ExxonMobil

Taking on the world's toughest energy challenges.™

The Outlook for Energy

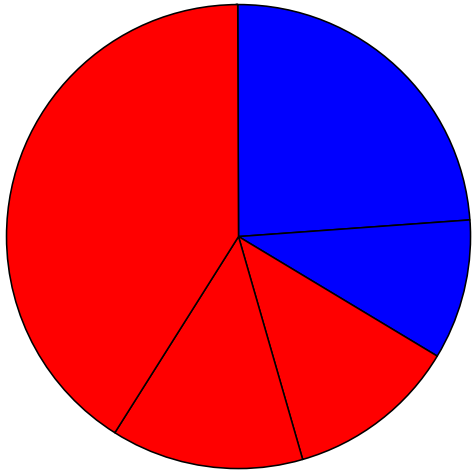
a view to 2030

Todd W. Onderdonk
USAEE – Houston Chapter
January 14, 2010

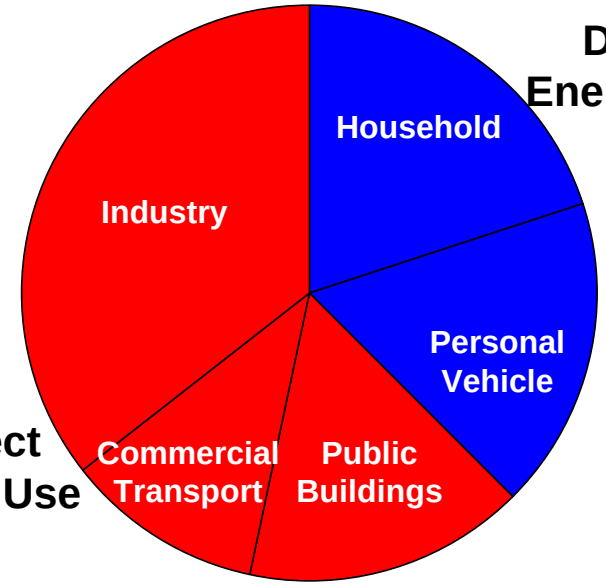
Importance of Energy

Your Energy Use

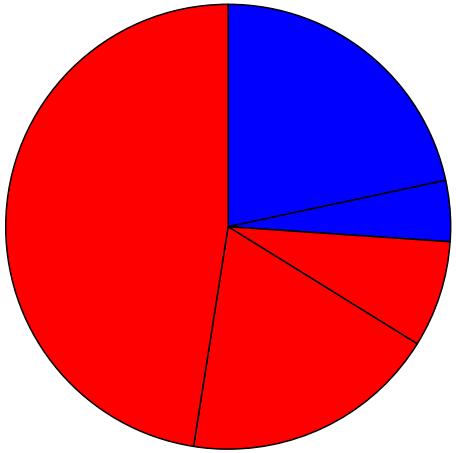
EU



North America



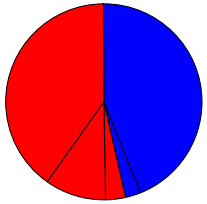
Middle East



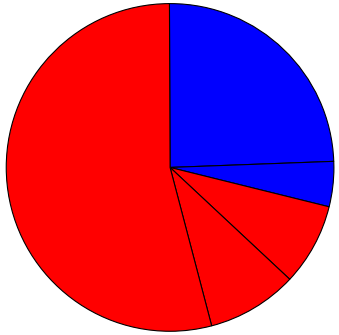
Direct Energy Use

Indirect Energy Use

Africa

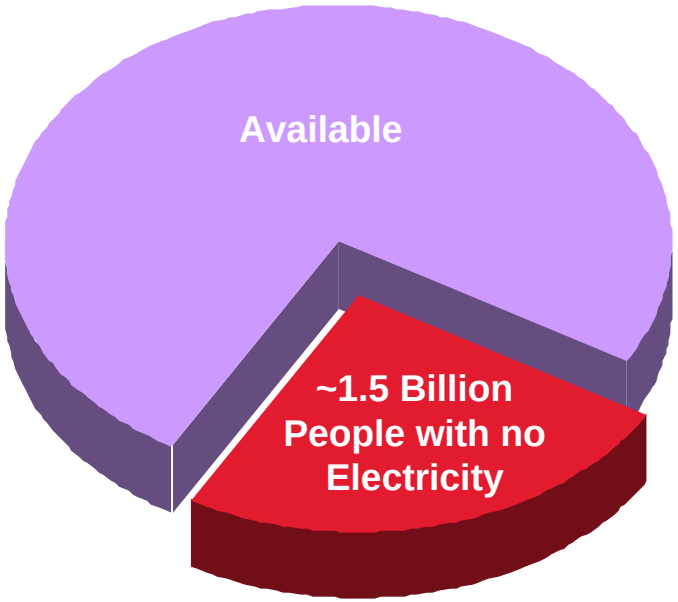


Asia Pacific

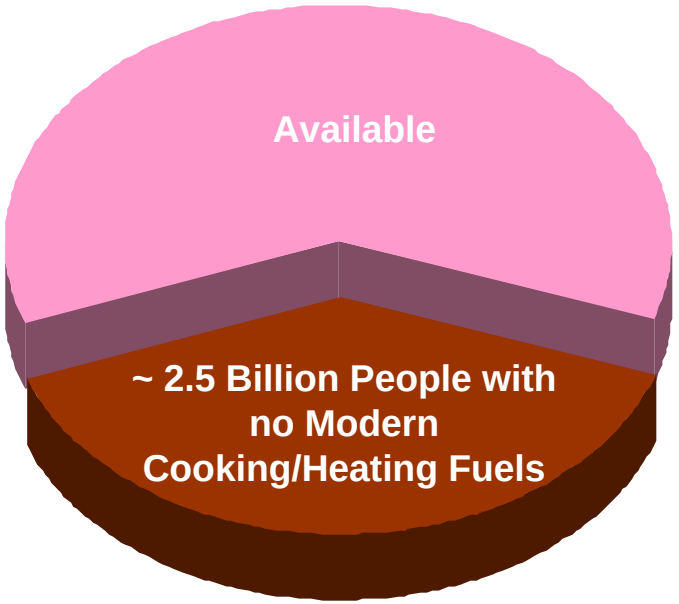


Challenge: Meeting Basic Needs

Electricity

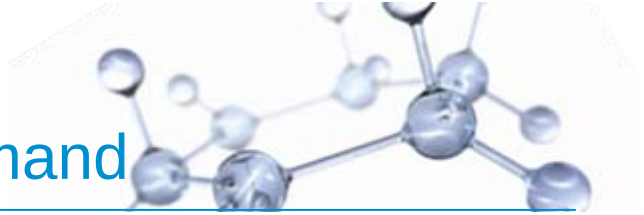


Modern Cooking/Heating Fuels

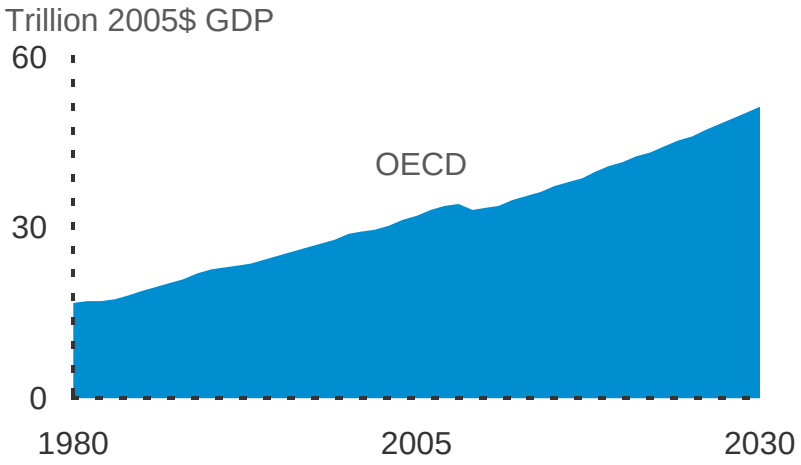


2006 World Bank

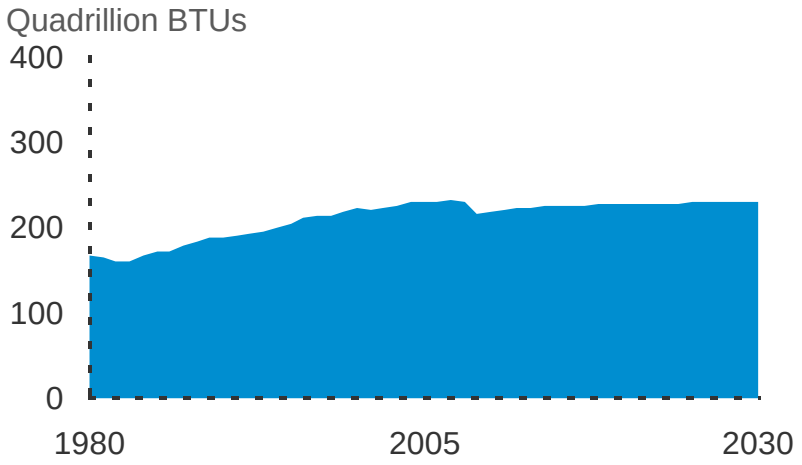
Economic Growth Drives Energy Demand

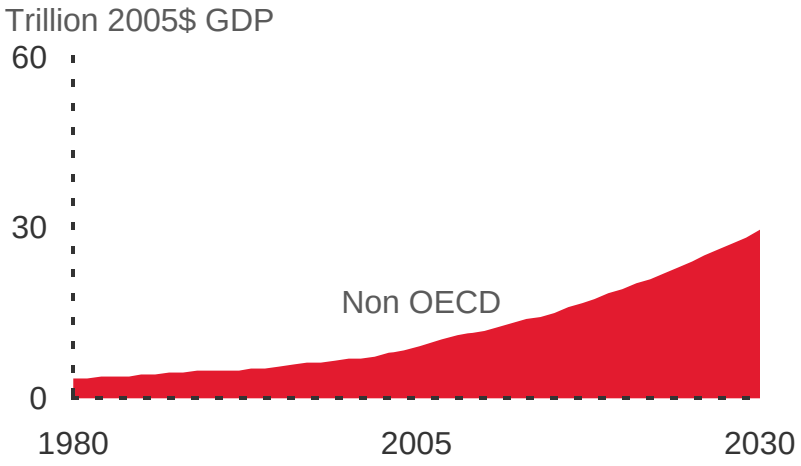


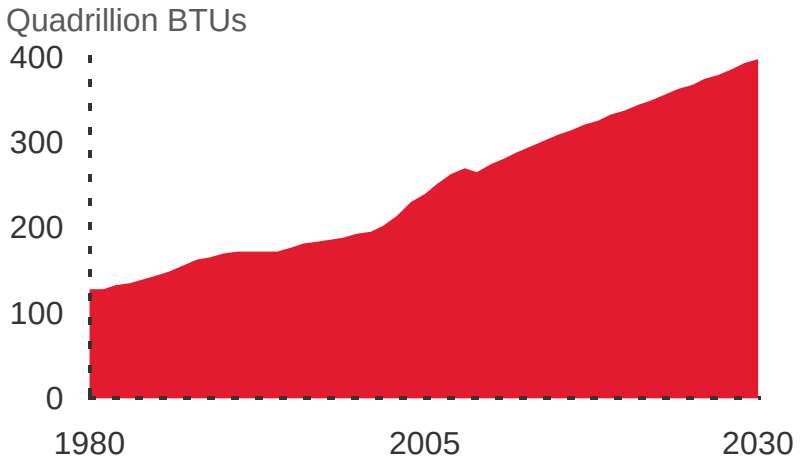
GDP



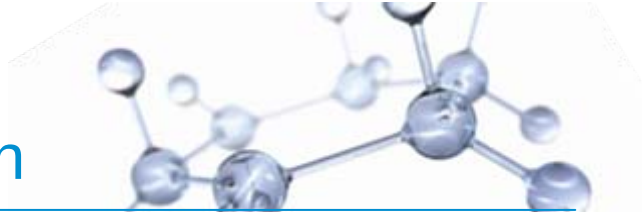
Demand





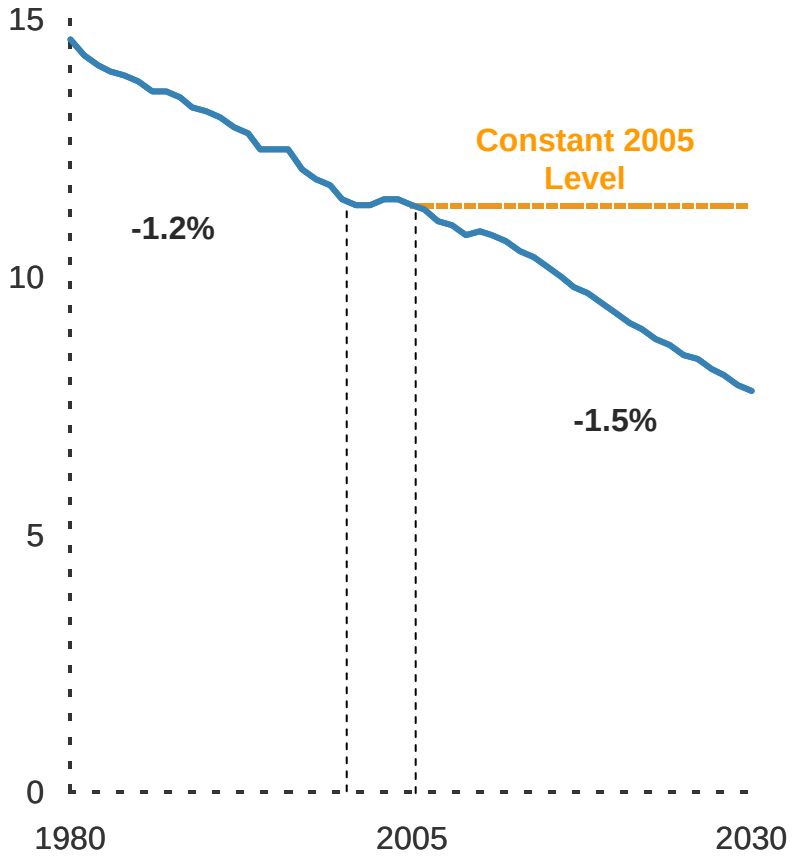


Efficiency: Reducing Demand Growth



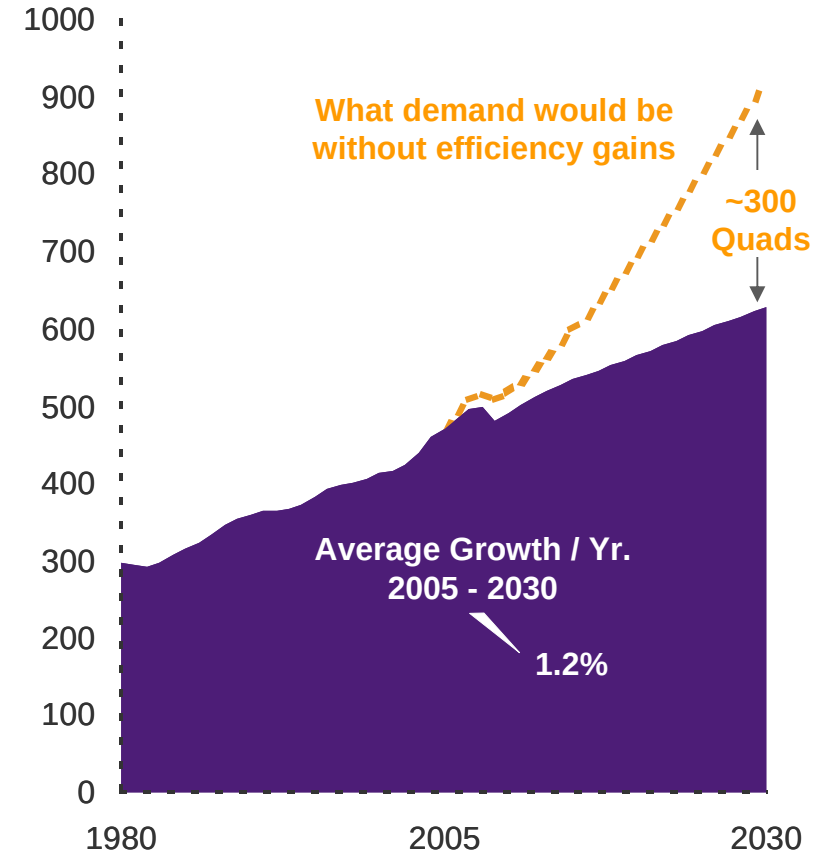
Energy per GDP

MBTU / 2005$ k GDP



Demand

Quadrillion BTUs



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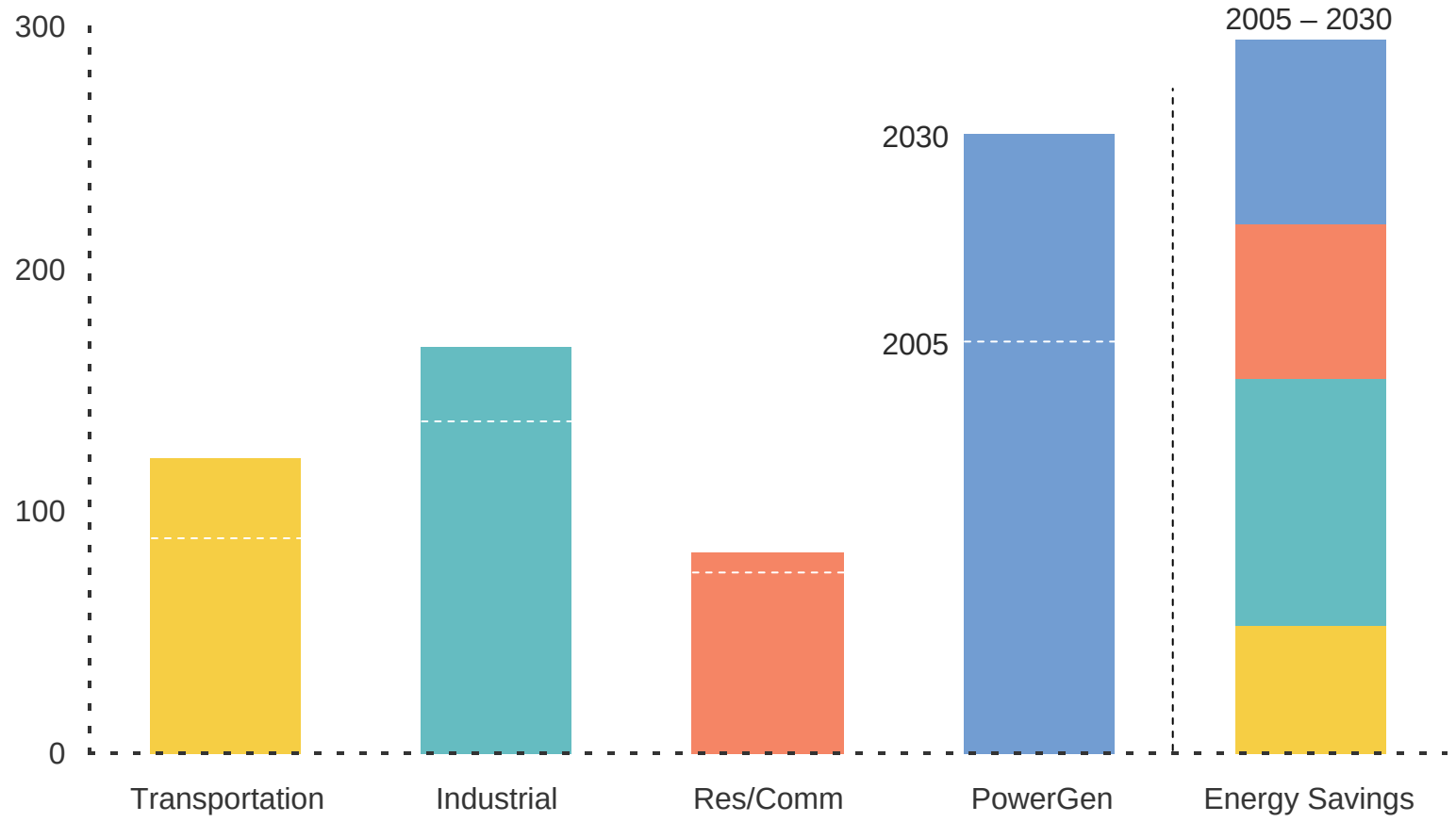
Growing Global Demand

By Sector

Quadrillion BTUs



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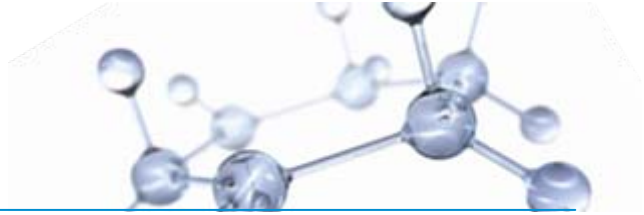
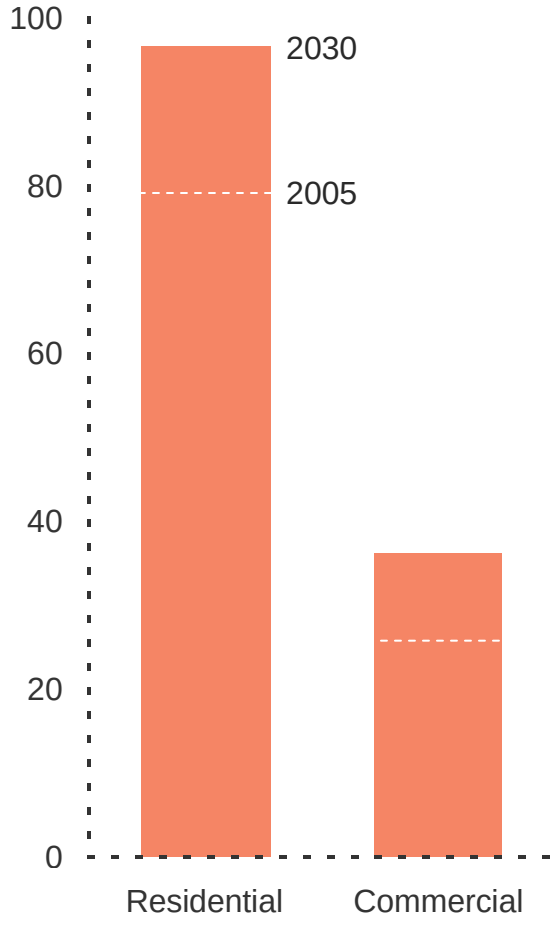
Residential / Commercial Demand



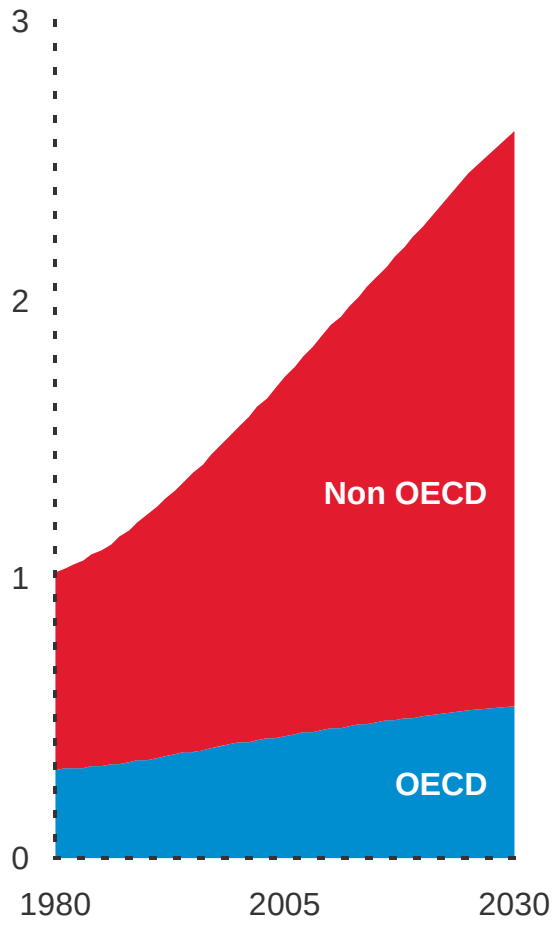
By Sector

Quadrillion BTUs



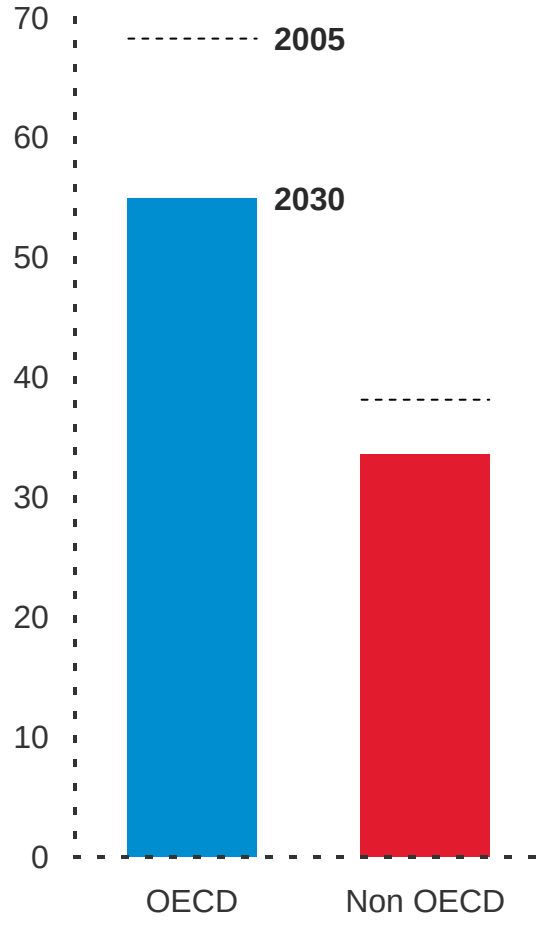
Residential

Billion Households



Residential Energy Use

MBTU / Household



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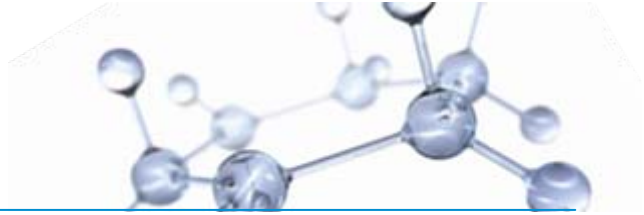
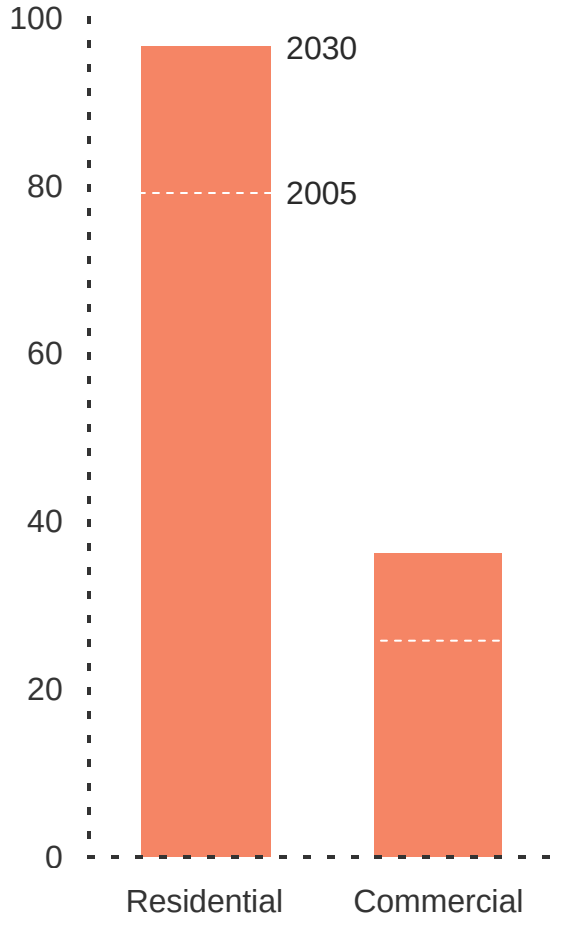
Residential / Commercial Demand



