

# The Outlook for Energy: A View to 2040

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May 2015

This presentation includes forward-looking statements. Actual future conditions (including economic conditions, energy demand, and energy supply) could differ materially due to changes in 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](http://www.exxonmobil.com). The information provided includes ExxonMobil's internal estimates and forecasts based upon internal data and analyses as well as publicly-available information from external sources including the International Energy Agency. This material is not to be used or reproduced without the permission of Exxon Mobil Corporation. All rights reserved.



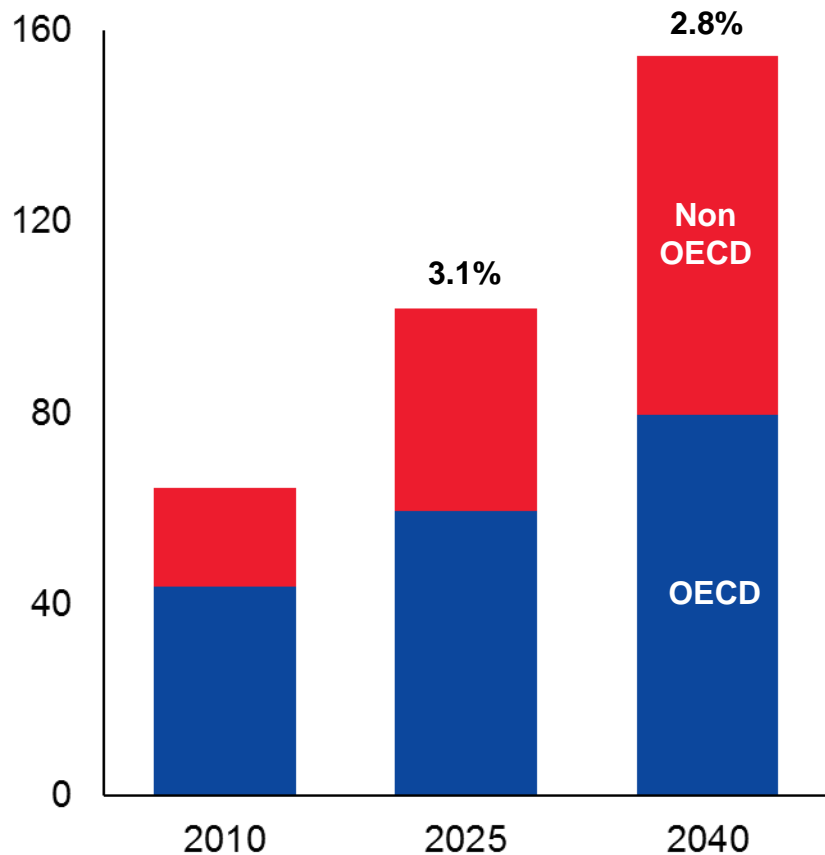
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# GDP Growth Varies By Region

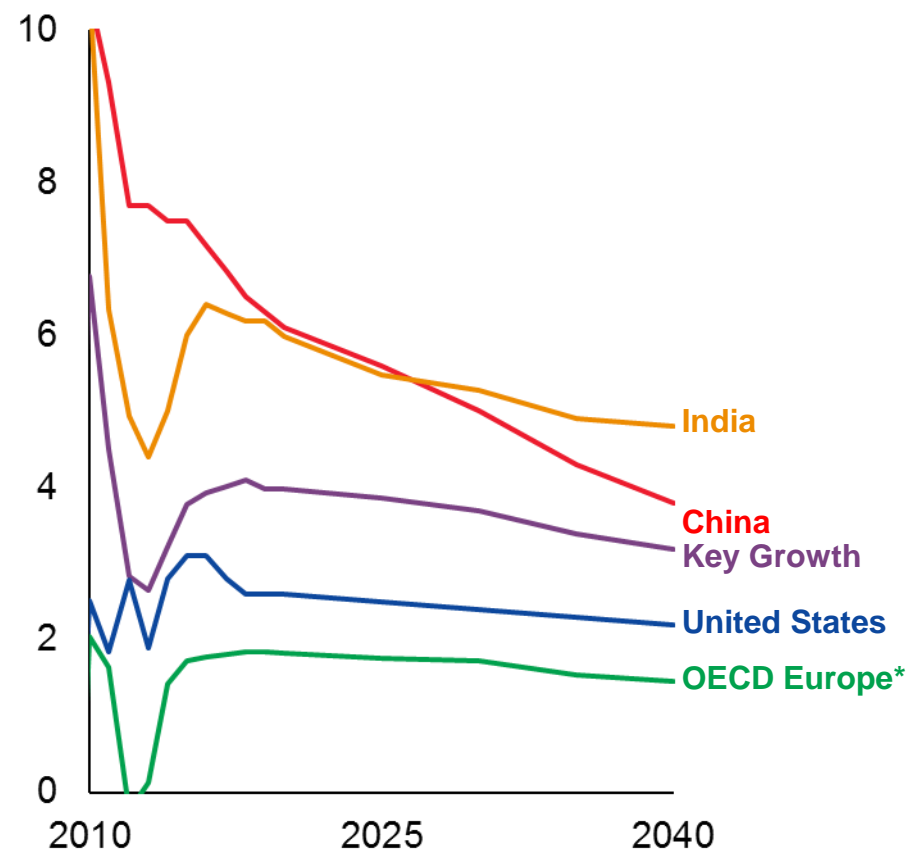
## World GDP by Region

Trillion 2010\$



## GDP Growth Rate

Y/Y Percent

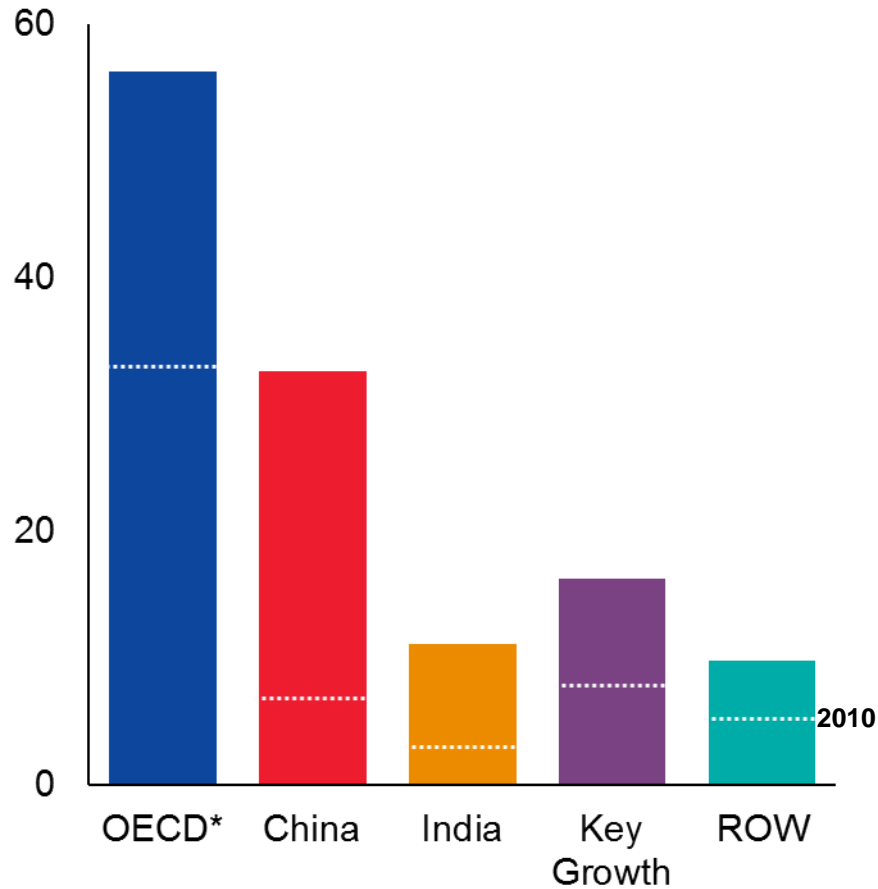


\*Turkey included in Key Growth countries

# Standards of Living Increase in the Non OECD

## 2040 GDP per Capita

PPP 2005\$k



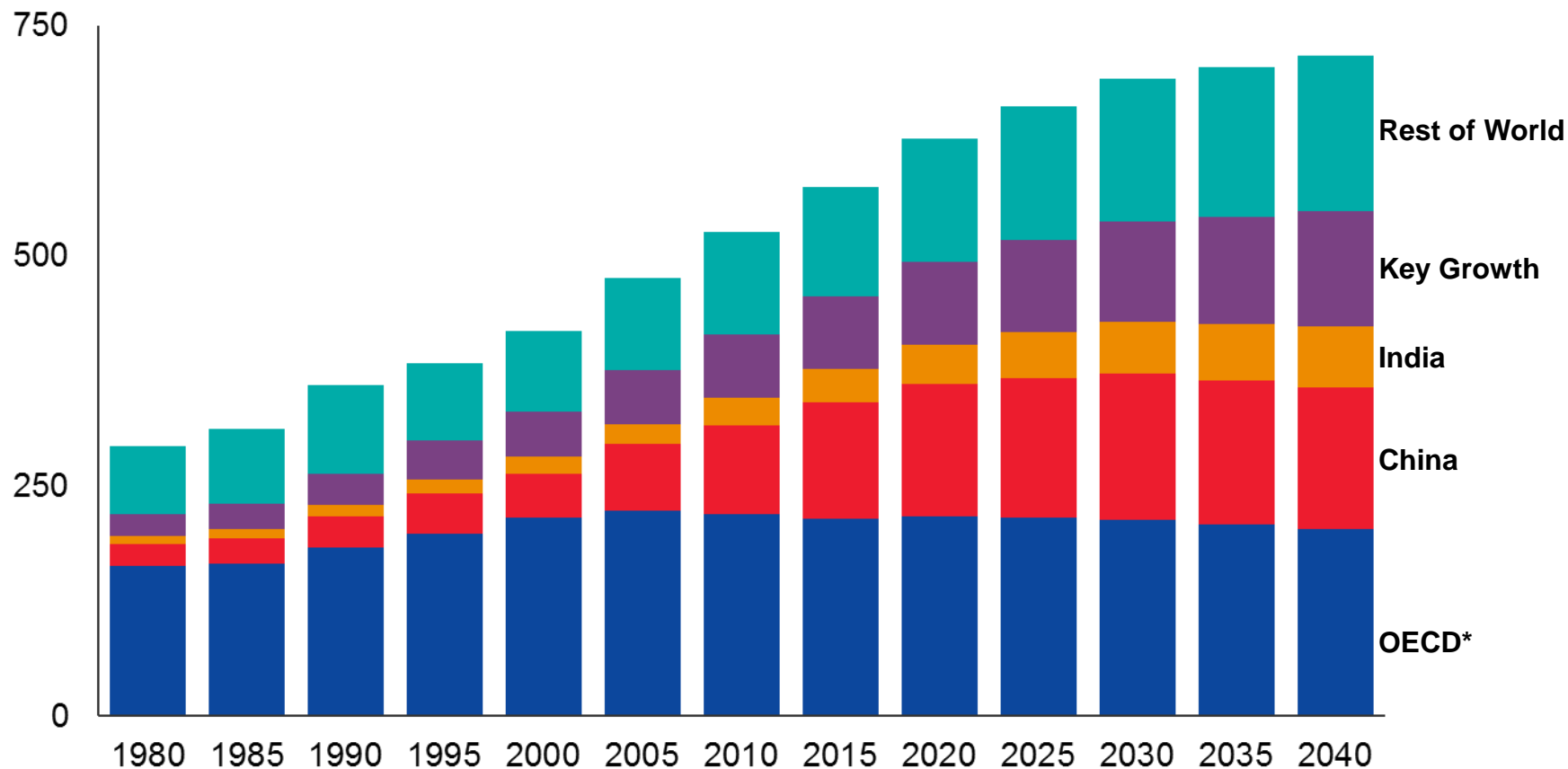
\*Mexico and Turkey included in Key Growth countries



