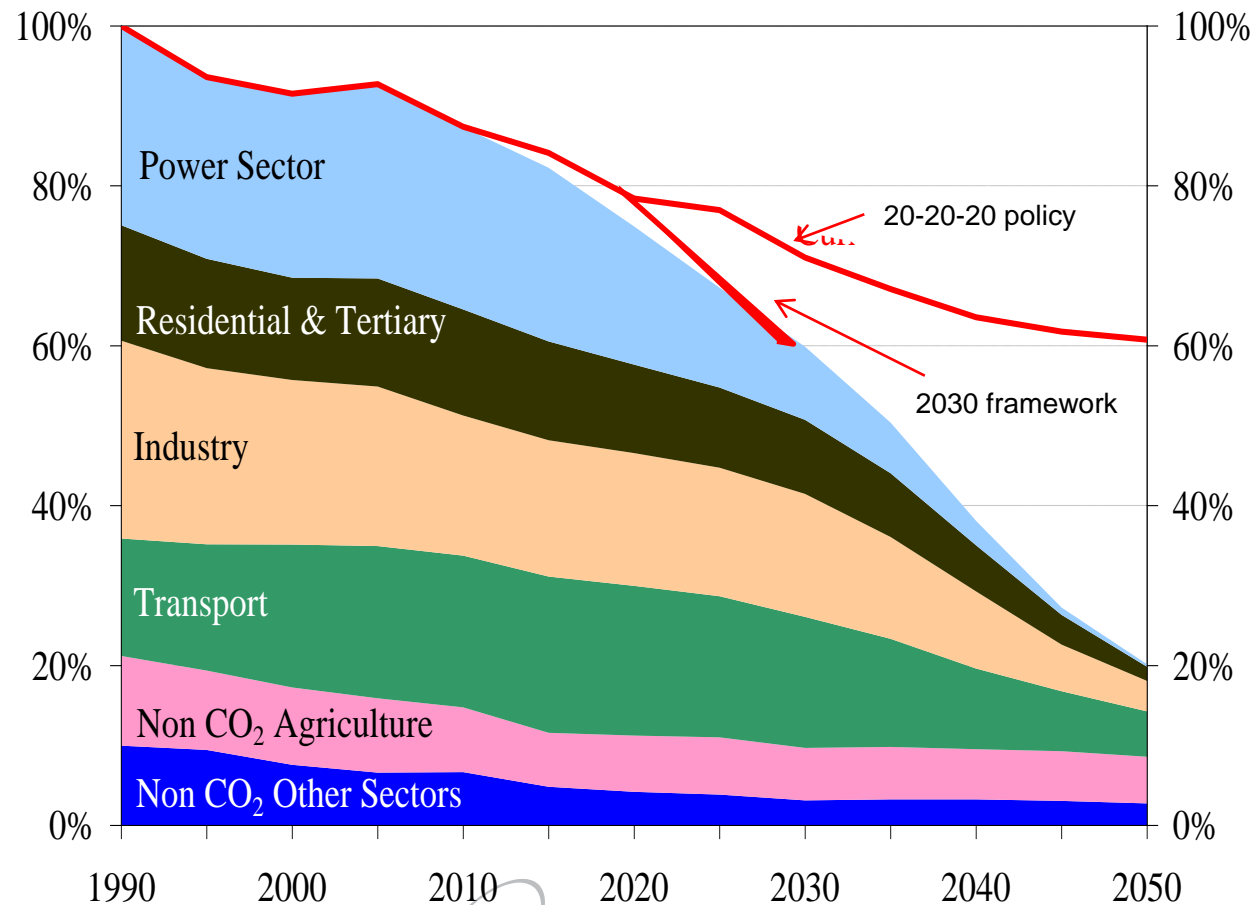
Roadmap is needed to contain dangerous climate change

80% domestic reduction in 2050 is feasible:

- With currently available technologies,
- With behavioural change only induced through prices
- If all economic sectors contribute to a varying degree & pace.

