

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

**MULTI-YEAR EXPERT MEETING ON COMMODITIES
AND DEVELOPMENT**

9-10 April 2014

**Coal Market Development and Global
Energy Policy**

by

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Vice-President, EURACOAL

The views expressed are those of the author and do not necessarily reflect the views of
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**UNCTAD - Multi-year Expert Meeting on
Commodities and Development
Geneva, 9-10 April 2014**

**Item 3C. Recent Developments and new
Challenges in Commodity markets: Energy**

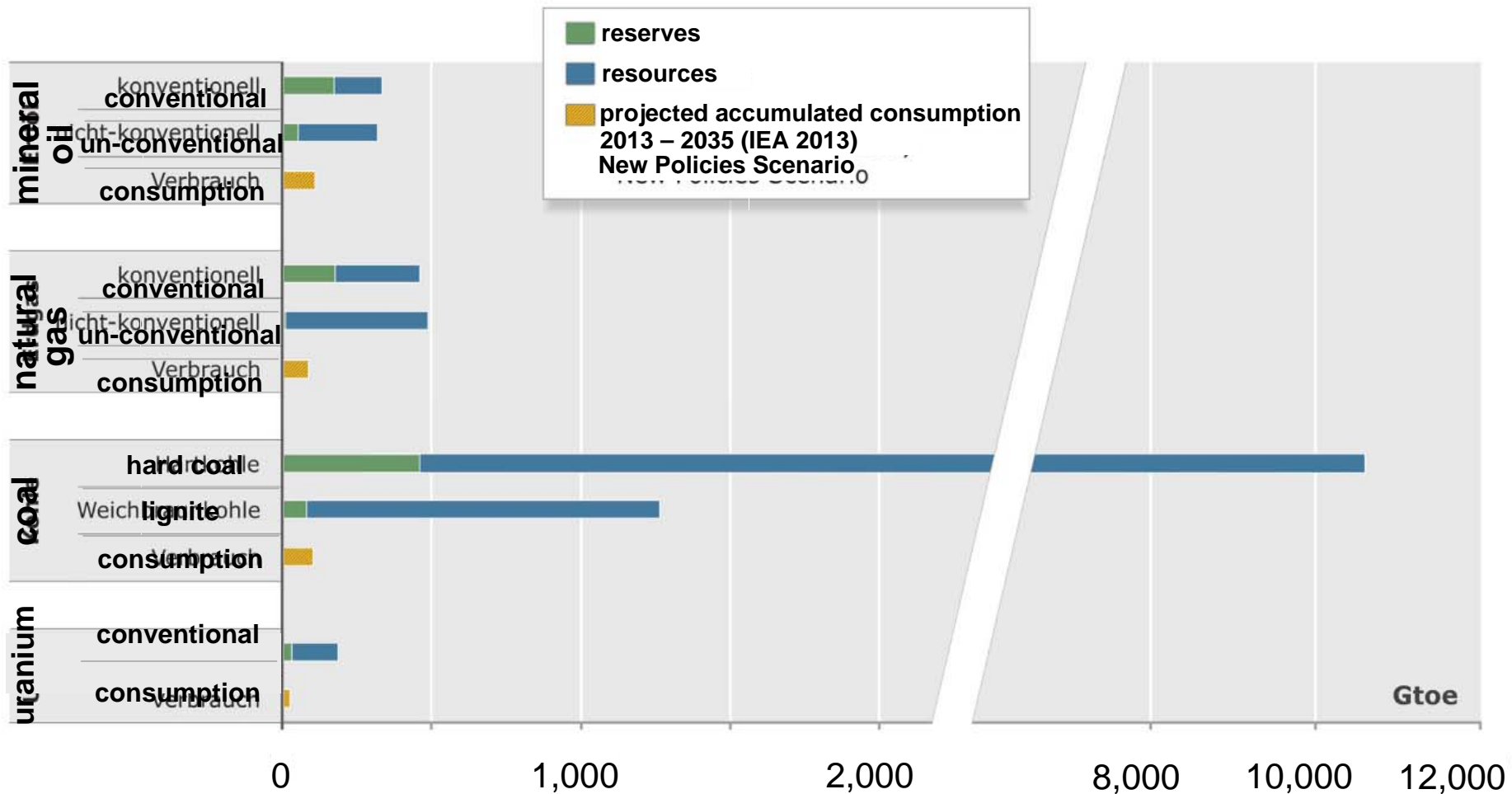
Coal Market Development and Global Energy Policy

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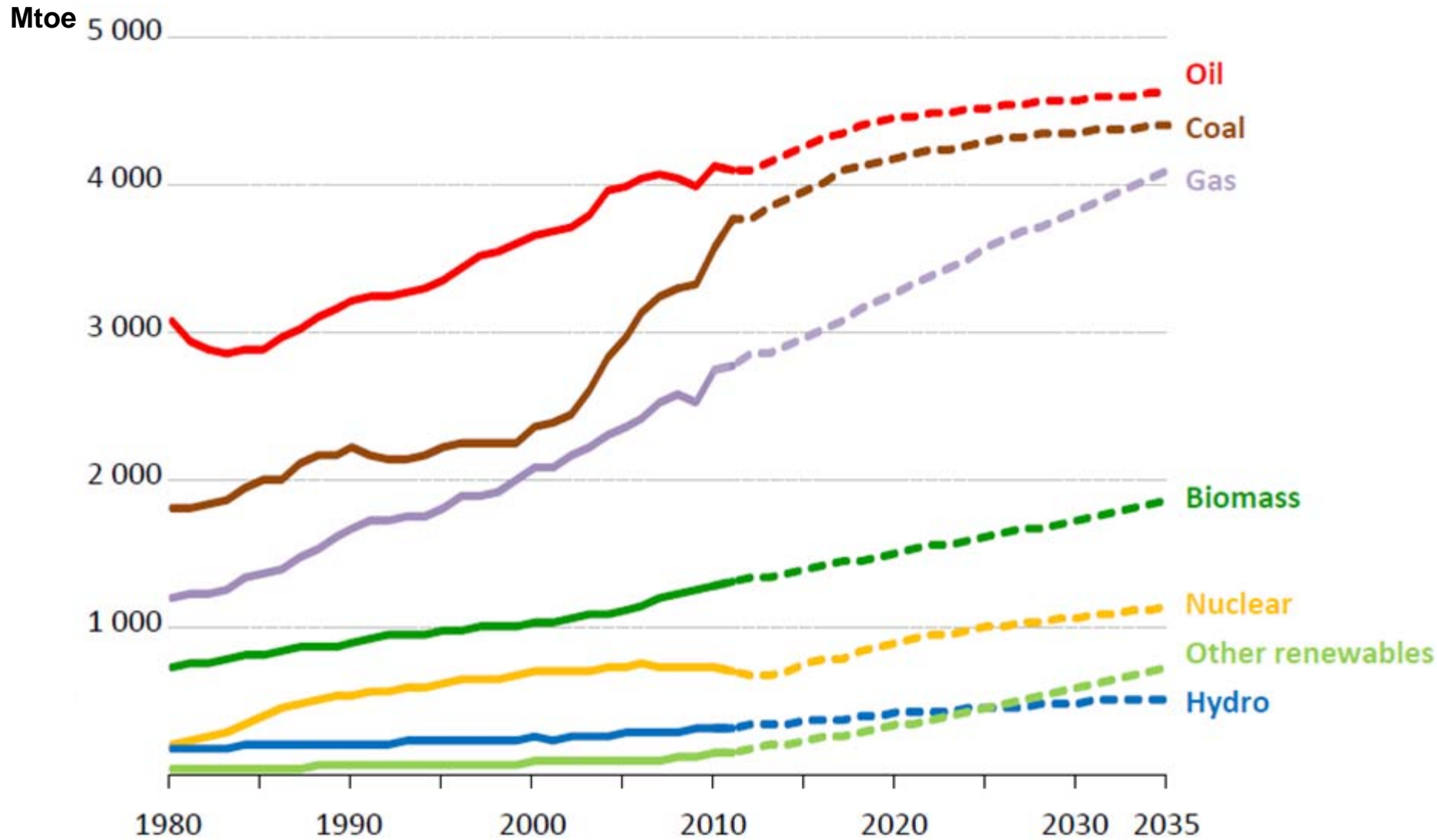
Resources and primary energy supply

