

Euracoal 10th Coal Dialogue

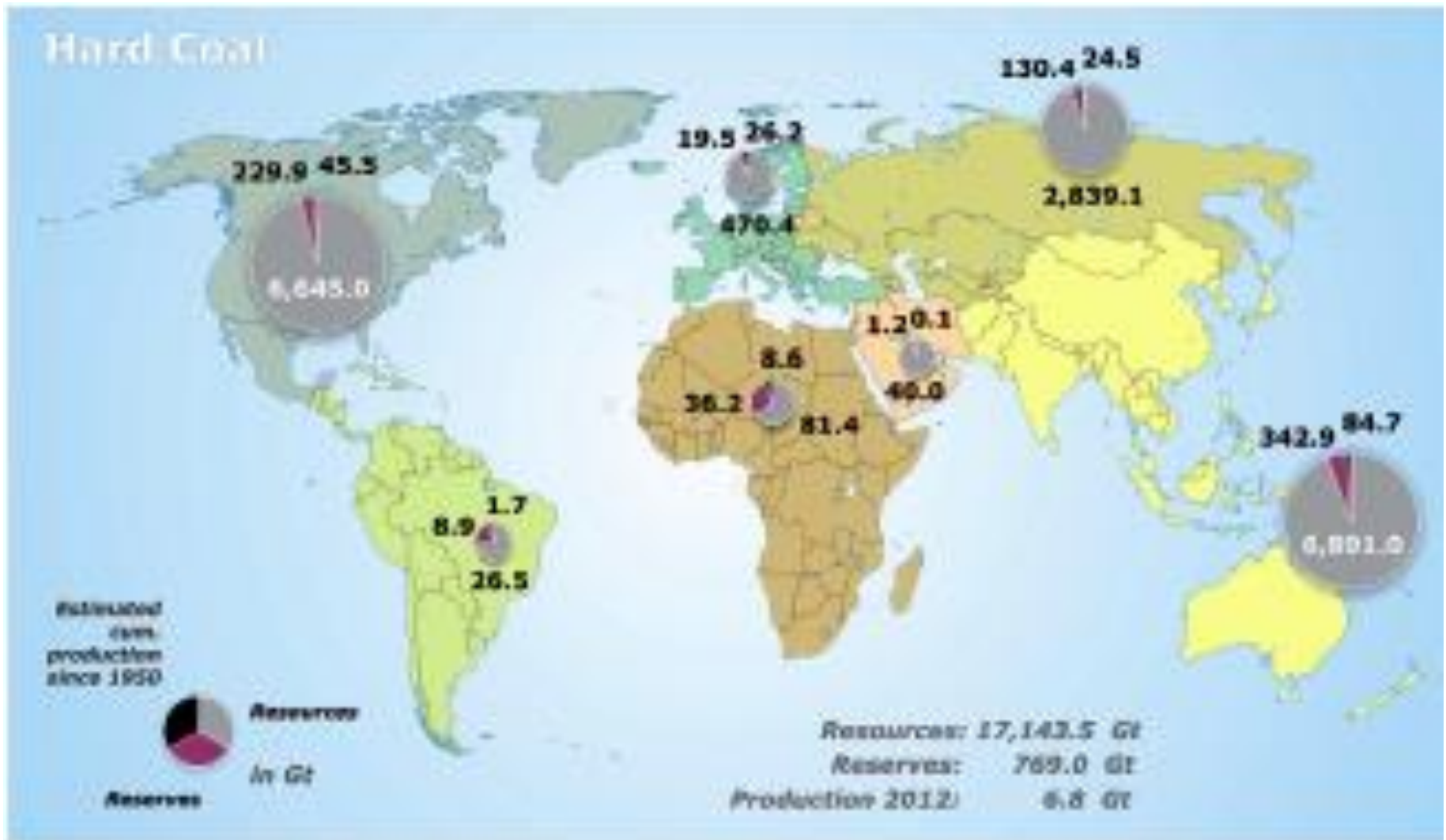
**Prospects for domestic EU coal production
and imports into the EU**

– how to reduce geopolitical risks through diversification

11th June 2014, Brussels

**Dr Erich Schmitz, Managing Director
Verein der Kohlenimporteure e.V.**

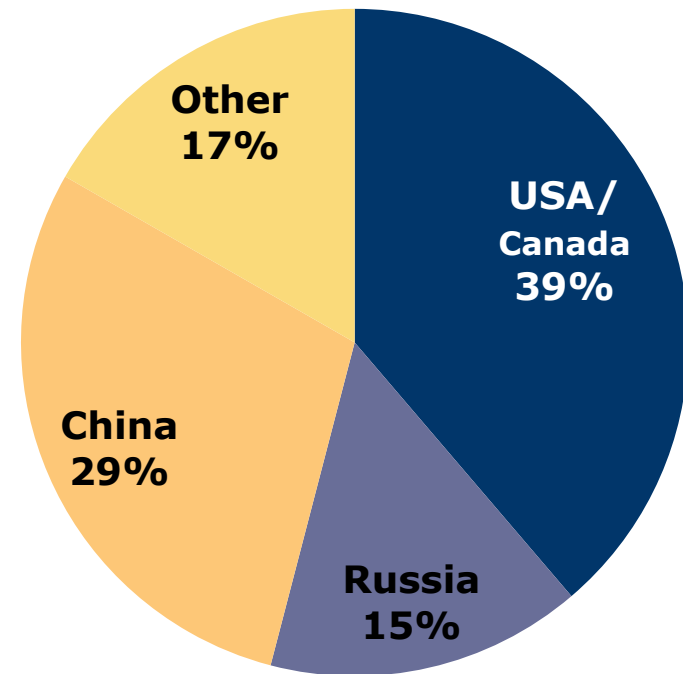
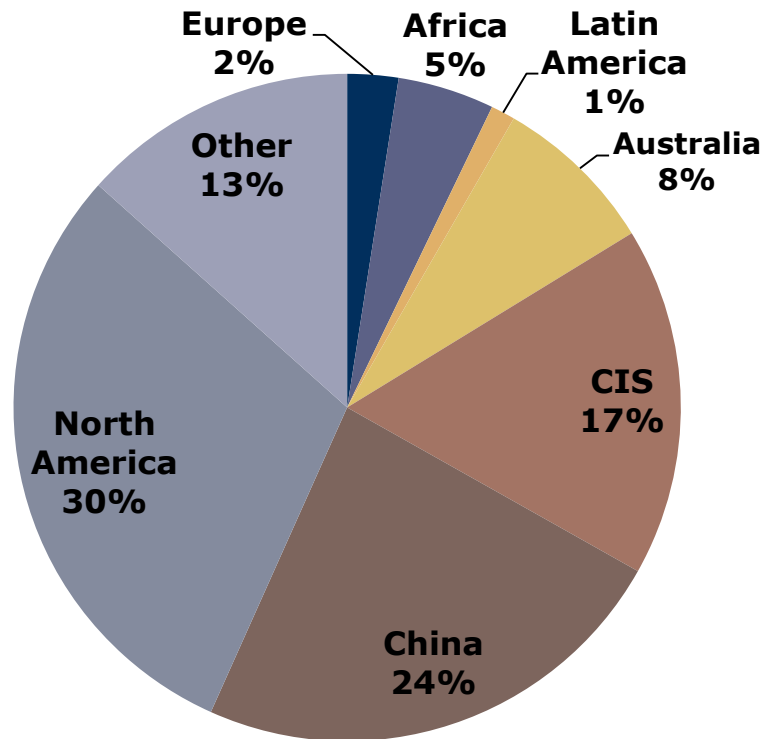
Global potential of hard coal 2012: regional deposits are widely spread over the world ...



