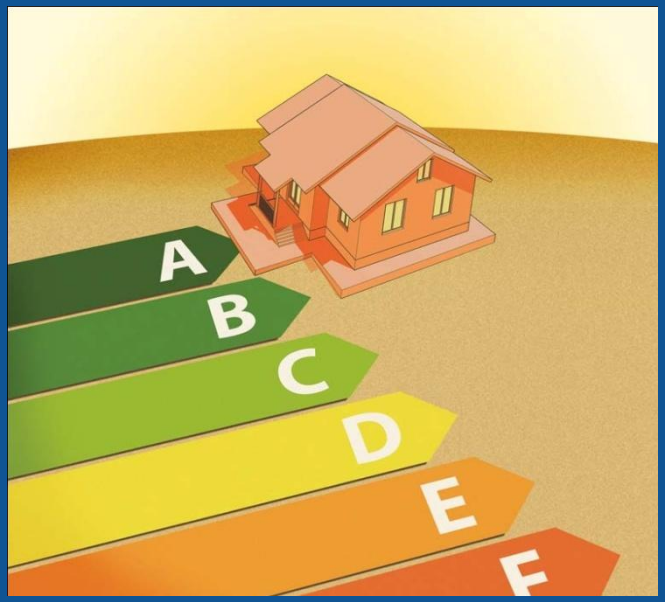

Energy Efficiency Directive: Making energy efficiency a priority

Eva Hoos
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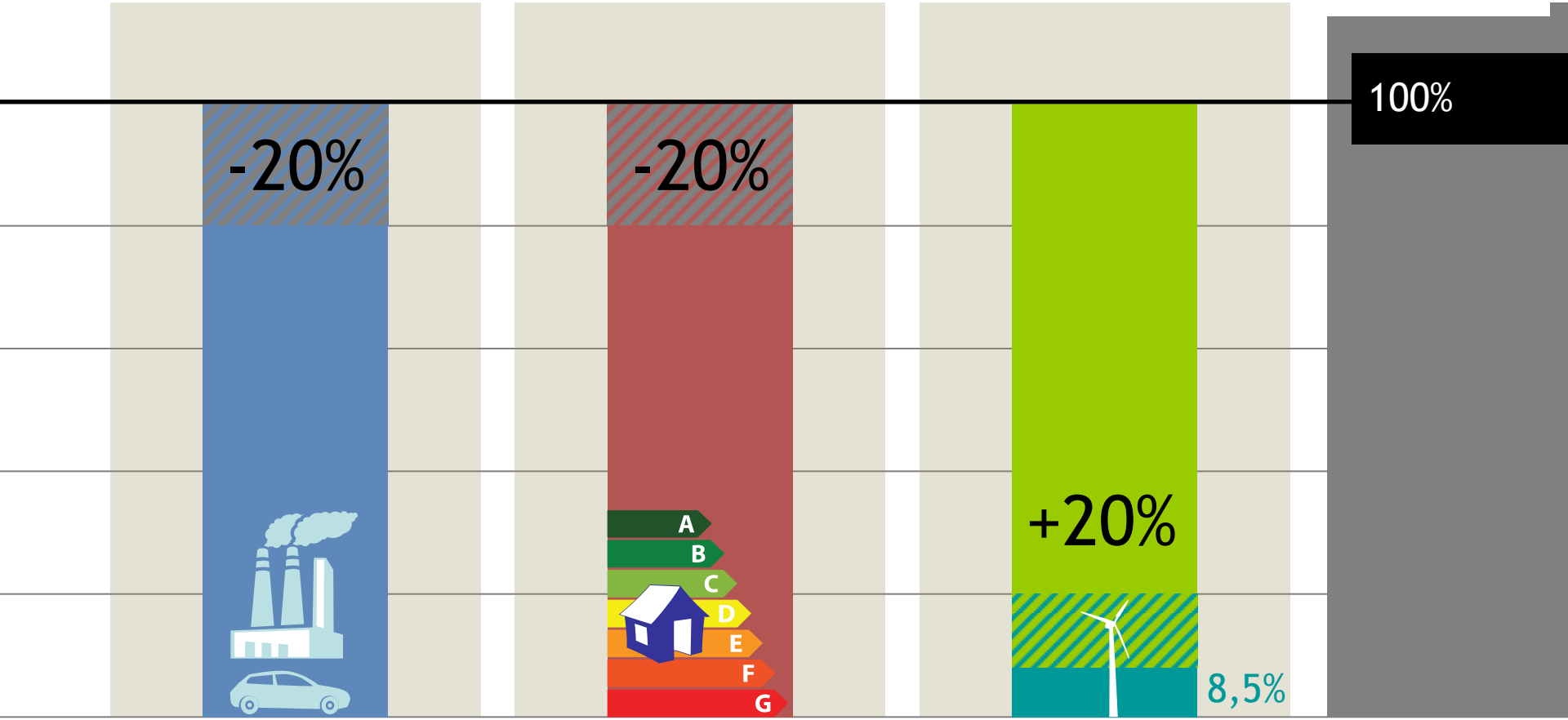
5/10/2012 Stockholm
GEODE Conference

