

# Aspen Energy Policy Forum

Peter W. Trelenberg

Manager, Environmental Policy & Planning

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*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 2016.** 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](http://www.exxonmobil.com). This material is not to be used or reproduced without the permission of Exxon Mobil Corporation. All rights reserved.

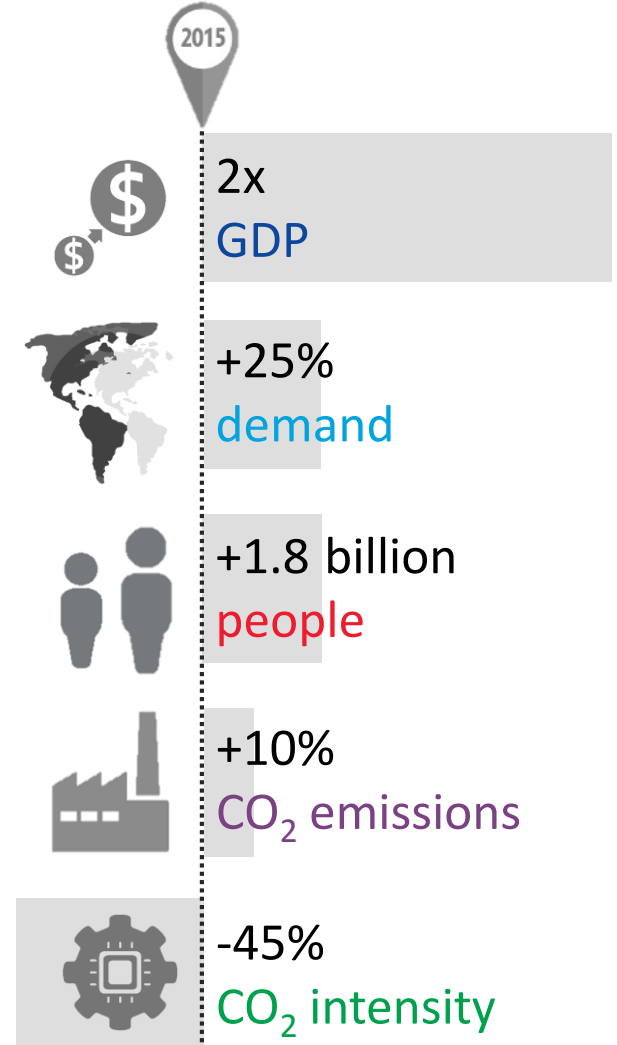
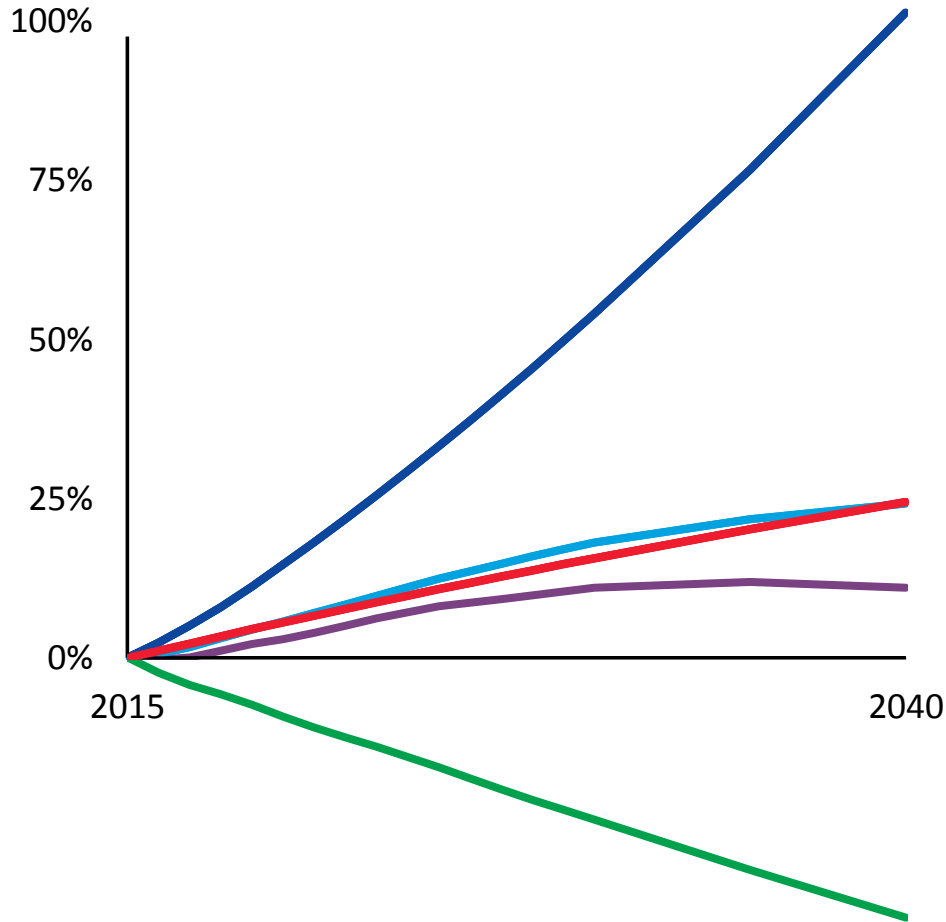
**ExxonMobil**



