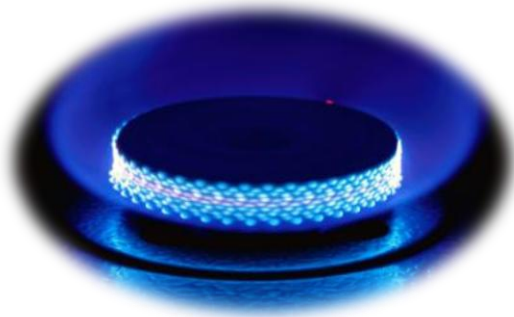


Overview of the Energy Landscape

David J. O'Reilly

The Hamilton Project Forum
June 13, 2012

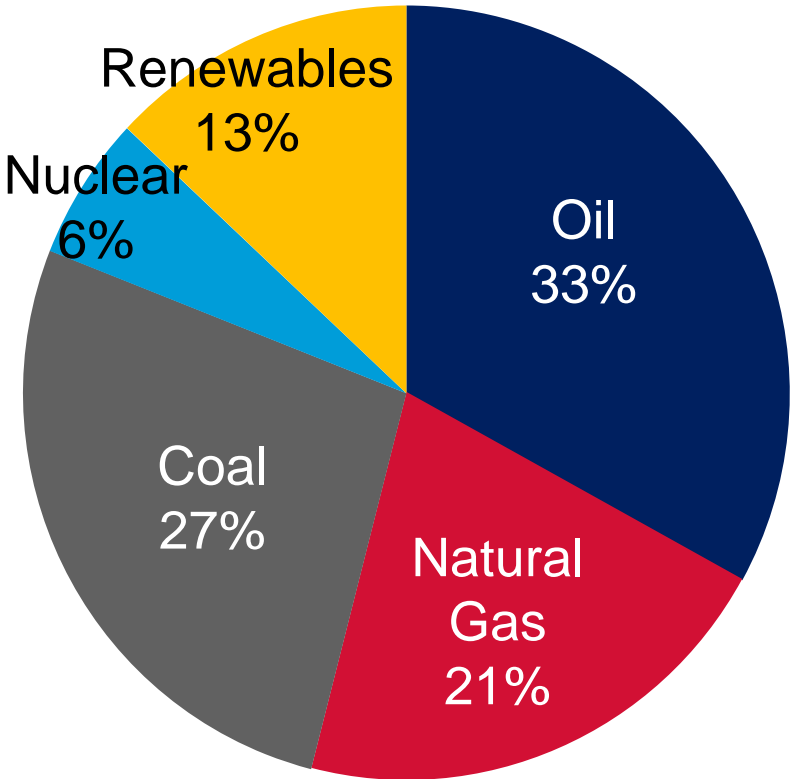
Immense Scale



The global energy demand from all sources of energy is the equivalent of **125,000** gallons of oil per second



