The new Energy Efficiency Directive

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Energy

The Energy Roadmap 2050 as a basis for developing a long-term policy framework

Supported by scenario analyses

European Council

- EU objective for 2050 - GHG emissions down to 80-95% below 1990 levels
- Looks forward to elaboration of a low-carbon 2050 strategy - a framework for longer-term action in energy and related sectors

Aim of the Roadmap

- Give more certainty to governments and investors
- Explore routes towards a low-carbon energy system by 2050
- Basis for developing the 2030 policy framework and concrete milestones

Scenarios explore routes to decarbonisation of energy system

Current trends scenarios

- Reference scenario (as of March 2010)
- Current policy initiatives (as of April 2011)

➔ 40% GHG reduction by 2050

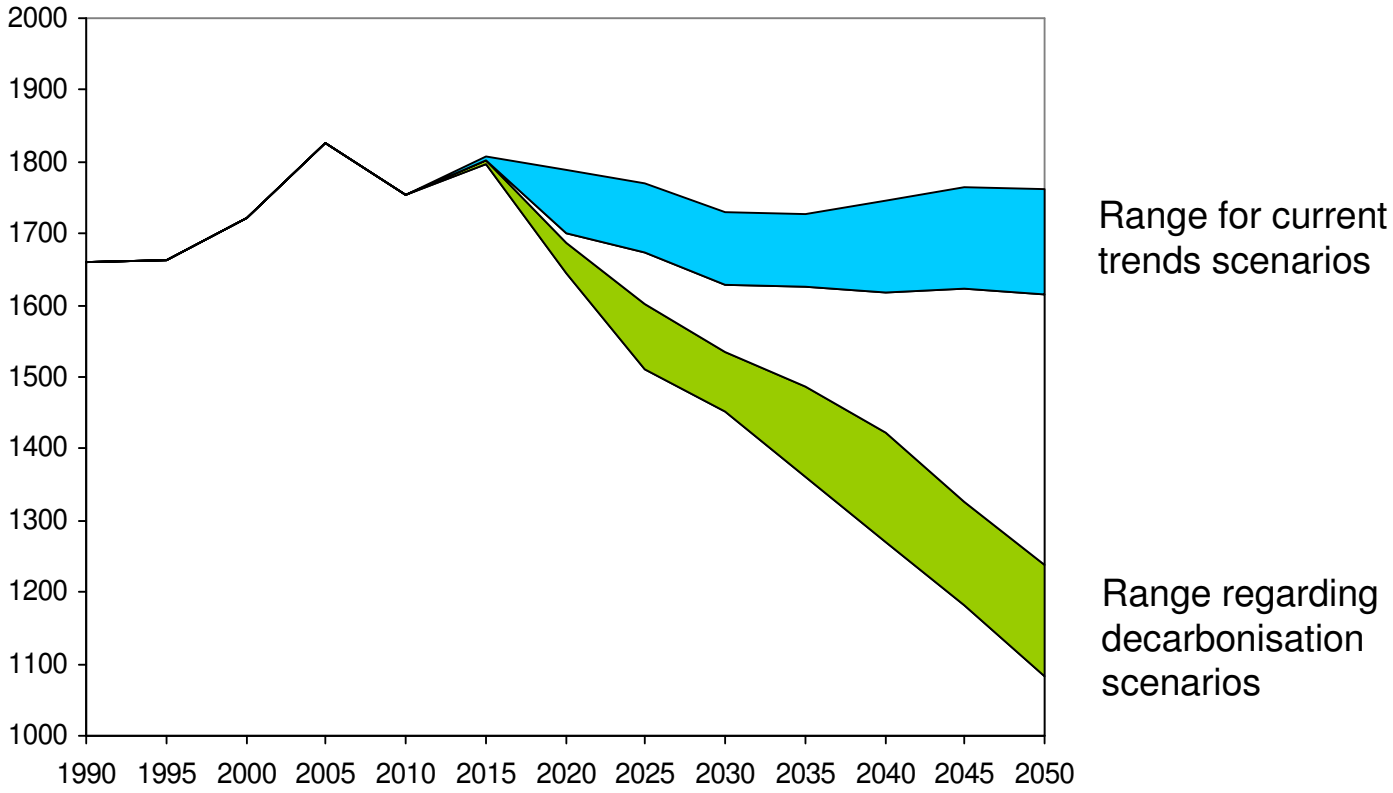
Decarbonisation scenarios

- High energy efficiency
- Diversified supply technologies
- High RES
- Delayed CCS
- Low nuclear

