

# DHC and the Future of Coal

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**REDUCE, RECYCLE, REPLACE: DOUBLING DHC NOW!**

35th Euroheat & Power Congress, Paris May 9th and 10th 2011



“The potential for further development of EU indigenous fossil fuel resources, including unconventional gas, exists and the role they will play must be assessed in all objectivity.”

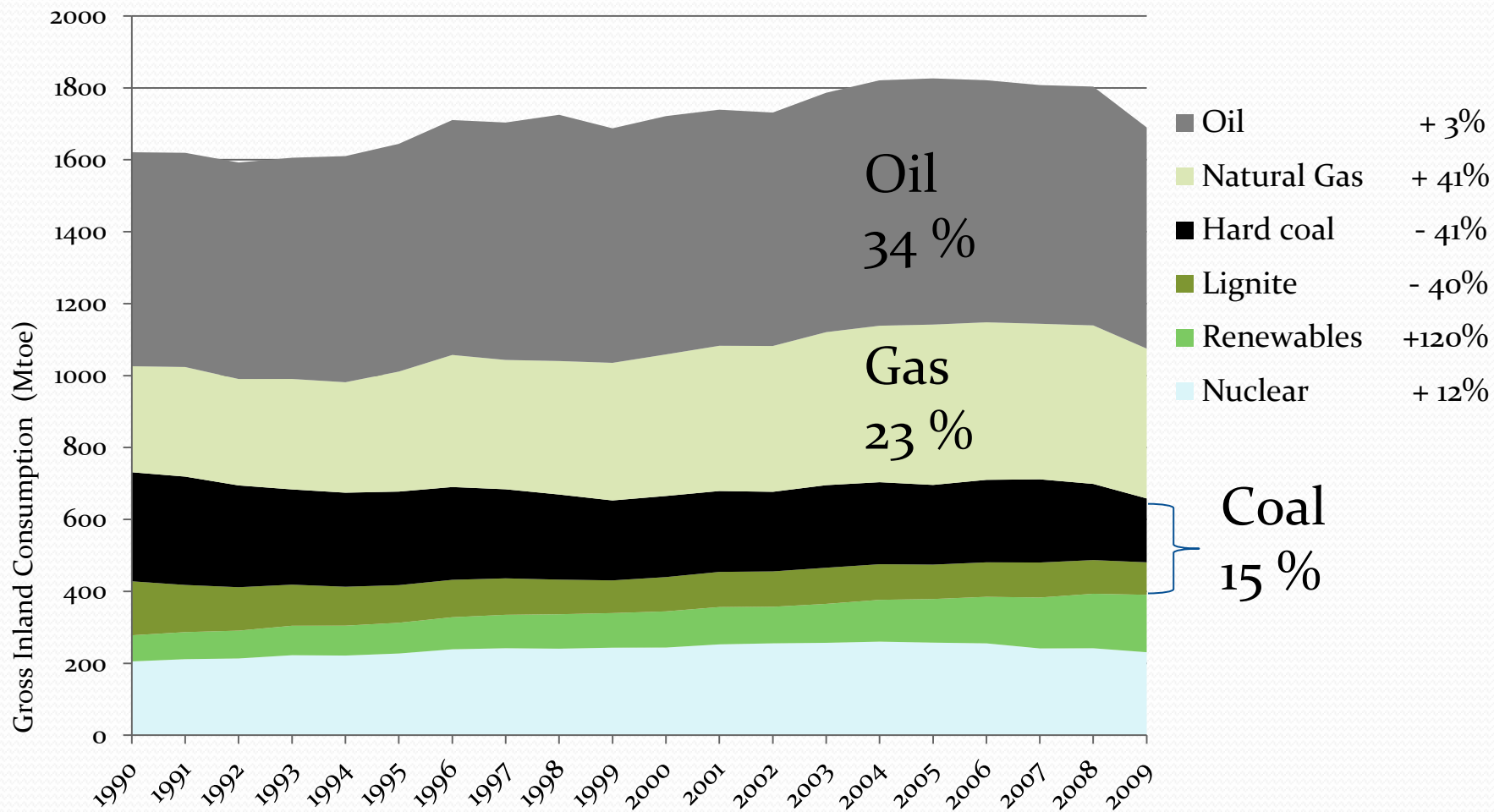
Energy 2020, Directorate-General for Energy

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# EU-27 Gross Inland Consumption



Source: Eurostat

What are the MAIN CHALLENGES  
threatening living standard EU enjoys today  
in the NEXT DECADE?