... and secure hard coal supplies for the next 100 – 110 years

Global hard coal reserves: 769 bn t

Global hard coal resources: 17.143 bn t



Ratio reserves to resources: 1 : 22,3

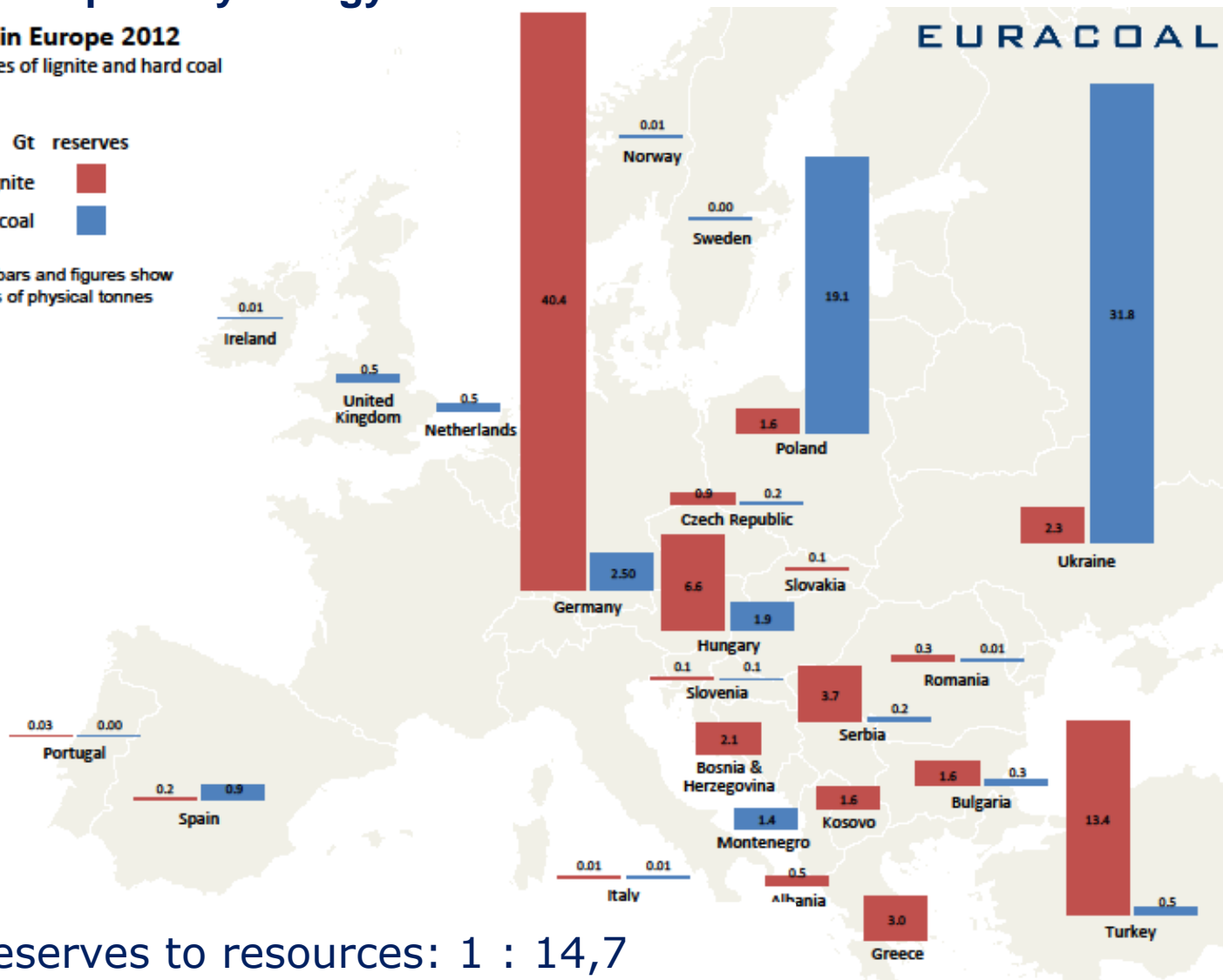
Potential of lignite in Europe ensures a stable pillar of indigenous primary energy.