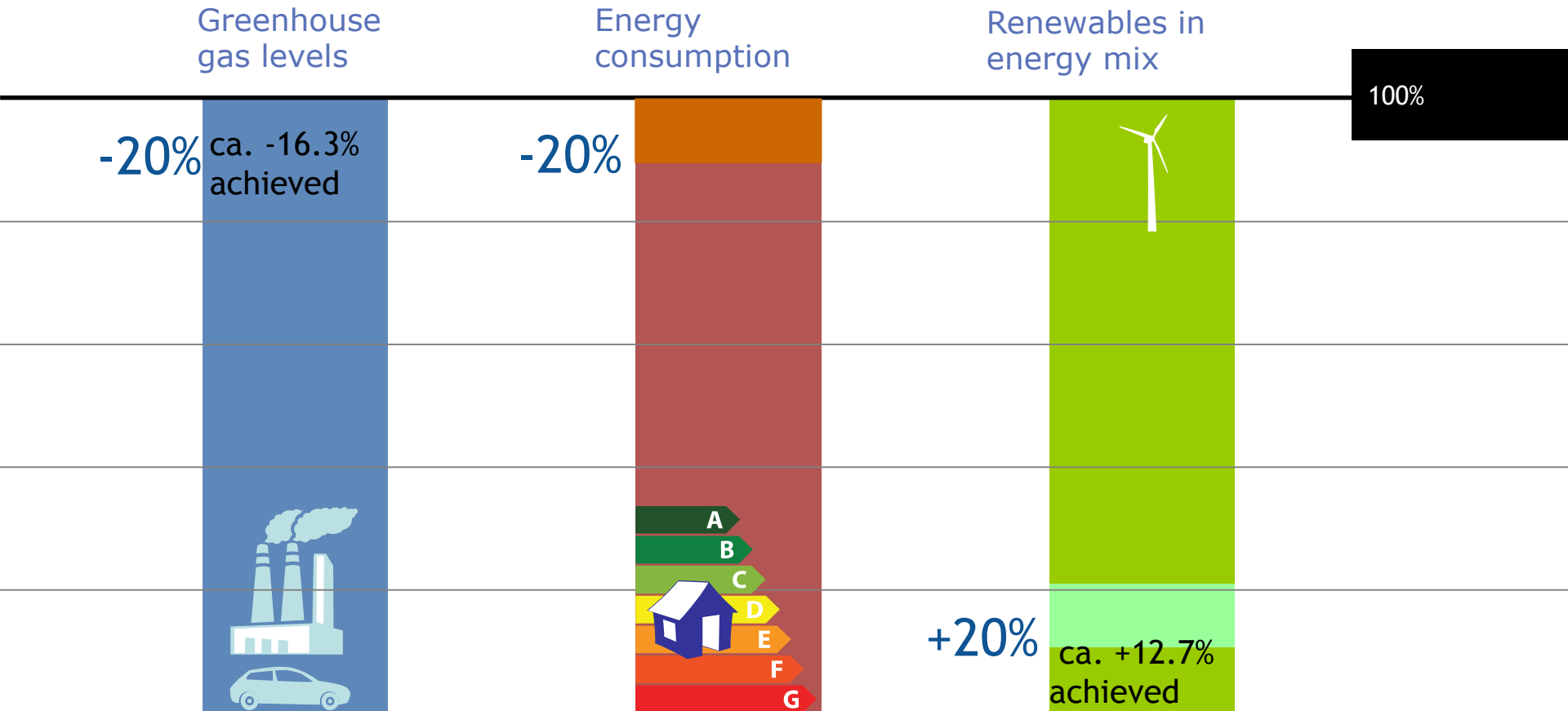
Efficient pathway and milestones:

- -25% in 2020
- -40% in 2030
- -60% in 2040



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20 – 20 – 20 policies (climate and energy package) - Progress