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## 1. PEAK OIL

„Crude oil output reaches an undulating plateau of around 68-69 mb/d by 2020, but never regains its all-time peak of 70 mb/d reached in 2006. “

IEA, World Energy Outlook, 2010

- Rising demand from developing countries
- Growing share of OPEC on world production
- Unconventional oil available but costly and “dirty”

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## 2. IMPORT DEPENDENCY

	2008	2020*
Oil	84 %	92 %
Gas	62%	73 %
Solid fuels	45 %	50 %
<b>All products</b>	<b>55 %</b>	<b>58 %</b>

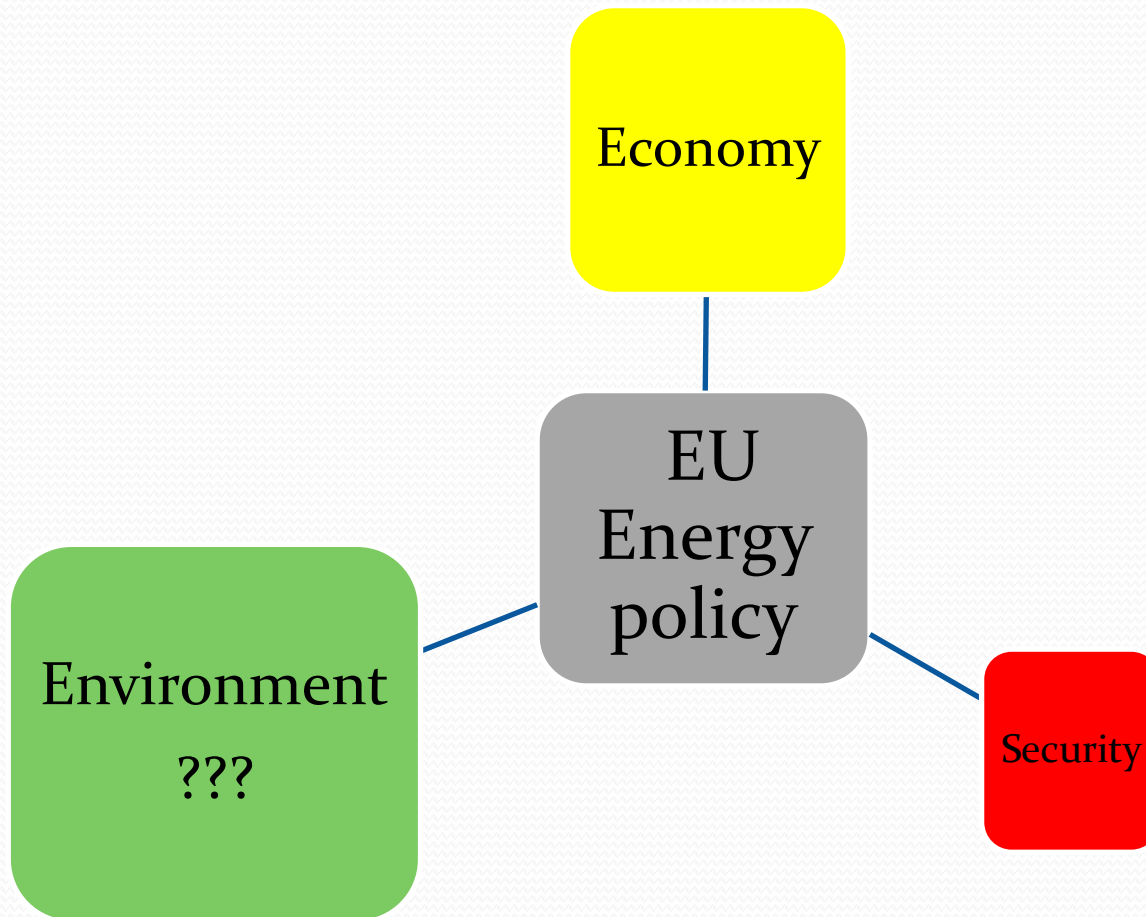
\* EU Energy Security and Solidarity Action Plan (COM(2008) 781 final),  
Baseline projection, oil price \$100/bbl

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# Do energy imports matter?





## Conclusion:

In order to insulate itself from looming oil crisis as much as possible, EU needs to **REPLACE OIL, NOT COAL!**

## Current policy:

Replace coal (+nuclear) with renewables (+gas) = **COSTLY** with **ZERO GAIN** for energy security.

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Where is most of oil used?

TRANSPORT

What can realistically replace oil in transport?

NATURAL GAS + electricity (=gas)

Limited supply of gas (domestic + available import) 

Partial replacement in electricity and heat production.

With what?

COAL!

