Hochschule für
Wirtschaft und Umwelt
Nürtingen-Geislingen

ENERGY EFFICIENCY

Boosting Europe‘s Competitiveness

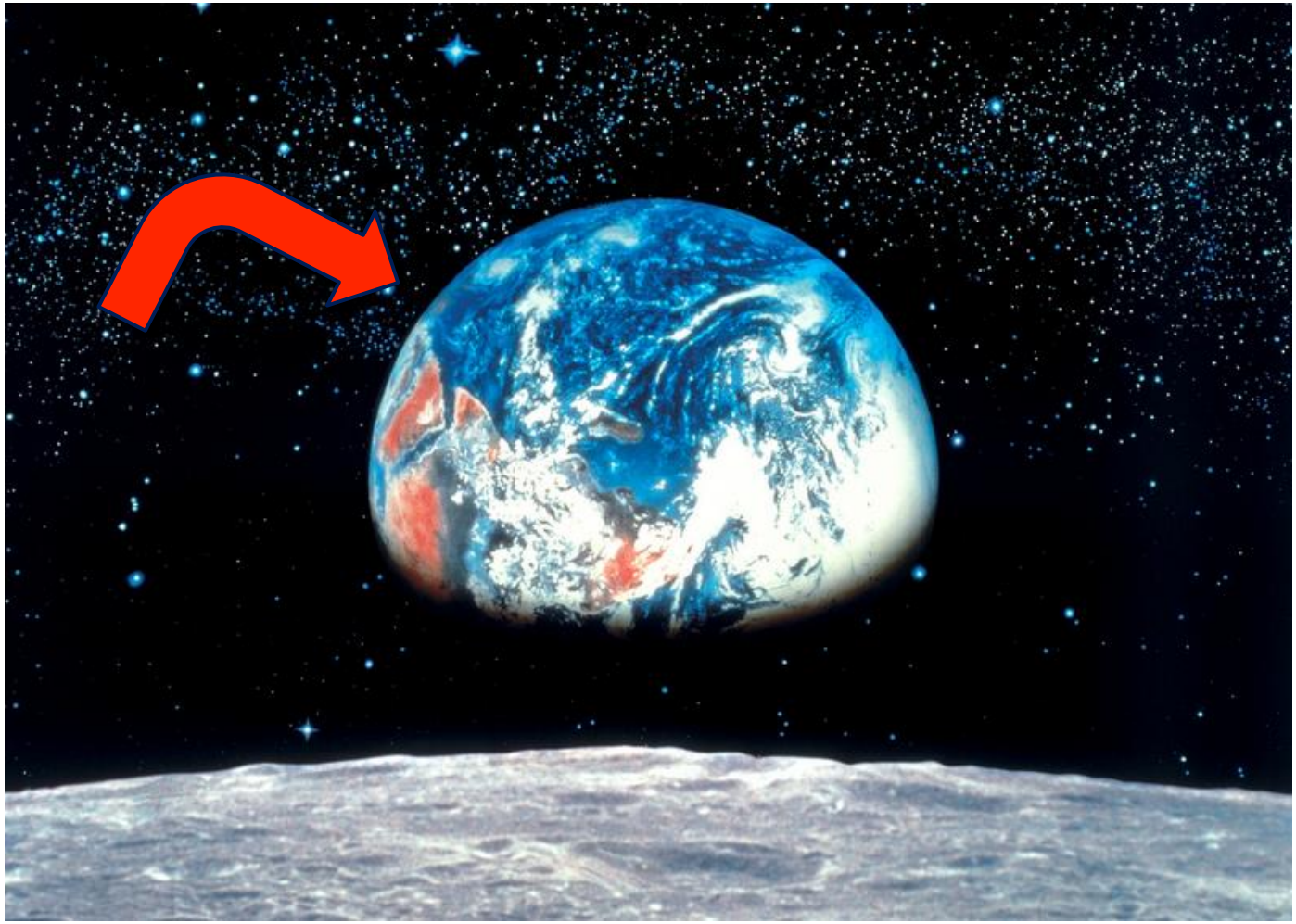
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eceee policy seminar

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About NGU



NGU – Quick facts

Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen

- Some 5000 students
- 3 campuses southeast of Stuttgart and at Lake Constance
- Specialisation in energy and resource management
- Energy efficiency: combination of economic and engineering classes
- Top scoring in university rankings