➔ 80% GHG reduction by 2050

Energy savings throughout the system are crucial

Gross energy consumption - range in current trend (REF/CPI) and decarbonisation scenarios (in Mtoe)



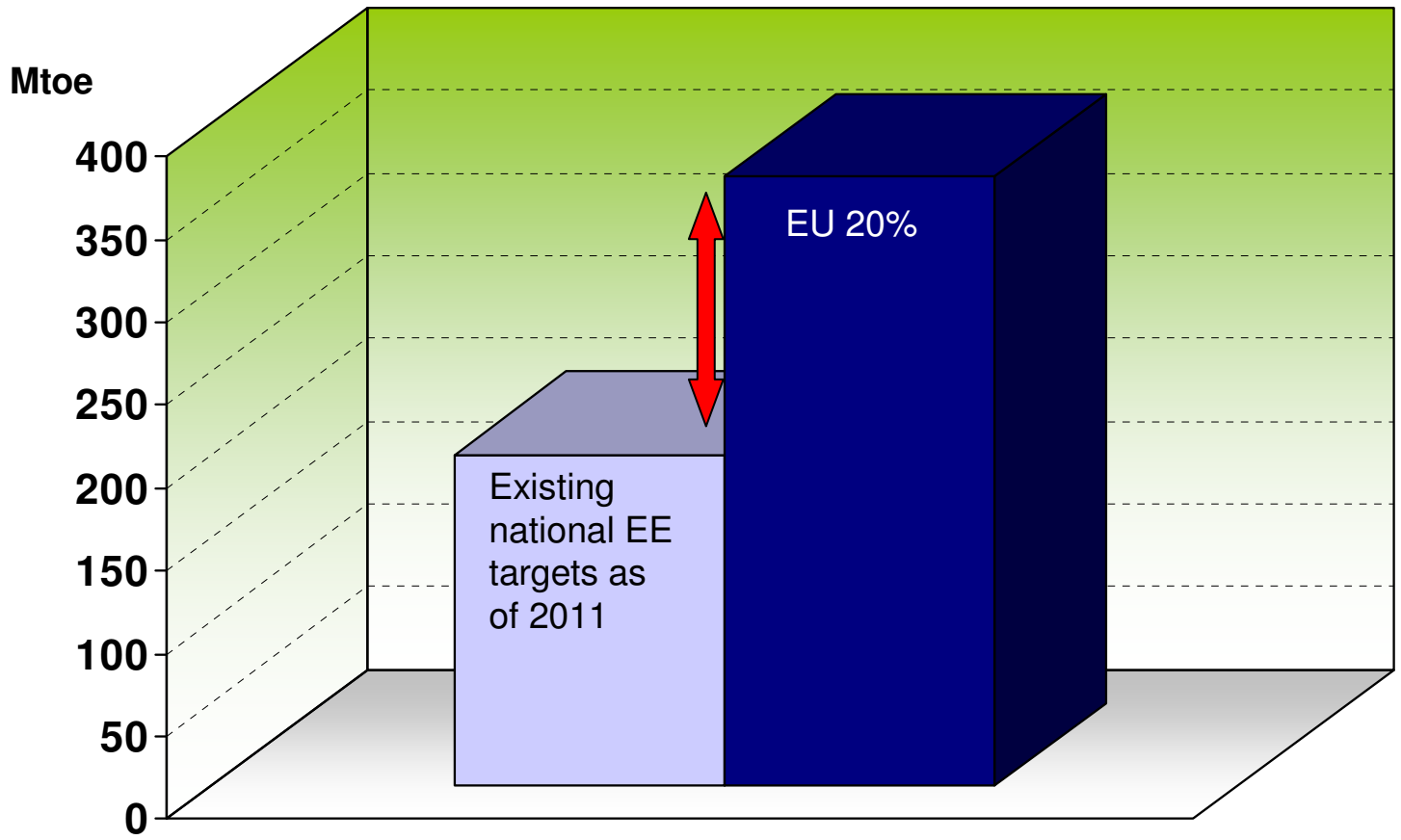
Roadmap 2050 - key messages

- Decarbonisation of the energy system is technically and economically feasible
- Energy efficiency and renewable energy are critical
- Early investments cost less
- Contain the increase of prices
- Economies of scale are needed => a common energy market

