

The Outlook for Energy: A View to 2040

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ExxonMobil
Energy lives here™

2016

The Outlook for Energy includes Exxon Mobil Corporation's internal estimates and forecasts of energy demand, supply, and trends through 2040 based upon internal data and analyses as well as publicly available information from external sources including the International Energy Agency. Work on the report was conducted throughout 2015. This presentation includes forward looking statements. Actual future conditions and results (including energy demand, energy supply, the relative mix of energy across sources, economic sectors and geographic regions, imports and exports of energy) could differ materially due to changes in economic conditions, technology, the development of new supply sources, political events, demographic changes, and other factors discussed herein and under the heading "Factors Affecting Future Results" in the Investors section of our website at www.exxonmobil.com. This material is not to be used or reproduced without the permission of Exxon Mobil Corporation. All rights reserved.

Energy Outlook Development

A light gray world map is centered in the background, showing the outlines of continents and countries. Overlaid on the map is the text '100 countries' in a large, bold, blue font. The number '100' is positioned above the word 'countries'.

**100
countries**

Energy Outlook Development

**15 demand
sectors**

Residential

Chemicals

Commercial

Asphalt

Lt. Transportation

Lubricants

Hvy. Transportation

Flaring

Aviation

Energy Industry

Marine

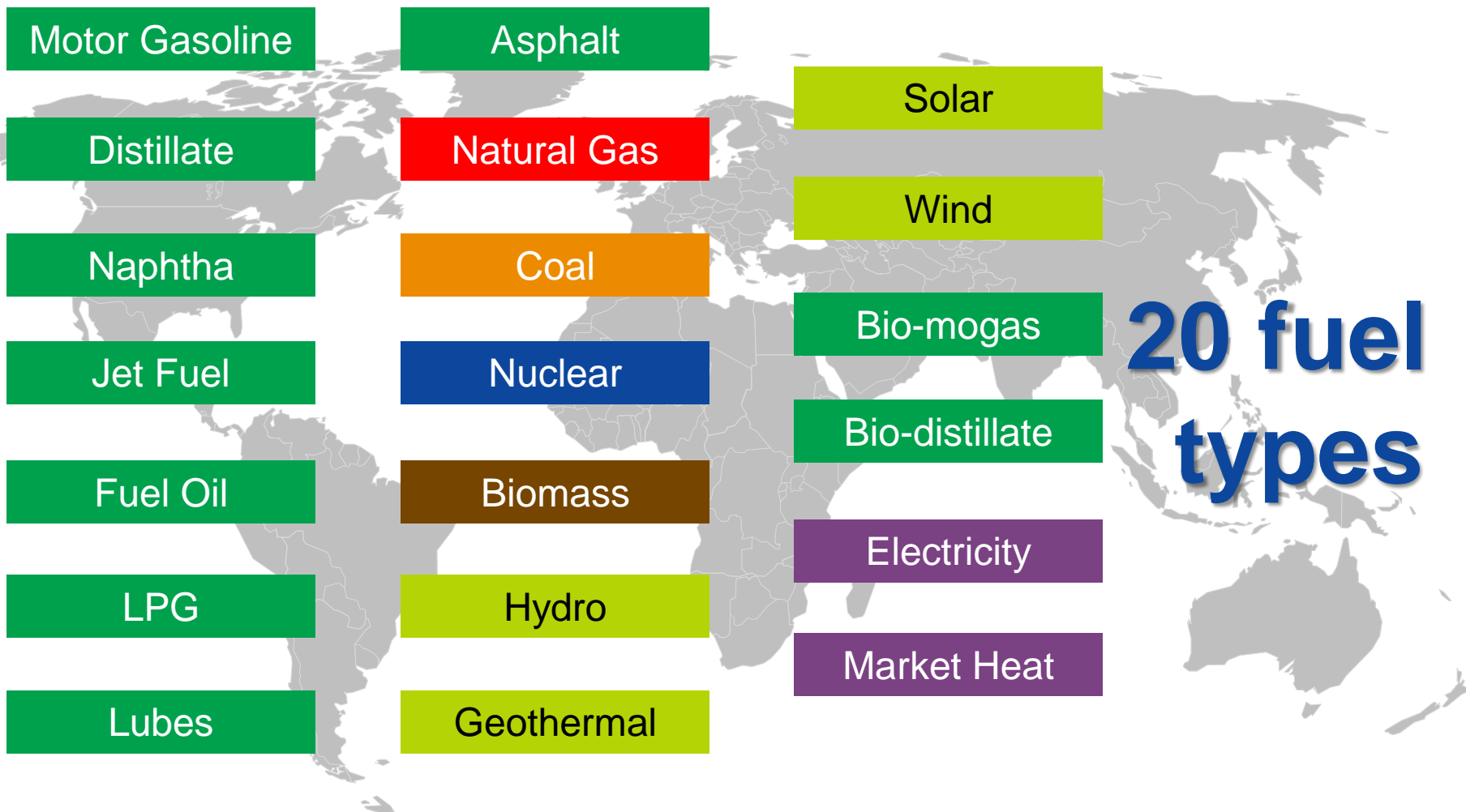
Agriculture

Rail

Heavy Industry

Power Generation

Energy Outlook Development



Energy Outlook Development



Technology & Policy

Global Trends Continue to Evolve

Growth from 2014 Level

Percent

100%

75%

50%

25%

0%

2014

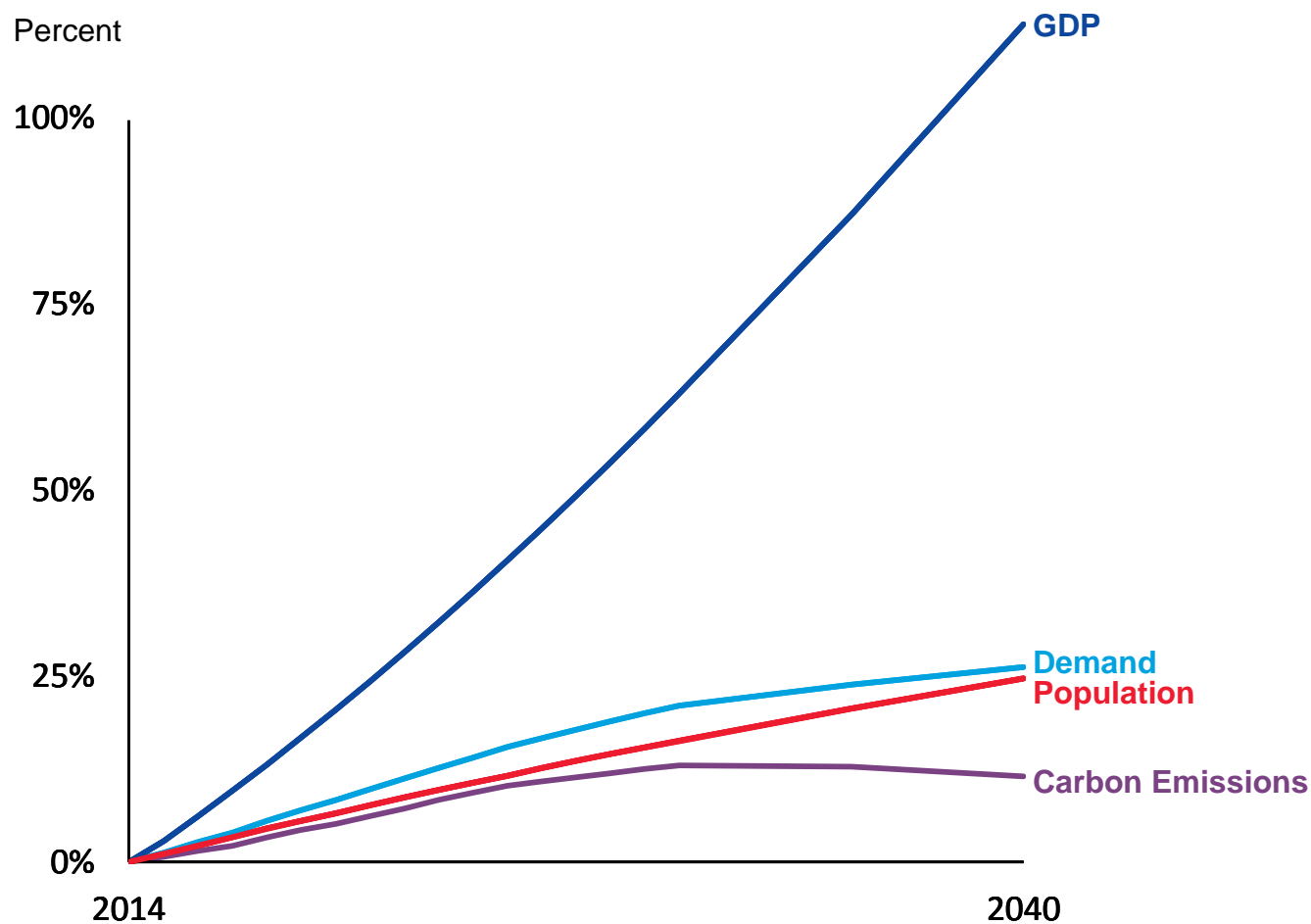
2040

GDP

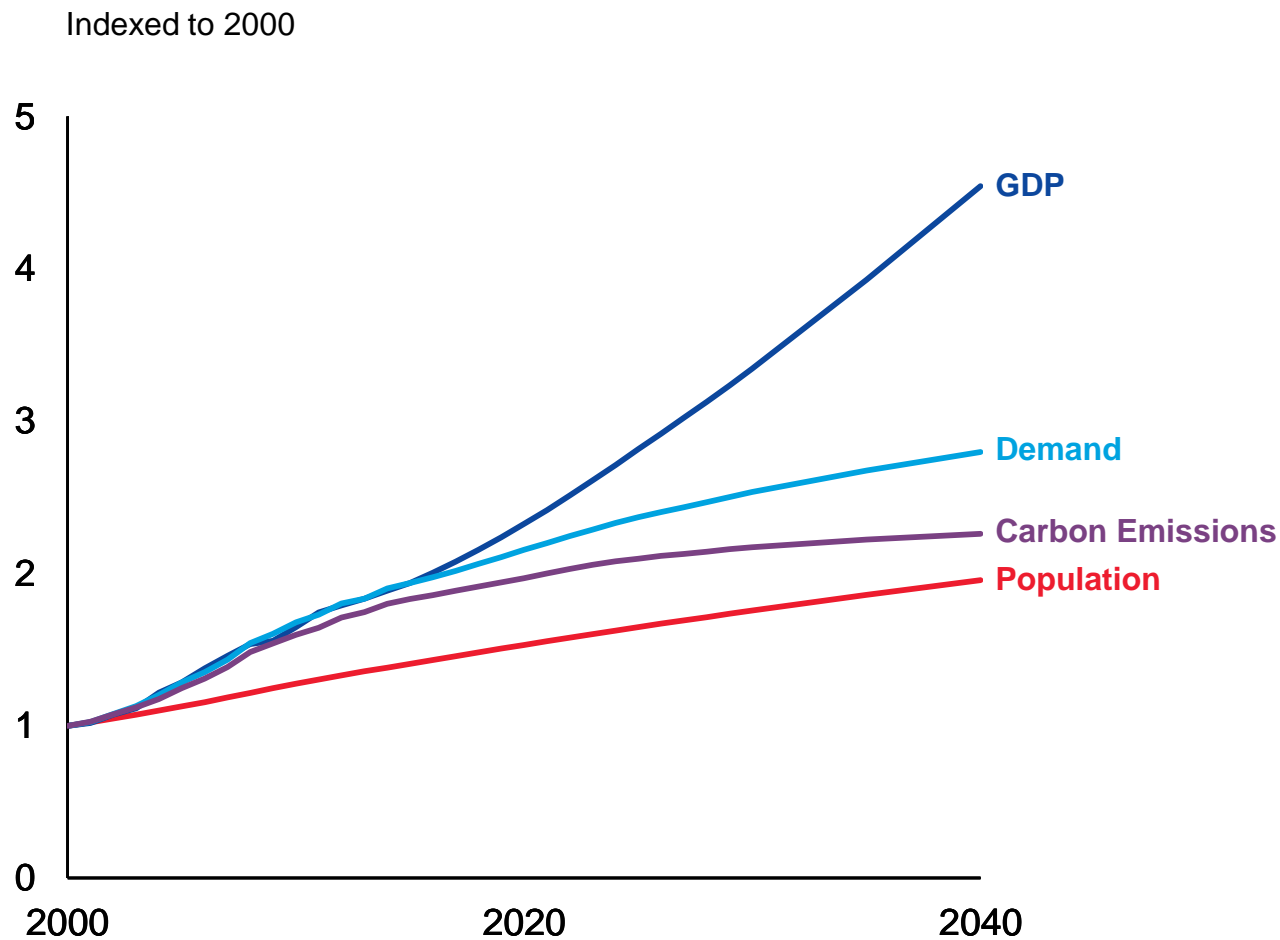
Demand

Population

Carbon Emissions



Middle East Energy Trends



Key Energy Outlook Themes



Energy is fundamental to **standards of living**.



Developing nations lead gains in GDP and living standards.



Economics and **policies** impact the fuel mix.



Oil remains the world's primary fuel through 2040.



Natural gas grows more than any other energy source.



Technology has the highest potential and greatest uncertainty.