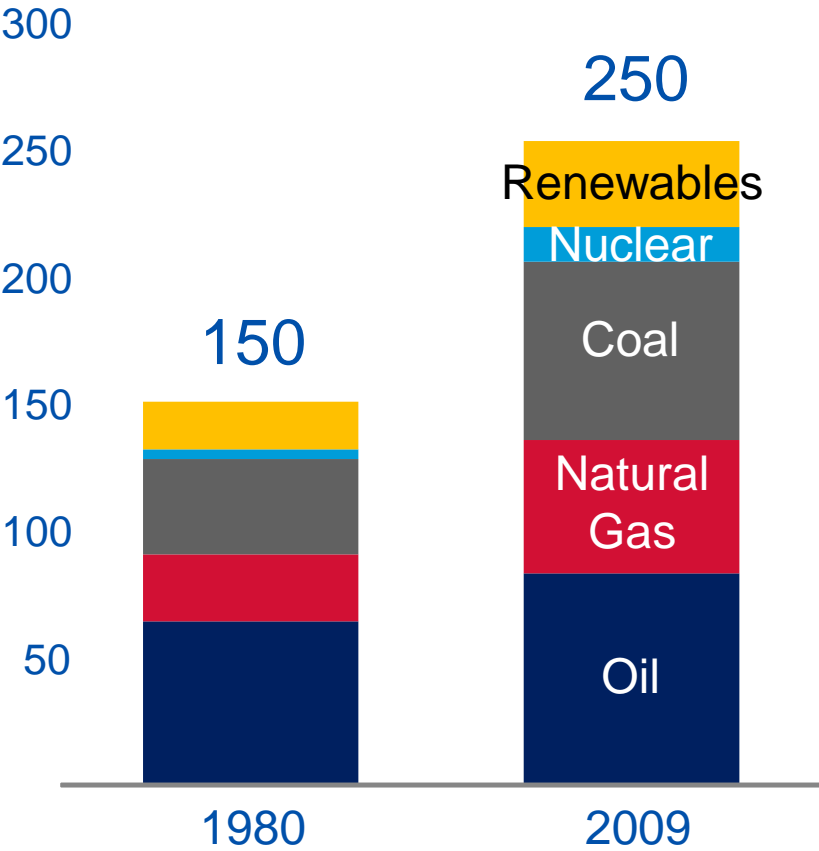
Global Energy - Sources



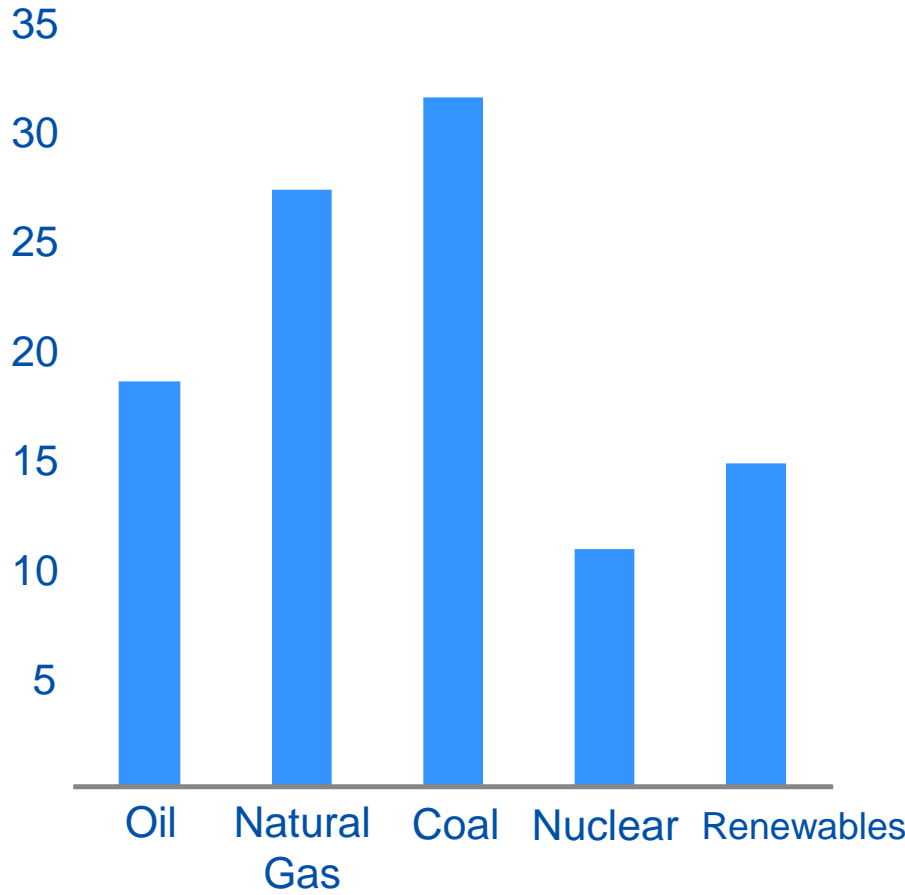
Primary Energy Sources (2009)

