



IEA In-depth review of Greece

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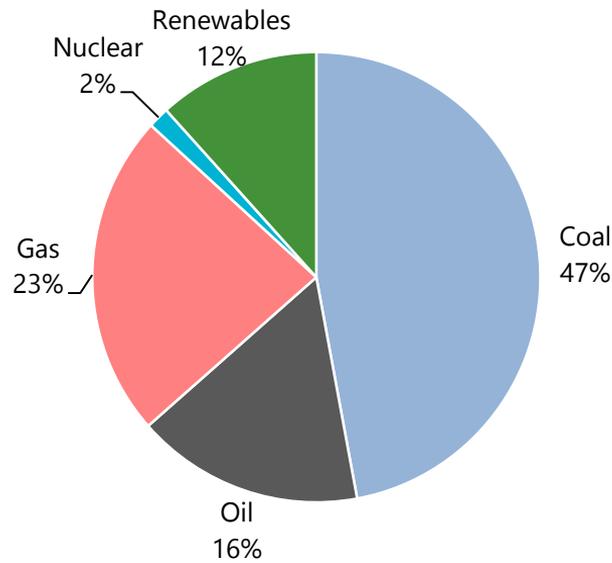
Executive Director, International Energy Agency



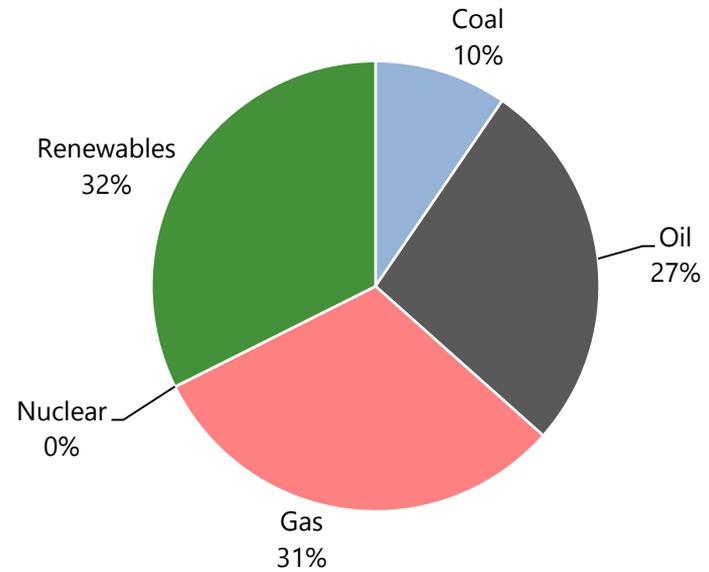
Athens, 2 November 2017

- Global energy markets are changing rapidly
 - *Solar at records highs, driven by policy support & cost reductions*
 - *Electric car sales are growing exponentially*
 - *Renewed focus on energy efficiency*
- While a continued focus on oil security is essential, a broader approach to energy security is needed due to changes in natural gas & electricity markets
- There is no single story about the future of global energy; policies will determine where we go from here