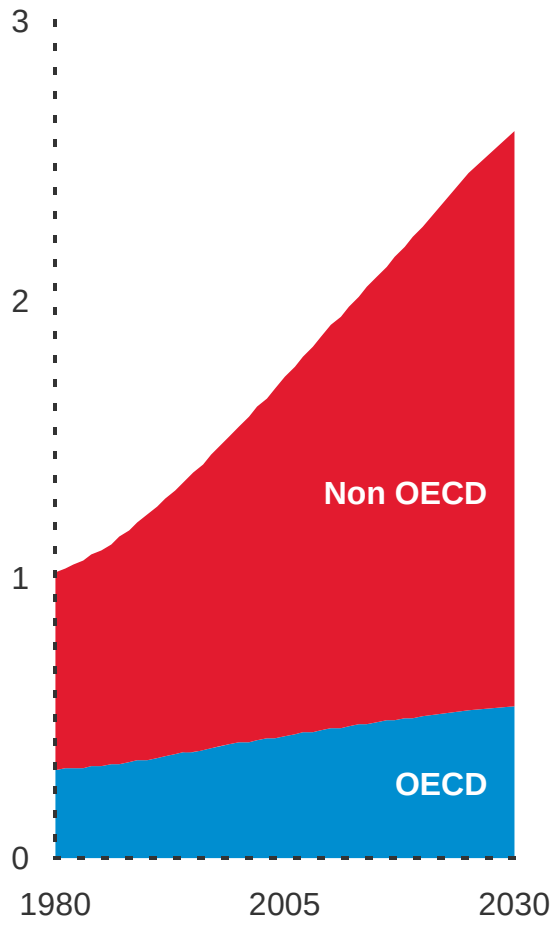
By Sector

Quadrillion BTUs



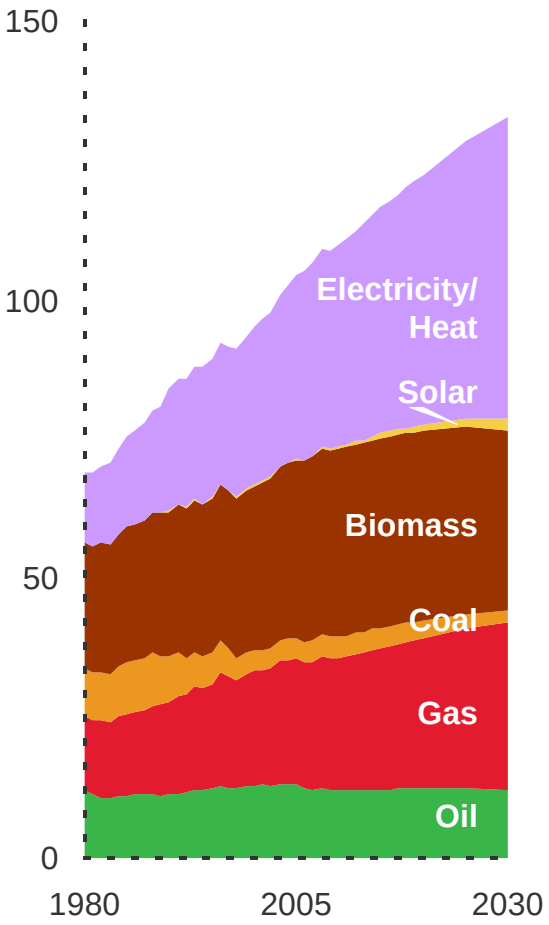
Residential

Billion Households



Global Demand

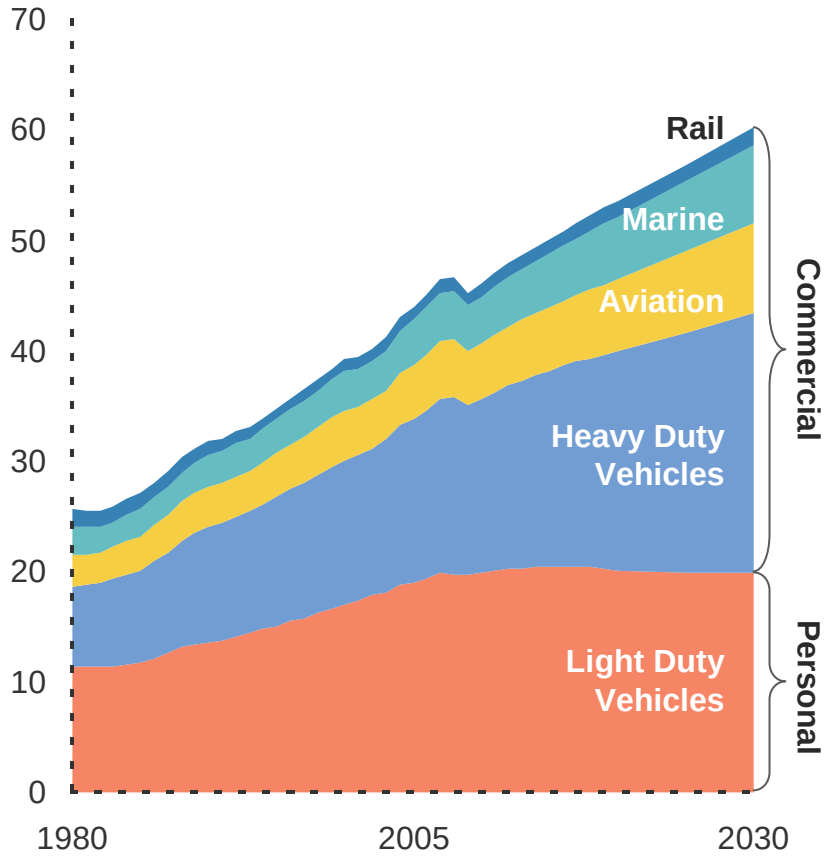
Quadrillion BTUs



Global Transportation Demand

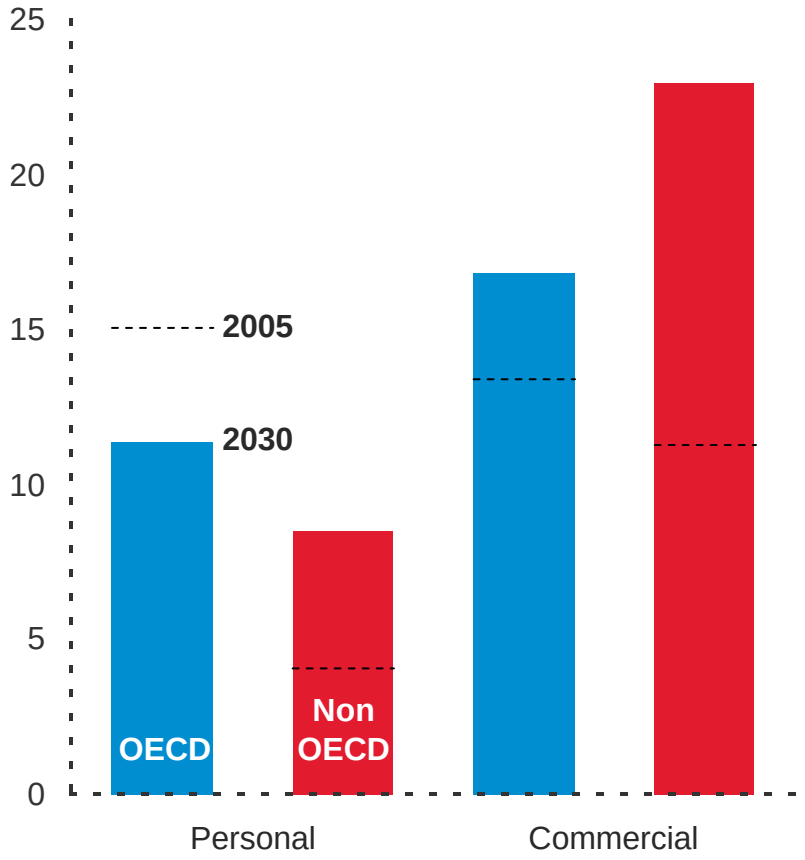
By Sector

MBDOE



Personal vs. Commercial

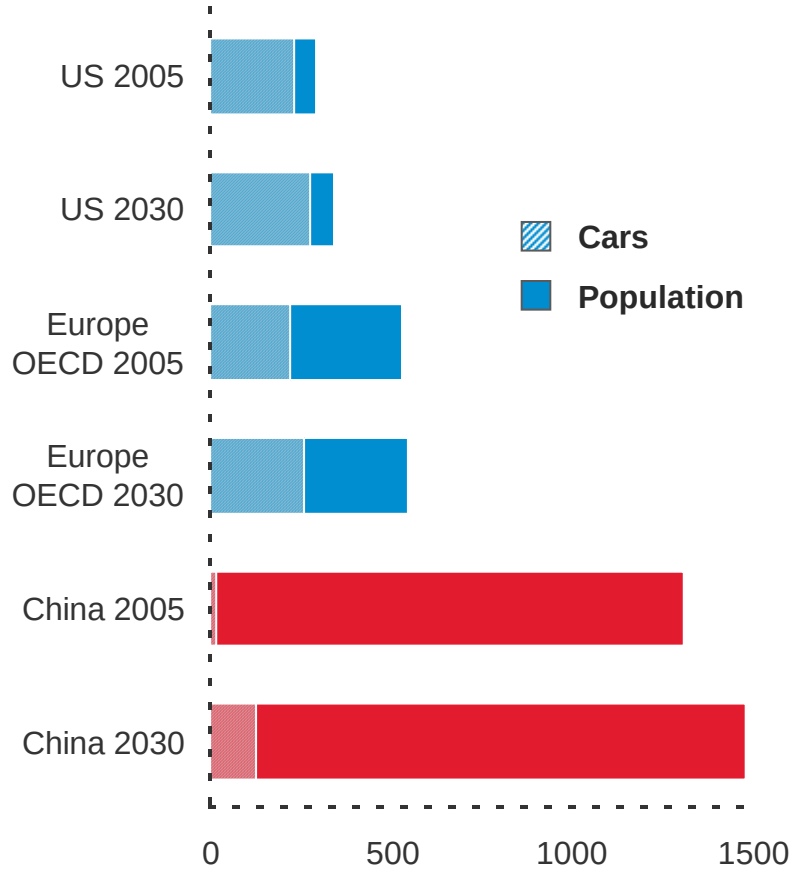
MBDOE



Personal Vehicle Fleet is Growing

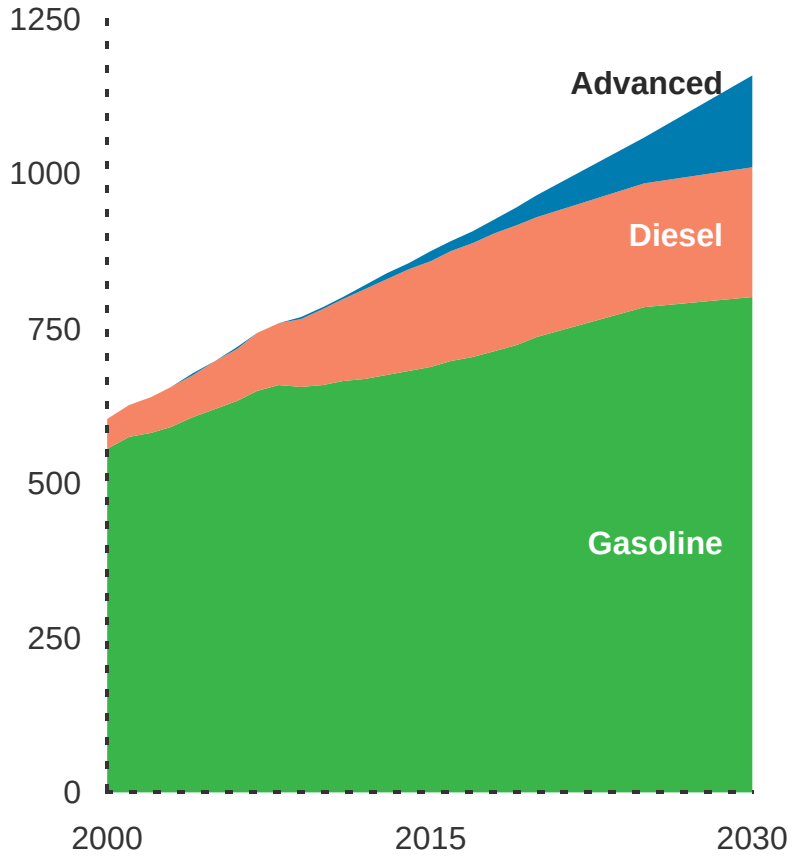
Vehicle Penetration

Cars and Population (millions)

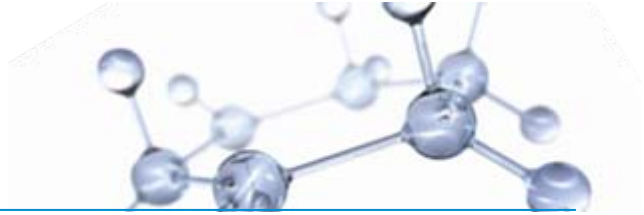


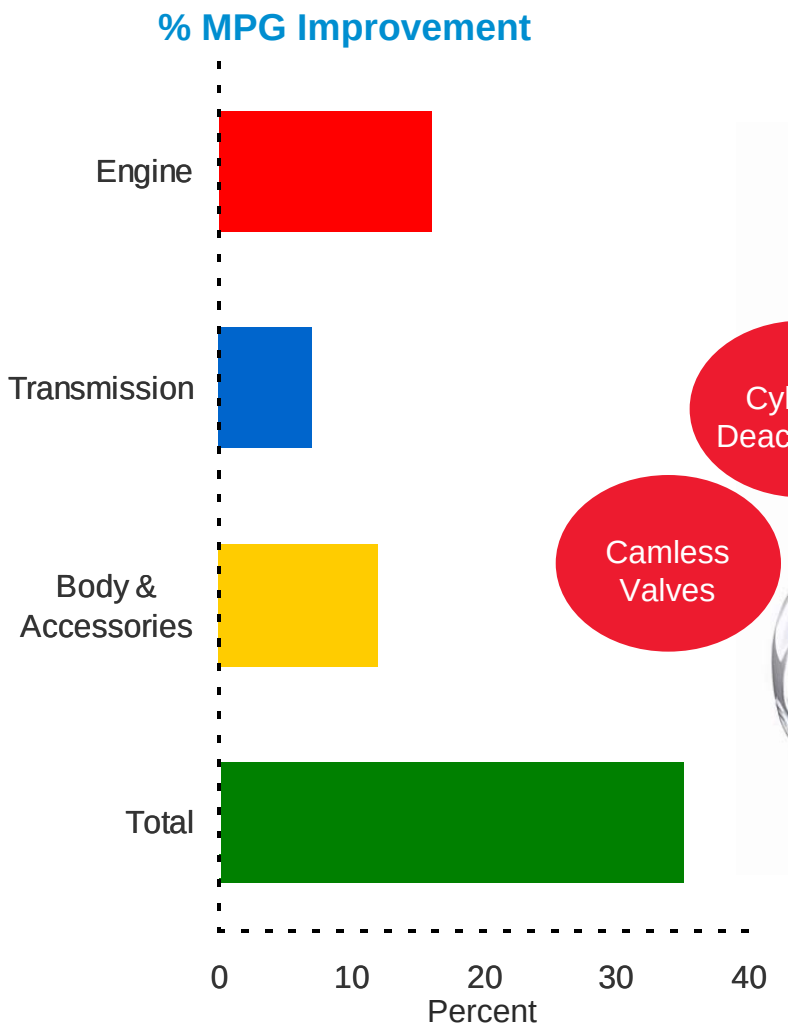
Fleet by Car Type

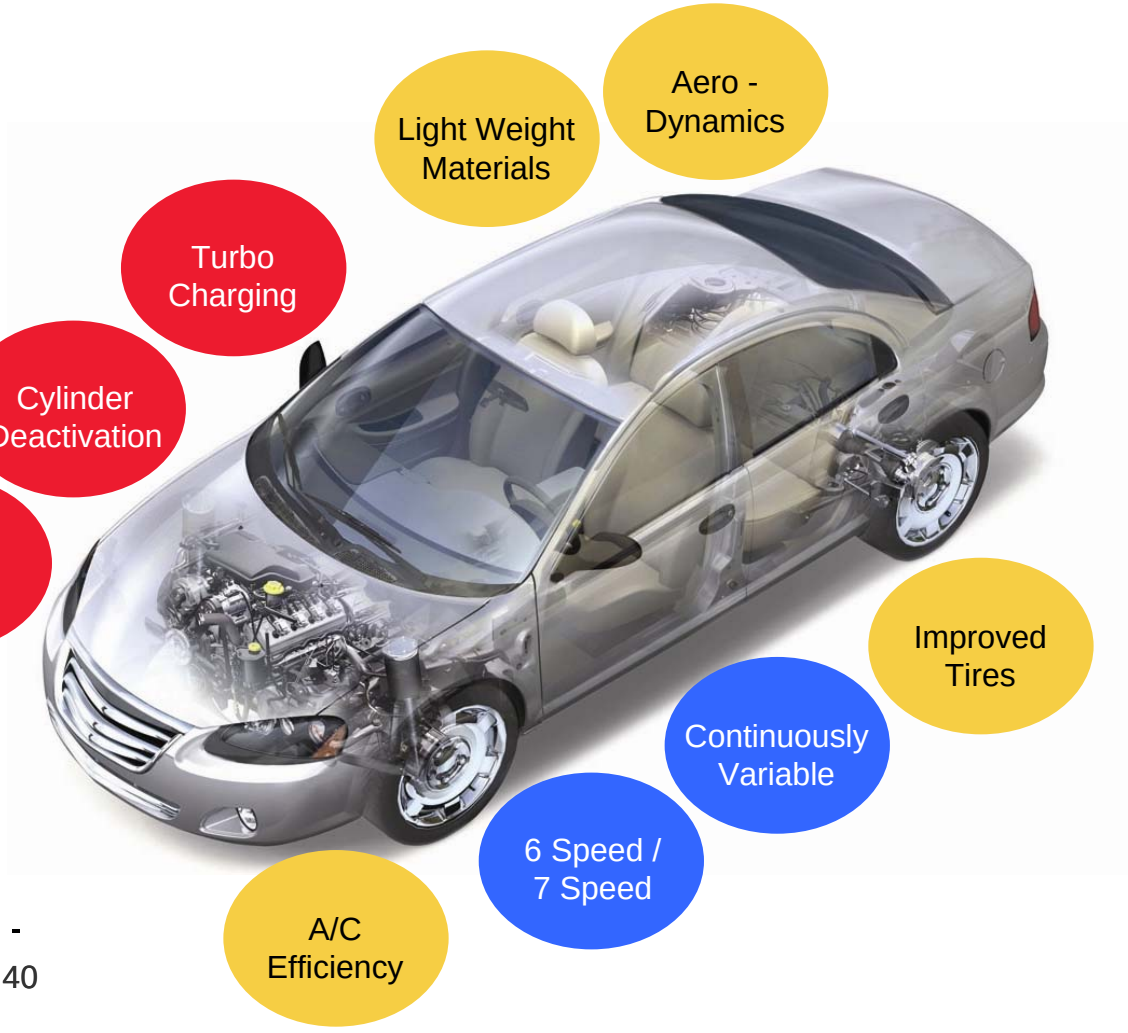
Million Cars



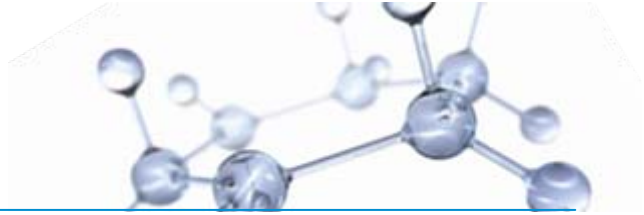
Improving Today's Vehicle





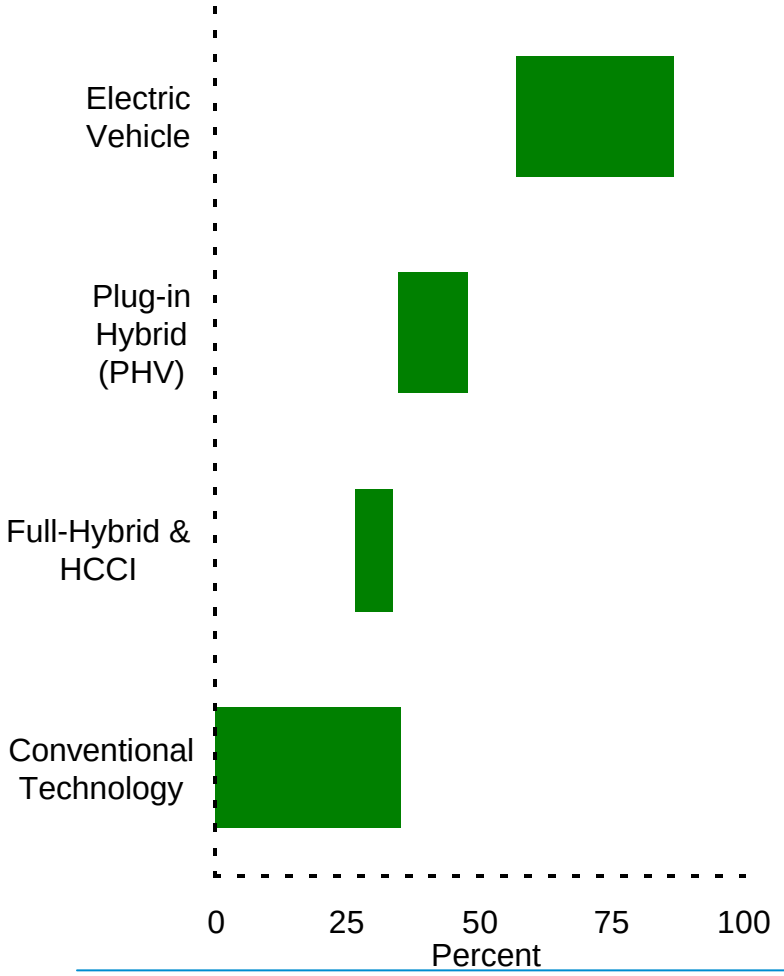


Light Duty Vehicle Technology



% MPG Improvement

Well to Wheels Gasoline Equiv.