# Global Trends Continue to Evolve

Growth from 2015 Level

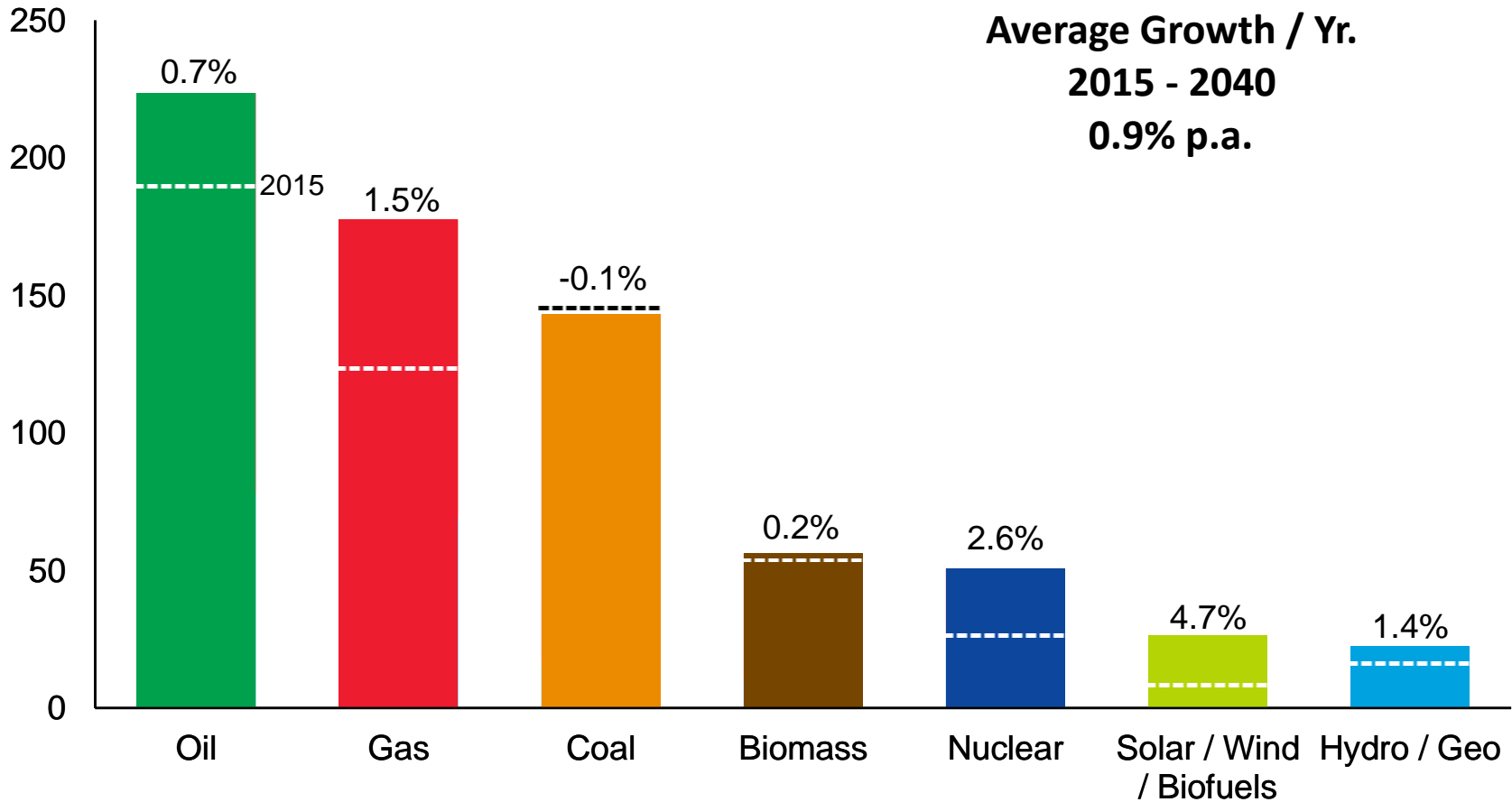
Percent



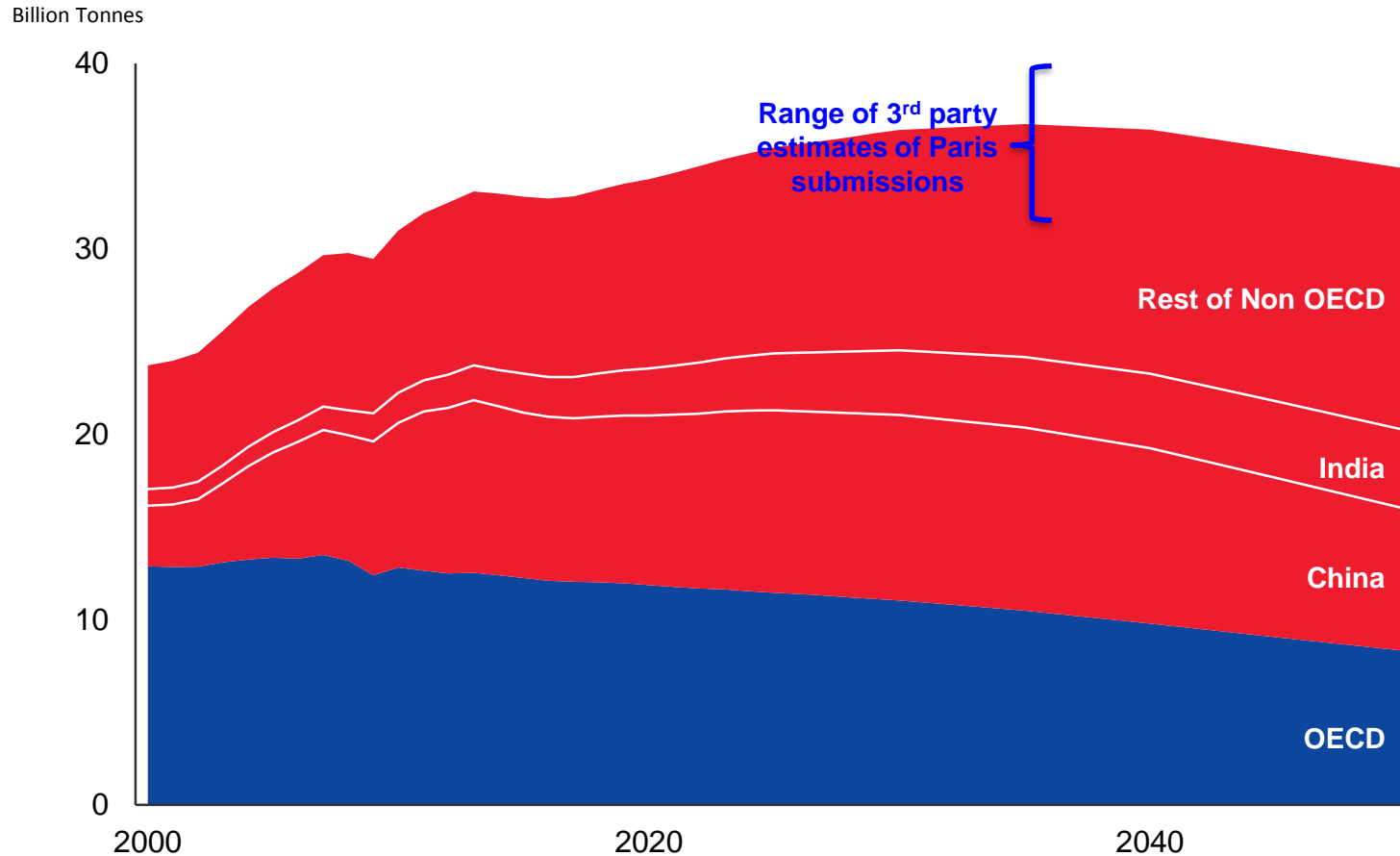
