Turkey's energy policies in a global perspective

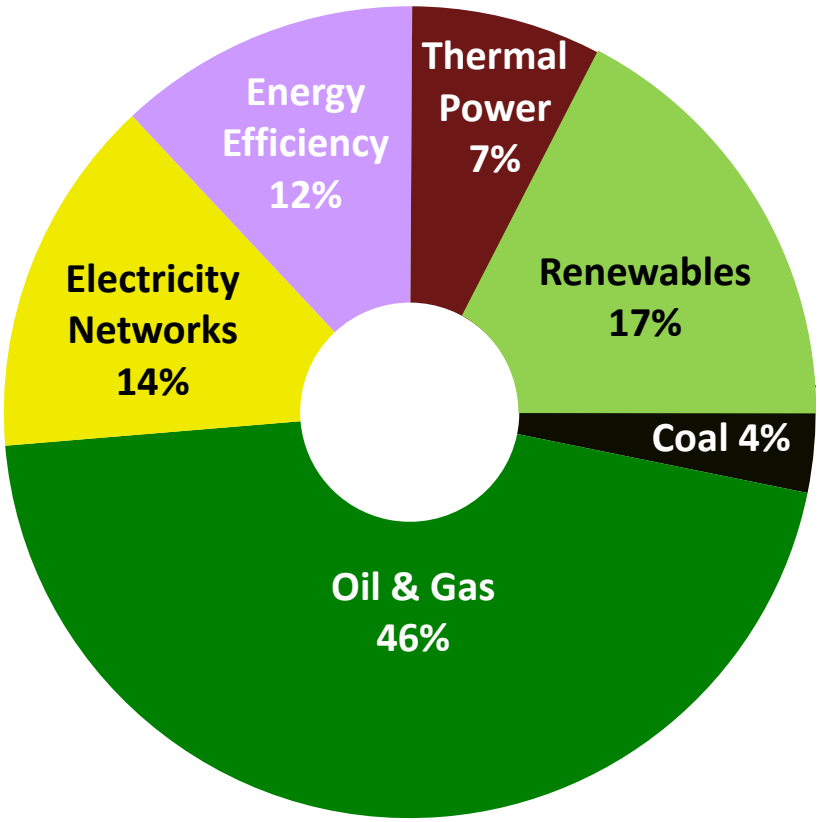
Dr. Fatih Birol
Executive Director, International Energy Agency
Istanbul, 30 September 2016

© OECD/IEA 2016

Investment flows signal a reorientation of the global energy system

International Energy Agency
Secure Sustainable Together

Global Energy Investment, 2015: USD 1.8 trillion



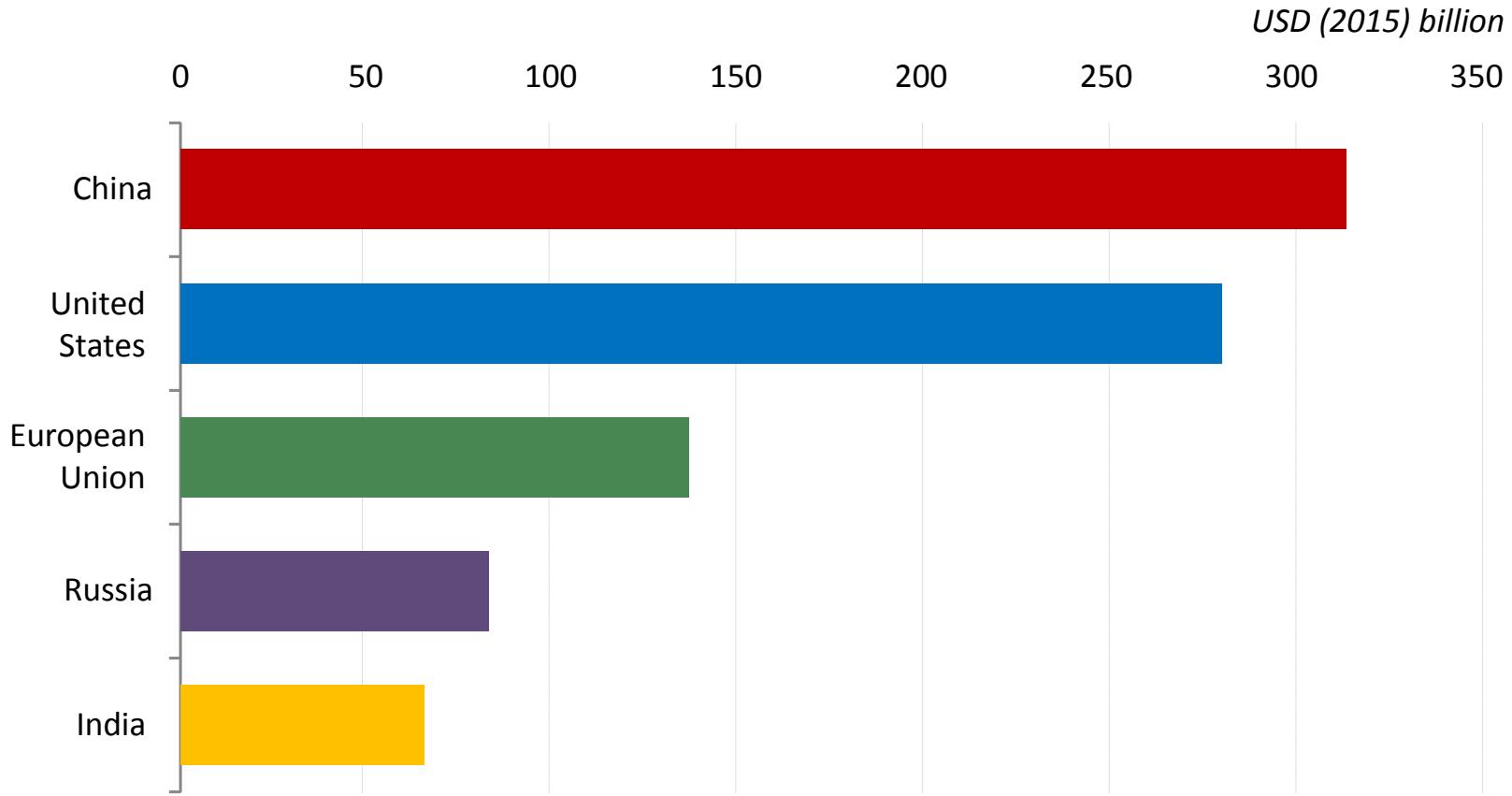
An 8% reduction in 2015 global energy investment results from a $200 billion decline in fossil fuels, while the share of renewables, networks and efficiency expands