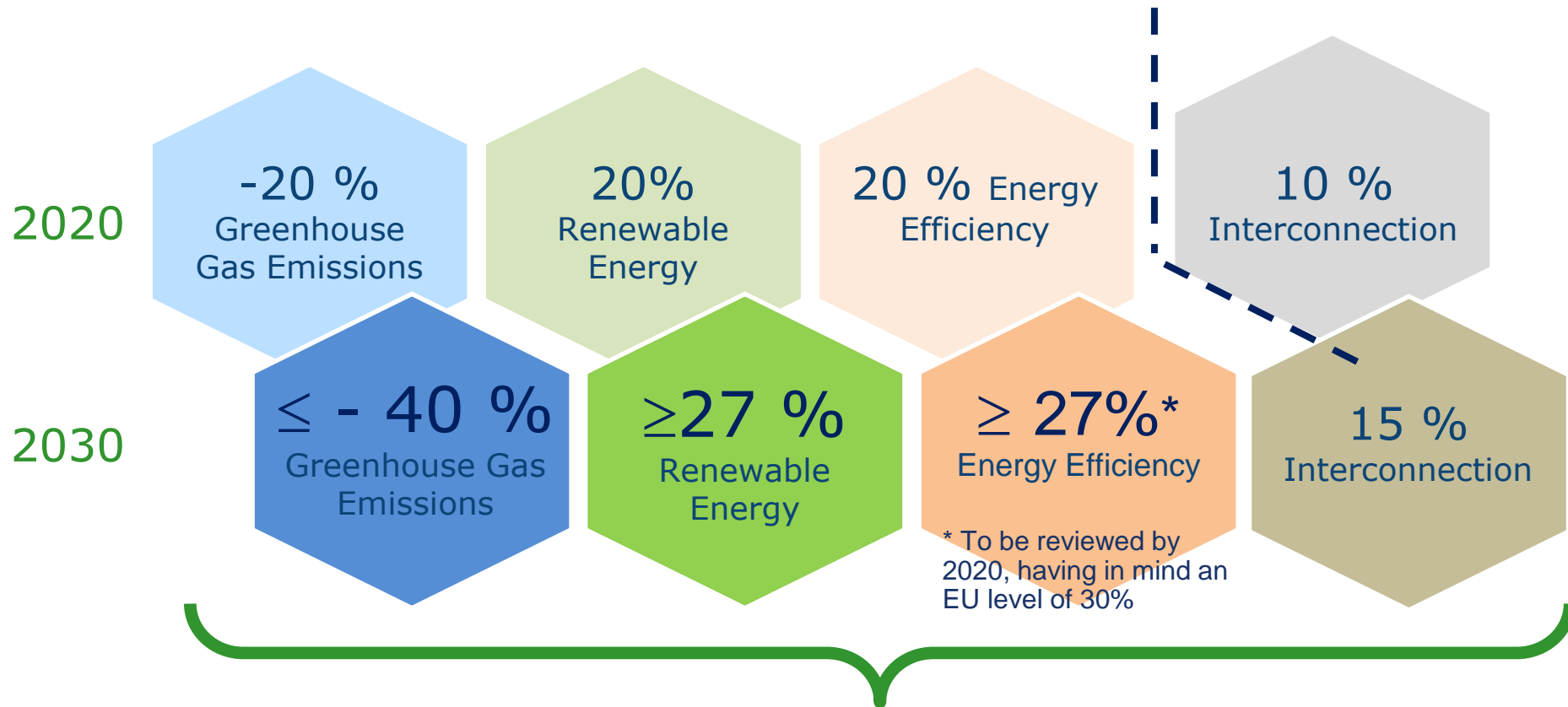


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2030 Framework for Climate and Energy = basis for the EU INDC



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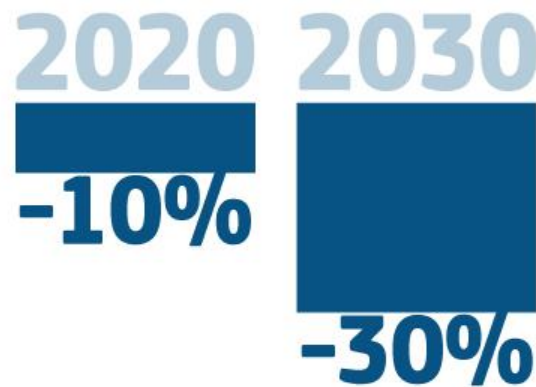
**human
dynamics**

public sector consulting

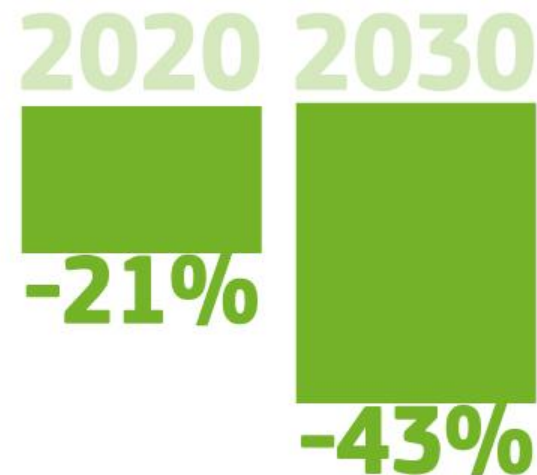
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Emission reductions in ETS and non-ETS

EMISSION REDUCTIONS IN ETS AND NON-ETS COMPARED TO 2005



**NON
ETS**
INCLUDING
ROAD TRANSPORT,
HOUSING,
AGRICULTURE
etc.



ETS
INCLUDING
POWER/ENERGY
SECTOR & INDUSTRY



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Why does this make sense?

Not only to fight dangerous climate change, but also

Reducing Greenhouse Gas Emissions
(GHG) **cost-effectively**
2050 objective: -80% to -95% GHG