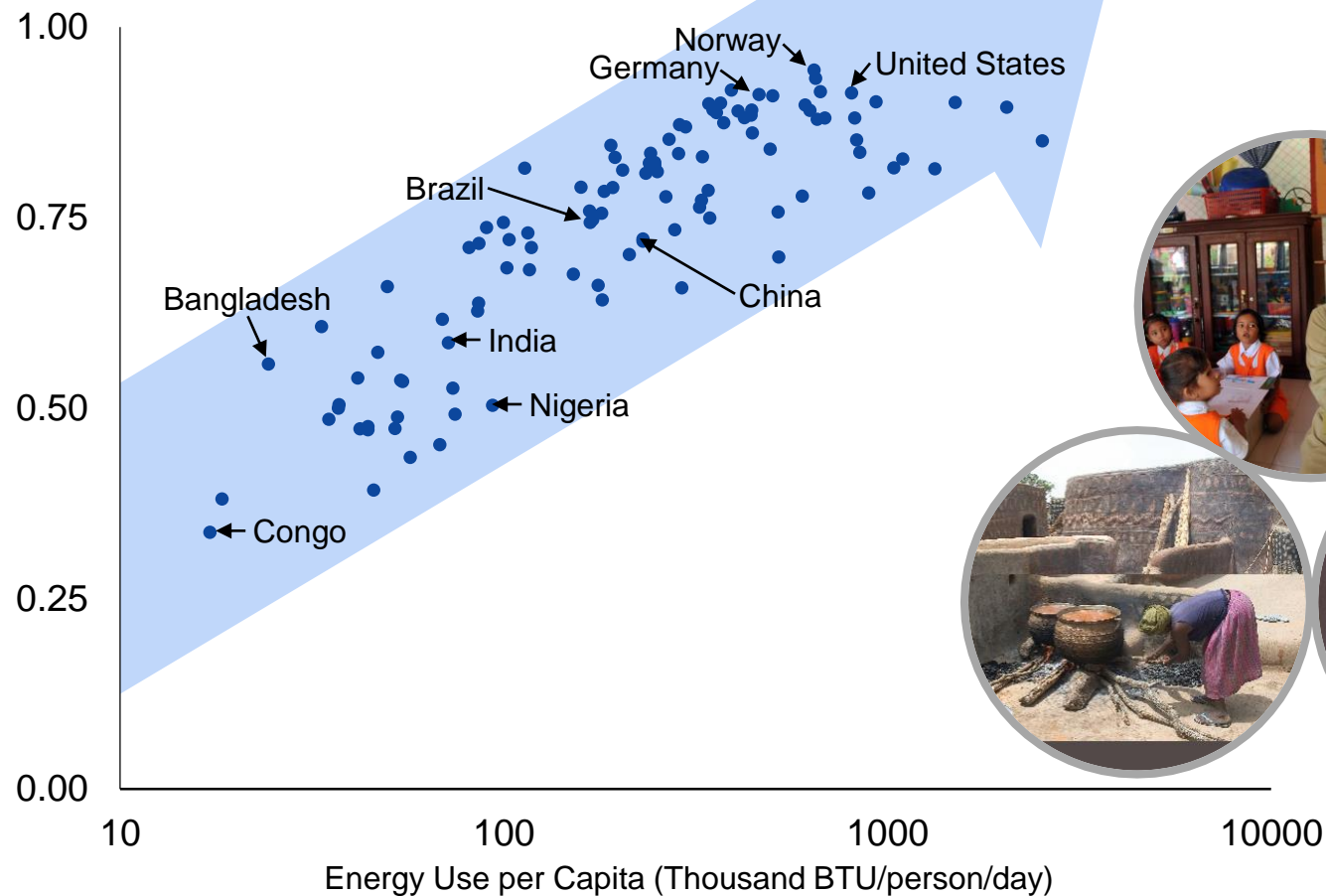


Energy is fundamental
to **standards of living.**

Energy Fuels Human Development

U.N. Human Development Index

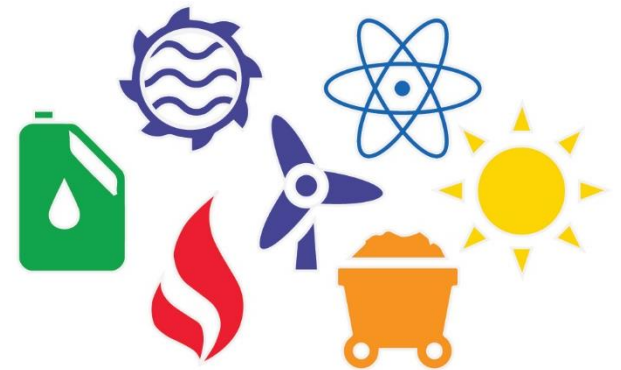
2013 Index



Source: United Nations, ExxonMobil estimates

The energy equation

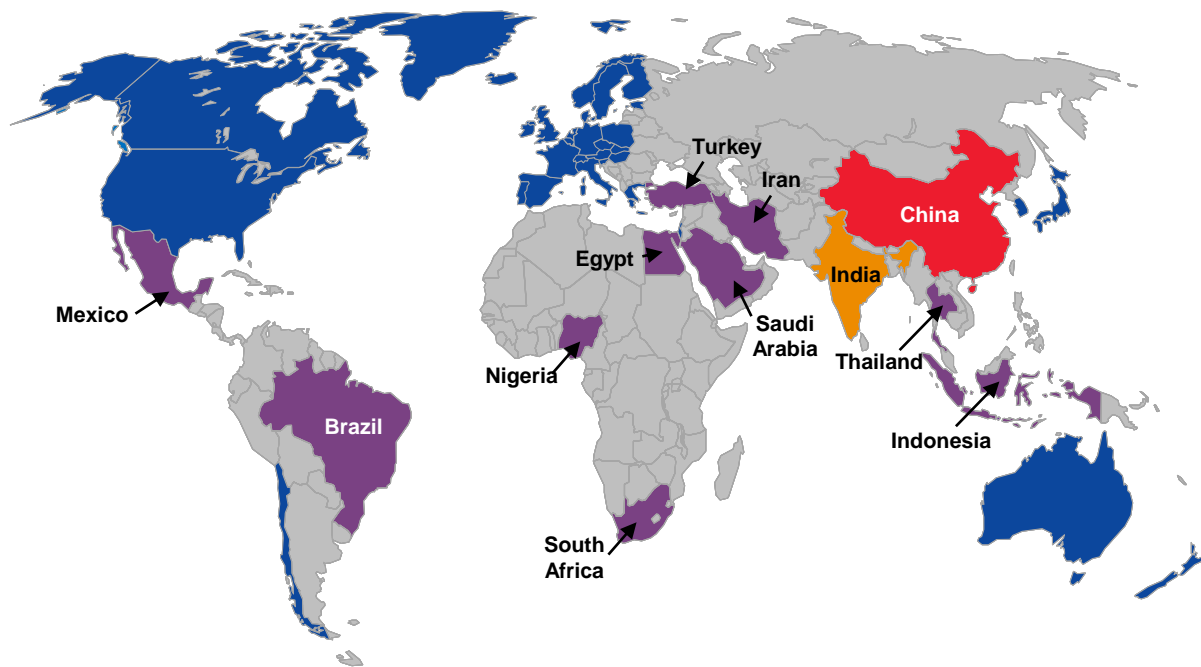
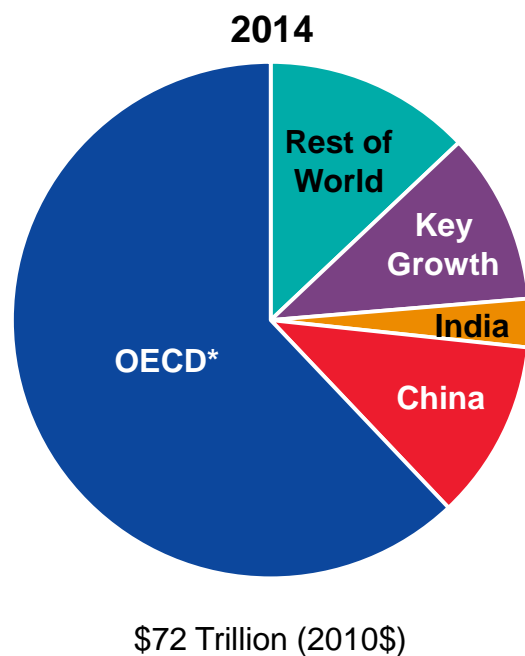
People \times living standards = energy needs





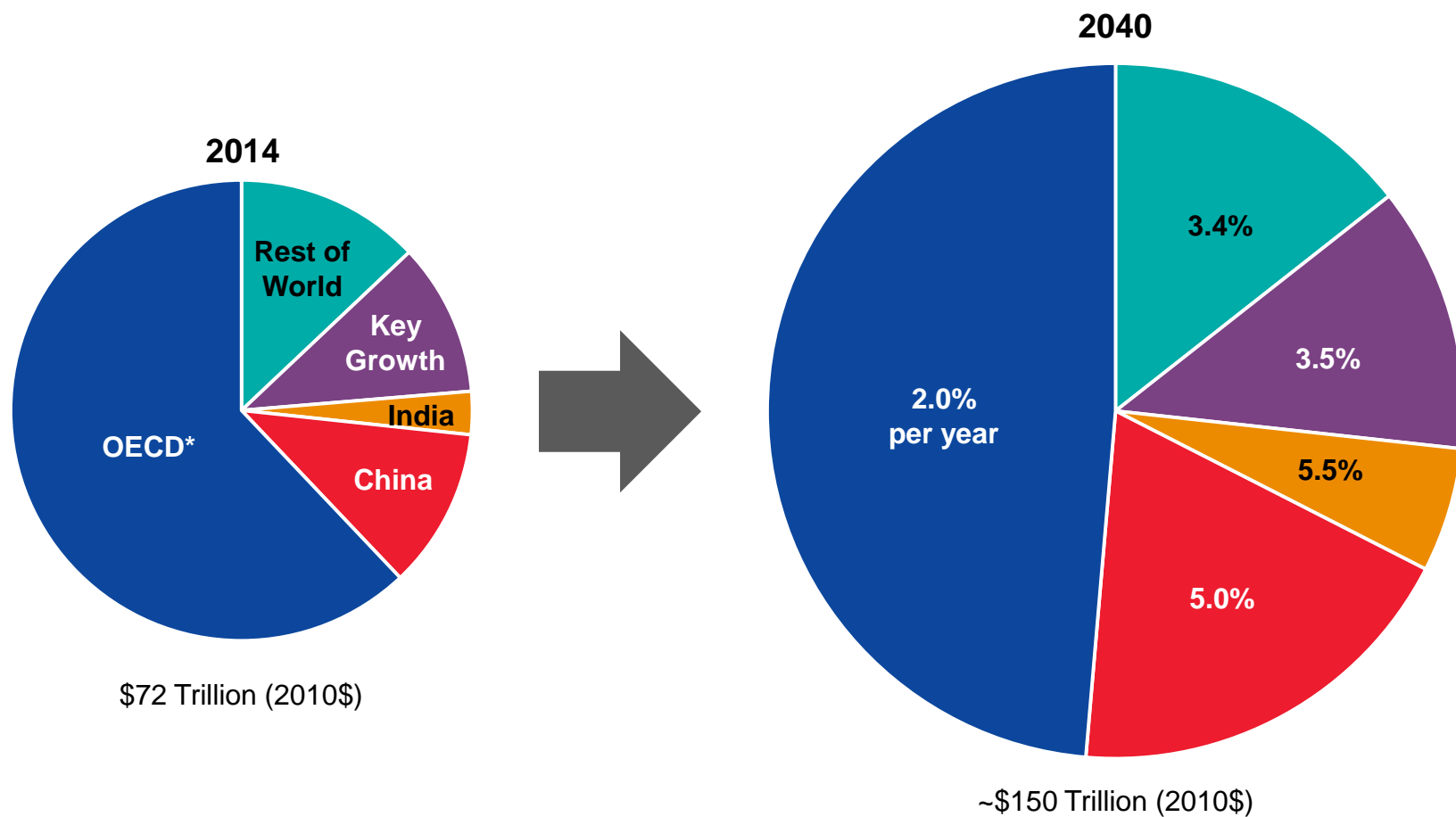
Developing nations lead
in GDP growth and living
standard improvements.