© OECD/IEA 2016

Top five markets comprised over half of global energy supply investment

International Energy Agency
Secure Sustainable Together

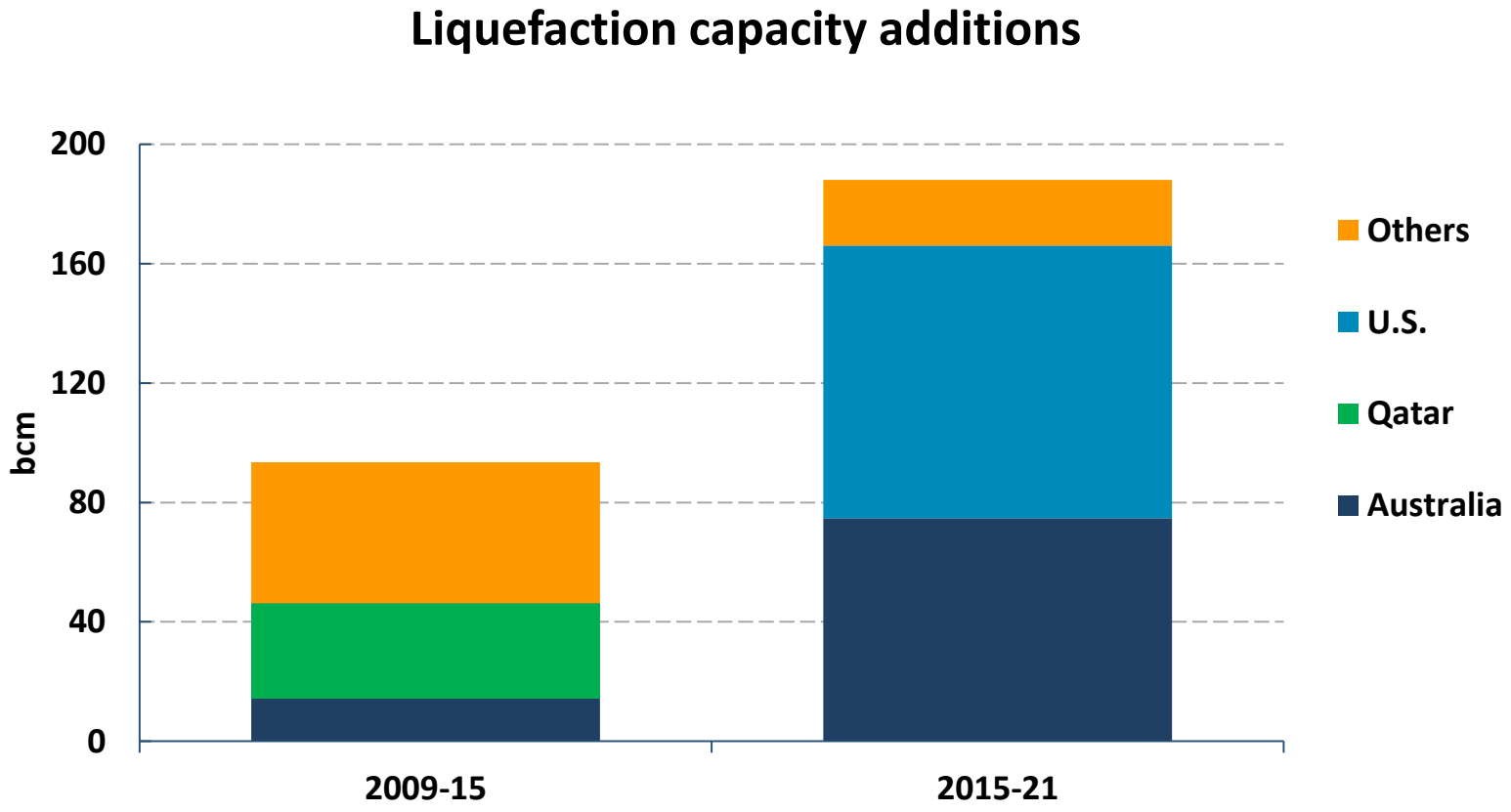
Energy supply investment in 2015, selected markets



Boosted by record power sector spending, China regains its position as top investment market, while the US declines due to sharply lower oil and gas investment