Security of EU energy supplies

EU oil and gas imports:
€ 400 billion per year

EU contribution to 2015
**international climate
agreement**

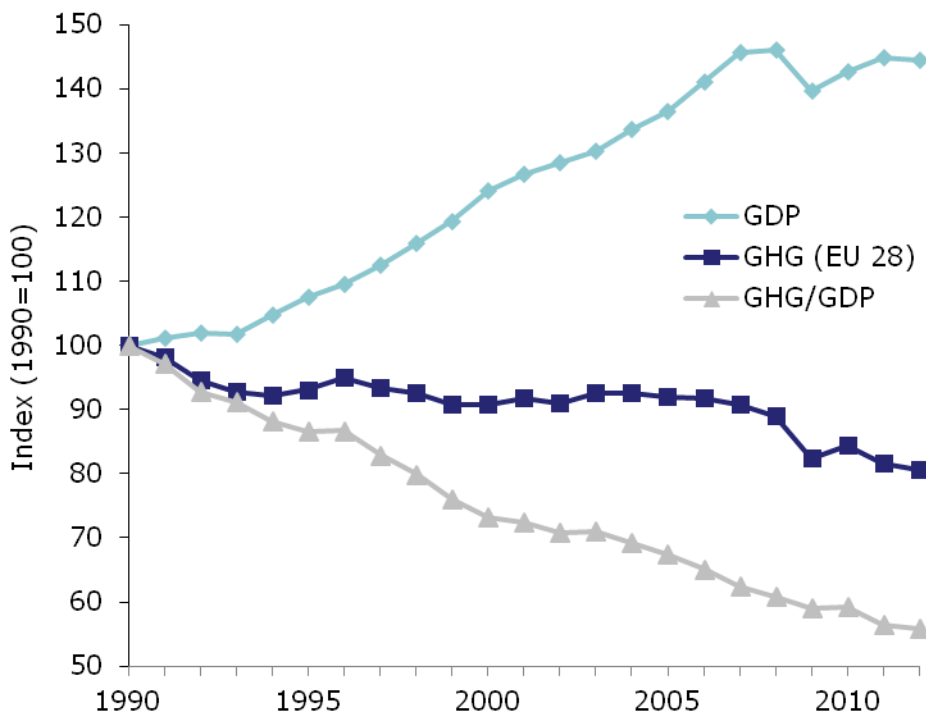
Competitive energy and new
growth and jobs
**Eco-industry already employs
4.2 million**



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NEED TO STEP UP EFFORT

...while the EU economy continues to grow



Decoupling between economic growth and GHG emissions:

- **EU GDP growth 1990-2011: 45%**
- **Emissions decreased by 18.3 % during the same period**
- **2010/2011 → EU-28 GDP increased by 1.4% while emissions fell by 3.3%**



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Energy Roadmap 2050

- Roadmap for moving to a competitive low-carbon economy in 2050 (addressed this morning)
- Roadmap to a Single European Transport Area – White Paper Transport (See later)
- **Energy Roadmap 2050 (adopted by Commission in December 2011)**
- It explores the challenges posed by delivering the EU's decarbonisation objective while at the same time ensuring **security of energy supply** and **competitiveness**