Global Energy - Growth 1980 to 2009

Primary Energy Sources
Million Barrels of Oil Equivalent per Day



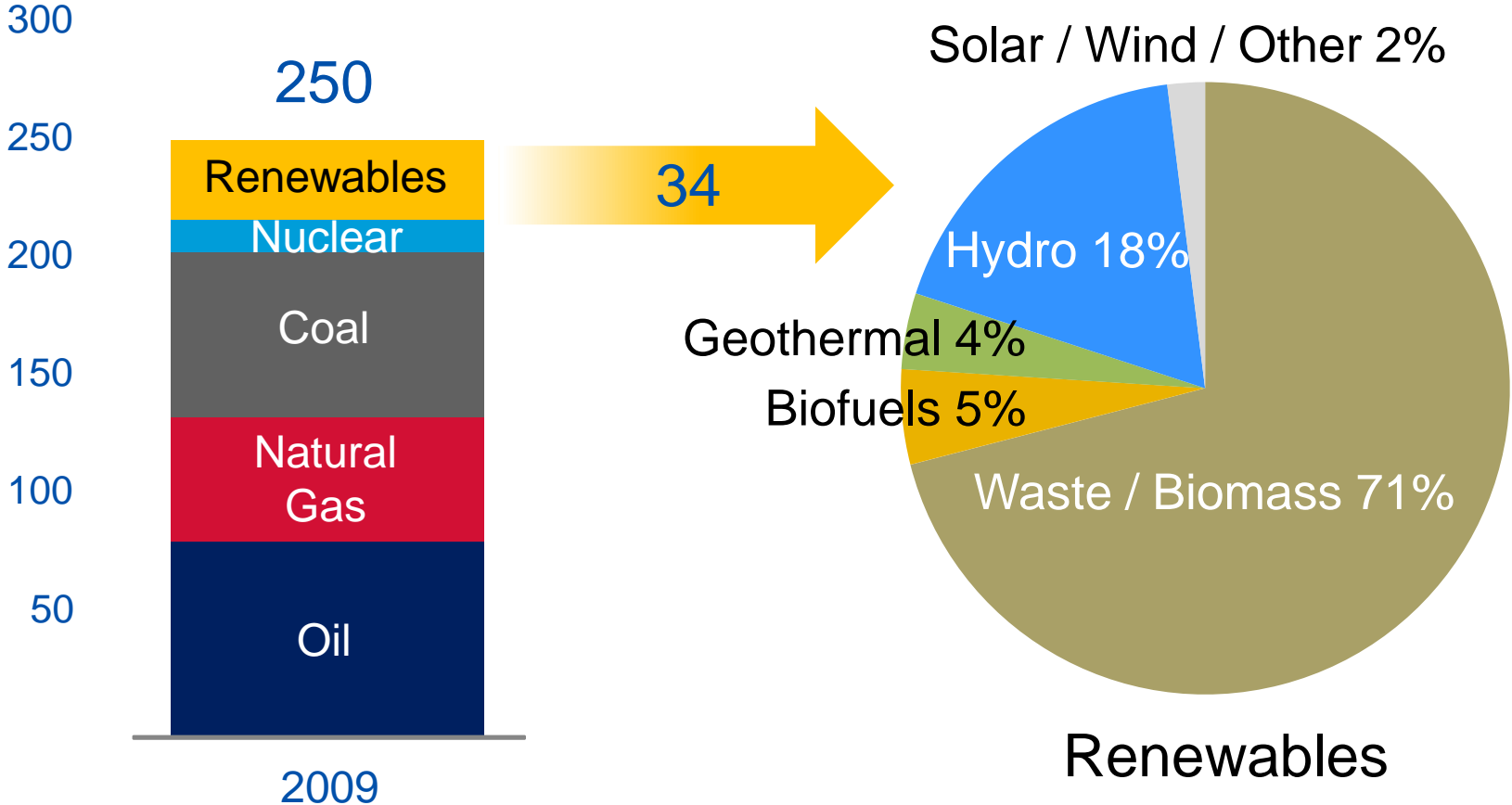
Demand Growth (2009 vs. 1980)
Million Barrels of Oil Equivalent per Day