Global GDP Shifts Toward Developing Nations



**Mexico and Turkey included in Key Growth countries*

Global GDP Shifts Toward Developing Nations

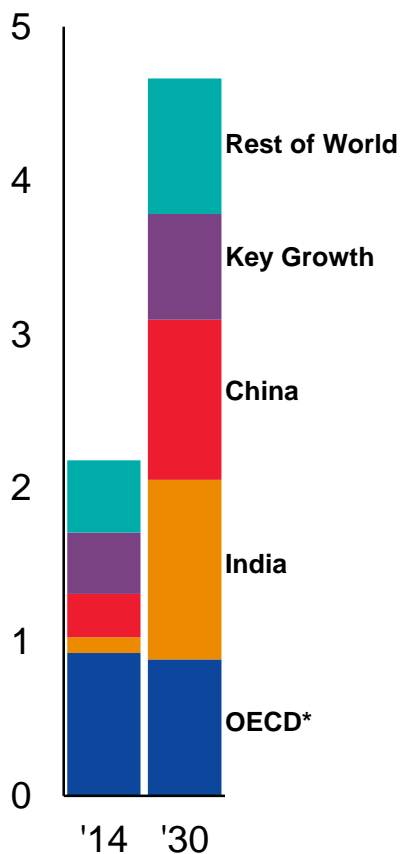


**Mexico and Turkey included in Key Growth countries*

Middle Class and Urbanization Increase

Global Middle Class

Billion People

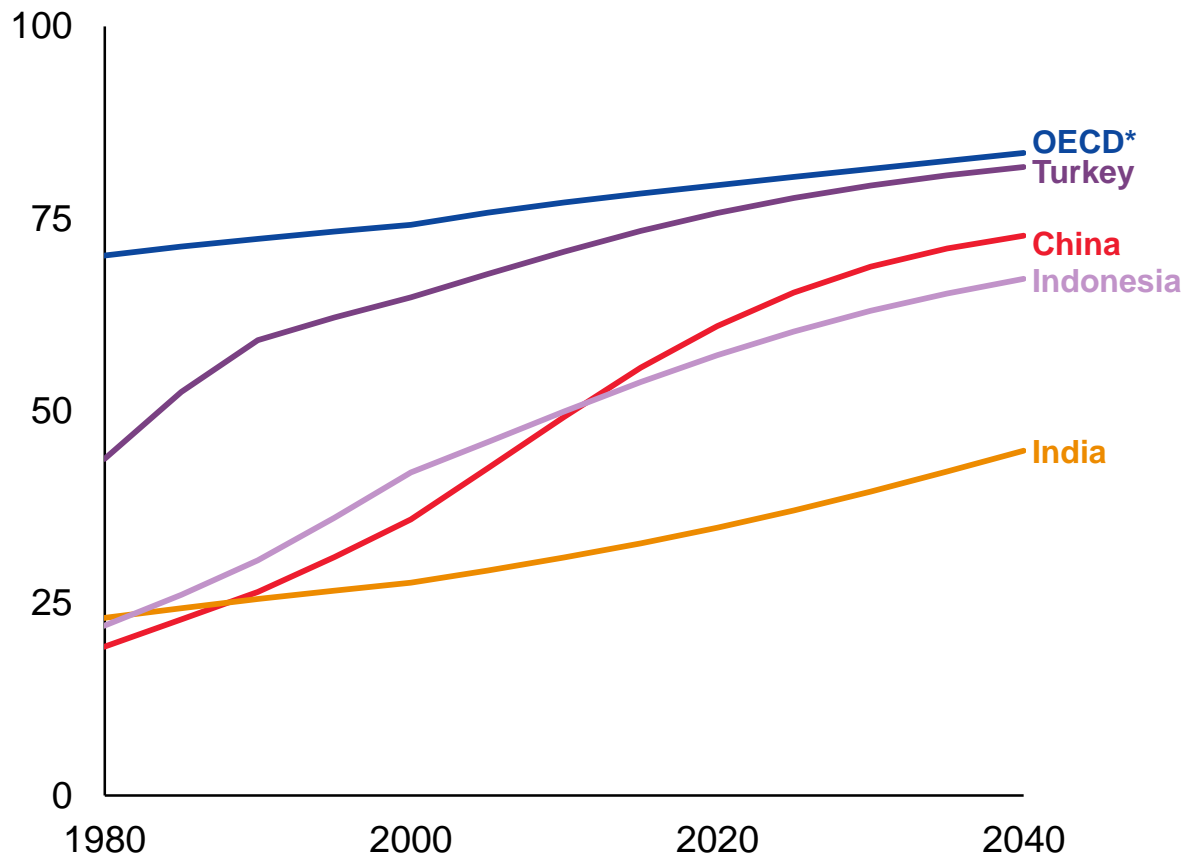


Source: The Brookings Institution

*Mexico and Turkey included in Key Growth countries

Urbanization

Percent

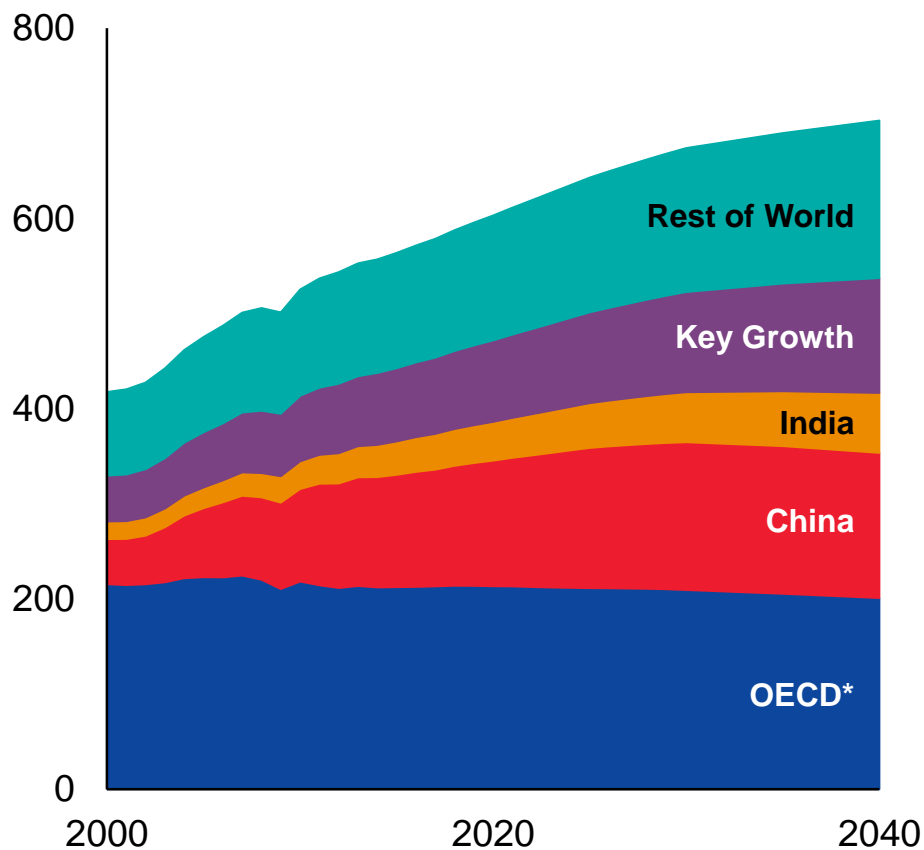


Source: United Nations

Demand Growth From Developing Nations

Energy Demand

Quadrillion BTUs

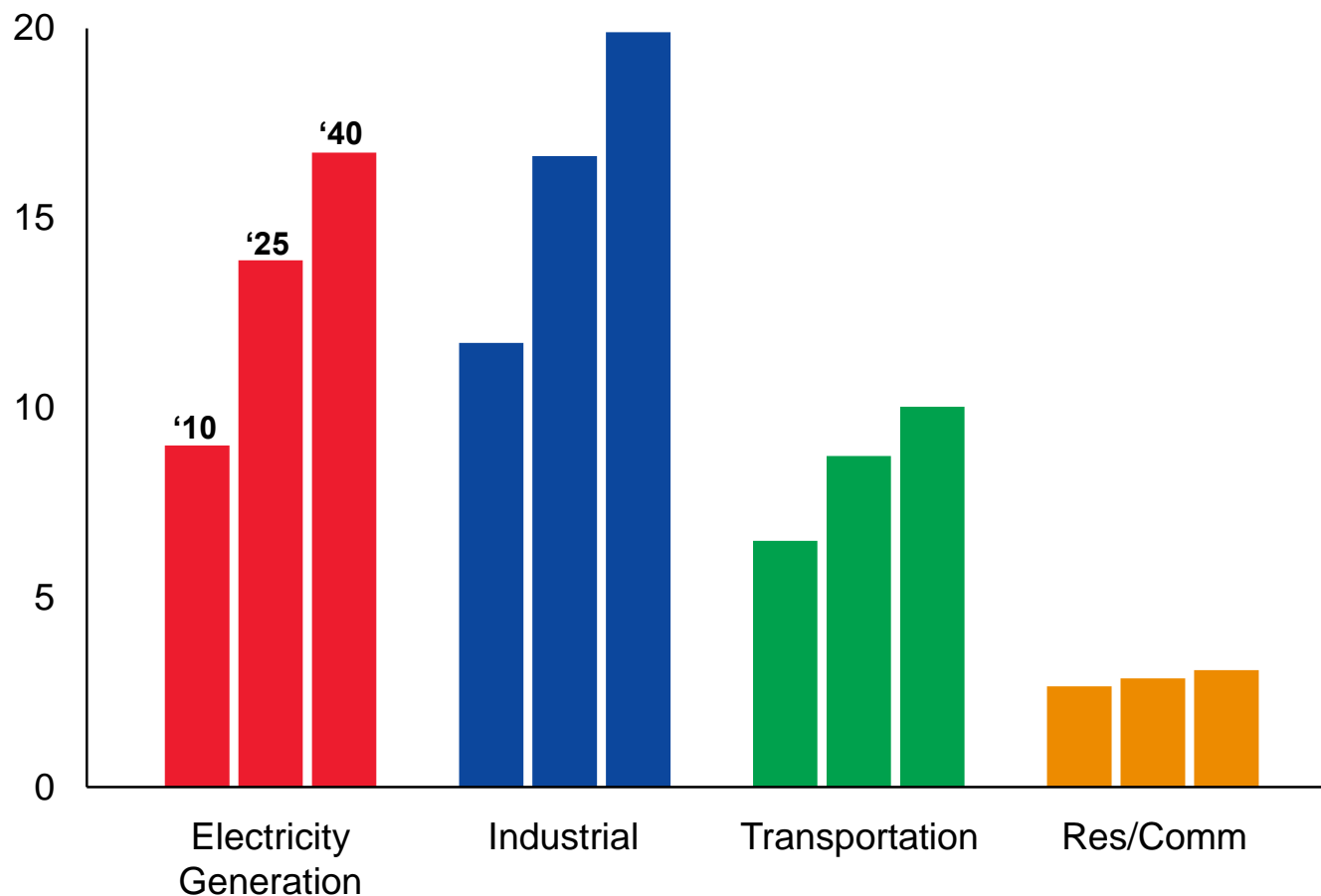


**Mexico and Turkey included in Key Growth countries*

Middle East Energy Demand

Primary Energy Demand by Sector

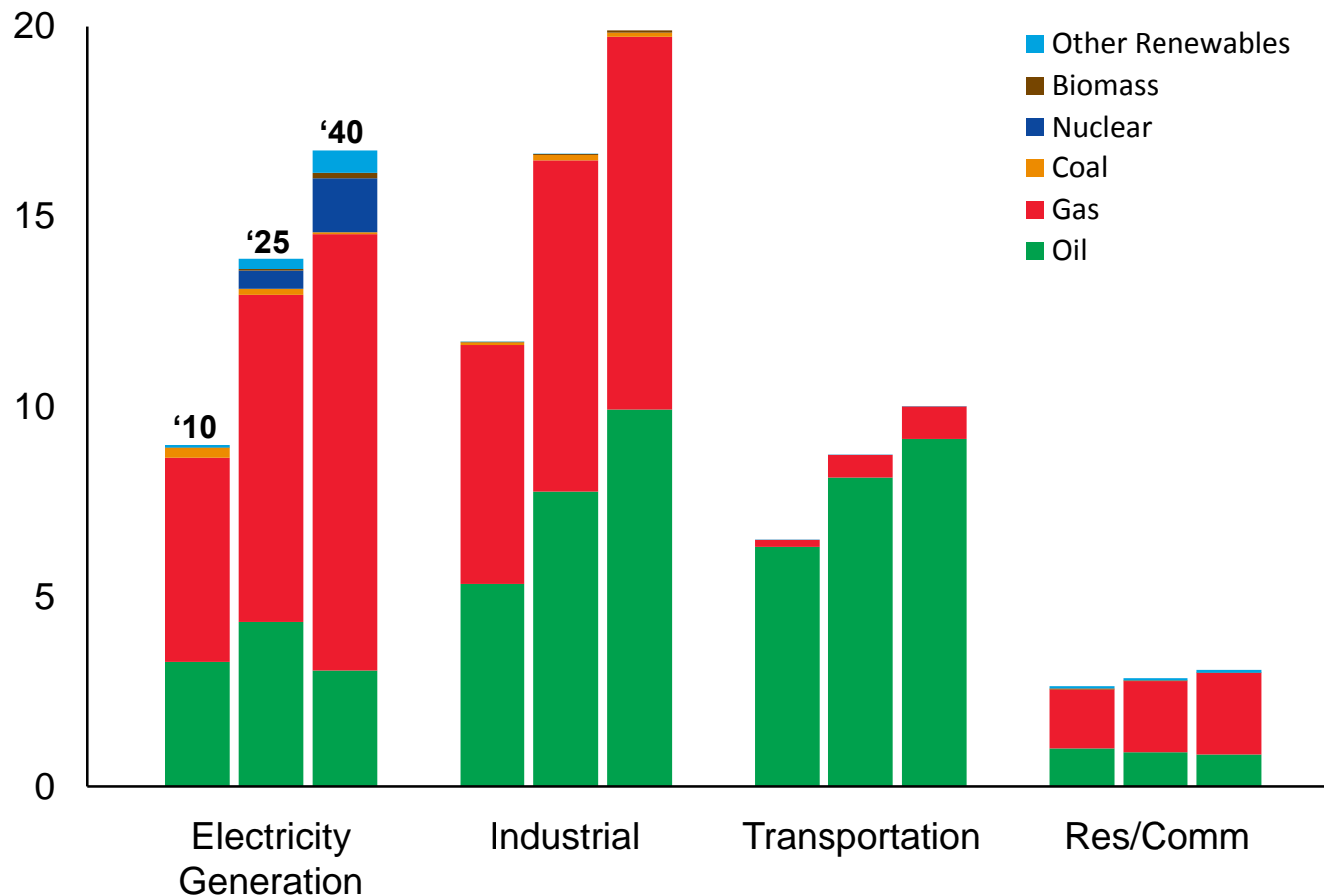
Quadrillion BTUs

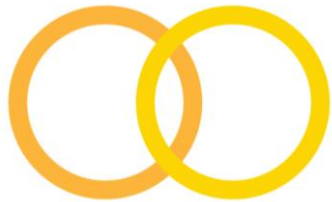


Middle East Energy Demand

Primary Energy Demand by Sector

Quadrillion BTUs

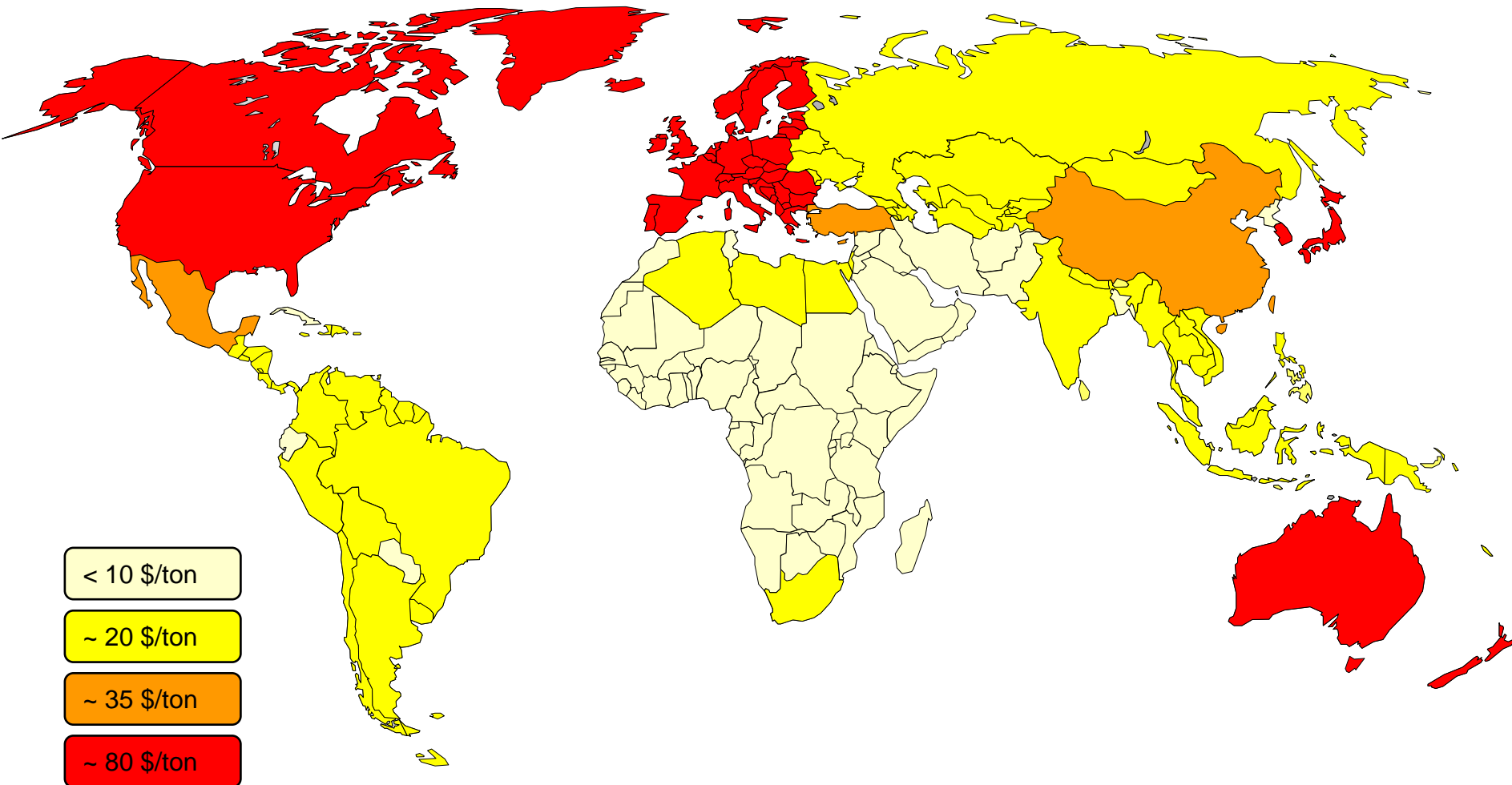




Economics and **policies**
impact the fuel mix.