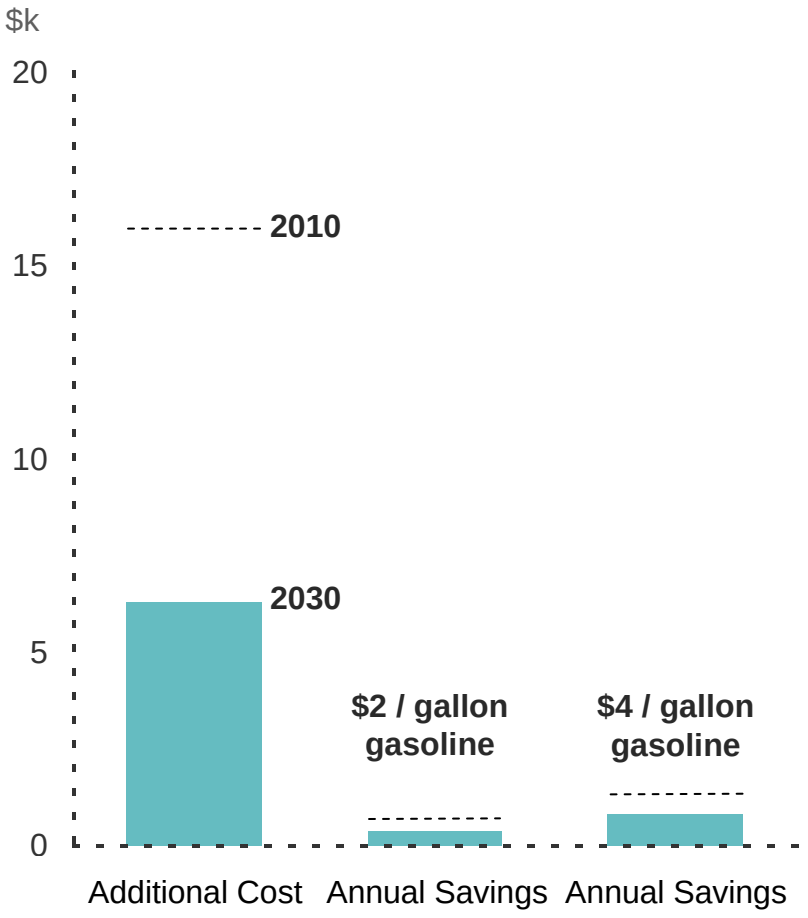


Light Duty Vehicle Technology

Plug-in Hybrid Assumptions

	2010	2030
Battery cost, $/kWh	800	300
Battery replacements over the vehicle life, #	0	0
Electricity cost, ¢/kWh	5	5

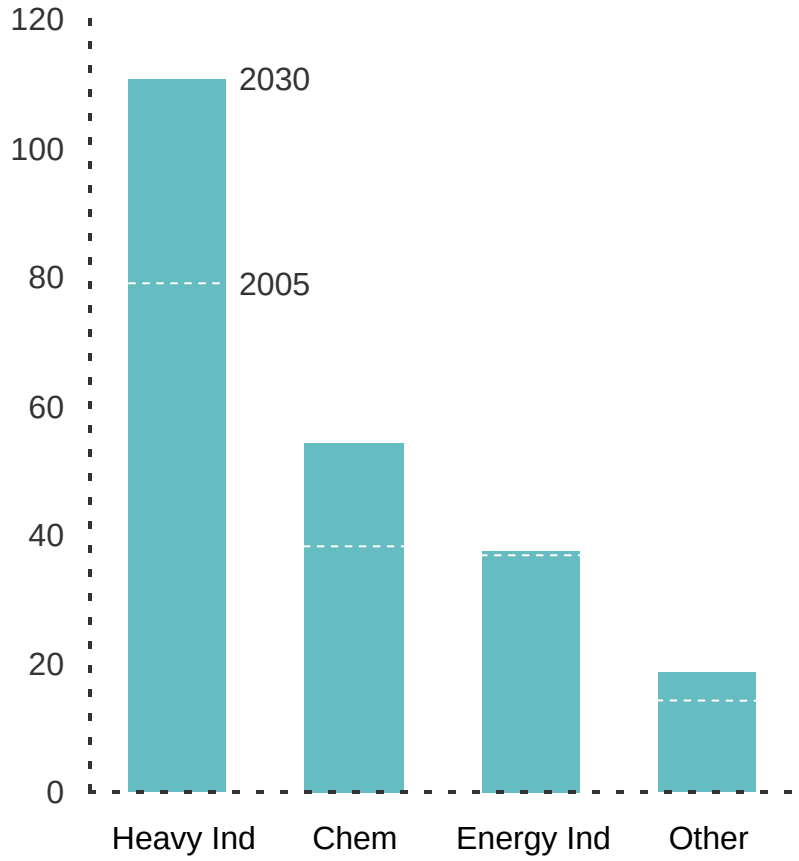
Plug-in Hybrid vs. Conventional Vehicles