# Developing Economies Dominate Growth

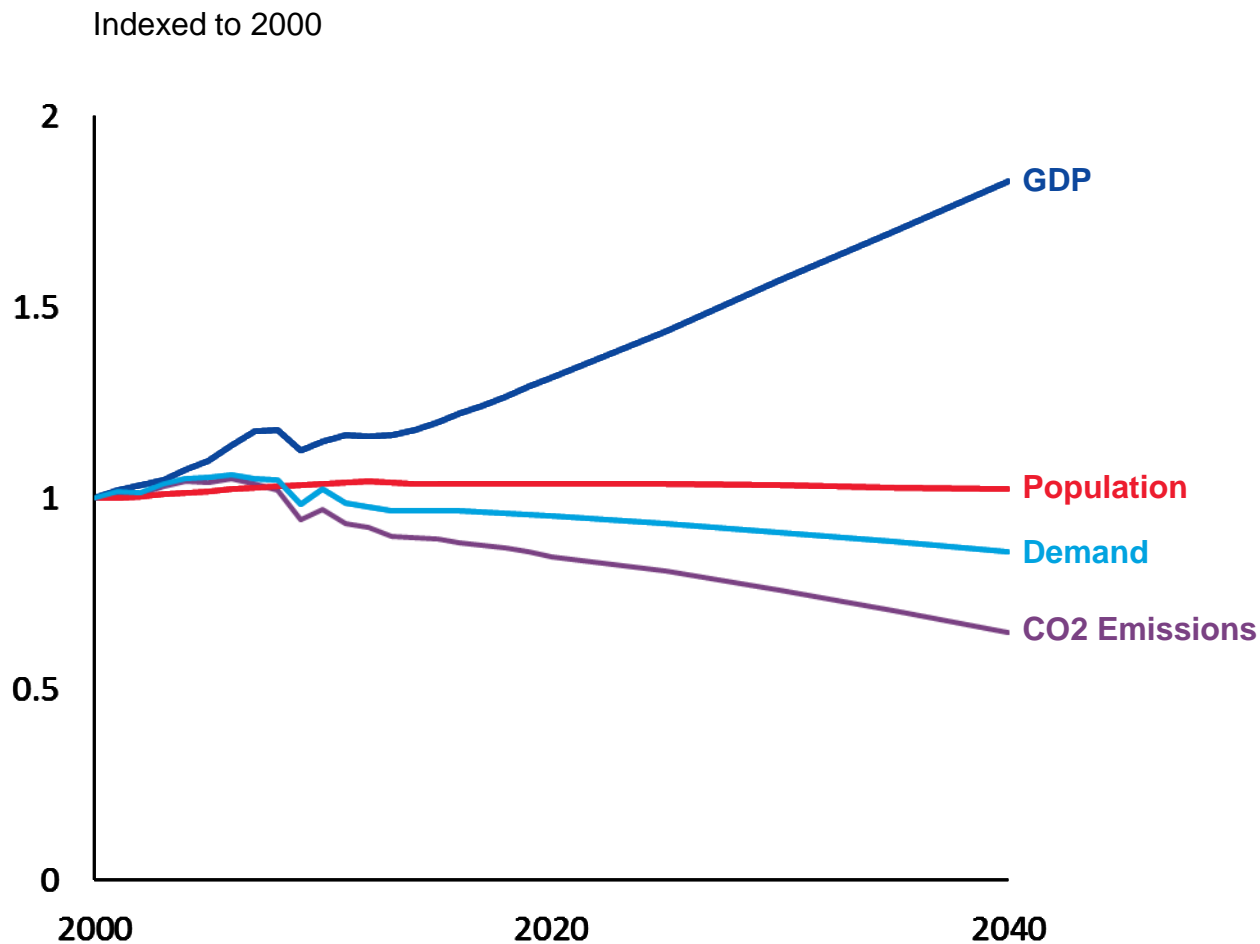
## Demand by Region

Quadrillion BTUs



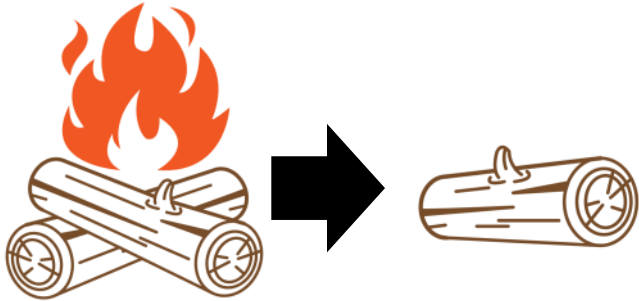
*\*Mexico and Turkey included in Key Growth countries*

# European Union Energy Trends





# Energy Measures and Units



**1 log ~ 24,500 BTU**



**1 liter petrol ~ 1.3 logs**



**1 liter petrol ~ 10 kWh**  
**3,500 AA batteries**  
**1,100 smart phone batteries**

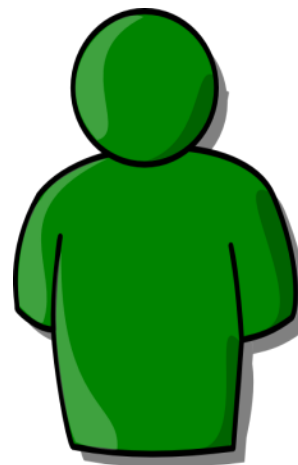
# 2010 World Daily Energy Demand



**OECD Per Capita**

**21** 

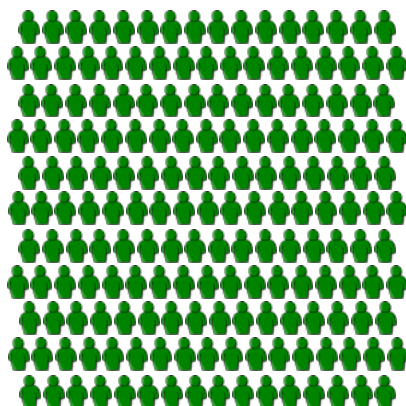
**15** 



**World Per Capita**

**9** 

**6.4** 



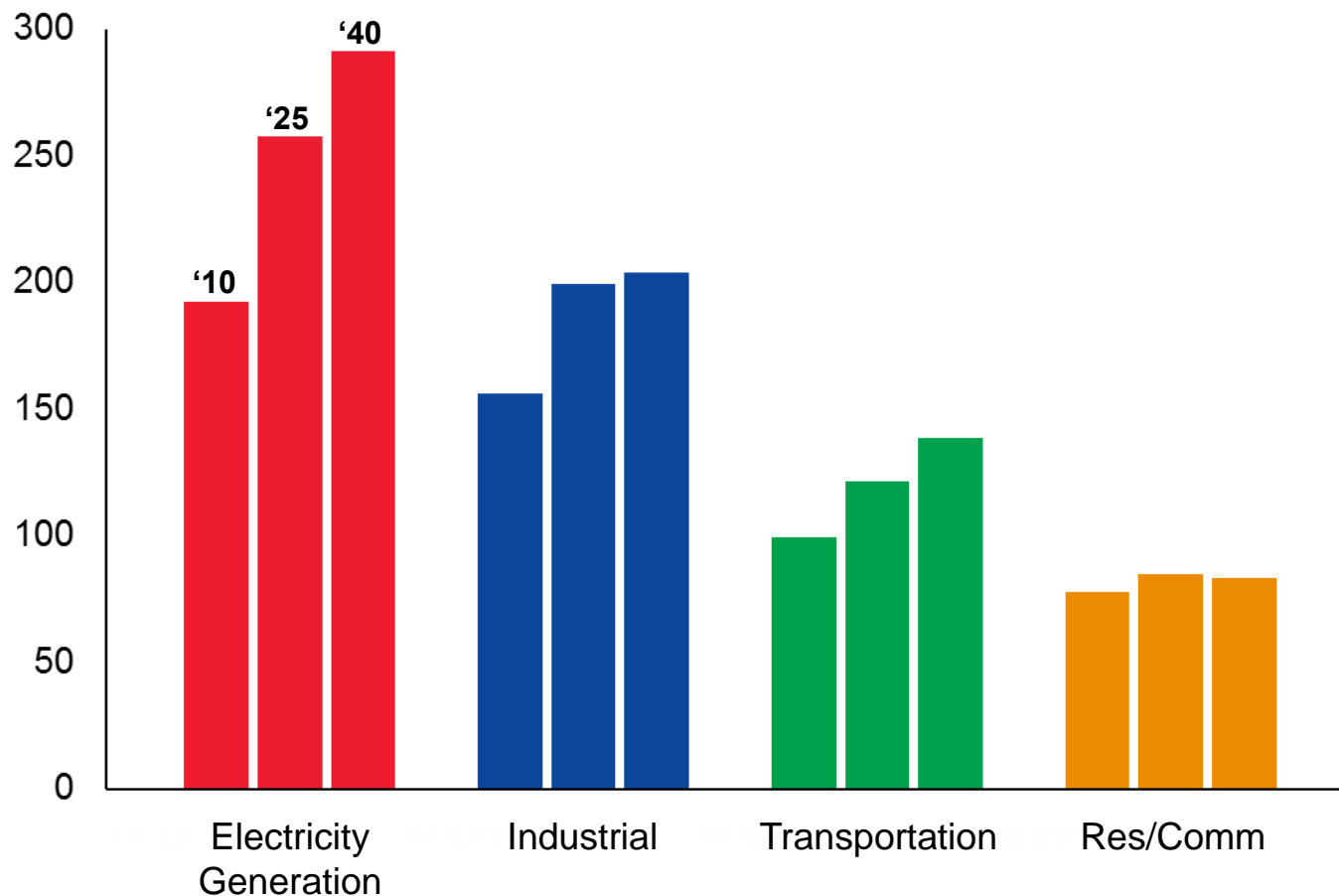
**Times 7 billion people =  
~44 billion liters per day**

