Transformation of the energy system while ensuring competitiveness

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EUROPEAN ENERGY FORUM –
FUTURE OF STATE AID FRAMEWORK

WORLD ENERGY COUNCIL
Weltenergierat - Deutschland

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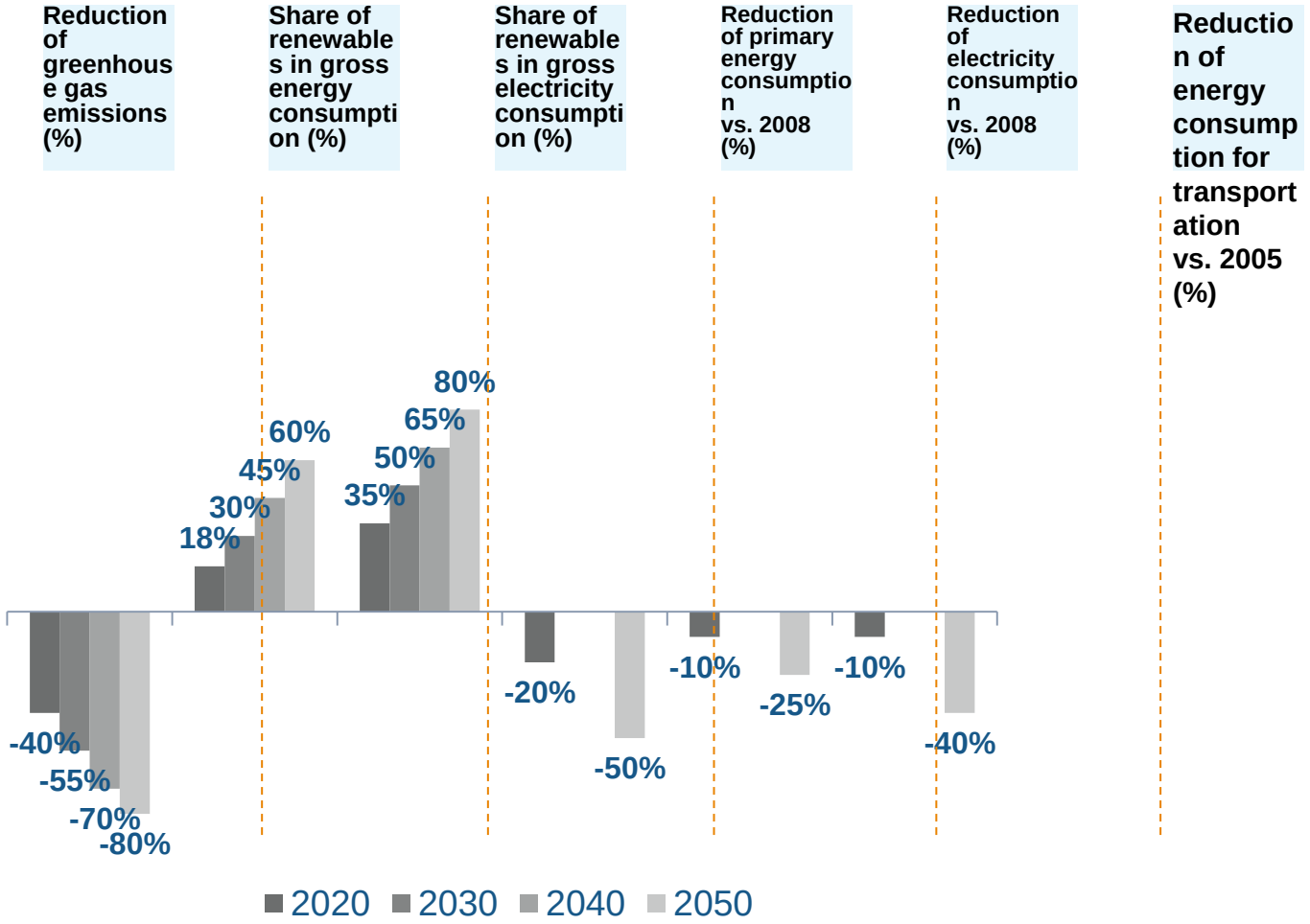
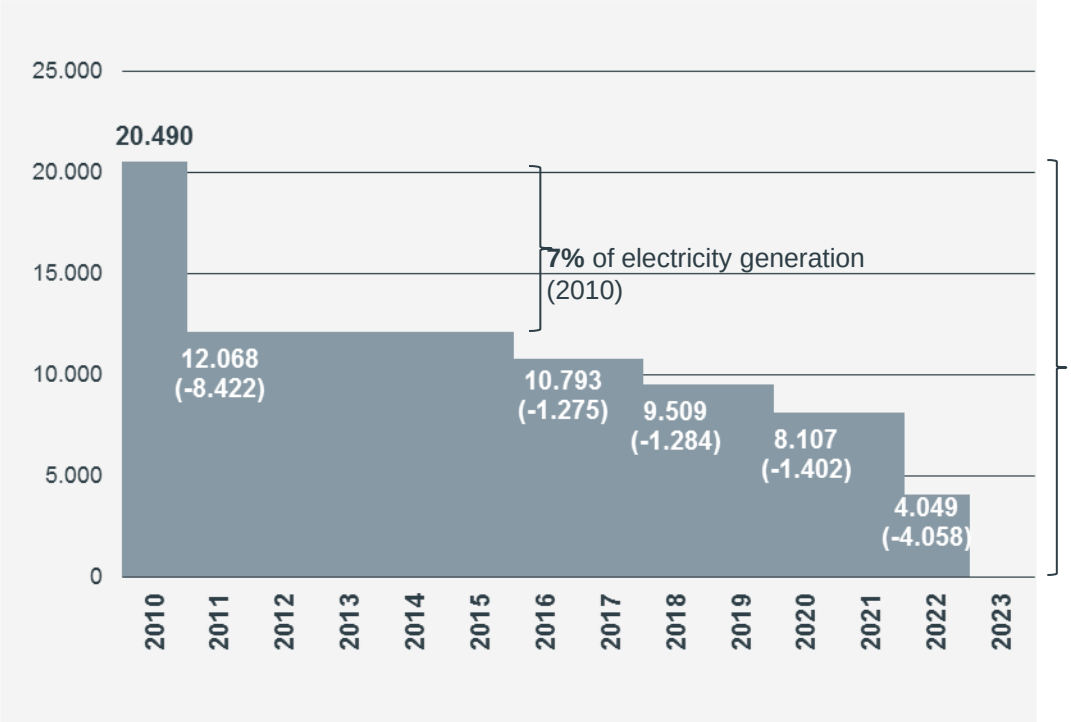
The German government has set different targets to shift the whole energy system to amore sustainable one

Selected Energiewende targets



The German Energiewende – The Nuclear Phaseout on top

Development of installed capacity of nuclear power in Germany (in MW)



23% of electricity generation (2010)

„Guaranteed capacity will need to be replaced

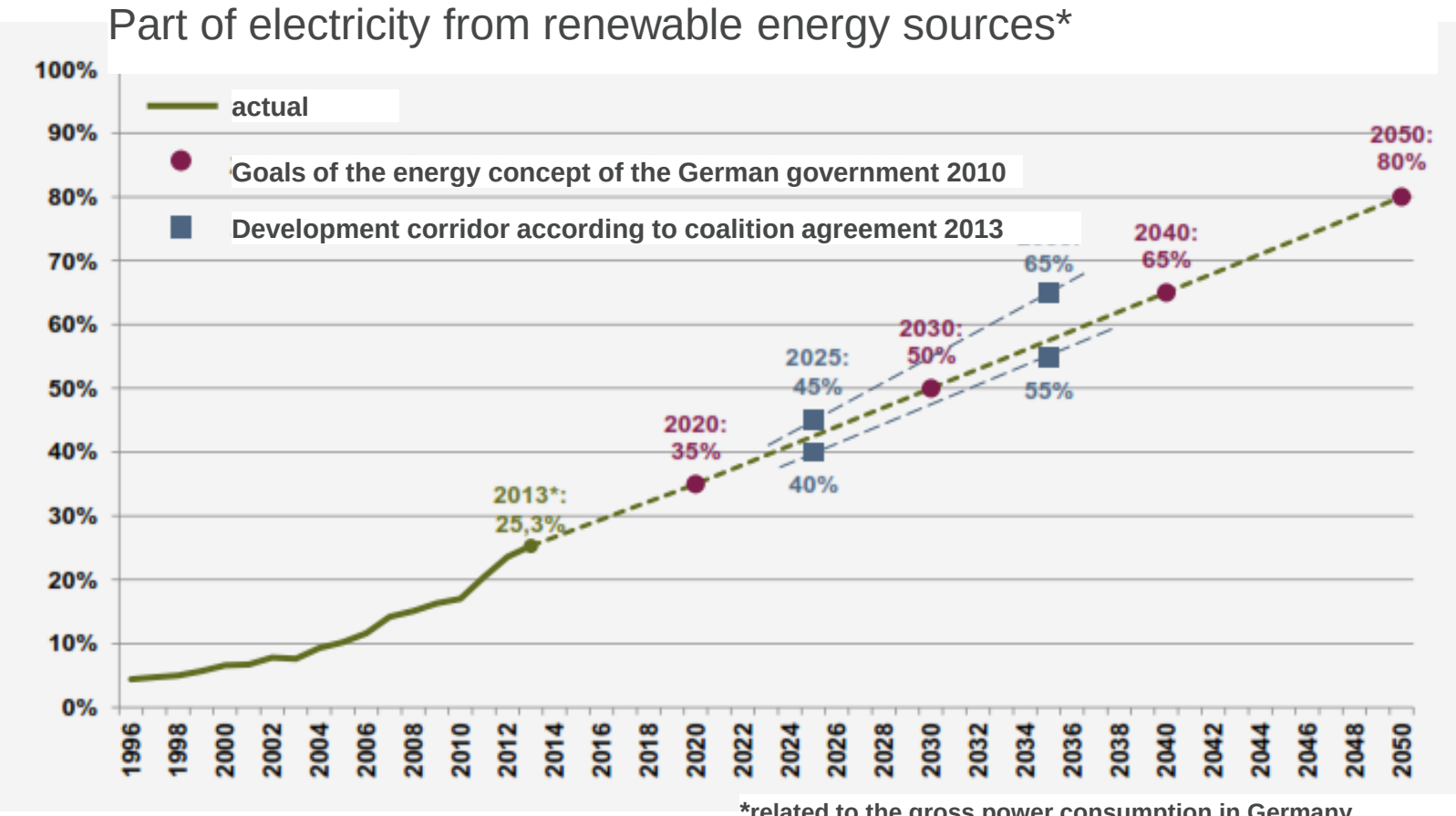
Future necessary capacities yet unclear

Current market environment discourages investment in conventional generation

Regional perspective to the nuclear phaseout. Southern-Germany especially affected