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Does replacing GAS with COAL in electricity and heat production mean **MORE CO<sub>2</sub> EMISSIONS?**

**NOT NECESSARILY....**

**CCS?**

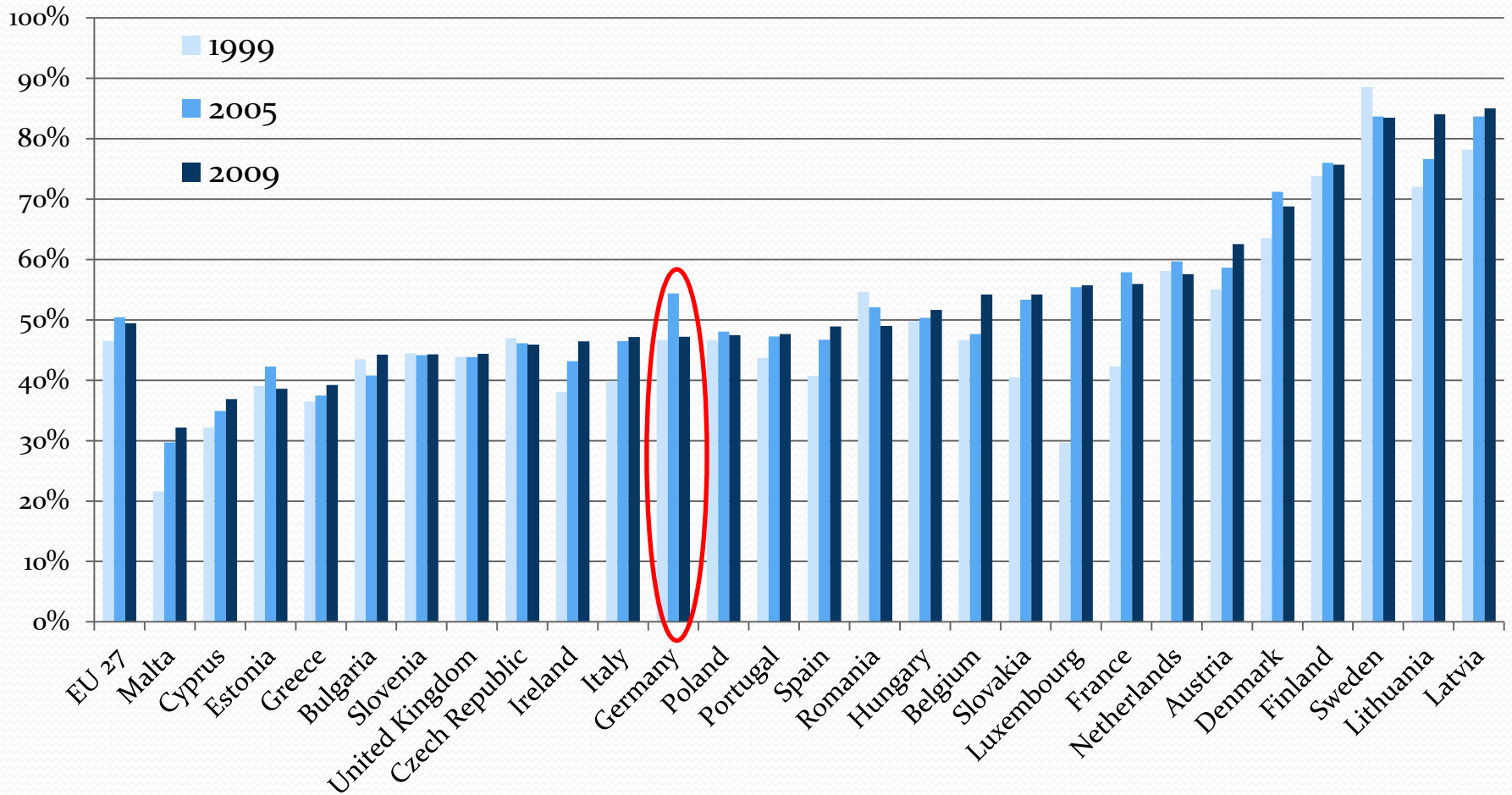
**CHP and DH!**

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# Efficiency of Conventional Thermal Power Stations