Global Energy - Composition of Renewables

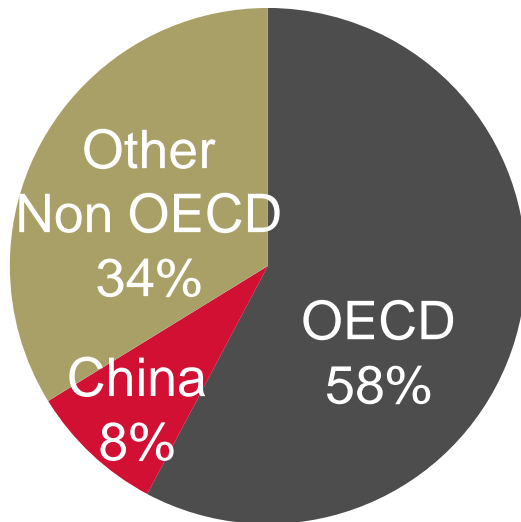
Primary Energy Sources

Million Barrels of Oil Equivalent per Day

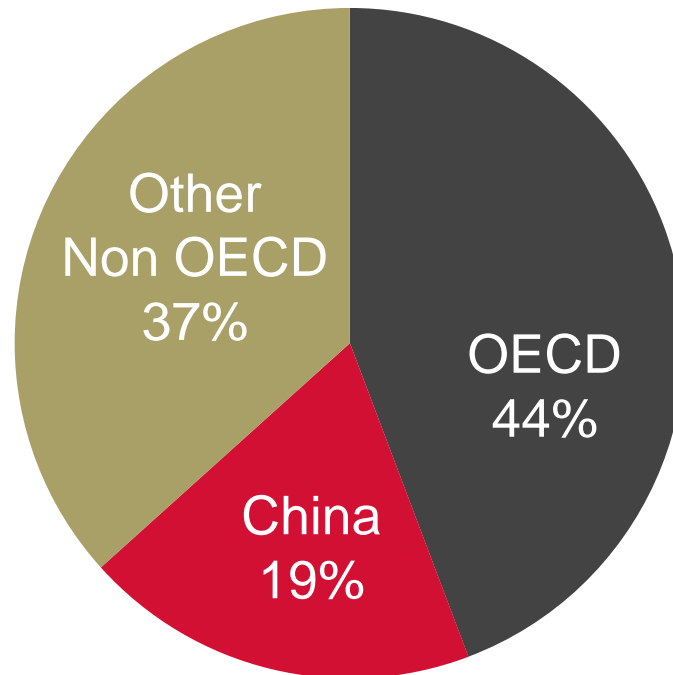


Global Energy - Shift to Non OECD

1980
150 Million Barrels of Oil
Equivalent Per Day



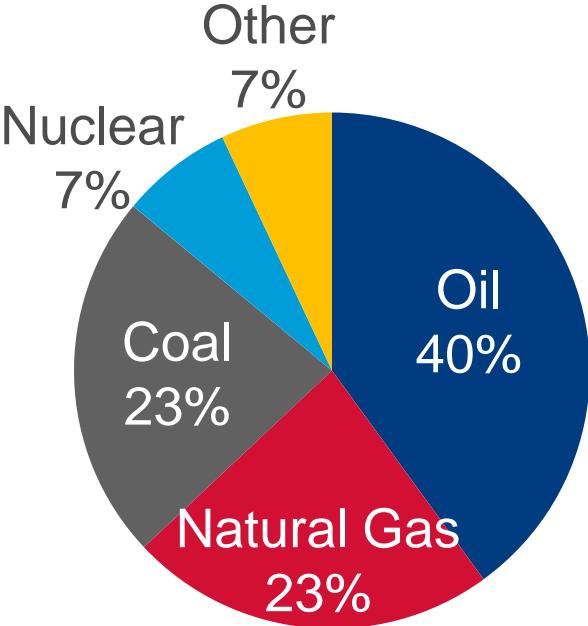
2009
250 Million Barrels of Oil
Equivalent Per Day