© OECD/IEA 2016

Global LNG export capacity increases



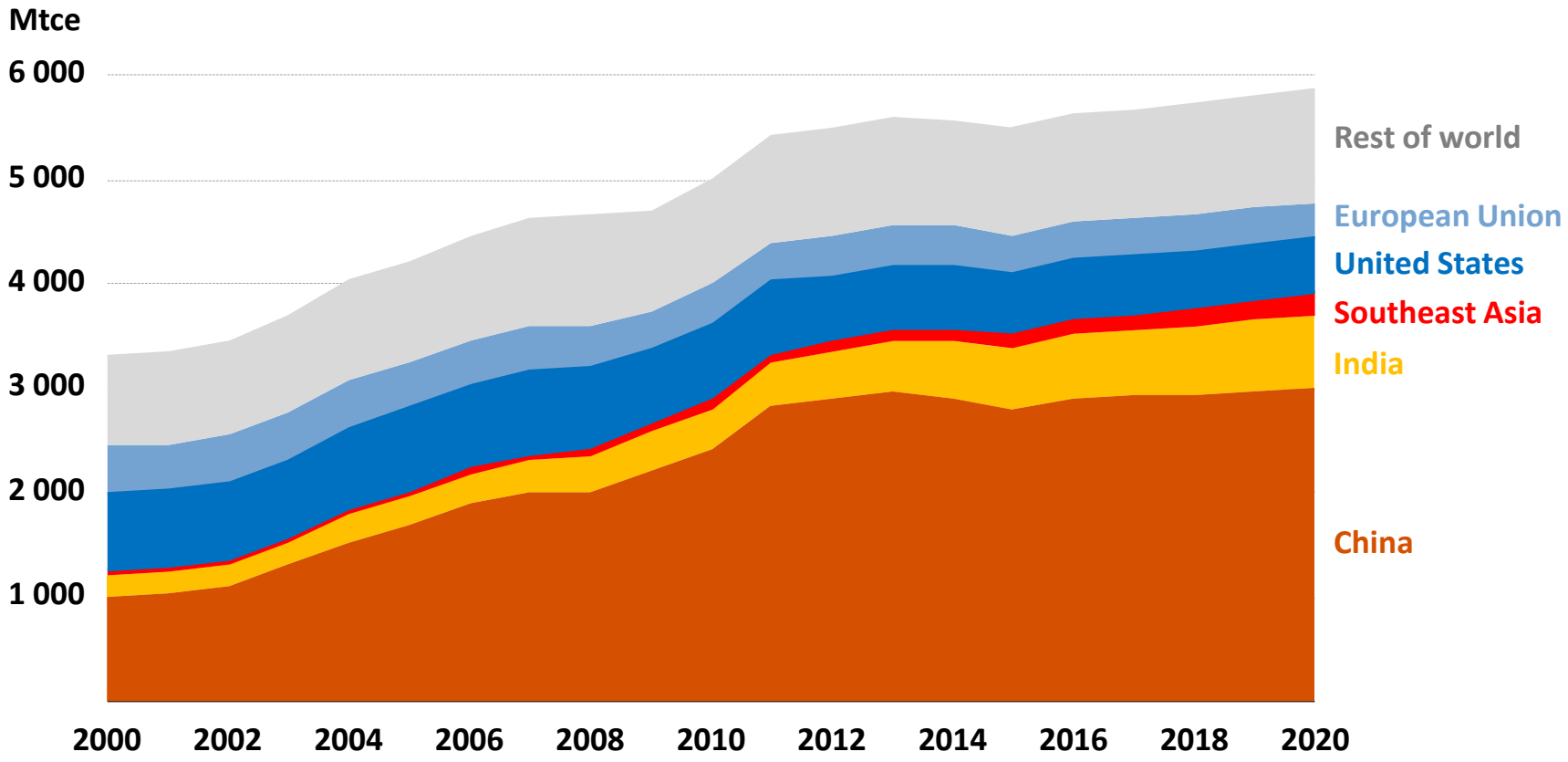
LNG capacity additions will be led by the US & Australia over the next five years. Growing opportunities for Europe, including Turkey to benefit from competitive prices.

