European Climate Foundation

# Tapping energy efficiency as a first step in Europe's low-carbon energy transition

Berlin, Germany
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# CONTENTS

# About us

## Mission

To promote climate and energy policies that greatly reduce Europe's greenhouse gas emissions and to help Europe play an even stronger international leadership role to mitigate climate change

## What we do

We collaborate with grantees and experts from the field to design and fund strategies that support the adoption and implementation of climate and energy policies in Europe. Majority of funds are re-granted to NGOs. We also commission papers, convene stakeholders and build alliances among a wide range of partners in government, business and the NGO sectors.

## Funding Partners

The William and Flora Hewlett Foundations, Children's Investment Fund Foundation, ClimateWorks Foundation, Stordalen Foundation, Arcadia Fund, McCall MacBain Foundation, Oak Foundation, Dutch Postcode Lottery
Plus various project funders

# Where we operate: priority geographies

| Where | Why |
|---|---|
| Brussels / EU | Influence EU legislative agenda (via European Commission and European Parliament) |
| Germany | Ensure EU Council leadership; Energiewende |
| UK | Rebuild EU Council leadership; Policy innovation potential |
| France | Ensure EU Council leadership; French Energy Transition Law |
| Poland | Prove a transition to a low-carbon economy by supporting effective implementation of EU directives into national policies and programmes |
| CEE network | Support effective implementation of EU directives via a transnational implementation support network |
| Spain | Prove sustainable economic recovery with alignment of effective implementation |

Country programme: multi-programme priority with coordinated political strategy and budgets

Lighter engagement: EE programme only (and limited) investment

# CONTENTS

# Overview of benefits of Energy Efficiency in the current economic context in Europe

## Challenges

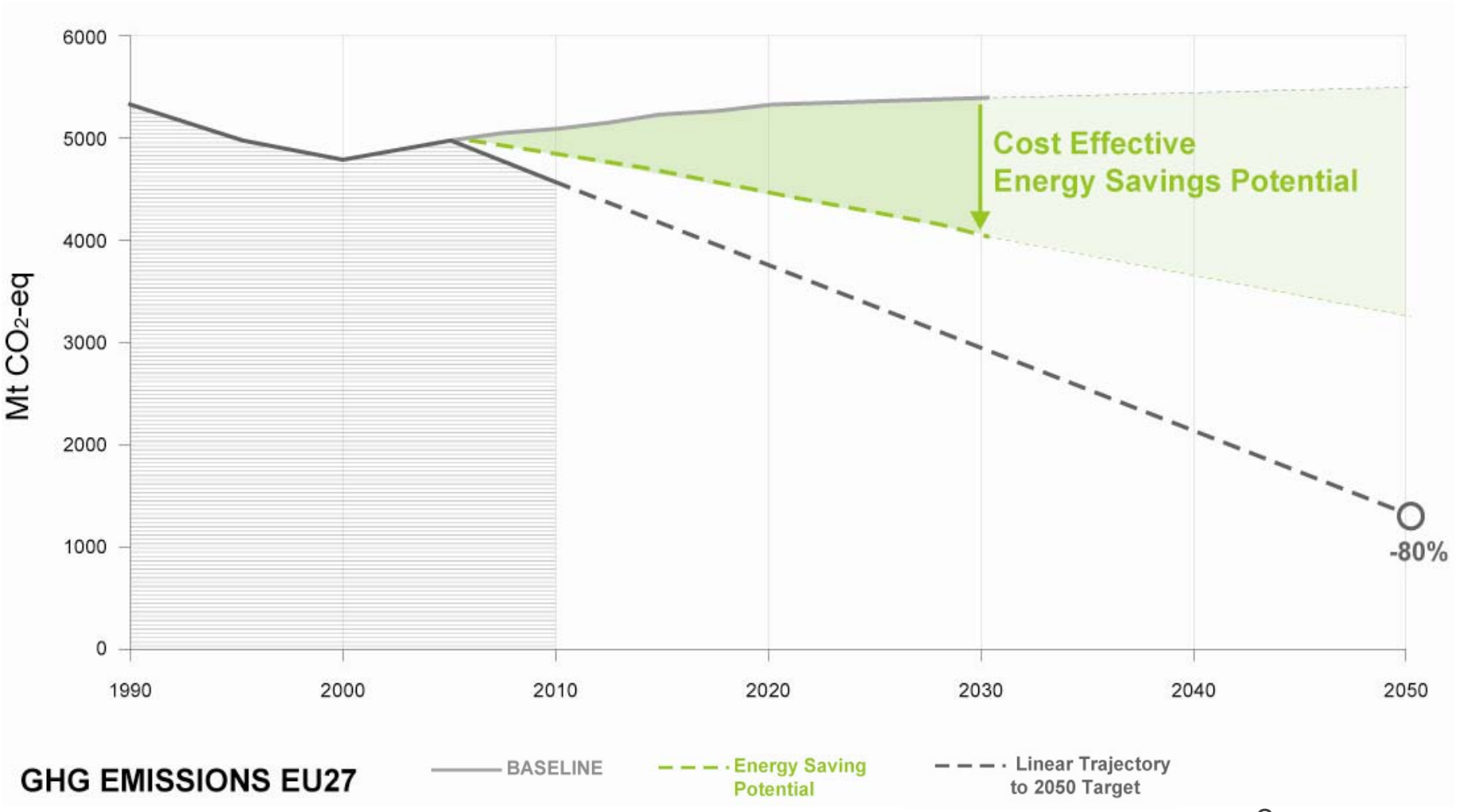
- ✓ European economic stagnation
- ✓ High unemployment
- ✓ High fossil fuel import dependency
- ✓ Energy affordability
- ✓ Climate change
- ✓ Air and water pollution