**260 MBDOE  
525 QUADS**

# Electricity Generation Leads Growth

## Primary Energy Demand by Sector

Quadrillion BTUs

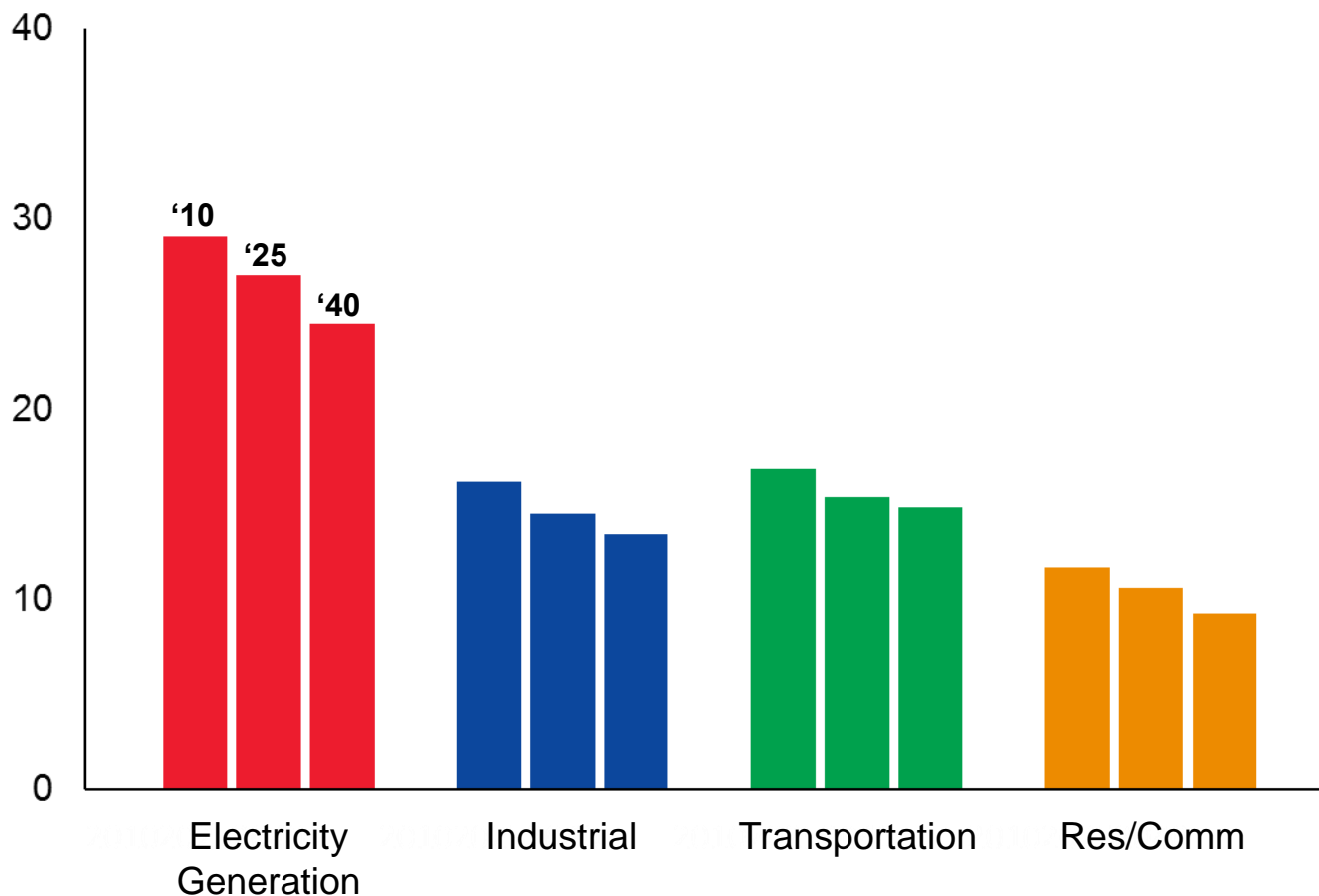




# European Union Energy Demand

## Primary Energy Demand by Sector

Quadrillion BTUs



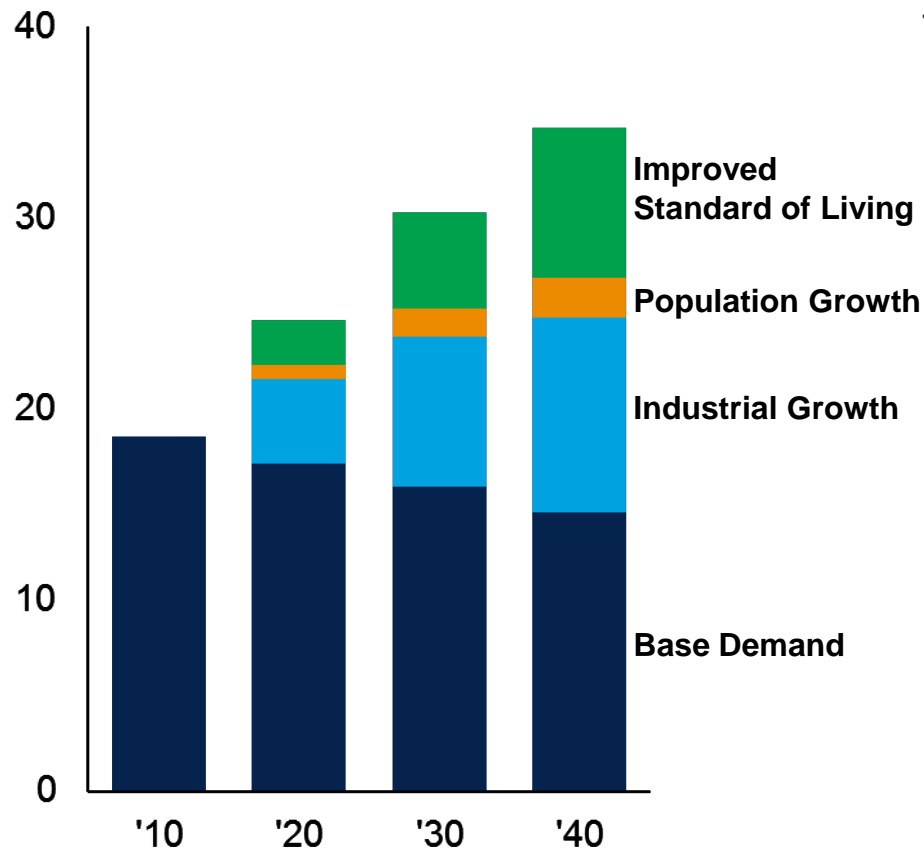
# Electricity Generation



# Electricity Demand

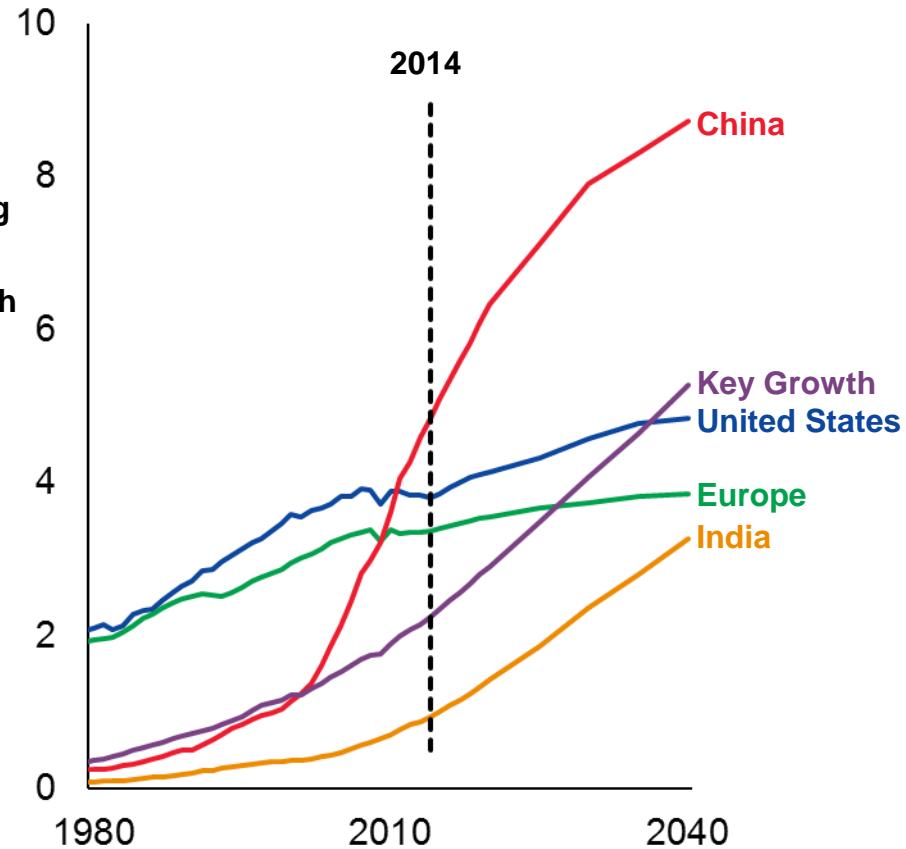
## Electricity Demand

Thousand TWh



## Electricity Demand by Region

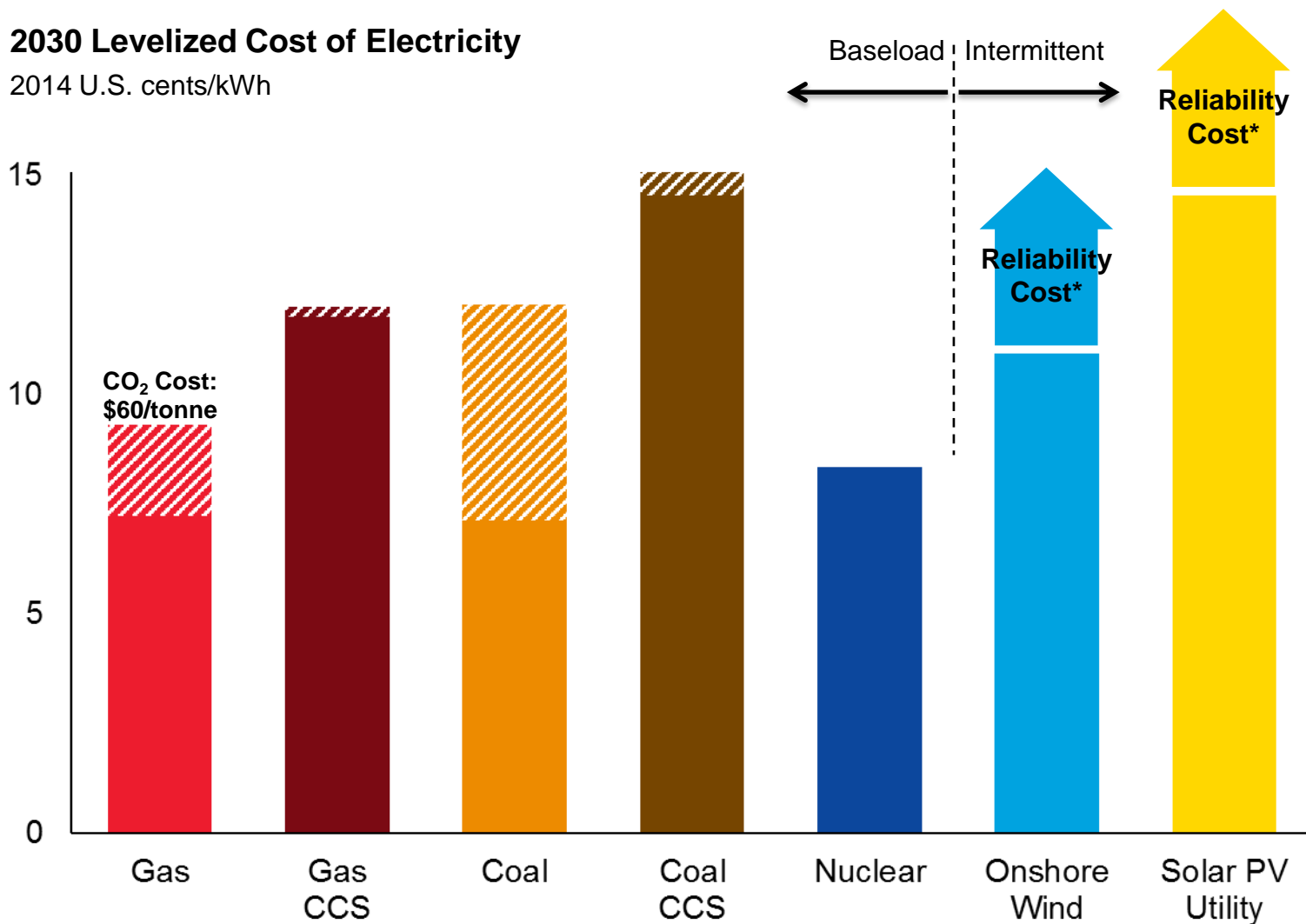
Thousand TWh



# Economic Choices for Europe Electricity

## 2030 Levelized Cost of Electricity

2014 U.S. cents/kWh

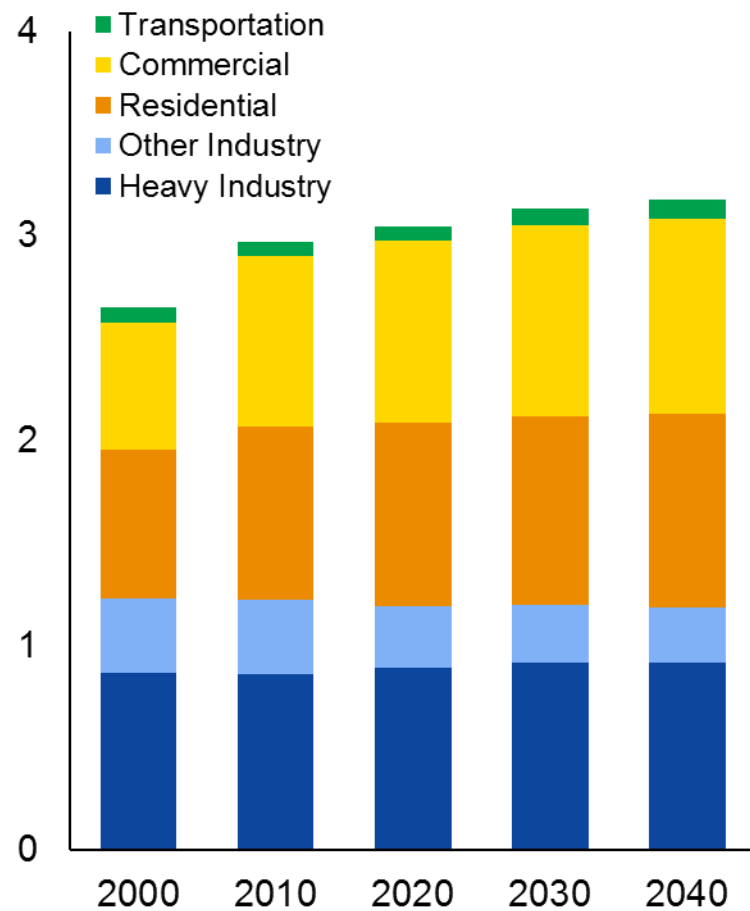


\*Reliability cost includes integration, backup capacity and additional transmission costs.