© OECD/IEA 2016

There is no "second" China waiting to drive medium-term coal use

International Energy Agency
Secure Sustainable Together

Global coal demand by region, 2000-2020



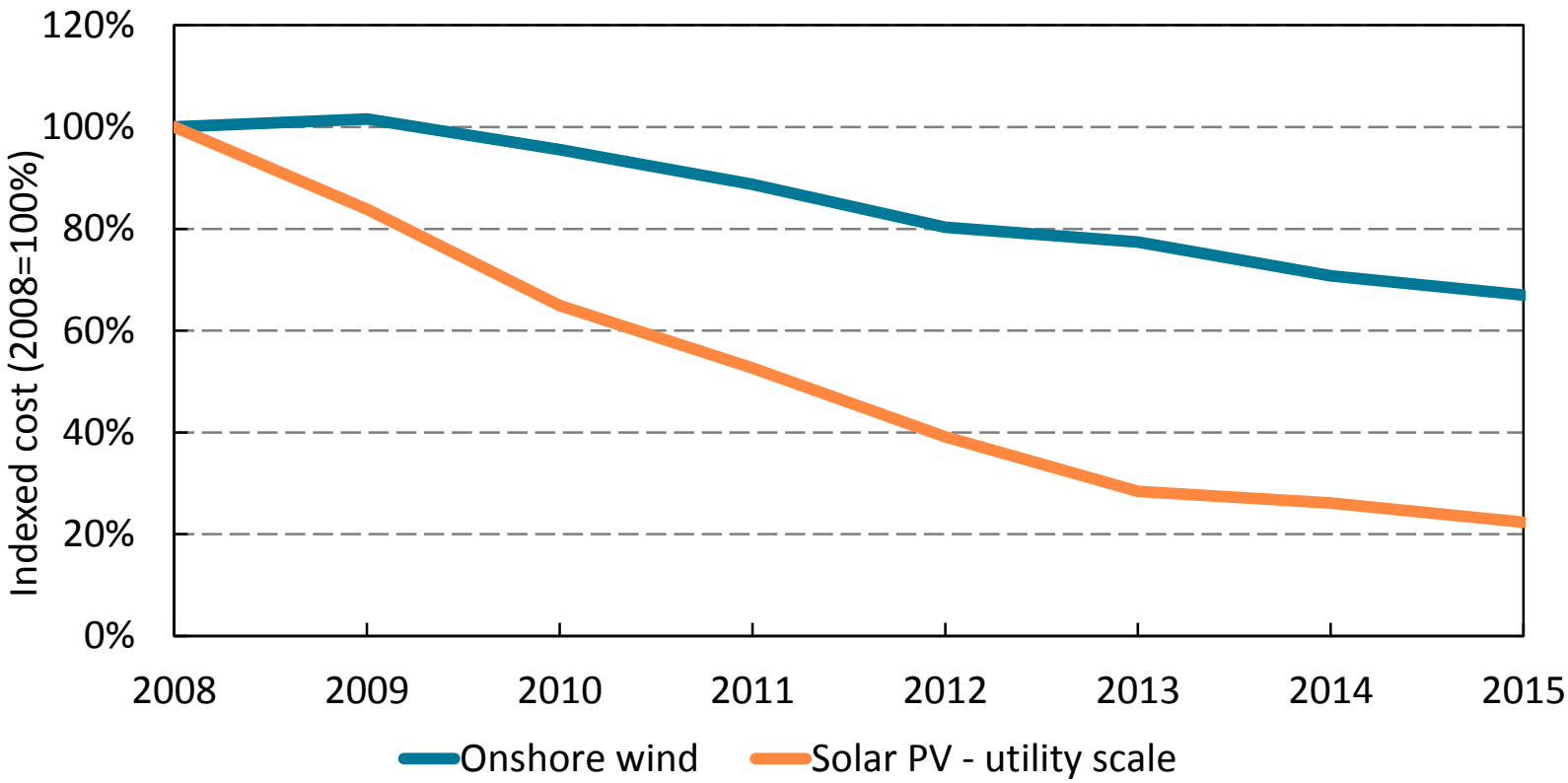
Strong growth in coal use in India & Southeast Asia to offset declines in the EU & the US, but does not match the rise seen over last decade in China.

© OECD/IEA 2016

The cost of clean energy continues to fall

International Energy Agency
Secure Sustainable Together

Indexed cost of onshore wind and utility scale PV



The falling cost of clean energies opens new opportunities but appropriate market design and regulatory frameworks remain critically important

© OECD/IEA 2016

The global energy outlook

International Energy Agency
Secure Sustainable Together

- **China & developing Asia drive global demand:** China's transition to a more diversified & less energy-intensive growth model impacts energy markets
- **The natural gas landscape is changing**: Ample low cost LNG supplies available for gas consumer markets – opportunity for competition and diversification
- **Low oil prices** bring gains to consumers, but can also sow the seeds of future risks to energy security and energy transition
- **Paris Agreement:** the energy transition is underway, but not on track and governments need to ring-fence policies against market swings