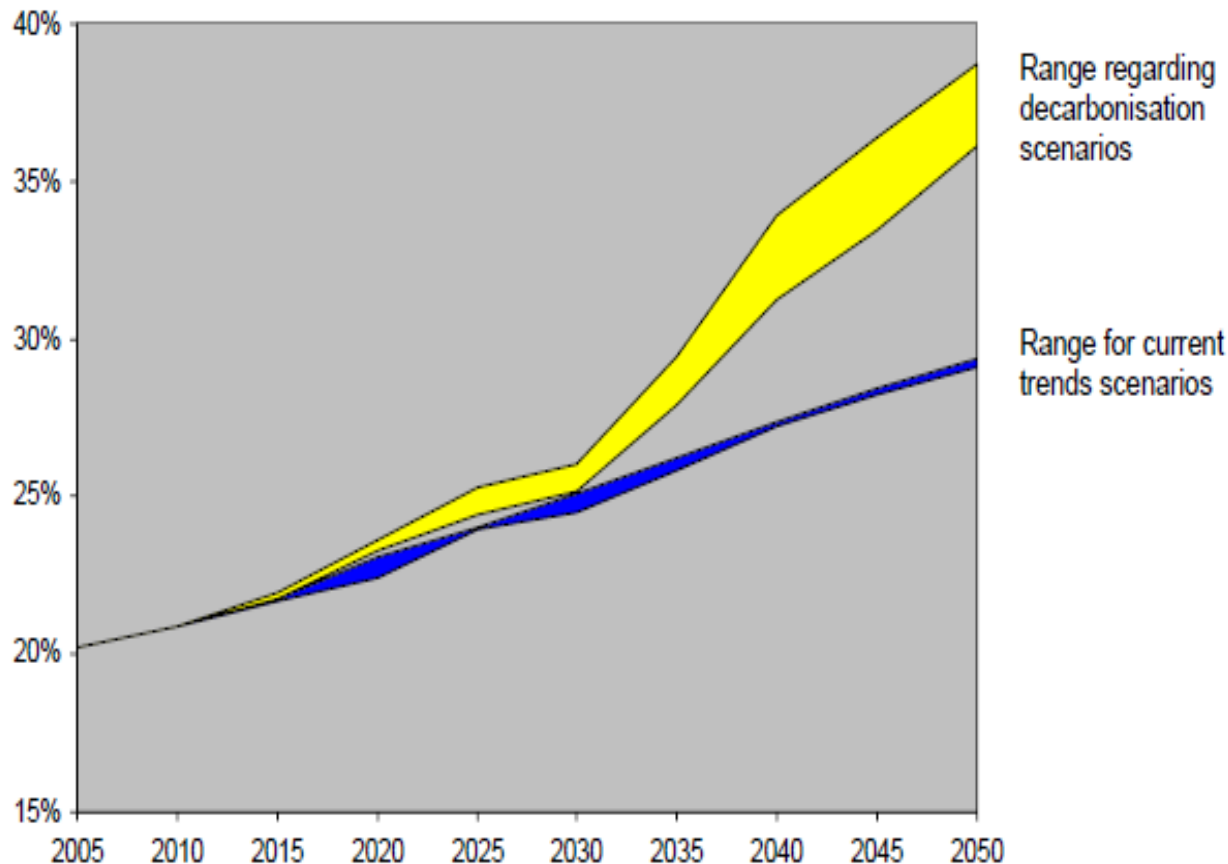


Energy Roadmap 2050

- Energy efficiency is the single most important contribution, especially until 2020
 - Current policies only result in 10% energy efficiency improvement
 - roadmap confirms key role of efficiency up to 2020 and beyond. Primary energy demand drops **by 32 – 41%** in 2050 are key.
 - Important rising shares of renewables are necessary (at least 55% of final energy consumption: Today it is around 16% with target to 20% in 2020).



Energy Roadmap 2050 Electricity plays an increasing role



Share electricity in final energy demand will double to 36 – 39 %



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Energy Roadmap 2050

- **Regulatory and structural shortcomings** need to be addressed for the internal energy market to deliver its full potential
- **Energy prices need to better reflect costs**
- **Special attention for vulnerable groups** to cope with the energy system transformation



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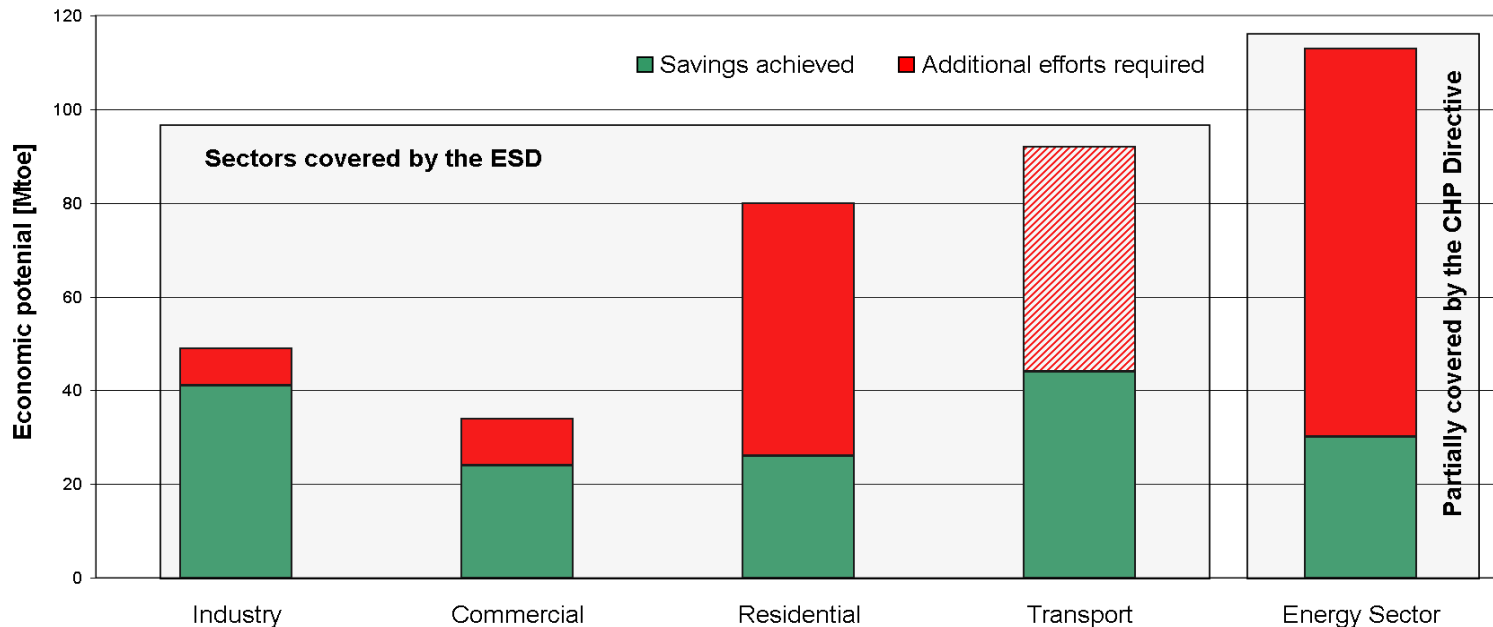
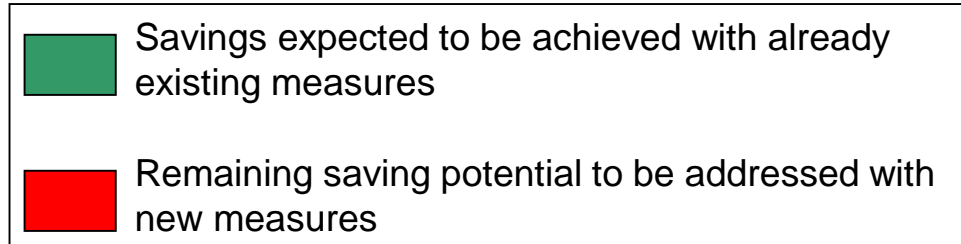