CO₂ Policy Assumptions Vary by Region

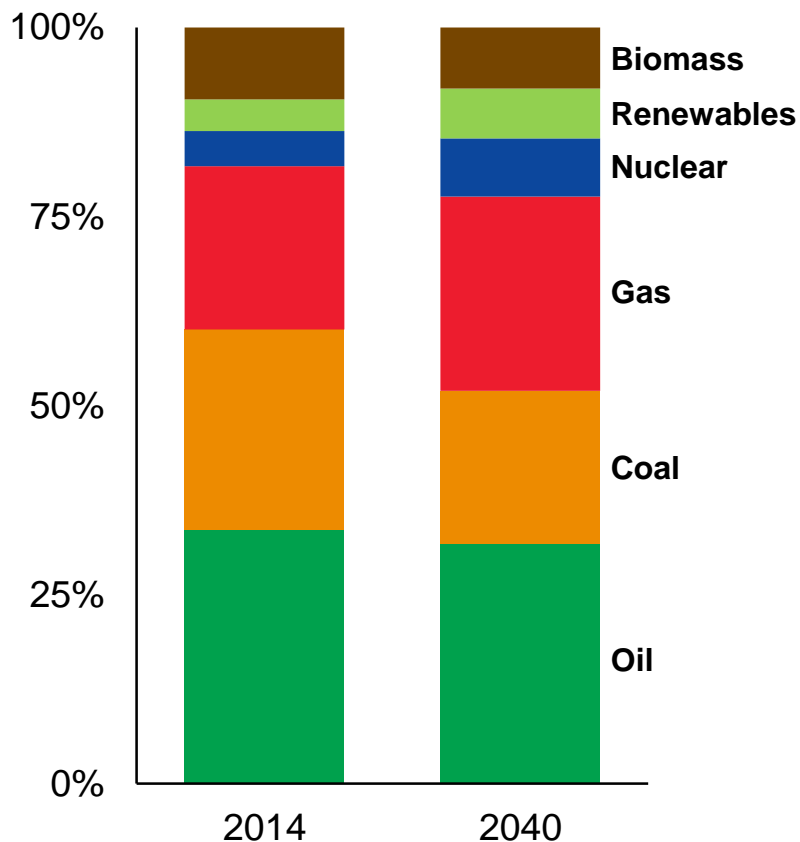
2040 CO₂ “Proxy” Cost



Energy Mix Shifts to Lower-Carbon Fuels

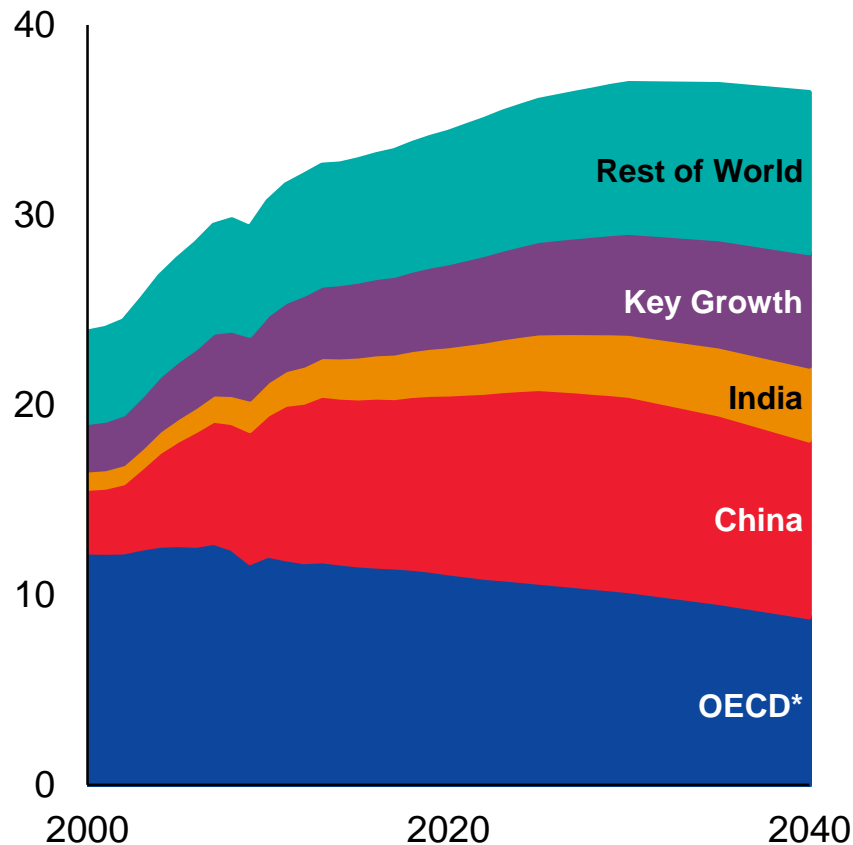
Global Energy Mix

Percent



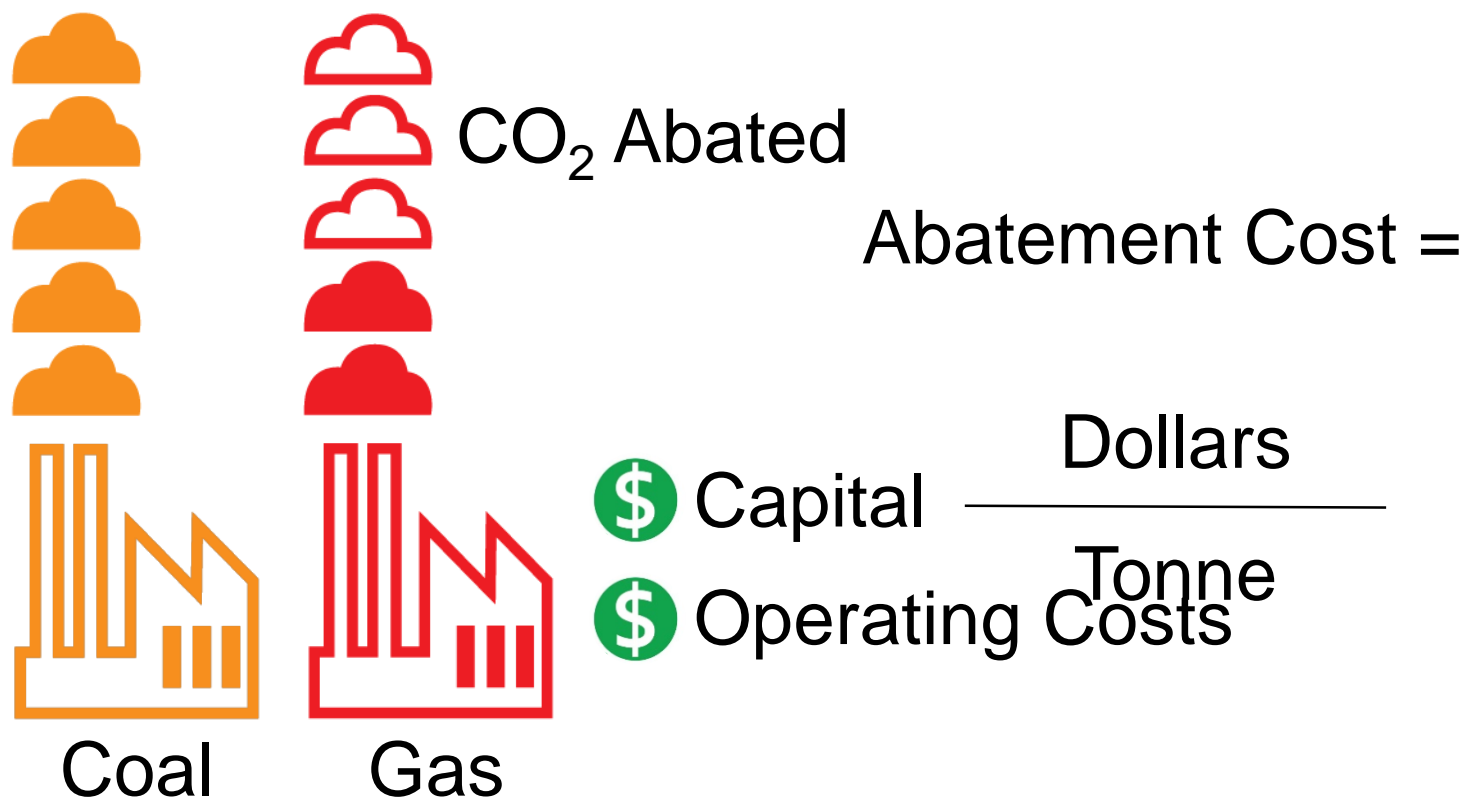
Energy-Related CO₂ Emissions by Region

Billion Tonnes



**Mexico and Turkey included in Key Growth countries*

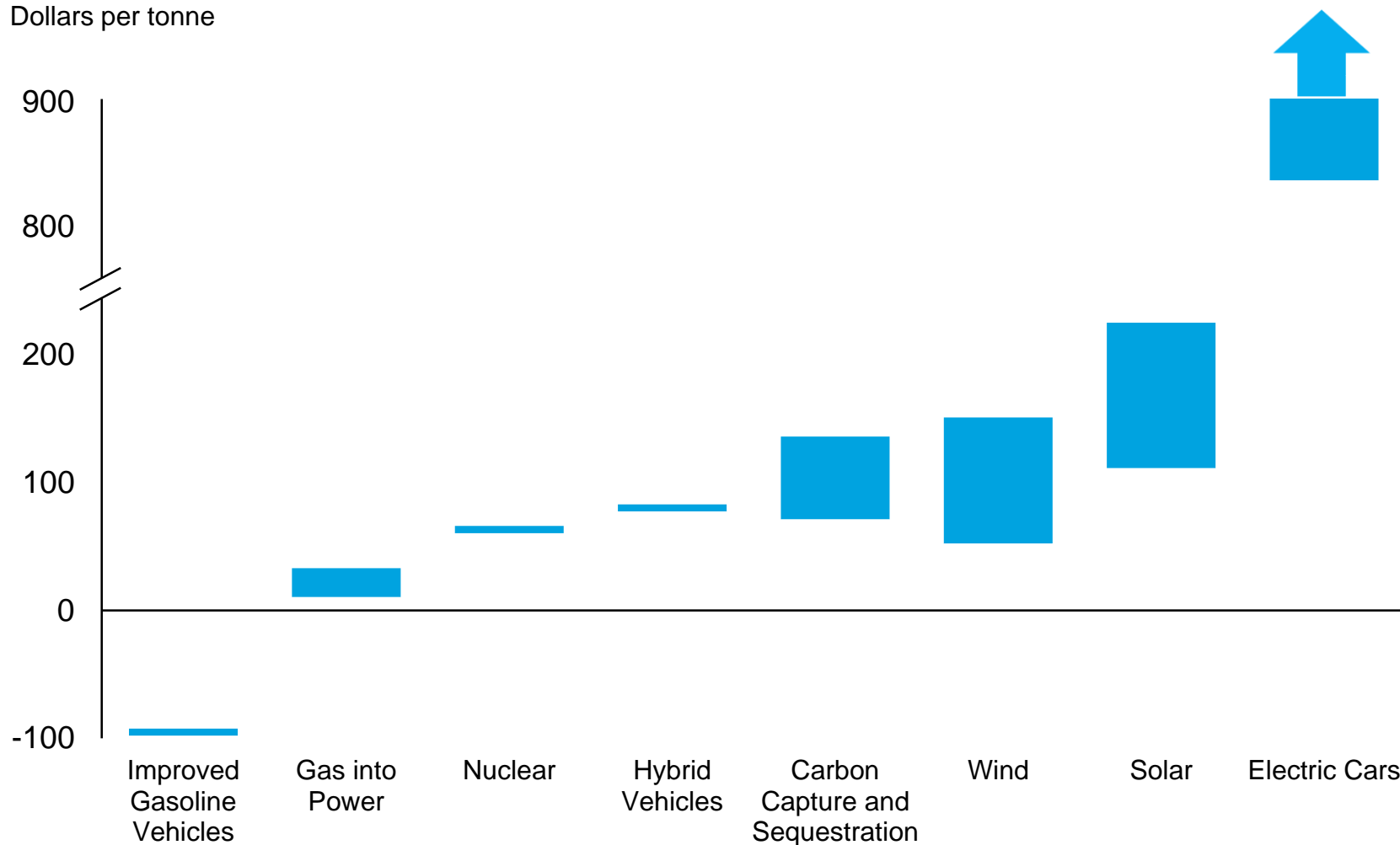
CO₂ Abatement Costs



Managing Climate Risk

U.S. CO₂ Abatement Costs

Dollars per tonne



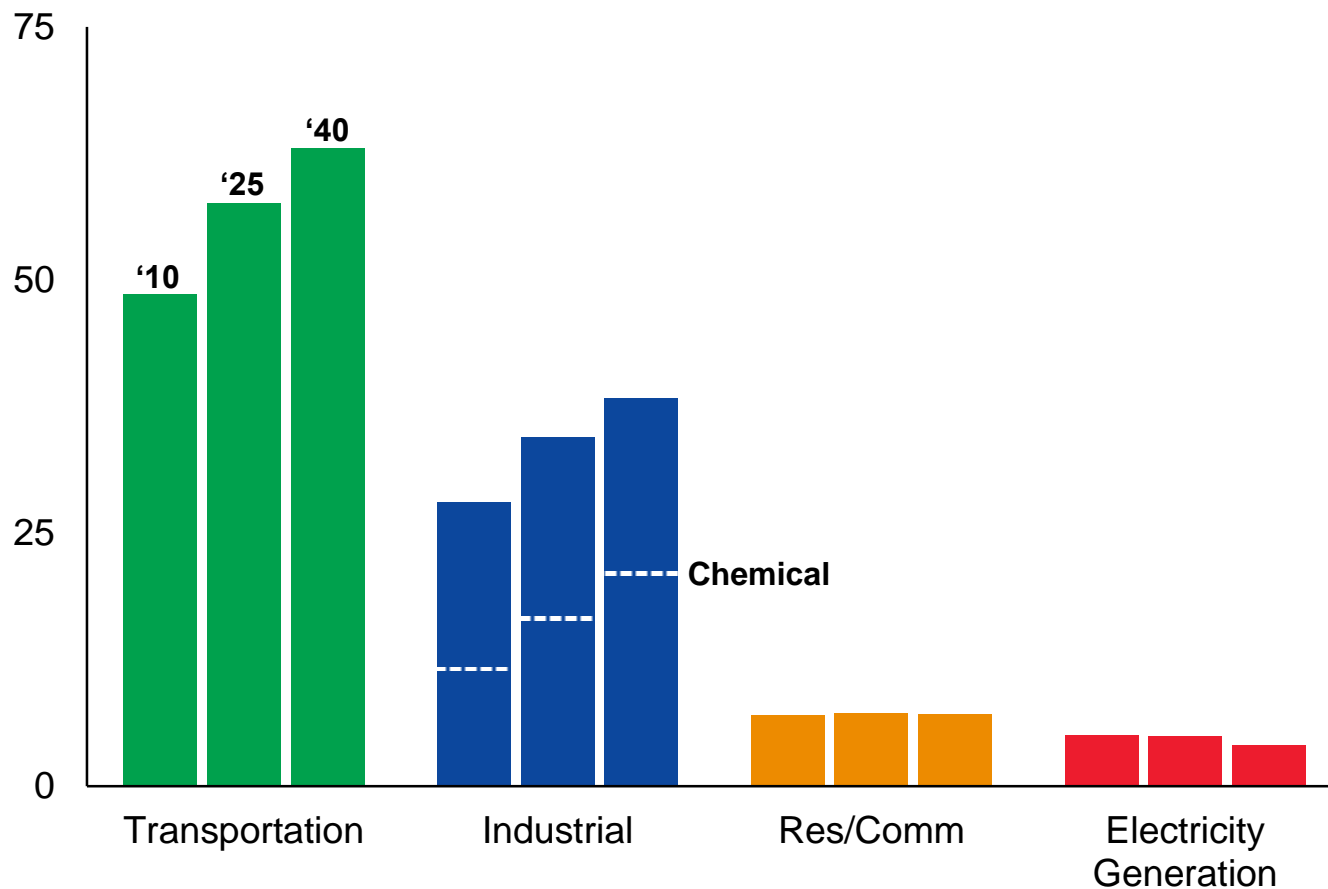


Oil remains the world's
primary fuel through 2040.

Transportation and Chemicals Drive Growth

Liquids Demand by Sector

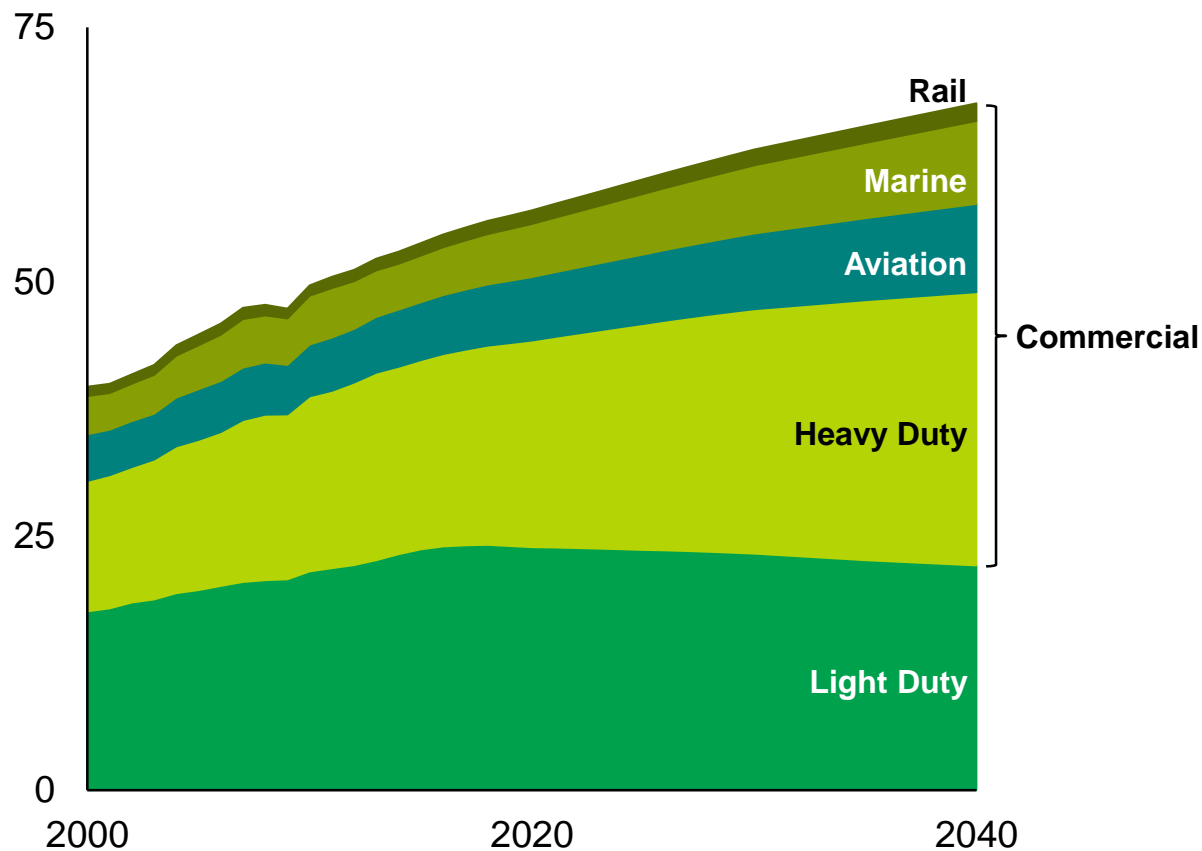
MBDOE



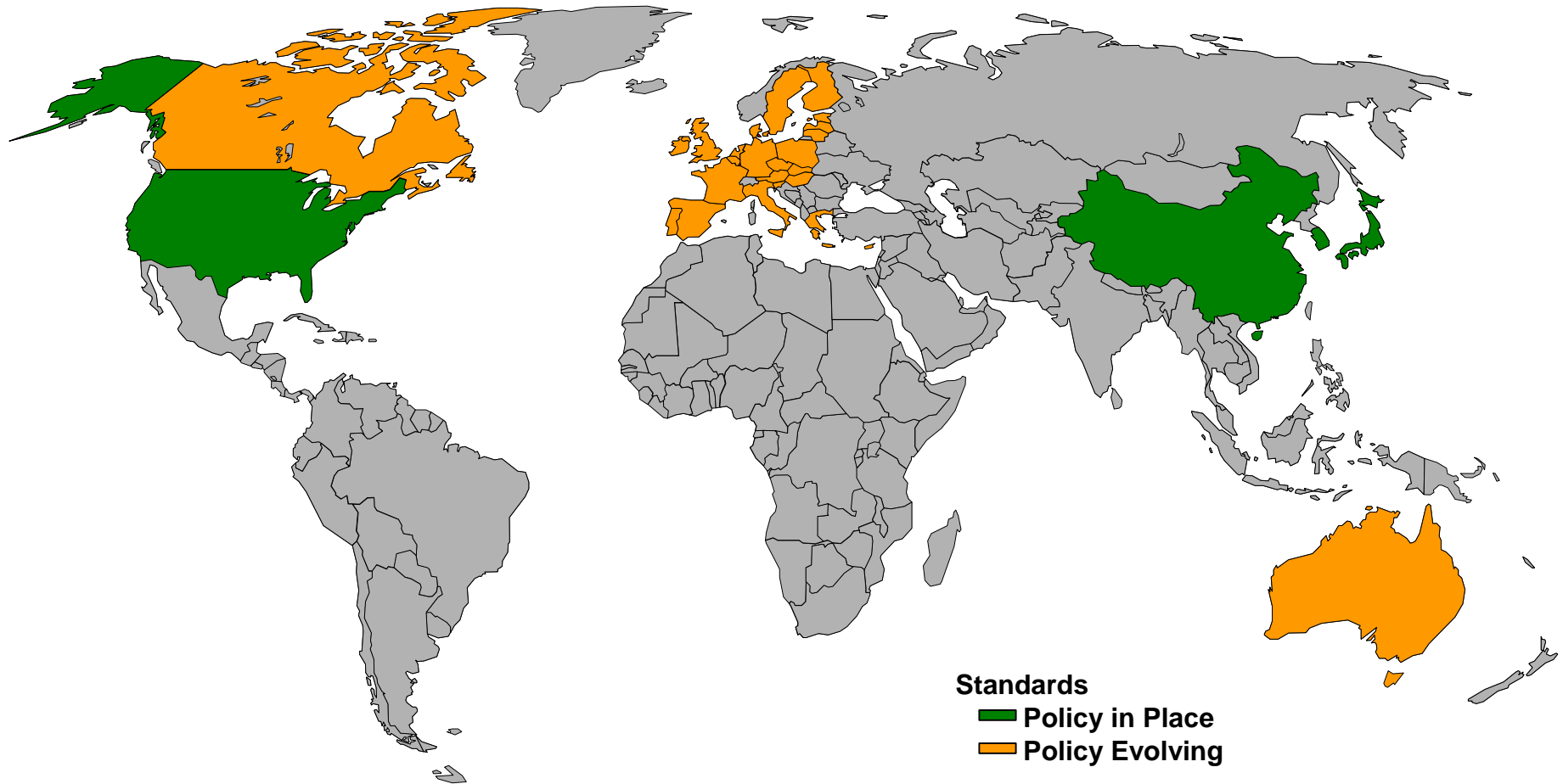
Transportation Demand

Sector Demand

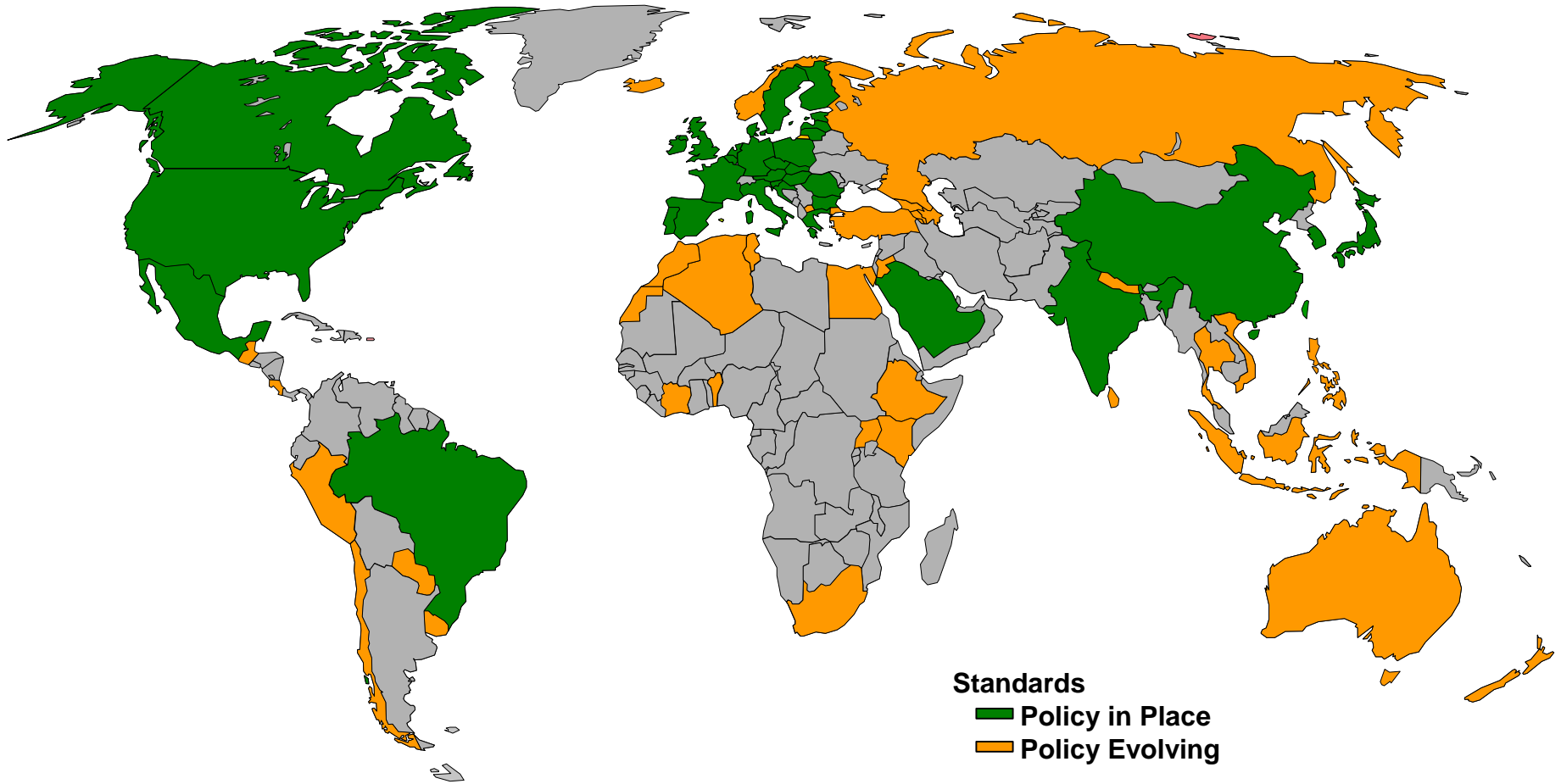
MBDOE



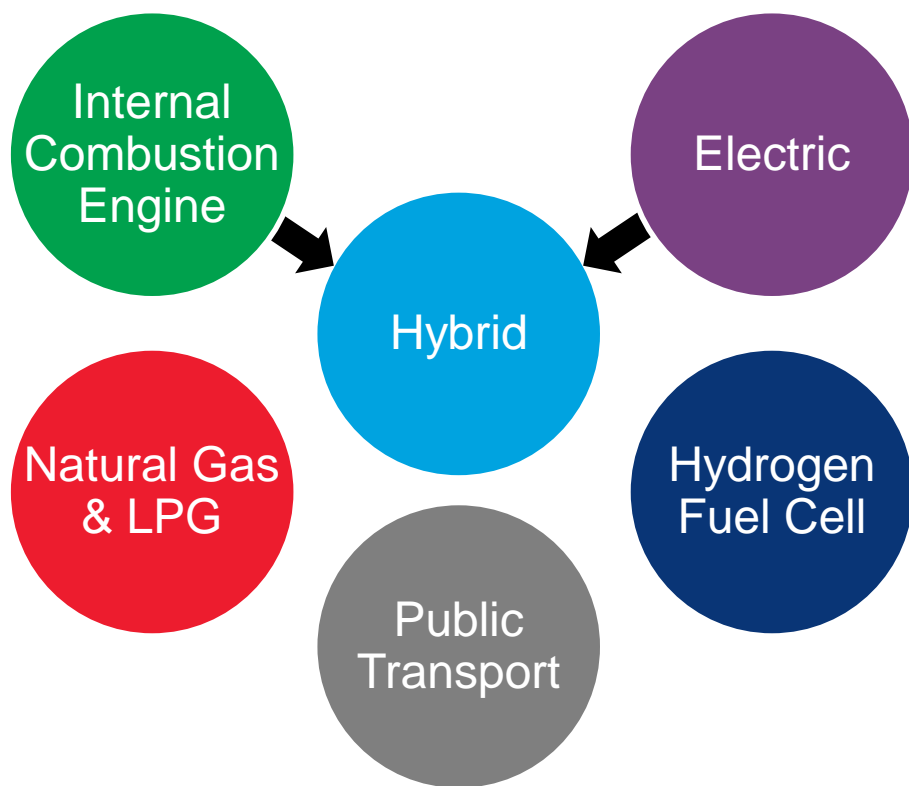
Global Fuel Economy Standards (2008)