## Opportunities

- ✓ Industrial productivity and competitiveness
- ✓ Macroeconomic benefits and jobs
- ✓ Reduce import dependency
- ✓ Energy provider and consumer benefits
- ✓ GHG emissions reduction
- ✓ Improved health & environmental quality

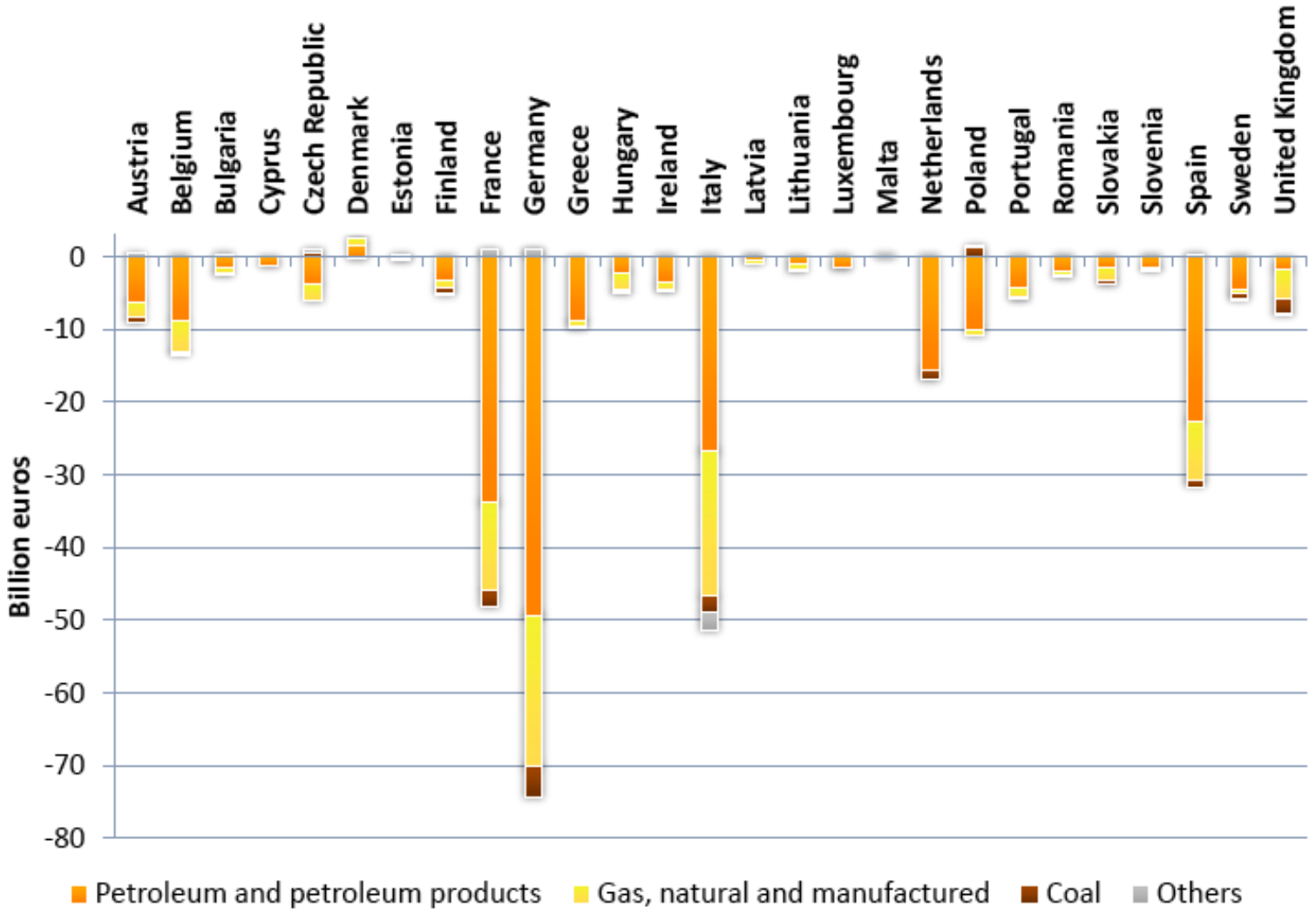
# Europe's potential for energy efficiency