Coal in Europe 2012
reserves of lignite and hard coal

EURACOAL

Gt reserves
 lignite ■
 hard coal ■

Note: bars and figures show billions of physical tonnes

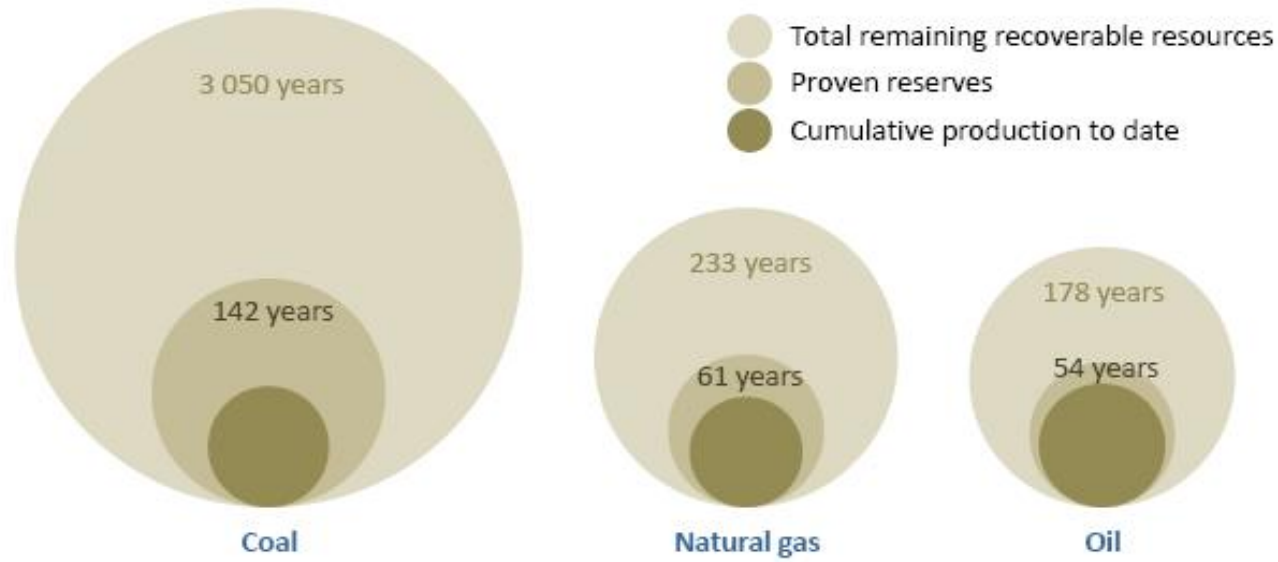


Ratio reserves to resources: 1 : 14,7

Including lignite there is a sufficient supply for over 140 years

Fossil energy resources by type

WORLD
ENERGY
OUTLOOK
2013



The world's remaining energy resources will not constrain the projected energy demand growth to 2035 & beyond, but large-scale of investment is required

The increasing demand for hard coal in the past 13 years was easily supplied by doubling the seaborne trade.

Global hard coal market 2013/2000

global production:

2013: 7.200 bn t
2000: 3.600 bn t

thereof steam coal:

2013: 6.260 bn t
2000: 3.120 bn t

EU 28

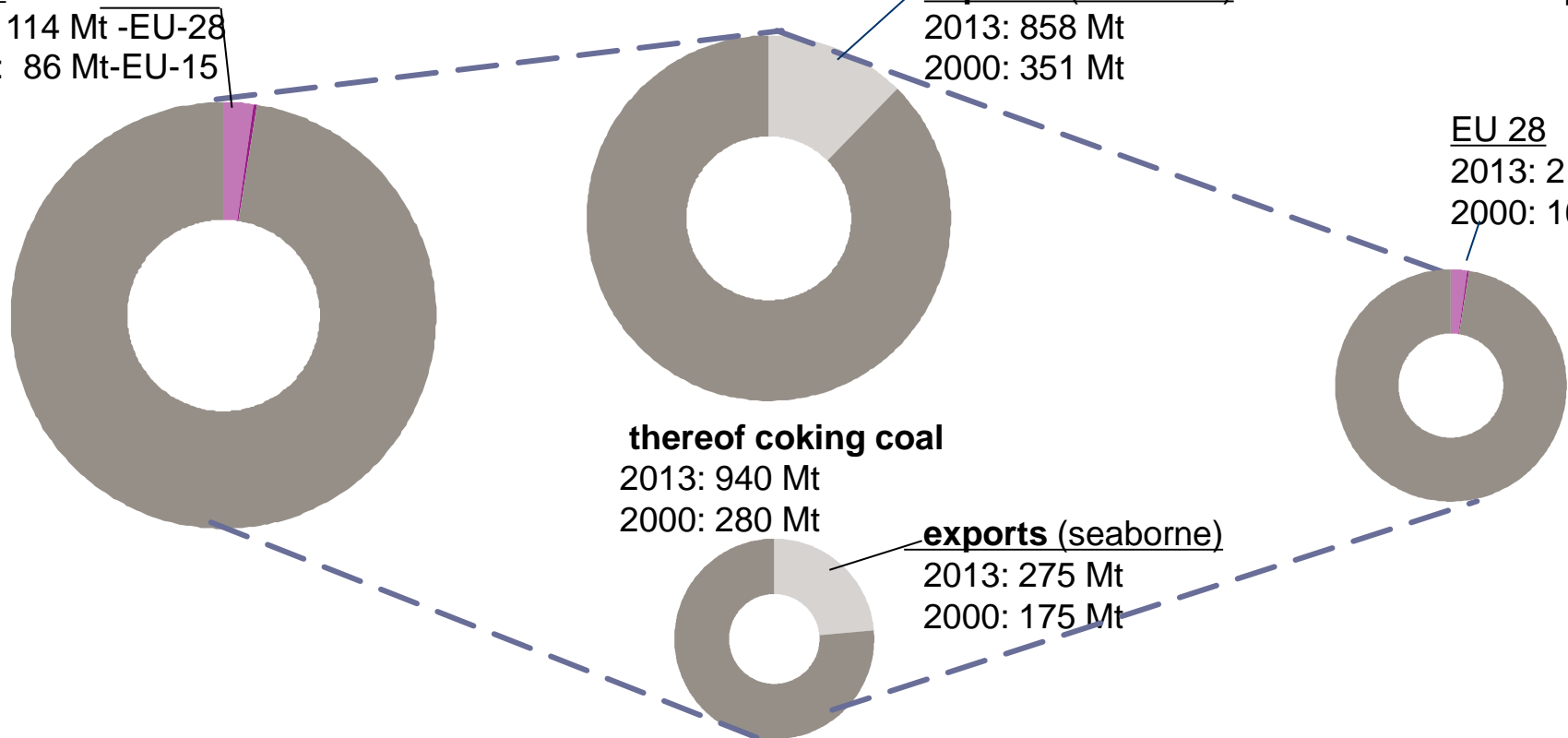
2013: 114 Mt -EU-28
2000 : 86 Mt-EU-15

exports (seaborne)