Supply security for non-renewable fuels



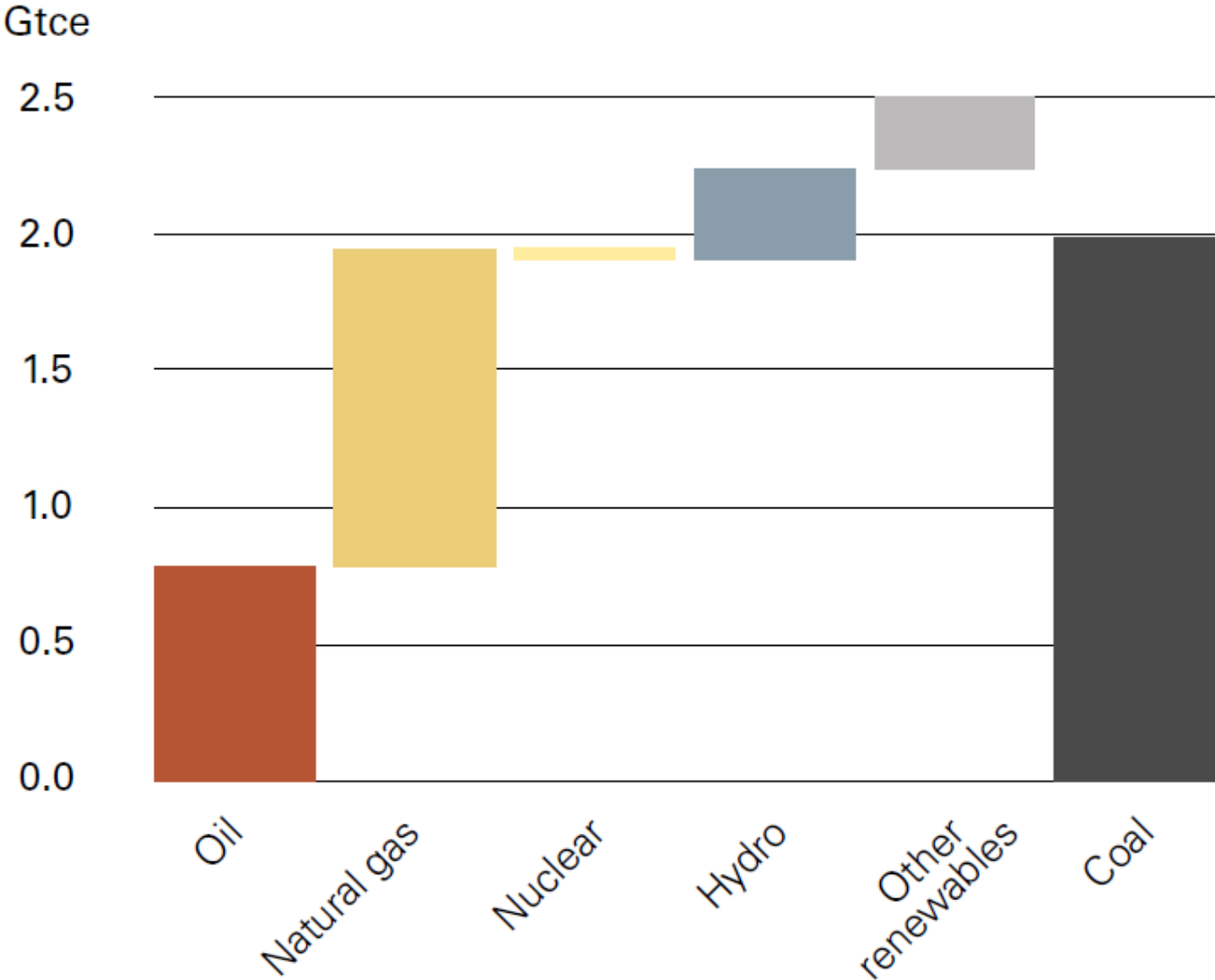
source: BGR: „Energiestudie 2013 – Reserven, Ressourcen und Verfügbarkeit von Energierohstoffen“, Hannover, Dezember 2013, S. 35

World energy demand by fuel



source: IEA World Energy Outlook 2013 (New Policies Scenario)

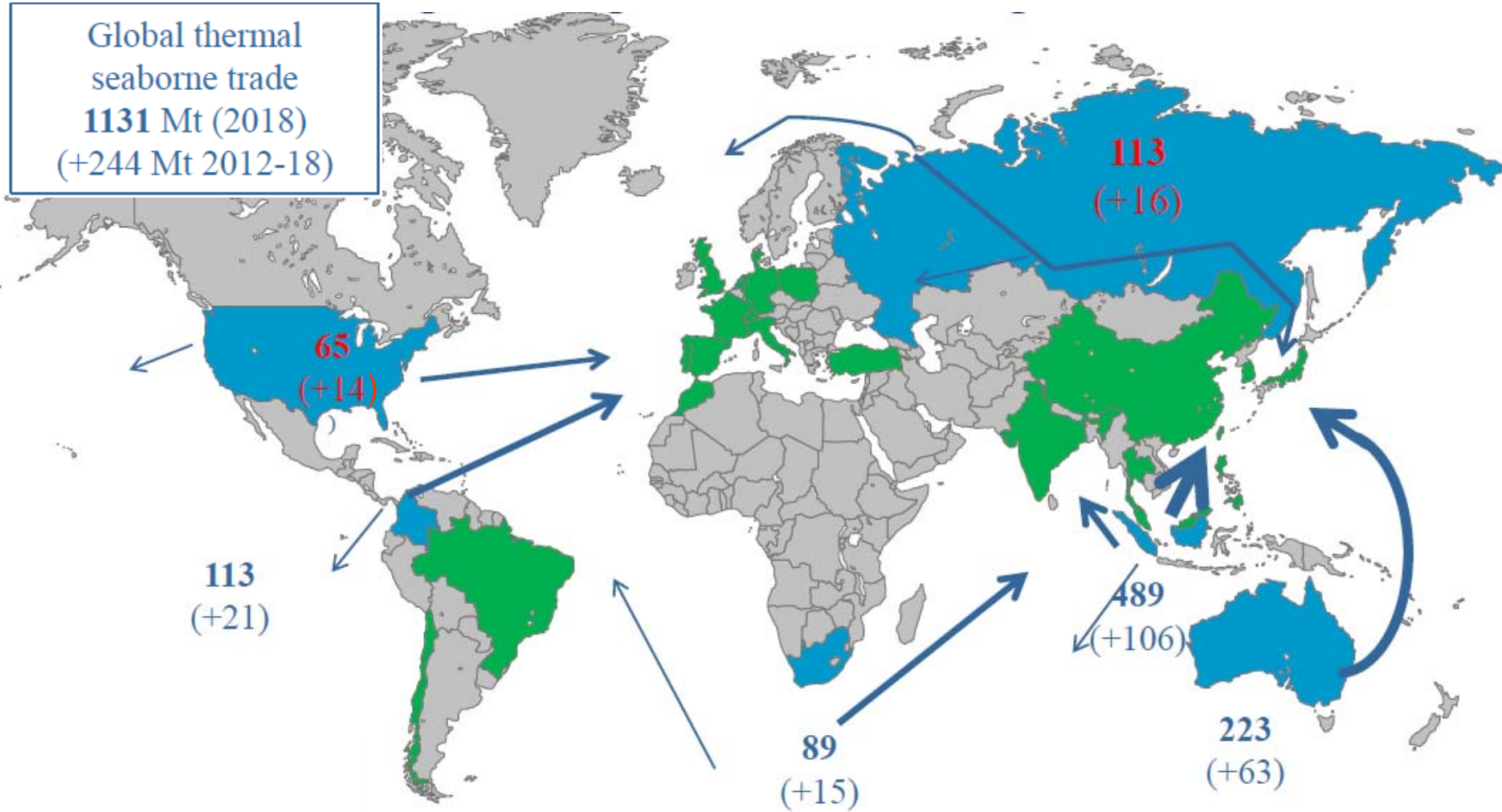
Growth in total primary energy supply, 2000 to 2012