Global Industrial Demand

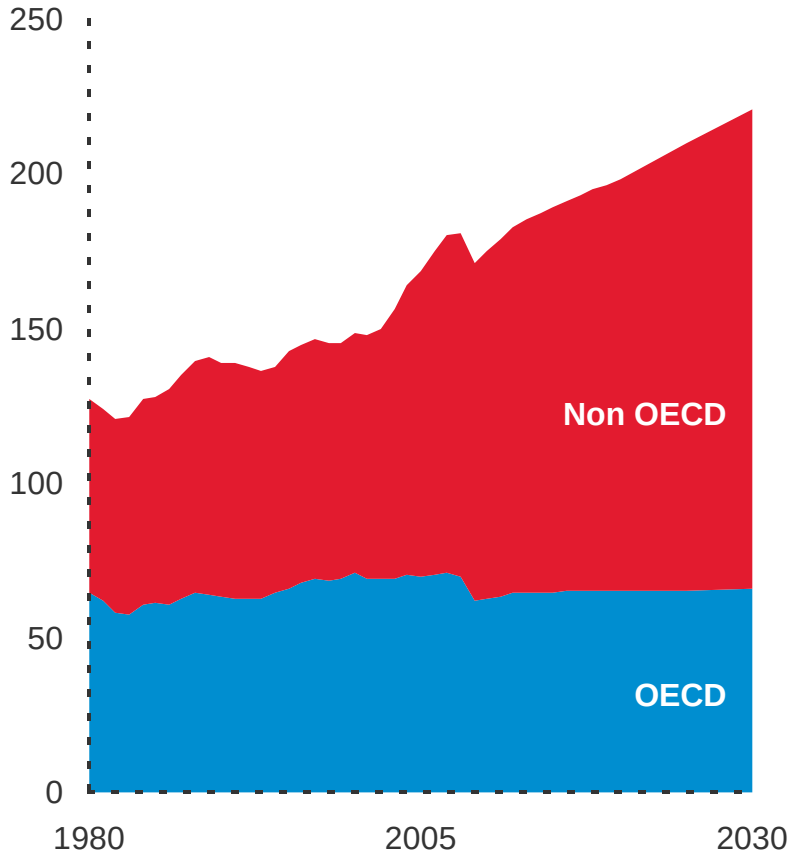
By Sector

Quadrillion BTUs



By Region

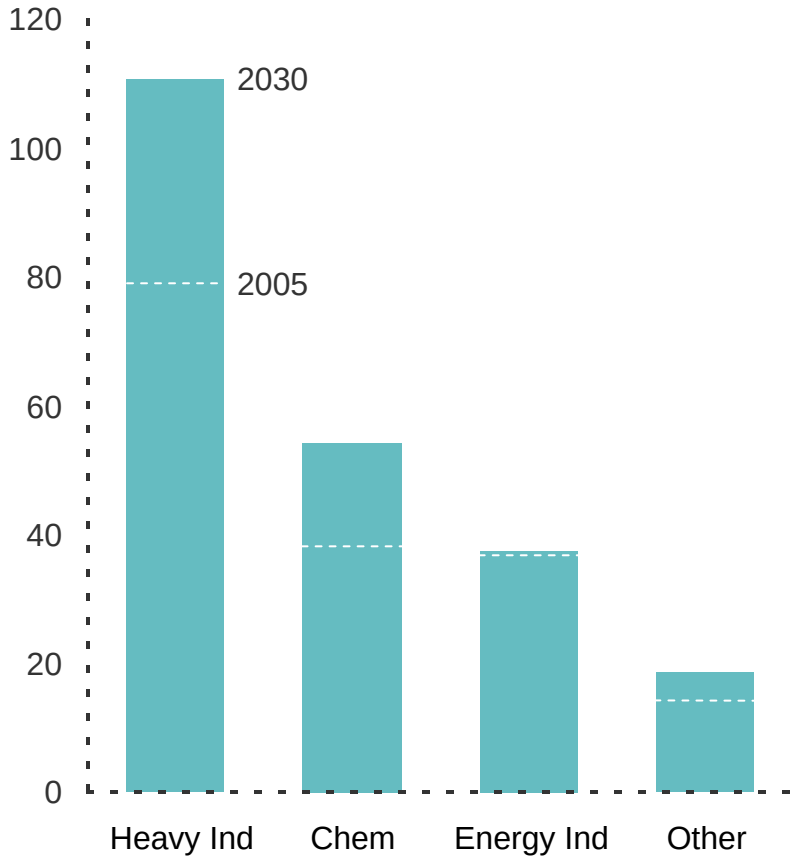
Quadrillion BTUs



Global Industrial Demand

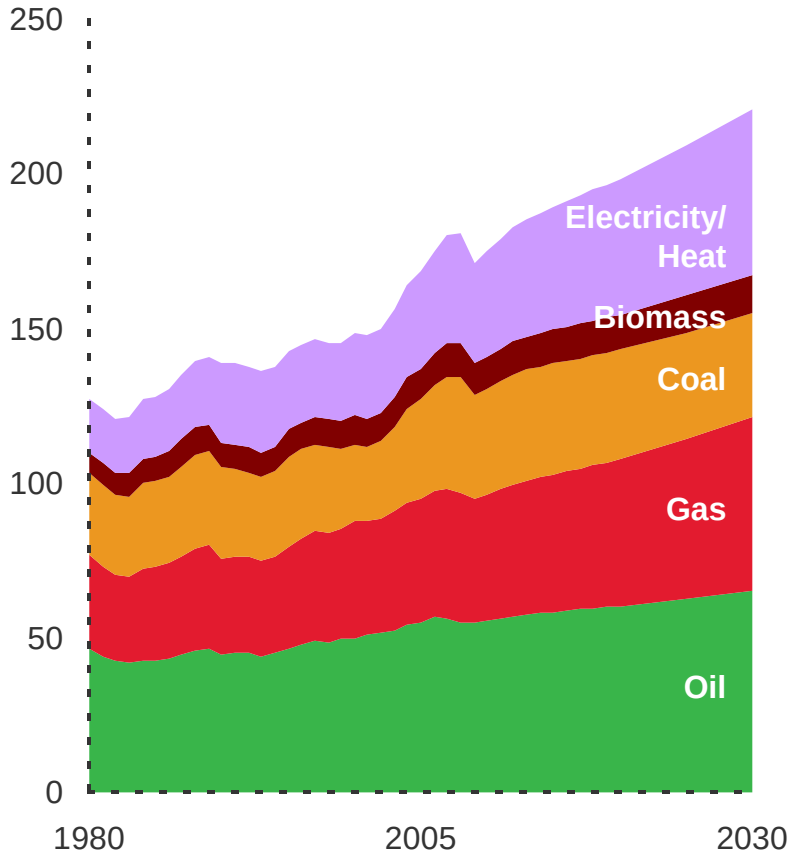
By Sector

Quadrillion BTUs



By Fuel

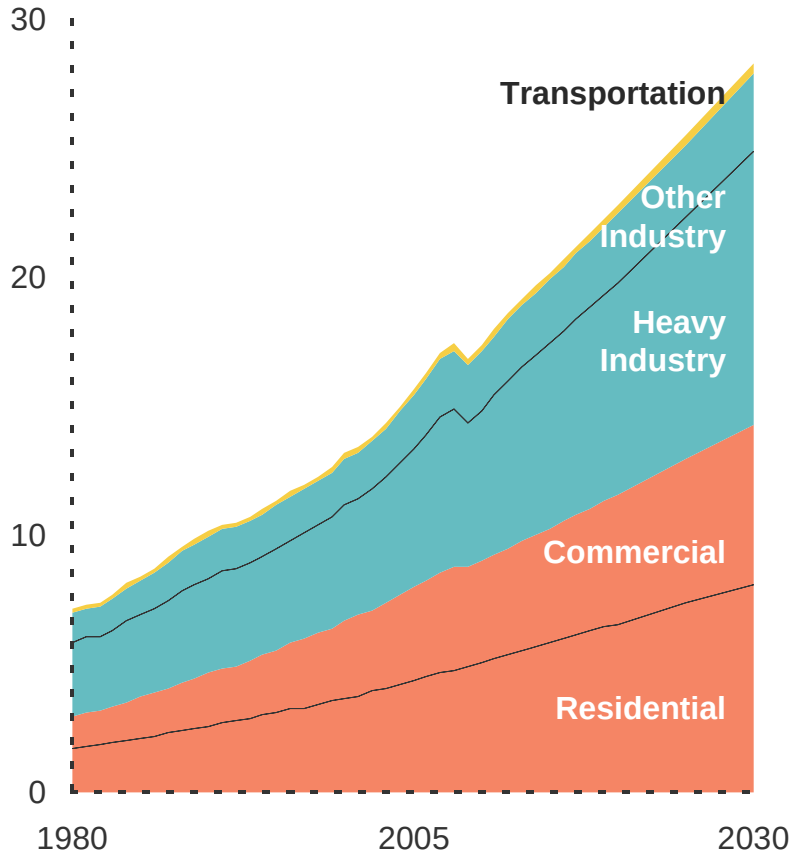
Quadrillion BTUs



Electricity Use is Growing Fast

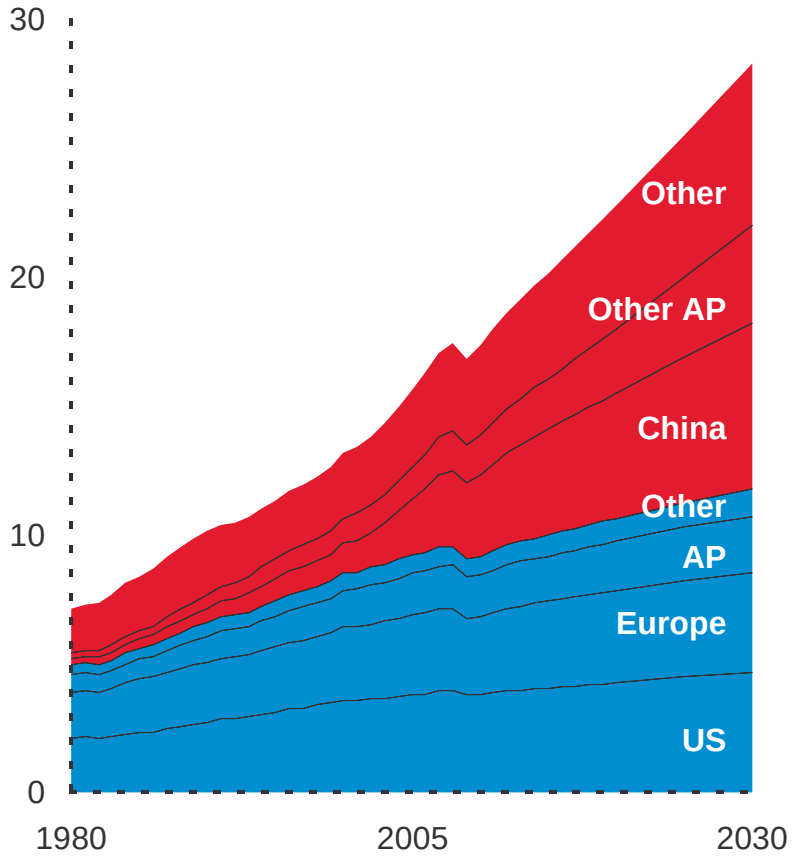
By Sector

k TWhr



By Region

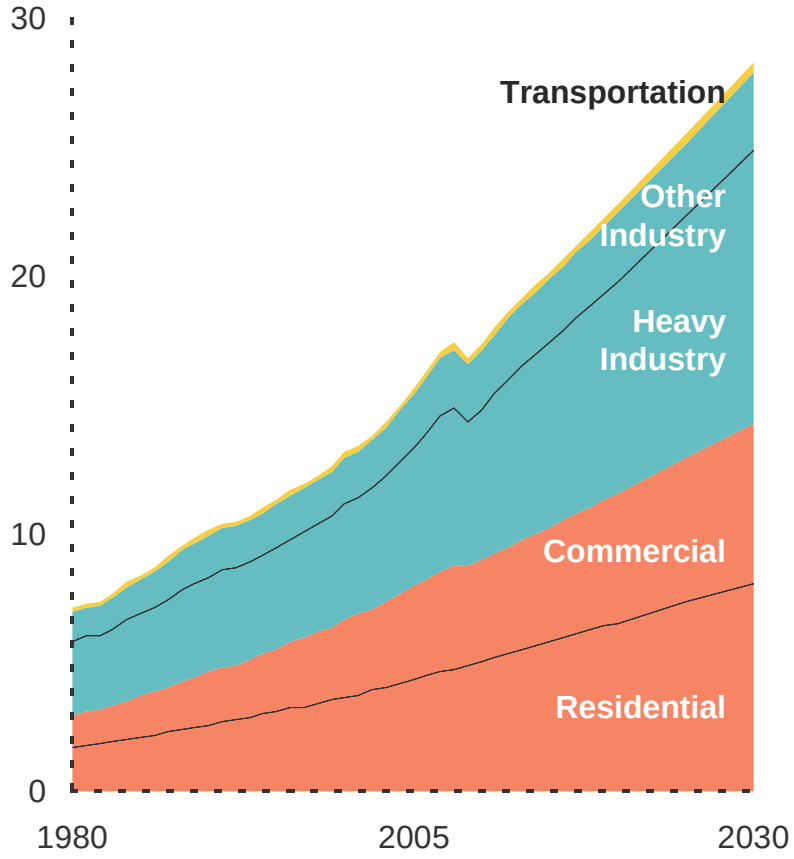
k TWhr



Electricity Use is Growing Fast

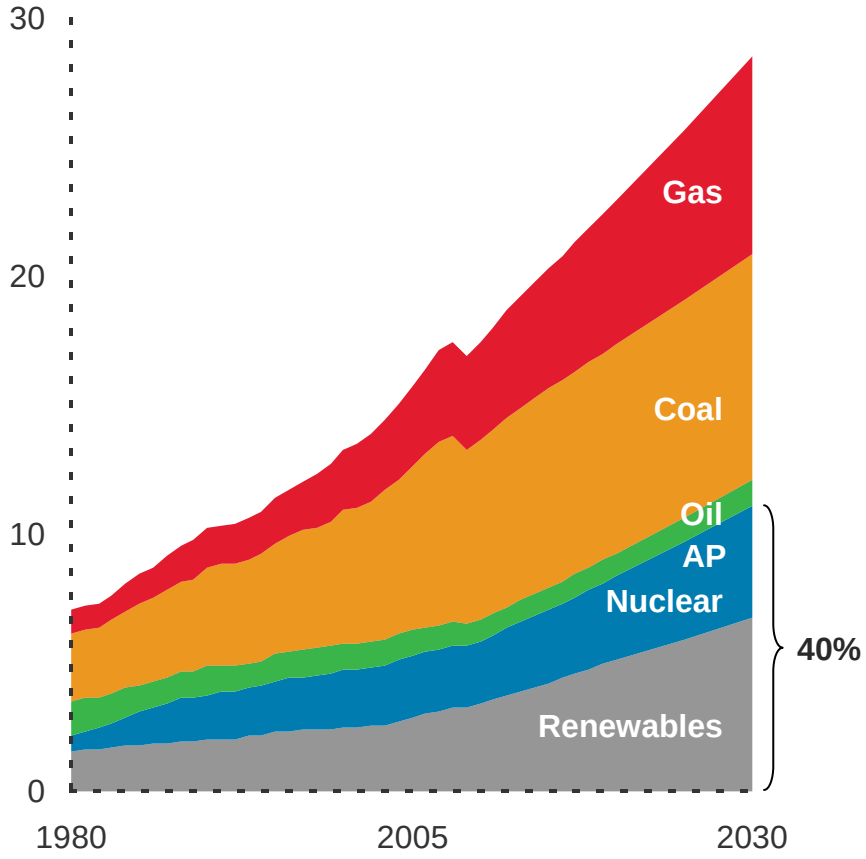
By Sector