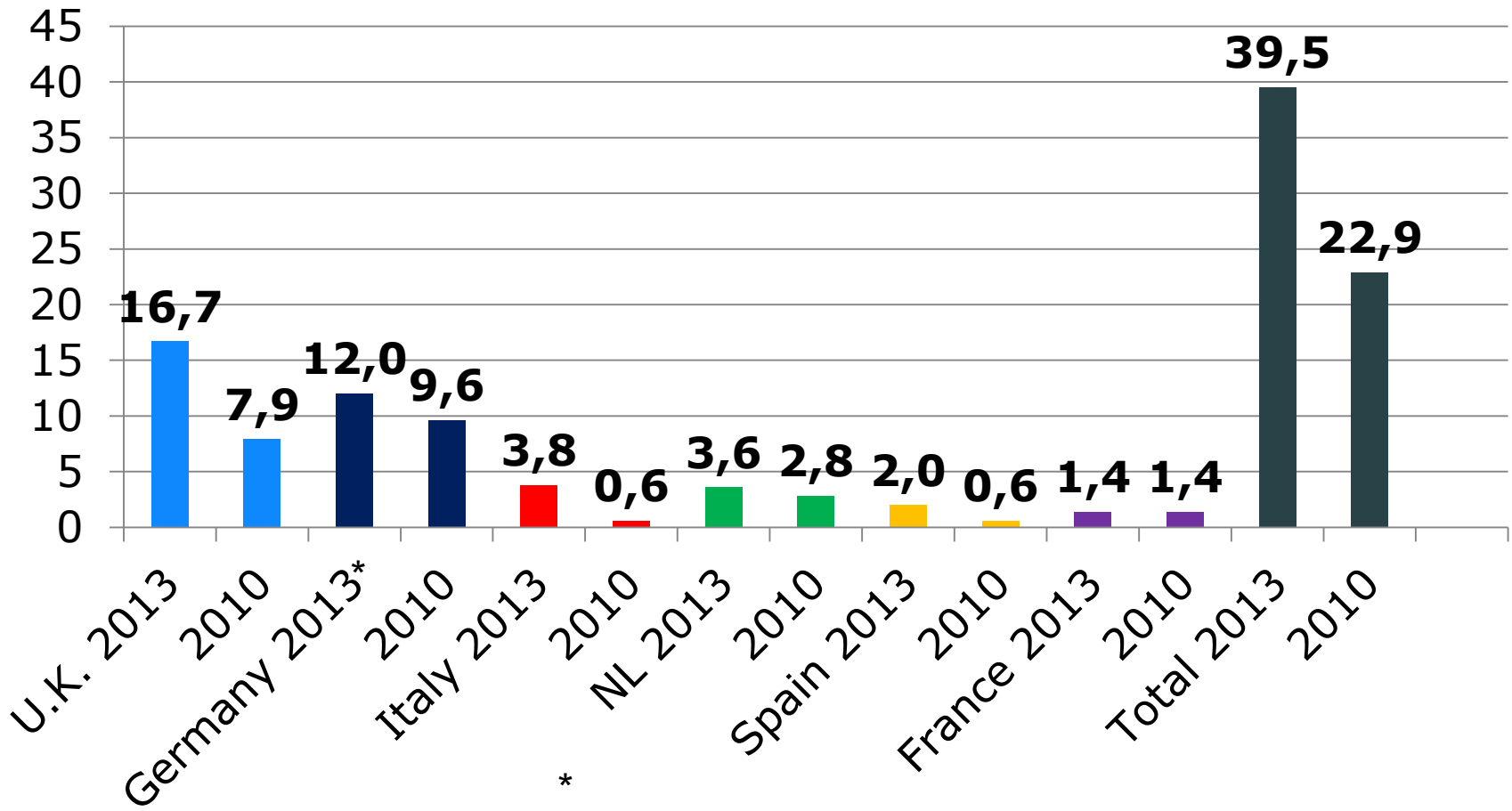
2013: 858 Mt
2000: 351 Mt

steam coal imports

EU 28
2013: 217 Mt
2000: 167 Mt

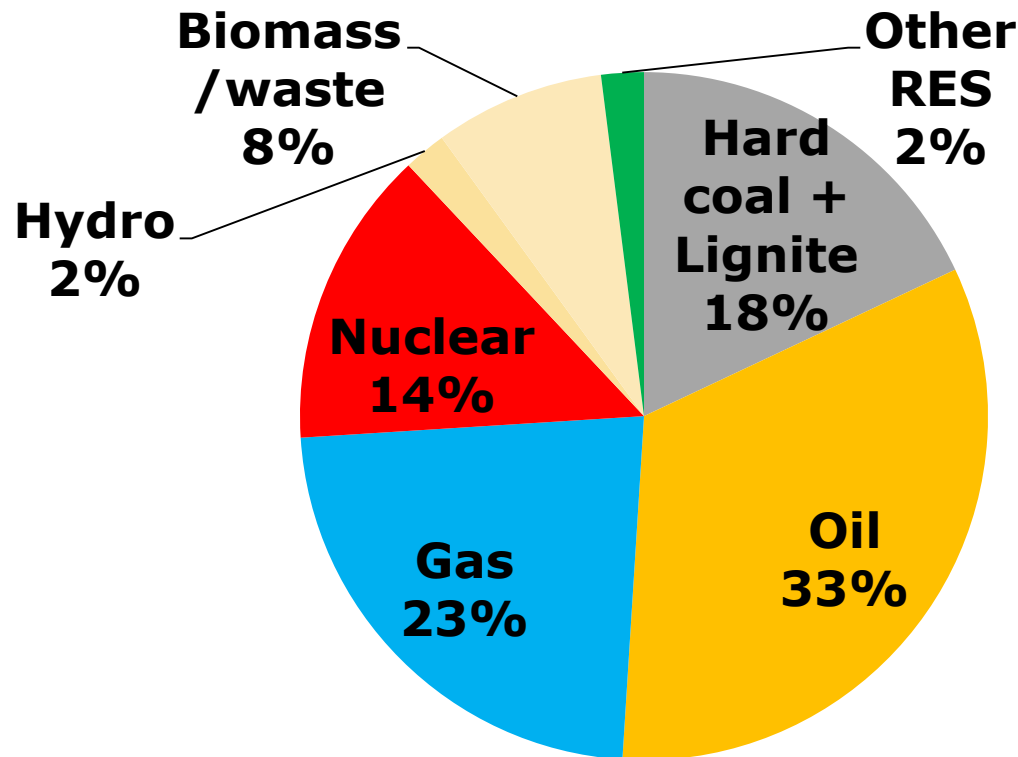


Steam coal imports from Russia could be replaced from other sources (Atlantic/Pacific market) without greater disruptions of the market.