U.S. Energy - Consumption

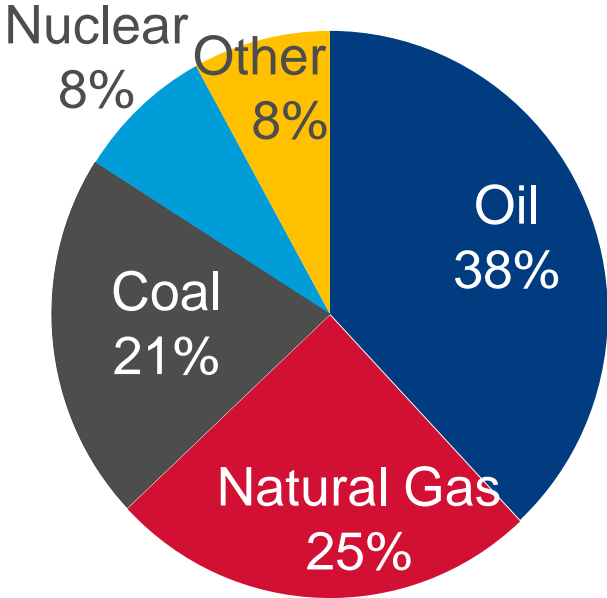
1990

43 Million Barrels of Oil
Equivalent Per Day



2010

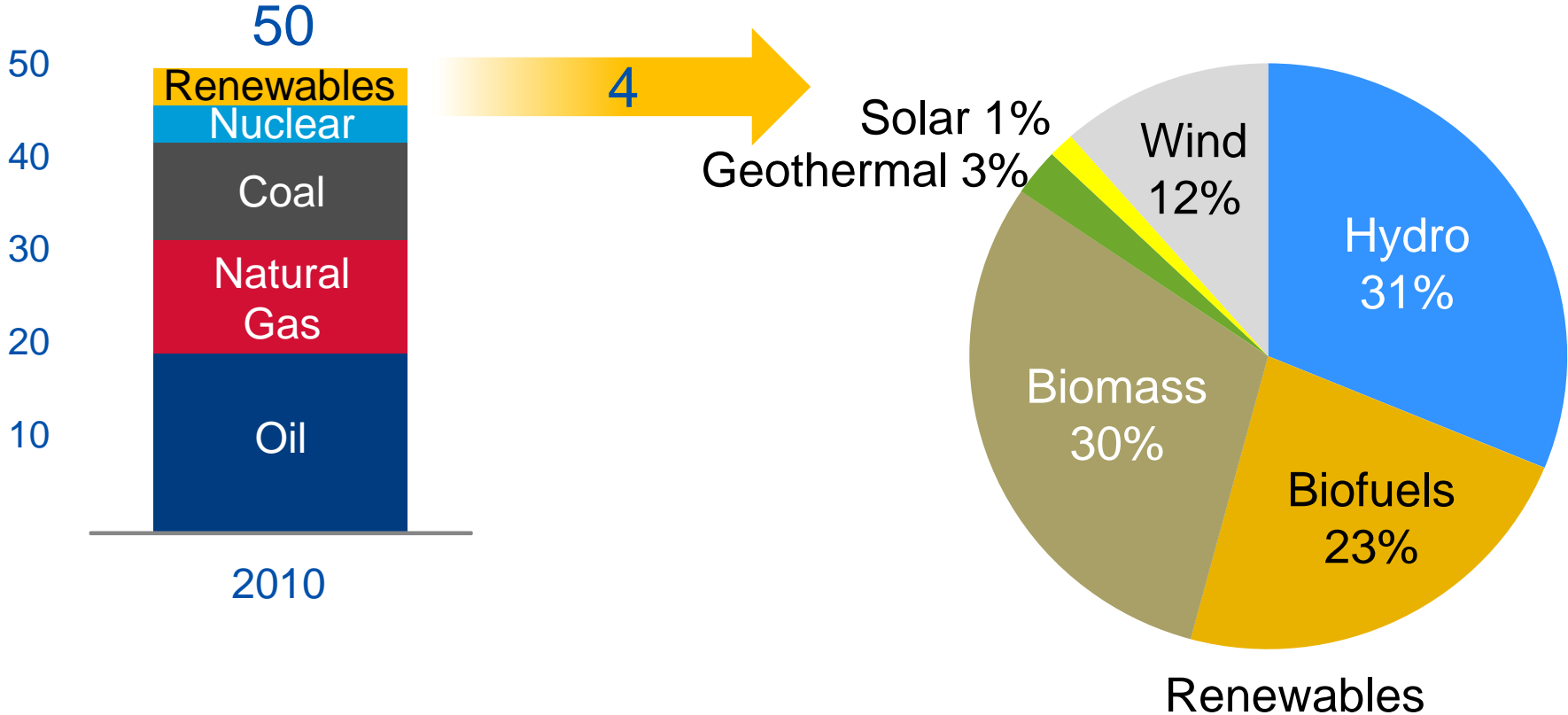
50 Million Barrels of Oil
Equivalent Per Day



U.S. Energy - Composition of Renewables

Primary Energy Sources

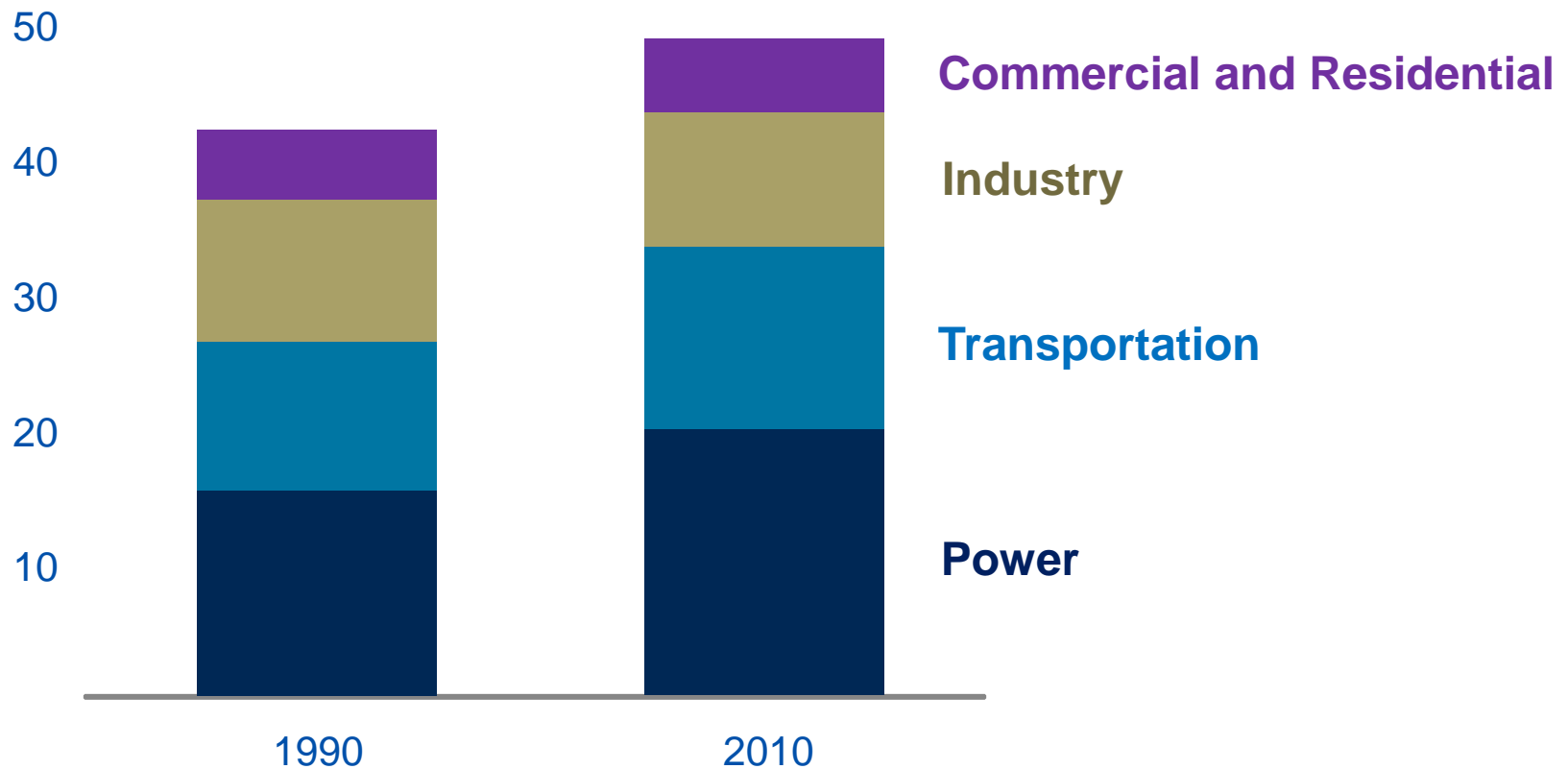
Million Barrels of Oil Equivalent per Day