# European Union Electricity Demand

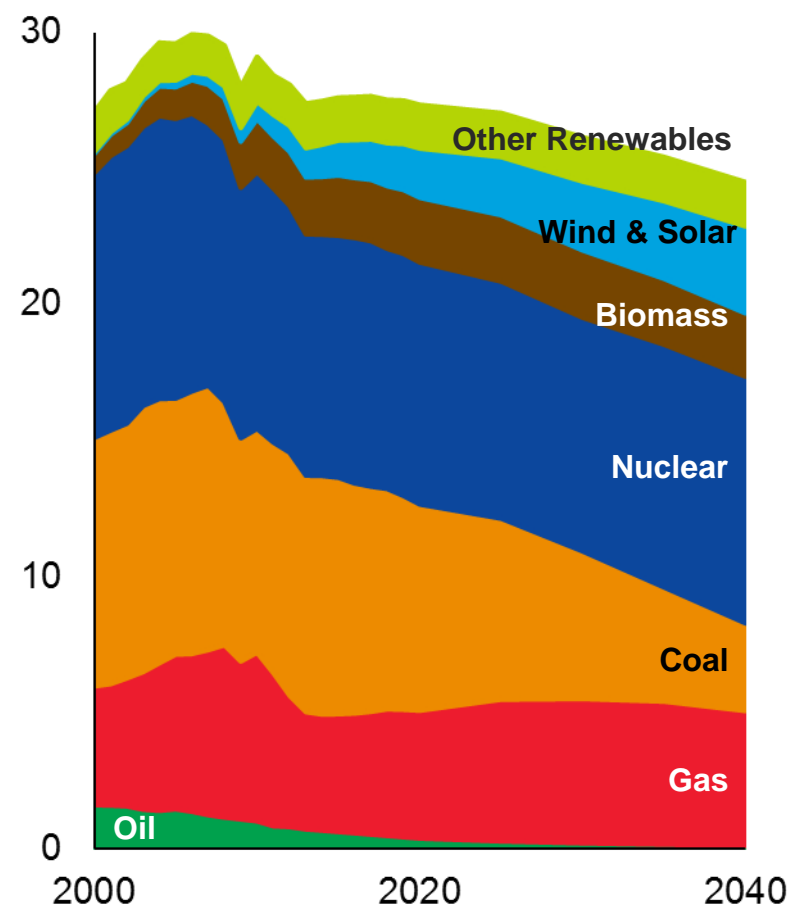
## Electricity Demand

Thousand Terawatt Hour



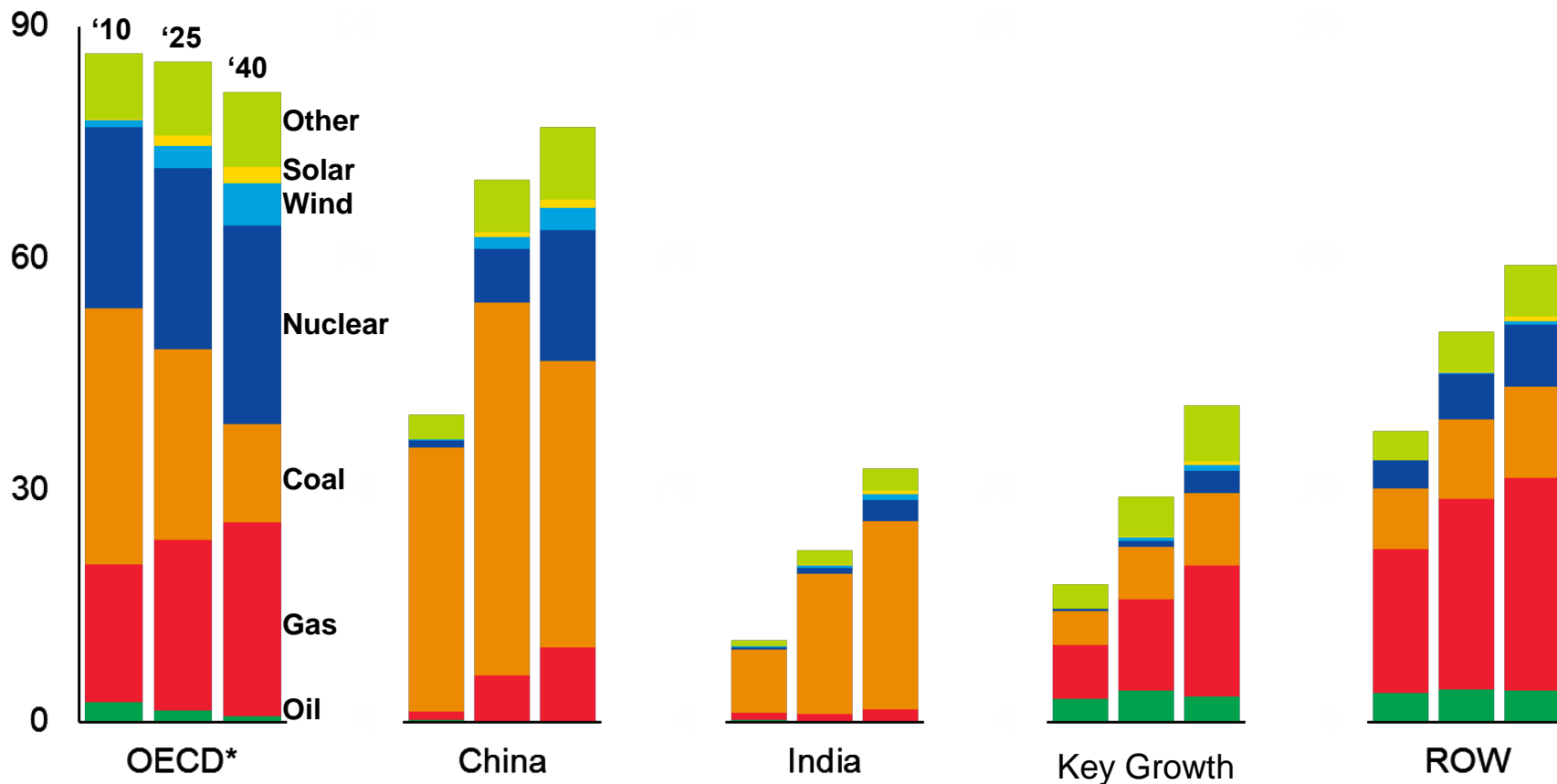
## Electricity Generation Fuel Consumption