It is half the potential for achieving the EU's GHG emissions target



# 25 out of 27 EU member states are net oil & gas importers

## Reducing Europe's dependency on imported fuels

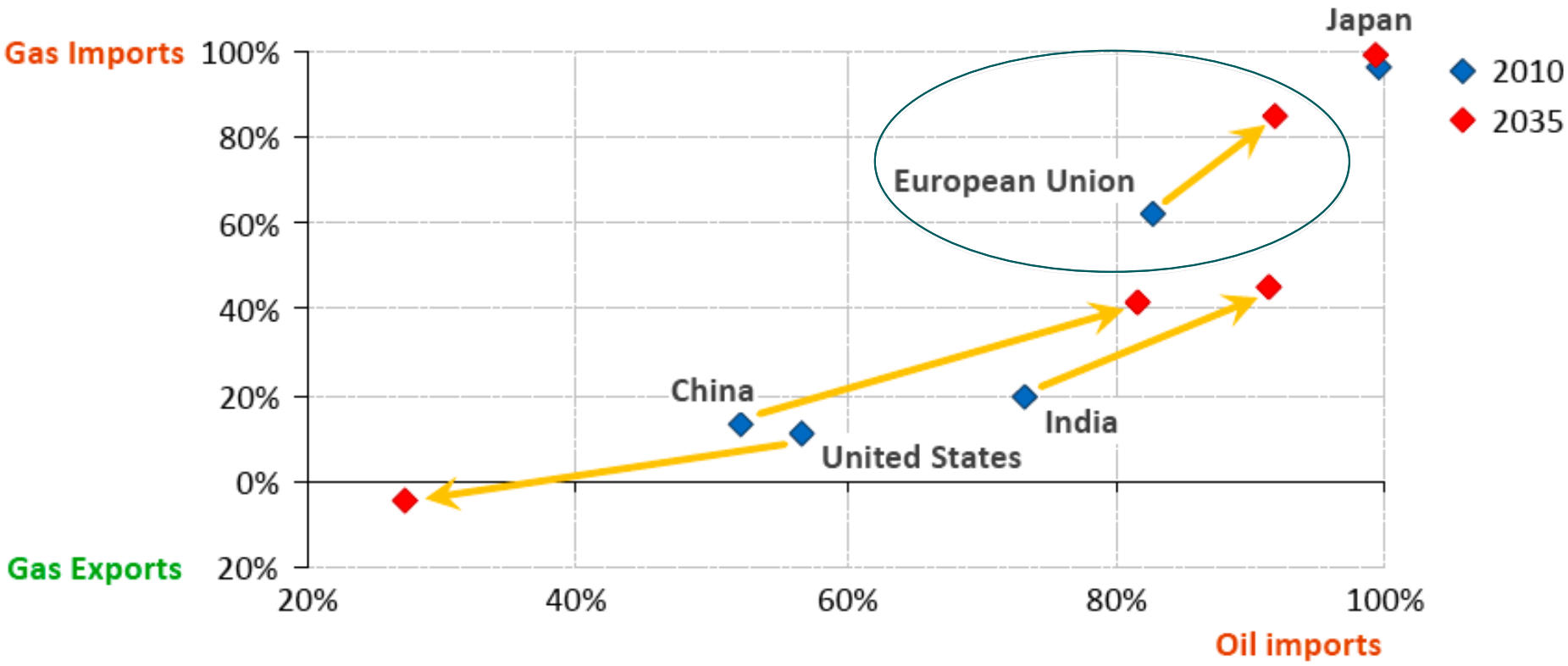





Source: Eurostat

# WEO projects this situation to worsen by 2035

Net oil & gas import dependency in selected countries



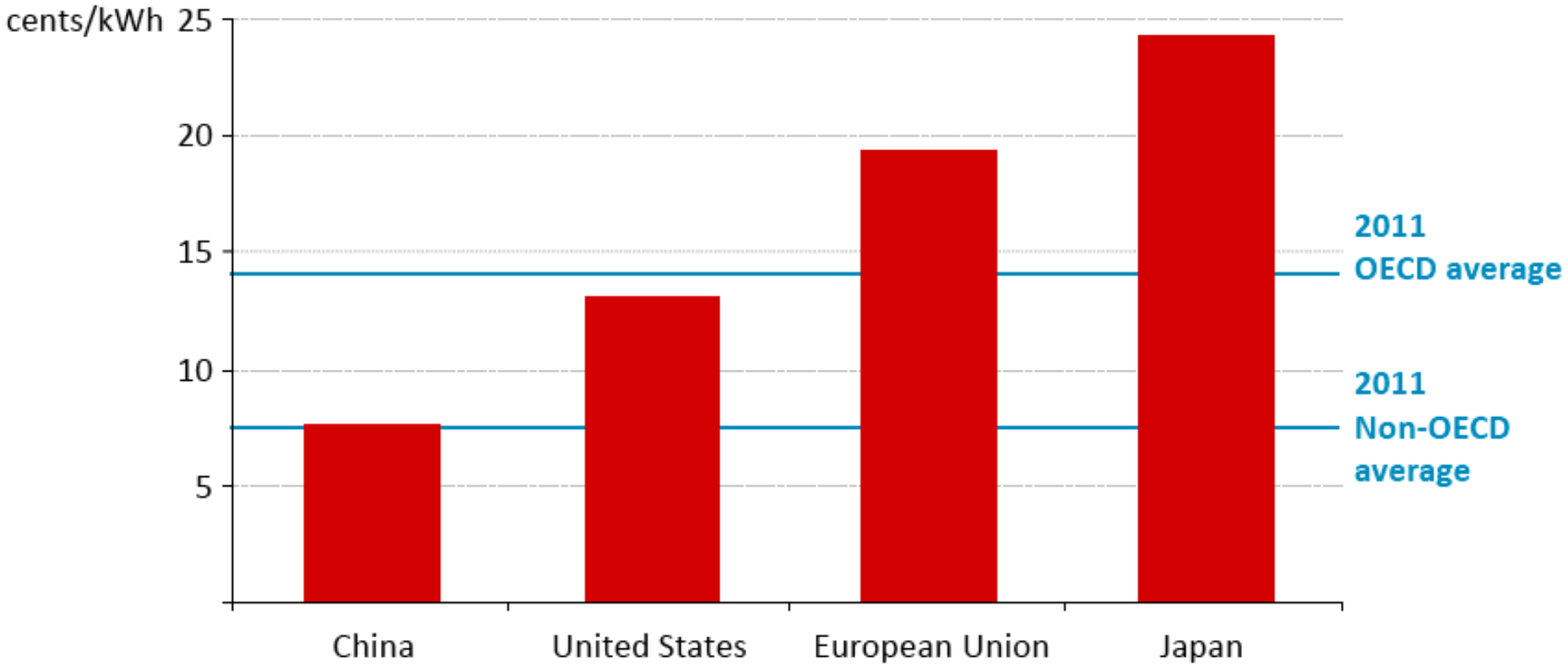



Source: WEO 2012

# EU energy prices will be nearly 3x China in 2035

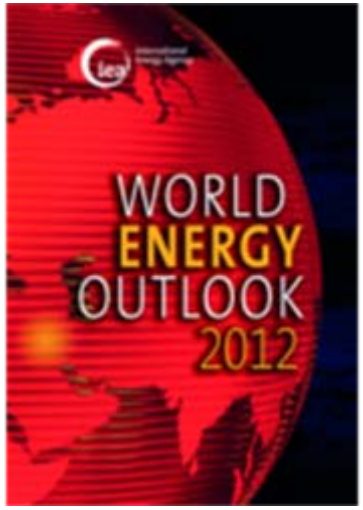
## Reducing energy bills

### Average household electricity prices, 2035




Source: WEO 2012

# Yet, the energy savings resource is not being tapped




- 2/3 of economic potential remains untapped in 2035

Europe must lead the way if it wants to
- Stay globally competitive
- Provide affordable energy to its citizens and industry
- Reduce GHG emissions

Key factors:
- Politics
- Implementation pathways

## EE brings huge benefits – i.e. on energy prices

- Total net savings of reaching the 20% EE target by 2020 can be estimated at €200 billion annually
- Energy savings brings direct savings and indirectly reduces energy prices, by
  - ➜ Reduced demand has downward effect on fossil fuel prices
  - ➜ Electricity prices will be lower – merit order effect
  - ➜ Fewer investments in infrastructure needed

Ecofys 2012, Saving energy: bringing down Europe's energy prices for 2020 and beyond