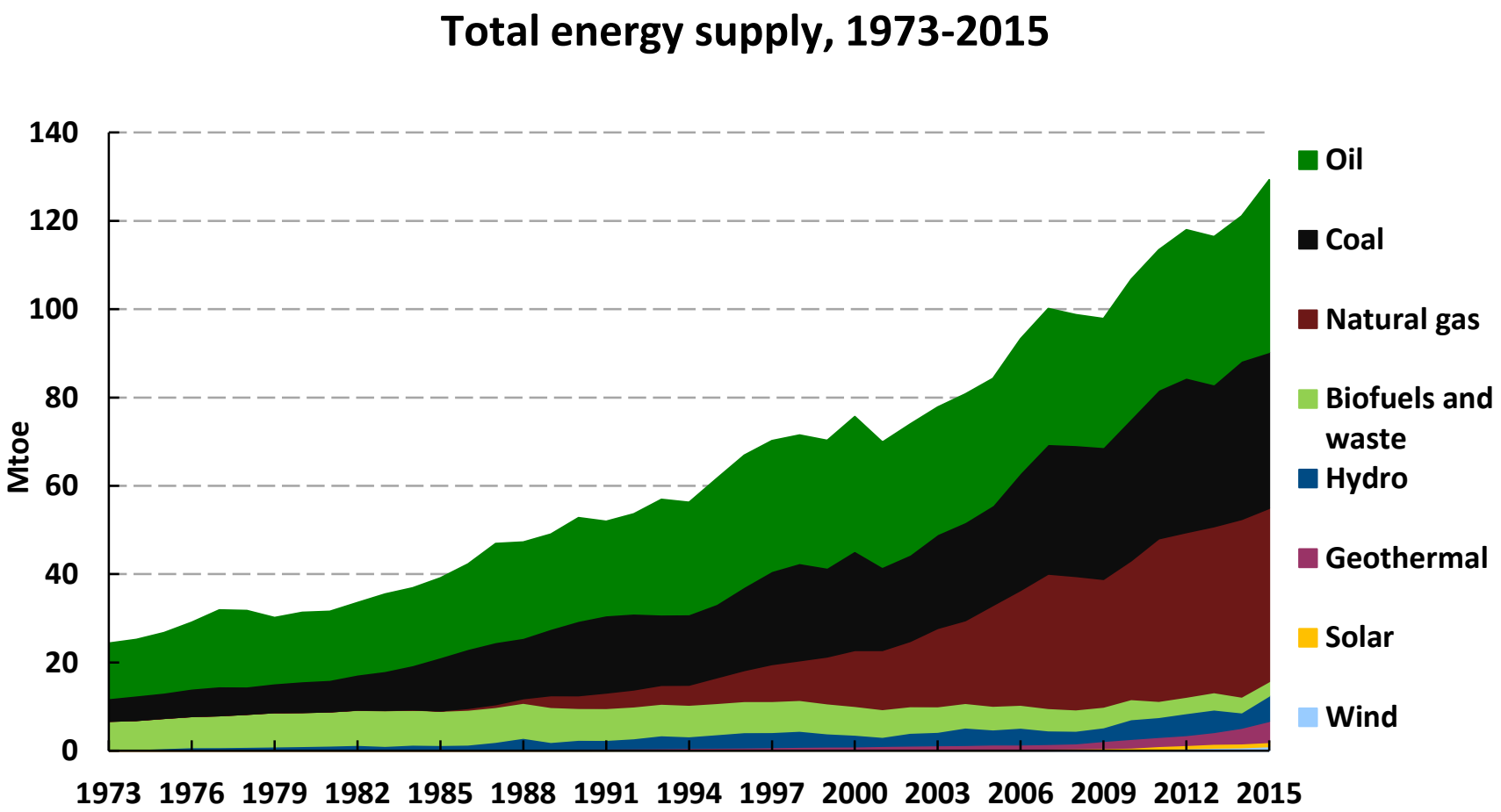
© OECD/IEA 2016

Turning to Turkey

From a global energy context
to
Turkey's energy policy

© OECD/IEA 2016

Ample opportunities for diversification

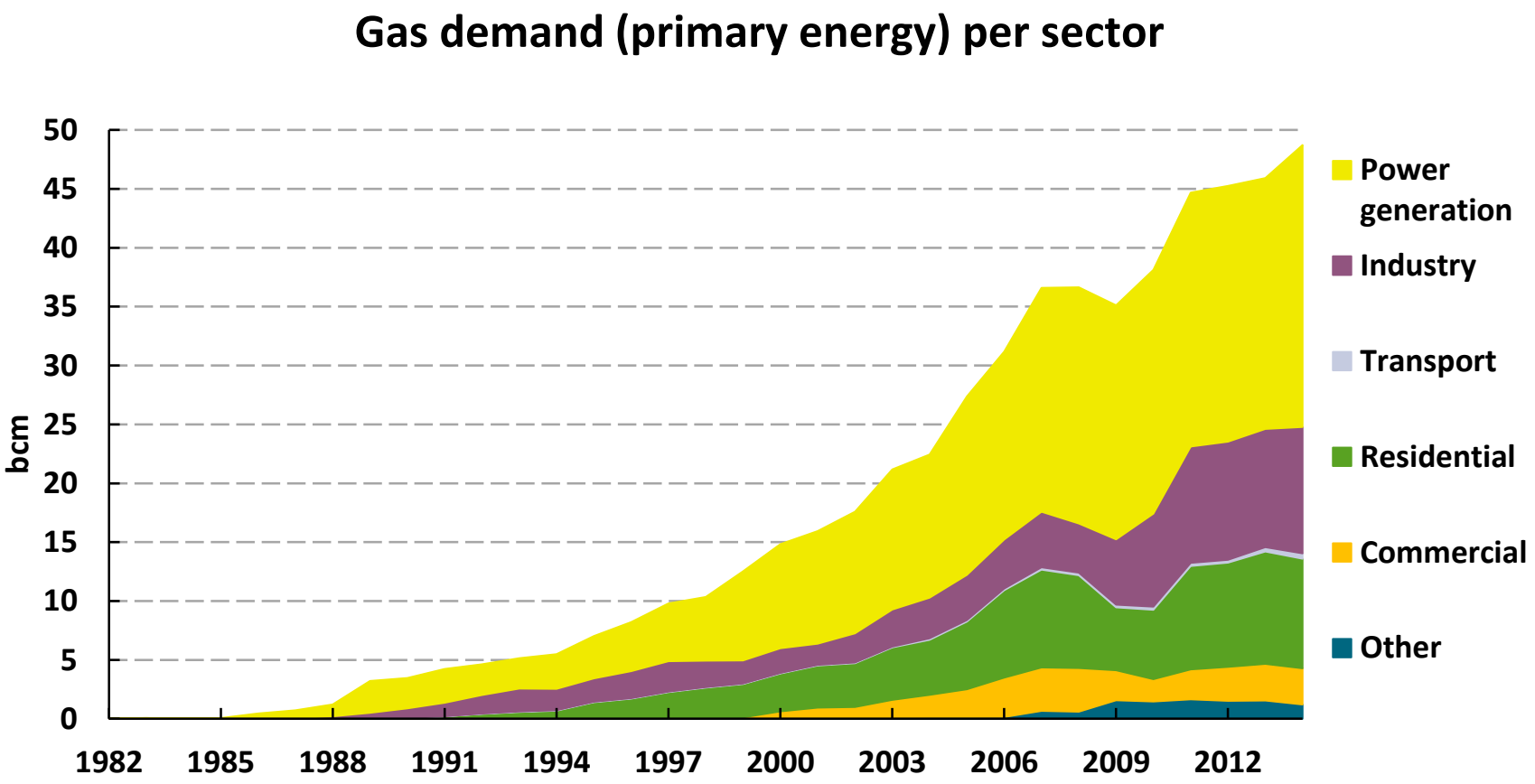


Energy demand is growing rapidly and is dominated by fossil fuels (88%), signaling significant scope to improve efficiency and boost renewables