Quadrillion BTUs



# Electricity Generation Fuel by Region

Quadrillion BTUs



\*Mexico and Turkey included in Key Growth countries



# Transportation

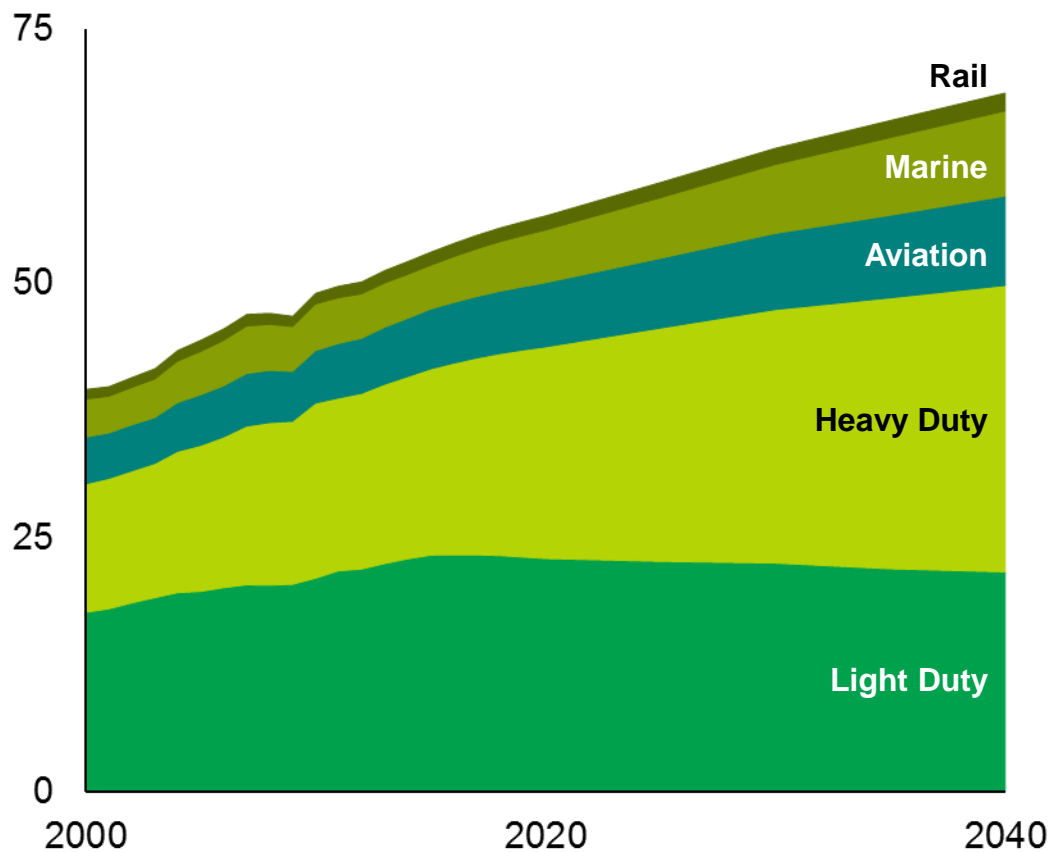




# Transportation Demand

## Sector Demand

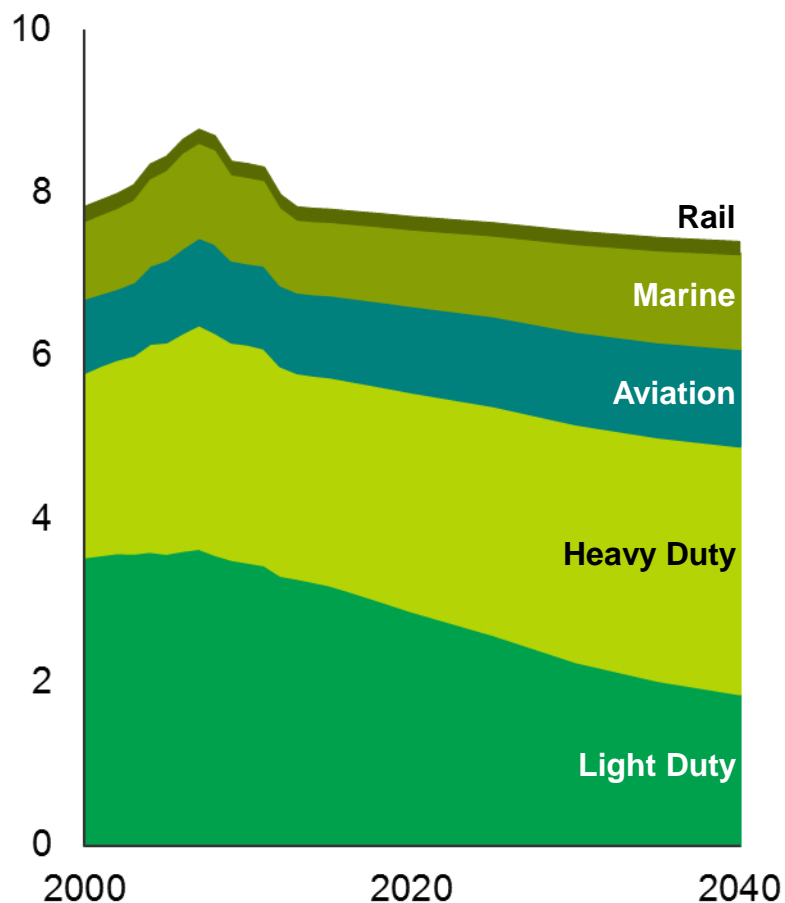
MBDOE



# EU Transportation Demand & Fleet Shift

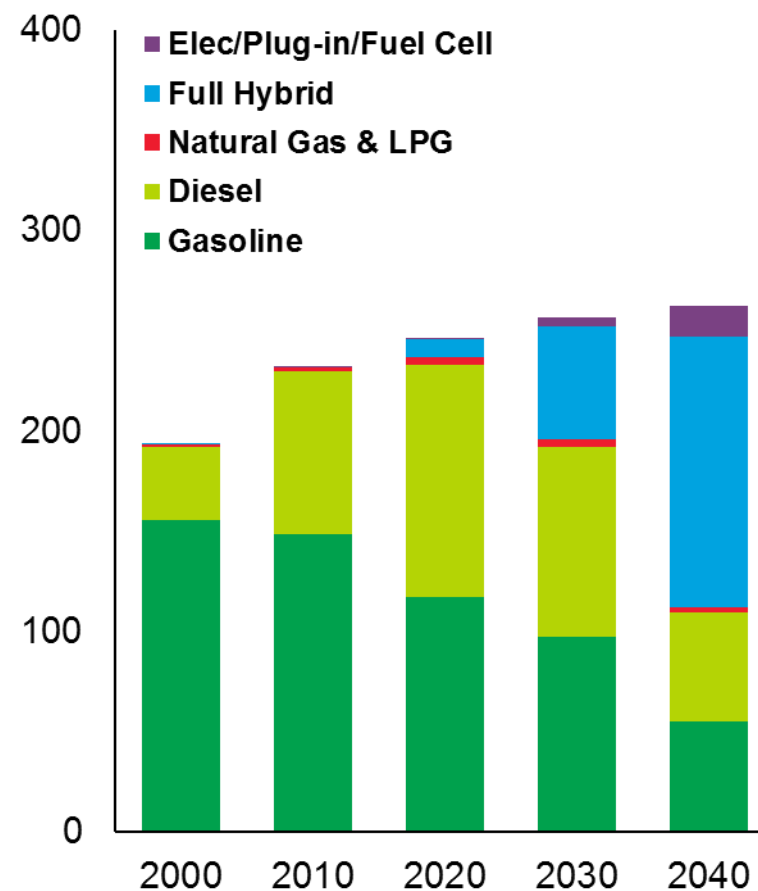
## Transportation Demand

MBDOE



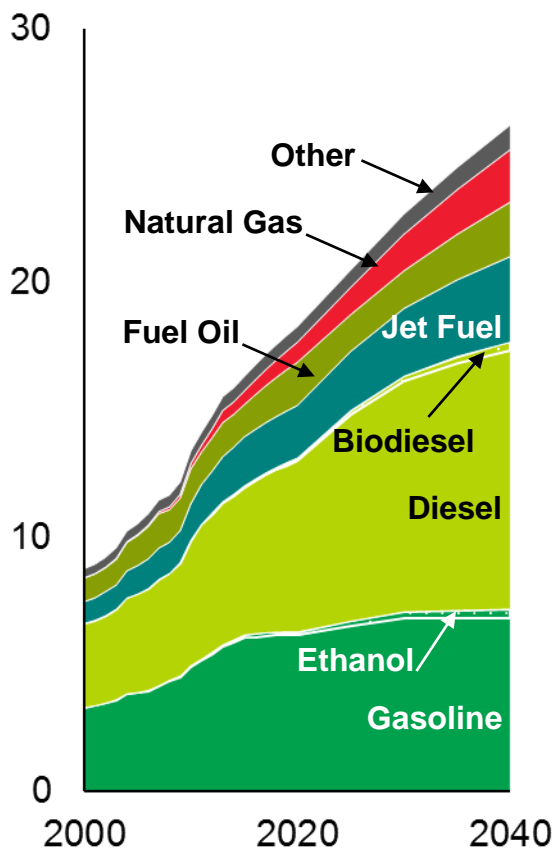
## Light Duty Vehicles

Million

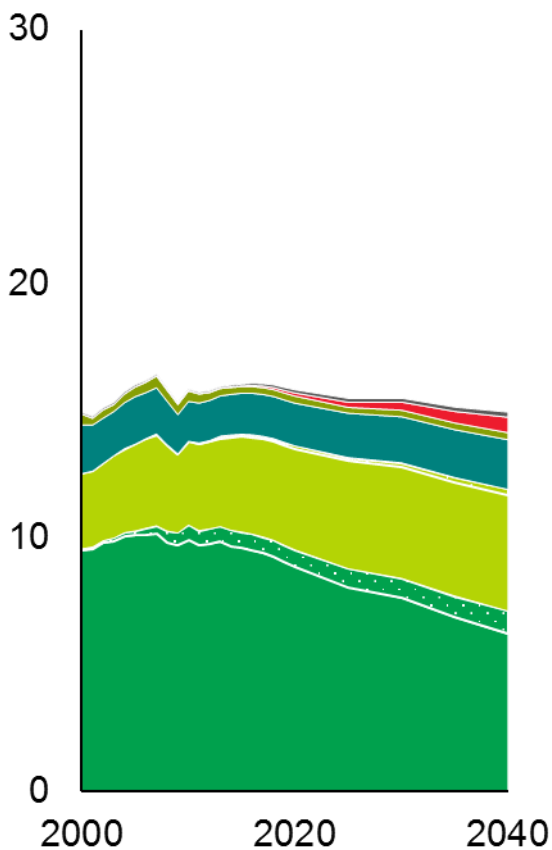


# Transportation Fuel Mix by Region

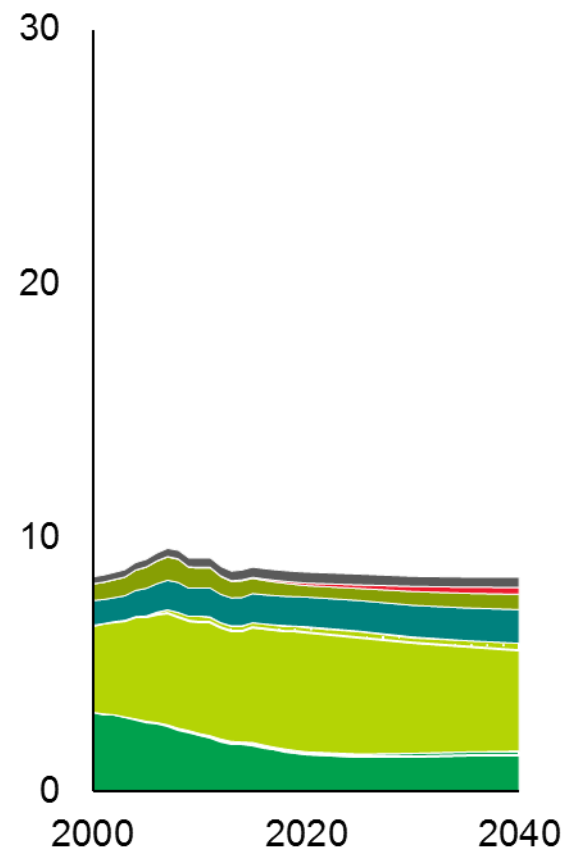
**Asia Pacific**  
MBDOE



**North America**  
MBDOE



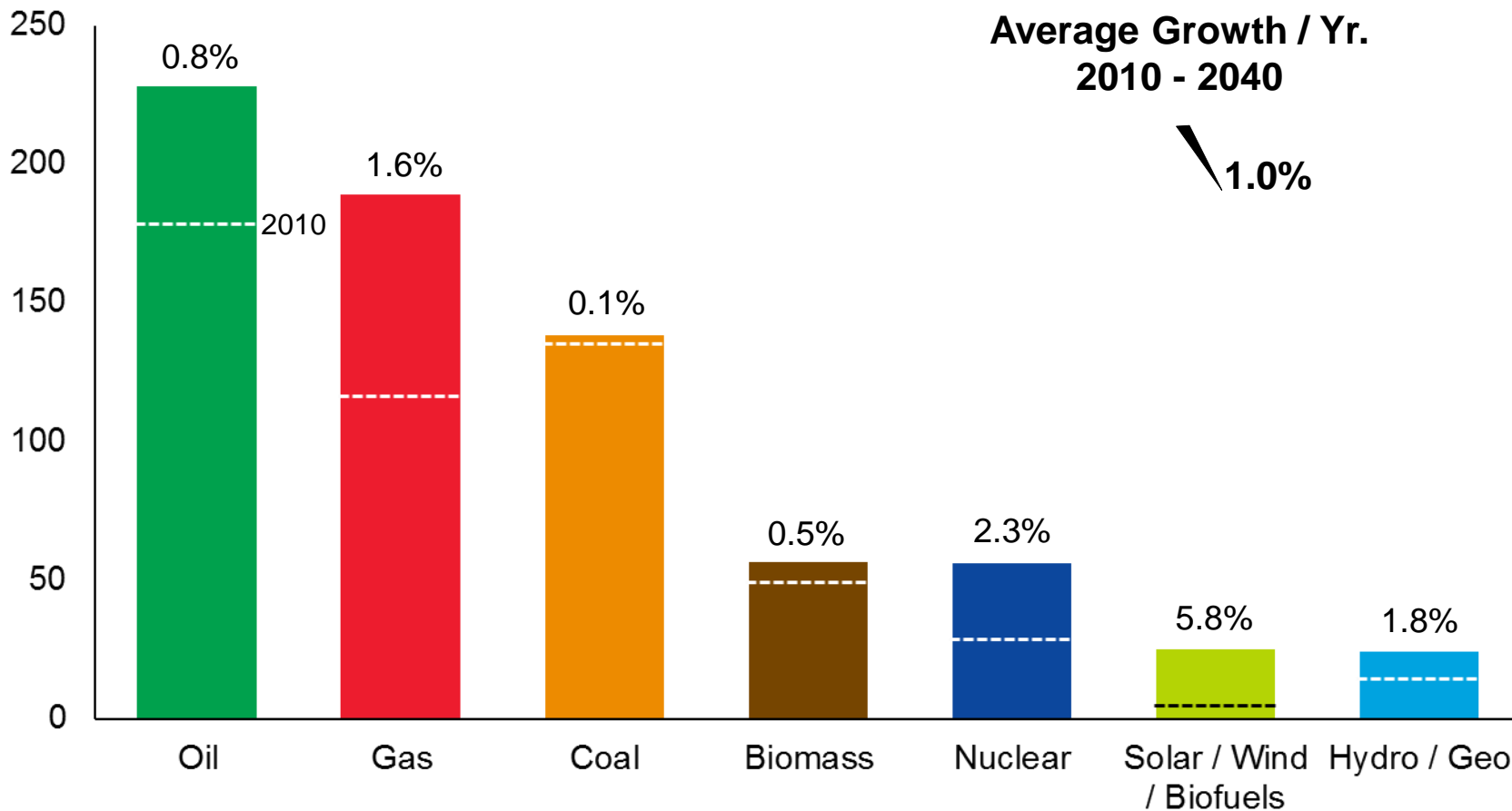
**Europe**  
MBDOE



# Global Demand

## 2040 By Fuel

Quadrillion BTUs