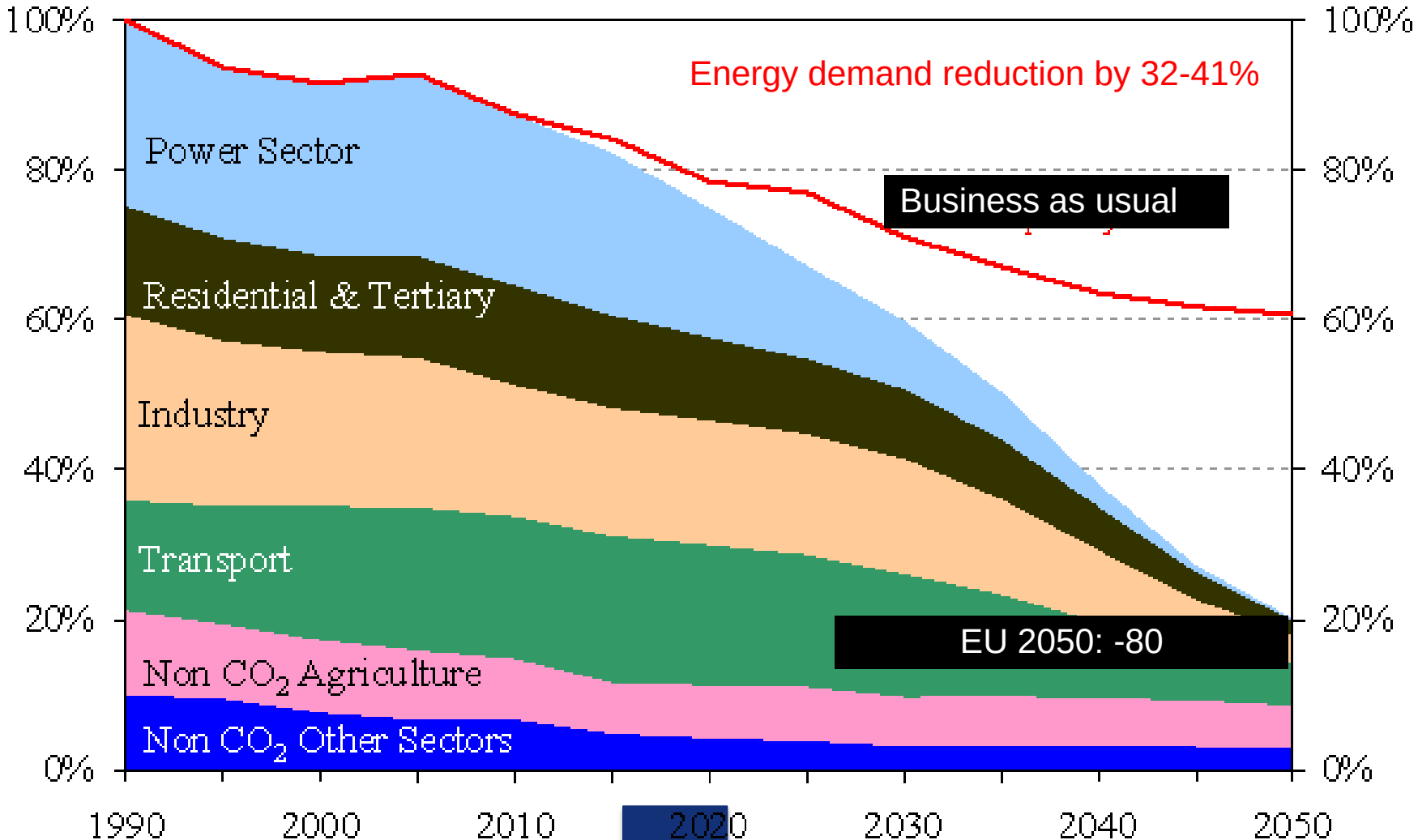
Comisión Europea

EU Energy and Climate Package 20-20-20/2020



EU 2050 roadmap