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Energy 2020 – Priority 1

Energy Efficiency Directive

- In force since 2012



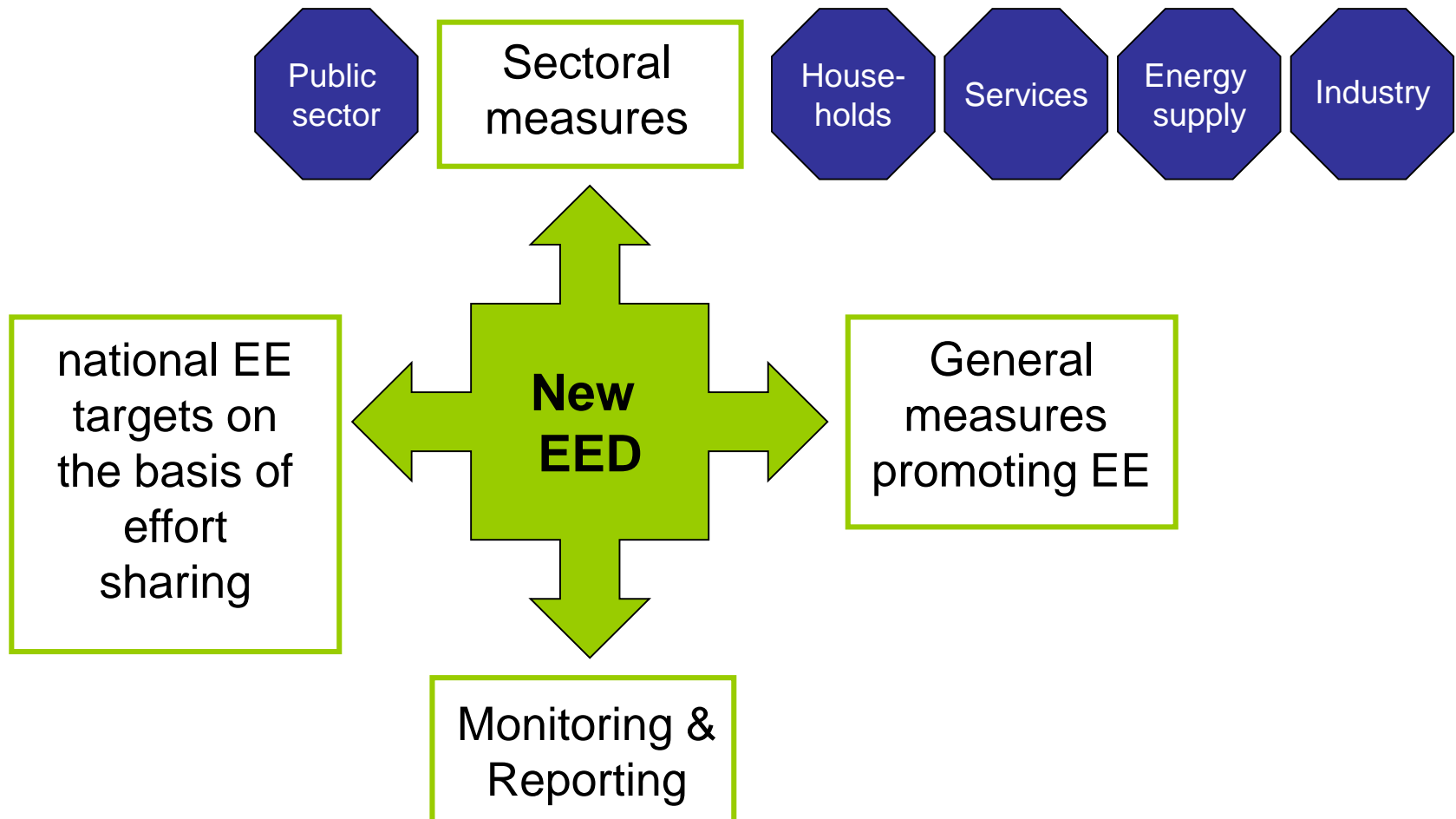
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Energy 2020 – Priority 1