CONTENTS

## Current energy efficiency policies at EU level

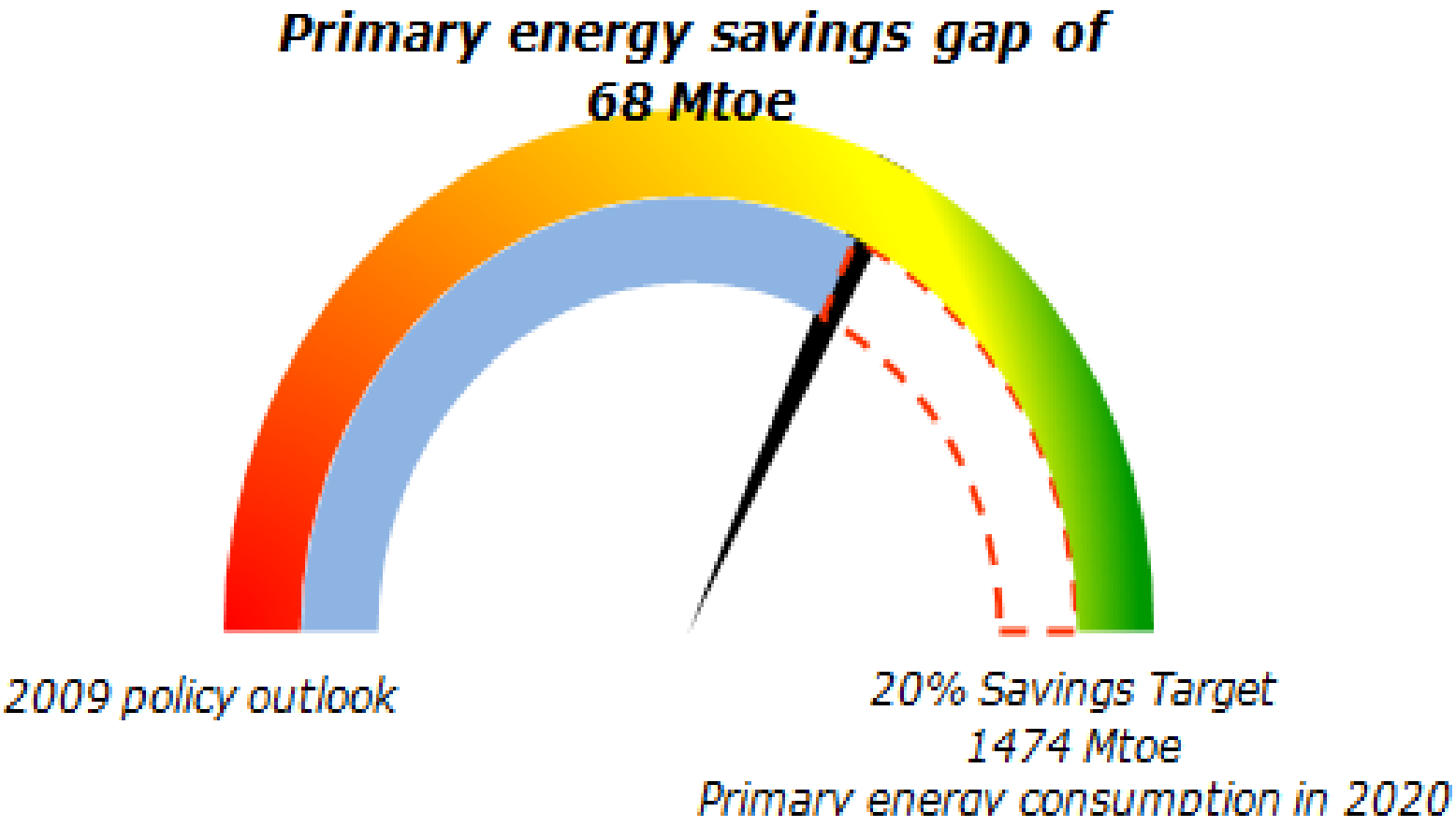
- 2020 Climate and Energy package: 3x20% target. EE non-binding target.
- Energy Efficiency Directive:
  - ➜ 1.5% annual binding savings target
  - ➜ national building renovation roadmaps
  - ➜ 3% of national public buildings to be renovated energy efficiently each year
- Energy Performance of Buildings Directive:
  - ➜ By 2020, new buildings have to be ‘nearly zero energy buildings’
  - ➜ Other measures to improve energy efficiency of buildings

## Current energy efficiency policies at EU level (continued)

- Ecodesign and Labelling directive
  - ➜ Minimum efficiency standards for appliances (household and commercial)
  - ➜ Energy label for appliances

- Car standards 95gr/CO2 per km
  - ➜ Brings more than 500,000 additional jobs in 2030
  - ➜ Saves the owner of a new car around € 300-400 annually
  - ➜ Reduces import dependency on oil
  - ➜ Reduces CO2-emissions