Source: BDEW

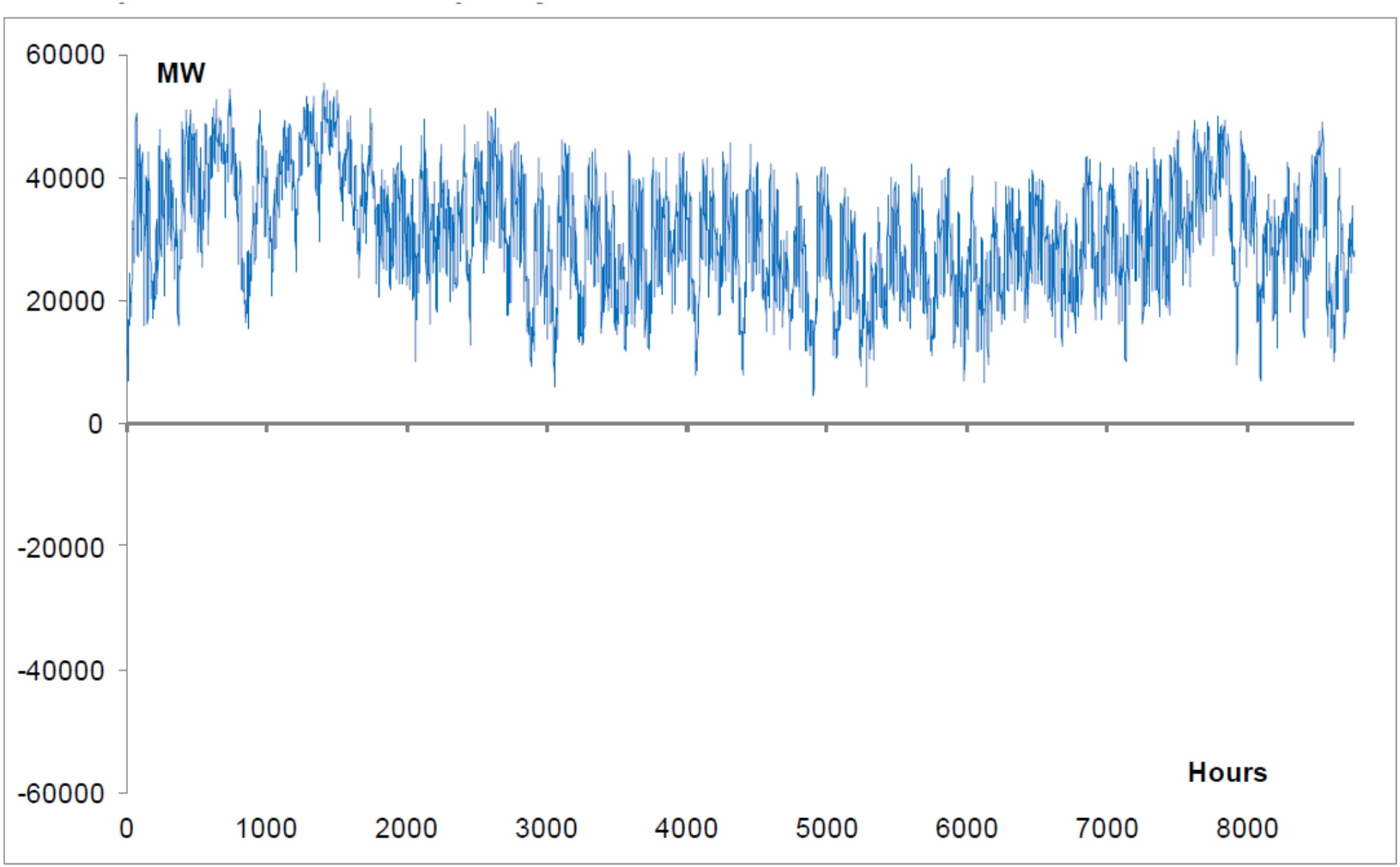
Future share of RES in electricity mix



*related to the gross power consumption in Germany

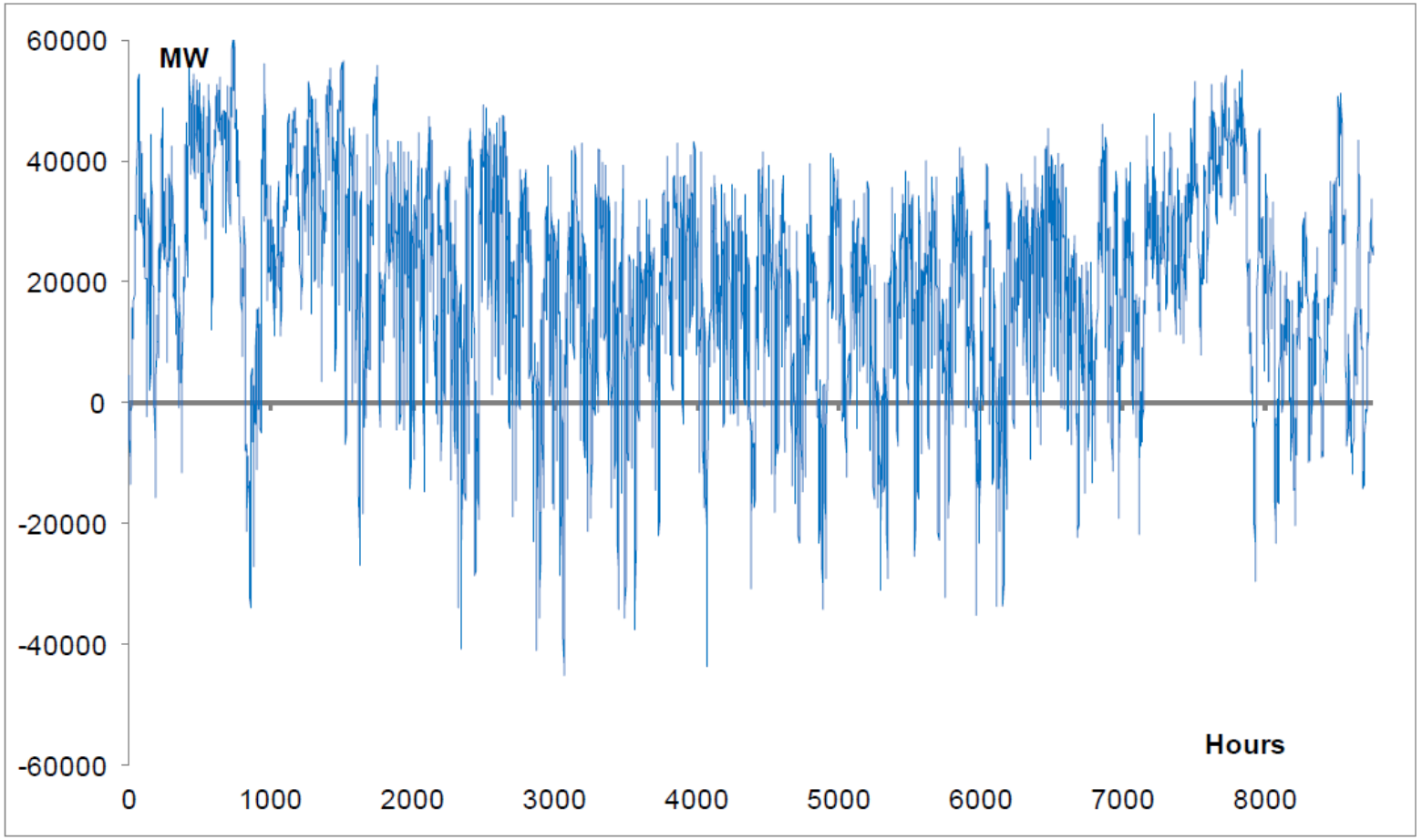
Source: BDEW 02/2014

Residual Load 2012 in Germany (Load minus RES)