Global Fuel Economy Standards (2014)

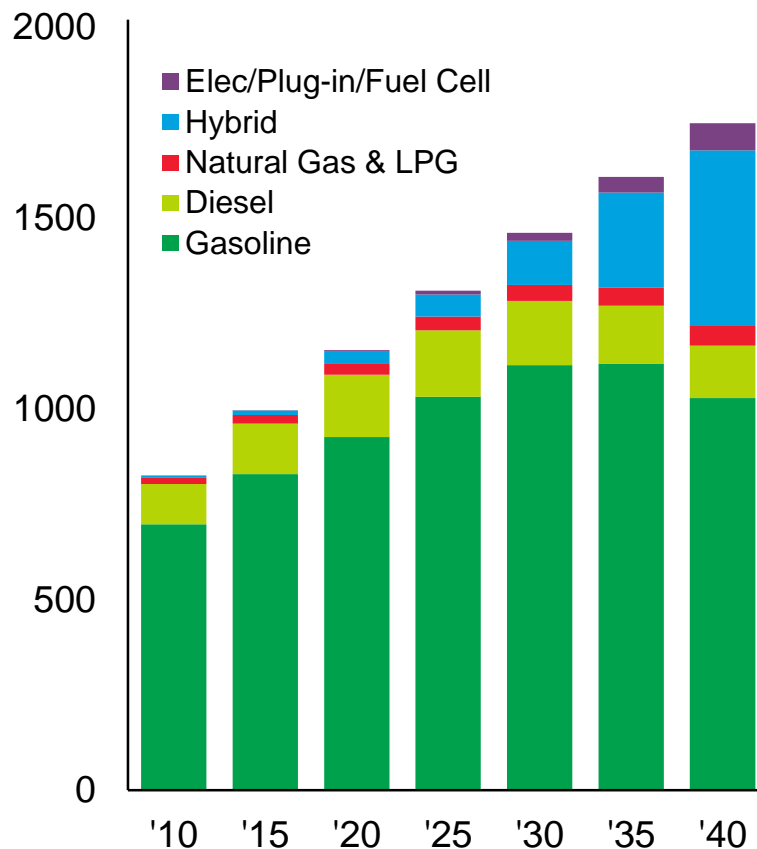


Global Vehicle Fleet



By Type

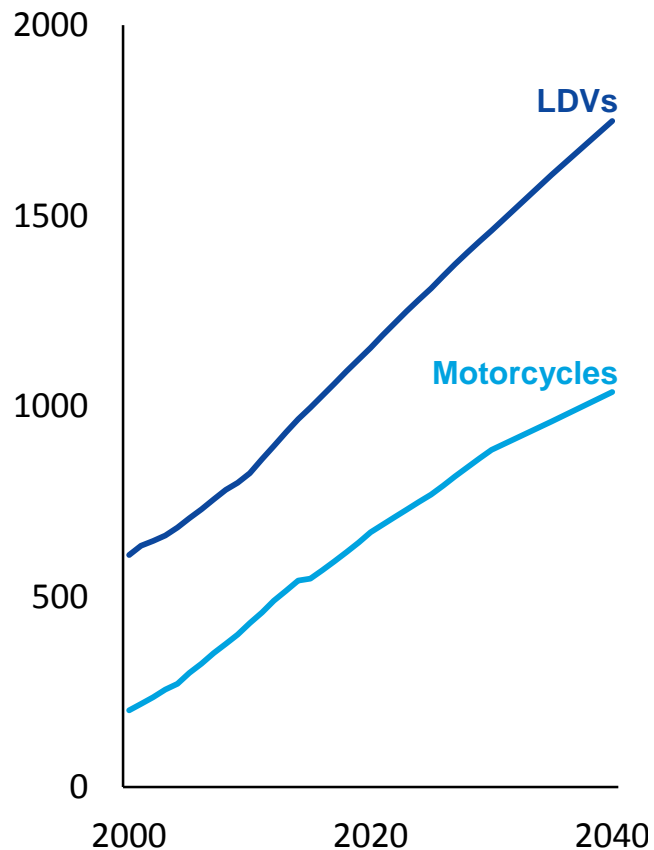
Million Cars



Motorcycles Grow With Rising Incomes

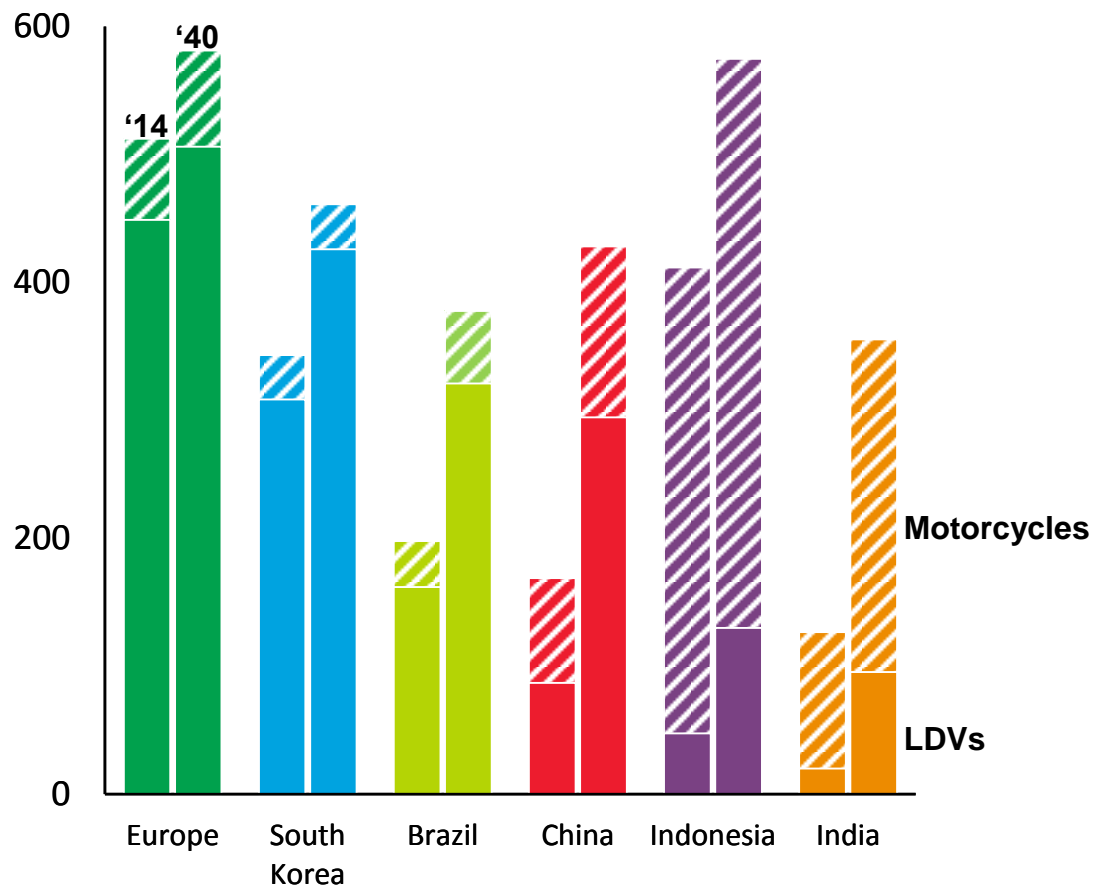
Global LDV and Motorcycle Fleet

Million



Penetration

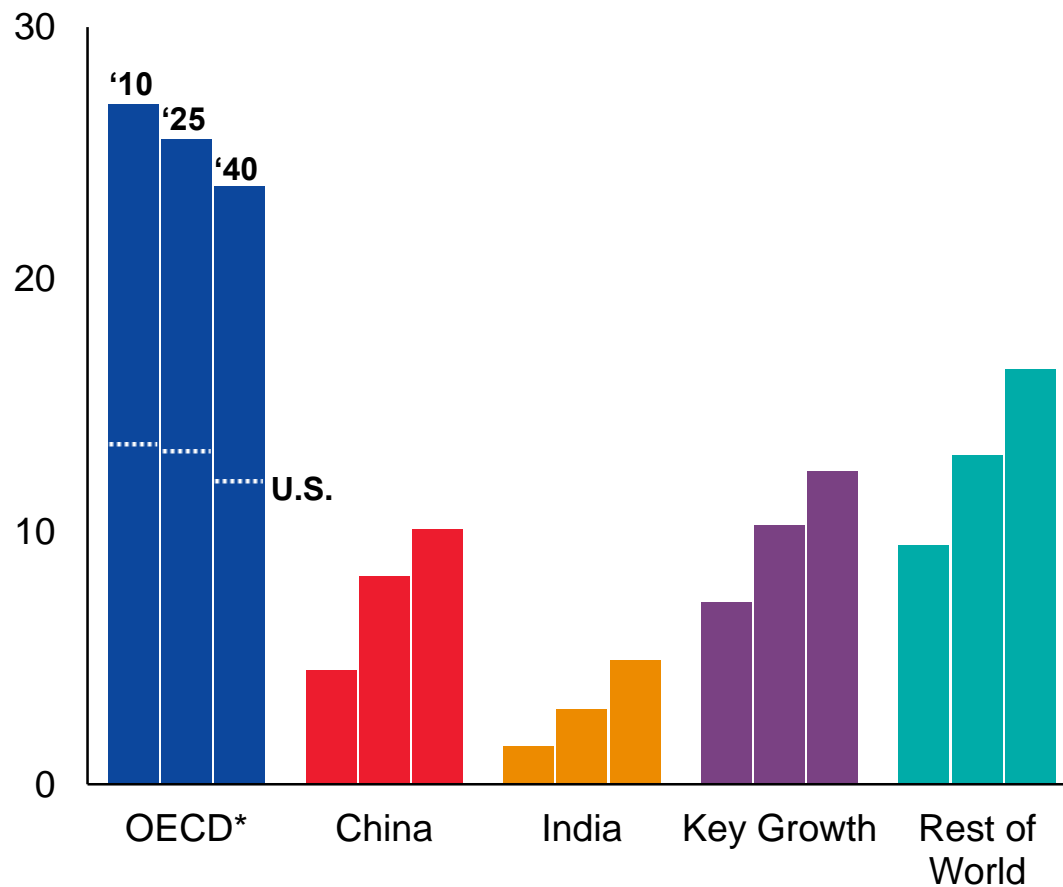
Per 1000 People



Transportation Demand

Demand by Region

MBDOE

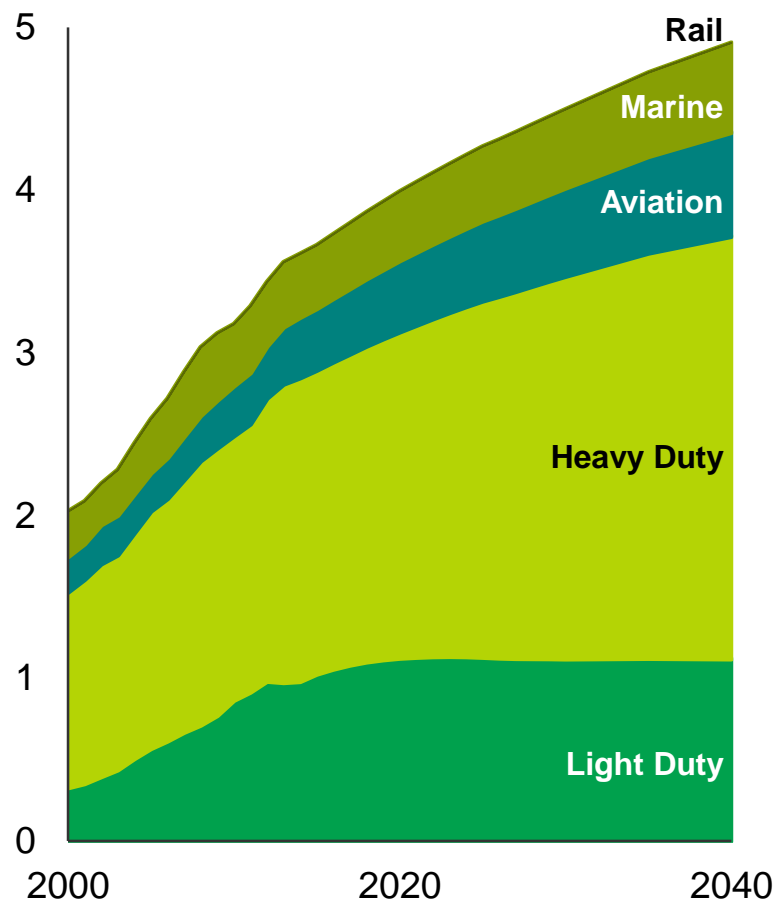


**Mexico and Turkey included in Key Growth countries*

M.E. Transportation Demand & Fleet Shift

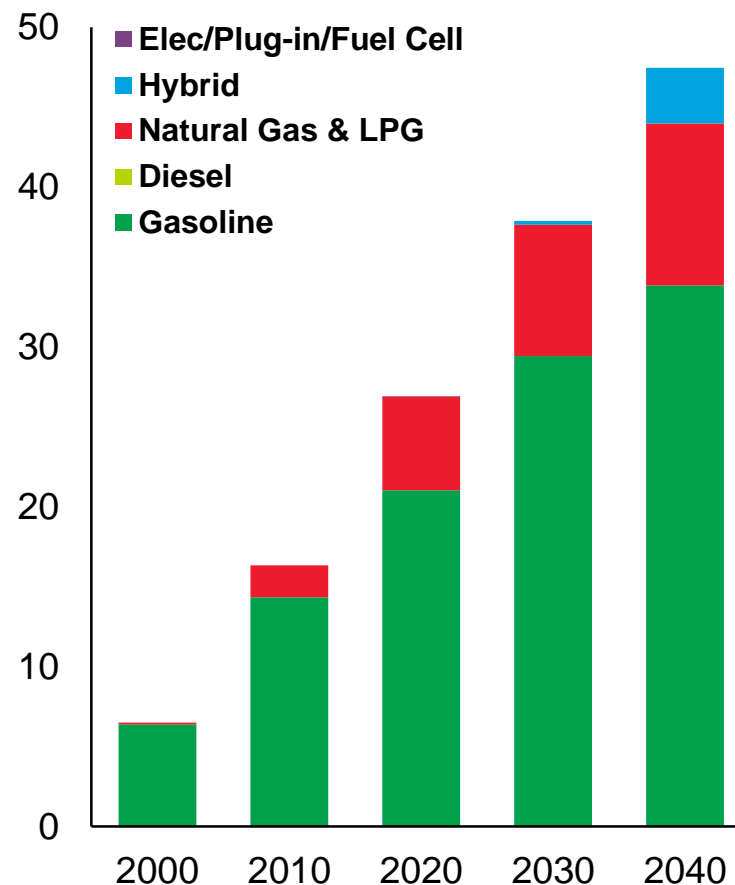
Transportation Demand

MBDOE



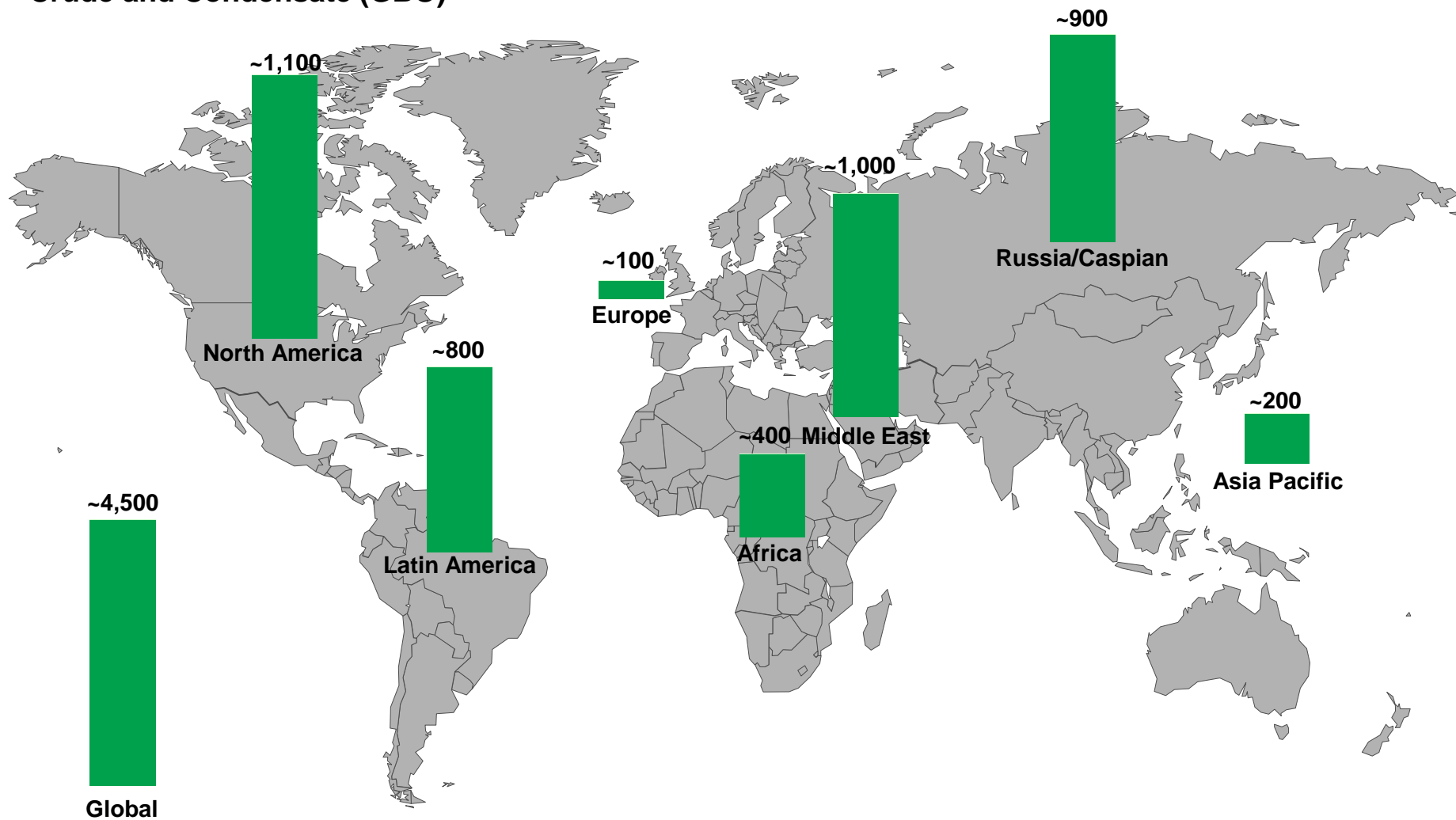
Light Duty Vehicles

Million



Remaining Oil Resource

Crude and Condensate (GBO)