source: EURACOAL, Coal industry across Europe 2013; BP 2013

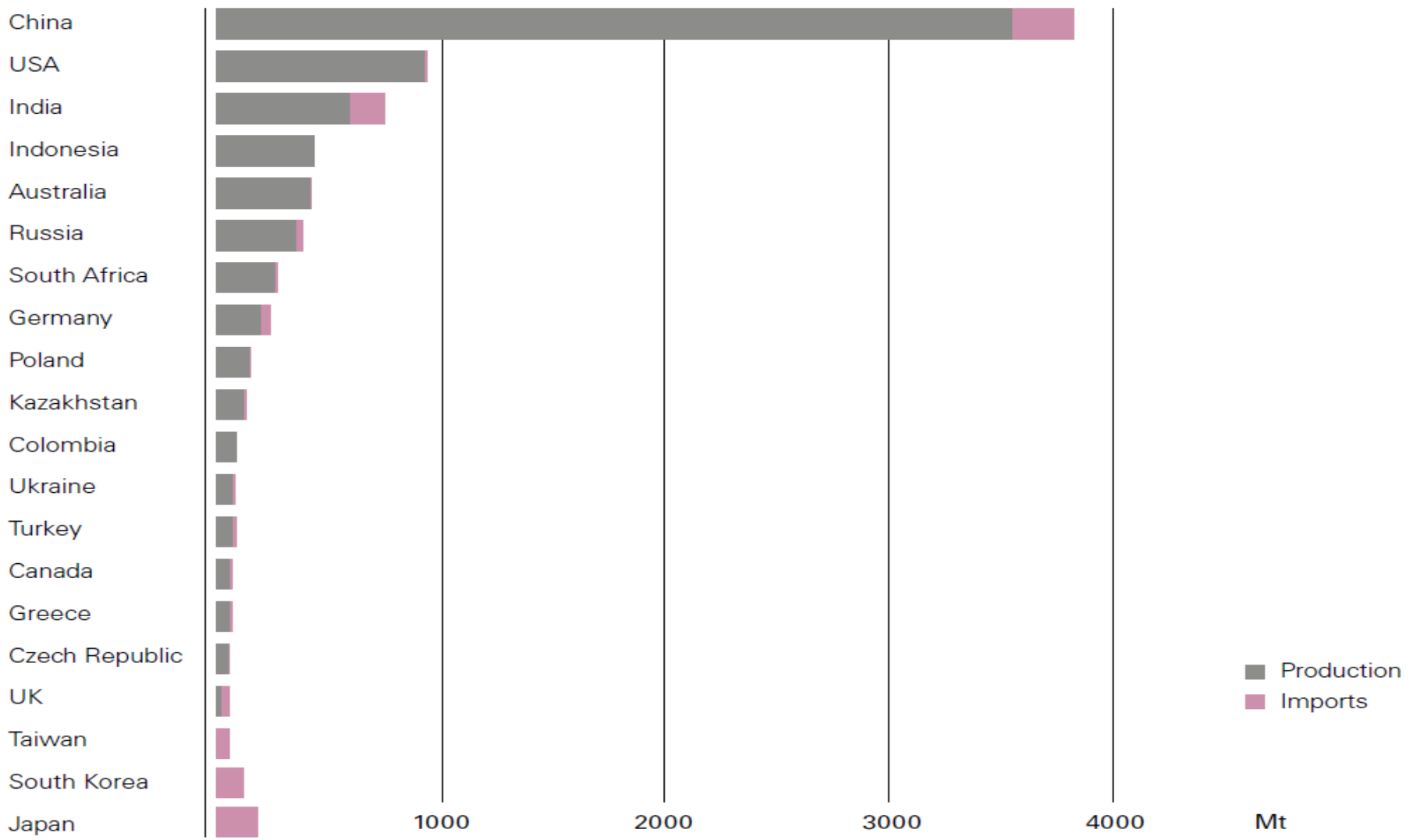
Coal production, trade and prices

Coal trade: growing faster, moving East



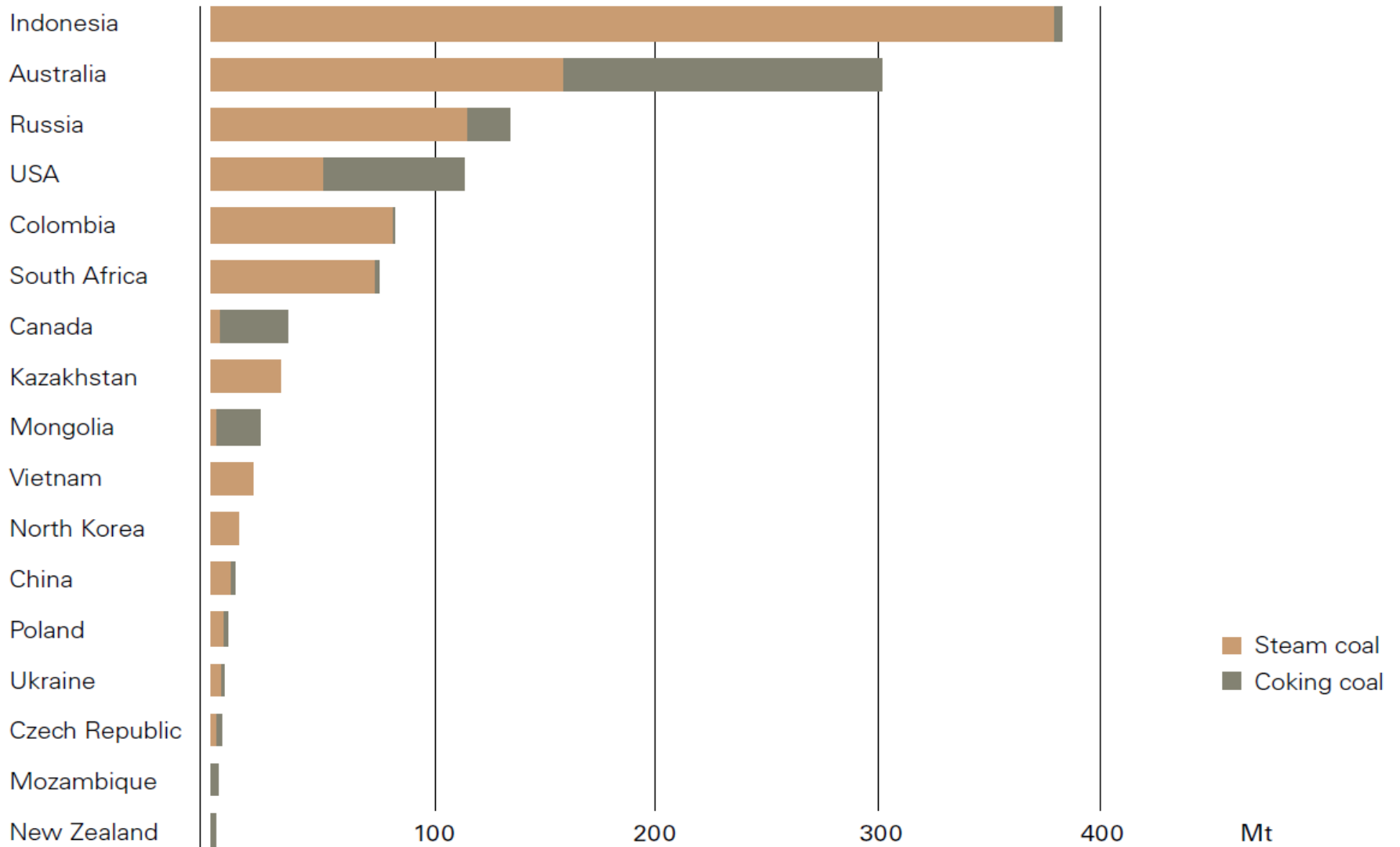
source: IEA Medium-Term Coal Market Report 2013

Major coal producing and importing countries, 2012



source: EURACOAL, Coal industry across Europe 2013; IEA 2013

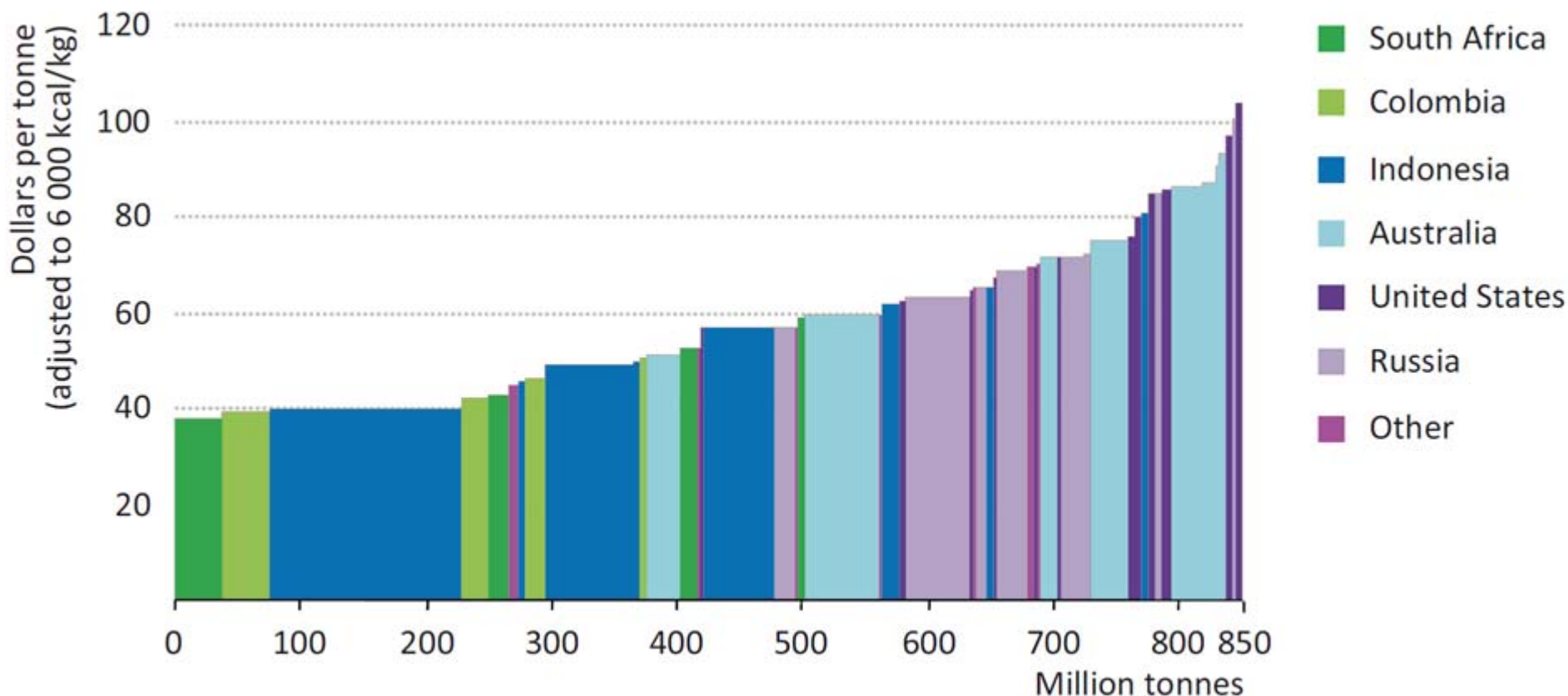
Top coal exporting countries, 2012



Source: EURACOAL, Coal industry across Europe 2013; IEA 2013

IEA WEO2013 – Coal Market Outlook

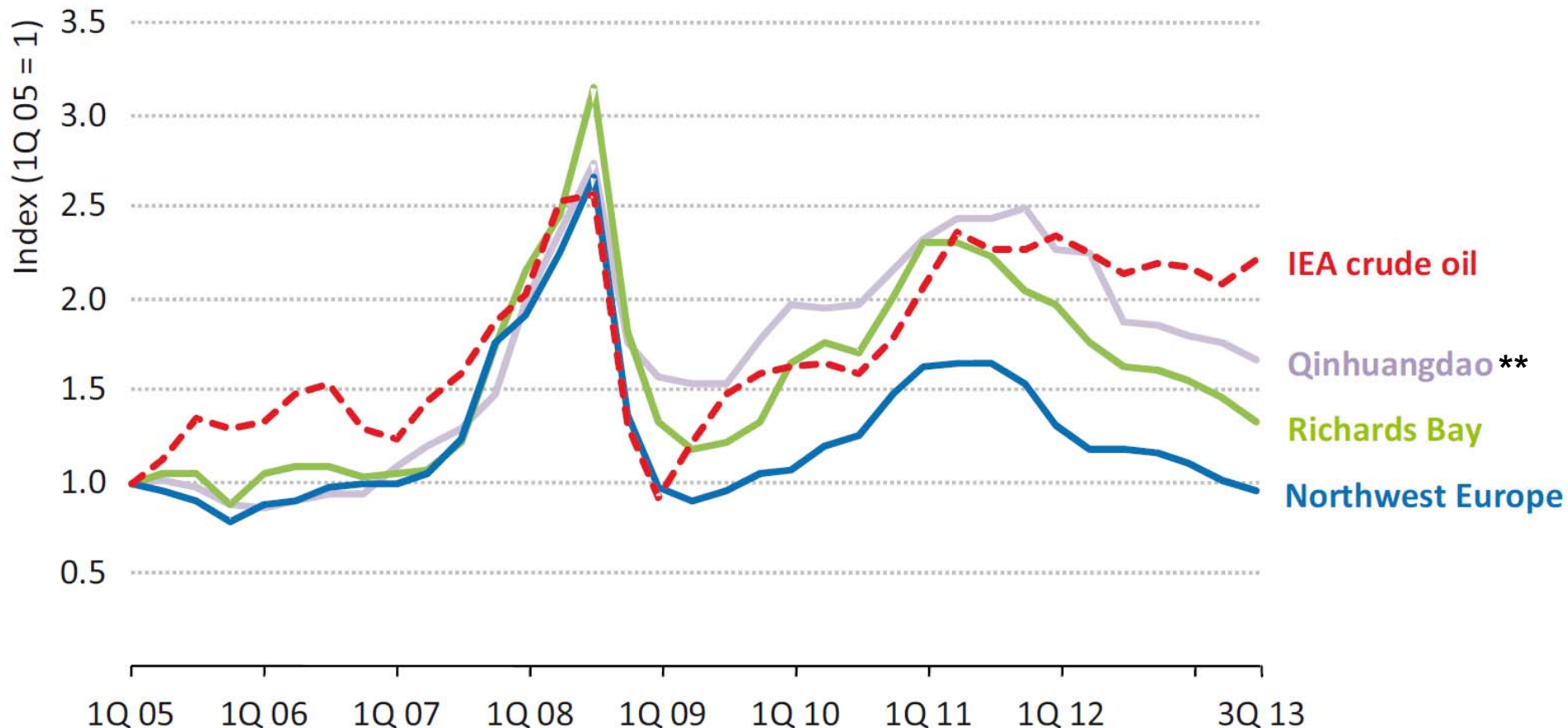
FOB cash costs for seaborne steam coal exports, 2012