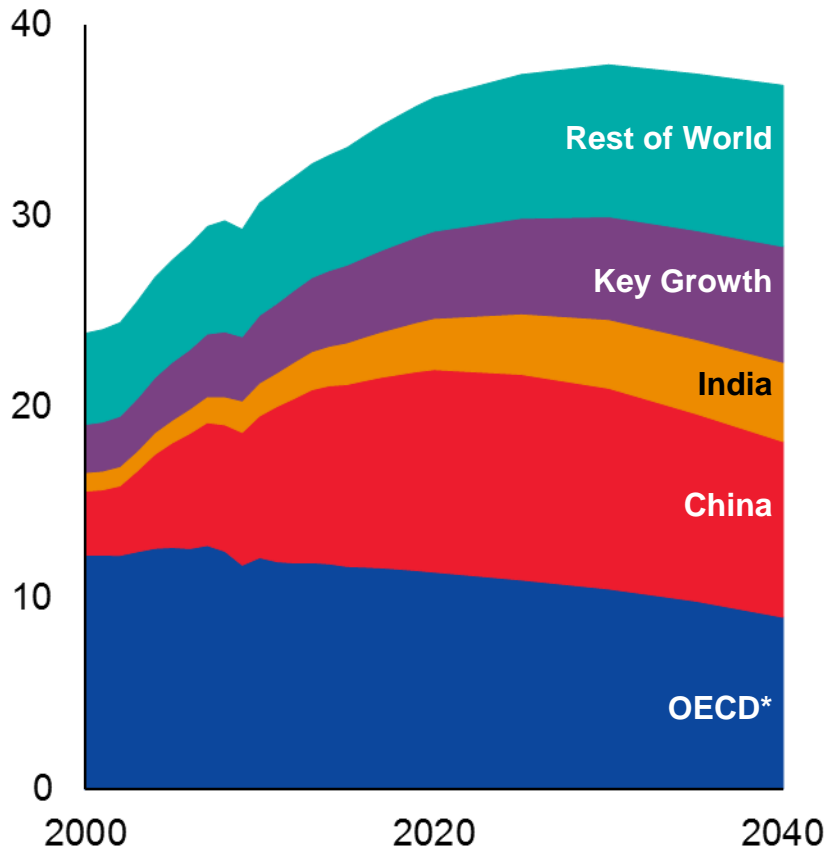
# CO<sub>2</sub> Emissions



# World Energy-related CO<sub>2</sub> Emissions

## CO<sub>2</sub> Emissions by Region

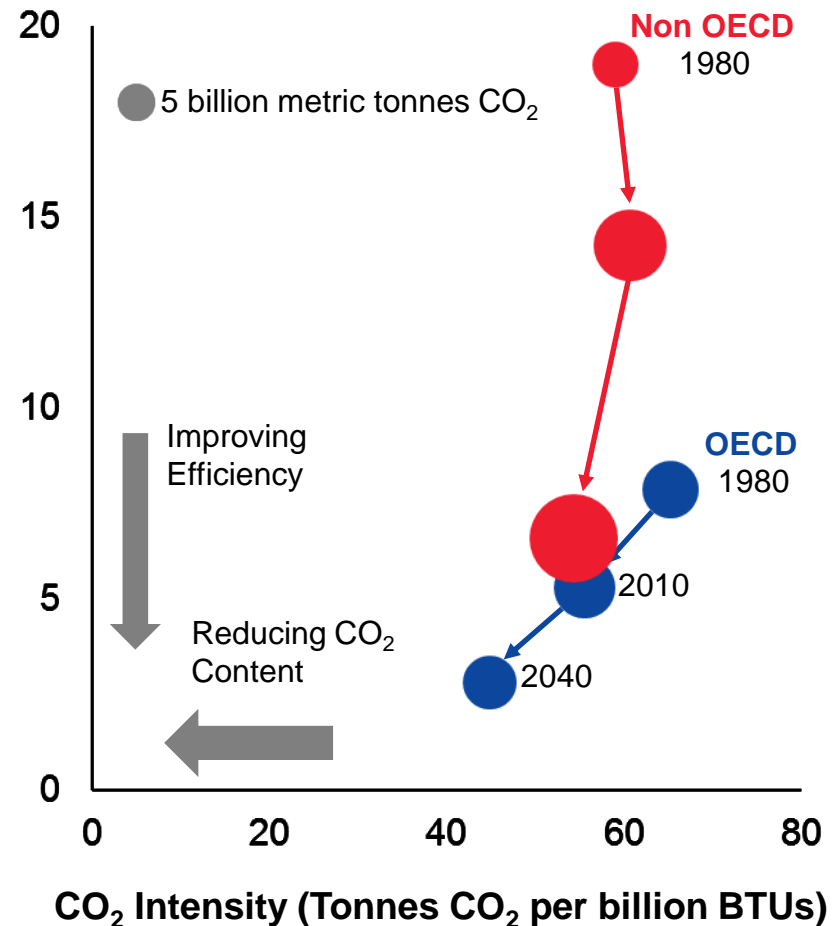
Billion metric tonnes



\*Mexico and Turkey included in Key Growth countries

## CO<sub>2</sub> Emissions by Region

Thousand BTUs per 2010\$ GDP





A tall, illuminated drilling rig stands on a snow-covered mountain slope at dusk. The rig is yellow and black, with the word "PACIFIC" visible on its base. The surrounding landscape is rugged and covered in snow, with dark evergreen trees scattered across the slopes. The sky is a mix of blue and orange, indicating the time is either dawn or dusk. The word "Supply" is overlaid in white text on the left side of the image.