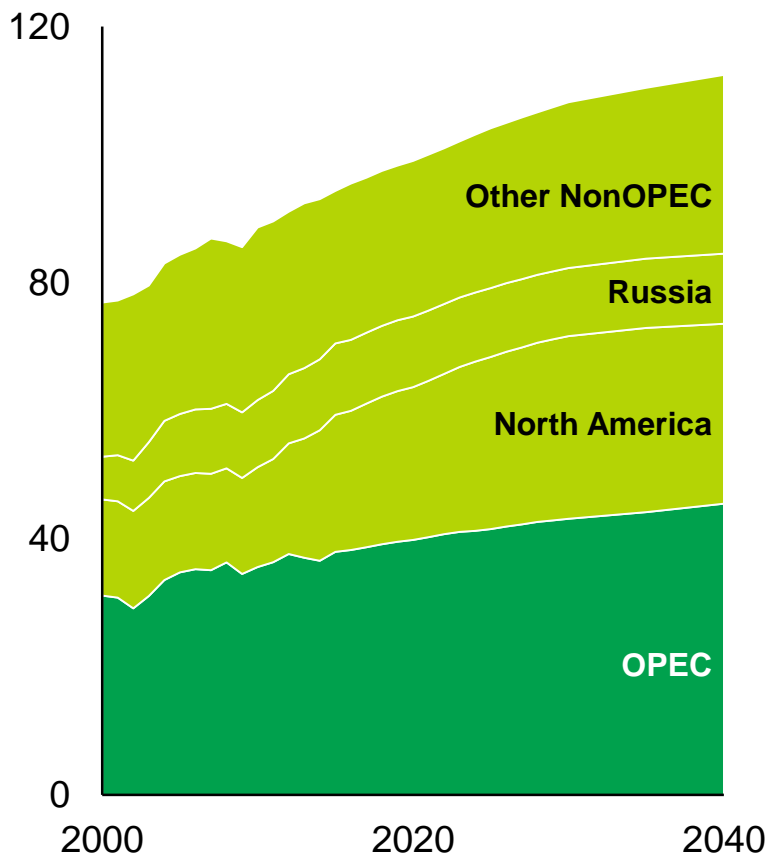


Source: IEA

Liquids Production

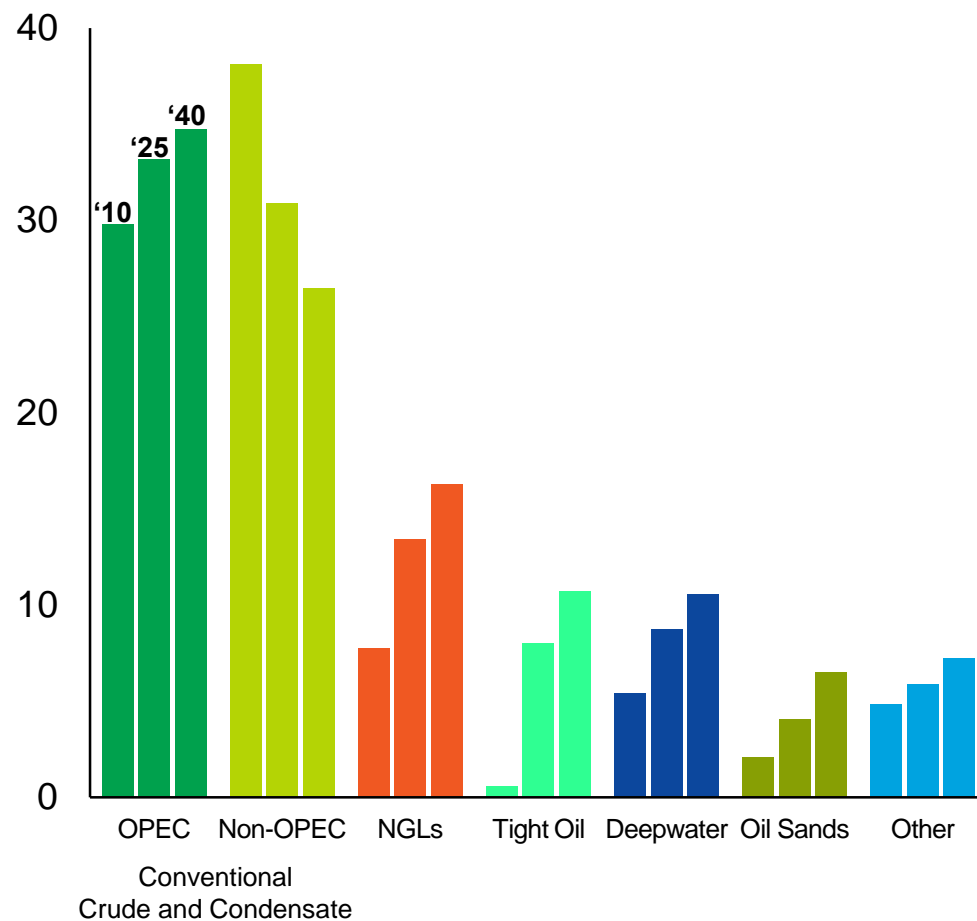
By Region

MBDOE

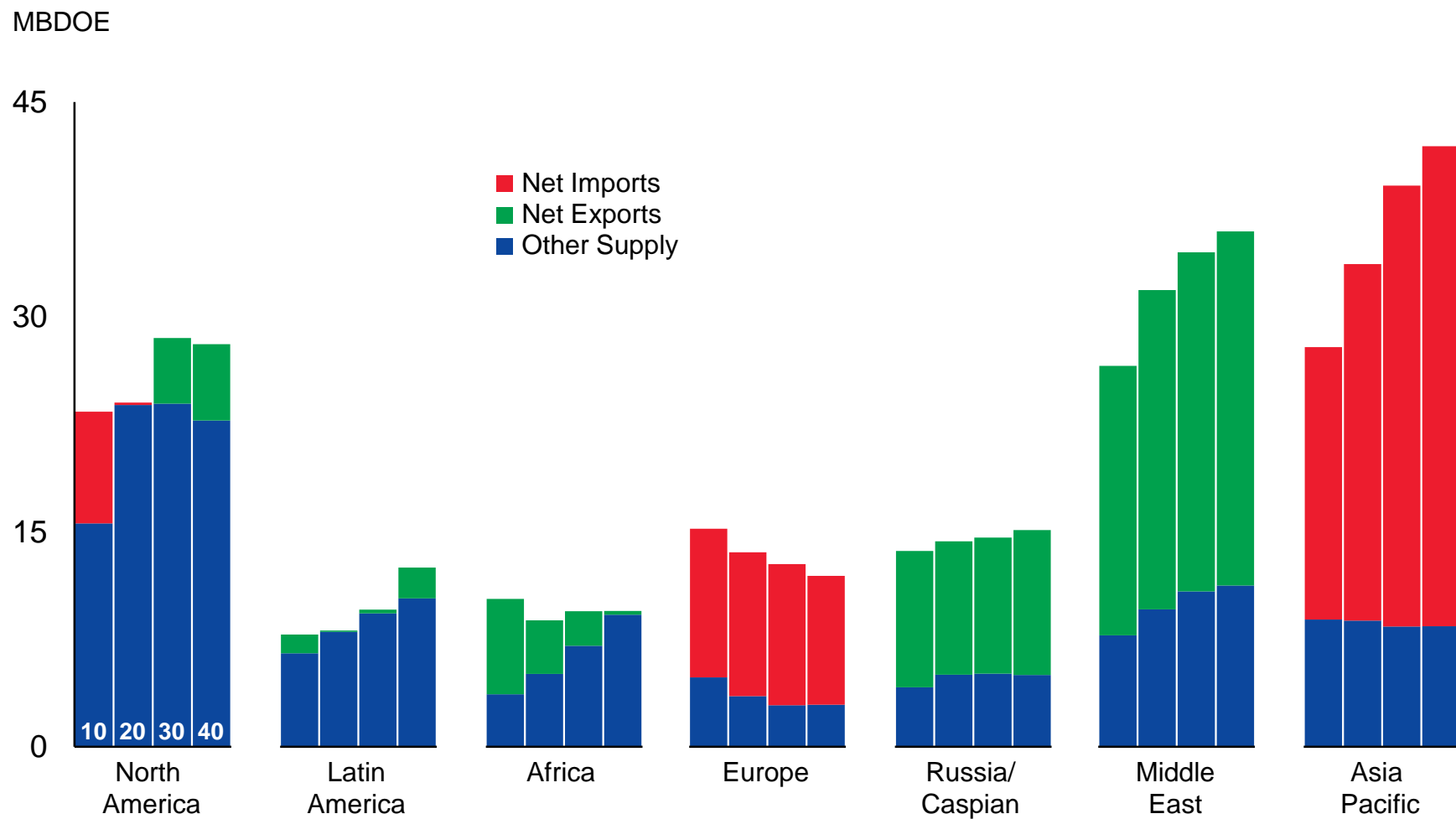


By Type

MBDOE



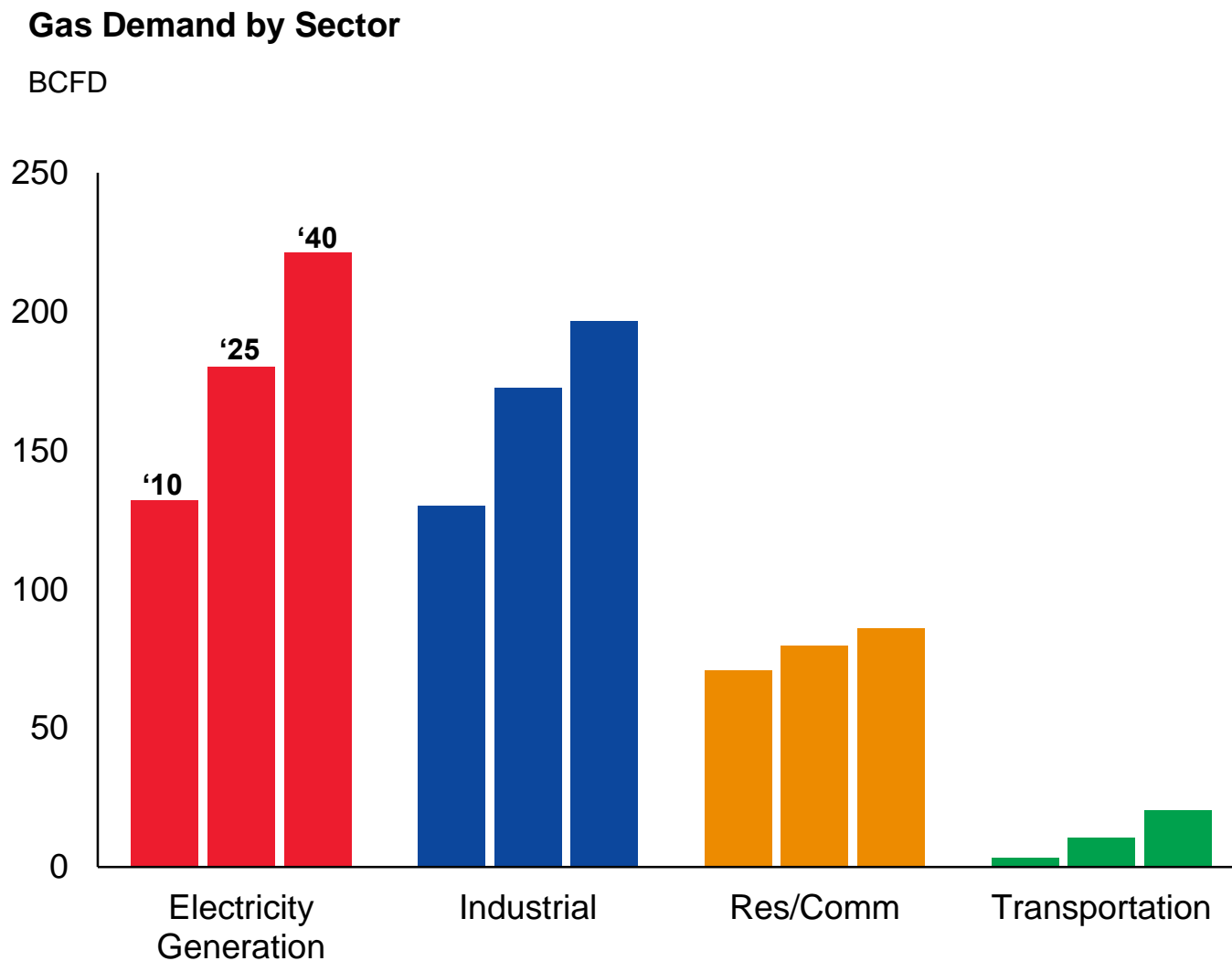
Liquids Trade Balance by Region





Natural gas grows
more than any other
energy source.