# Global Demand

## 2040 By Fuel

Quadrillion BTUs



# Energy-related CO<sub>2</sub> Emissions Peak in 2030s

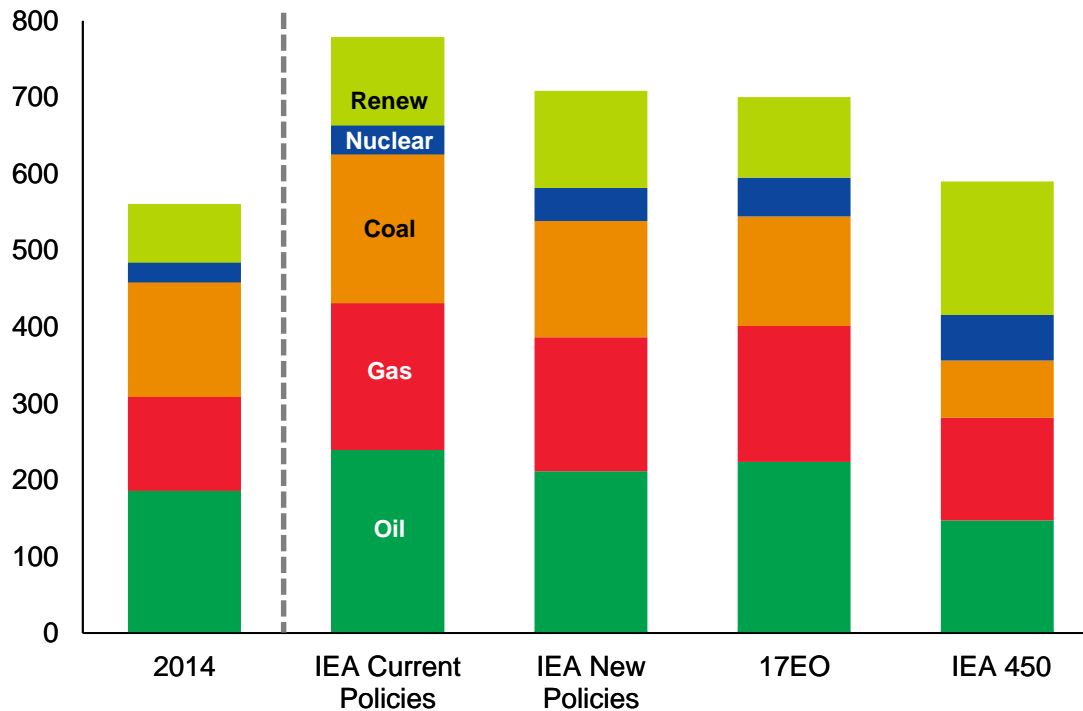


Sources: ExxonMobil 2017 Outlook for Energy; UNFCCC COP21 Synthesis Report 2015, EM analysis