© OECD/IEA 2016

Turkey's gas demand reaches record levels

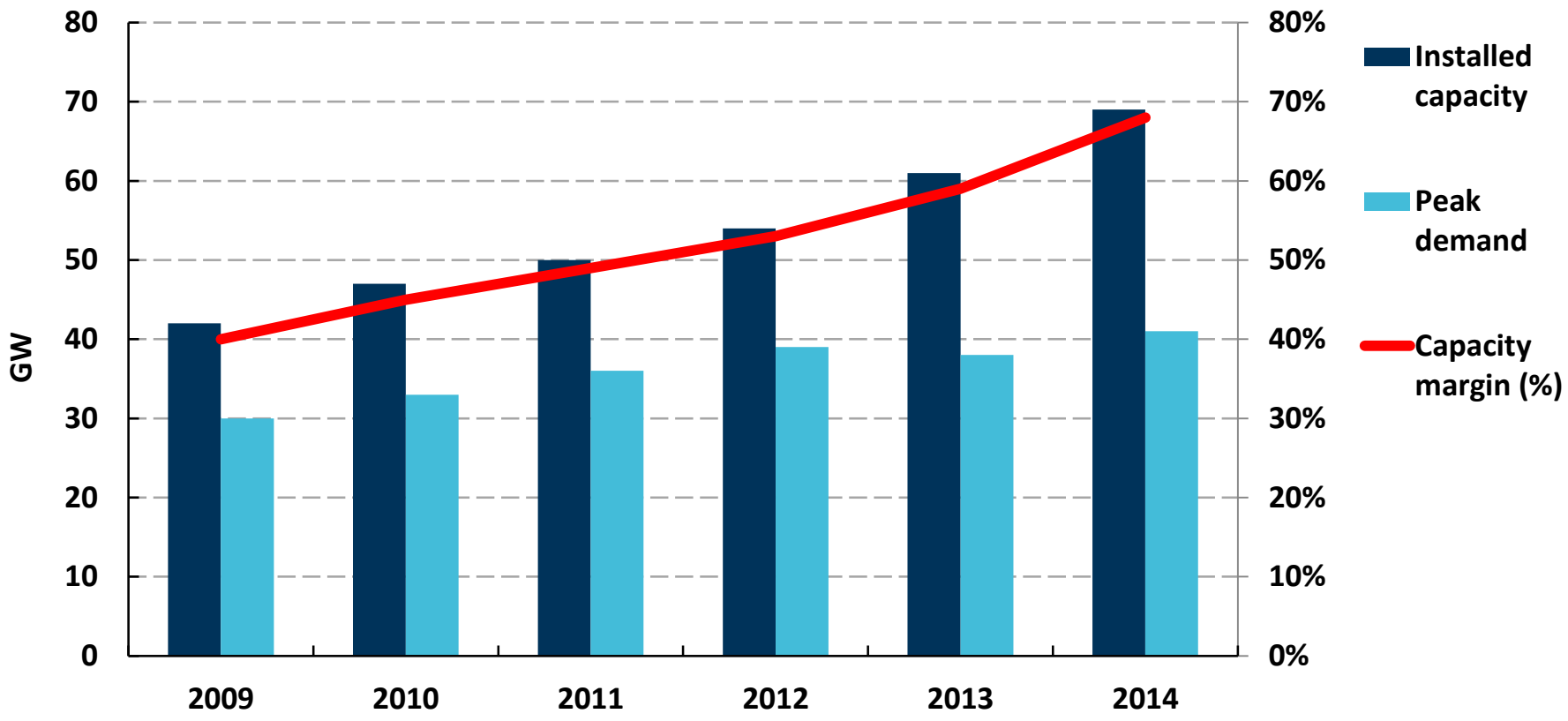
International Energy Agency
Secure Sustainable Together



Gas demand skyrocketed from 20 bcm in 2003 to 48 bcm in 2015.
Import dependency has risen and network capacity lags behind peak demand.