Benefits of energy efficiency are enormous

Meeting the 20% Energy saving target

368 Mtoe = **2.6 billion** = **193 billion EUR**

= **1 000 less coal power plants**

or

= **500 000 less wind turbines**

or

= **GDP of Portugal in current prices (2010)**







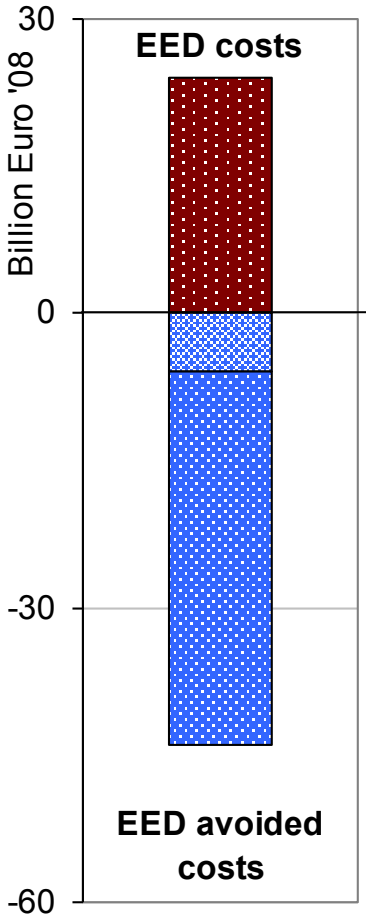
Primary **energy savings** in 2020

Barrels of oil we do not have to import per year

Money saved at conservative 73 EUR/barrel per year

And the costs of non-action as well …

€20 billion lost annually until 2020



•<u>increased</u> costs for investment in energy efficiency- €24 billion annually

•<u>reduced</u> costs for investment in energy generation and distribution - €6 billion annually

• <u>reduced</u> fuel expenditure - €38 billion annually

+

• <u>increased</u> EU GDP of € 34 billion in 2020

• <u>increased</u> net employment of 400 000 in 2020

Benefits of reaching the 20% EE target

GDP m € 2002

	Baseline	Change	
	2010	2015	2020
Baltic States	37,714	377	123
Central and Eastern Europe	551,169	2,319	4,568
Mediterranean	2,309,051	5,376	4,206
Nordic	646,374	975	2,039
Western Europe	6,762,677	14,738	22,906

EED Impact assessment

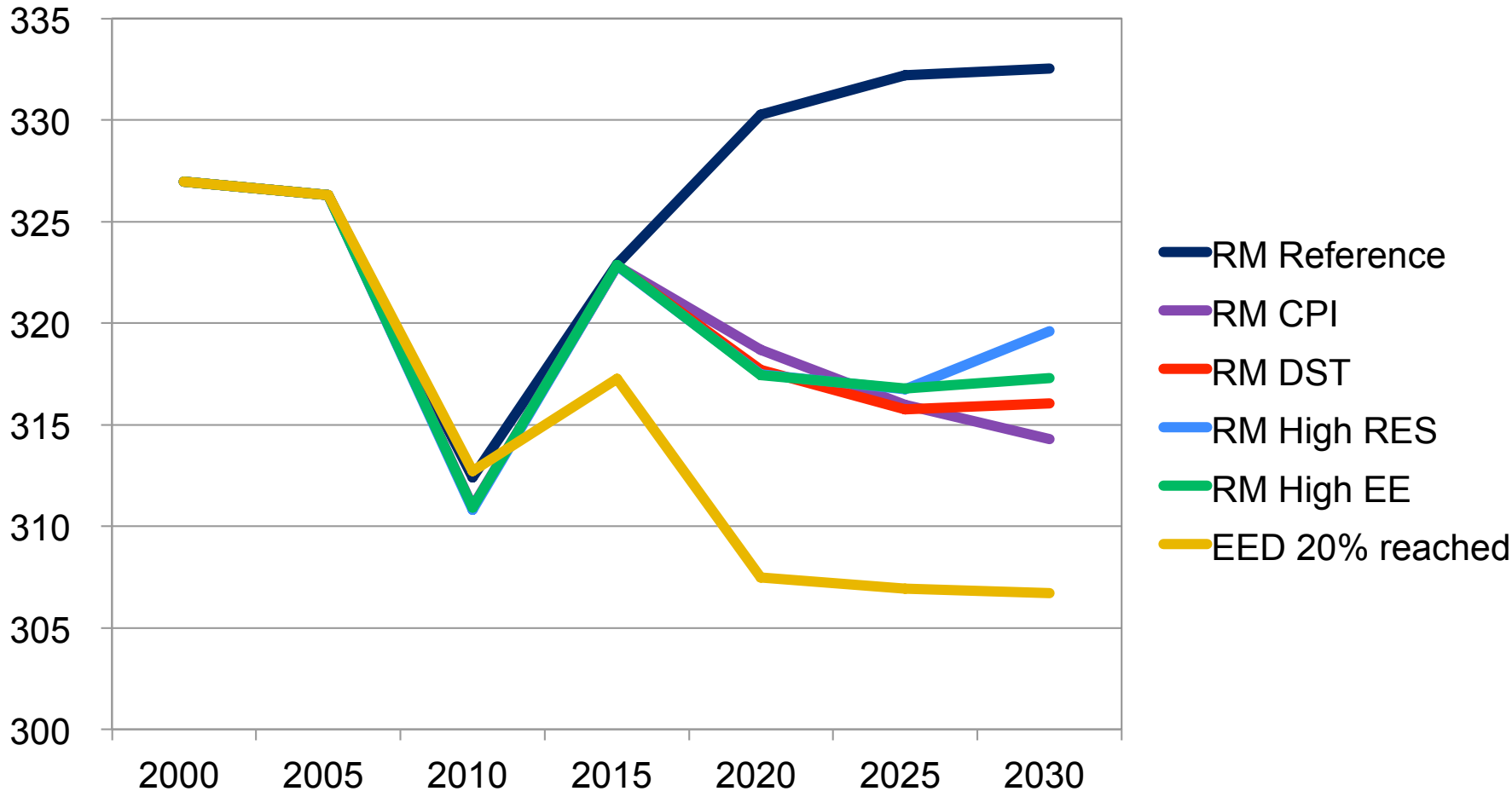
- E3G: $10 rise in the price of oil (bbl) → 0.94% decline in GDP for oil importers; 1% increase in efficiency leads to a 0.18% increase in GDP
- KfW: Every 1 € invested leads to 4.5 € return and creation of local jobs