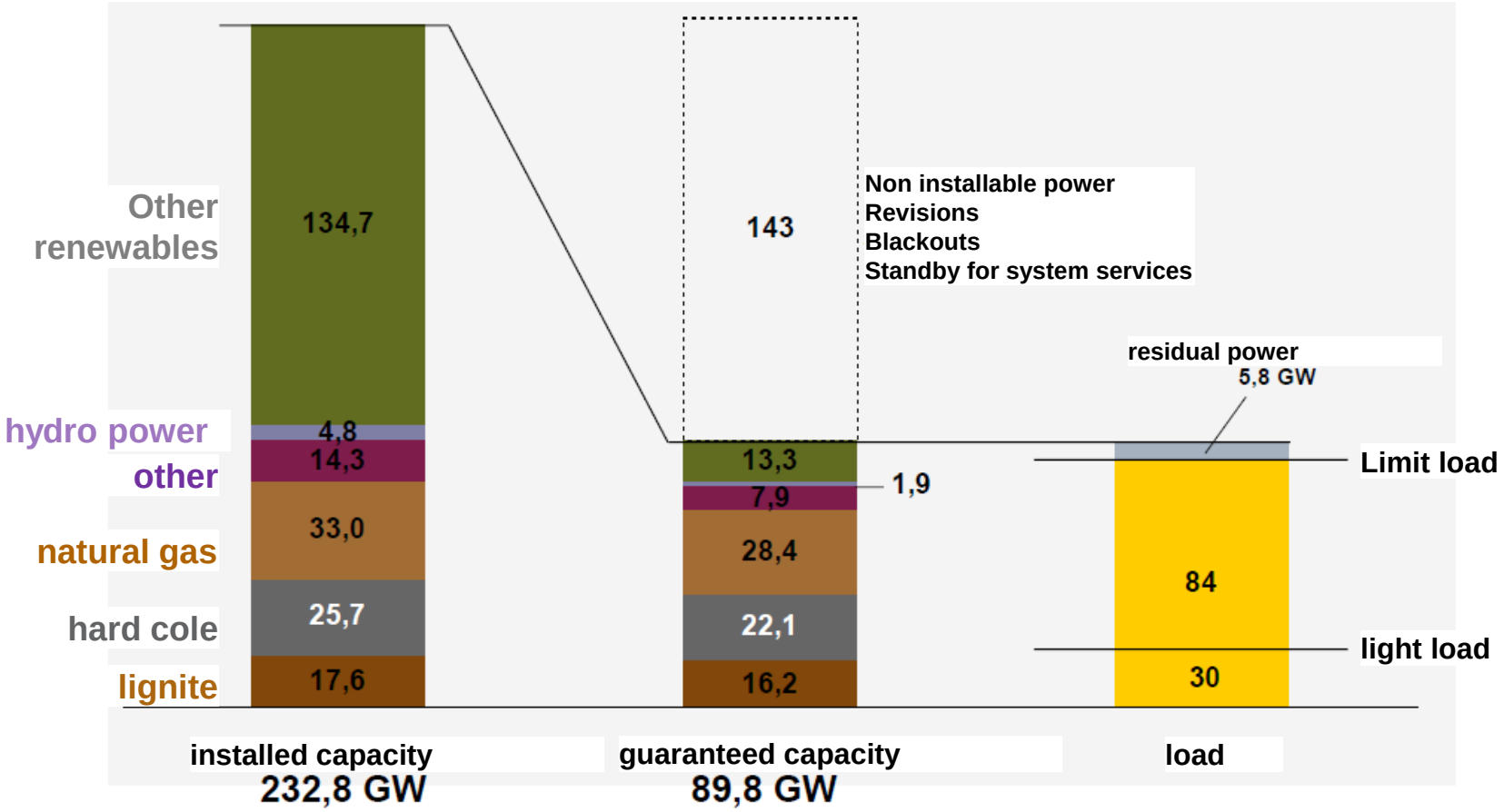
Source: Prognos
Assumption: must-run-capacity: 20 GW

Residual Load in 2030 in Germany



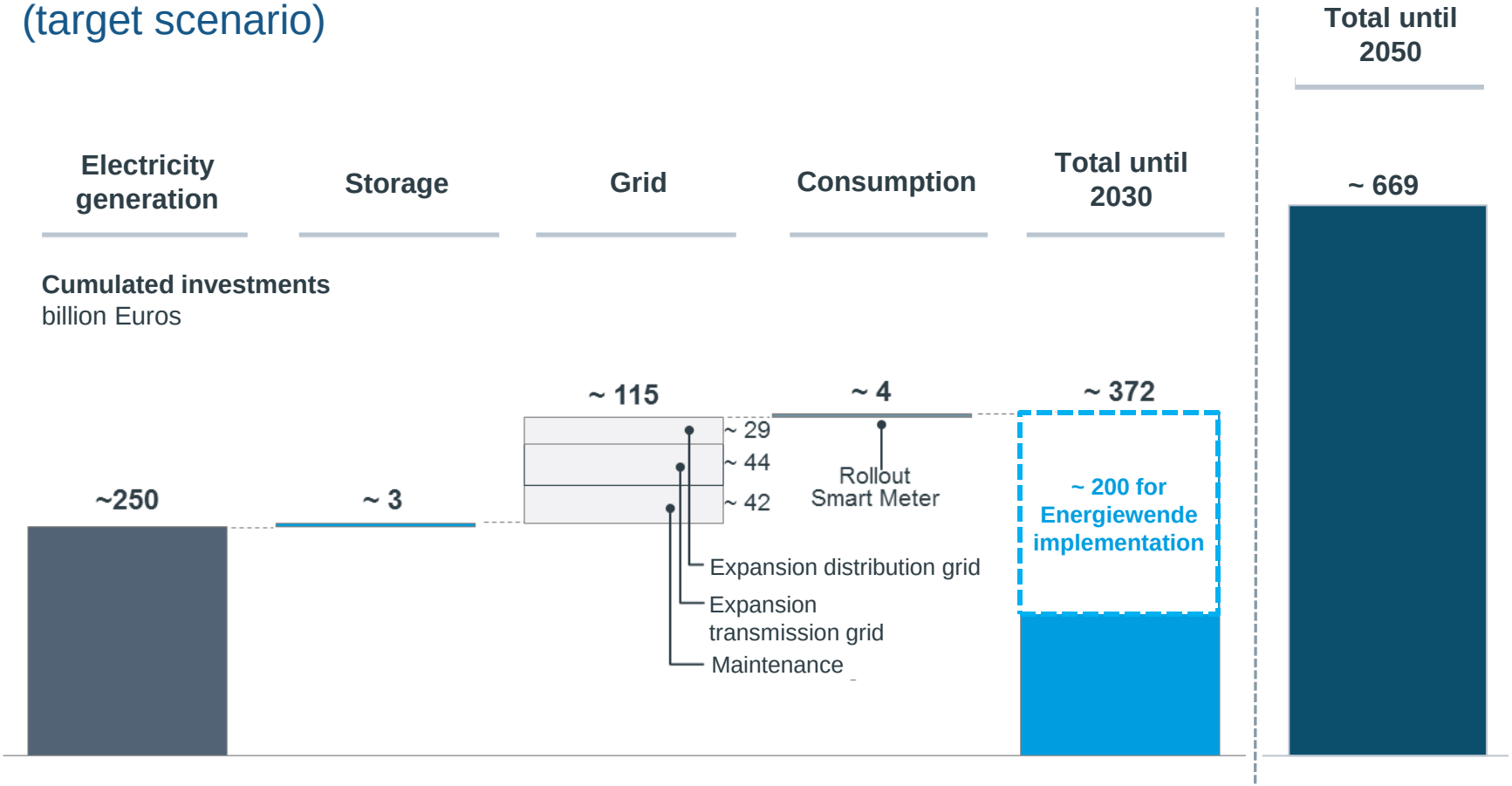
Source: Prognos
Assumption: must-run-capacity: 10 GW

Guaranteed capacity will exceed installed capacity by far (2023)



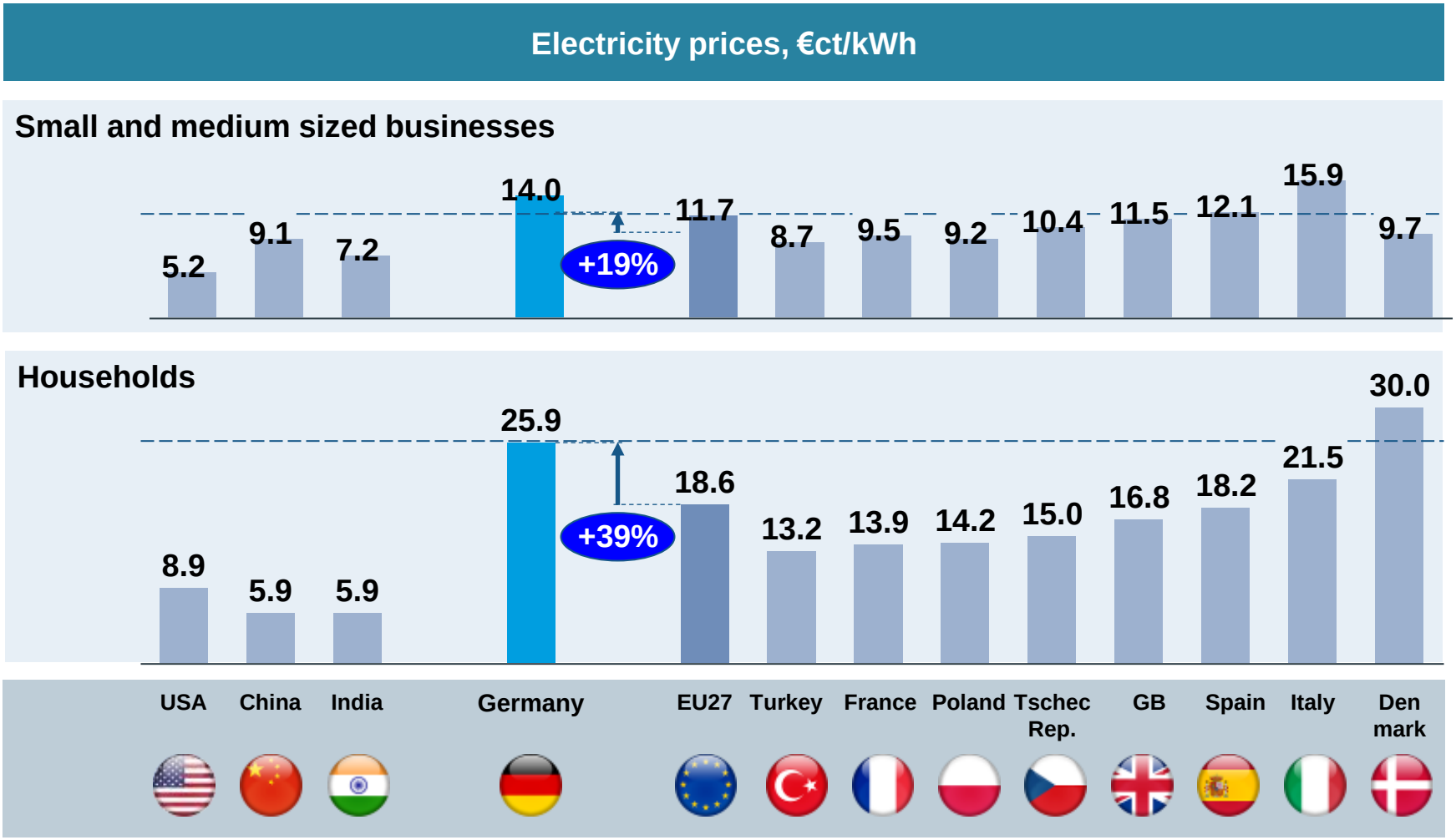
Implementing the Energiewende requires investments of ~ € 200 b into the German electricity sector until 2030