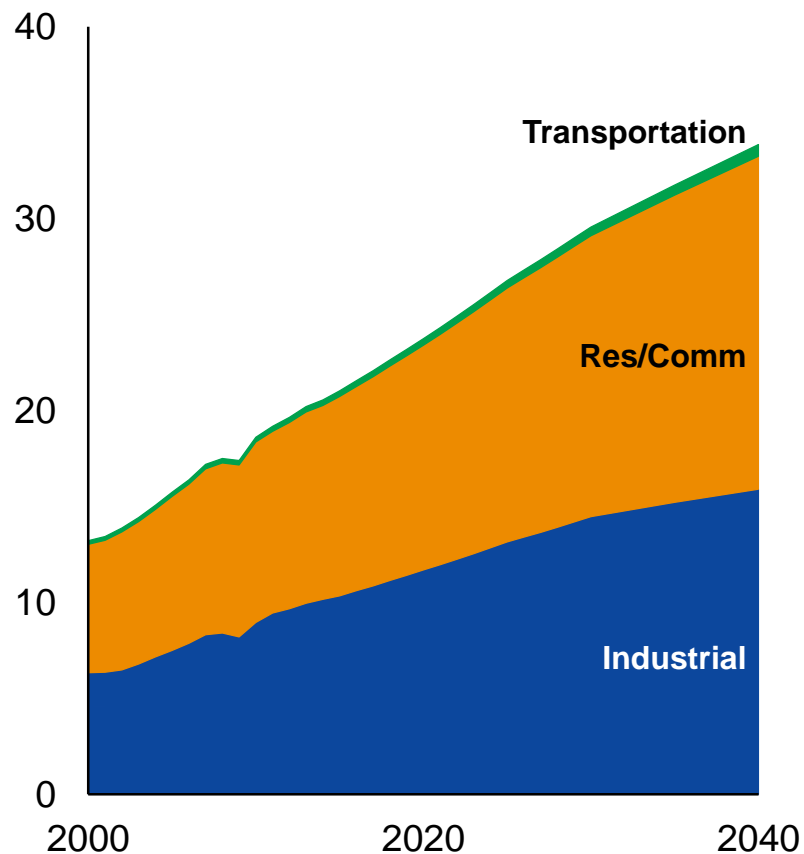
Gas Demand Grows in All Sectors



Electricity Demand Continues to Surge

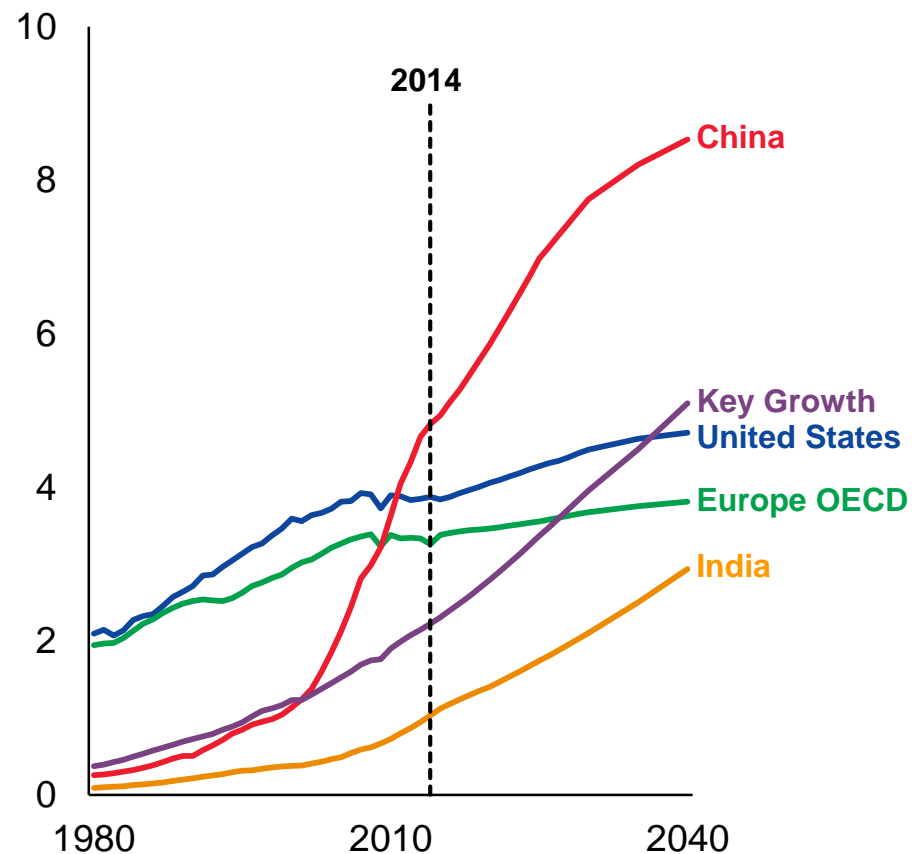
By Sector

Thousand TWh



Electricity Demand by Region

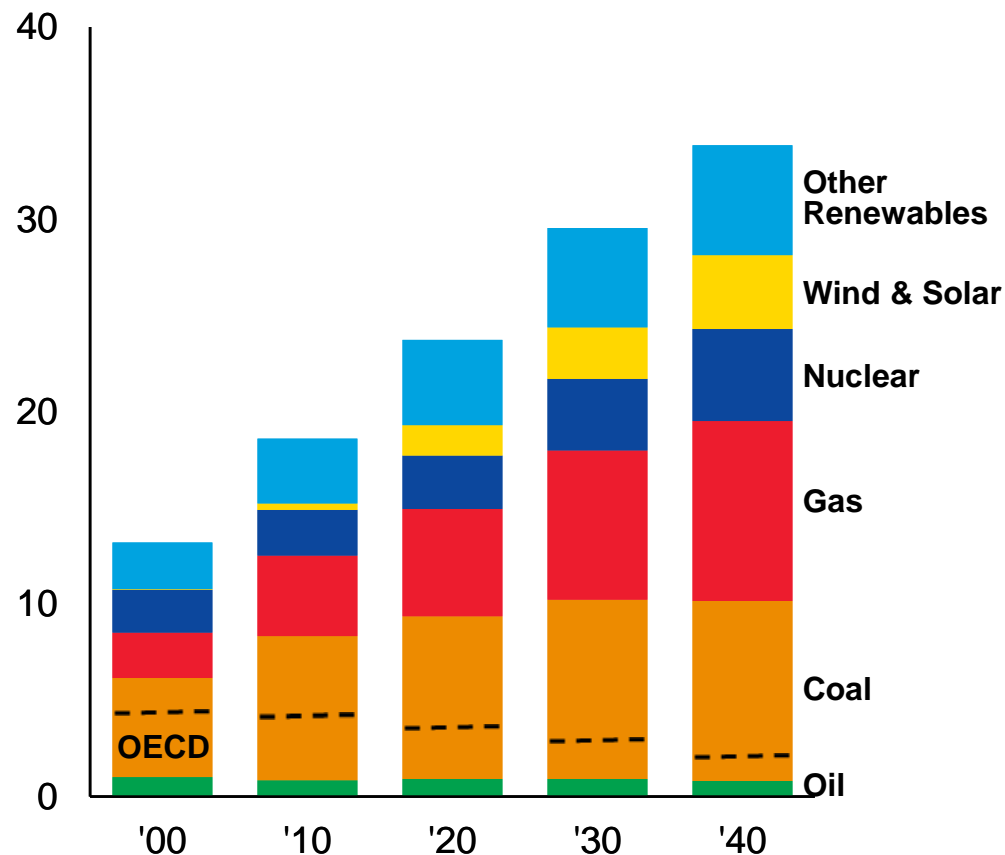
Thousand TWh



Fuel for Electricity Transitions

Electricity Delivered by Type

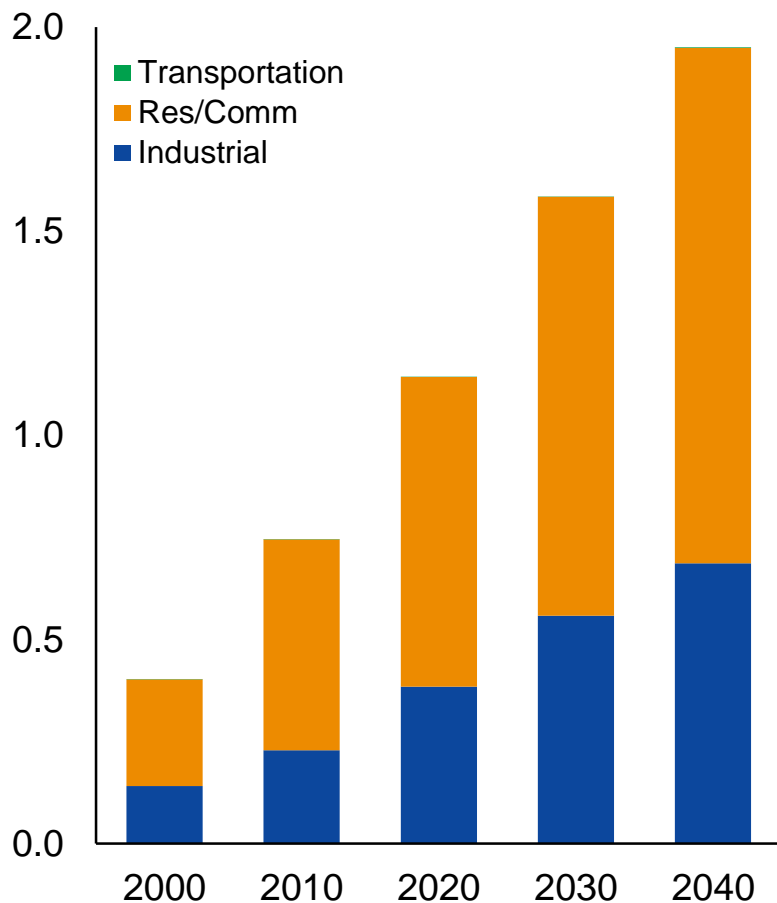
Thousand TWh



Middle East Electricity Demand

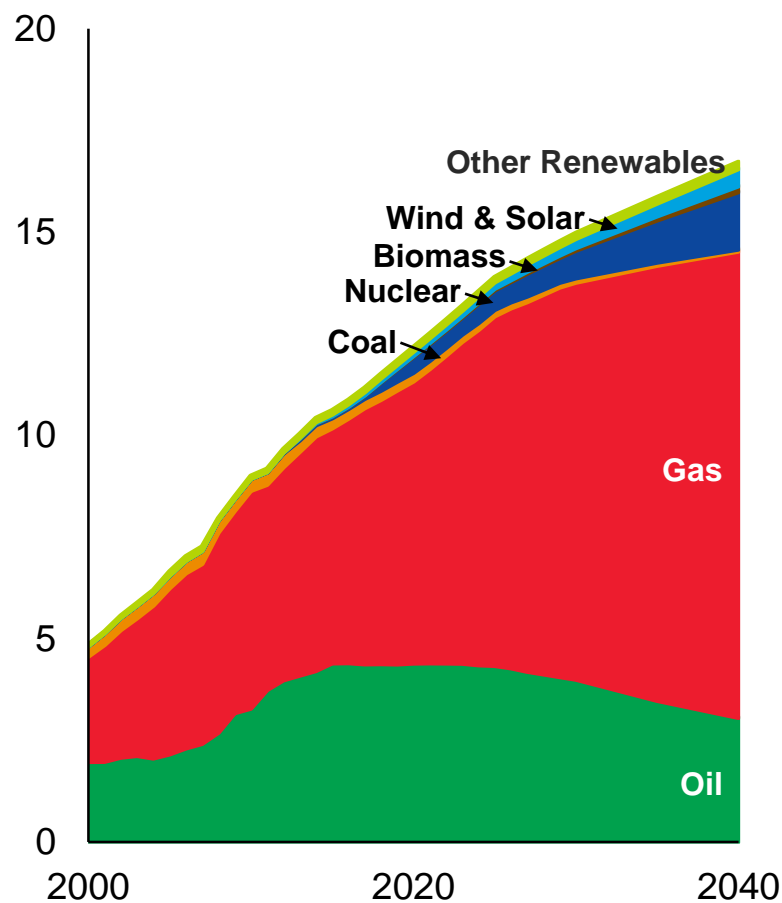
Electricity Demand

Thousand Terawatt Hour

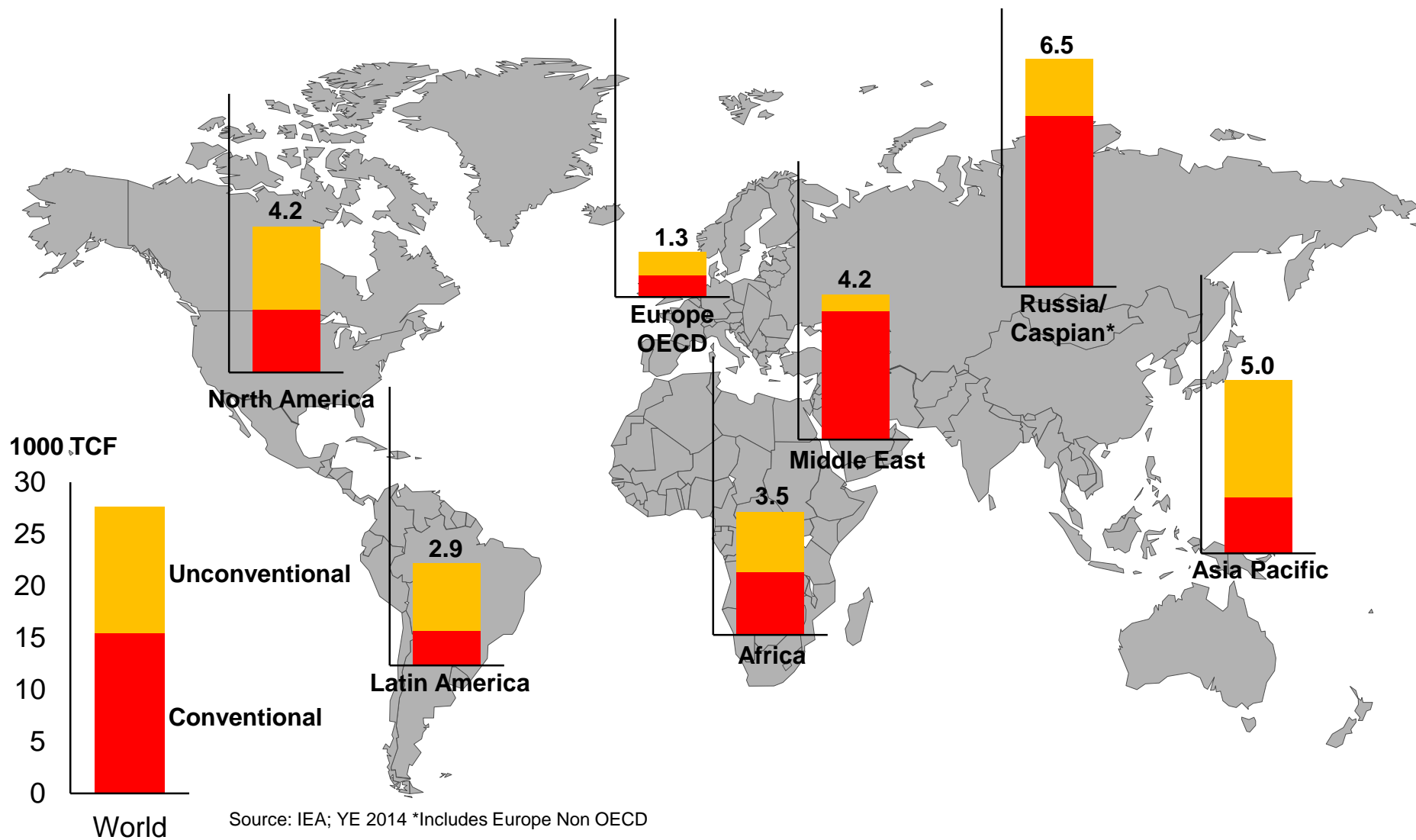


Electricity Generation Fuel Consumption

Quadrillion BTUs



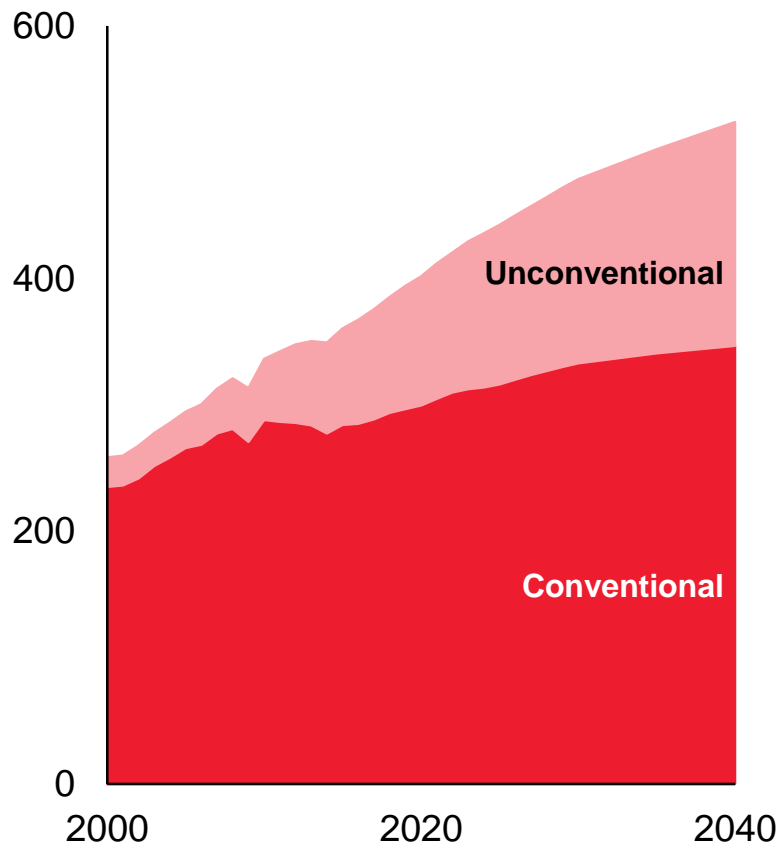
Remaining Global Gas Resource



Natural Gas Supply

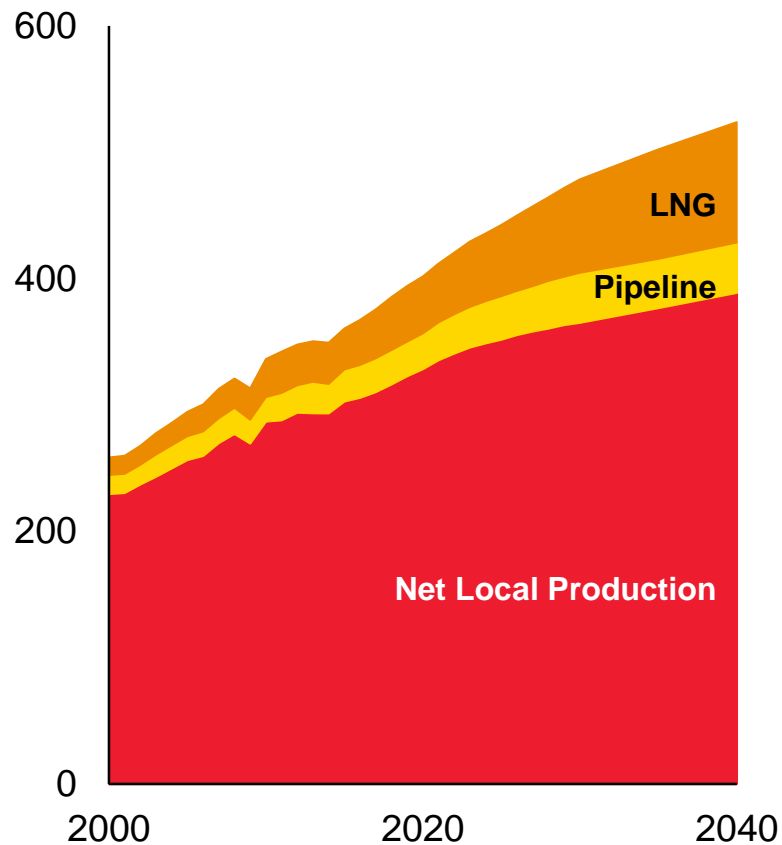
By Production Type

BCFD



By Delivery Type

BCFD

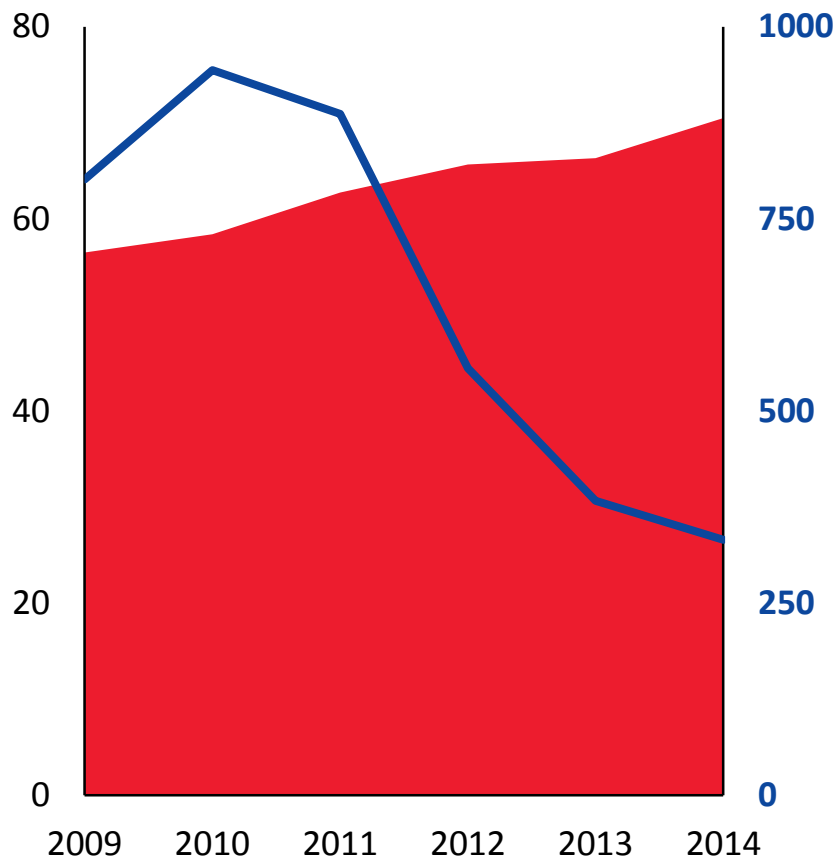


Unconventional Gas Technology