k TWhr

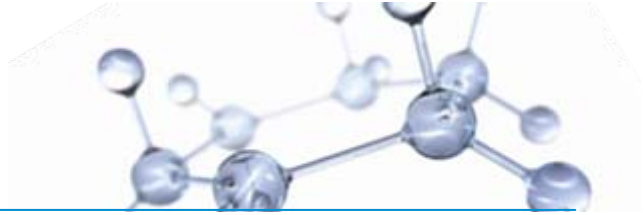


By Generation

k TWhr

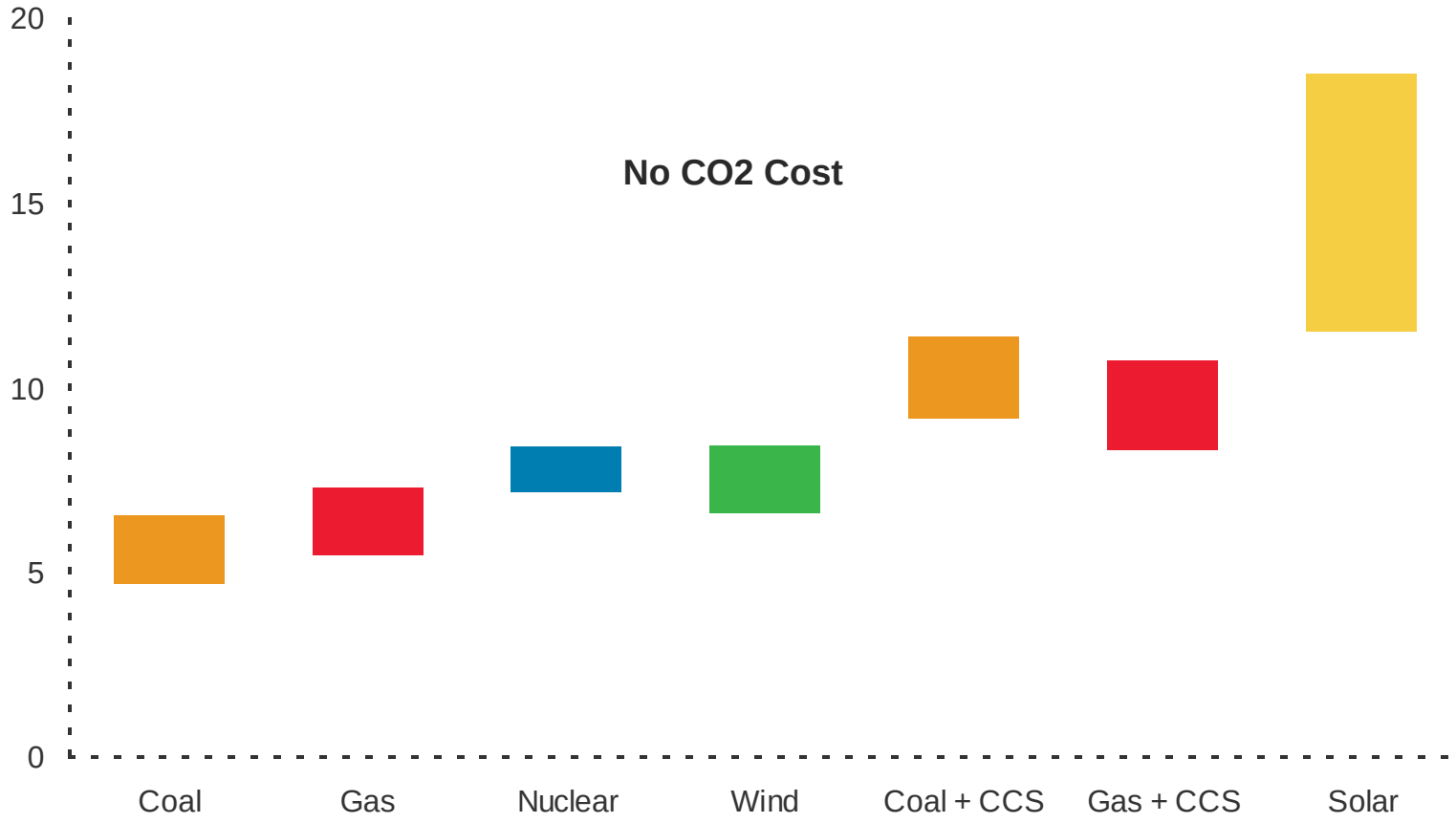


Electricity Generation Cost

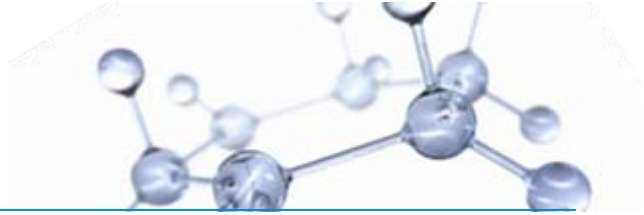


US Baseload, Startup 2025

2009 Cents/kWhr



Electricity Generation Cost



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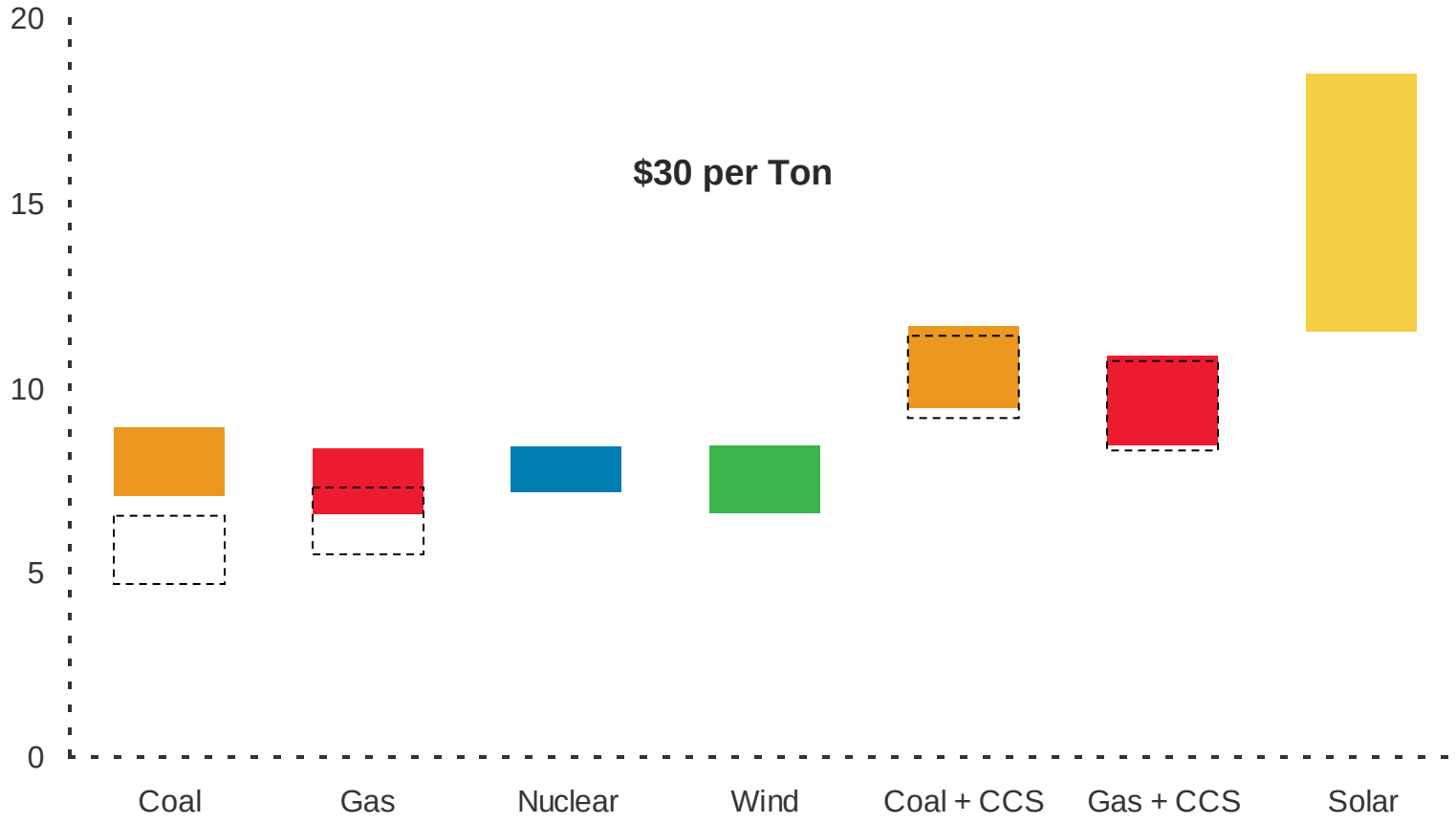
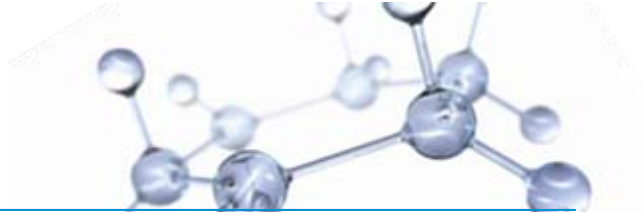


Electricity Generation Cost



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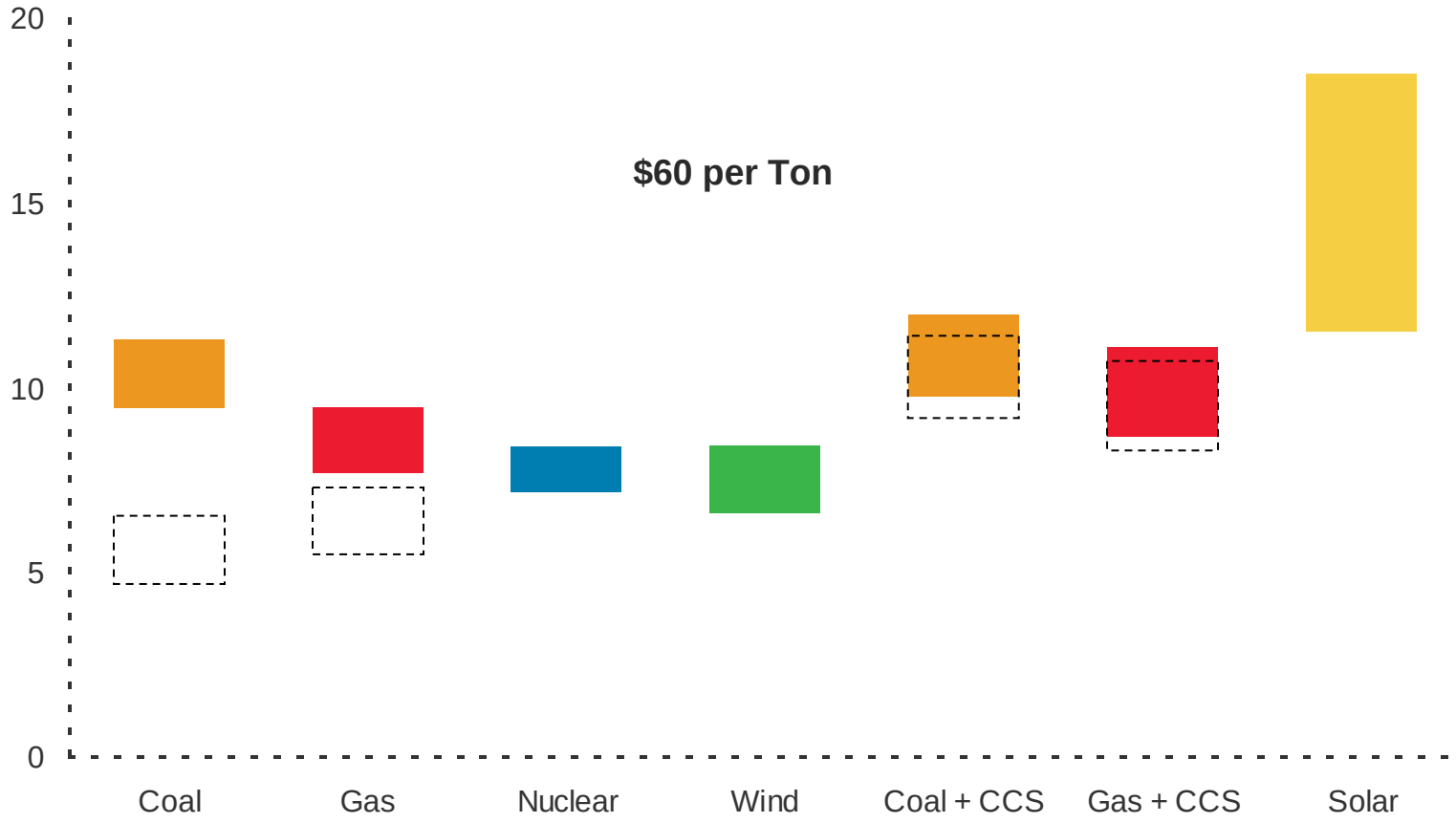
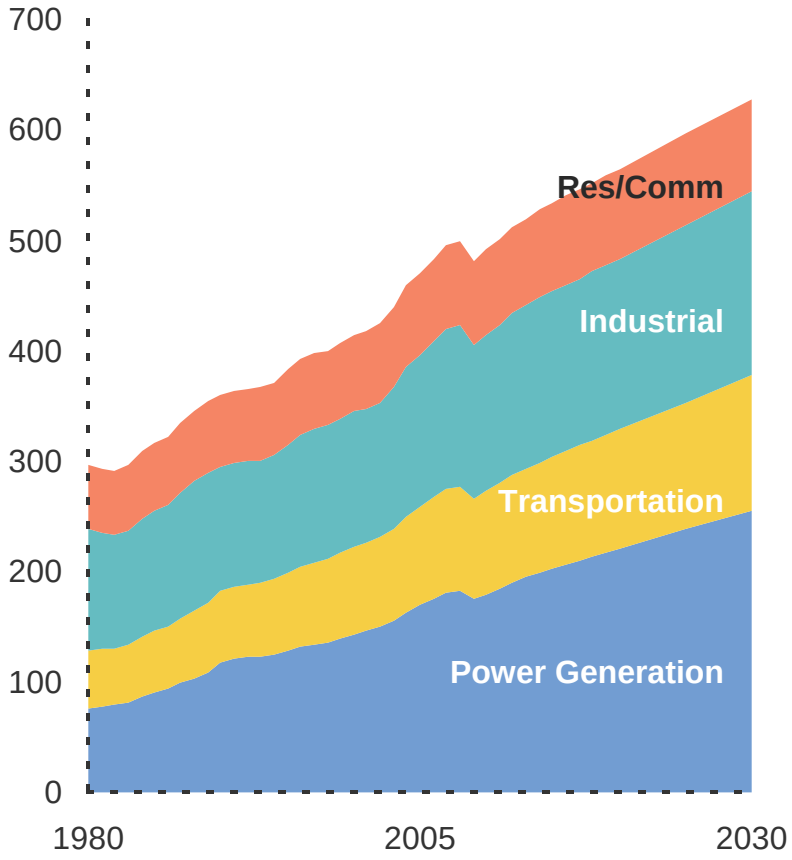