Objective: reduce GHG emission by 80-95% in 2050



MEETING ALL THREE "20-20-20 BY 2020" GOALS BECOMES A MATTER OF URGENCY

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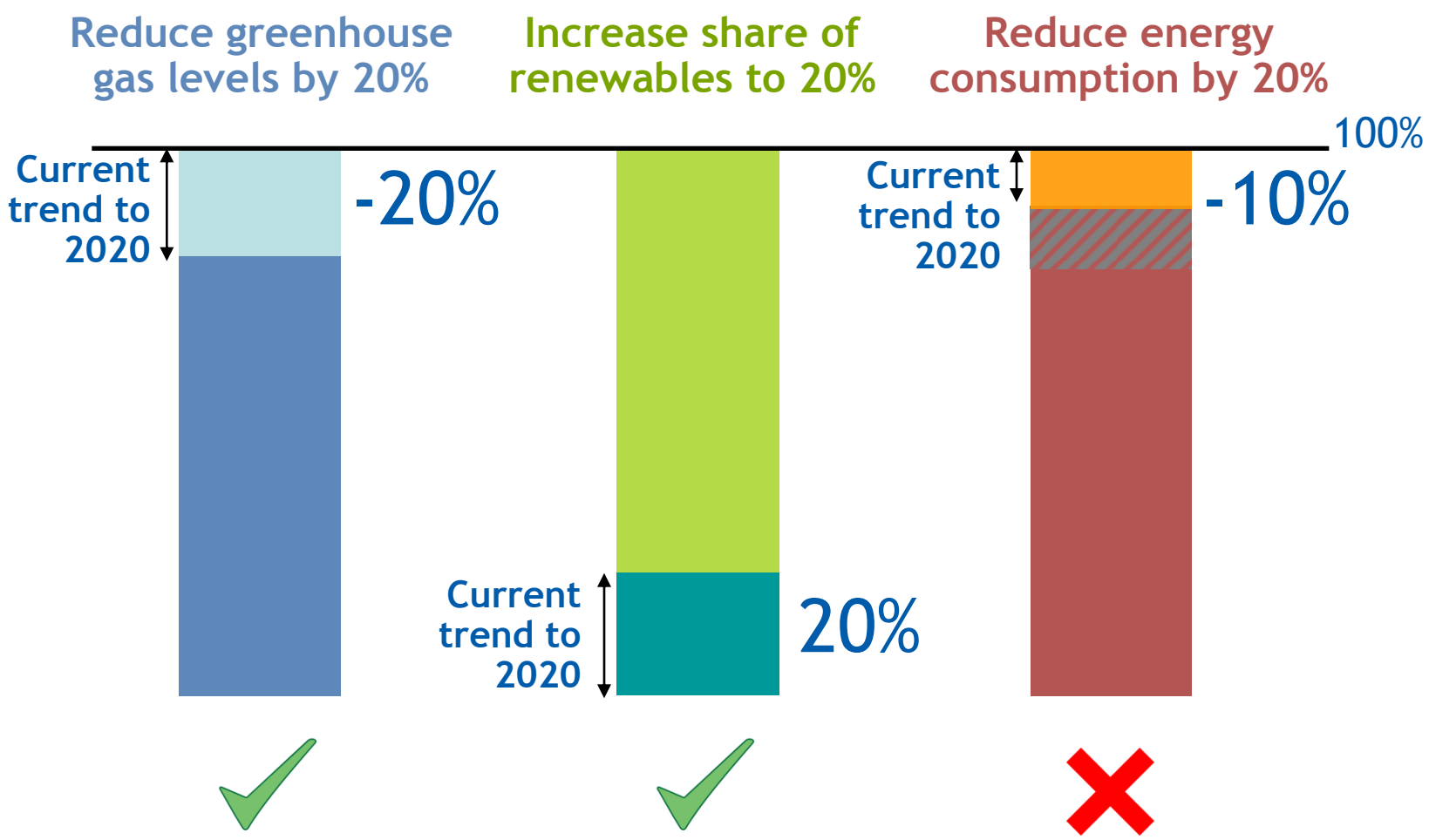
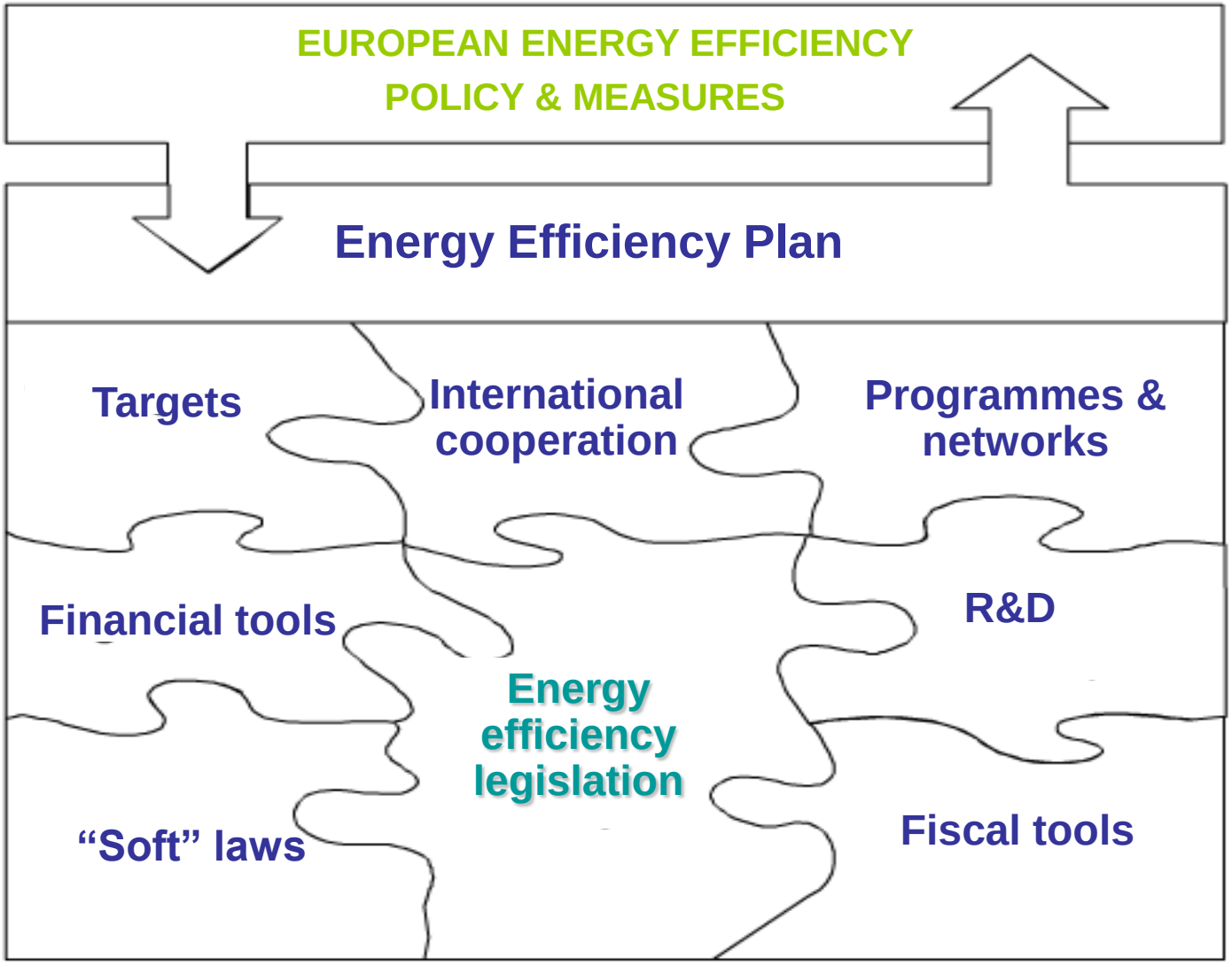
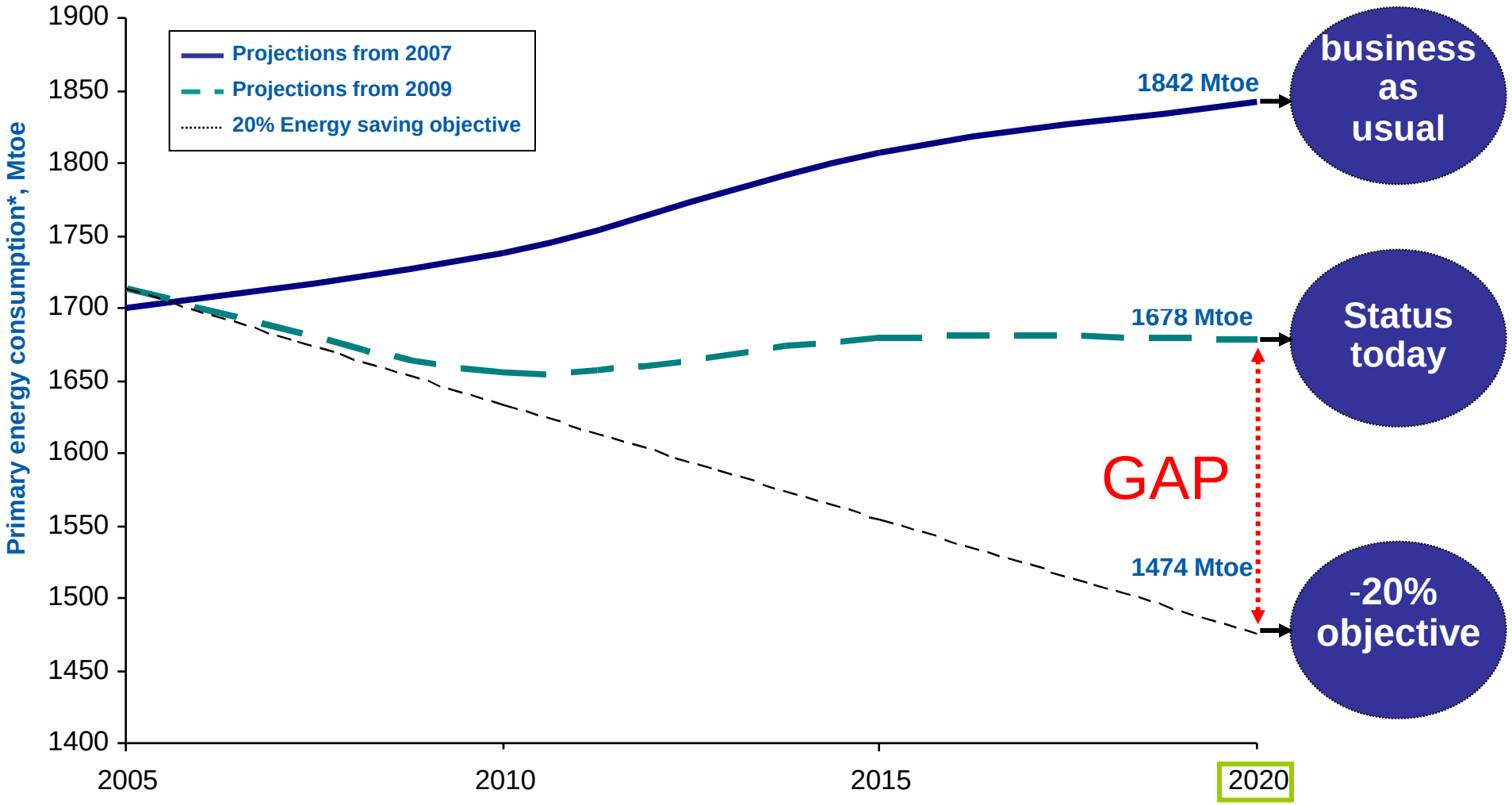