# Still, we will not achieve 20% savings by 2020



CONTENTS

## Principles of a new policy package for 2030

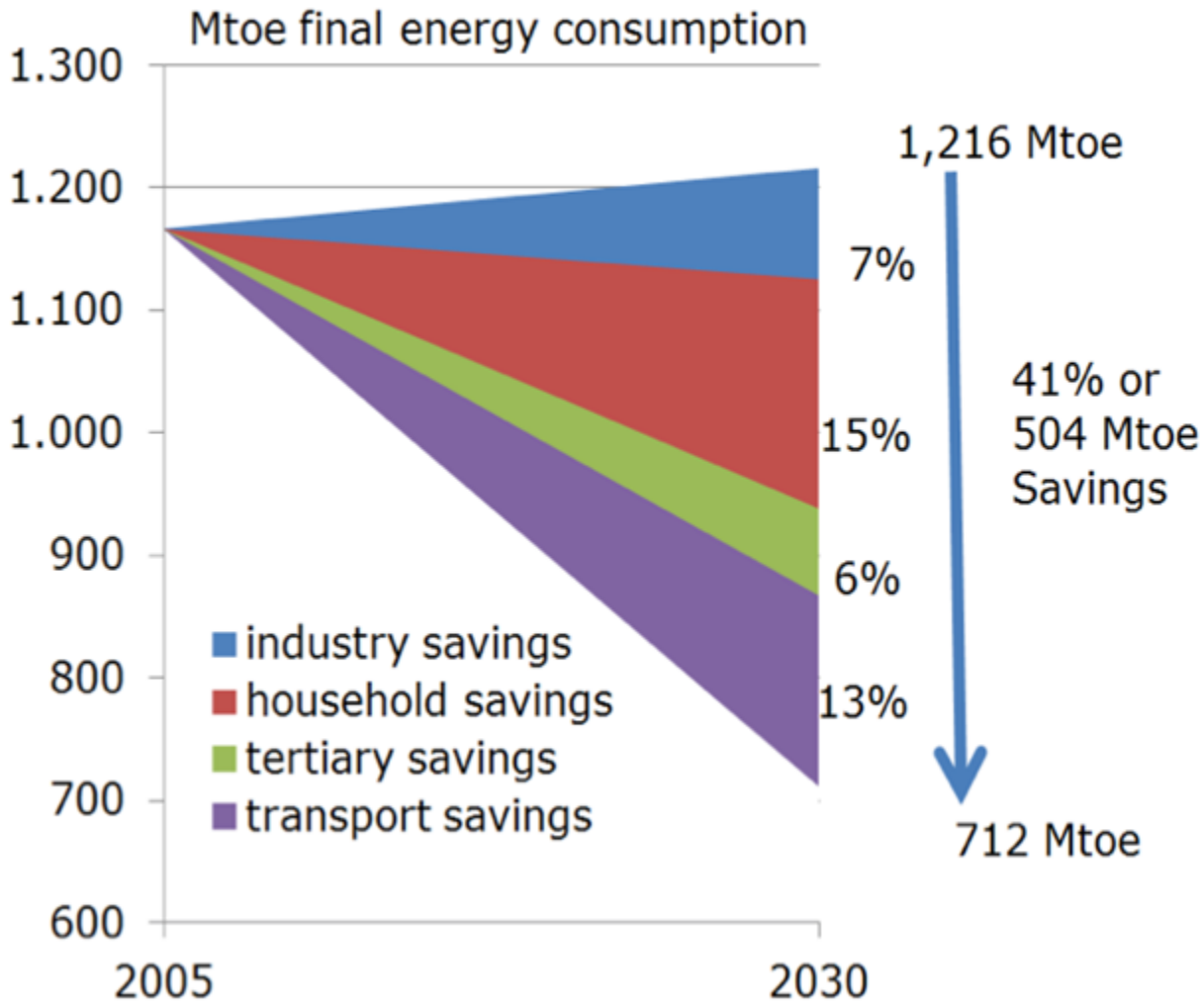
- EU global leader in transition to low-carbon economy
- Targets to be in line with 95% GHG-emission reduction by 2050
- A framework that integrates climate change needs, energy affordability, security of supply and competitiveness concerns
- Coherent set of targets

## Potential for Energy Efficiency in 2030 (Coalition for energy savings)

- Cost-effective energy saving potentials until 2030 can be found in
  - ➜ transport (41%)
  - ➜ households (61%)
  - ➜ tertiary sector (38%)
  - ➜ industry (26%)

(Fraunhofer, 2009, 2012)

# A target of 41% is feasible



# EE target for 2030

- 40% binding end-use energy savings target for 2030 is what the Coalition for Energy Savings asks for