Global Energy Demand and Supply

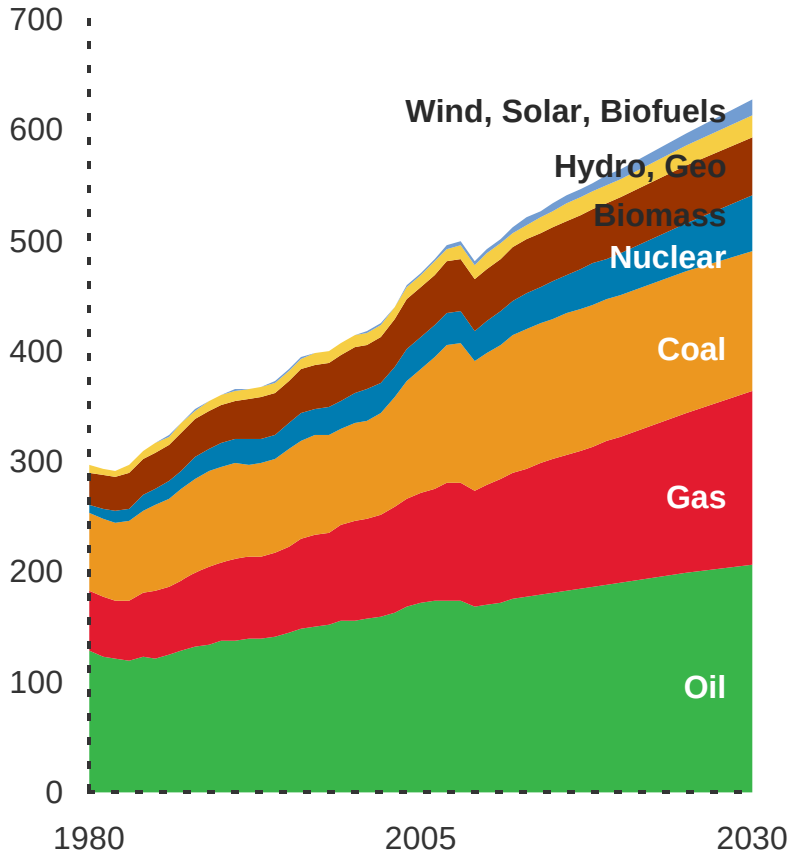
By Sector

Quadrillion BTUs



By Fuel

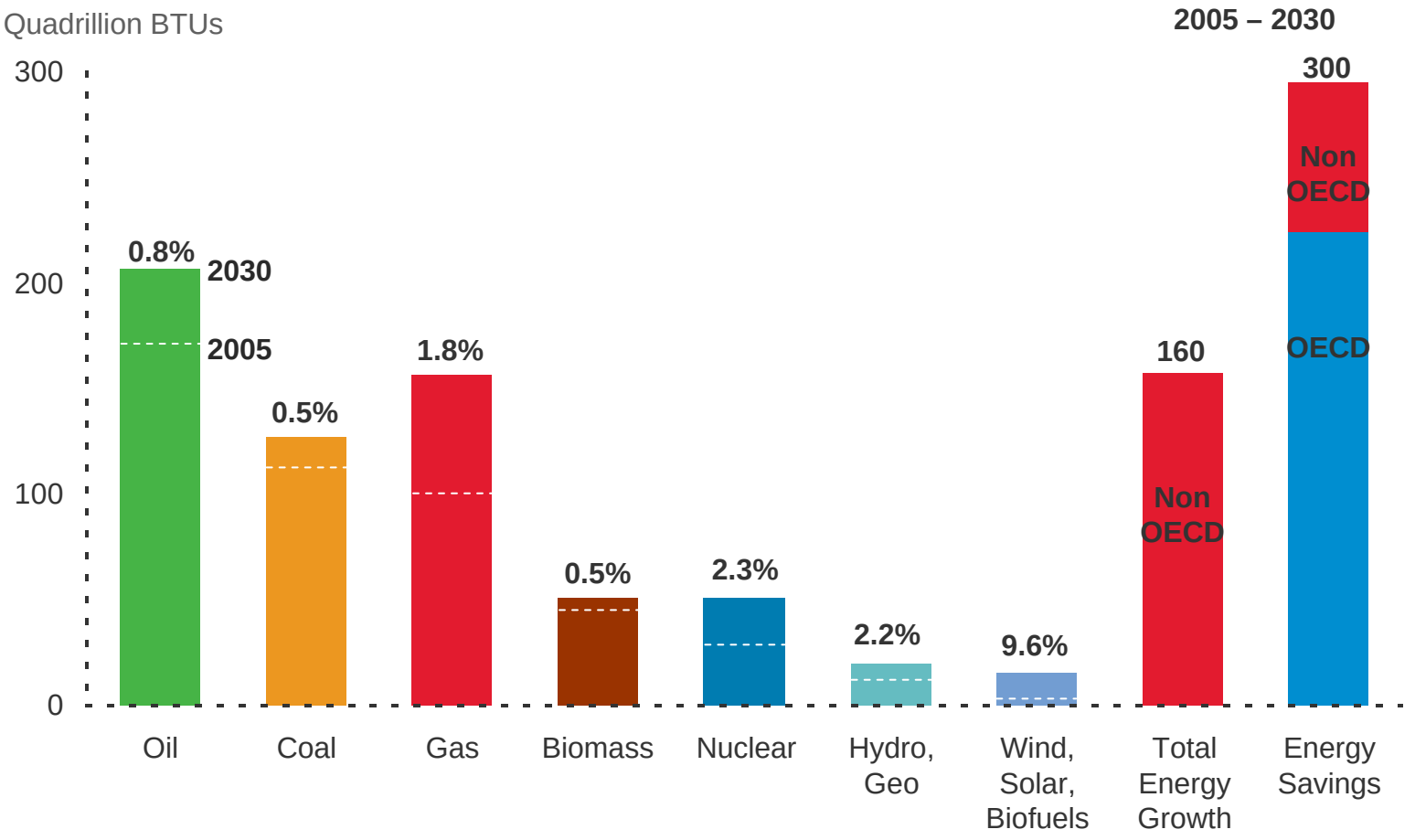
Quadrillion BTUs



Global Energy Demand and Supply

Demand and Supply

Quadrillion BTUs



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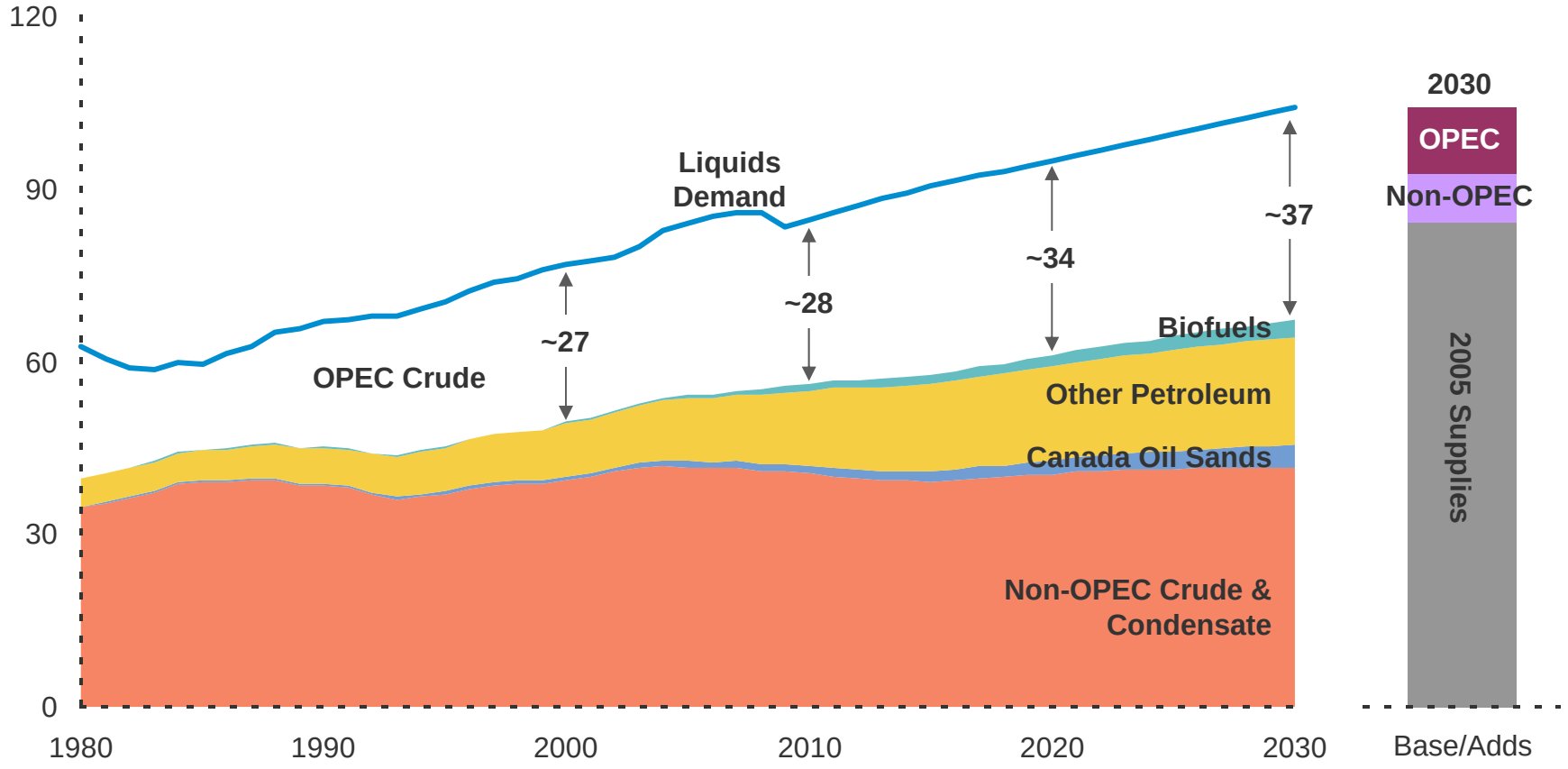
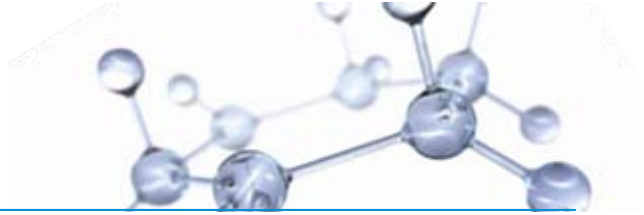
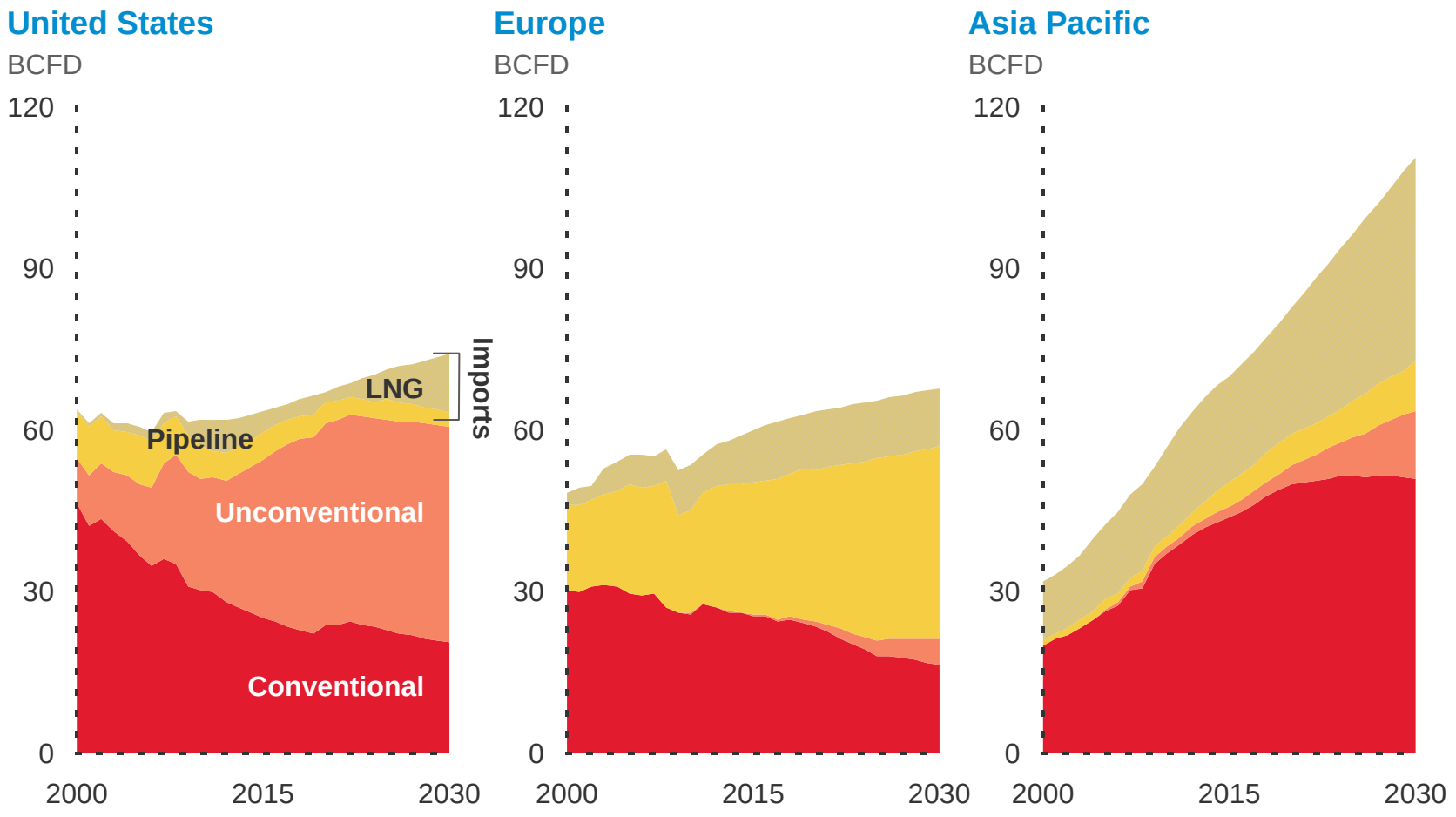
Global Liquids Supply Grows

Global Liquids Supply and Demand



Gas Supply and Demand Balance



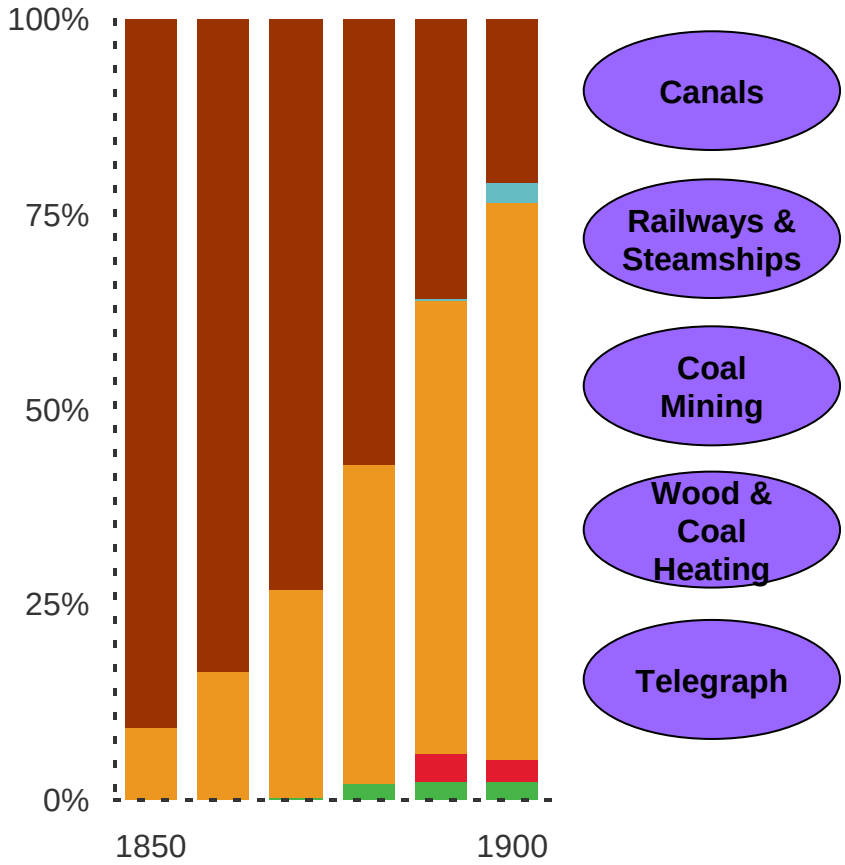


LNG: Liquefied Natural Gas

Transition to Modern Energy / Technology

US Energy Demand

Percent



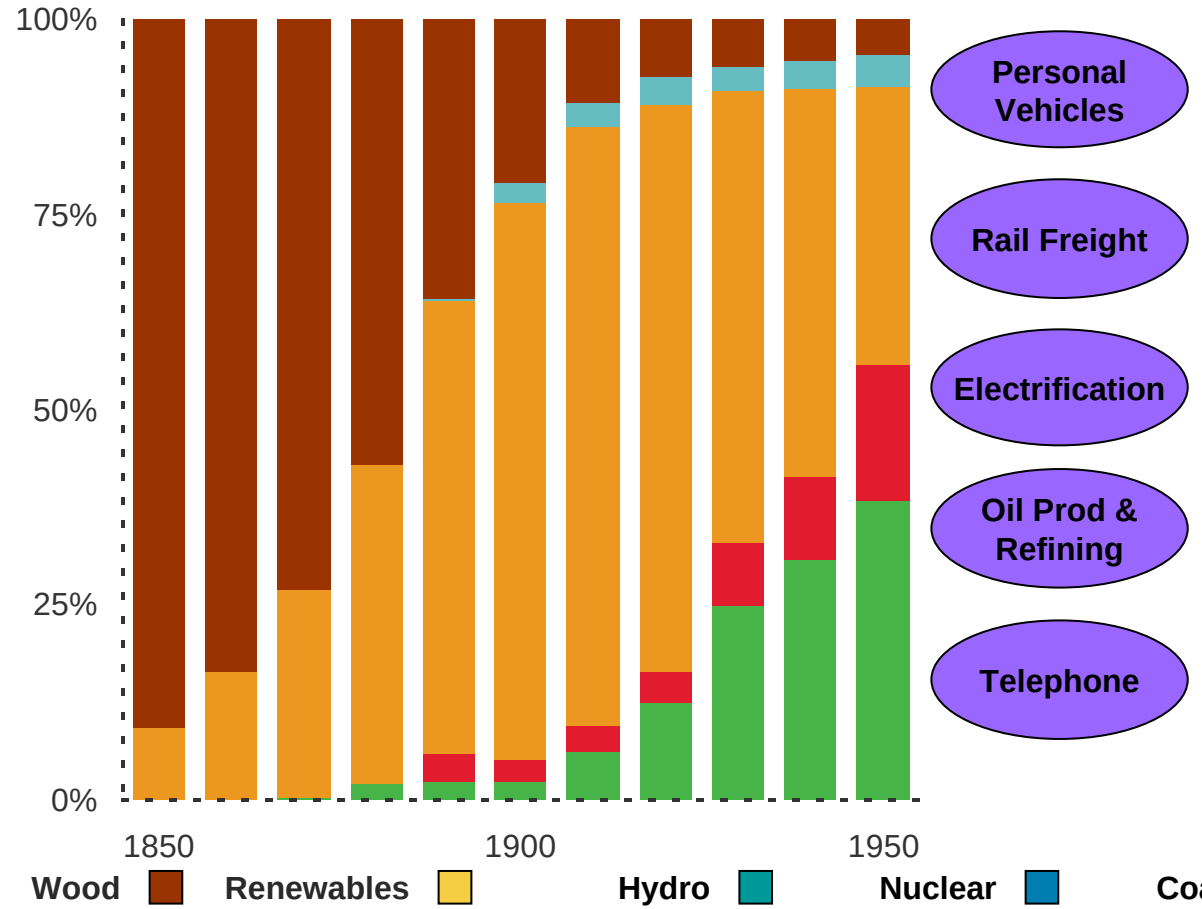
Wood | Renewables | Hydro | Nuclear | Coal | Gas | Oil