Benefits for the industry

- Case studies: Set-up of new factories with energy efficiency as first priority: Savings of 38% in energy consumption → electricity consumption of 1,000 households, reduced energy costs of €366,000 per year
- Multiple benefits: IEA review of 77 case studies suggests well over 200 non-energy benefits
- Lower energy bill, higher productivity, resource efficiency, lower GHG emissions, safer working conditions, job security and quality, export opportunities
- Magnitude: Up to 2.5 times the value of energy savings

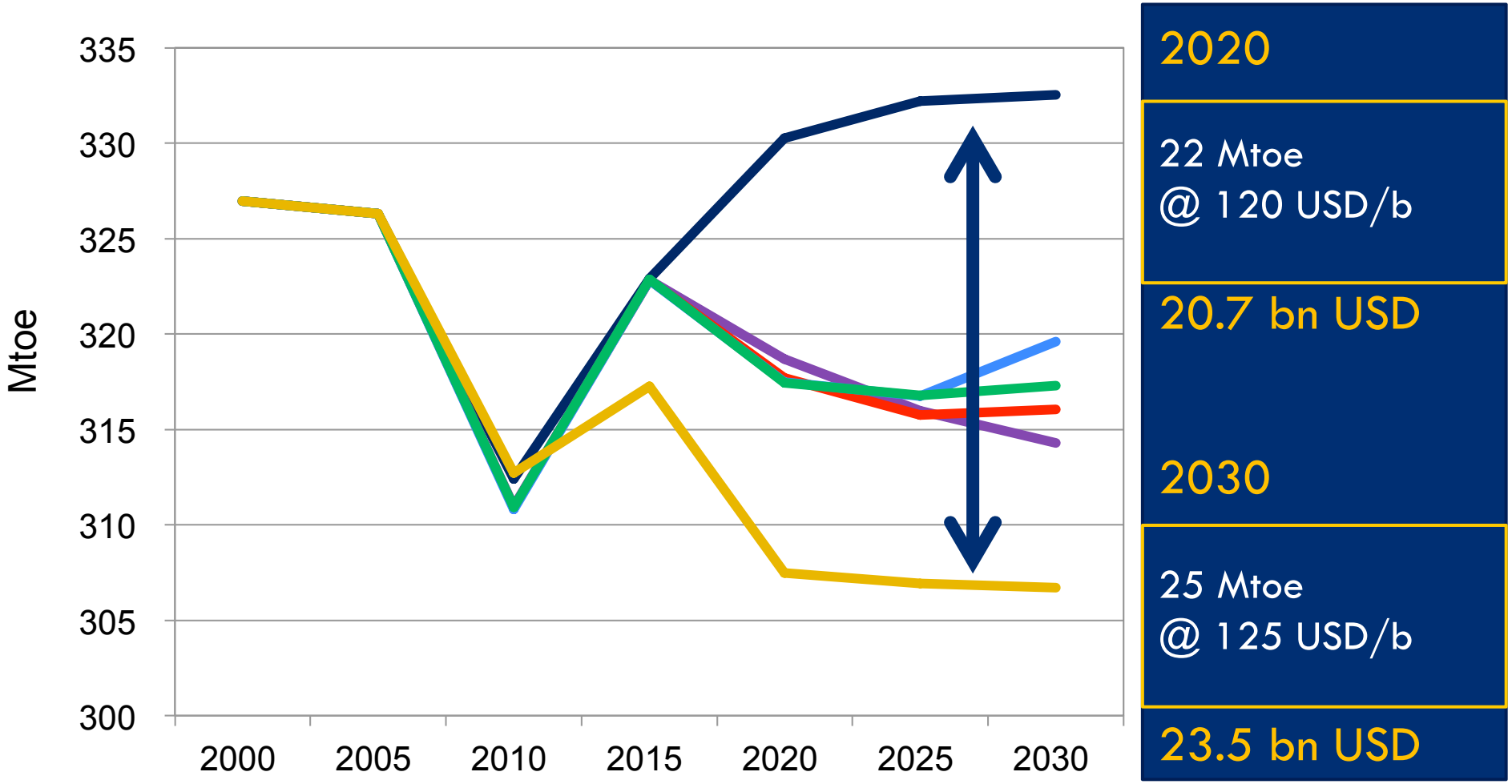
Impact on the EU‘s industry ?