© OECD/IEA 2016

Turkey‘s electricity security



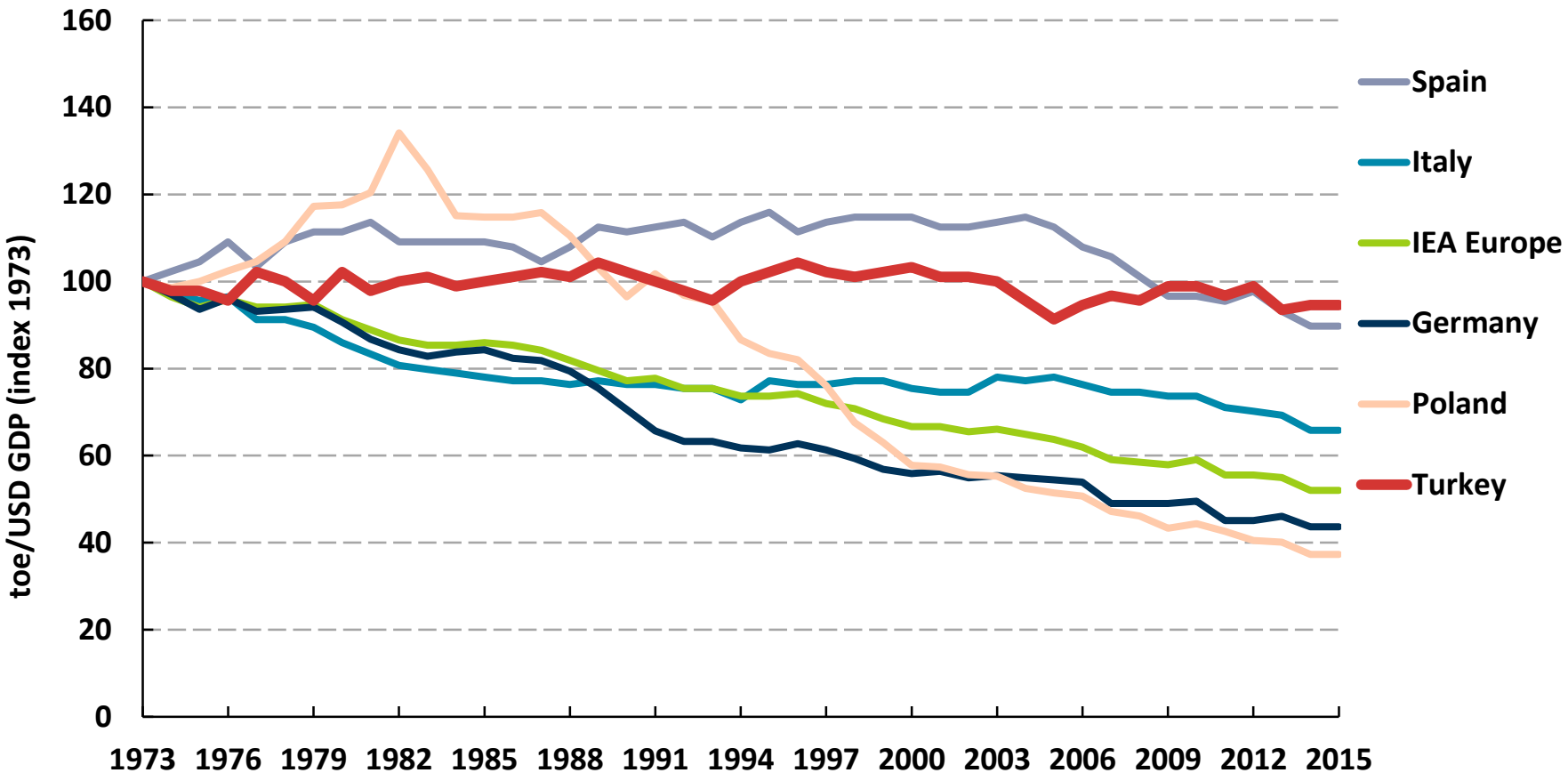
Improved capacity margins and integration with Europe (ENTSO-E) are positive developments; It is time for the domestic grid to be modernised.

© OECD/IEA 2016

Huge opportunities for energy efficiency

International Energy Agency
Secure Sustainable Together

Total energy supply per GDP in selected IEA countries



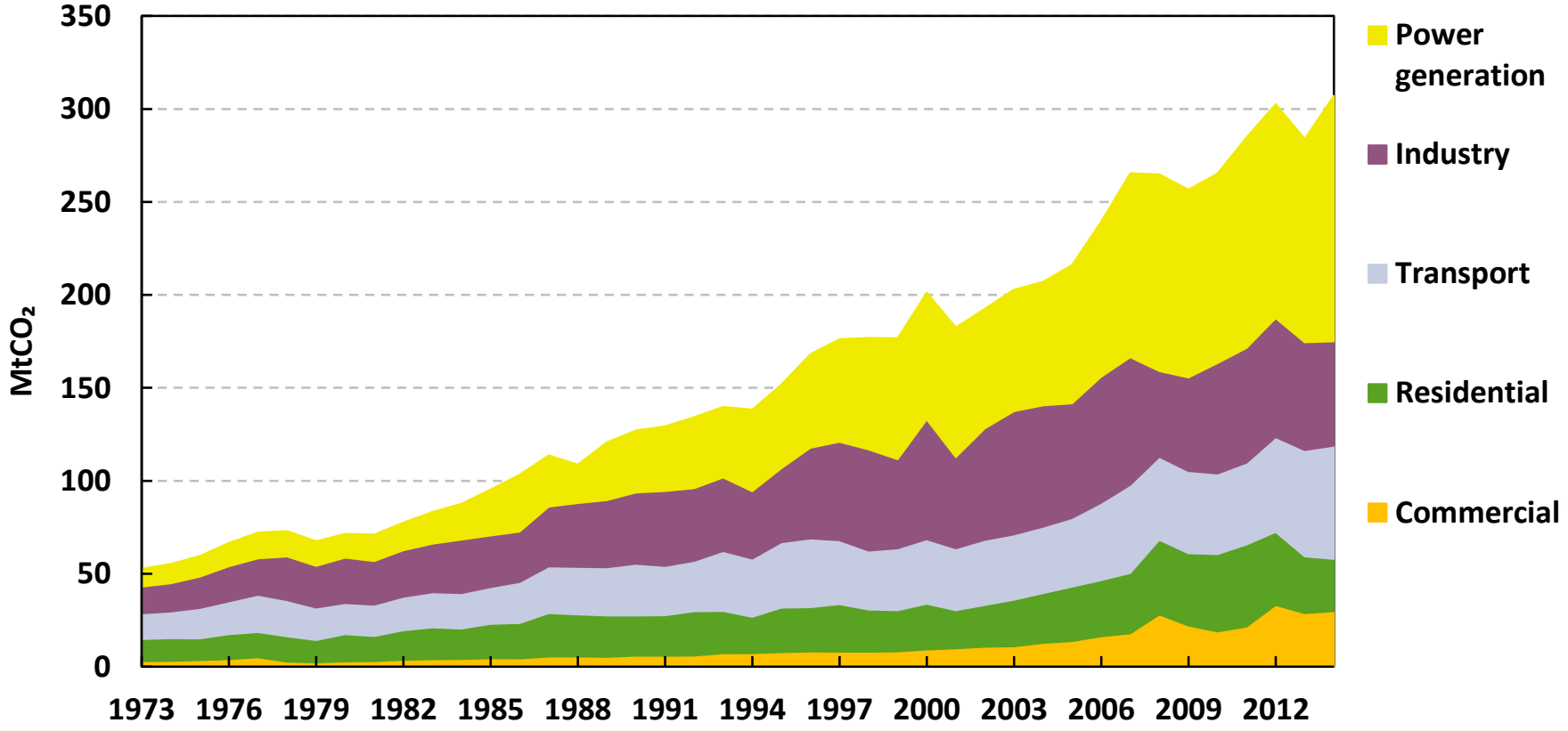
IEA Europe average energy intensity has decreased since 2005 (-16%). Turkey's energy intensity has increased over the period (+7%).