source: IEA World Energy Outlook 2013

IEA WEO 2013 – coal market outlook

Quarterly indices for IEA crude oil and steam coal prices*



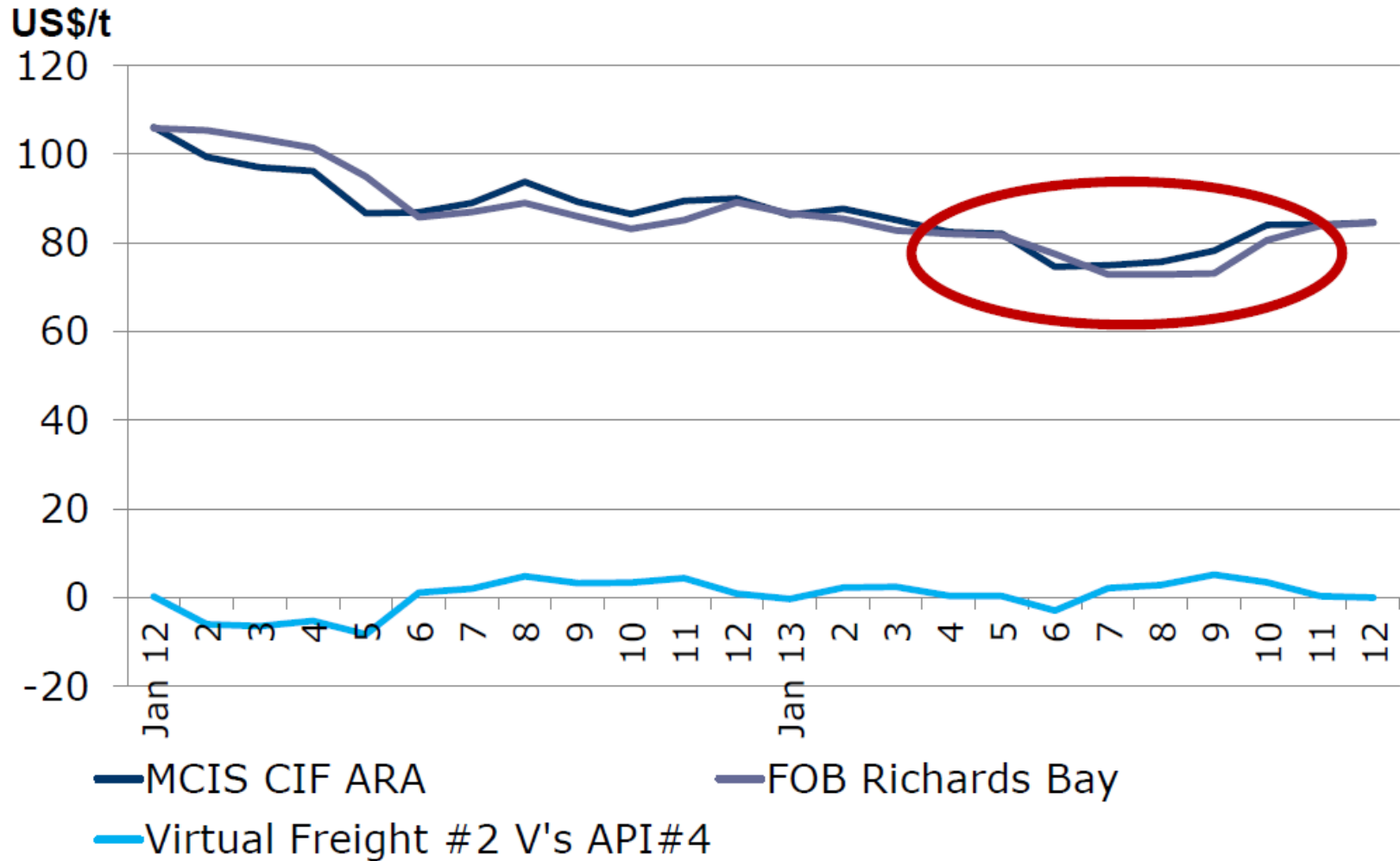
*) index database according to McCloskey-coal-price-database; different incoterms: IEA crude oil = IEA average of international coal prices in US-\$/bbl; Qinhuangdao = US-\$/t fob; Richards Bay = US-\$/t fob; Northwest Europe = US-\$/t cif ARA

***) Port of Qinhuangdao is a major coal terminal in northeast China

source: IEA World Energy Outlook 2013

Steam coal prices and freight rates

monthly averages 2012/2013



source: Verein der Kohlenimporteure (VDKI), Annual Report 2013, November 2013; VDKI EURACOAL presentation, 20 January 2014