Energy Information Agency

Transition to Modern Energy / Technology

US Energy Demand

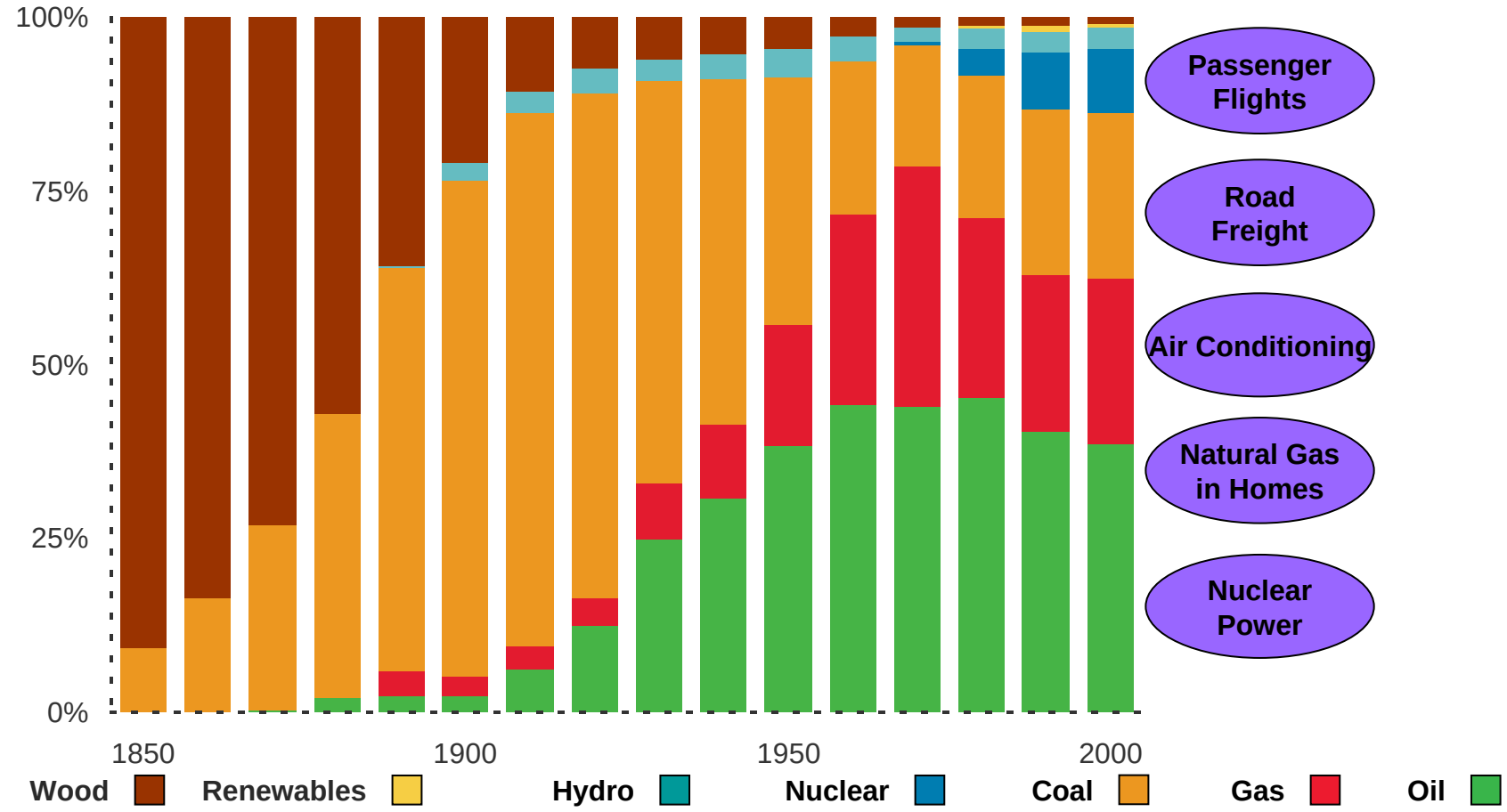
Percent



Energy Information Agency

Transition to Modern Energy / Technology

US Energy Demand



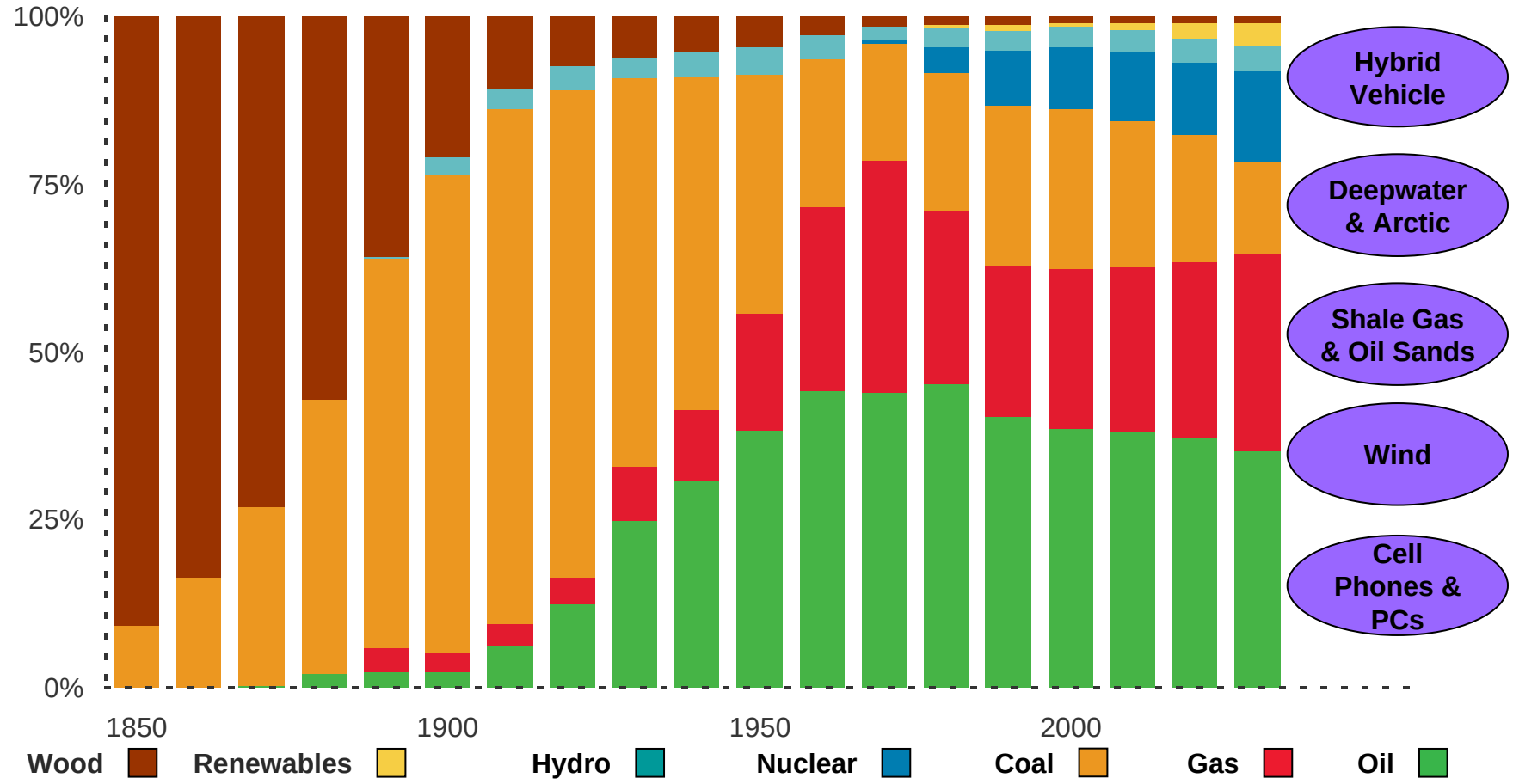
Energy Information Agency

ExxonMobil
Taking on the world's toughest energy challenges.