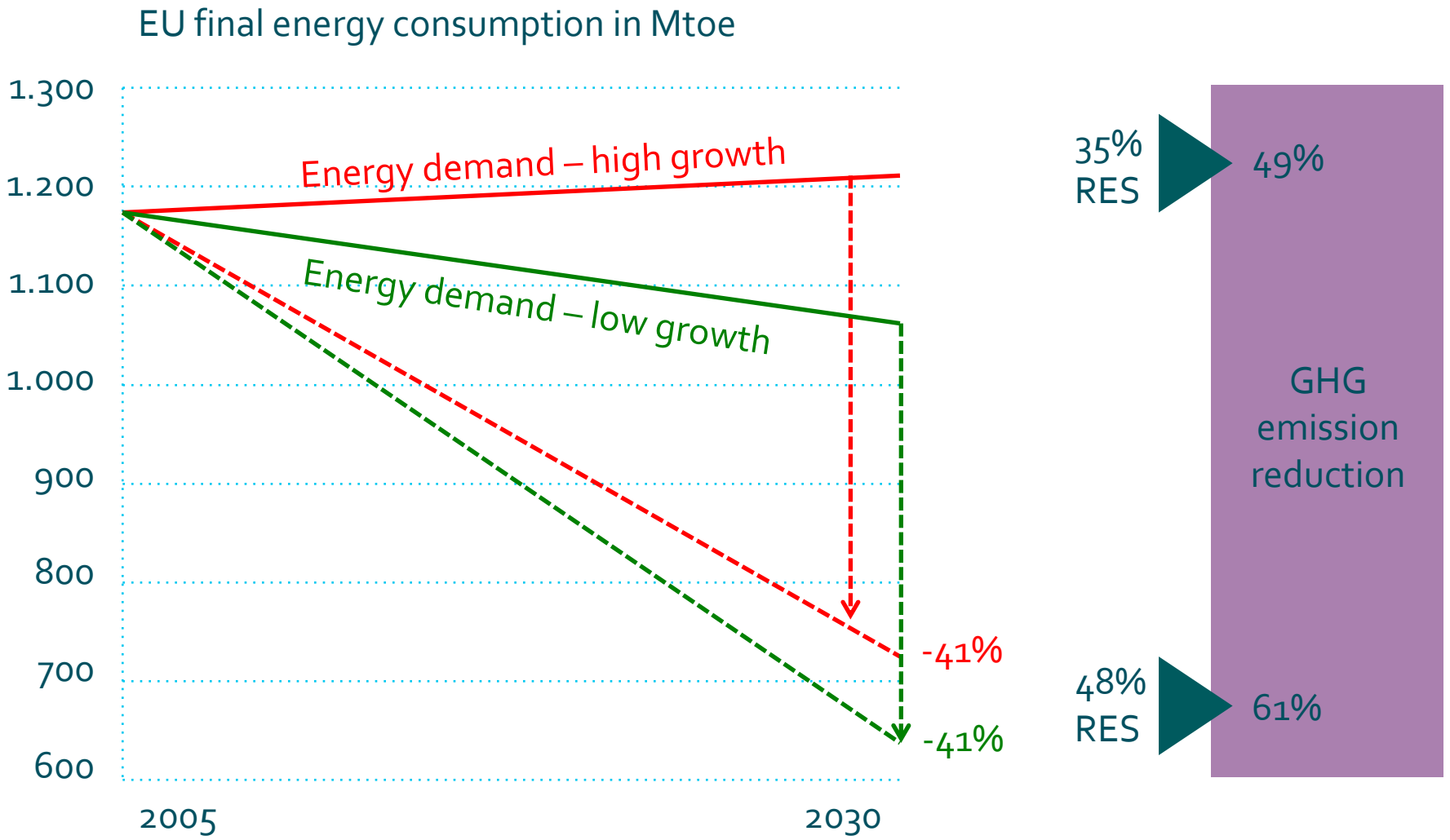
# Energy and Climate Policy package for 2030 needs a binding target for Energy Efficiency:

- Policy focus needed
- Implementation of policy
- Long term certainty for investors
- Energy Efficiency is not sufficiently driven by climate polices alone

## How does an EE target relate to a GHG and a renewable energy target?

- A binding end-use energy savings target of 40% for 2030
- Combined with high growth and 35% renewable energy or low growth and 48% renewable energy share