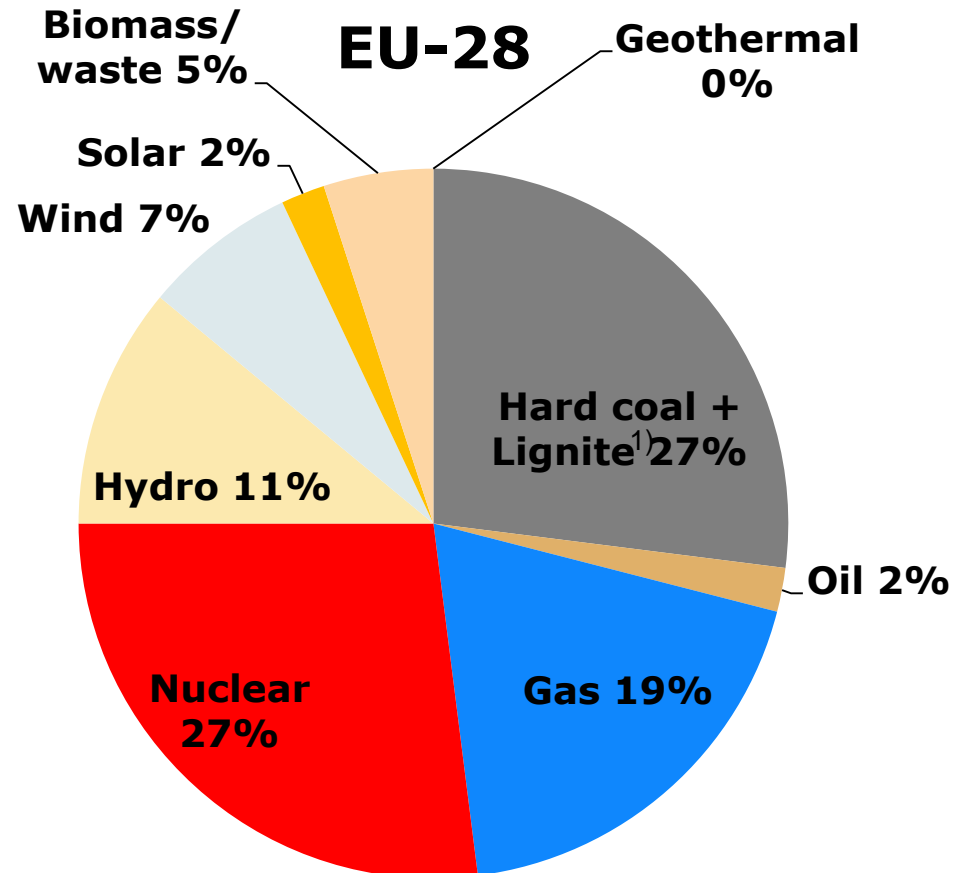
*Anthracite included

EU-28: Coal will remain an important energy source for the primary energy consumption in Europe, even as the share of renewables increases..