Directorate-General for Energy

EUROPEAN COMMISSION

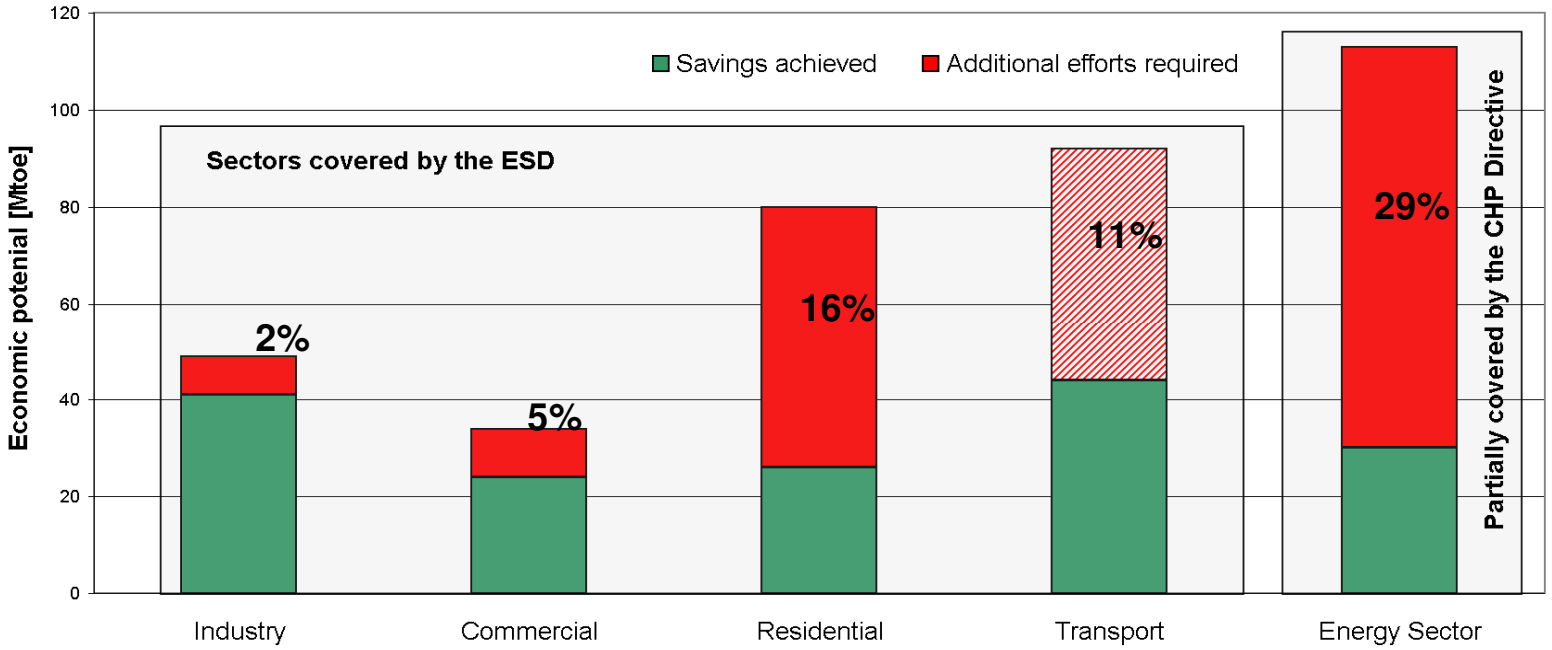
20% ENERGY EFFICENCY : WE'RE NOT THERE



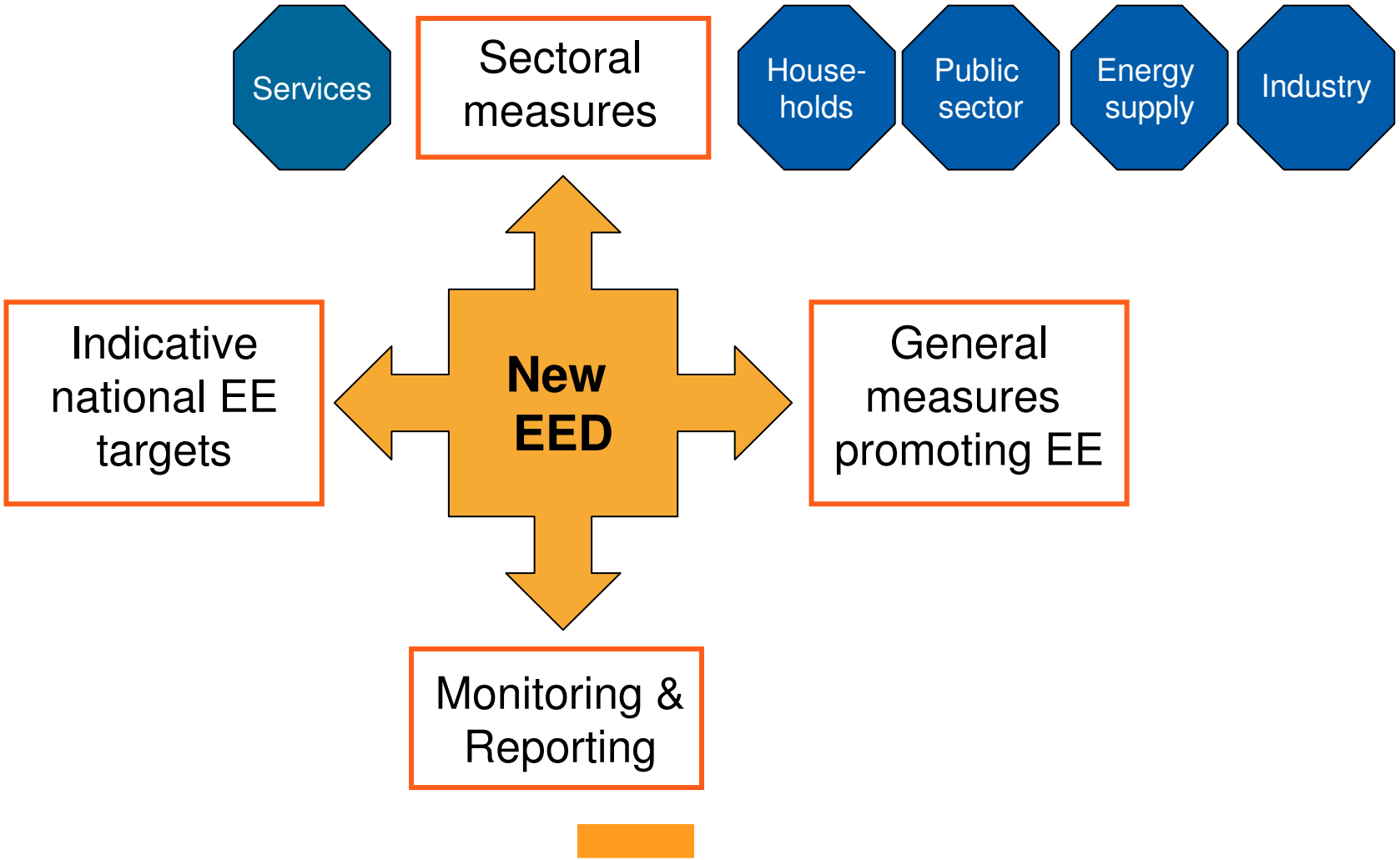
REMAINING ECONOMIC ENERGY SAVING POTENTIALS FOR 2020 THROUGHOUT THE SECTORS

Savings expected to be achieved with already existing measures

Remaining saving potential to be addressed with new measures



ENERGY EFFICIENCY DIRECTIVE



PUBLIC SECTOR TO LEAD BY EXAMPLE

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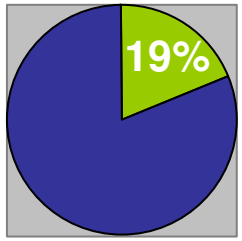
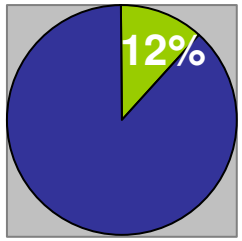
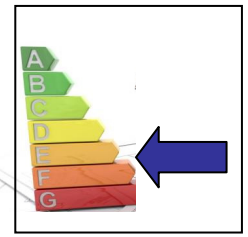


- Public sector consumption makes important share of EU's GDP



- Share of public buildings in building stock



- Low average energy performance of existing buildings stock, incl. public buildings

