

2025 | 74th edition

Statistical Review of World Energy

Baker Institute webinar

In collaboration with

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The 2024 Statistical Review of World Energy

Introduced by Dr
Nick Wayth

CEng FEI,
CEO of the Energy
Institute



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The Energy Institute



- The EI is the chartered professional membership body for people who work across the world of energy.
- A registered charity, dating back to 1914, incorporated by Royal Charter.
- Licensed to award Chartered Engineer, Environmentalist and Energy Manager statuses.
- Working with and for 20,000 individuals and 200 companies in 120 countries, ours is a unique, global, interdisciplinary community working to create a better energy future.



Informing the **energy** debate

The Energy Institute **Statistical Review of World Energy™** provides the first, full, freely-available analysis of global energy markets for the prior year.

Data covers energy production, consumption, trading and emissions for conventional and low carbon energies, as well as key minerals.

It has been providing timely, comprehensive and objective data to the energy community since 1952.



Collaboration **for the public good**

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Data compilation by  HERIOT
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With the support of **bp** and
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Agenda

**Global energy demand and
production**

A disorderly transition

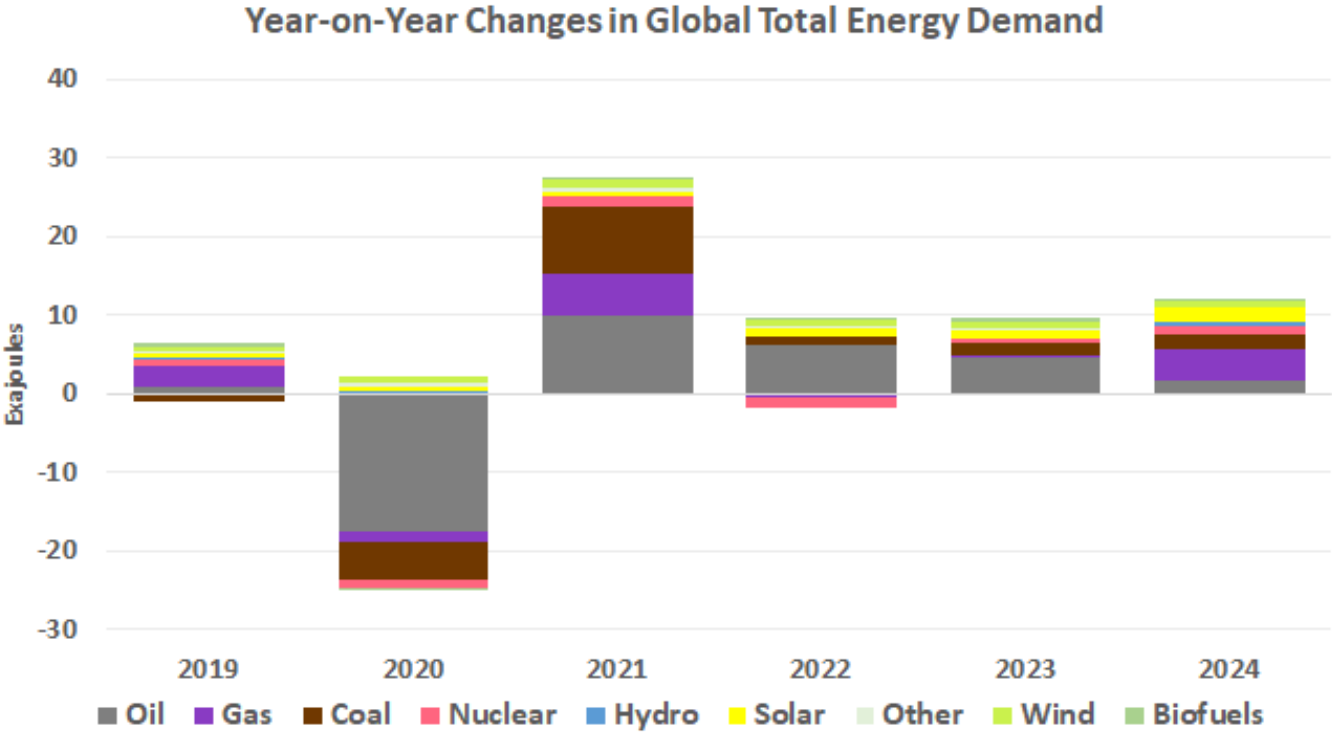
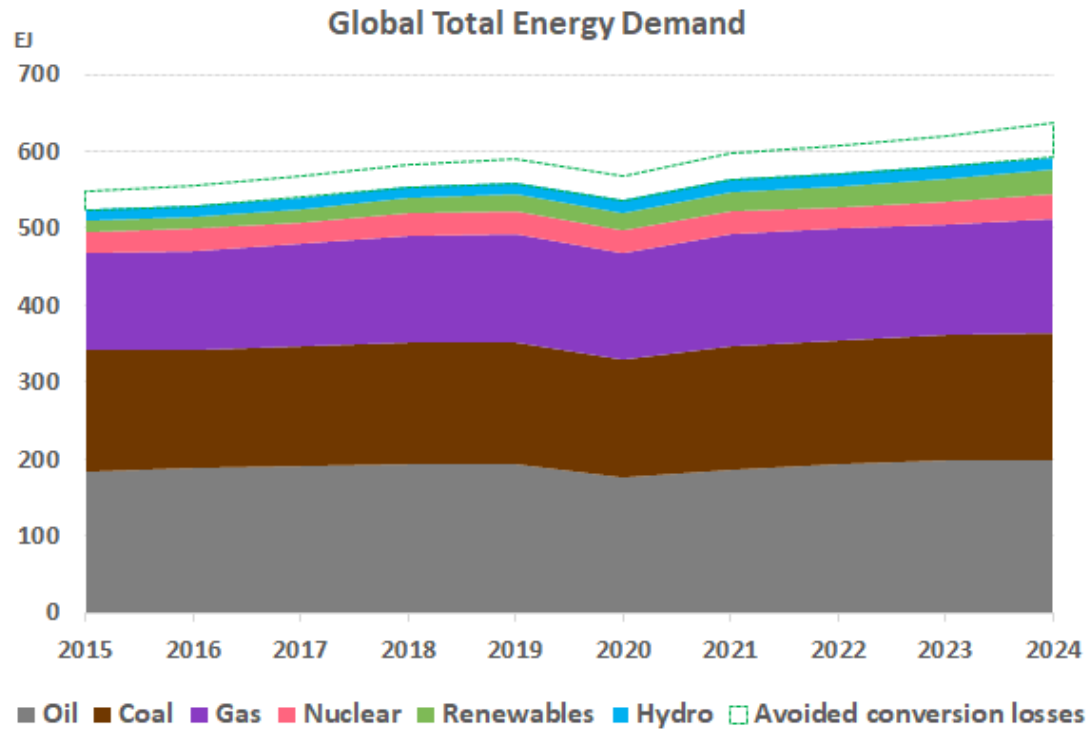
The age of electricity