2013 in total, provisional: 2,328.54 Mtoe

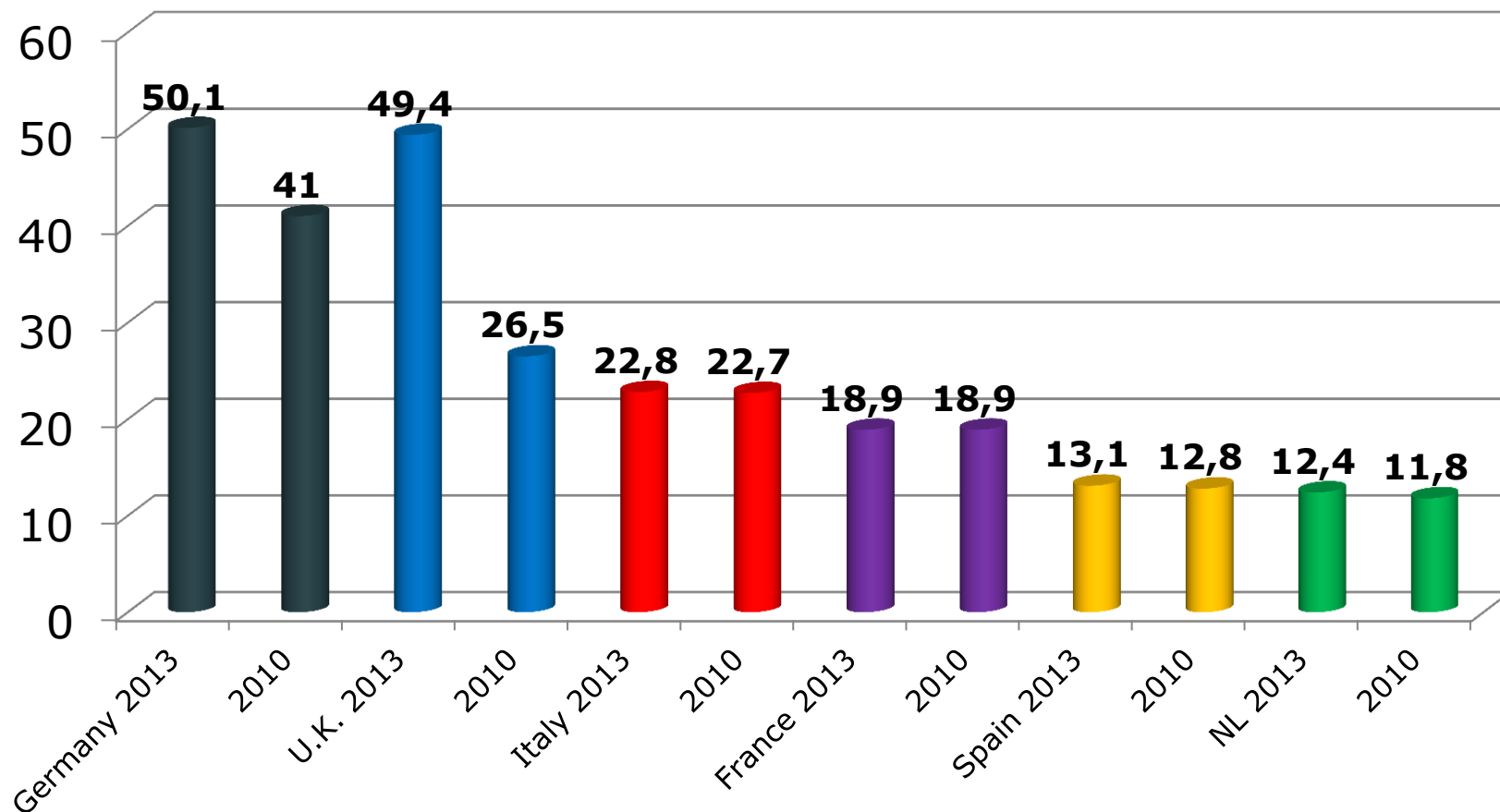
... and for power generation even more



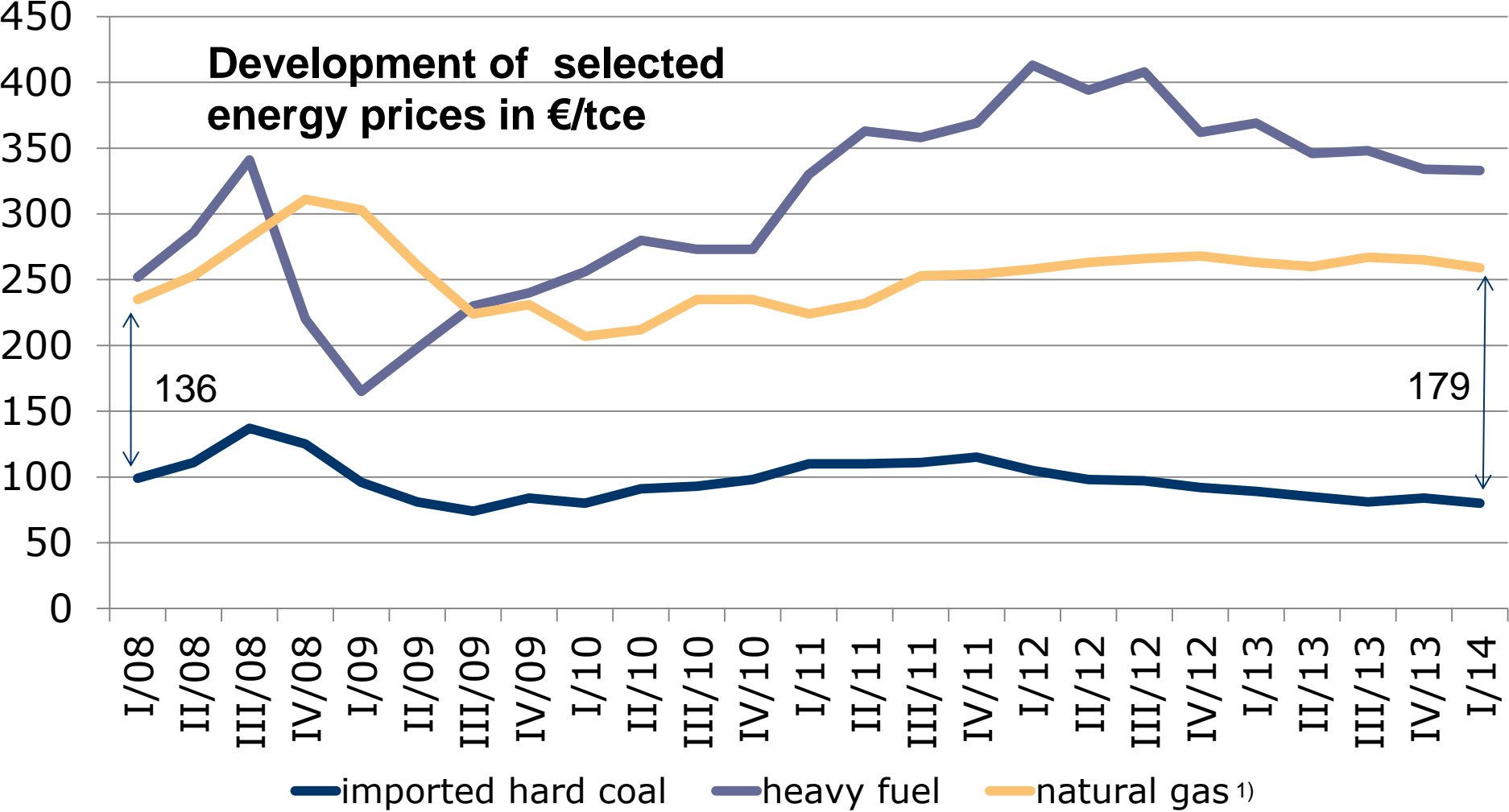
2013 in total, provisional: 3230 TWh

¹⁾ Excl. peat, coke oven gas, blast furnace gas

EU-28 – hard coal imports by selected countries 2013 : 2010 in Mt



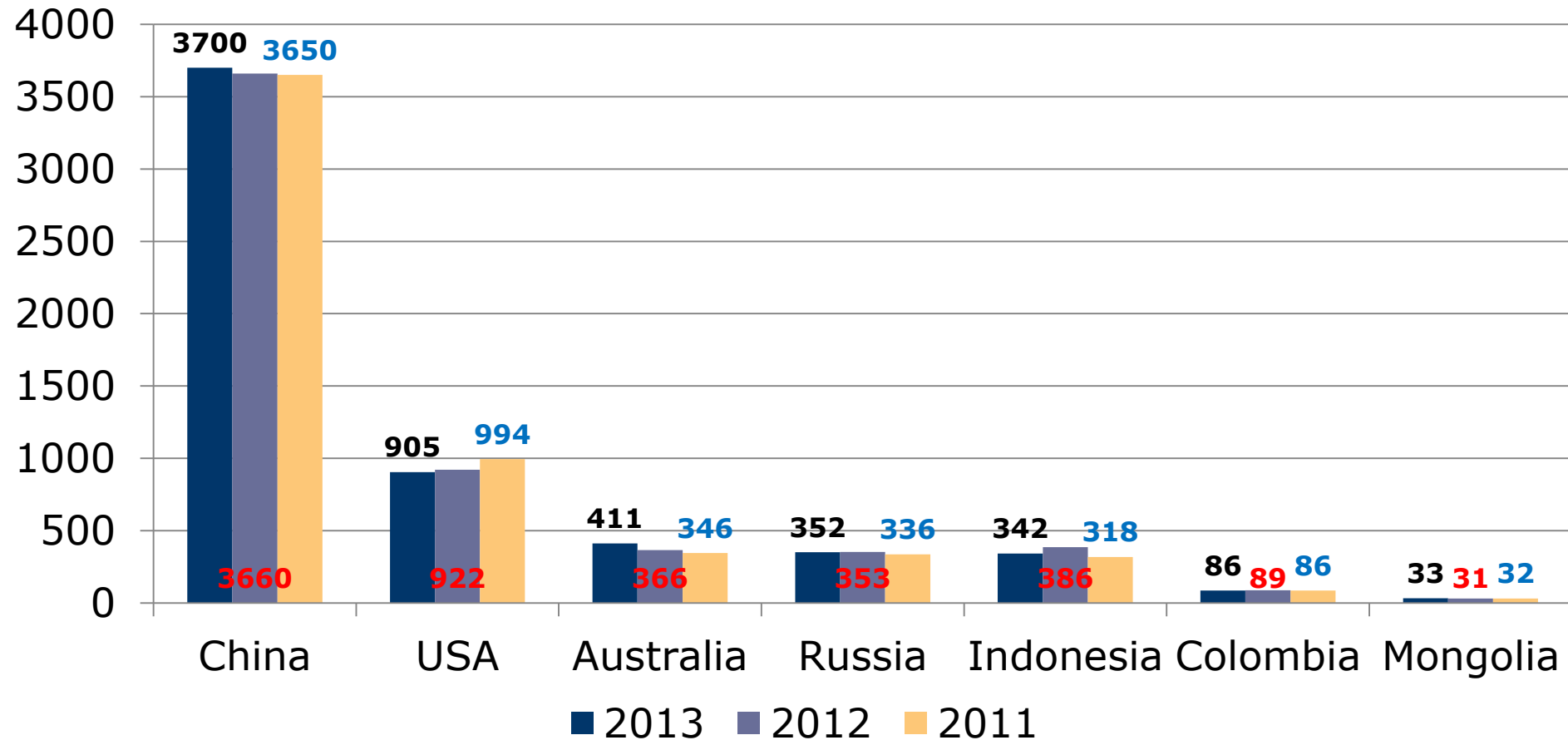