COMPREHENSIVE SET OF EUROPEAN POLICIES & MEASURES



SO FAR THE EU IS NOT ON TRACK TO MEET ITS 20% ENERGY SAVING TARGET BY 2020



* Gross inland consumption minus non-energy uses

A NEW IMPETUS IS NEEDED: COMMISSION PUTS FORWARD A NEW ENERGY EFFICIENCY DIRECTIVE

Public sector

Sectoral and horizontal measures

House-holds

Services

Energy supply

Industry

Comprehensive framework

Supply side and transformation efficiency

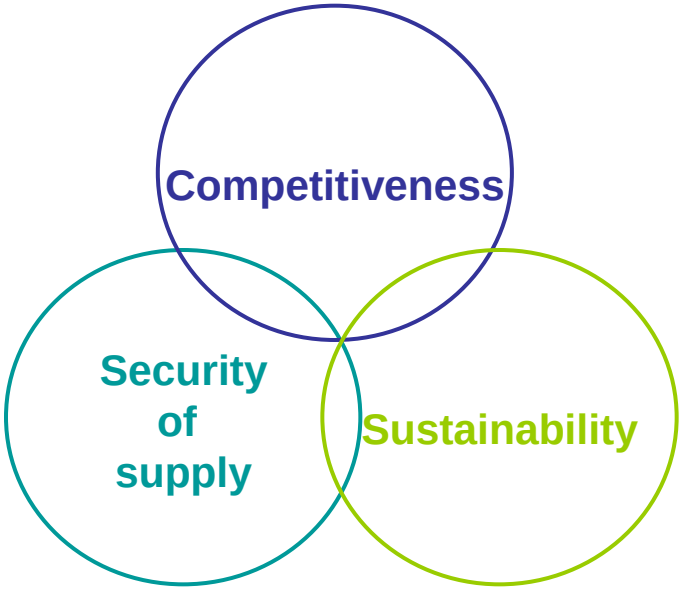
New EED

Final energy efficiency related measures

Monitoring & Reporting

THE BENEFITS

- Reduce EU's energy bill by about € 200 bn annualy 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

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MAIN MEASURES

- ➔ Targets (Art. 3)
- ➔ Buildings and Public Sector (Art. 4, 5, 6)
- ➔ EE Obligations and Alternatives (Art.7)
- ➔ Audits and Energy Management (Article 8)
- ➔ Metering, Billing, Consumers (Art. 9-12)
- ➔ Heating and Cooling, Cogeneration (Art. 14)
- ➔ Networks and Transformation (Art. 15)
- ➔ Information and Training (Art. 17)
- ➔ Energy Services and Companies (Art. 18)
- ➔ Funds, Financing, Technical Support (Art. 20)

Article 3 Targets

Step 1

Each Member State shall set indicative national target, based on either:

- primary or final energy consumption;
- primary or final energy savings;
- energy intensity.

Taking into account:

- overall EU target &
- national circumstances.

Article 3

Targets

Step 2

Notification of target to COM by 30 April 2013:

- Express targets in terms of absolute level of primary energy consumption & final energy consumption.
- Explain how & on which data basis this is calculated.

Article 3

Targets

3

By 30 June 2014 COM shall assess progress achieved & whether Union is likely to achieve energy consumption of no more than 1474 Mtoe or primary energy and/or no more than 1078 Mtoe final energy in 2020.

STEPS (Article 3(3)):

a) Sum national indicative targets

b) Assess reliability of sum against background of NEEAPs

c) Take into account additional analysis

- Development of EU energy consumption & energy intensity, compliance with implementing the EED
- Modelling exercises on EU level energy consumption

d) Compare results of the above analysis with quantity of energy consumption that would be needed for EU 20% energy efficiency target

Buildings and public sector

➔Long-term Strategy for Building Stock Renovation by 30 April 2014 and updated every 3 years

- ❖Overview of the national building stock.
- ❖Identification of cost-effective approaches to renovations.
- ❖Policies and measures to stimulate cost-effective deep renovations

➔Refurbishment target of 3% for central government buildings

- ❖For lower administrative level voluntary
- ❖Alternative approaches possible with notification

➔Energy Efficiency criteria for public purchasing

- ❖Only product, services, buildings of high-efficiency performance

Energy Efficiency Obligations and Alternative Measures

- **National energy efficiency obligation schemes** to be set in each Member States
- MS shall ensure that obliged parties – all energy distributors or all retails – achieve annual **energy savings equal to 1.5% of their energy sales by volume,** in the previous year (excluding energy used in transport) among final consumers
- Directive sets the general framework but the concrete details are to be established at national level
- **Alternative approaches** also possible but to achieve equal savings

Main steps for Energy Efficiency Obligations

1. Calculate the total **amount** of energy savings.
2. Establish which **policy measures**, **sectors** and **individual actions** will be used/covered.
3. Meet certain **basic criteria** for the different policy measures.
4. **Notify, report** and **publish** the results.