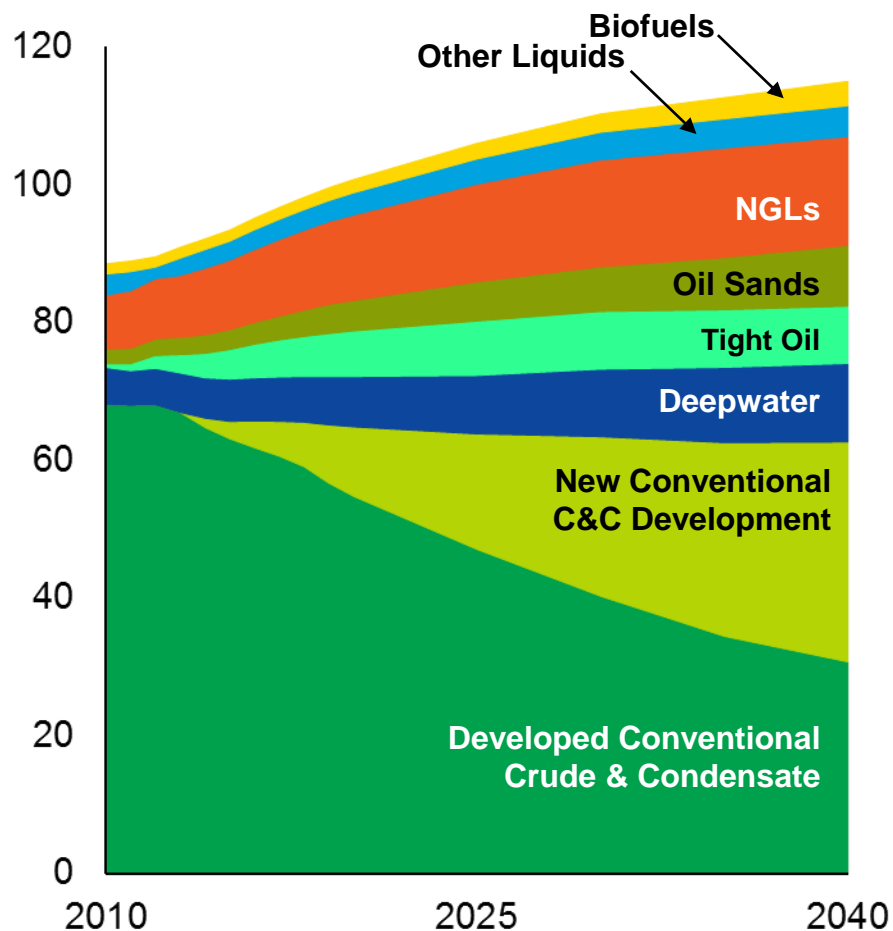
# Supply



# Global Liquids and Gas Supply

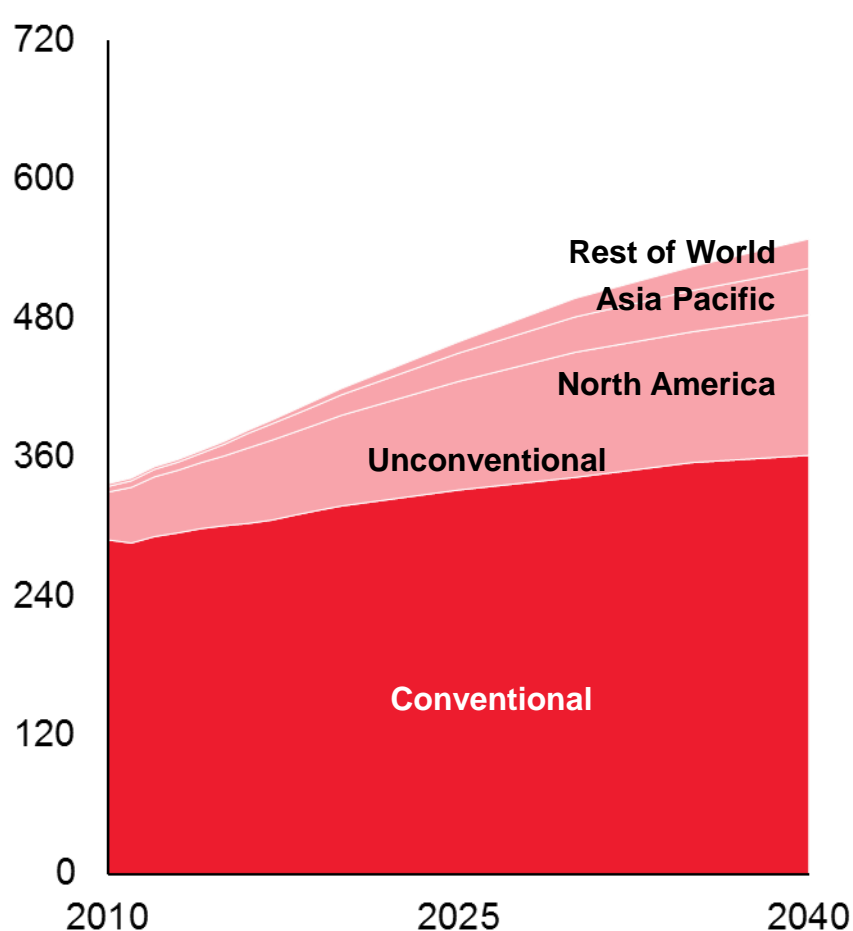
## Supply by Type

MBDOE

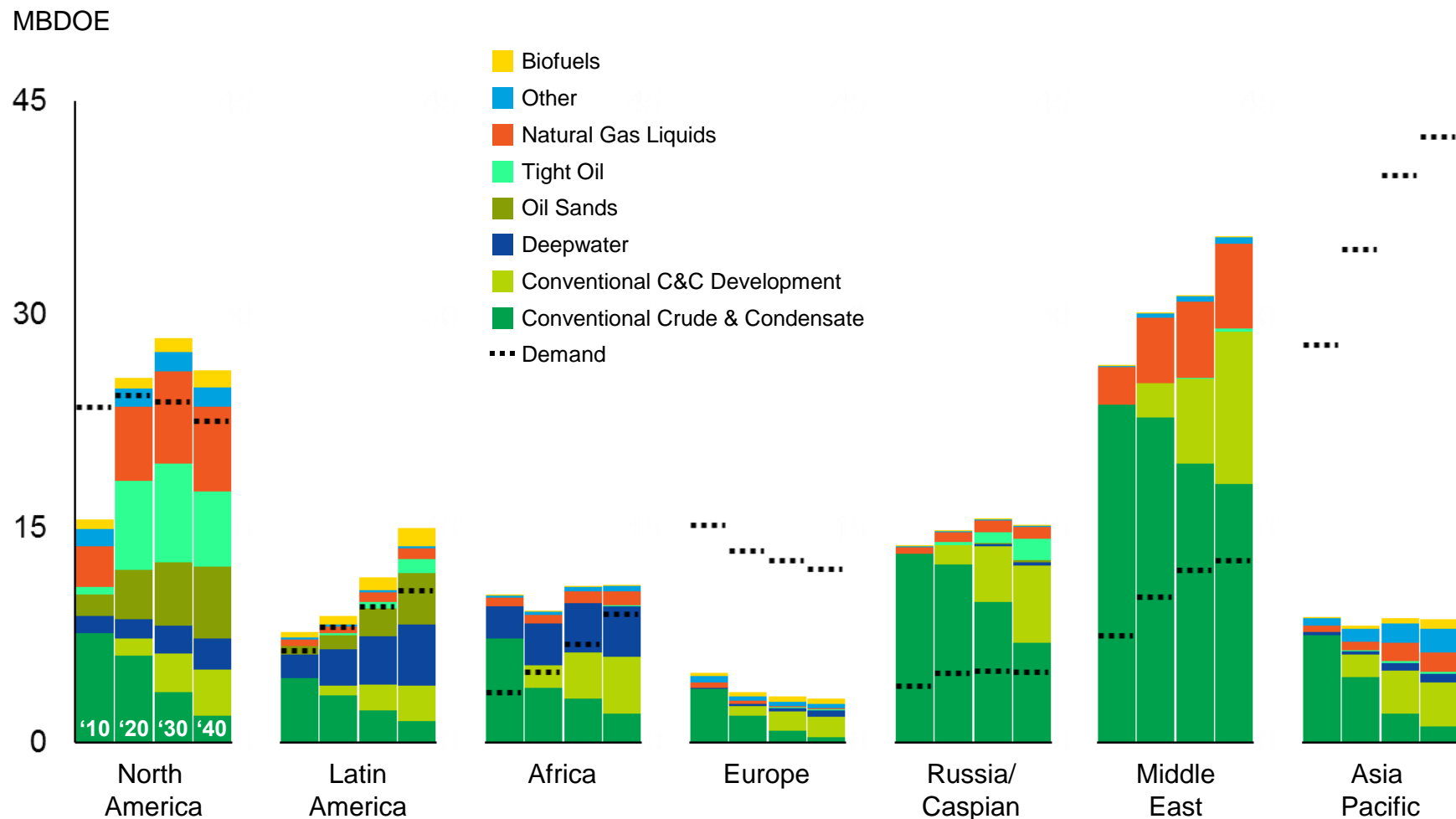


## Global Gas Supply

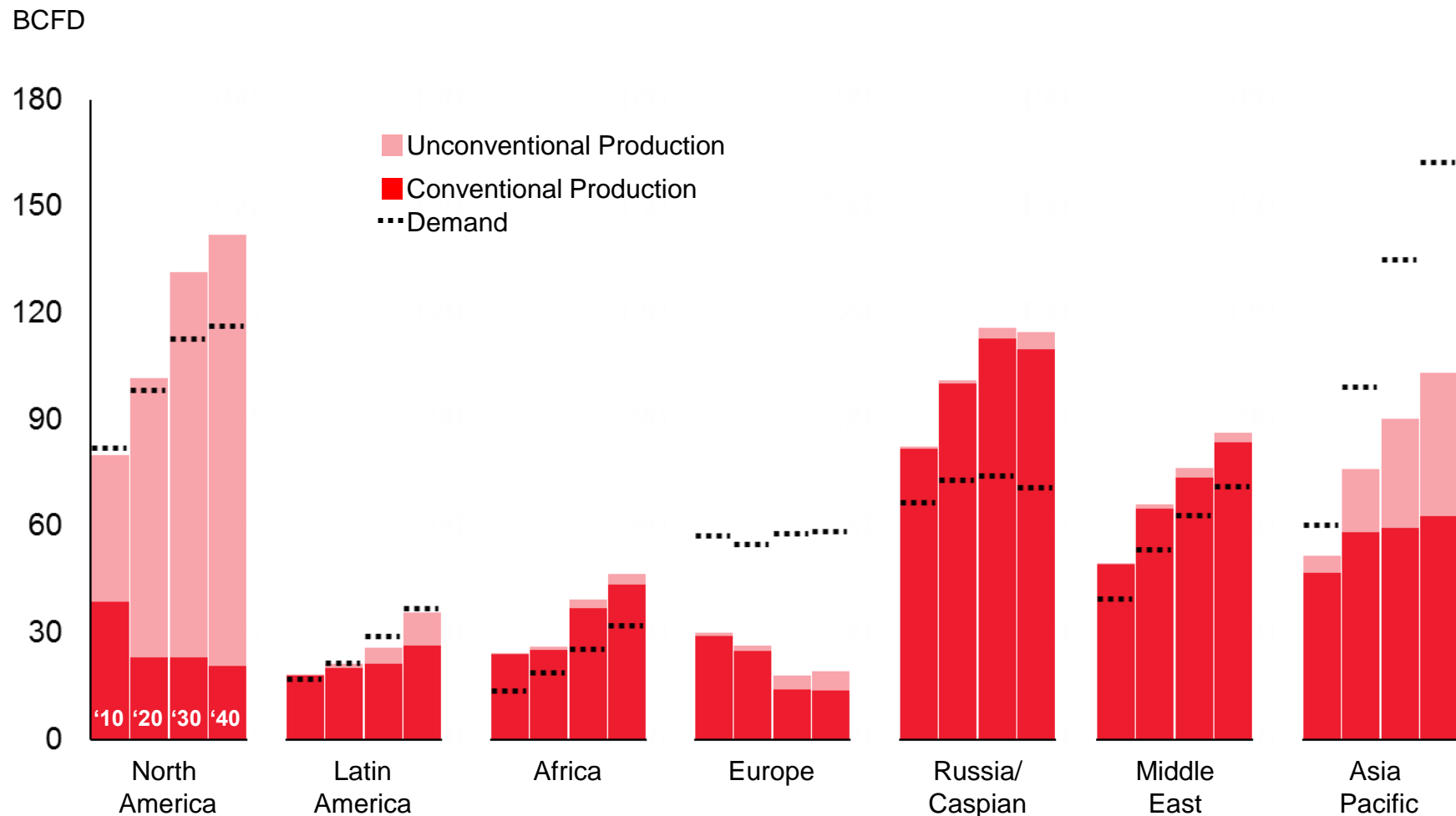
BCFD



# Liquids Trade Balance by Region



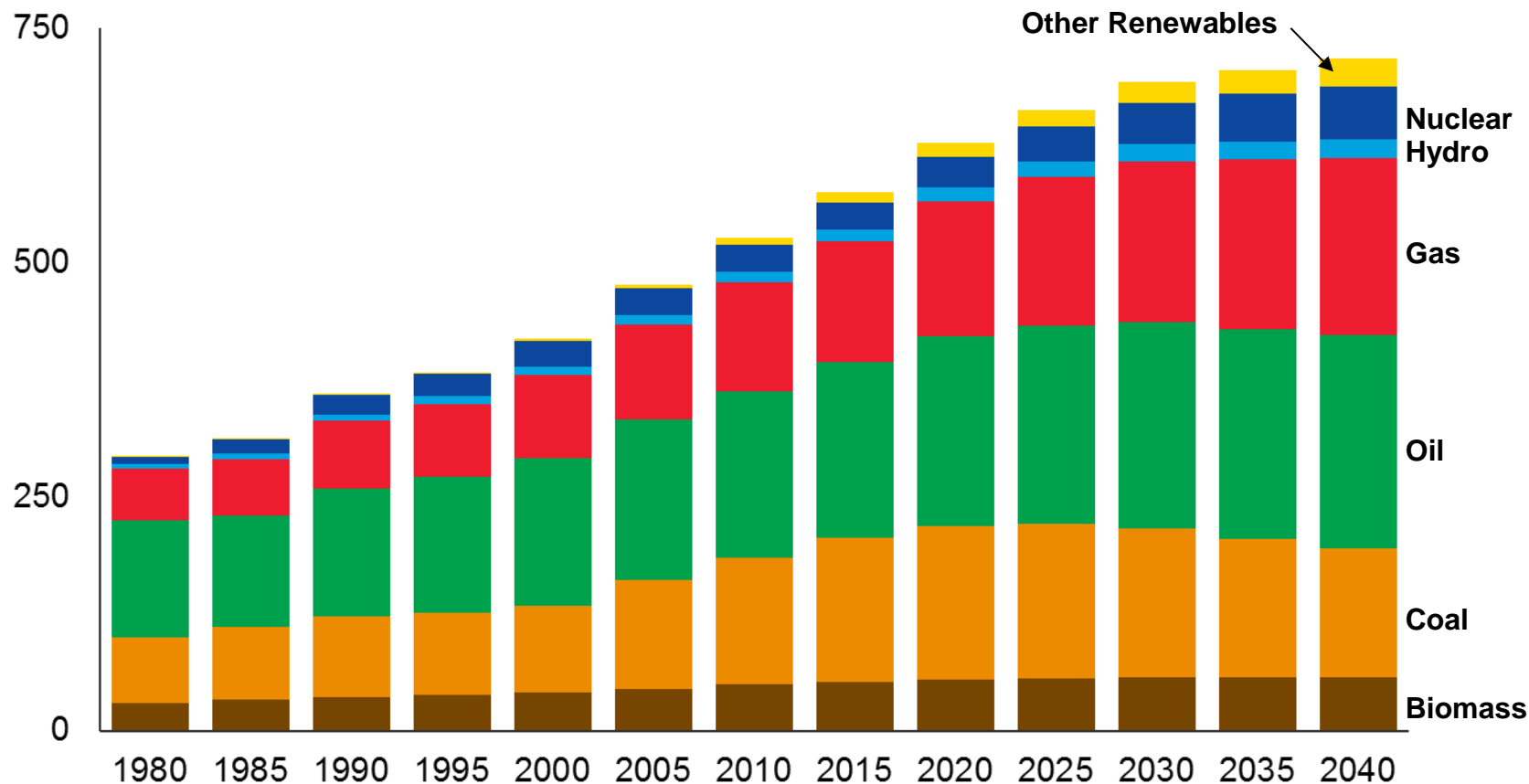
# Gas Trade Balance by Region



# Energy Use Evolves Over Time

## Demand by Fuel

Quadrillion BTUs



# The Outlook for Energy: A View to 2040

For more information, visit  
[exxonmobil.com/energyoutlook](http://exxonmobil.com/energyoutlook)  
or download the ExxonMobil app