Prices for hard coal and lignite are very competitive against oil and gas prices. The advantage for an affordable electricity price is obvious.



1) Incl. transport costs to power plant

Annual comparison 2013-2011 of output from hard coal producing countries shows that there are no supply constraints.

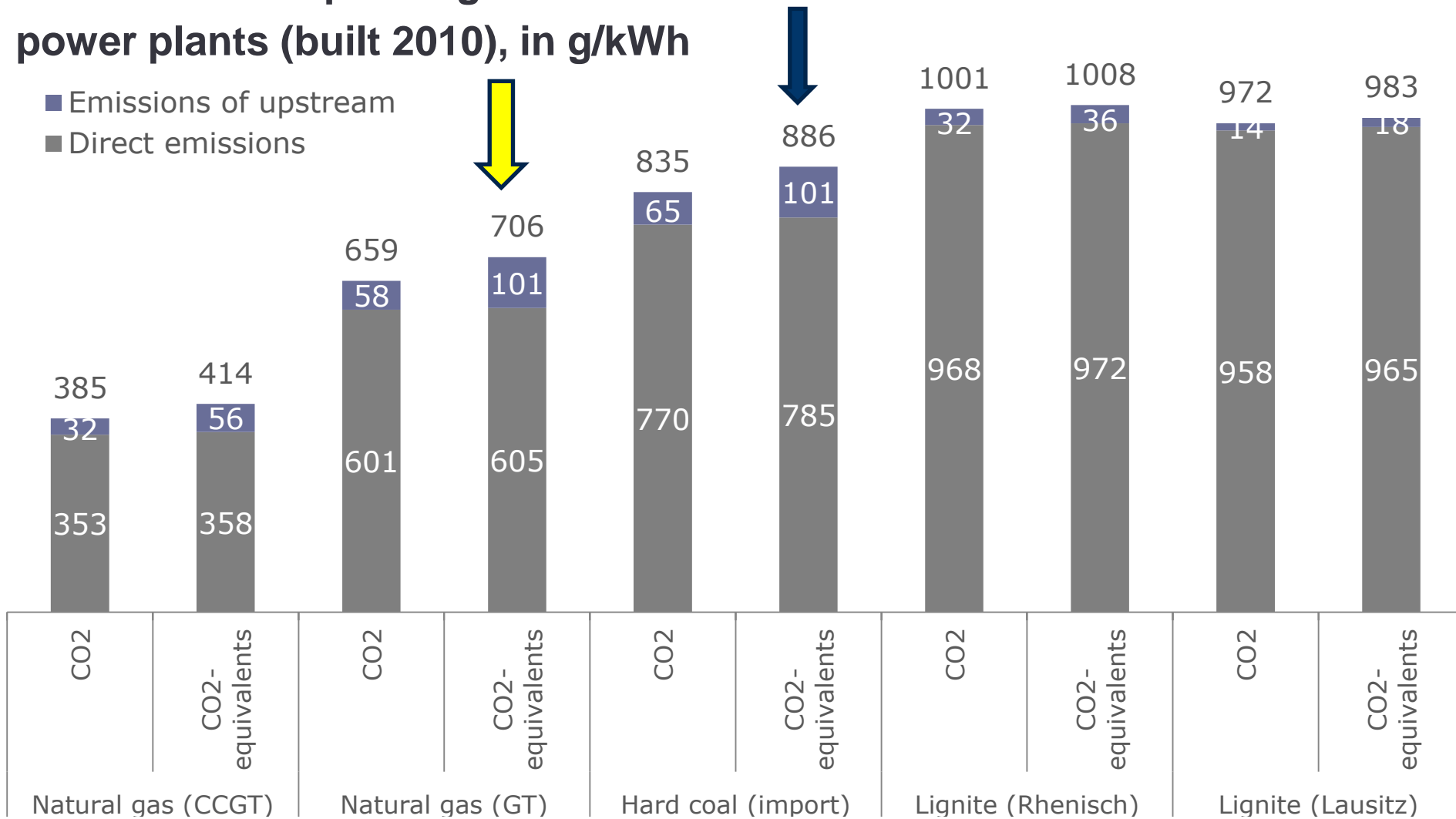
M t



The CO₂ Life Cycle Balance Sheet of a Gasturbine is similar to a Super Ultracritical Coal Fired Power Plant without CCS