What total amount of energy savings?

- To be established for 2014-2020 period.
- To be based on the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume for the years 2010, 2011 and 2012.
- The energy sales to the transport sector may be partially or fully excluded.
- Certain exceptions possible but limited to a total 25% of the required savings:

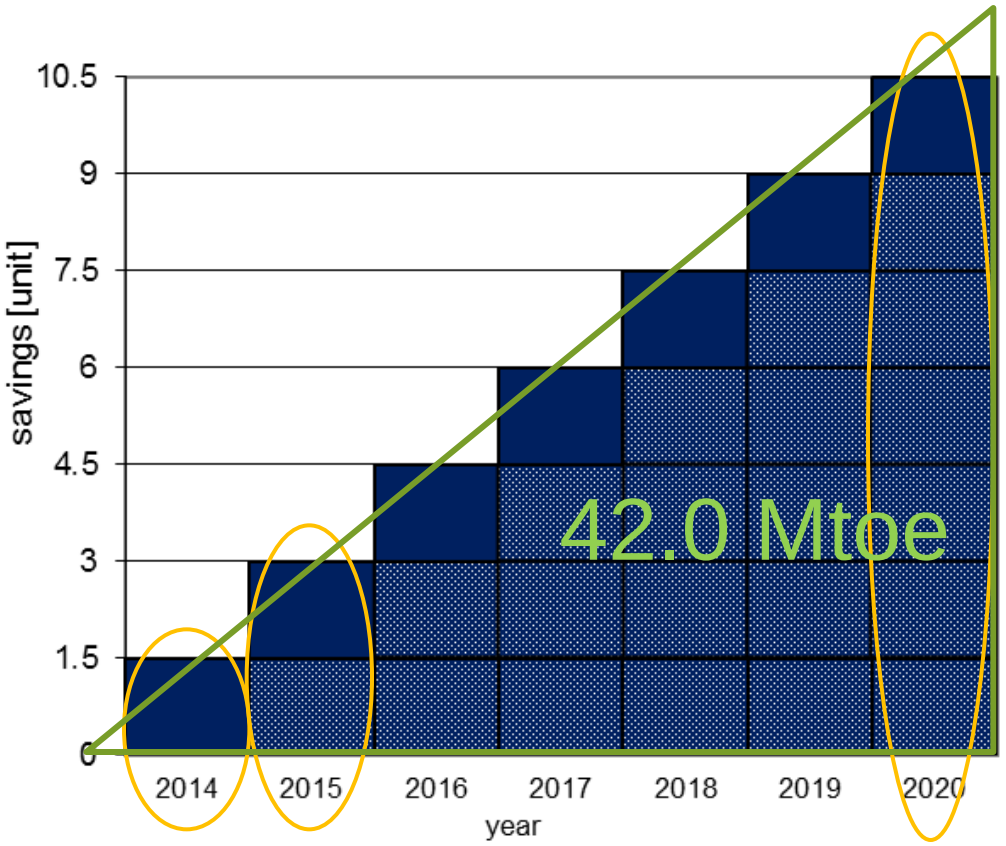
1. Recalculate the savings with lower savings rates (1.0%, 1.25%, 1.5%)
2. Partial or full exclusion of ETS industries from the calculation of savings;
3. *Allow supply side savings (from Article 14(4) and (5)(b) and Article 15(1) to (6) and (9)); and*
4. *Count energy savings from early action since 31 December 2008.*

Which savings are 'new' and 'cumulative'?

Ex. Average distributed/sold volumes of energy, excl. transport, for 2010-11-12 equals 100 Mtoe

2014	1.5 Mtoe
2015	3.0
2016	4.5
2017	6.0
2018	7.5
2019	9.0
2020	10.5
Total	**42.0 Mtoe**

Schematic illustration



Note: there is no obligation on a trajectory

Which measures, sectors, individual actions?

- Energy efficiency obligation schemes and/or alternative policy measures.
- Sectors: final energy use (plus exceptionally individual actions from energy supply and transmission within the '25% bundle').
- Individual actions:
  - Policy-driven individual actions carried out within 1/12014-31/12/2020 period (plus exceptionally 'early action' actions from 31/12/2008 possible within the '25% bundle');
  - Basic additionality requirements (e.g. Ecodesign).

Which main basic criteria?

- Energy savings are calculated using the methods and principles provided in the Directive (Annex V)
  - » Methods for calculating energy savings;
  - » 'Demonstrably material' savings;
  - » Basic additionality;
  - » Lifetimes;
  - » Other important aspects for consideration.
- Measurement, control and verification systems are established independently of obligated parties.
- Certain reporting, monitoring and data transparency requirements are met.

Audits (Article 8)

"*Member States shall promote the availability to all final customers of **high quality energy audits** which are cost-effective […]":*

→Independence, qualified and/or accredited experts, supervision aspects;

→Possible to use in-house experts or energy auditors if national quality check scheme;

→Member States shall establish minimum criteria to ensure high-quality of energy audits (Annex VI);

→Stand alone or part of a broader environmental audit.