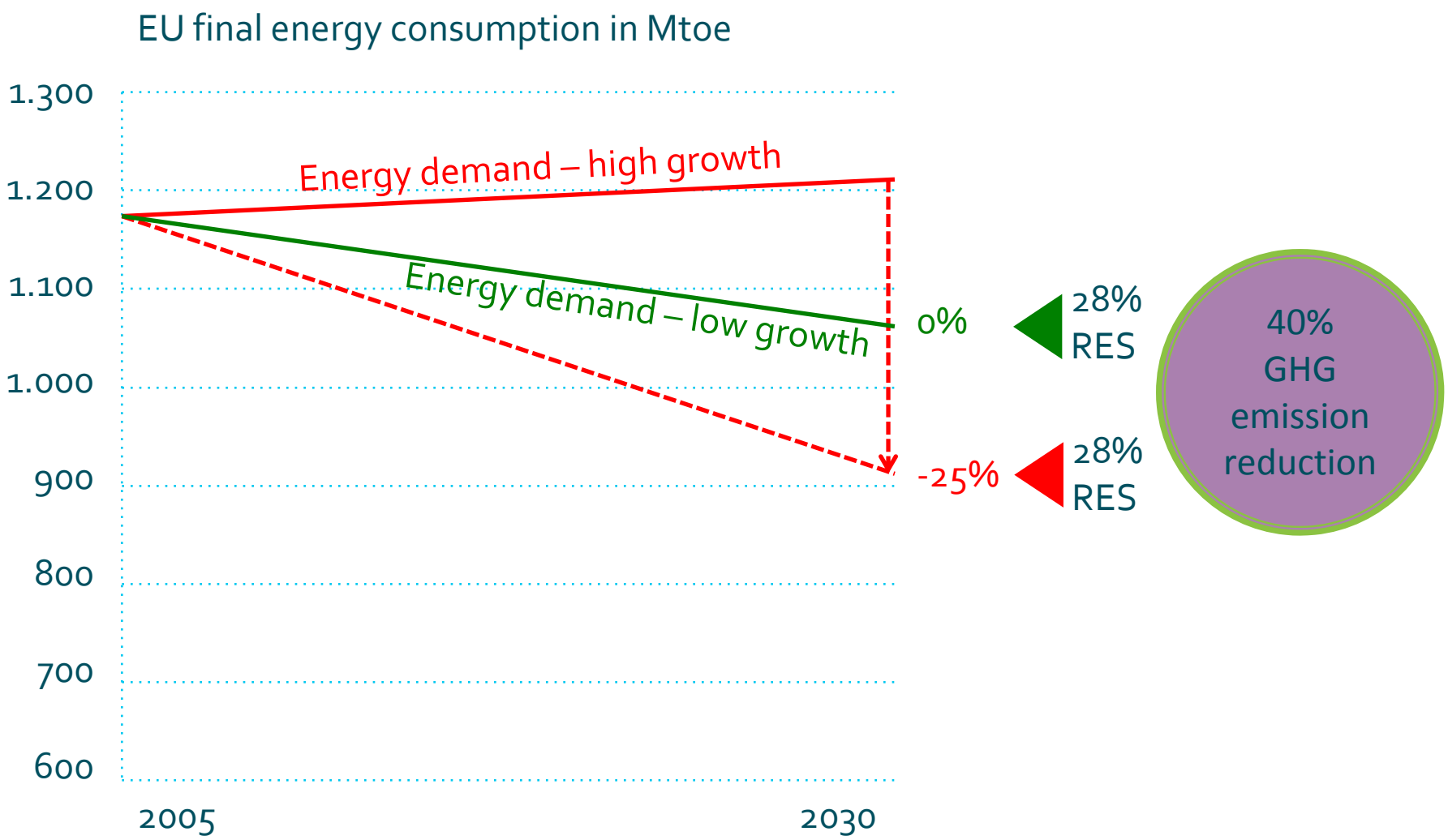
➢ Results in 49 to 61% greenhouse gas emission reductions compared to 1990 levels


EU final energy consumption in Mtoe
1.300
1.200
1.100
1.000
900
800
700
600
2005
2030
Energy demand – high growth
Energy demand – low growth
-41%
-41%
35%
RES
49%
GHG
emission
reduction
48%
RES
61%

## How does a GHG target only relate to energy efficiency?

- Reducing GHG emissions by 40% compared to 1990 levels, and
- High or low growth and 28% RE share

➢ Requires no savings or a maximum of 25% energy savings


EU final energy consumption in Mtoe
1.300
1.200
1.100
1.000
900
800
700
600
2005
2030
Energy demand – high growth
Energy demand – low growth
0%
-25%
28%
RES
28%
RES
40%
GHG
emission
reduction

## How can the Energiewende benefit from Energy Efficiency

- Study by Prognos and IAEW Aachen: quantitative assessment of economic benefits of energy efficiency on the total system costs of the electrical system
- Preliminary results: ambitious energy efficiency can reduce the costs of the transformation of the power sector with several billion euros annually
- Study will be published in about a month

## To conclude

- Ambitious energy efficiency policies bring large benefits for Europe
- The potential for EE will not be realised without strong EE policies
- To unlock the EE potential until 2030, we need a binding target, and
- A binding EE target and RES target will lead to considerable GHG emission reduction, but
- A GHG emission reduction target will not unlock the EE potential

Thank you for your attention!

Questions?

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