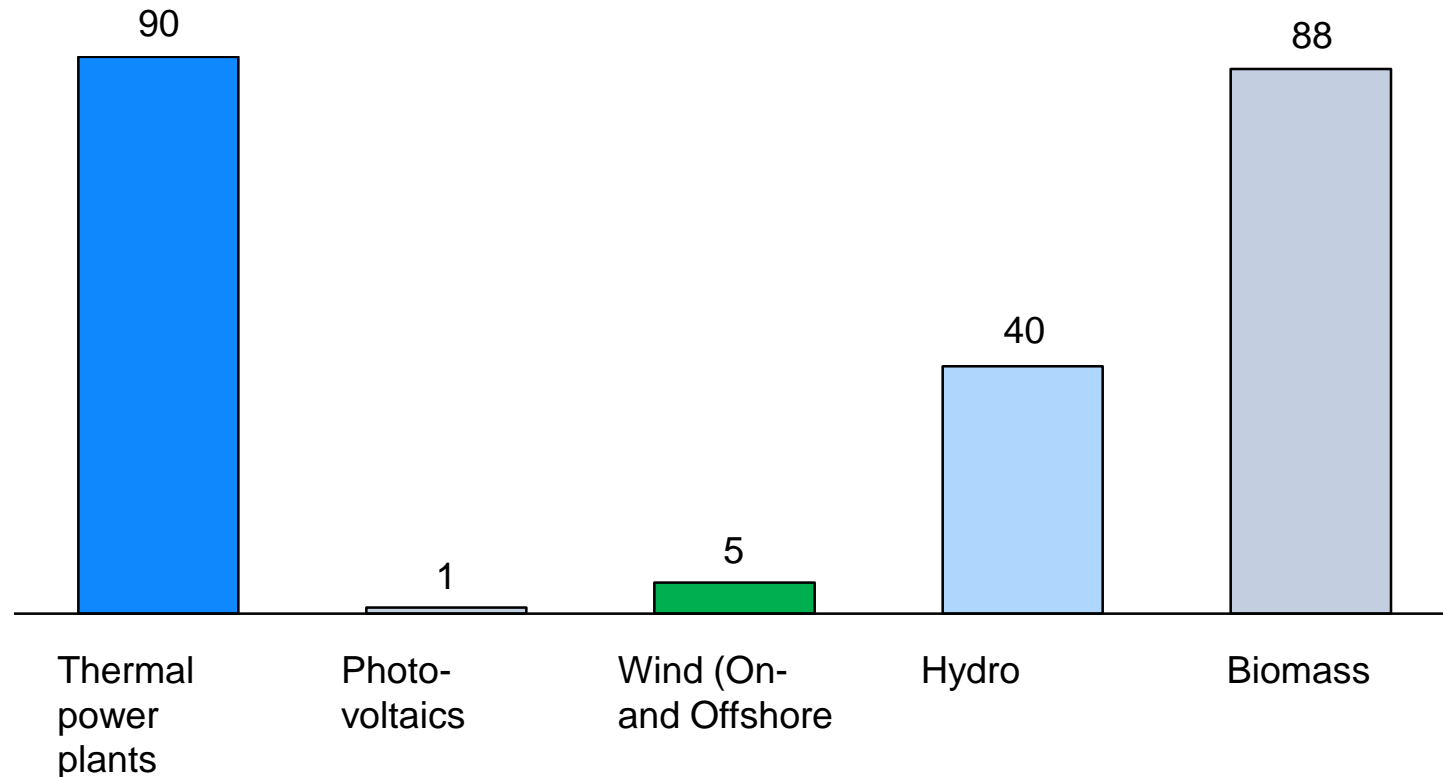
Emissions from power generation in thermal power plants (built 2010), in g/kWh

- Emissions of upstream
- Direct emissions



Secured capacity by type of power station

in percent of the installed capacity



Secured capacity from renewable power generation plants partly significantly lower than for instance for thermal power plants

Summary (I)

1. Coal is the fossil fuel with by far the largest global resources.
2. Hard coal has a very high energy content exceeding 16,500 kilojoules per kilogramm. Hard coal is traded world-wide in a range of qualities mainly from countries which have a stable political system.
3. With a share of around 30% of global primary energy consumption, coal followed oil already in 2012 as the second most important fossil fuel.
4. Global coal reserves at the end of 2012 were around 1,052 Gt of which around 769 Gt are hard coal, and around 283 Gt are lignite.

Summary (II)

5. Coal production increased in 2012 by 3% (= 230 Mt), in 2013 by 1,4 % (= 100 Mt) to 7,200 bn t. Coal was therefore again the fossil energy resource with the highest growth rates.
6. Coal accounted for around 41% of global electricity production in 2011 – more than any other fuel.
7. Coal is the most important domestic fuel in many EU countries.

These facts and arguments obviously lead to the conclusion: Coal is the mean for guaranteeing the security of supply

If you do not believe what the coal industrie says,...

Will Europe keep the lights on?

- Over the past decade, four-fifths of investment in European power generation went to renewables, 60% just to wind and solar PV
- Europe needs to invest \$2.2 trillion (2nd largest after China) to 2035 to replace ageing infrastructure & meet decarbonisation goals
- Current overcapacity offers some breathing space, but 100 GW of new thermal plants is needed before 2025 to safeguard reliability
- This investment won't happen with current market rules: wholesale power prices are 20% (or 20\$/MWh) below cost-recovery levels
- Higher wholesale prices could increase end-user bills, adding to the strain on households & on competitiveness of EU industry

Thank you for your attention !

Dr. Erich Schmitz
Verein der Kohlenimporteure e.V.
,Hamburg
erich.schmitz@kohleimporteure.de