Forecast of cumulated necessary investments into German electricity system (target scenario)



Source: BCG

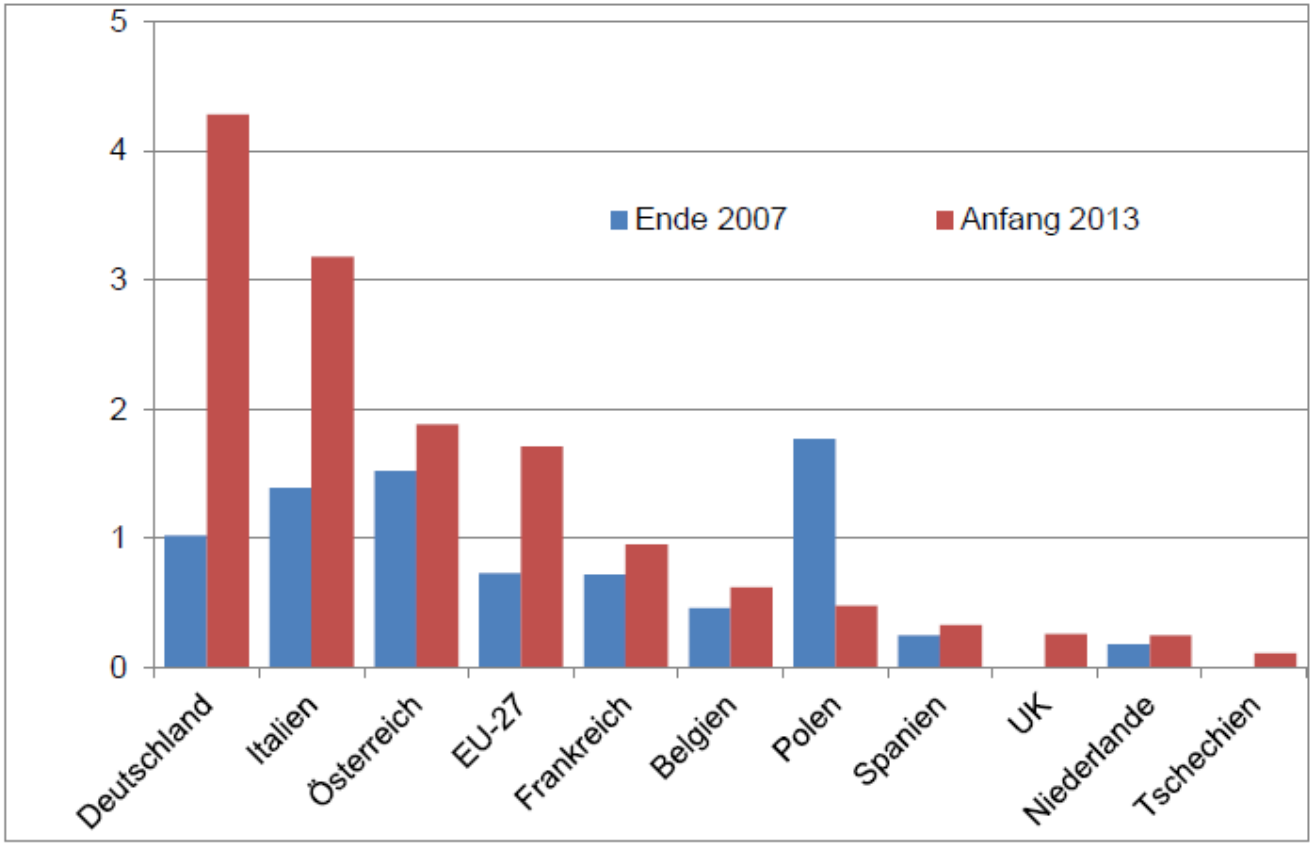
German electricity prices are among the highest in international comparison



Source: Siemens, Eurostat; IEA.

Levies and taxes on electricity for manufacturing industries – significant increase on a high level