Shares in *growth* in world energy demand



2000-2010



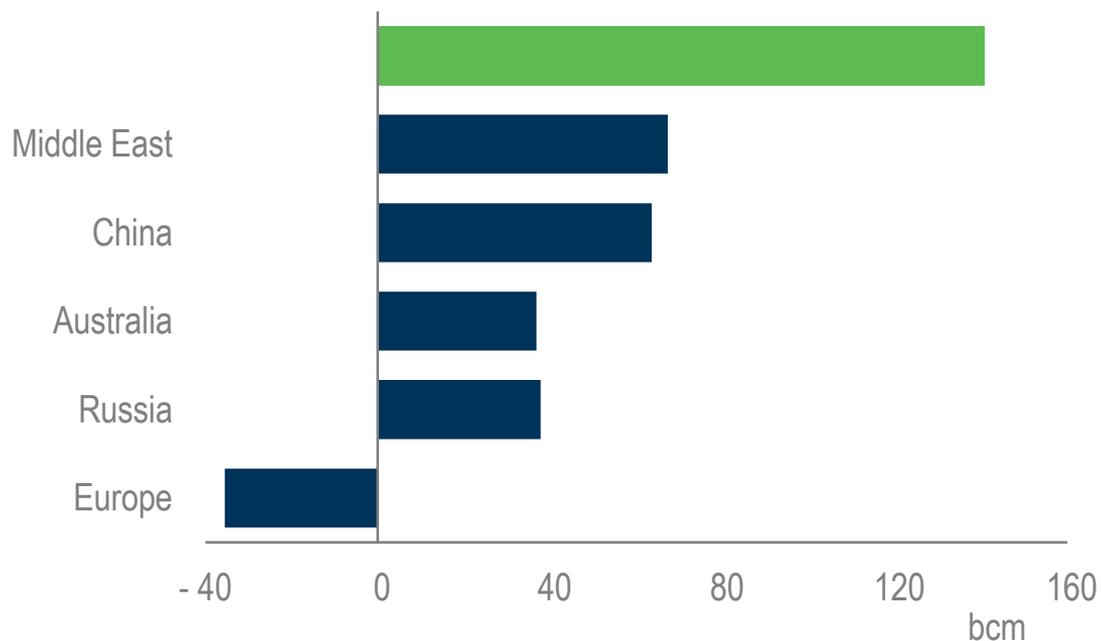
2010-2016

Since 2010, efficiency measures have slowed down growth in global energy consumption .
Renewables and natural gas account for almost two-thirds of the growth.