© OECD/IEA 2016

Turkey's power sector can play a key role on the road from Paris COP21

International Energy Agency
Secure Sustainable Together

CO_2 emissions from fuel combustion by sector



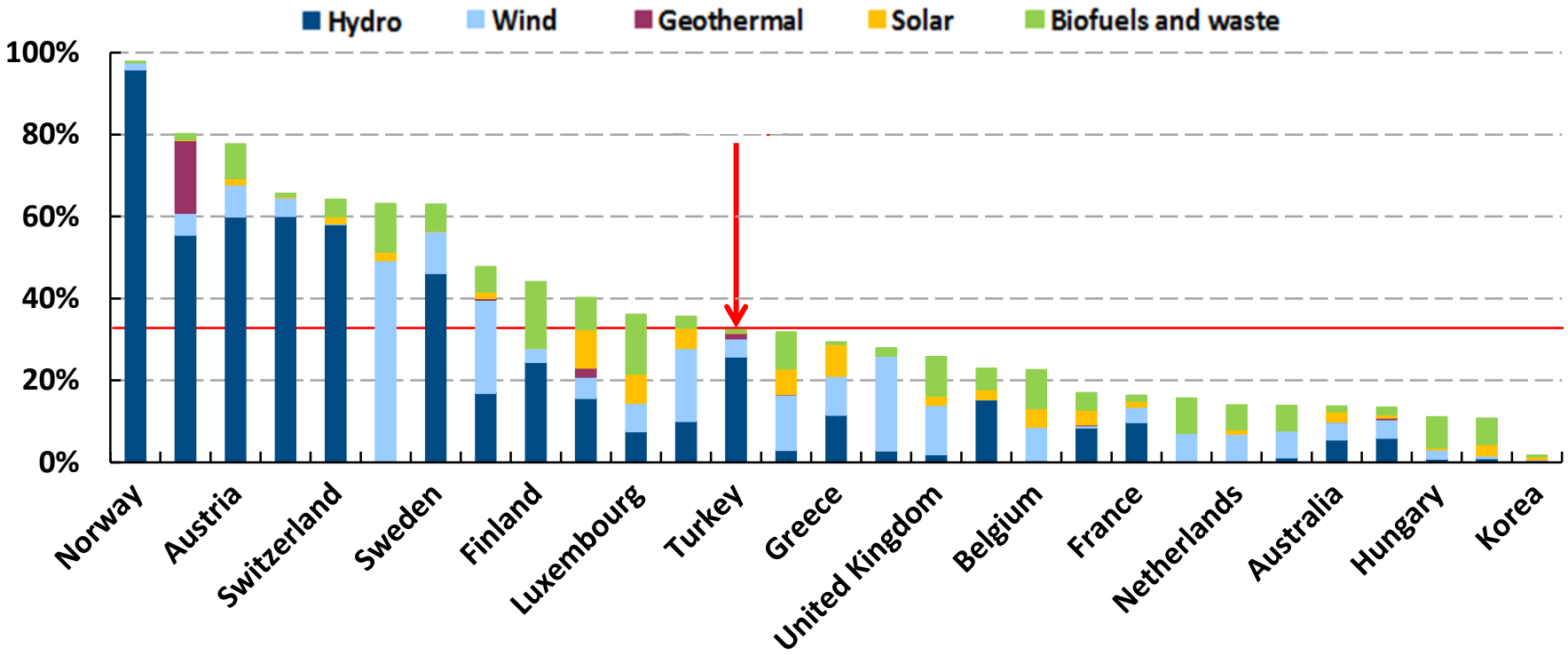
Turkey has an ambitious coal development plan;
Cleaner coal technologies and refurbishments will be critical

© OECD/IEA 2016

Renewables deployment is taking off

International Energy Agency
Secure Sustainable Together

Share of renewables in electricity generation, 2015



Renewables make up 32% of the power mix, with wind & solar growing fast. Focus now needed on long-term targets, one-stop-shop permits & system & grid integration.

© OECD/IEA 2016

IEA's key recommendations to Turkey

- **Energy market reform:** *Promote competitive wholesale markets for gas and electricity with independent system operators and regulators*

- **Energy security:** *Ensure investment in resilient gas and electricity infrastructure and nuclear safety/security. Diversification is key!*

- **Energy efficiency:** *Implement a government-led EE plan focusing on buildings, industry, transport, cleaner coal, and air quality*

- **Renewables:** *Adopt longer term targets, one-stop-shop permitting, promote network investment & grid integration rules*

- **Long-term energy agenda:** *Building on Vision 2023, set out an energy strategy for 2030, consistent with climate and energy security goals*

© OECD/IEA 2016