Mandatory Audits

- Audit is **mandatory for large companies** ("other than SMEs") to carry out energy audits:

  →At least **every four years**;

  →Independence and high-quality aspects;

  →Possible to implement this obligation under voluntary agreements + supervision;

  →Exemption for large companies implementing energy or environmental management systems under certain conditions.

Metering (Art.9)

General requirements:

- Final customers to be provided with accurate competitively priced meters reflecting actual consumption and time of use (transposition date)
- Individual metering requirements cover heating/cooling/hot water (in central heating systems by 31 December 2016)

Where smart meters are implemented:

- Information on actual time of use
- Meter/s to account for electricity fed in grid
- On request metering data on electricity in-put/ off-take should be available for consumers or to third parties

Billing information Article 10

Where smart meters are not available:

- Billing based on actual consumption at least once per year by 31 December 2014; obligation can be fulfilled by self-reading; only where no information is provided billing on estimated consumption or flat rate acceptable
- Billing information twice per year or quarterly on request or if consumers opted for electronic billing.

Where smart meters are available:

- Cumulative data for three years or contract duration
- Detailed data by day/week/month/year for two years

→Metering and billing information, bills to be provided free of charge.

Exception: heating/cooling/domestic hot water provided in multi-unit buildings based on sharing the cost between final customers in such buildings.

Efficiency in heating and cooling (Article 14)

basic rules

- **<u>COMPREHENSIVE ASSESSMENT</u> of the potential for high-efficiency cogeneration and efficient district heating/cooling**

  → covering the entire national territory

  → based on a cost-benefit analysis

  → using the methodology in Annex IX Part 1

  → containing the information in Annex VIII

  The first assessment should be notified by **31 December 2015** and updated every 5 years

Promotion of efficiency in heating and cooling

basic rules

THE COMPREHENSIVE ASSESSMENT should

- help promote efficient heating and cooling and develop heat markets at national and ...

  → also at regional and local levels .... by encouraging taking into account the potential

- identify measures (strategies and policies) to be taken to realise the potential with a cost-benefit surplus

- identify those plants that should prepare individual cost-benefit analysis and participate in measures

Promotion of efficiency in heating and cooling

basic rules

RULES FOR INDIVIDUAL INSTALLATIONS:

- Prepare cost-benefit analysis (CBA) and reflect outcome in the installation

Authorisation/permit criteria for electricity generation and industrial installations should contain:

- a general obligation to prepare a cost-benefit analysis
- provide for a CBA methodology using Annex IX, Part 2
- provide how the (+)outcome is to be reflected in individual authorisation/permit decision
- provide for exemptions (optional) based on 1) the results of comprehensive assessment; 2) paragraph 6 exemptions (peak load/back, nuclear, CCS); 3) thresholds (available only for industrial and DH/C)

➢ **Individual authorisation/permit decisions should reflect these rules. "Ad-hoc" exemption from reflecting (+) outcome should be notified and reasoned within 3 months**

Specific network rules for CHP

At both transmission and distributions level

- Priority or guaranteed access and priority dispatch
  - Linked to high-efficiency criterion calculated with reference values and common methodology – Annex I-II — unchanged
  - Guaranties of origins – Annex X — updated
- Transparent rules on connection procedures, charges and timetable, including benchmark length – Annex XII — New!
- Small-scale and micro-CHP: more favourable grid access possible, "install and inform" authorisation for micro-CHP — New!
- Be part of network efficiency solutions promoted under general network rules, especially:
  - Participation in balancing market — New!
  - Network incentives for close-to-consumption locations (distributed CHP)

Measures for **efficient** heating and cooling

- High-efficiency cogeneration (HECHP) and efficient district heating and cooling (EDHC) are favoured

  Definition 34 and 41

- Efficient individual heating and cooling can also be promoted

  Definition 42 and 43

  → If country wide cost-benefit analysis justifies it and by measures based on the comprehensive assessment

  → If HECHP and EDHC is not cost-effective

- Support should be based on electricity produced from HECHP and the waste heat being effectively used to achieve primary energy savings

- EU State-aid rules apply

Networks (Article 15)

- National energy regulatory authorities must **give incentives to TSOs and DSOs** to make available system services to take advantage of the energy efficiency potential of smart grids.
- Network regulation and network tariffs should facilitate **demand response** in organized electricity markets to:
  - → Shift customers' demand from peak to off-peak
  - → Induce them to reduce demand
  - → Store energy or
  - → Connect or dispatch electricity from distributed generation
- **Network tariffs** must reflect reductions in network costs from demand response, distributed generation and should facilitate possibilities of dynamic pricing (time-of-use tariffs; critical peak pricing; real time pricing; and peak time rebates).

Information and training (Article 17)

- Member States shall:
  - Ensure that information on EE mechanisms/ financial and legal framework is transparent and disseminated to all relevant market actors;
  - Encourage the provision of information to banks/fin. institutions on possibilities for financing EE;
  - Establish appropriate conditions for market operators to provide info/advice to consumers;
  - Promote suitable info/awareness raising/training initiatives to inform citizens.
- The Commission shall:
  - Encourage European social partners in their discussion on EE, and review whether its support to platforms also fosters EE training and take measures if needed.
  - Encourage the exchange and dissemination of information on MSs' best practices.