Energy Efficiency Directive



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Summary main points EU Energy Efficiency Directive

- Energy distributors have to achieve **1.5% energy savings per year** through the implementation of energy efficiency measures
- EU countries can opt to achieve the same level of savings through other means such as improving the efficiency of heating systems, installing double glazed windows or insulating roofs
- the **public sector** in EU countries should purchase energy efficient buildings, products and services
- every year, EU governments will carry out energy efficient renovations on at least **3% of the buildings** they own and occupy by floor area
- empowering energy consumers to **better manage consumption**. This includes easy and free access to data on consumption through individual metering



Summary main points EU Energy Efficiency Directive

- national incentives for SMEs to undergo energy audits
- large companies will make audits of their energy consumption to help them identify ways to reduce it
- monitoring efficiency levels in new energy generation capacities



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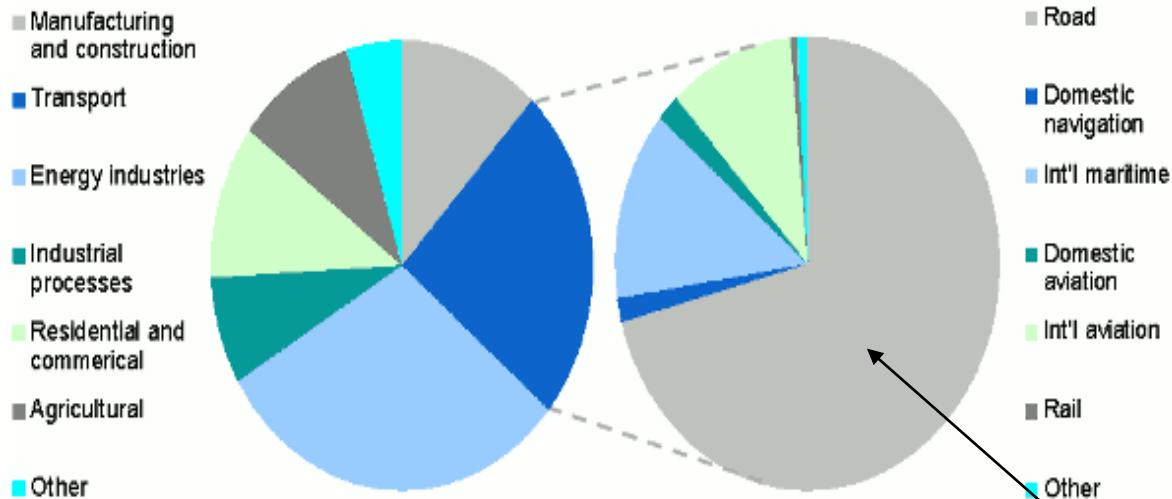
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White Paper 2011

- Roadmap to a Single European Transport Area: towards a competitive and resource efficient transport system
- Adopted at the end of March 2011
- It sets the strategy of the European Commission on transport policy for the next decade



Transport



The transport sector has the second biggest greenhouse gas emissions in the EU.

More than two thirds of transport-related greenhouse gas emissions are from road transport



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Transport: Overview Legislative Framework

Aviation

- **Directive 2008/101/EC:** Inclusion of aviation activities into the scheme for greenhouse gas emission allowance trading (ETS)
- Implementing legislation

CO₂ from road transport

- **Regulation (EC) No 443/2009:** Emission performance standards from new passenger cars
- **Regulation (EC) No 510/2011:** Emission performance standards for vans
- **Directive 1999/94/EC** on consumer information on fuel economy and CO₂ emissions in respect of the marketing of new passenger cars

Fuel quality

- **Directive 1998/70/EC** Fuel quality Directive
- **Directive 2009/30/EC** on fuel quality (amending number of elements of Directive 1998/70/EC)

Transport roadmap 2050

- **White Paper** Roadmap towards a competitive and resource efficient transport system (28 March 2011)



Old challenges remain but new have come

Increasing competitive pressure in the global economy



Increasing oil price and persistent oil dependency A deteriorating climate and local environment



Growing congestion and poorer accessibility. An infrastructure gap in the enlarged EU



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Meeting the challenge

To meet the challenges, transport has to:

- Use less energy
- Use cleaner energy
- Exploit efficiently a multimodal, integrated and 'intelligent' network