Comparison of industry consumption in EU scenarios (Mtoe)



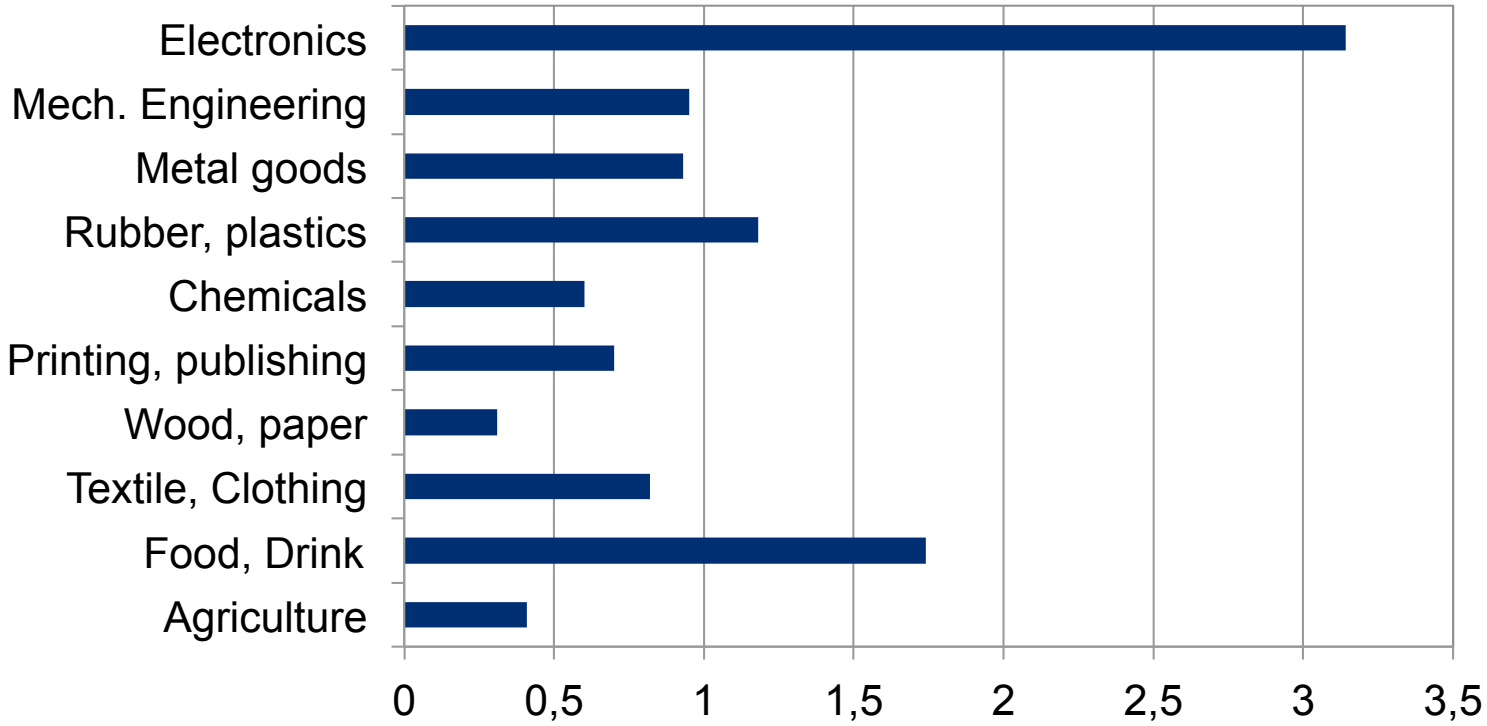
Impact on the EU‘s industry ?