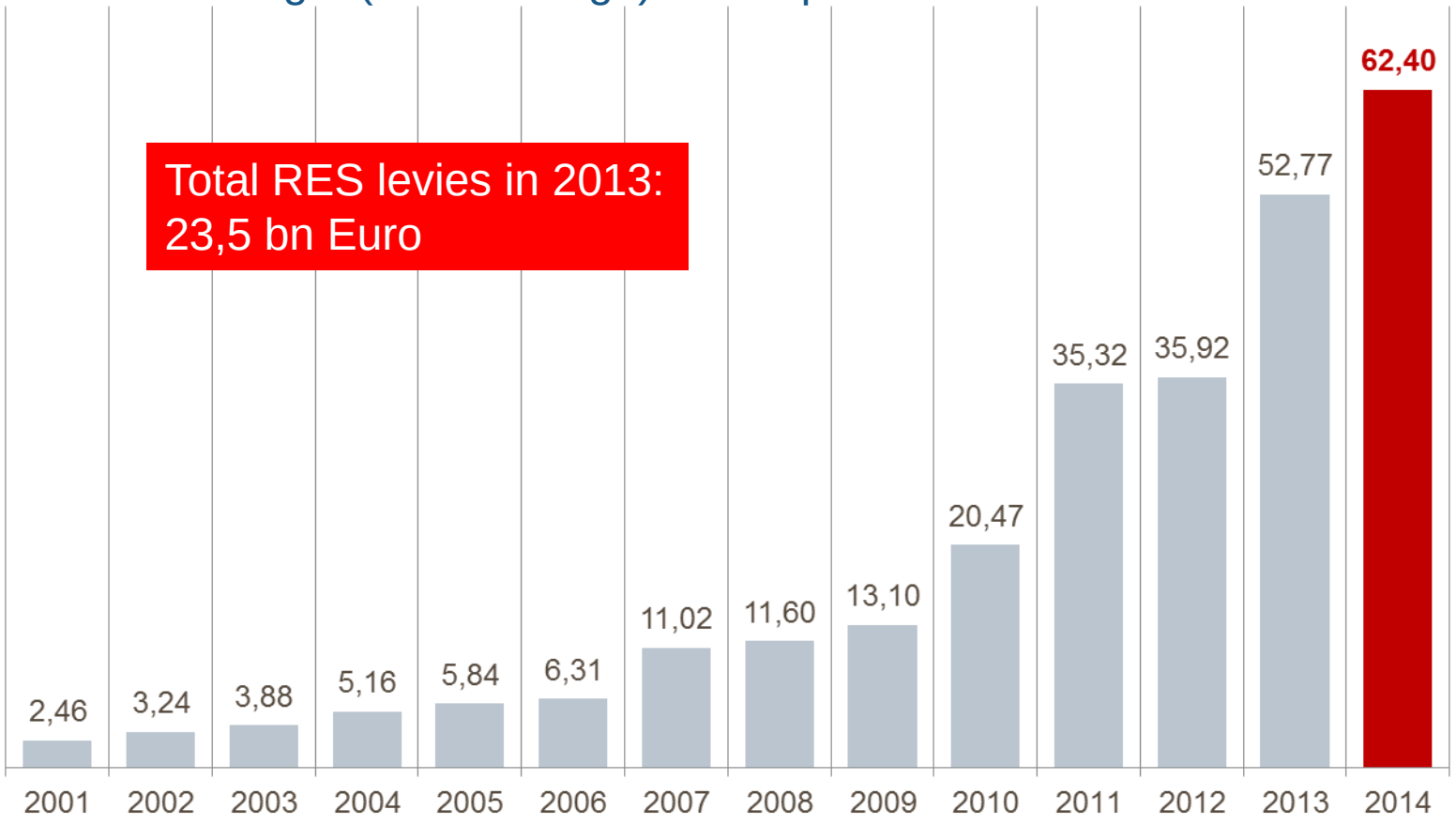
2007 – 2013, consumption 70 to 150 GWh



Quellen: Eurostat, IW Köln

RES levies in Germany (according to RES act) increase dramatically

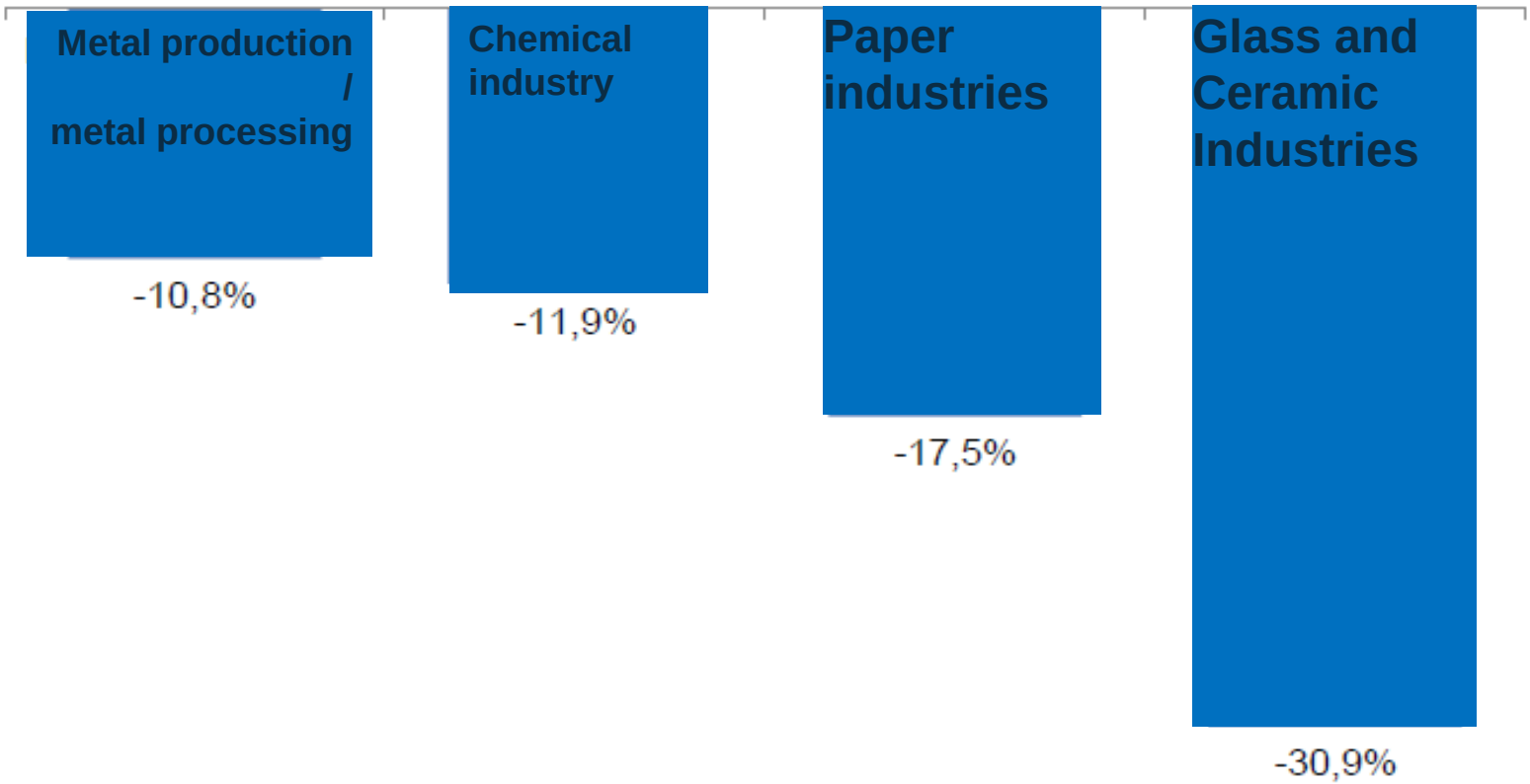
Reallocation charge (EEG-Umlage) - Euro per MWh



Source: BDEW

Silent process of investment leakage in energy intensive industries

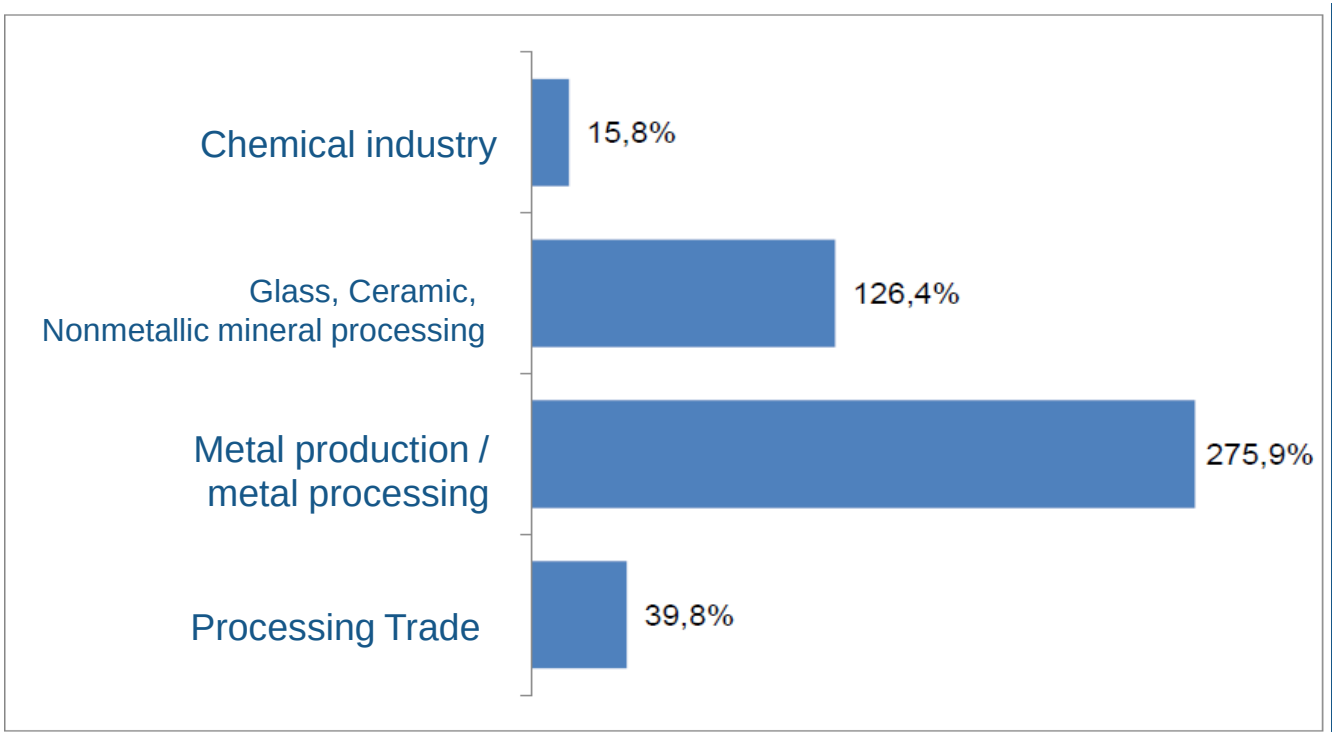
Shrinking capital stock of different banches, 2000 to 2011



Source: Statistisches Bundesamt, 2013b; IW Köln

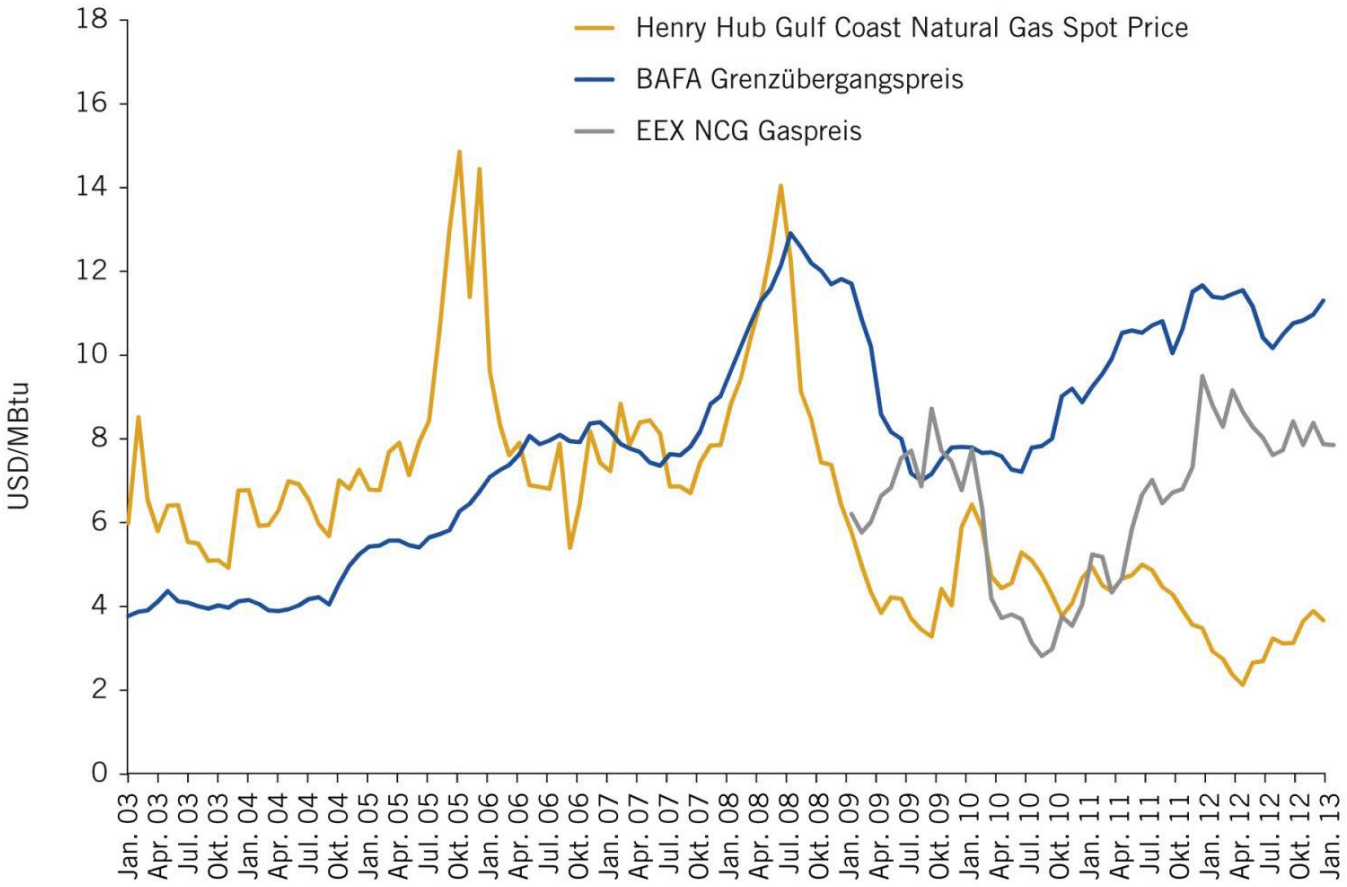
Increase in direct investment of German companies abroad

Change in investment in different branches (2000 to 2011)