- Cost optimal renovation can bring up to 60% energy savings

New EE Directive

- Central government to purchase **products, services & buildings** with high energy efficiency performance + implementation review in 2015
- Annual **renovation target of 3%** (by floor area) for central government buildings
- By April 2014, MS must make a long-term strategy for mobilising **investment in the renovation** of the national building stock
- More systematic use of **energy performance contracting**

ENERGY EFFICIENCY IMPROVEMENTS IN INDUSTRY

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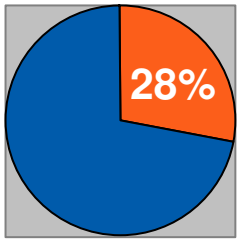

- Important share in overall final energy consumption

- Considerable progress made but potential remaining

- Energy efficient technologies and EE best practices readily available

New EE Directive

- Member States to create incentives for **SMEs** to undergo **energy audits**
- Dissemination of best practices on benefits of energy management systems for SME businesses
- **Mandatory audits for large companies** & incentives for the implementation of recommended measures and the introduction of Energy Management Systems

ENERGY SERVICES

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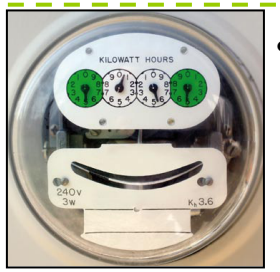

- Considerable saving potential unused in the residential and services sectors as well as industry

- Slow uptake of market for energy efficiency services

- Lack of awareness & access to appropriate information on EE benefits

New EE Directive

- National **energy efficiency obligation schemes** for utilities (but no consumption cap)
- **Certificate scheme** possible: energy suppliers can 'buy in' savings from other sectors
- Extensive provisions on **metering and billing** ('customer empowerment')
- More stringent requirements for **smart meters**: must be able to measure electricity supplied to the grid from customers' premises

IMPROVING ENERGY EFFICIENCY IN TRANSFORMATION AND DISTRIBUTION OF ENERGY

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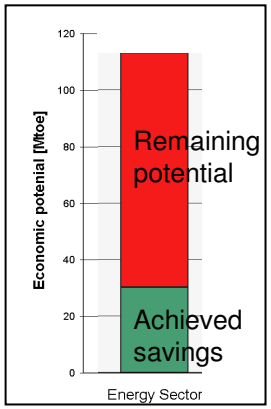


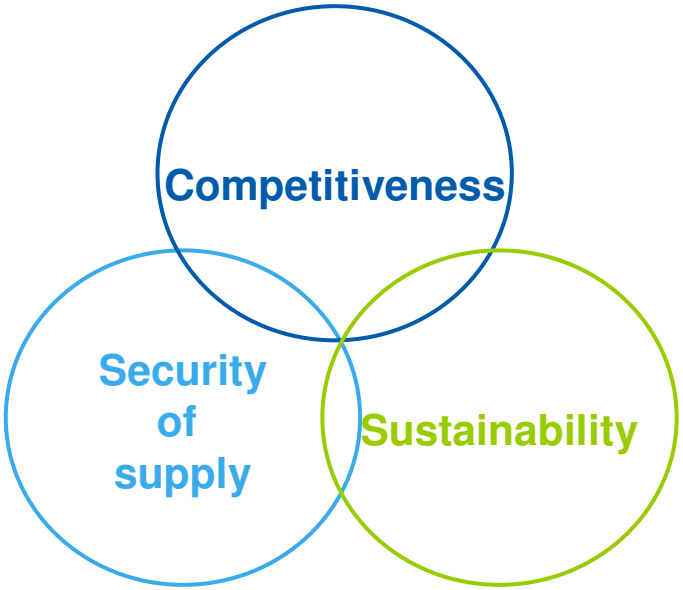
- Fragmented regulations & incentives to address waste across supply chain
- CHP uses 30% less fuel for the same amount of heat & power but level of use in EU low: **11% vs. 21%.**
- New generation installations not systematically reflecting level of Best Available Technologies

New EE Directive

- MS to carry out **assessment of potential** for CHP and district heating based on a cost-benefit analysis
- **Waste heat recovery (CHP) obligation** for new and existing power & industrial plants
- **Grid and demand response issues** for TSO's and DSO's
- **Electricity network tariffs** must reflect reductions in network costs from demand management and demand response measures