U.S. Energy - Consumption by Sector

Energy Demand

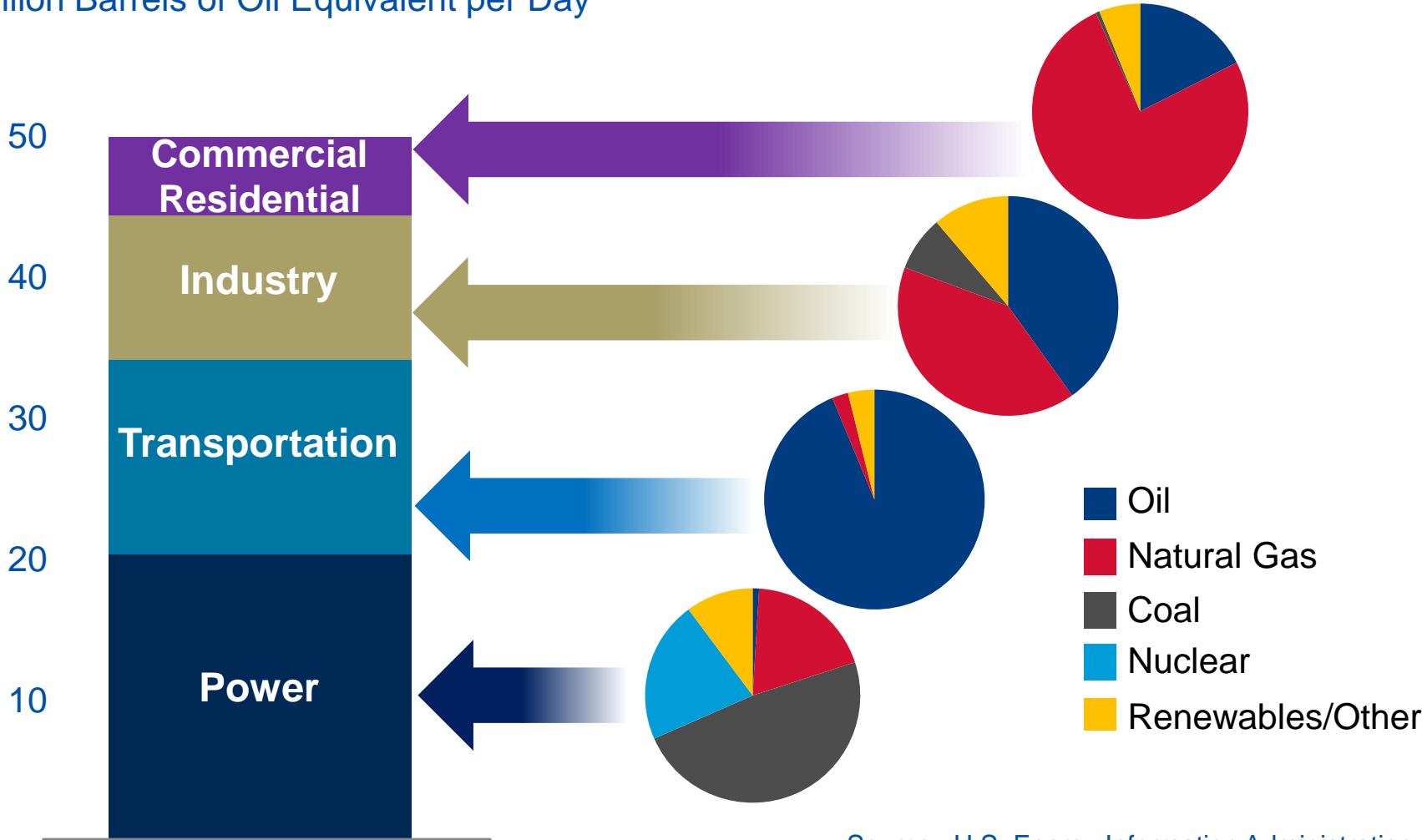
Million Barrels of Oil Equivalent per Day