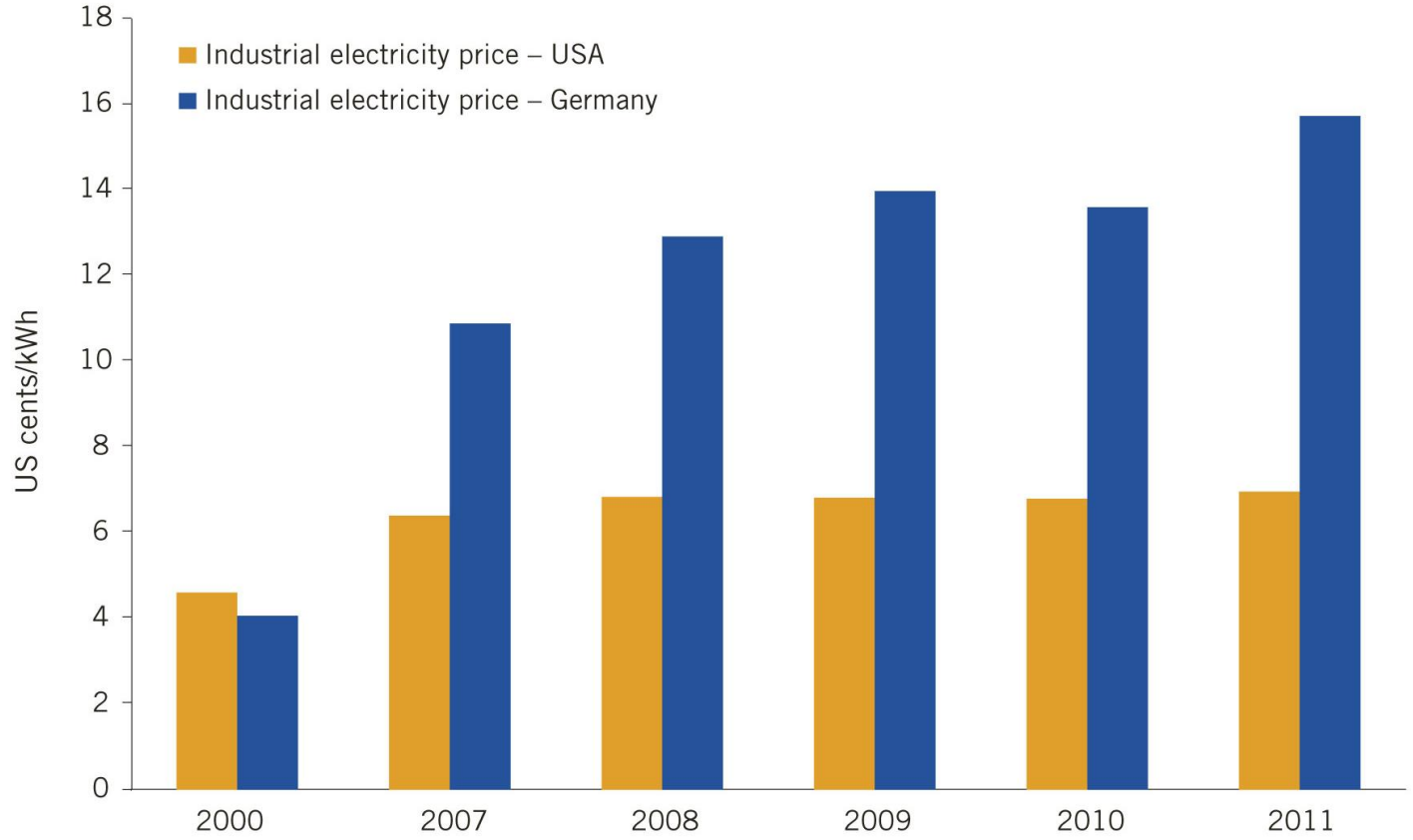


Energy costs as driver unit behind plunge in capital expenditure:
Since 2000: Leck of rd. 20 bn Euro of negative net fixed investments on energy-intensive industries.
Only 87 % of amortisation has been replaced by investments. On the contrary there is an almost total balance of ongoing amortisation in total industry.

US and German comparative gas prices



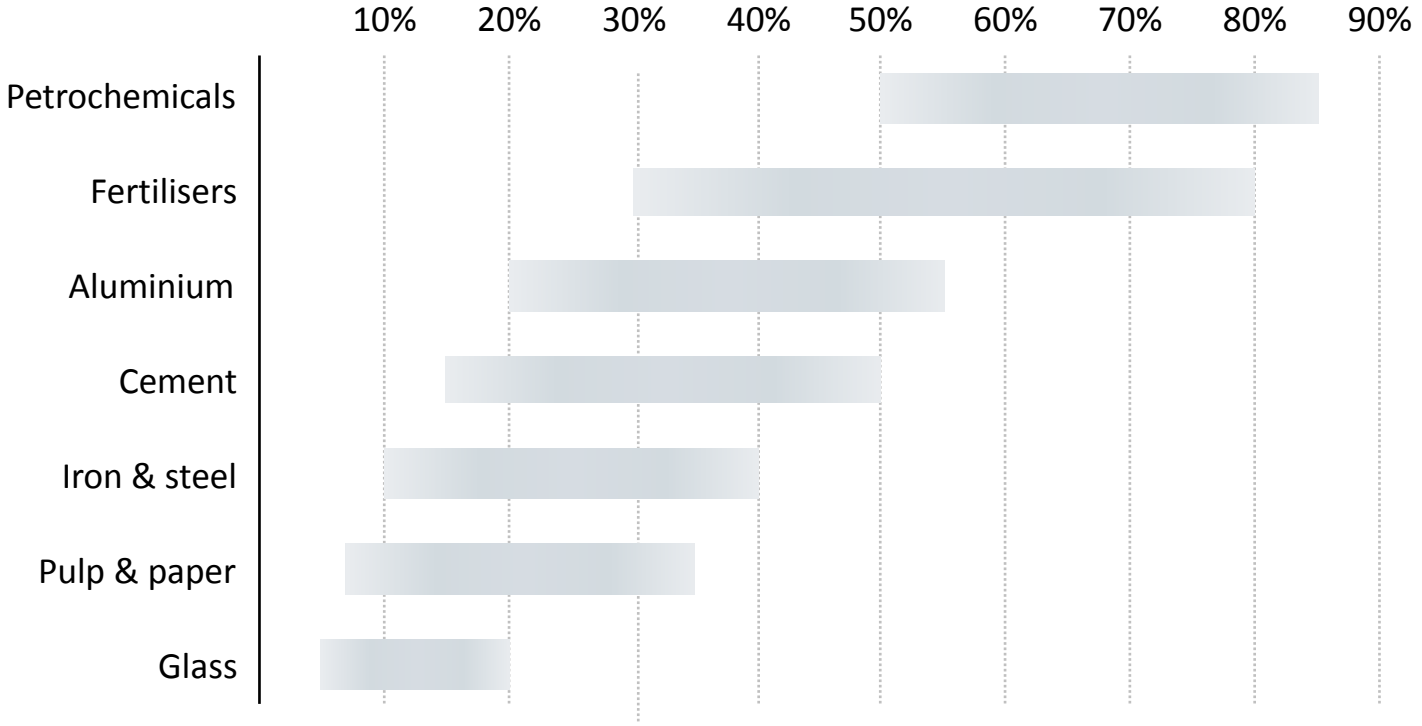
Shale gas leads to low industrial gas prices and electricity prices



Source: Weltenergierat – Deutschland, based on IEA data (Electricity Information 2012 Edition Part IV)

Share of energy cost/production cost of different industries

For some industries energy costs are dominant



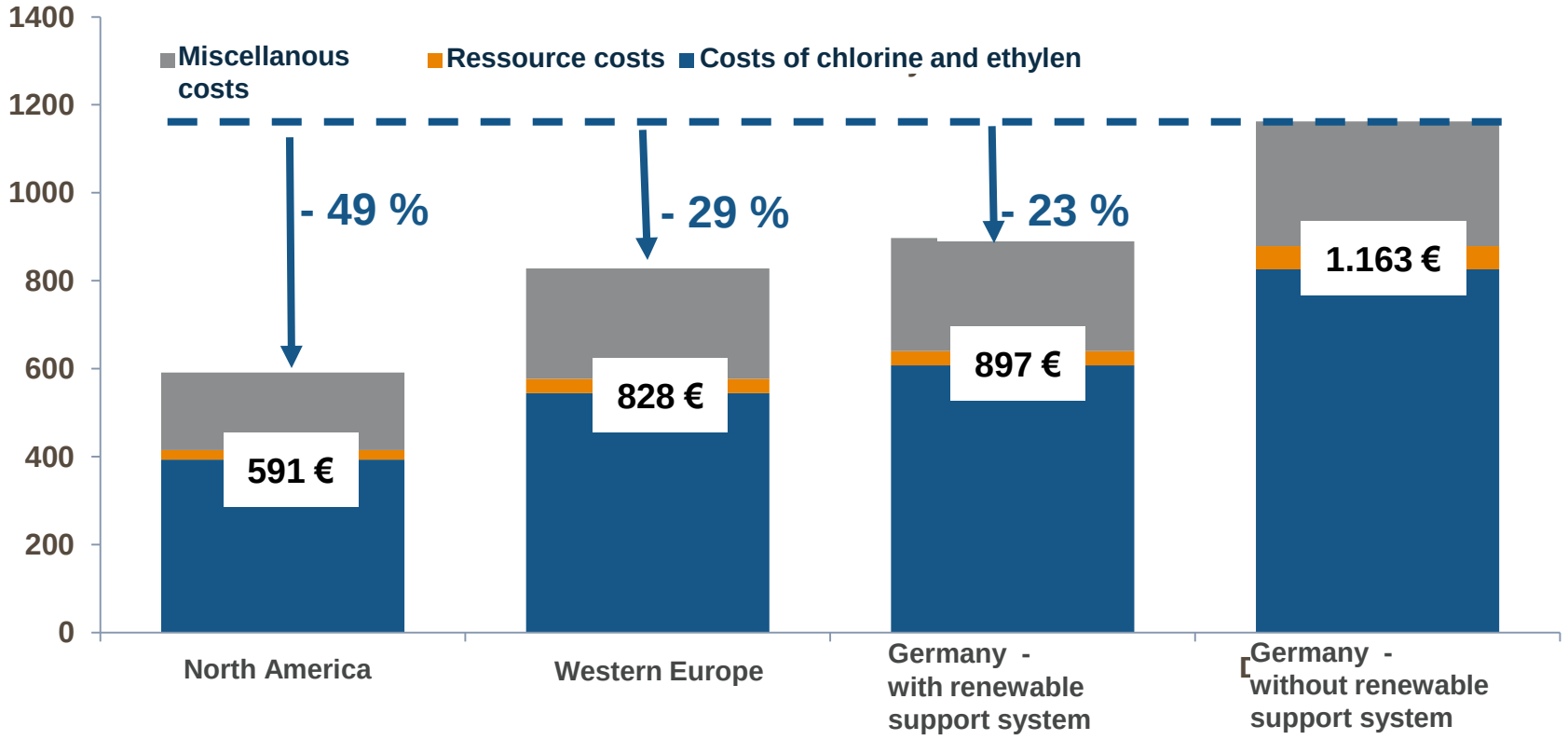
Source: IEA, WEO 2013

Globally energy intensive industries represent 1/5 of industrial value added,1/4 of these jobs and 70% of industrial energy consumption