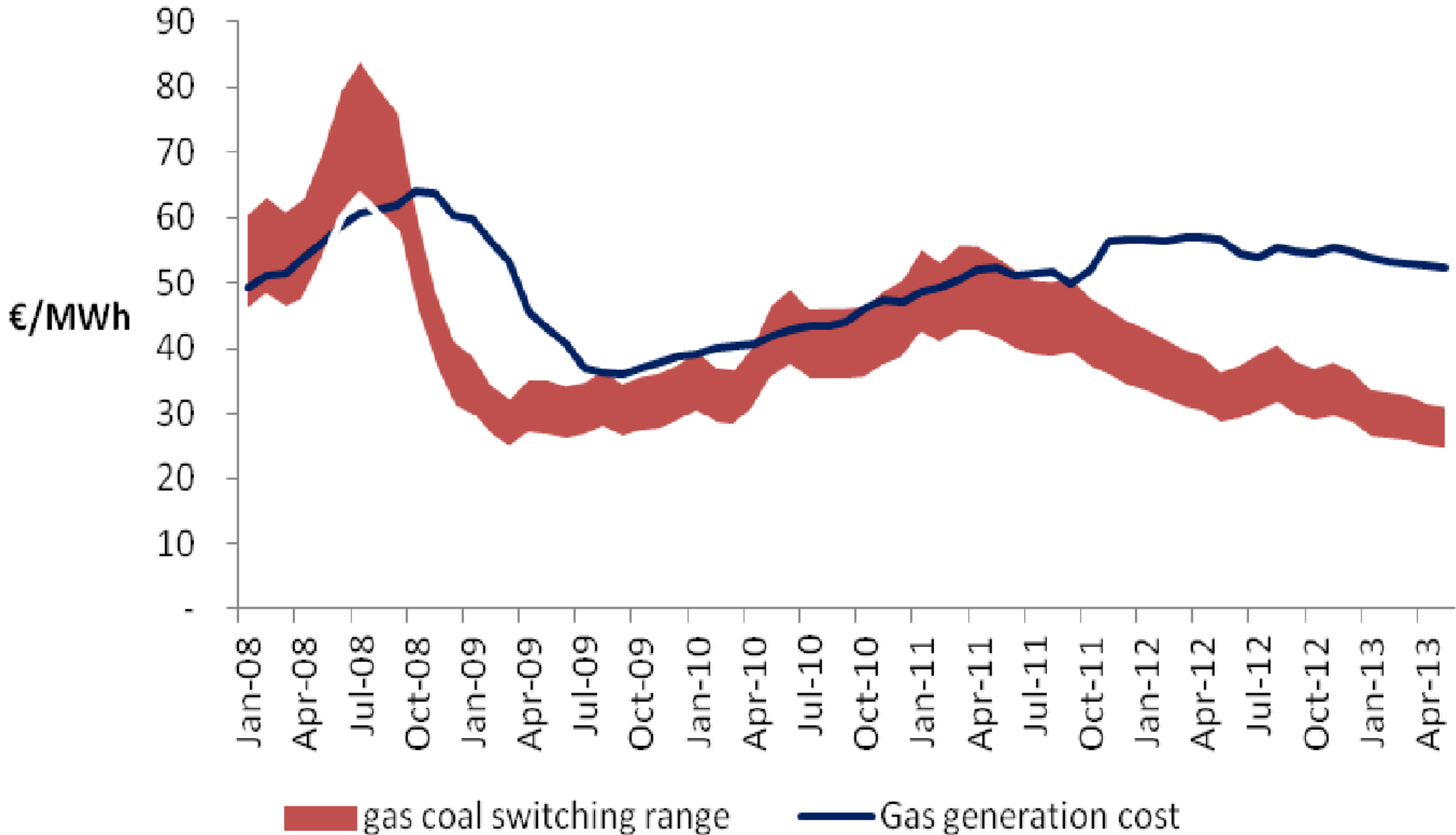
European carbon permit prices 2013-2016

Forward market 2013 in €/t CO₂



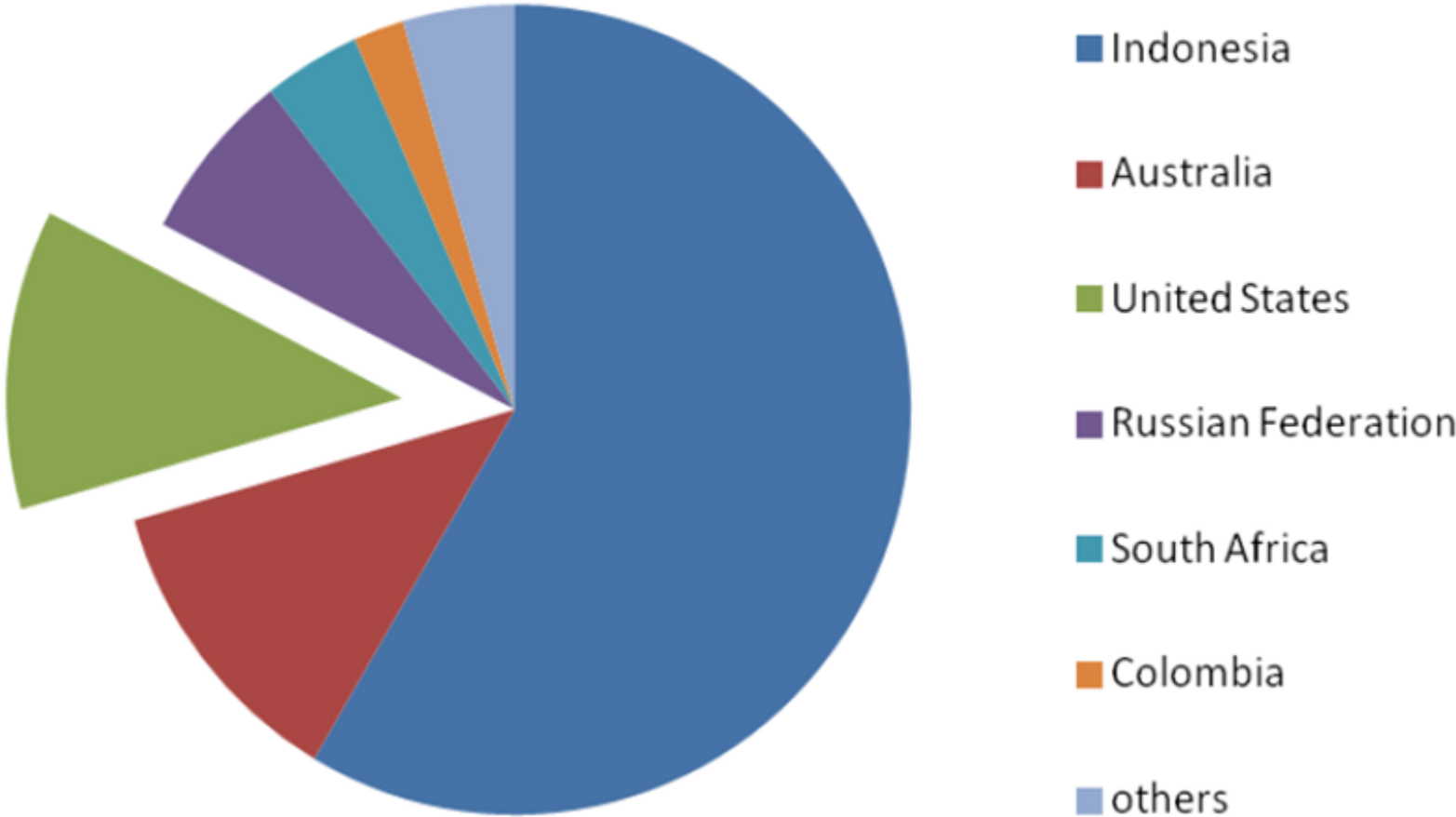
source: Verein der Kohlenimporteure (VDKI), Annual Report 2013, November 2013; VDKI EURACOAL presentation, 20 January 2014