# ExxonMobil Energy Outlook vs IEA Scenarios

## 2040 IEA Comparison

Quadrillion BTUs

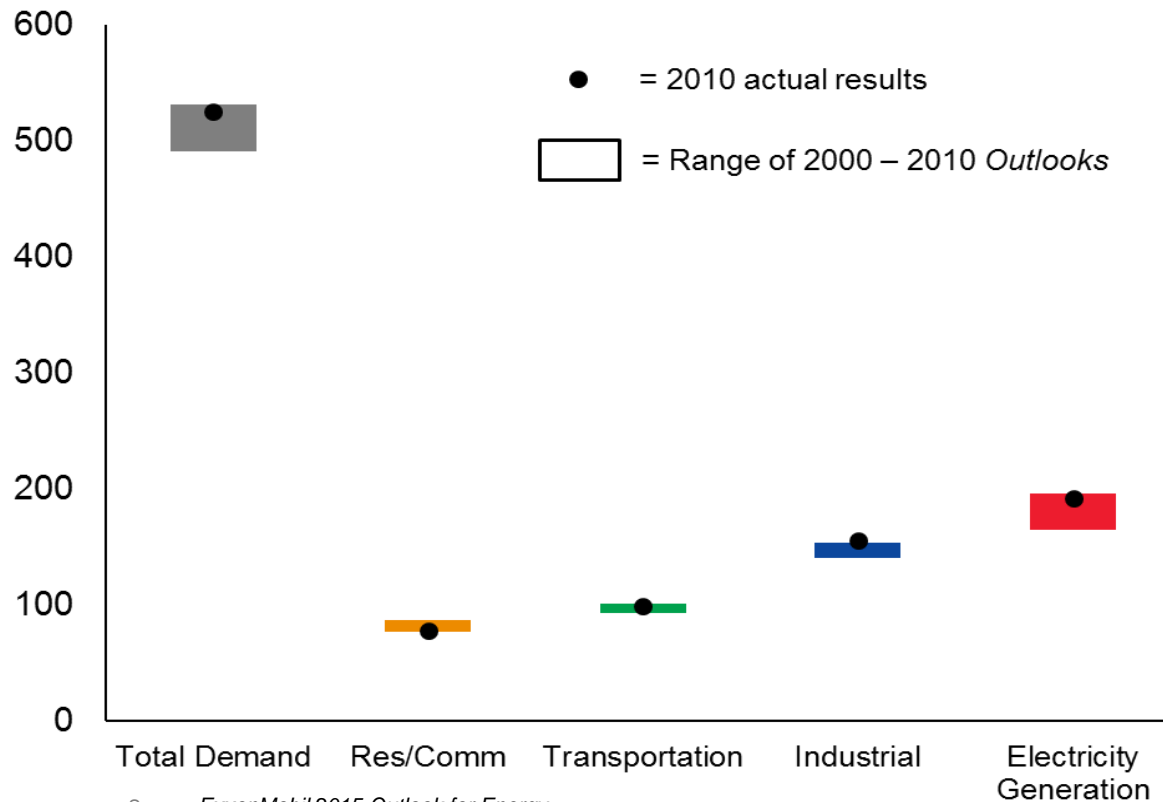


Source: Estimates based on IEA World Energy Outlook 2016, including adjustments to common units, ExxonMobil 2017 Outlook for Energy