THE BENEFITS

- Reduce EU's energy bill by about € 200 bn annually in 2020
- Create up to 2 million new jobs by 2020
- Boost R&D markets for EU global leadership



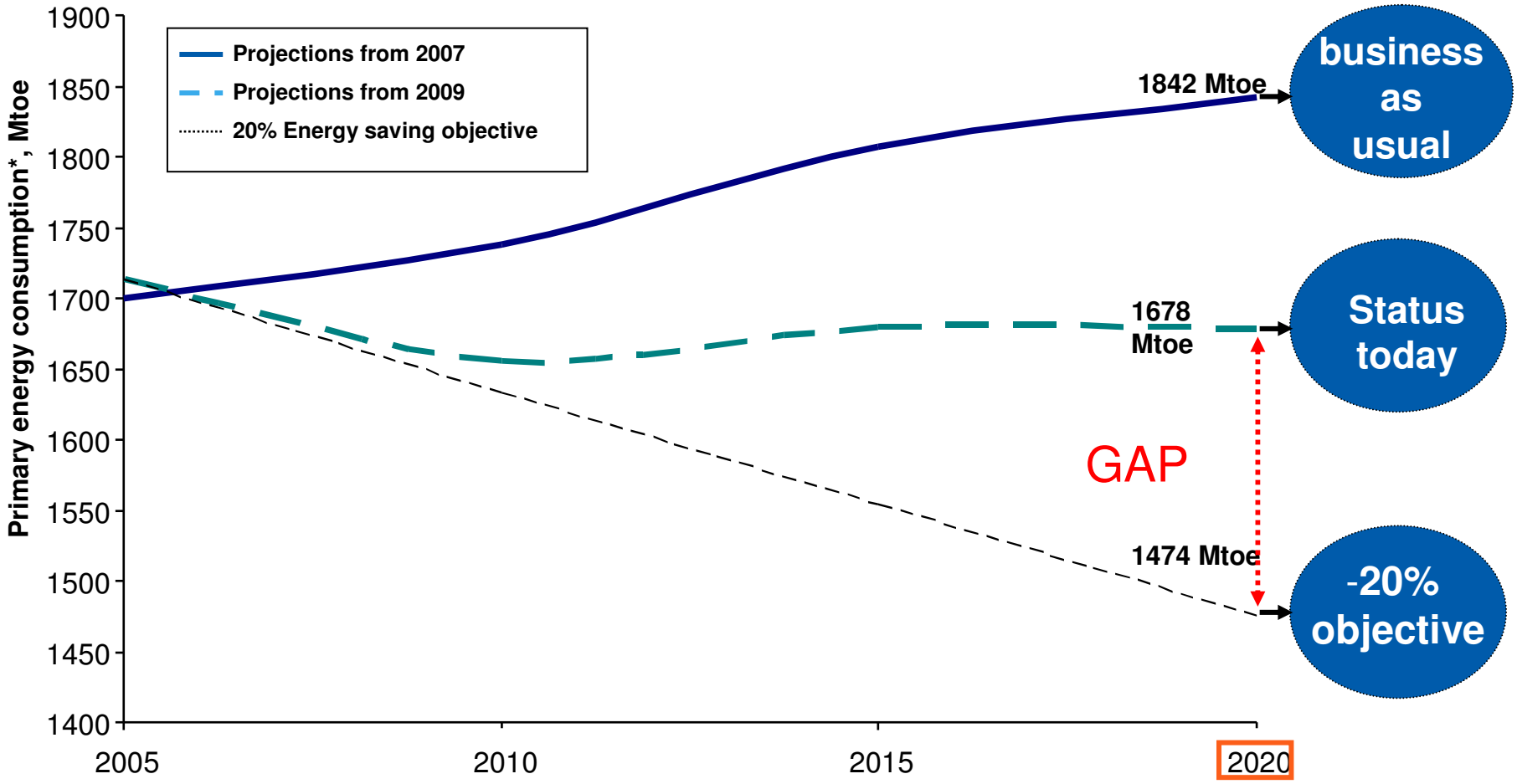
- Reduce EU's energy dependence
- Reduce investments in energy infrastructures
- Improve the energy trade balance

- Reduce CO_2 emissions
- Limit environmental degradation

For further information on energy efficiency please consult our website:

http://ec.europa.eu/energy/efficiency/

The EU 20% energy efficiency objective



* Gross inland consumption minus non-energy uses