Gas and coal variable generation costs in Europe



source: IEA Medium-Term Coal Market Report 2013

Incremental thermal coal exports 2012 vs. 2011

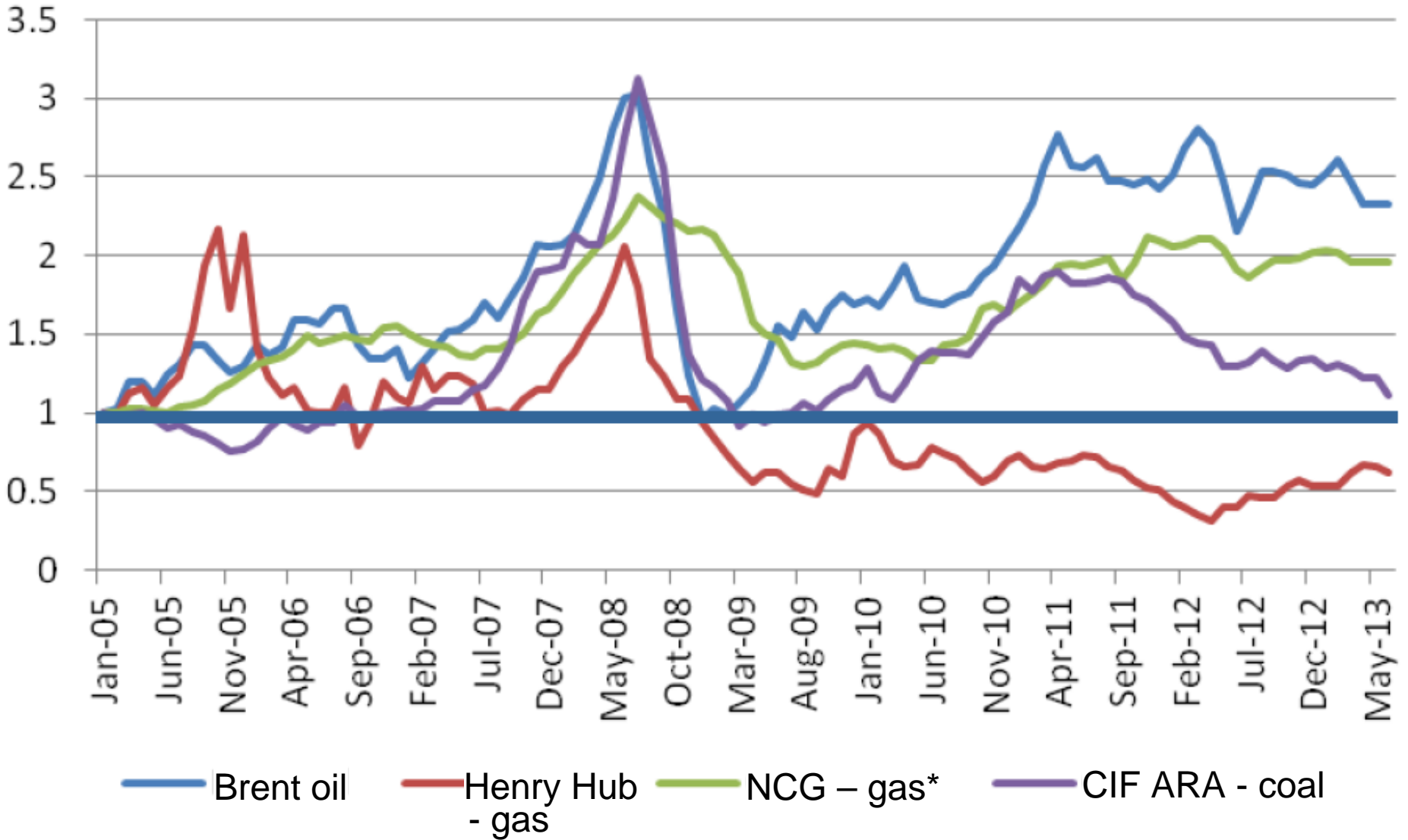


source: Laszlo Varro, IEA 2013, "The Black Tide – coal in Asia"; OECD/IEA 2012

Coal and US gas are the only cheap fossil fuels

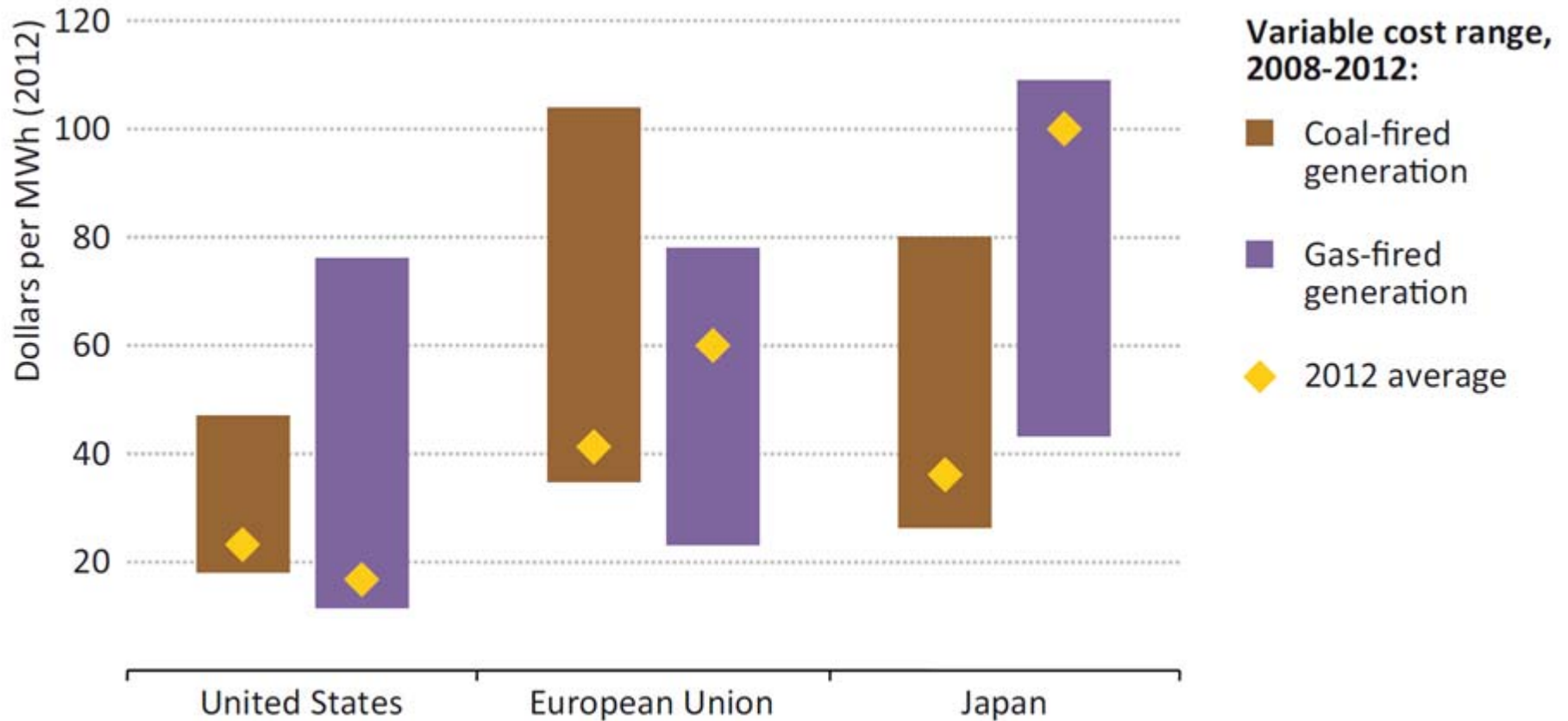


Evolution of fossil fuel prices



source: Laszlo Varro, IEA 2013

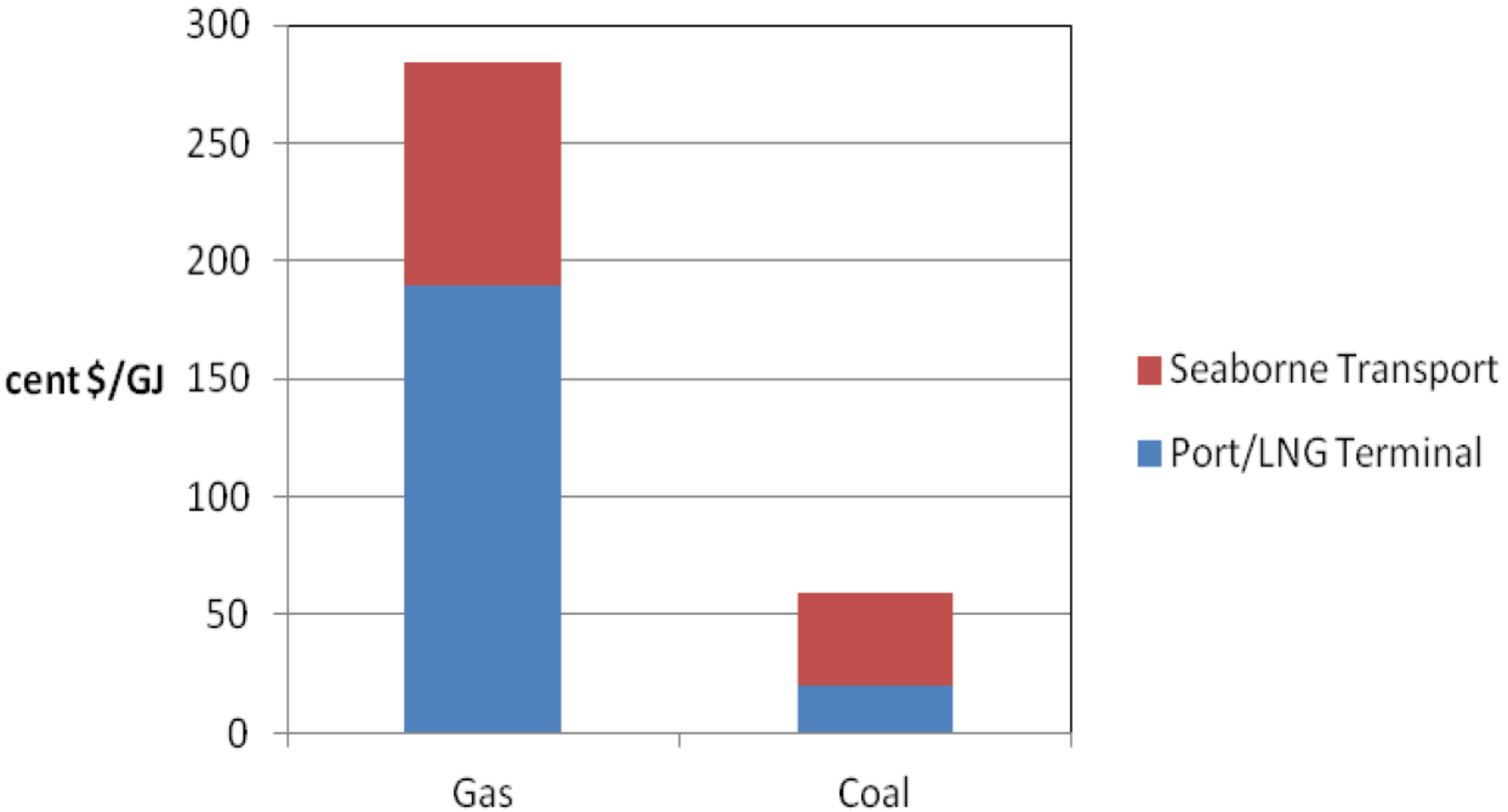
*) NCG = NetConnect Germany



source: IEA World Energy Outlook 2013

Coal is cheaper and easier to ship than gas

Typical cost breakdown for 5000 km transport

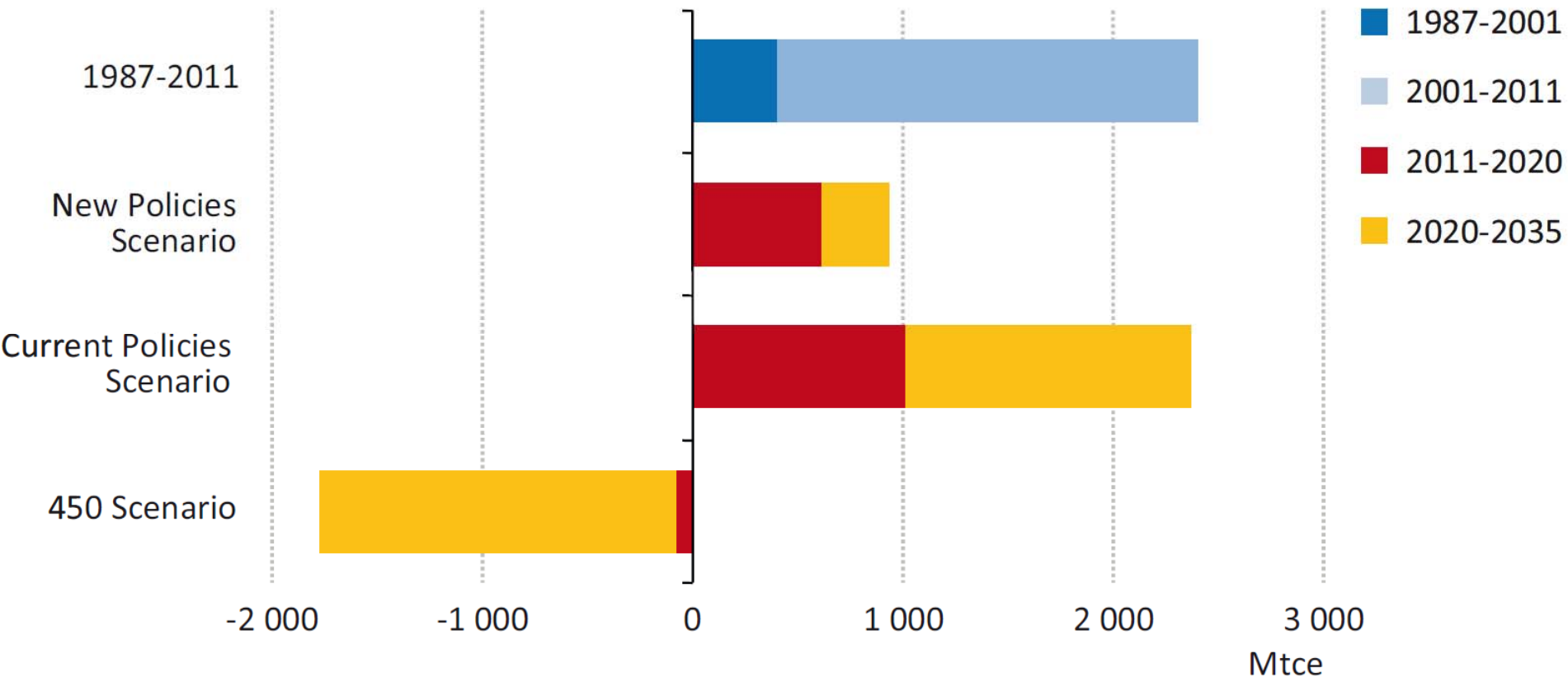


source: Laszlo Varro, IEA, "The Black Tide – coal in Asia"; OECD/IEA 2012

The role of coal in the power sector

IEA WEO2013 – Coal market outlook

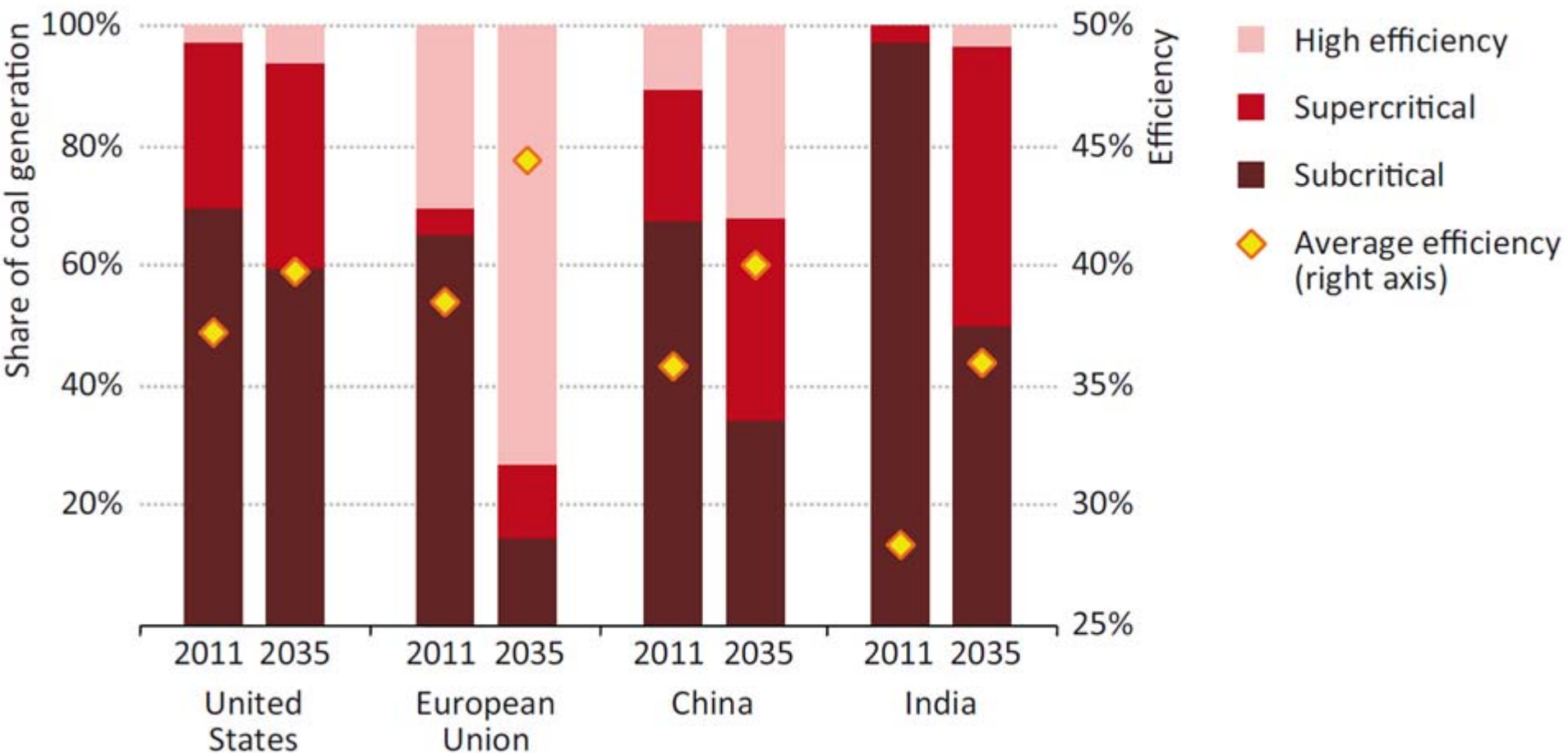
Incremental world coal demand, historical and by scenario



source: IEA World Energy Outlook 2013

IEA WEO2013 – Power sector outlook

Share of coal-fired power generation by technology and average efficiency in selected regions in the New Policies Scenario

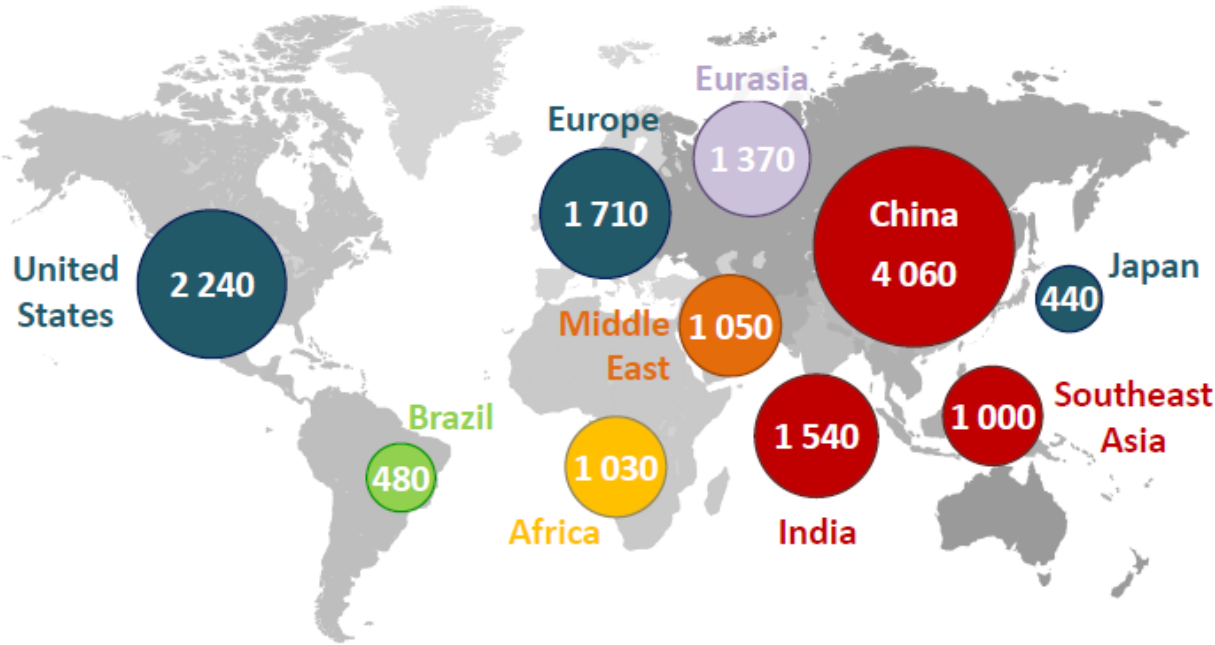


source: IEA World Energy Outlook 2013

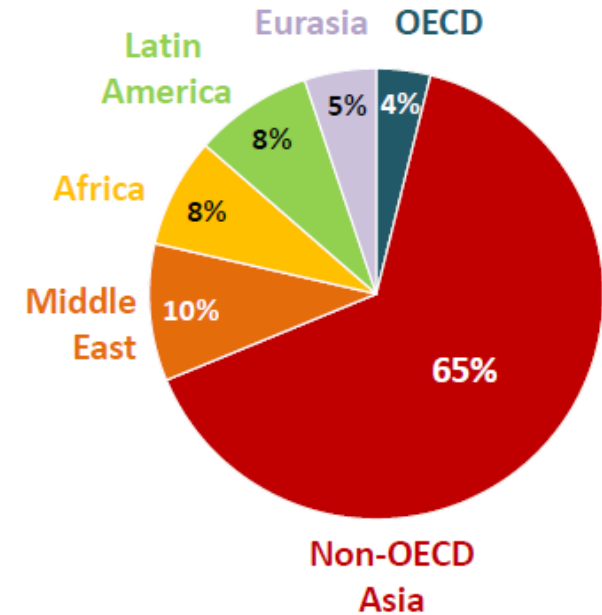
The role of coal in Africa and Asia

Primary energy demand growth moves to South Asia

Primary energy demand, 2035 (Mtoe)



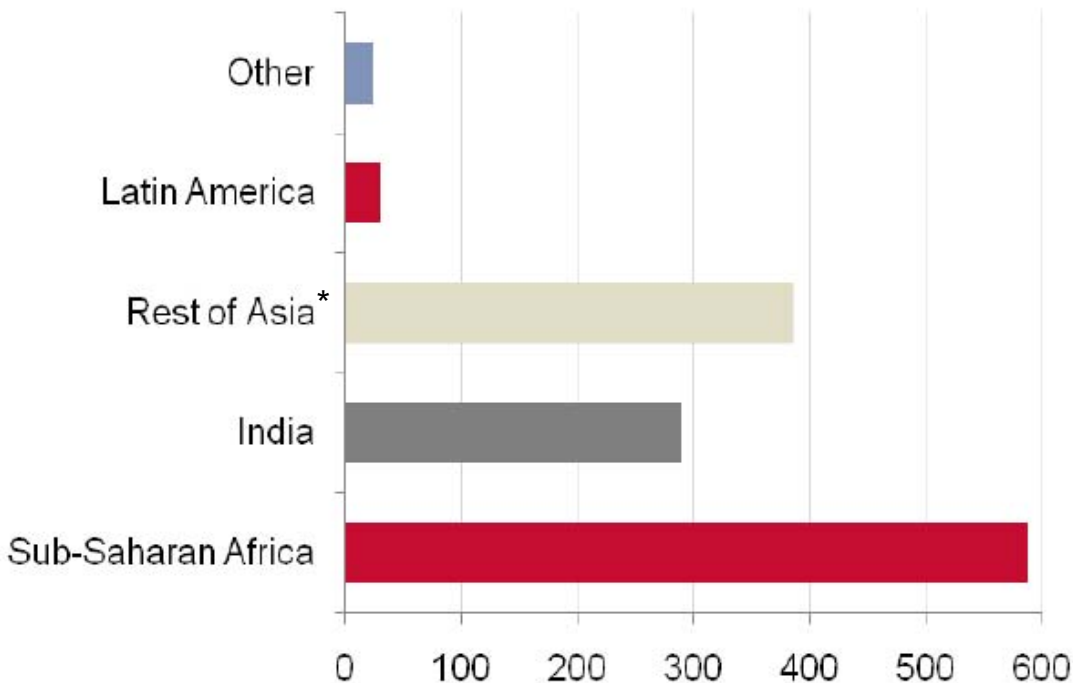
Share of global growth 2012-2035



China is the main driver of increasing energy demand in the current decade, but India takes over in the 2020s as the principal source of growth

source: IEA World Energy Outlook 2013

Number of people without access to electricity (millions)



- 1.3 billion people globally do not have access to electricity
- Over 95% of those without electricity are in developing Asia or sub-Saharan Africa
- 3.4 million homes in South Africa do not have electricity

**) Rest of Asia: all countries in the Asian region with the exception of India and the five Central Asian States of the Caspian region (Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan)*

source: IEA World Energy Outlook 2011

A success model fuelled by coal

Over the past three decades:

- China lifted over 660 million people out of poverty
- China's steel production multiplied by 18
- China's cement production multiplied by almost 14
- China's connected 99% of its population to the grid

Poverty measures for \$1.25 a day in 2005 PPP
(number of people, in millions, below \$1.25 a day)

	1981	2008
World	1937.8	1289
China	835.1	173
World excluding China	1102.8	1116

Source: World Steel Association, IEA

Source: World Bank 2012

China's coal consumption grew by
400%



Source: WCA, "The Public Image of Coal: inconvenient facts and political correctness"

Who is the real obstacle for coal plant investment?