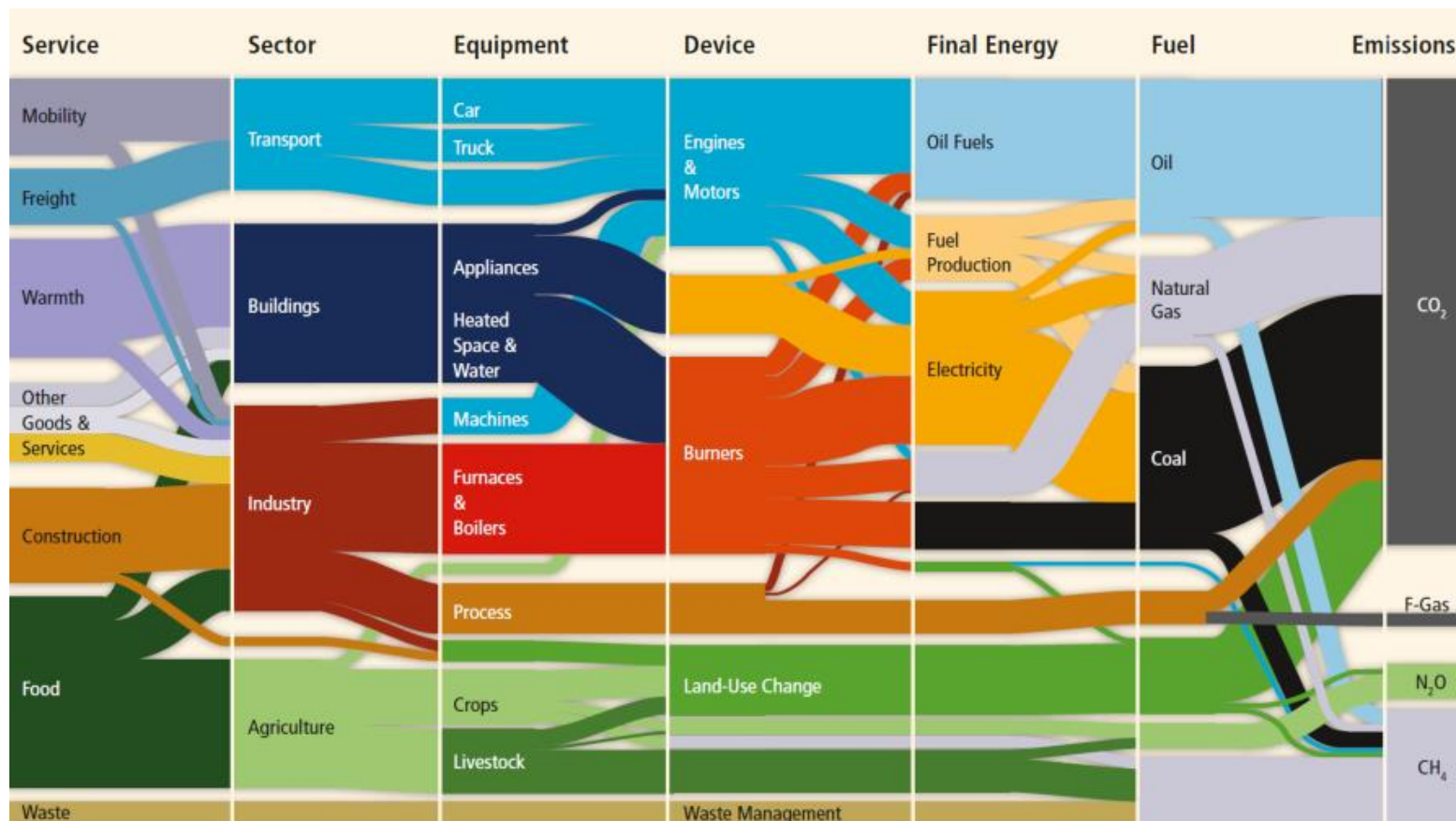
# 2000 through 2010 EM Energy Outlooks

## Estimates of 2010 World Energy Demand

**Worldwide Primary Energy  
Range of Estimates vs. Actual Results for 2010**



# Complexity and Scale Limit Rate of Change

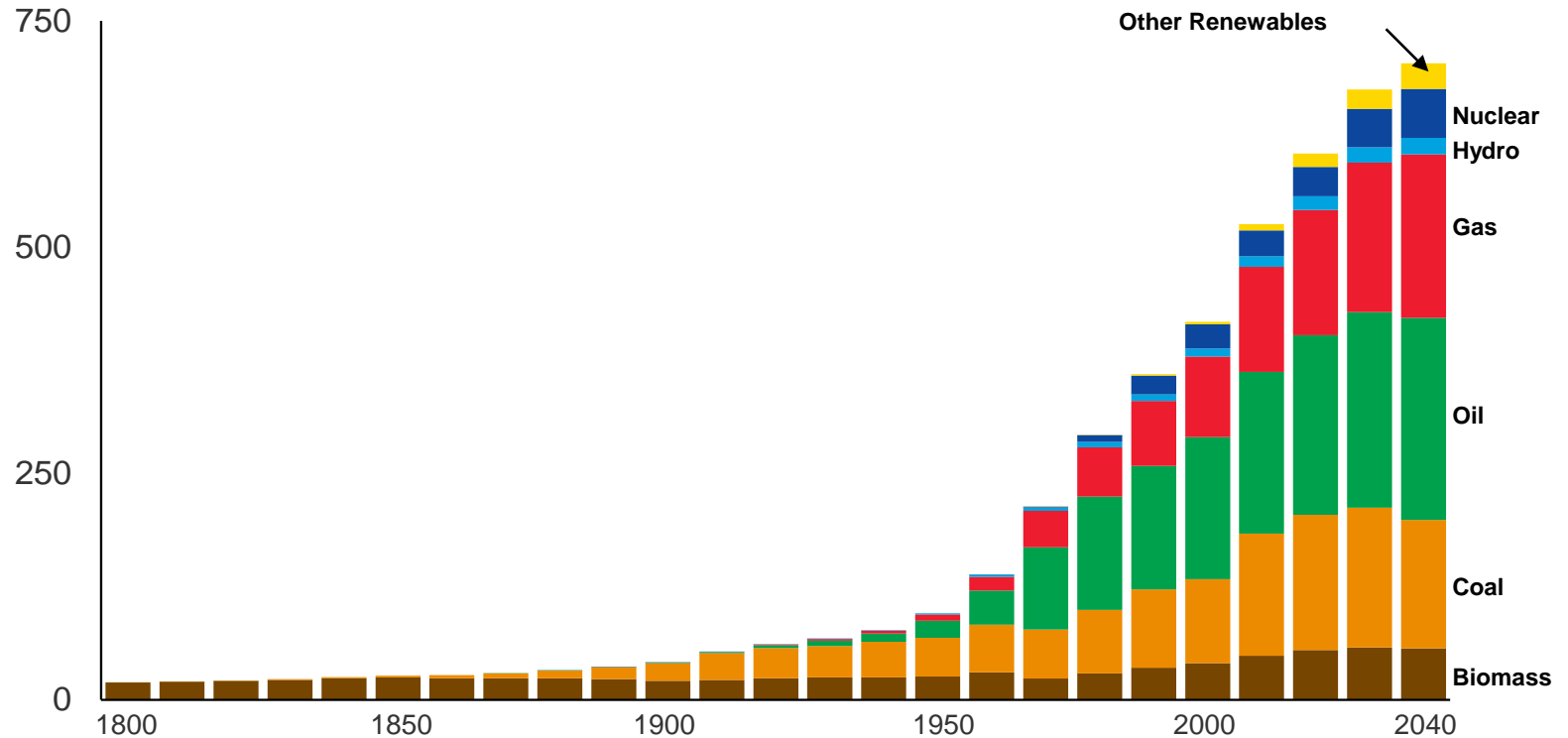


Source: IPCC AR5 WG3, Ch 10 (2014)

# Complexity and Scale Limit Rate of Change

## Global Mix of Fuels

Quadrillion BTUs



Source: Smil, *Energy Transitions (1800-1960)*, ExxonMobil 2017 Outlook for Energy



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