PVC-Production cost in Germany are very high

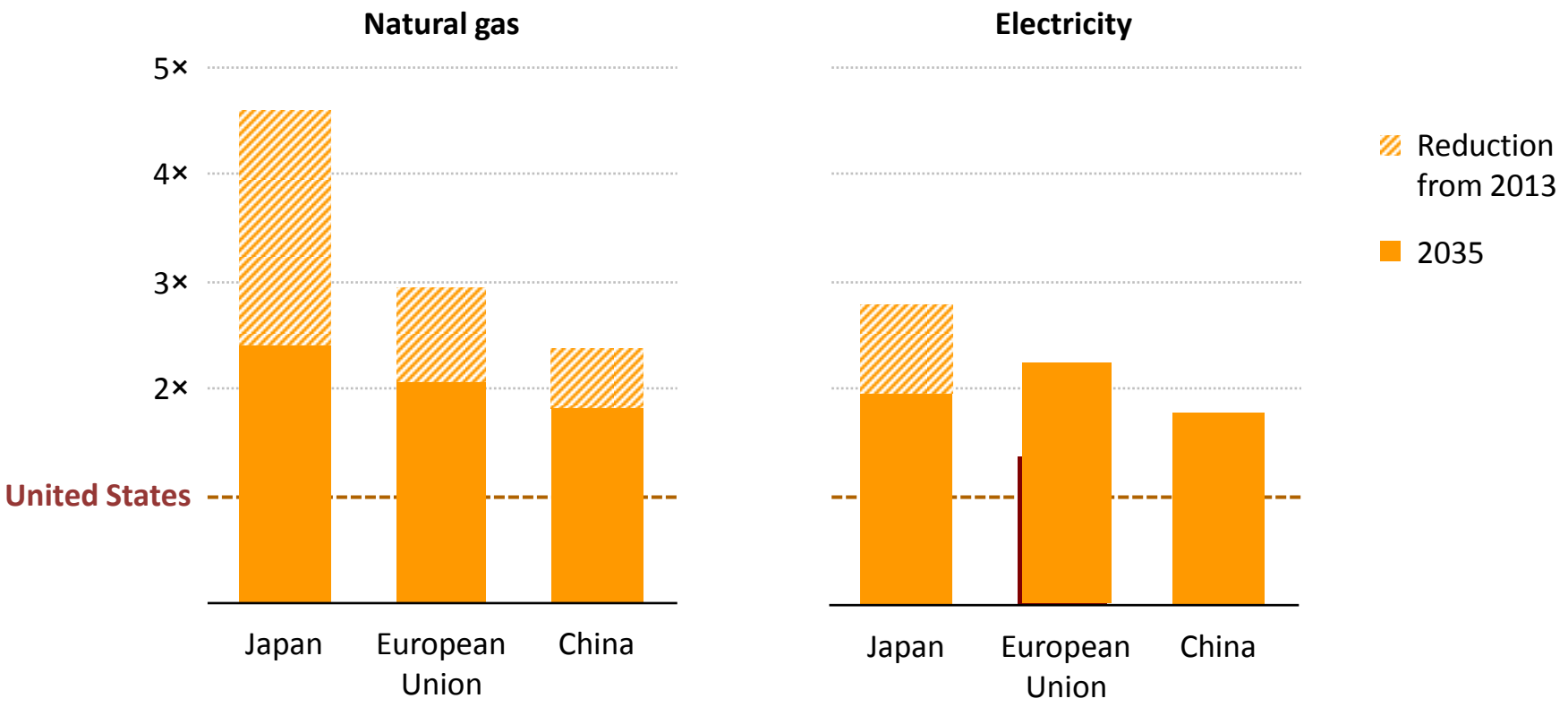
Regional comparison of PVC-production costs

Euro / ton PVC



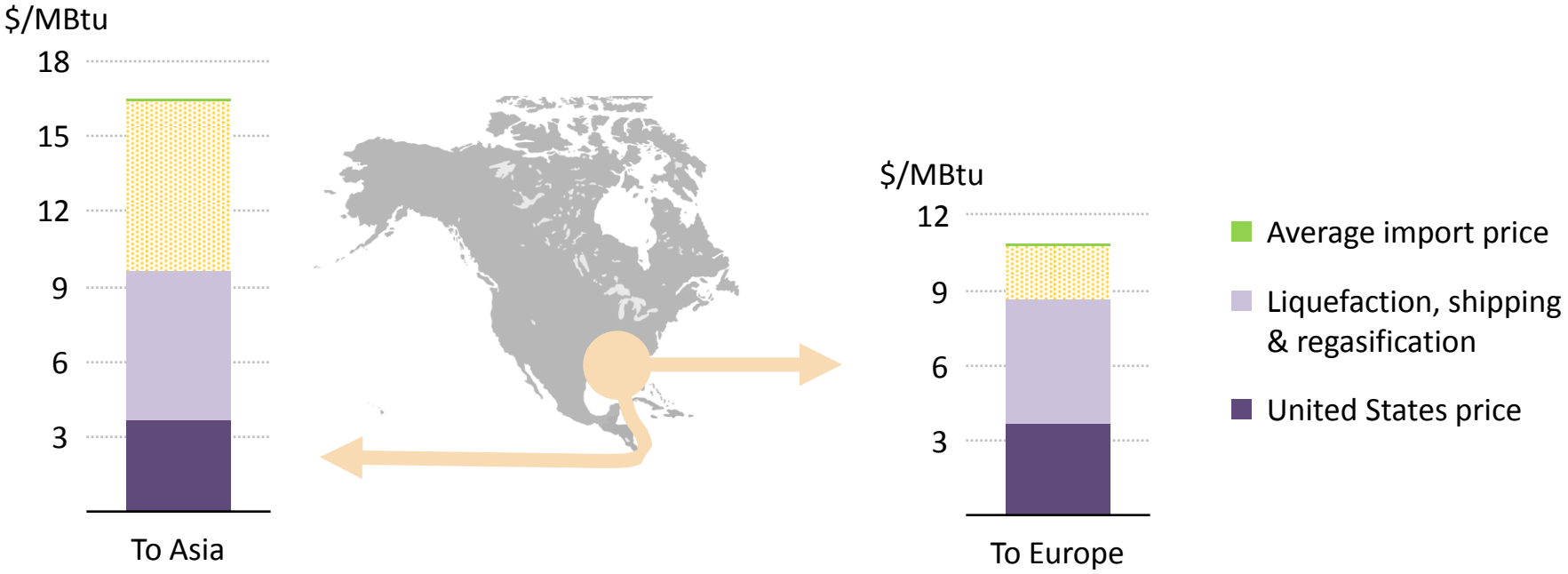
Source: IHS Chemical

Who has the energy to compete? – Ratio of industrial energy prices relative to the United States



Regional differences in natural gas prices narrow from today's very high levels but remain large through to 2035; electricity price differentials also persist

LNG from the US will access global markets strong economic incentive to export to Asia (at current price differentials)