GVSt



World Bank President Jim Yong Kim: "We do everything we can not to invest in coal - everything we possibly can."

World Bank fears devastating 4.0 degree warming

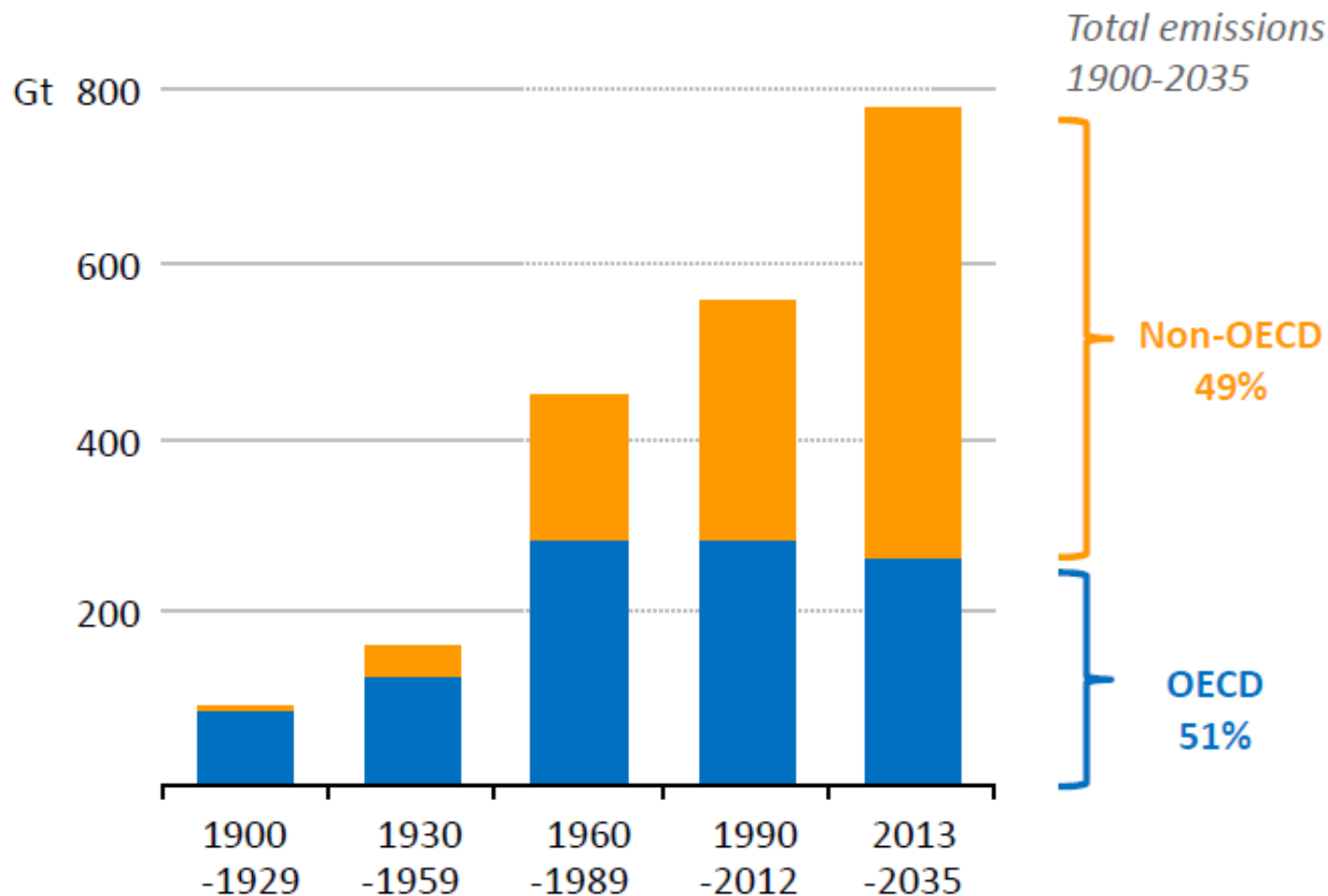


THE WORLD BANK
Working for a World Free of Poverty

Coal and Climate Change

Energy-related CO₂ emissions

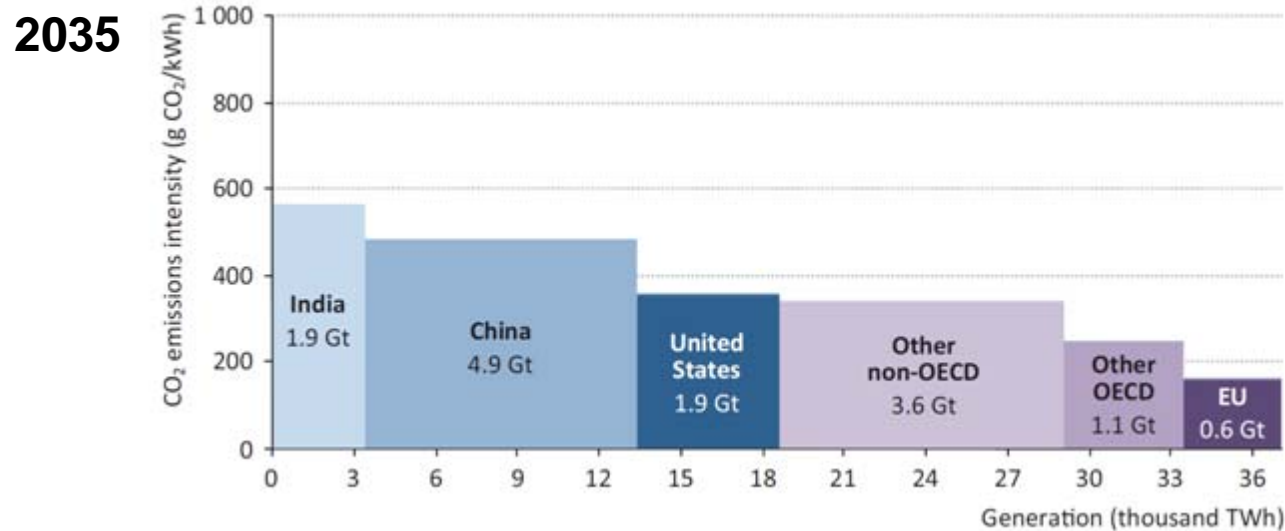
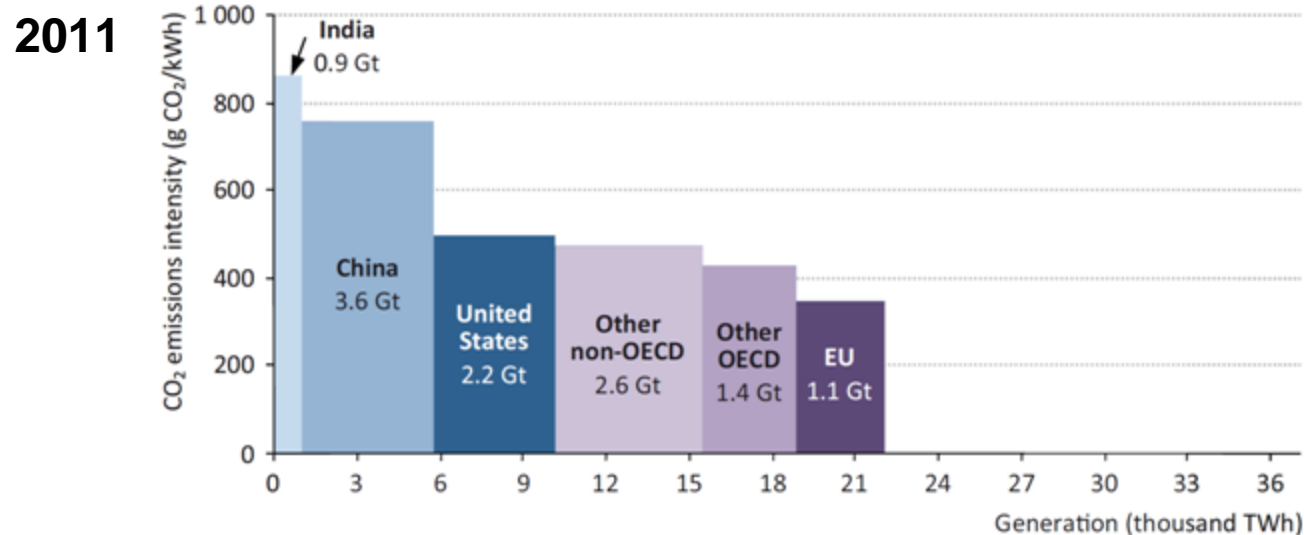
Cumulative energy-related CO₂ emissions



Non-OECD countries account for a rising share of emissions, although 2035 per capita levels are only half of OECD

source: IEA World Energy Outlook 2013 (New Policies Scenario)

CO₂ emissions intensity in the power sector and electricity generation by region in the New Policies Scenario



source: IEA World Energy Outlook 2013

Initiatives needed to cut 2 Gt of CO₂ emissions

- Run the **EU ETS** for **53 years**
- Run the **Kyoto Protocol** 3 times
- Multiply the world's **current solar power capacity** by **195**
- Increase the **efficiency of all coal power plants** from **34% to 40%**



source: WCA, "The Public Image of Coal: inconvenient facts and political correctness"