Transition to Modern Energy / Technology

US Energy Demand

Percent

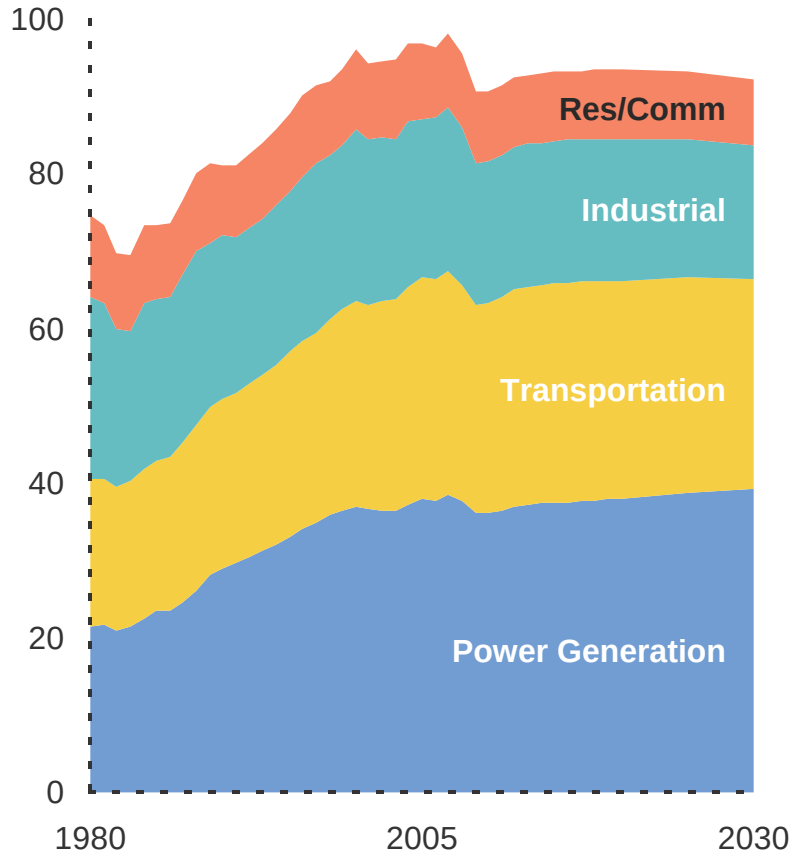


Energy Information Agency

US Energy Demand and Supply

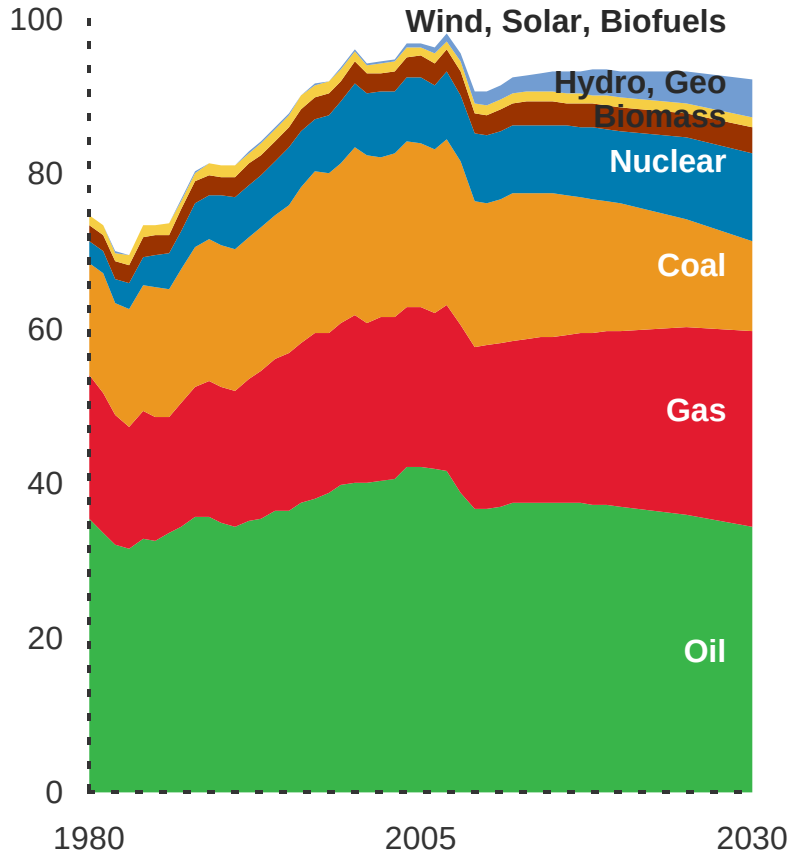
By Sector

Quadrillion BTUs



By Fuel

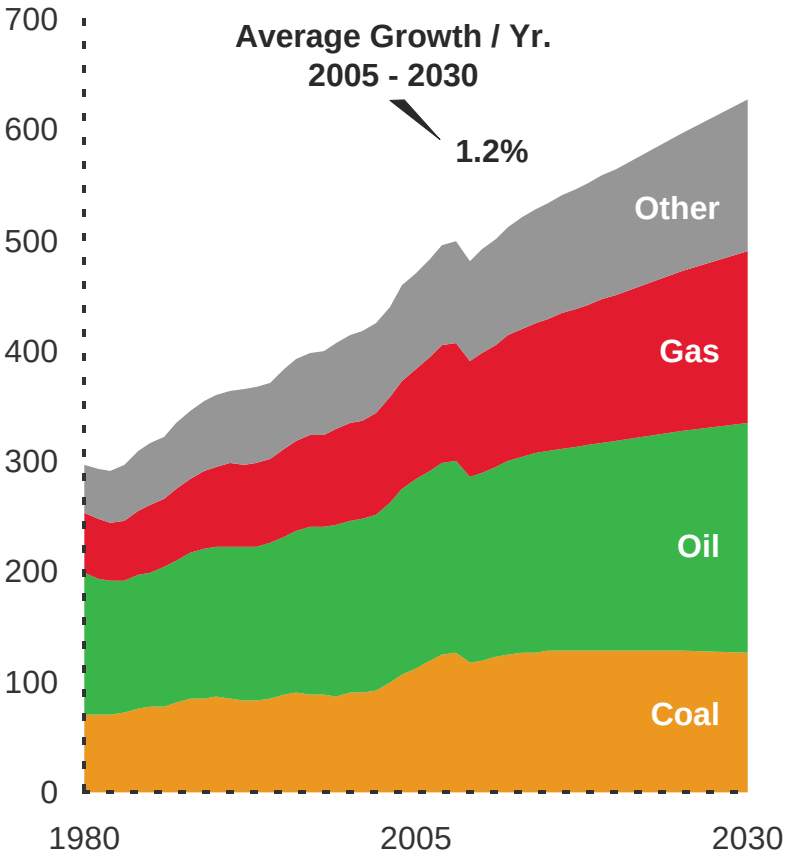
Quadrillion BTUs



Global Energy Demand & CO_2 Emissions

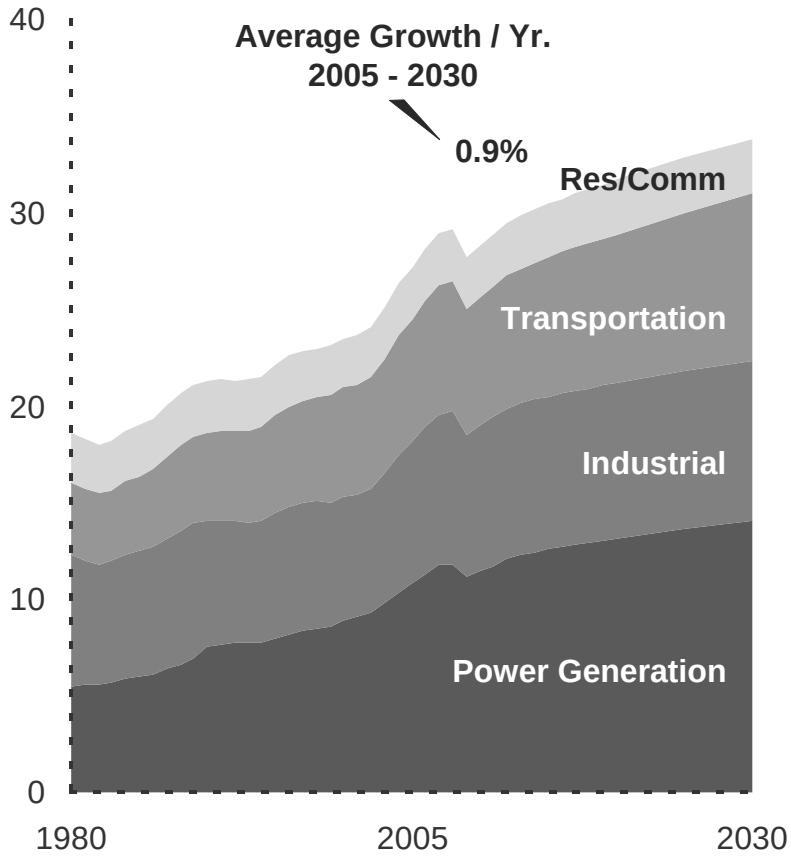
Demand

Quadrillion BTUs



CO_2 Emissions

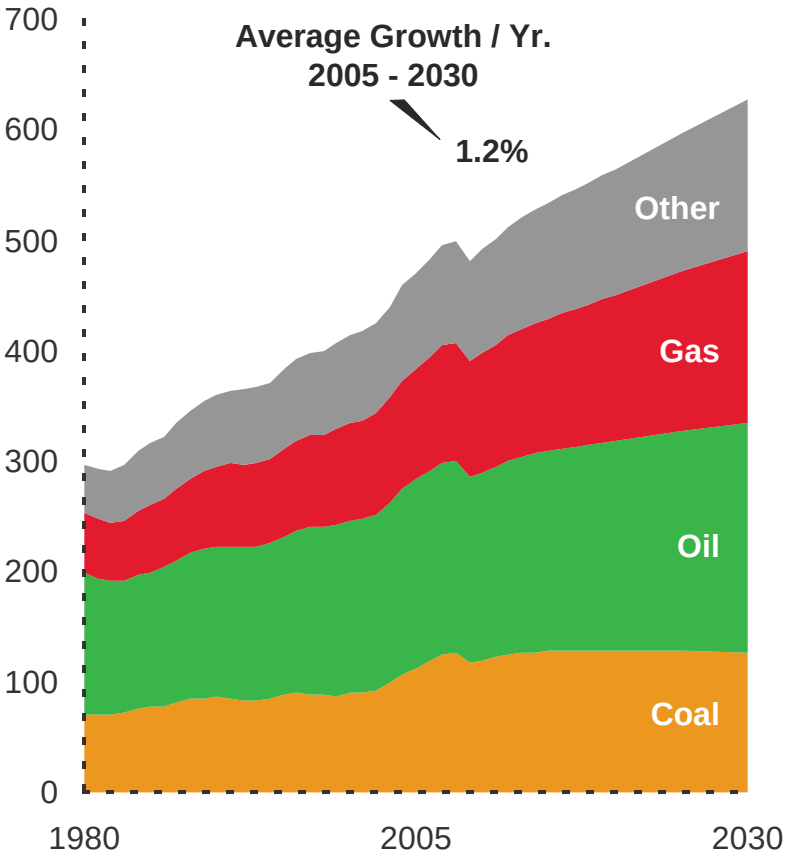
Billion Tons



Global Energy Demand & CO_2 Emissions

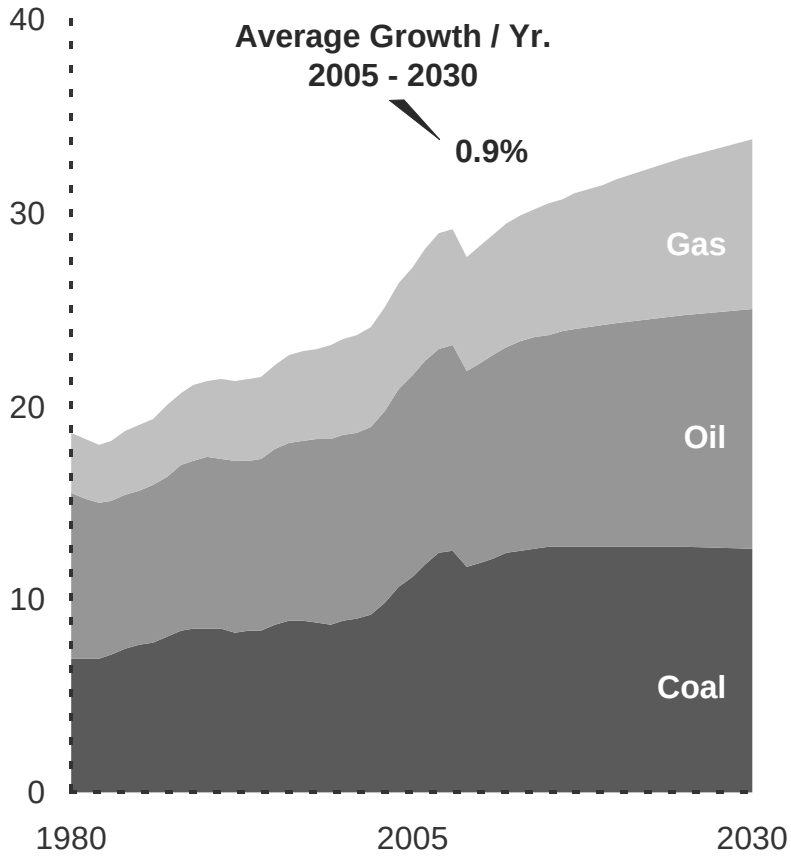
Demand

Quadrillion BTUs

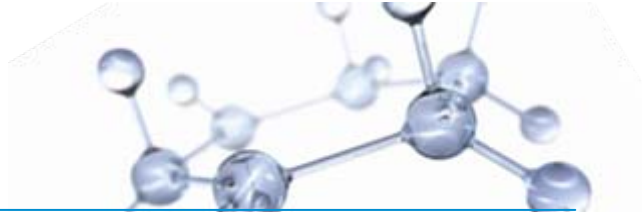


CO_2 Emissions

Billion Tons

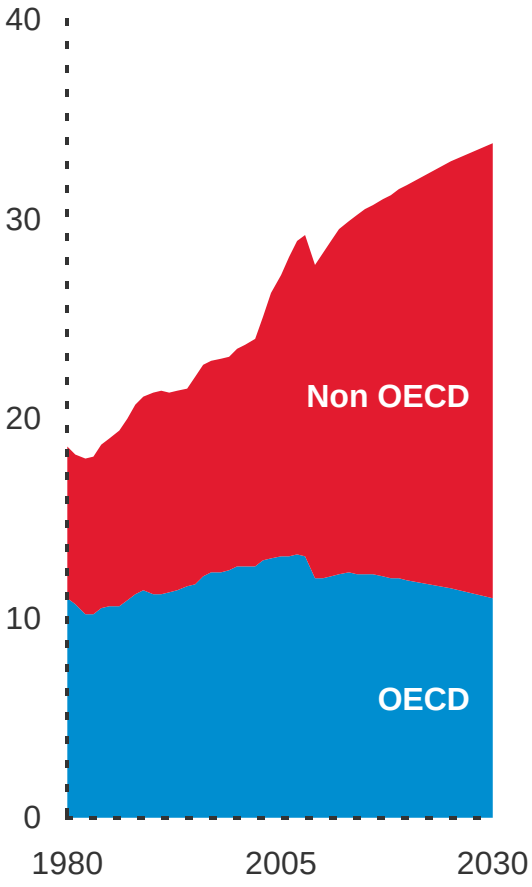


CO_2 Emissions



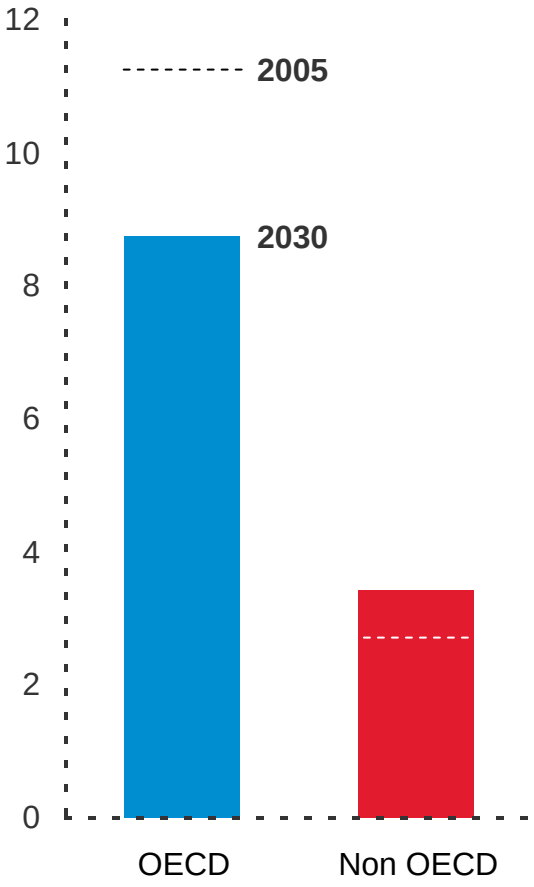
CO_2 Emissions

Billion Tons



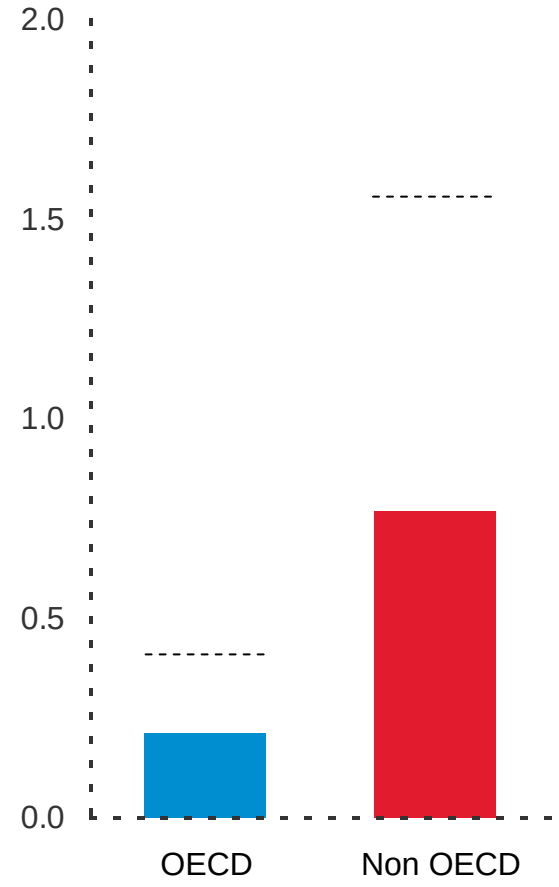
Emissions per Capita

Tons / Person



Emissions per GDP

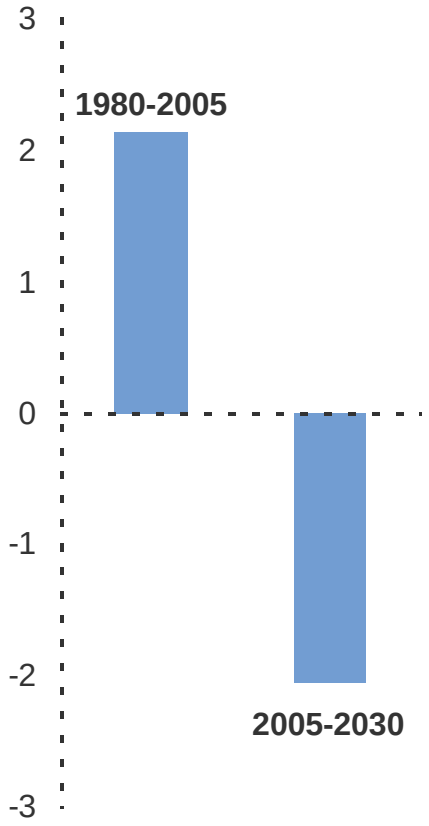
Tons / 2005$ k GDP



OECD Transitions to Lower Emissions

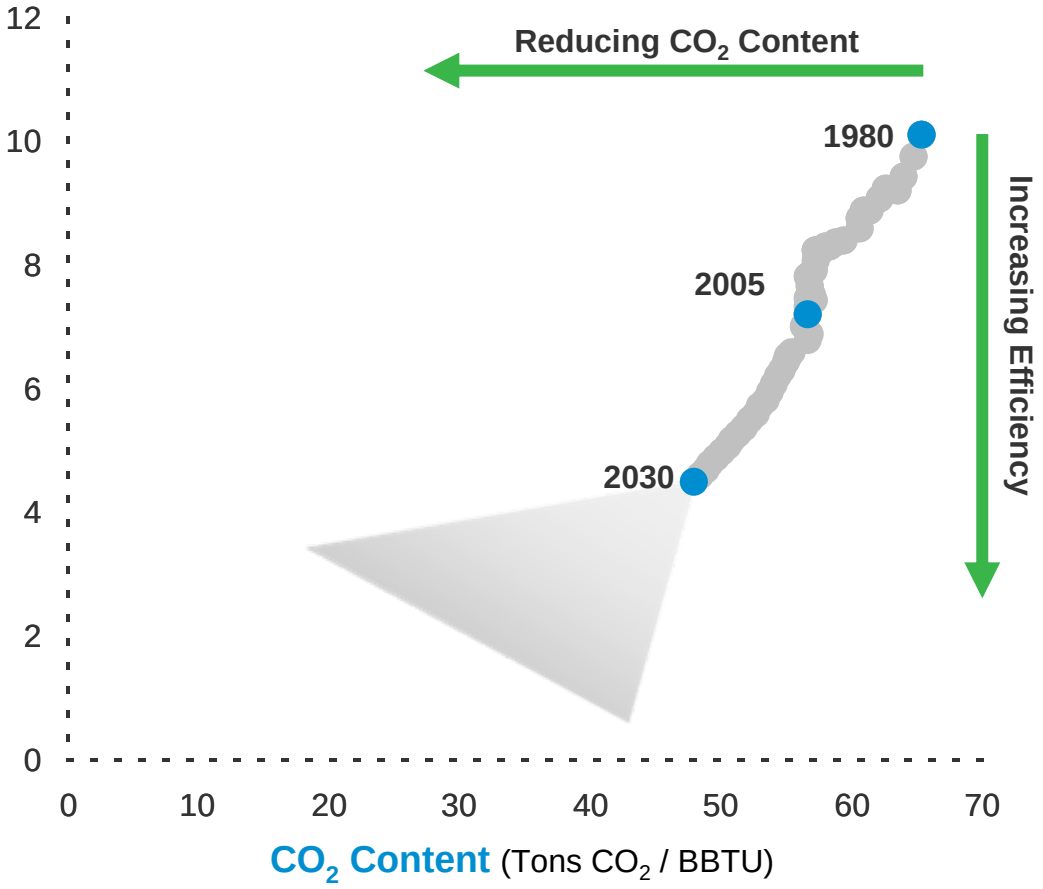
Change in CO_2 Emissions

Billion Tons

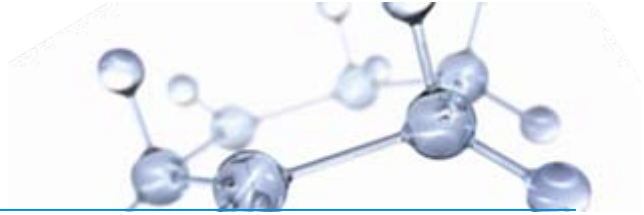


Energy per GDP

MBTU / 2005$ k GDP



Integrated Energy Solutions



Now

- 6.7 billion people
- Global economic linkages
- Disparate living standards
- Enormous energy needs
- Environmental gains & concerns
- Growing technology use & focus

Increase Efficiency

Expand Supply

Mitigate Emissions

2030

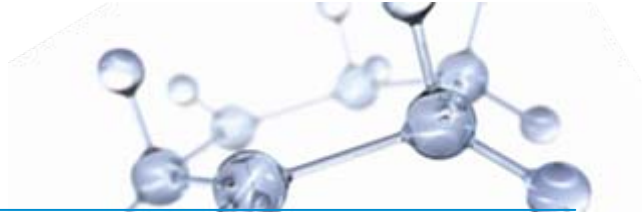
- 8 billion people
- Non OECD leads economic growth
- Less poverty; living standards improve
- Global energy needs up one-third
- Progress on environmental goals
- Significant advances in technology

Integrated Energy Solutions

Increase Efficiency

Mitigate Emissions

Expand Supply



More information available at:

www.exxonmobil.com/energyoutlook