U.S. Energy - Consumption by Sector and Source

Energy Demand (2010)

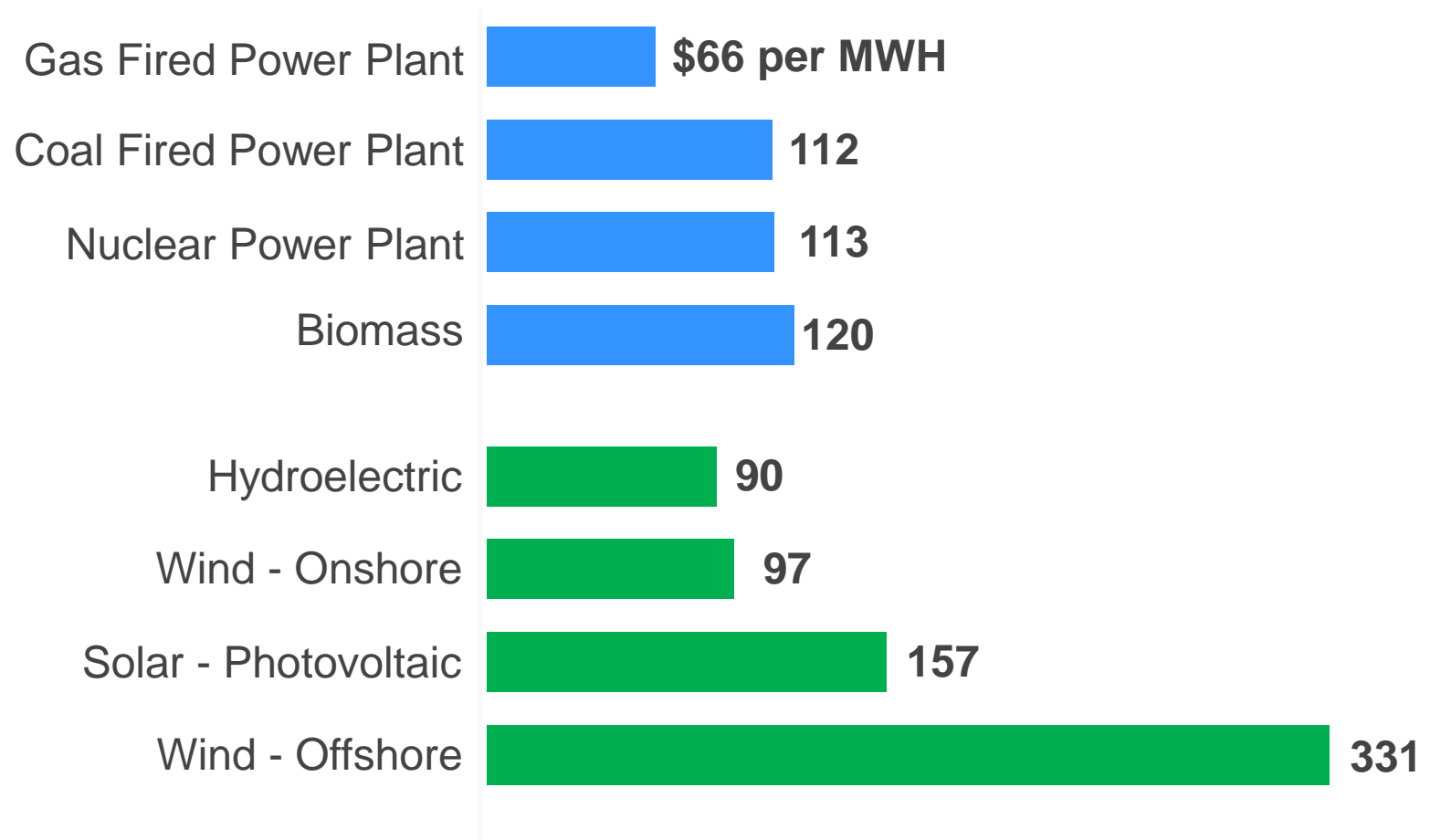
Million Barrels of Oil Equivalent per Day