Natural Gas: The United States accounts for 40% of global production growth

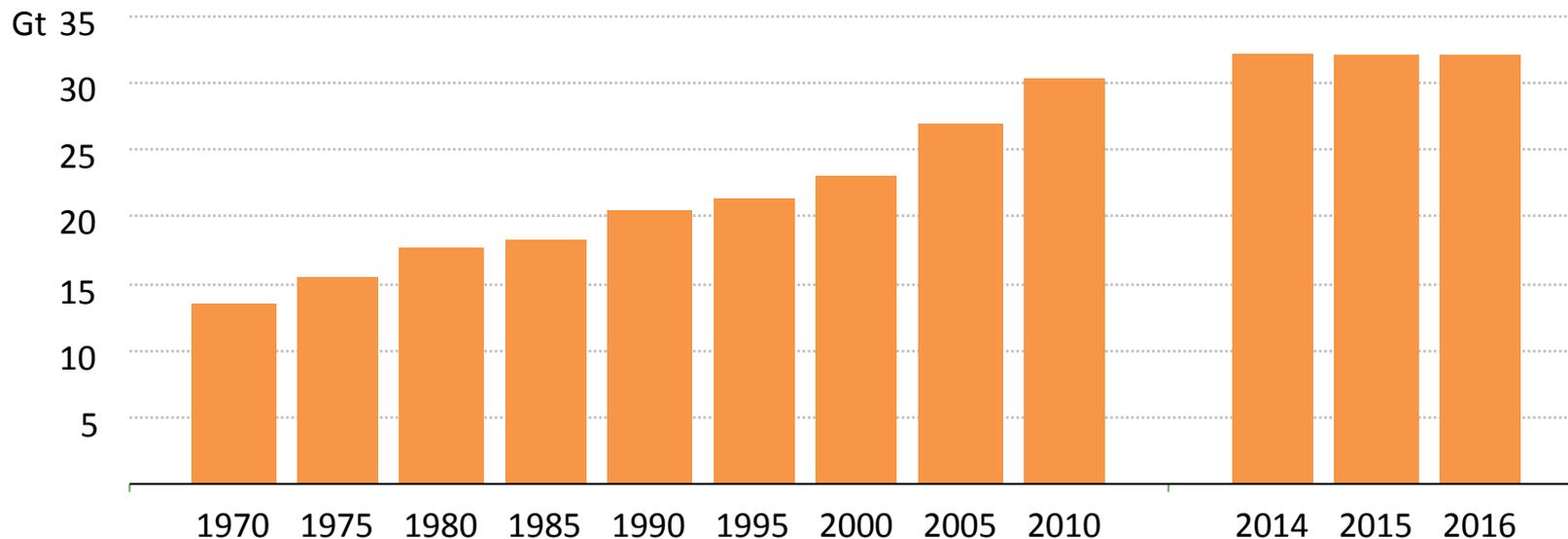


Global natural gas production growth, 2016-22



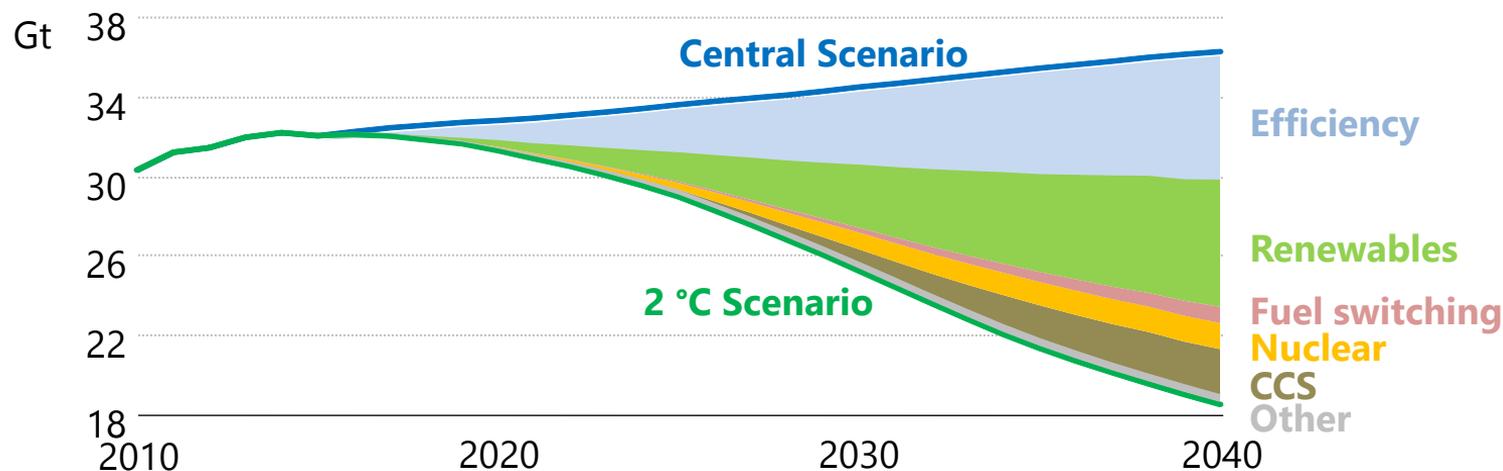
**Since 2009, US shale has added the equivalent of two Qatars to the global balance;
Middle East and China set to significantly expand production to 2022**

Global energy-related CO₂ emissions



Global CO₂ emissions remained flat in 2016 for the third year in a row, even though the global economy grew

Global CO₂ emissions reductions in the Central & 2 °C Scenario by technology



Supply-side investment needs to be re-directed, not increased; demand-side investment for energy efficiency, electrification & renewables needs to ramp up significantly.

Turning to Greece

**From a global energy context
to energy policy in Greece**

- **Electricity:**

- Transmission operator fully unbundled from PPC
- Wholesale and retail markets still dominated by PPC
- Gradual introduction of EU target model starting in 2018

- **Gas:**

- Retail sector opened to competition on 1 January 2018
- Transmission unbundling pending – need to expedite selling off 66% share of TSO
- Rethinking DEPA's role in the unbundled supply companies

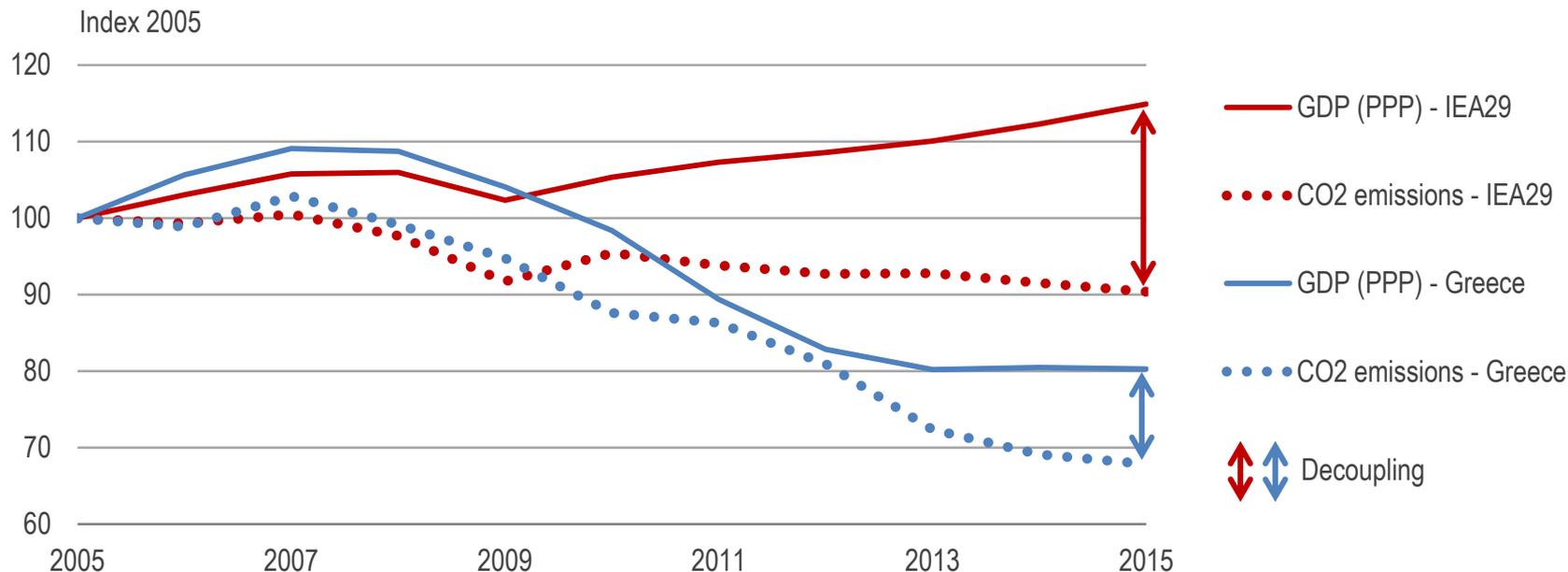
- Energy Sector Regulator pursued timely implementation of legislation jointly with other stakeholders