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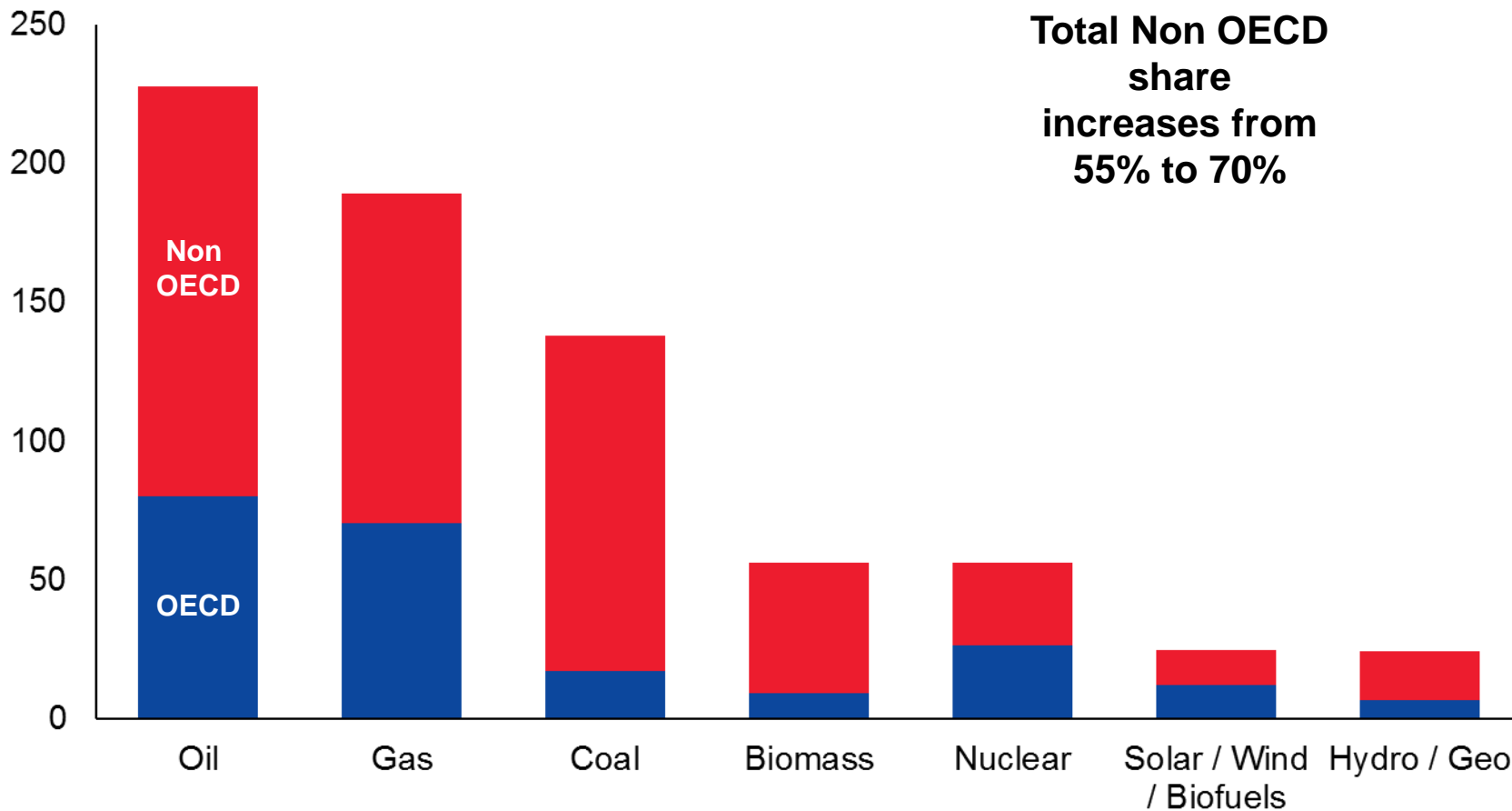
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# Global Demand

## 2040 By Fuel

Quadrillion BTUs

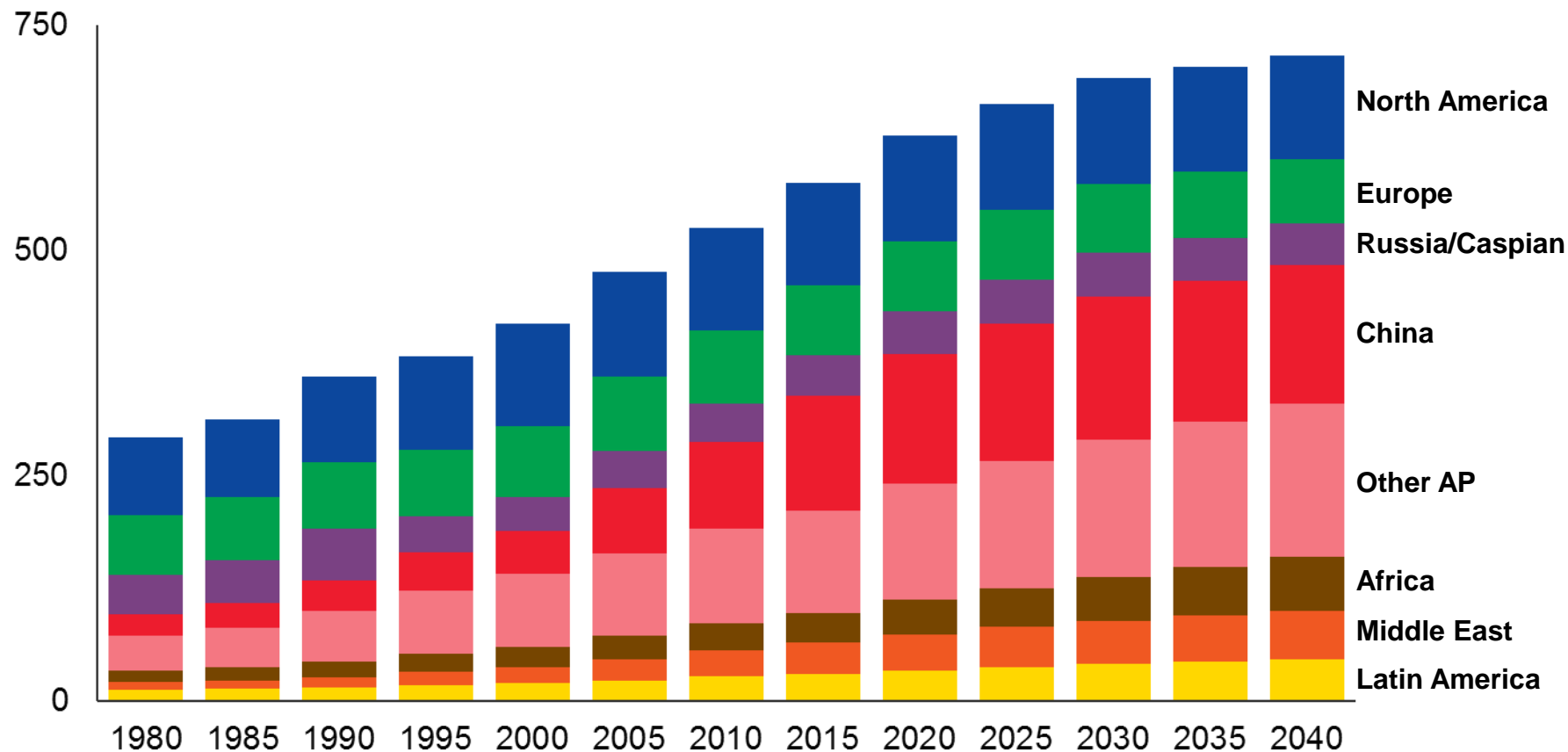




# Regional Energy Trends Evolve

## Demand by Region

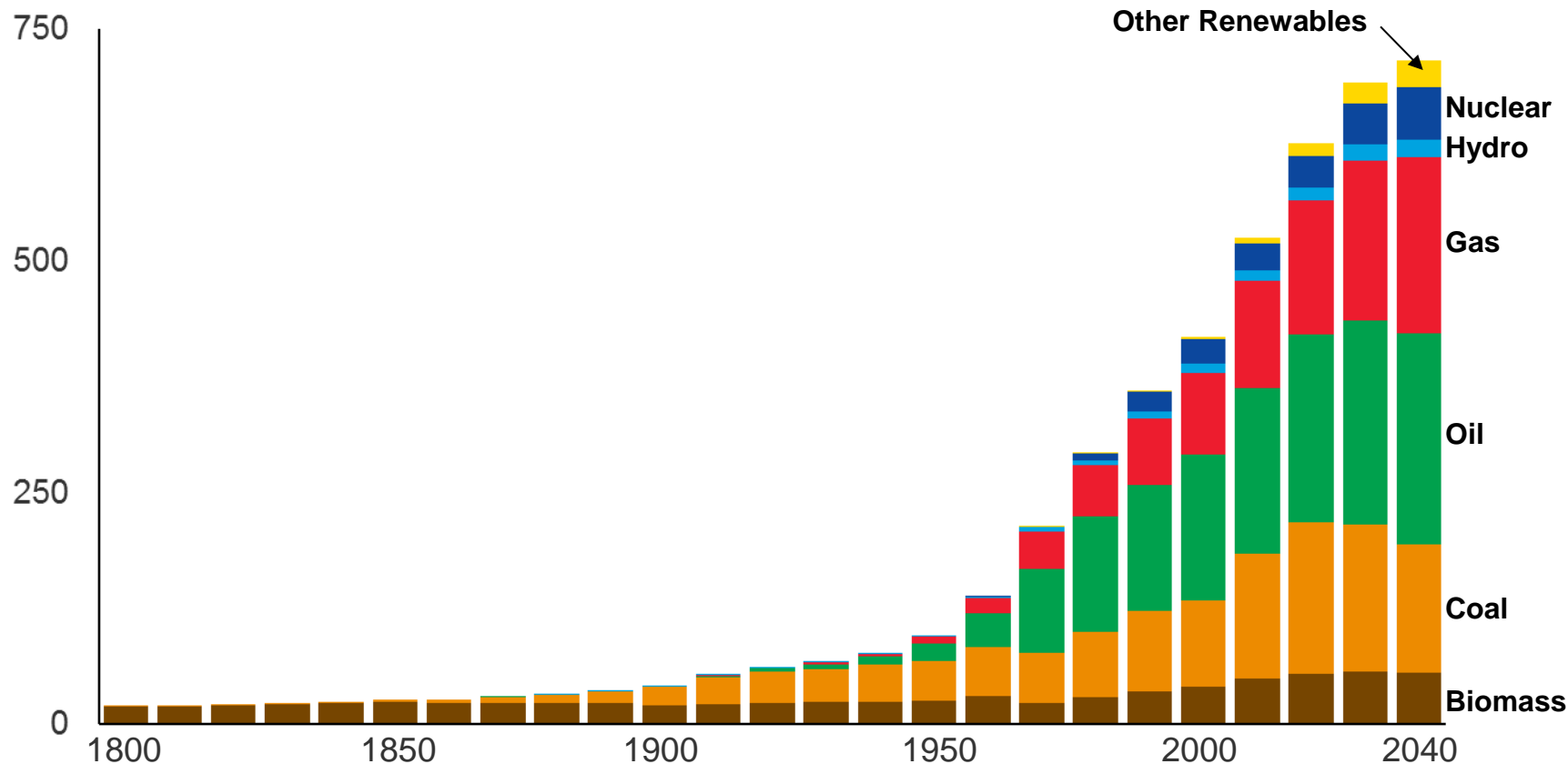
Quadrillion BTUs



# Energy Use Evolves Over Time

## Global Mix of Fuels

Quadrillion BTUs



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