Source: Eurostat

# What is the goal?

## Actually decrease global emissions of GHG

## or to move them to outside of EU?

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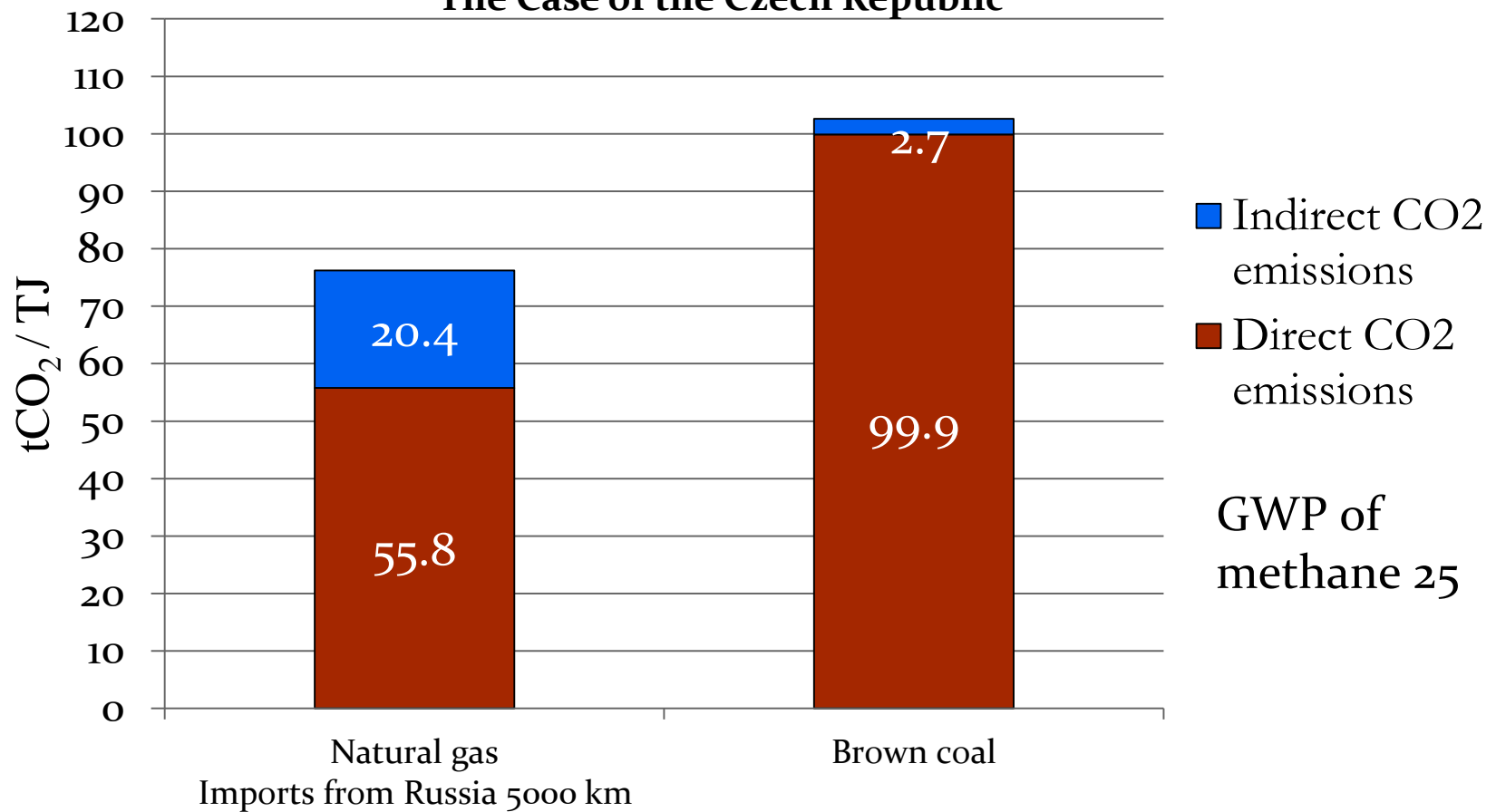


# Inconvenient „Truth“

## GWP of Methane According to IPCC

Report	Year	20 y horizon	100 y horizon
SAR	1995	56	21
TAR	2001	62	23
AR <sub>4</sub>	2007	72	25
AR <sub>5</sub>	2013	?	?

## Direct and Indirect Emissions of GHG The Case of the Czech Republic



Greenhouse Gas Emissions from Russian Natural Gas Export Pipeline System,  
Wuppertal Institute for Climate, Environment and Energy, 2005 + other studies and own  
calculations

# Indirect CO<sub>2</sub> emissions

Environmental damage from extraction of fuels abroad  
not EU problem right?

Not always but CO<sub>2</sub> is global issue!

Very little attention so far to emissions from extraction,  
transportation and transformation of fossil fuels in third  
countries.

Still lots of uncertainty, little scientific support

**NO TRULY INDEPENDENT STUDY on Russian Gas  
found!**



# What policy shifts are needed?

- 1. Total LCA CO<sub>2</sub> emissions have to be taken into account in ETS and carbon taxes = EU can introduce import duties on fuels according to CO<sub>2</sub> emissions released abroad.**
- 2. Carbon tax (without exceptions) should be introduced on non-ETS use of fossil fuels**
- 3. Mandatory targets for thermal power plant efficiency ?**

# Impact of IED on DH in CZ

Survey December 2010 – 28 respondents

54% familiar with the directive

34% plans for compliance – 5554 MW

Necessity to invest in abatement measures:

SO<sub>2</sub> NO<sub>x</sub> 90%

Dust 40%

91% investment estimates

Exceptions: DH 45%, NAP 91%, Limited life time 18%

Economic impact: very serious 18 %, middle 73%, low 9%