- Greece compliant with IEA oil stock holding requirement since 2004
- National oil and gas emergency plan adopted since last in-depth review
- Gas emergency plan proved robust during the winter 2016/17 supply shortage, but:
 - vulnerability to disruptions of the LNG supply chain
 - need to make electricity and gas sectors more price responsive
 - need to further strengthen regional interconnections and storage

GDP and CO₂ are decoupling, but slower compared to IEA average



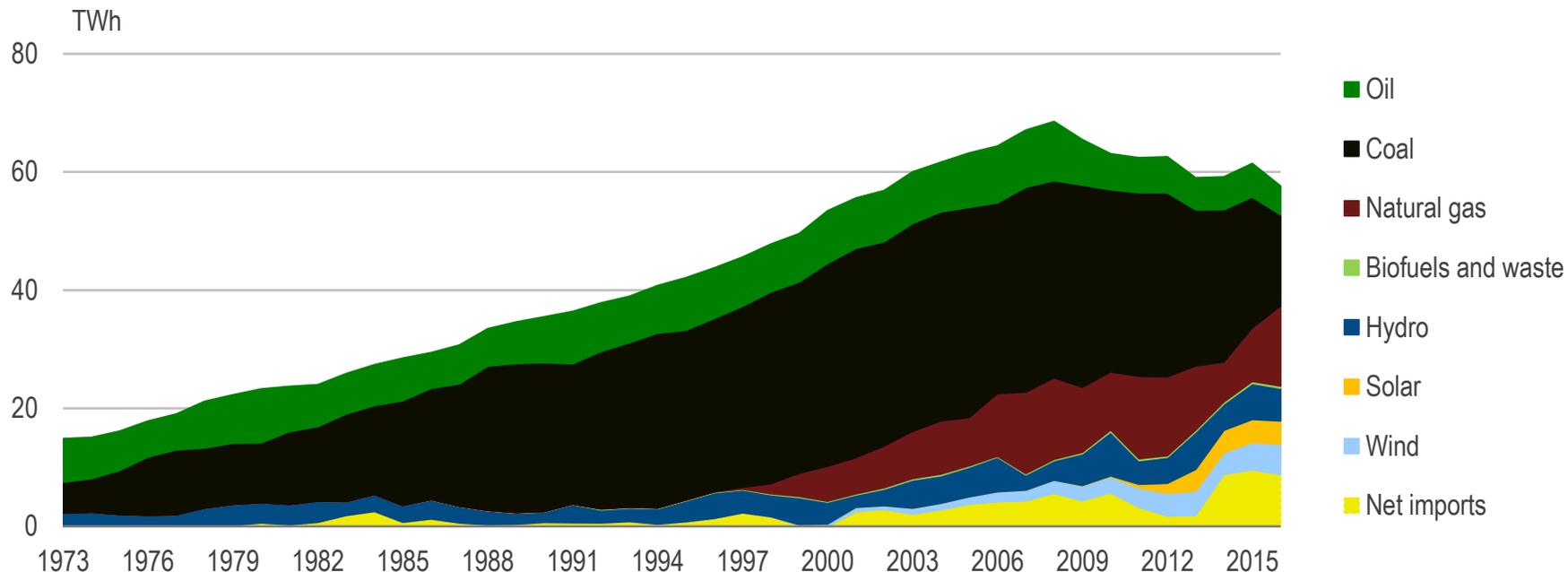
GDP, CO₂ emissions and carbon intensity in Greece and IEA29, 1990-2015



CO₂ emissions strongly related to GDP development – Greece needs to prepare for a recovering economy

Electricity Sector moving towards decarbonization

Electricity generation by fuel



Greece managed to integrate high levels of renewables due to a diversified electricity capacity mix

- **Energy Planning:** Develop an integrated national energy and climate policy framework for 2030 and beyond
- **Sector Reform:** Continue to prioritize implementation of gas and power sector reforms to further the creation of competitive and financially viable markets
- **Energy Efficiency:** Continue to pursue the implementation of ambitious energy efficiency policies
- **Renewables:** Leverage the renewable energy potential of the islands through interconnections with the mainland transmission system
- **Regulatory Capacity:** Ensure regulators capacity to carry out reform and oversight and ensure sufficient resources



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