The vision

	Passengers	Freight
Long-distance travel and intercontinental freight	<ul style="list-style-type: none"> Adequate capacity and improved overall travel experience (efficient links between airports and rail, minimum hassle for personal security screening...) 	<ul style="list-style-type: none"> High global maritime standards More efficient hinterland connections for ports Modern vessels and cleaner fuels for shipping
Intercity travel and transport	<ul style="list-style-type: none"> Seamless multimodal travel (online multimodal info and ticketing, multimodal hubs...) Quality service and enforced passengers' rights Near-zero casualties for road 	<ul style="list-style-type: none"> Paperless logistics Multimodal long-distance freight corridors No barriers to maritime transport Cleaner trucks on shorter distances
Urban transport and commuting	<ul style="list-style-type: none"> Non-fossil mobility (Clean and efficient cars; Higher share of public transport; Alternative propulsion for urban buses and taxis; Better infrastructure for walking and cycling) 	<ul style="list-style-type: none"> Better interface between long distance and last-mile Freight consolidation centres and delivery points ITS for better logistics Low-noise and low-emission trucks for deliveries



Ten Goals for competitive and resource efficient transport

New and sustainable fuels and propulsion systems

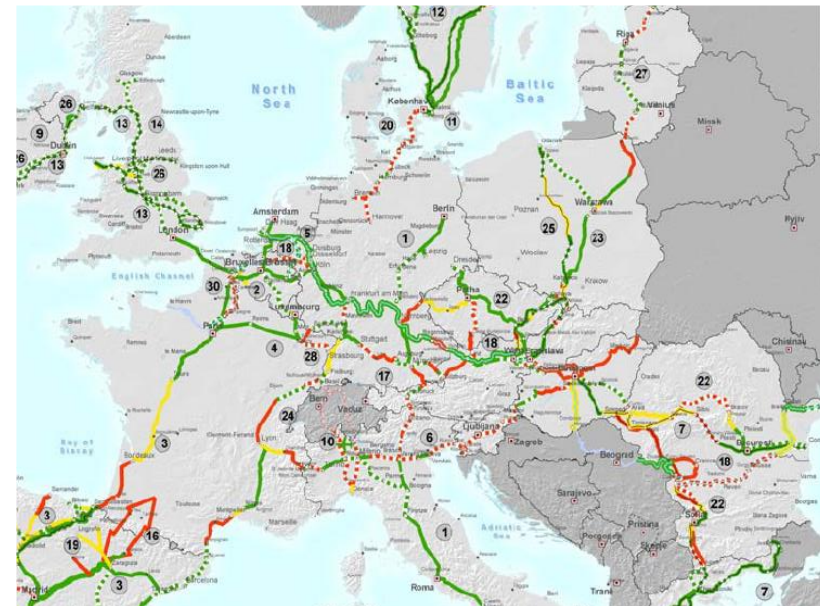
- Halve the use of ‘conventionally-fuelled’ cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO₂-free city logistics by 2030
- 40% of low-carbon sustainable fuels in aviation and 40% (if feasible 50%) less emissions in maritime by 2050



Ten Goals for competitive and resource efficient transport

Optimising the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes

- 30% of road freight over 300 km should shift to other modes by 2030, and more than 50% by 2050
- Triple the length of the existing high-speed rail network. By 2050 the majority of medium-distance passenger transport should go by rail
- A fully functional and EU-wide multimodal TEN-T ‘core network’ by 2030
- By 2050, connect all core network airports to the rail network; all seaports to the rail freight and, where possible, inland waterway system



Ten Goals for competitive and resource efficient transport

Increasing the efficiency of transport and of infrastructure use with information systems and market-based incentives

- **Deployment of SESAR by 2020 and completion of the European Common Aviation Area. Deployment of ERTMS, ITS, SSN and LRI, RIS and Galileo**
- **By 2020, establish the framework for a European multimodal transport information, management and payment system**
- **2050, move close to zero fatalities in road transport**
- **Move towards full application of “user pays” “polluter pays” principles**



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How to do it – 4 “i”s and 40 actions

Internal market: Create a genuine Single European Transport Area by eliminating all residual barriers between modes and national systems.

Innovation: EU research needs to address the full cycle of research, innovation and deployment in an integrated way.

Infrastructure: EU transport infrastructure policy needs a common vision and sufficient resources.
The costs of transport should be reflected in its price in an undistorted way.

International: Opening up third country markets in transport services, products and investments continues to have high priority.



Climate policies help climate change challenges, air pollution challenges and energy security challenges

Any Questions?



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What does this mean for you and your country?

- EU Climate policy: Riding train – better to jump on it as early as possible or lose opportunities / momentum
- Major efforts are required politically and institutionally.
- Analyse the opportunities that change will bring for your country (jobs!!!)
- Prepare for a comprehensive climate action implementation plan



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Thank you for your attention

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