Source: U.S. Energy Information Administration

Cost of New U.S. Power Generation

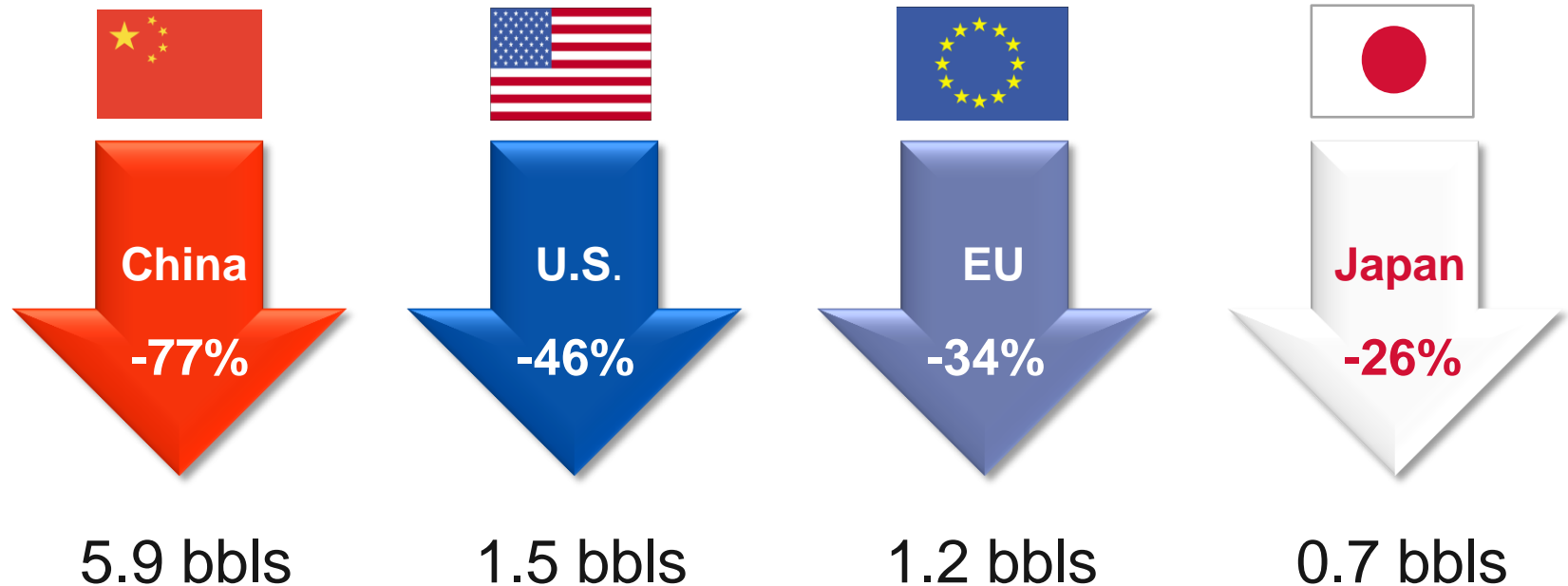
Cost of New U.S. Power Generation \$ Per Megawatt hour



Energy Intensity – Change from 1980 to 2009

Comparative Energy Intensity

Barrels of Oil Equivalent of Energy per \$1000 GDP



National Petroleum Council Study - Important Findings on Energy Security

1. The potential supply of North American **natural gas** is far bigger than was thought even a few years ago
2. America's **oil resources** are also proving to be **much larger** than previously thought
3. We **need these natural gas and oil** resources even as **efficiency** reduces energy demand and **alternatives** become more economically available on a large scale
4. Realizing the benefits of natural gas and oil depends on **environmentally responsible development**

Key Observations

- U.S. is **secure in energy for industrial use and power generation** due to abundant natural gas and coal
- U.S. is likely to **remain reliant on oil** for the next 25 years without a significant technological breakthrough in transportation
- Enormous potential to **improve energy efficiency** across all sectors of the economy

Overview of the Energy Landscape