U.S. Dry Gas Production

BCFD

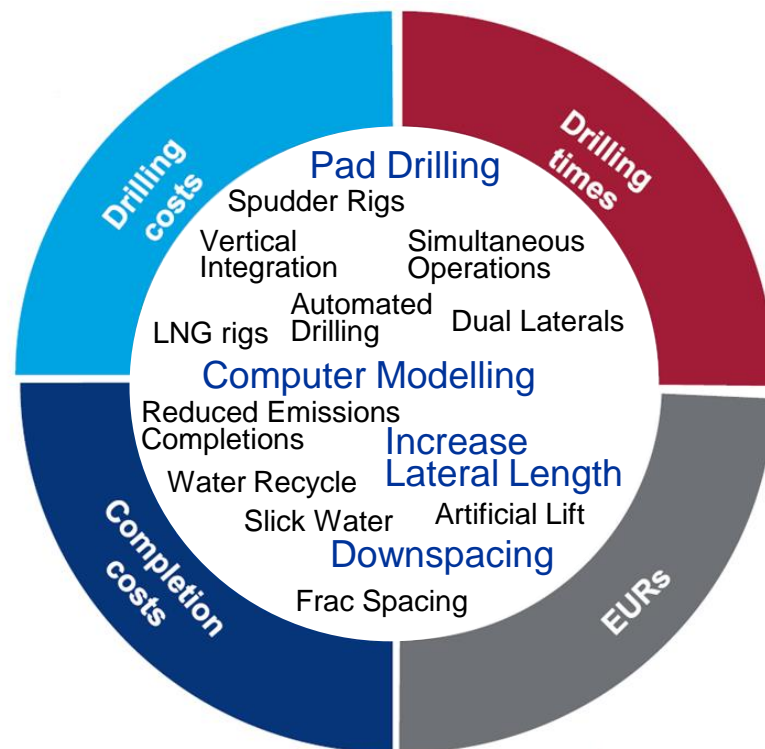
Rig Count



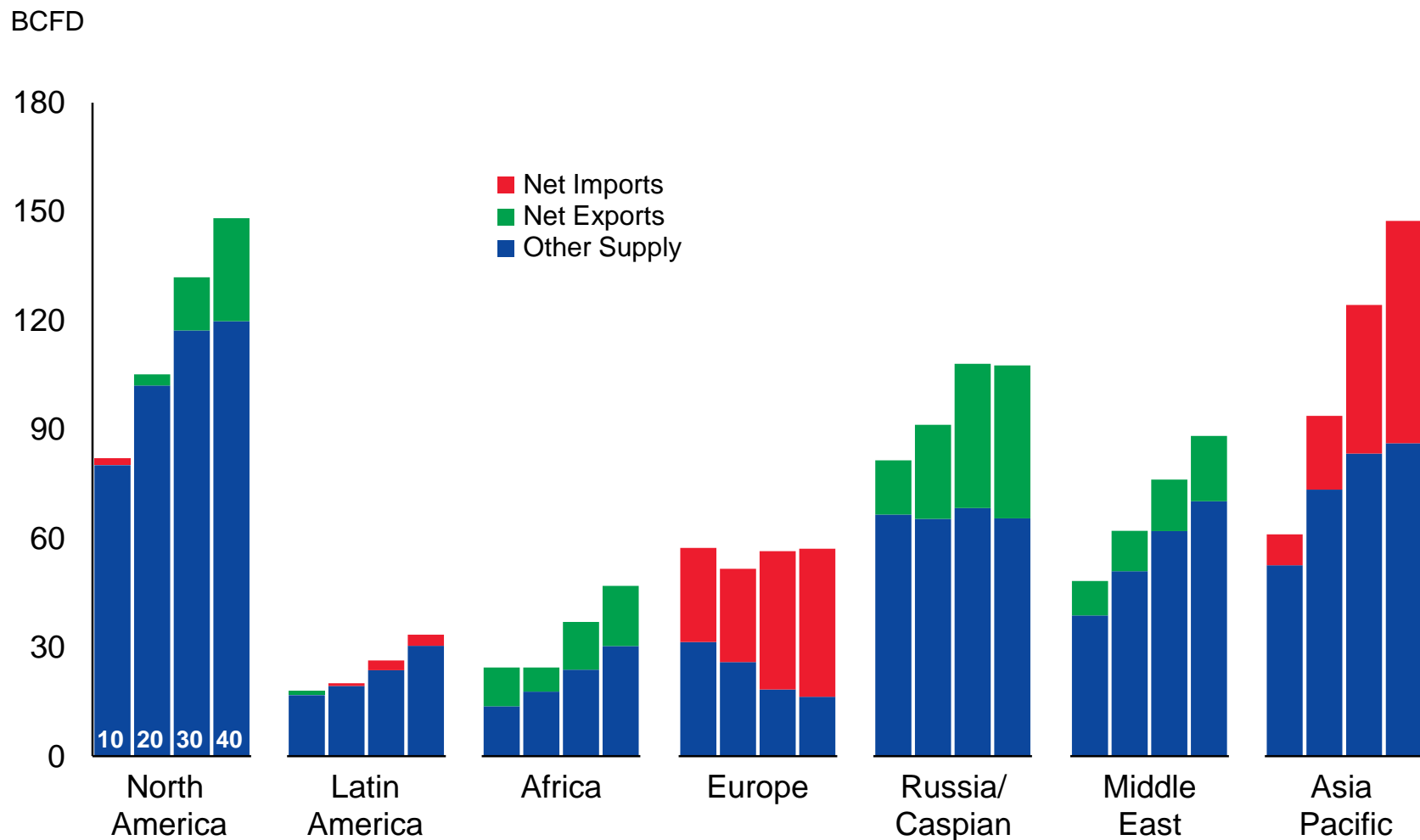
Source: Wood Mackenzie / EIA / Baker Hughes

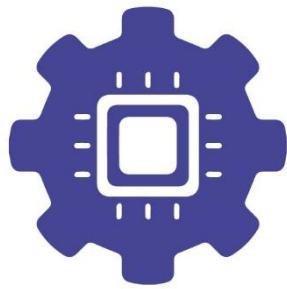
ExxonMobil

Potential Improvements via Technology



Gas Trade Balance by Region



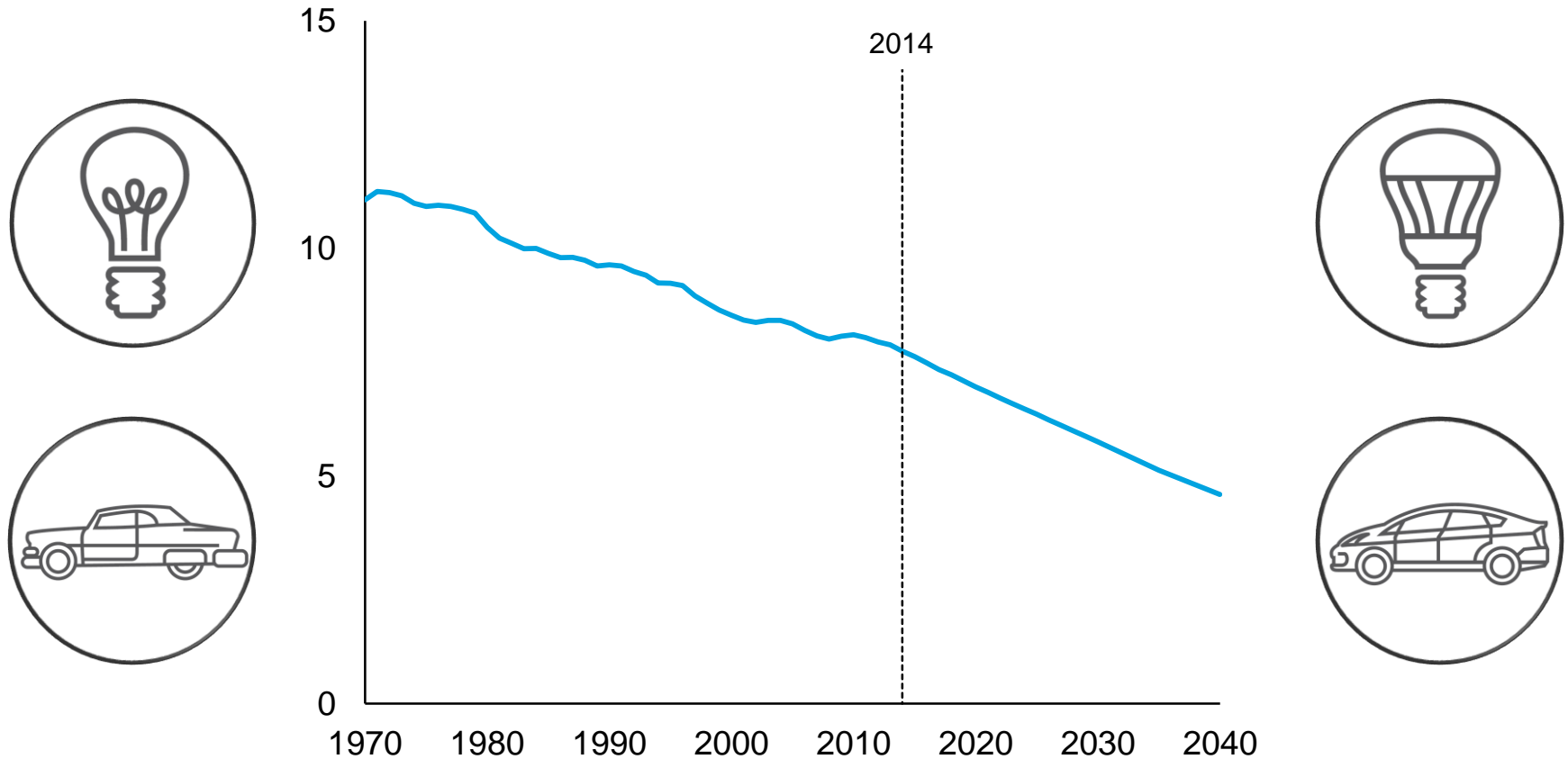


Technology has the highest potential and greatest uncertainty.

Technology Helps Us Do More With Less

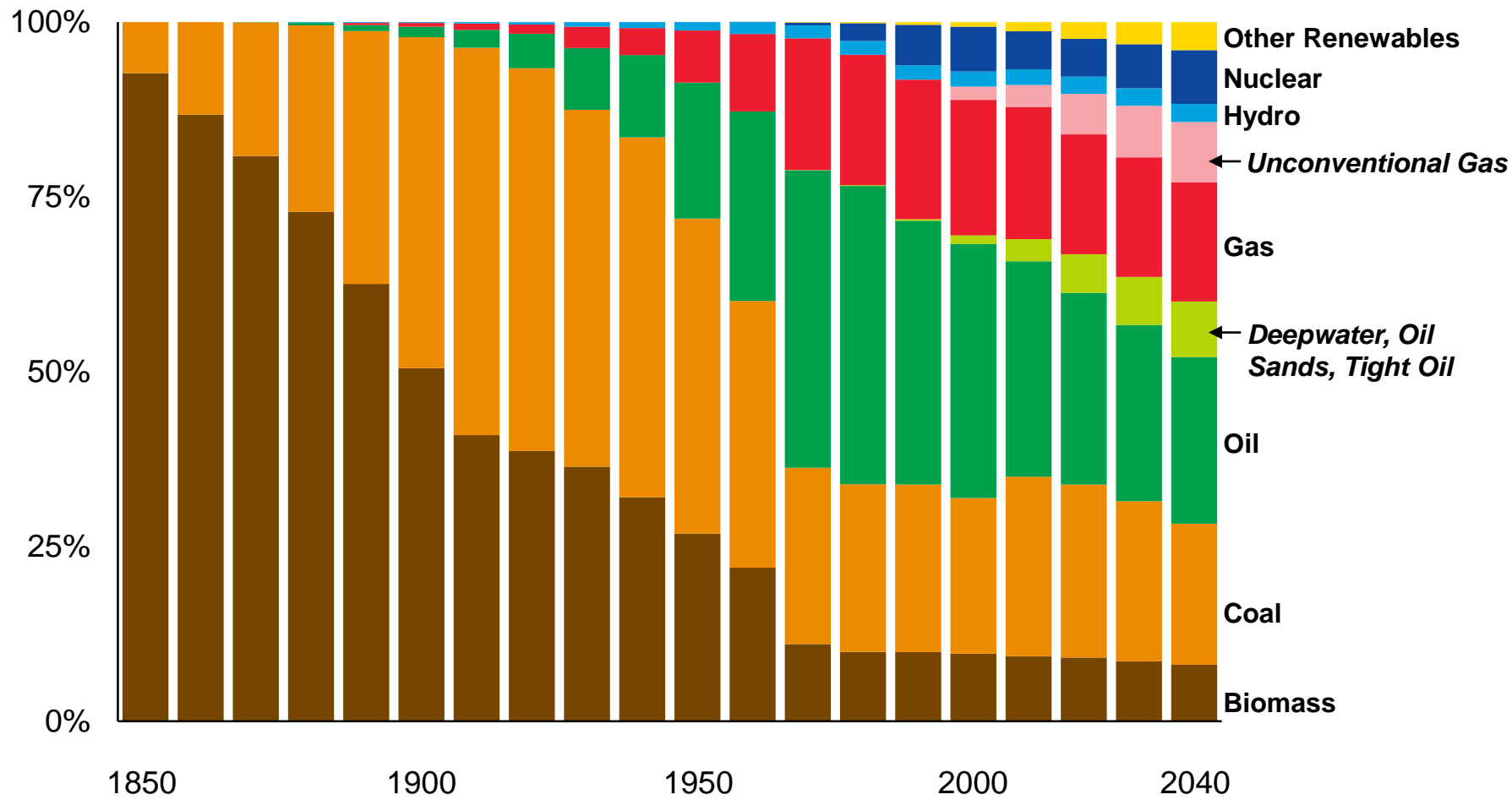
Global Average Energy Intensity

Thousand BTUs per dollar GDP (2010\$)



Technology Contributes to the Fuel Mix

Global Mix of Fuels

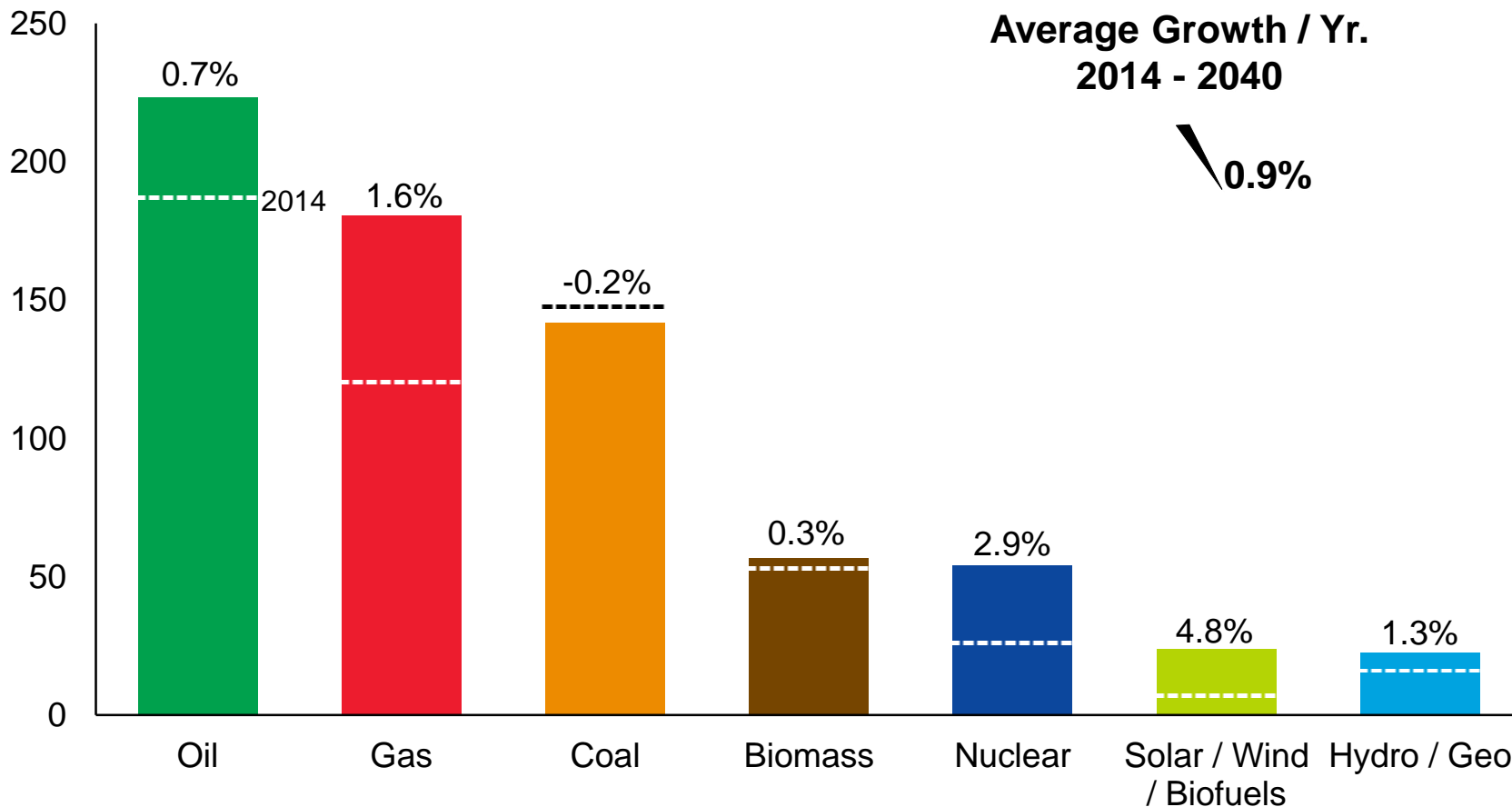


Source: Smil, *Energy Transitions (1800-1960)*

Global Demand

2040 By Fuel

Quadrillion BTUs

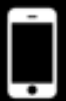




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