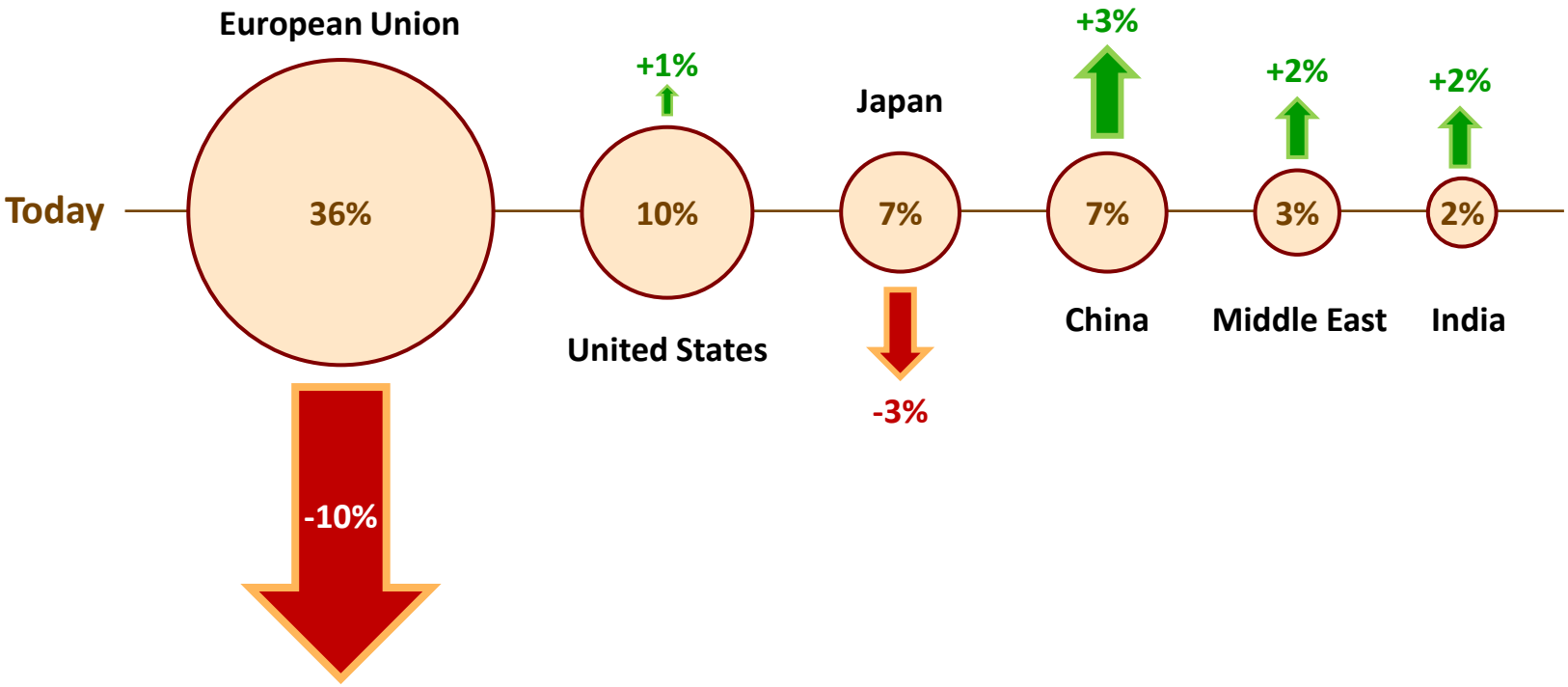


Source: IEA, WEO 2013

The integration of global gas markets is proceeding.

No common gas price globally due to high transport costs

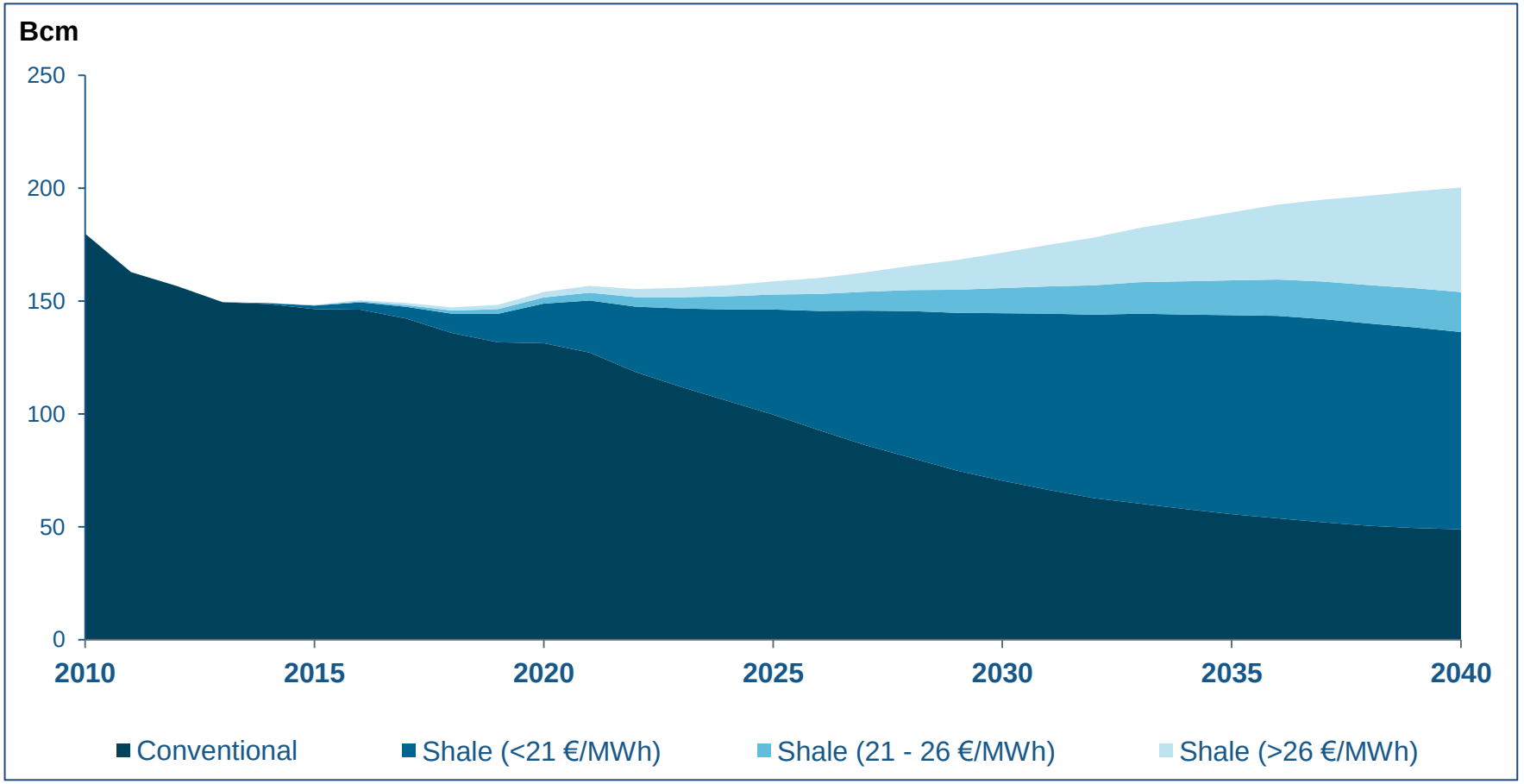
Share of global export market for energy intensive goods will shrink



Source: IEA, WEO 2013

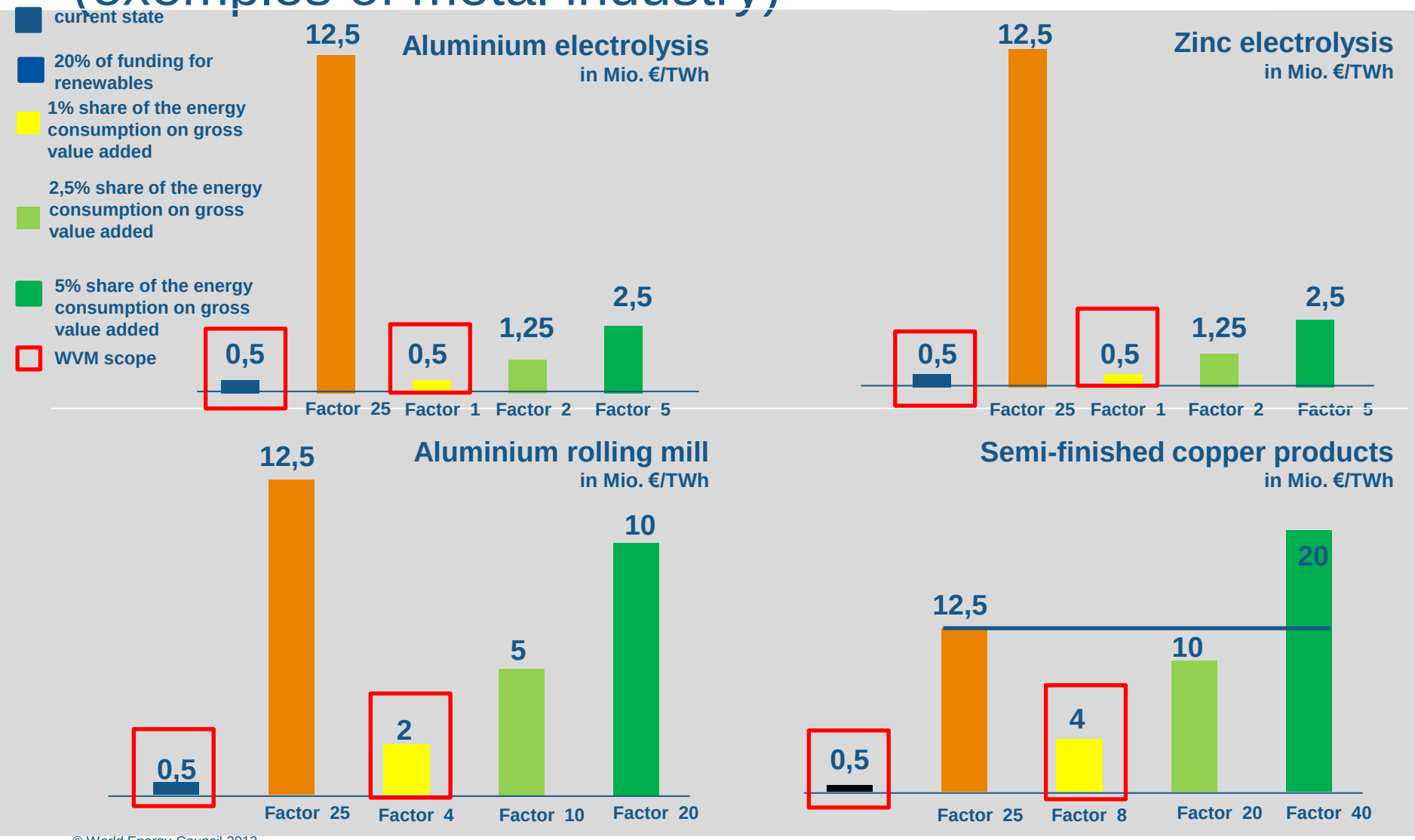
Potential to stabilize gas production in Europa depends on framework conditions for production of unconventiontal reserves

European Union gas production potential



Source: IHS Energy

Possible effects of different relief schemes (exemples of metal industry)



Key challenges of an integrated European Energy Market

Requirements:

Completely liberalised European Energy Market leads to an alignment of electricity prices		Very different, e.g. France highly regulated, UK liberalised
Sufficient grid capacities between member states		Slight improvement, but on a low level
Acceptance of a **common support scheme** (FIT, RPS, EPS, capacity mechanism etc.)		Highly diversified
Coordinated European Energy Policy with **consistent targets** in order to define European energy mixes		Highly diversified

Thank you

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