Energy Services Article 18

- Member States to promote energy service market and access for SMEs (information, label, provider list, model contracts, best practices, …).
- Member States to support proper functioning of the energy service markets (point(s) of contact, removing barriers, ombudsman, …) if needed.
- Member States to ensure that distributors, distribution system operators or retail sales companies impede competition.

Removal of general barriers (Article 19)

- Split incentives.

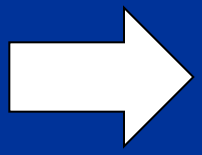
- Legal and regulatory provisions, and administrative practices preventing life-cycle costing and use of EPC in public budgeting/accounting/purchasing.

Funds, Financing (Article 20)

- *"[…] Member States shall facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures to maximise the benefits of multiple streams of financing."*
- Commission is to provide assistance directly or via EU financial institutions and facilitate the exchange of best practices .
- Member States may set up Energy Efficiency National Funds
  - » Contribution to the Funds by Member States or companies can be a way of fulfilling the public building refurbishment targets or energy efficiency obligations, respectively

EXPECTED OUTCOMES

- Many provisions were watered down in the negotiation process
- Currently on track to achieve only half of the envisaged 20% target.
- The EED, the Transport White Paper and ecodesign measures will help us closing the gap. The combined efforts will enable the EU to reach 17-18% energy savings by 2020 according to our estimates.
- However, this estimate is based on the assumption that the binding measures foreseen reach a maximum impact quickly.



Delivery on EU target will depend on Member States

EED - Timeline

11 September 2012	• European Parliament vote
26 September 2012	• First of series of expert meeting with Member States to discuss implementation
October 2012	• Council vote – 4/10 • EP/Council signature – within 22-26/10 Plenary
Nov. – Dec. 2012	• Publication in OJ – end November • Entry into force – end 2012
May/June 2014	• Transposition deadline – 18 months after entry into force (note: some Articles have earlier or later deadlines)

EED upcoming timeline

Oct/Nov/Dec 2012	• Further committee meetings to discuss open issues of the EED until end of this year. • Concerted Action on Energy Service Directive will be geared up to EED.
October 2012	• Council vote – 4/10 • EP/Council signature – within 22-26/10 Plenary
November/ December 2012	• Publication in OJ – end November • Entry into force – end 2012
By 31 December 2012	• Template for the National Energy Efficiency Action Plans.
By 30 April 2013	• Member States submit National Reform Programmes with national energy efficiency objectives.

EED upcoming timeline

By 30 April every year

By 30 April every third year from 2014

Reporting cycle :

- MS to prepare short reports within the National Reform Programmes every year.
- MS to prepare comprehensive reporting through National Energy Efficiency Action Plans every three years from 2014 (including in 2014 report assessment of barriers and measures as required in Article 19 and on lifetimes as required in Annex V (3) (e).
- COM to provide feedback on the reports.

By November/ December 2013

- MS to report on key features of implementation of Articles 7 and 20(6) (*i.e.* methodology, policy measures based on Article 7 (9) and Annex V (4)). (12 months after entry into force)

By 31 December 2013

- MS to set up inventory of central government buildings (Article 5).
- MS to notify of alternative strategies for Article 5 (if applied).
- MS to notify CHP obligation exemptions (Article 14).

By 1 January 2014

- MS to start renovating central government buildings or apply alternative approaches

By 30 April 2014

- MS to publish national renovation strategies (Article 4)

EED upcoming timeline

By May/June 2014	• MS to transpose the Directive (note: some Articles have earlier or later deadlines) (18 months after entry into force) • MS to notify their Directive implementing provisions (18 months after entry into force) • MS to notify 25% exemption, if applied, within Article 7 (3)
By 30 April 2014 and every year after	• MS to report statistics on national electricity and heat CHP production in accordance with Annex I
By 30 June 2014	• COM to report on whether EU is on track to reach its 20% energy efficiency goal.
By 31 December 2014	• MS to ensure that billing information is accurate and based on actual consumption • MS to evaluate sufficiency of certification/accreditation/ qualification and, if needed, use schemes in accordance with Article 16.
By 30 June 2015	• MS to assess potential for improving energy efficiency in gas and electricity infrastructure.

EED upcoming timeline

By 30 June 2015	• MS to assess potential for improving energy efficiency in gas and electricity infrastructure.
By November/ December 2015	• MS to ensure large enterprises have undertaken energy audits (3 years after entry into force). • COM to review and report on the effectiveness of the implementation of Article 6 (3 years after entry into force).
By 31 December 2015	• MS to assess the potential for district heating and cogeneration & notification to COM.
By 30 June 2016	• COM to report on the implementation of Article 7 on energy efficiency obligation schemes
By 31 December 2016	• MS to arrange for individual heat meters in multi-apartment & multi-purpose buildings.
By 30 June 2018	• COM to report on the implementation of Article 19(1) on removal of barriers

Thank you very much !

For further information on energy efficiency please consult our website:

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