Impact on energy bill



Sectorial impacts: Savings through higher prices

2020 Output changes for various industries in %



Data: EED Impact Assessment

Energy efficiency in SMEs



- We always thought: Industry can do it on their own
- But: Support for industry is needed, as still many barriers around
- Several MS have adopted dedicated EE support schemes
- energy audits coupled with attractive loan to implement results
- Support in harvesting first mover advantage

Energy efficiency in SMEs

On the table mat:

- 36,996 kWh / 5% savings
- 11.2 Ct./KWh Average EU 27
- 20.7m SMEs in Europe

4.6 bn € per year

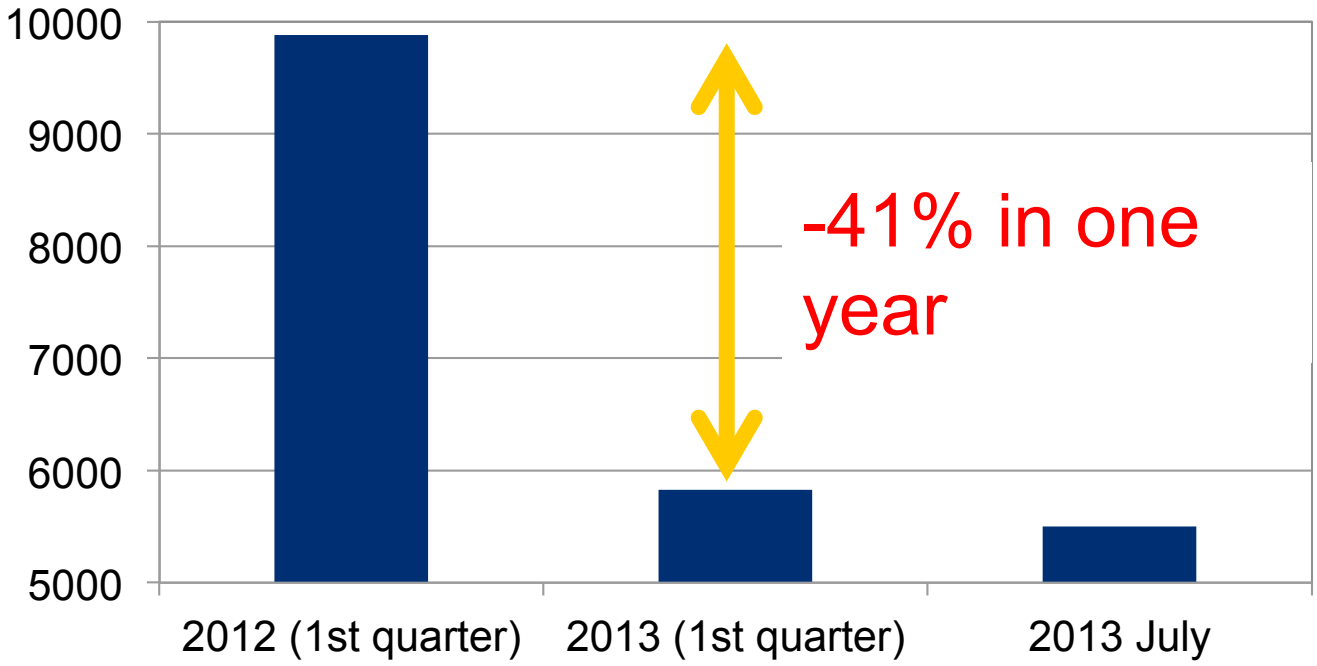


Image: Werbeartikel-ok.de

Just producing more or going green ?

No alternative to ‘green growth’

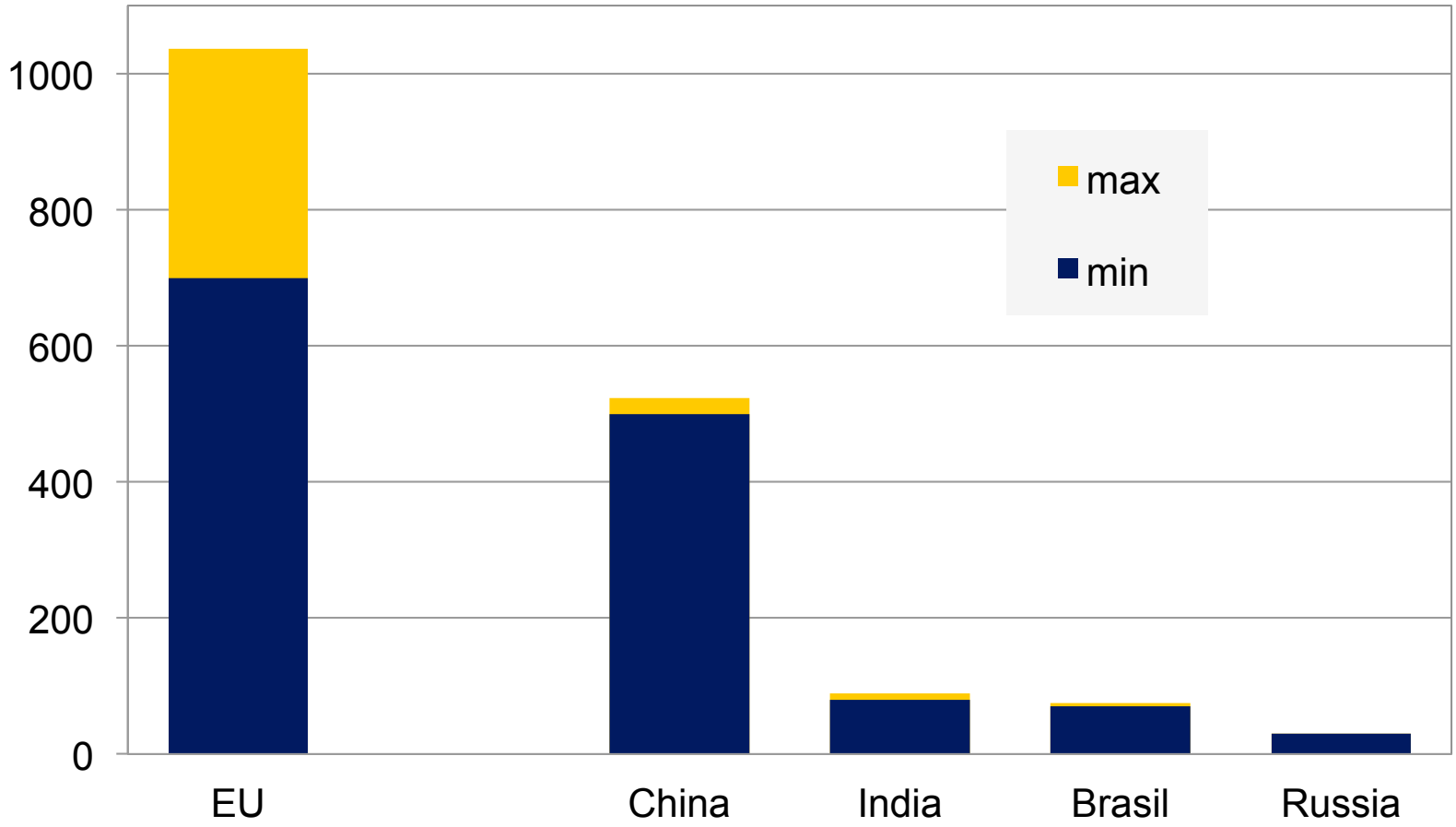
Job development in German solar industry



We need to maintain our first mover advantage

Competitive EE products and services

Number of ESCOs in EU and BRICs



Conclusions

- Energy efficiency is at the heart of a ‘green growth’ strategy
- It delivers much more than “just” energy savings
- Therefore: EE must play a key role in a European 2030 framework
- We must be much more systematic about unlocking the EU’s energy efficiency potential – in all fields !



Thank you very much !

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