Global energy demand and production

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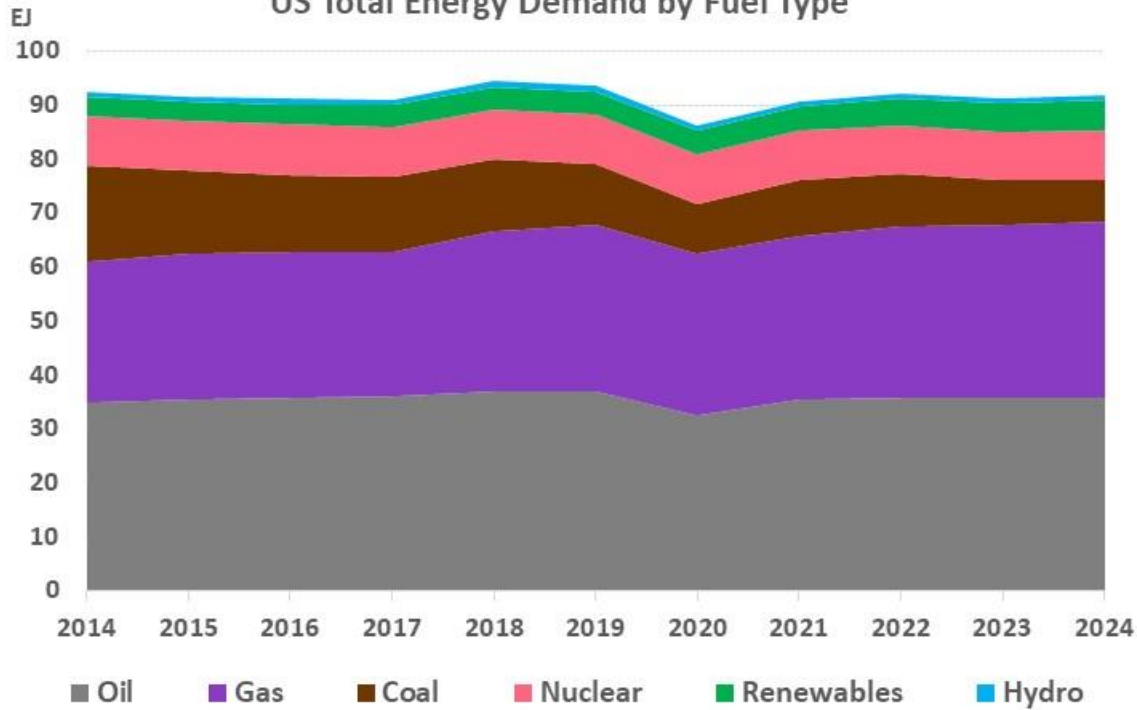


Total energy demand: 2% increase in 2024 driven across all forms of energy

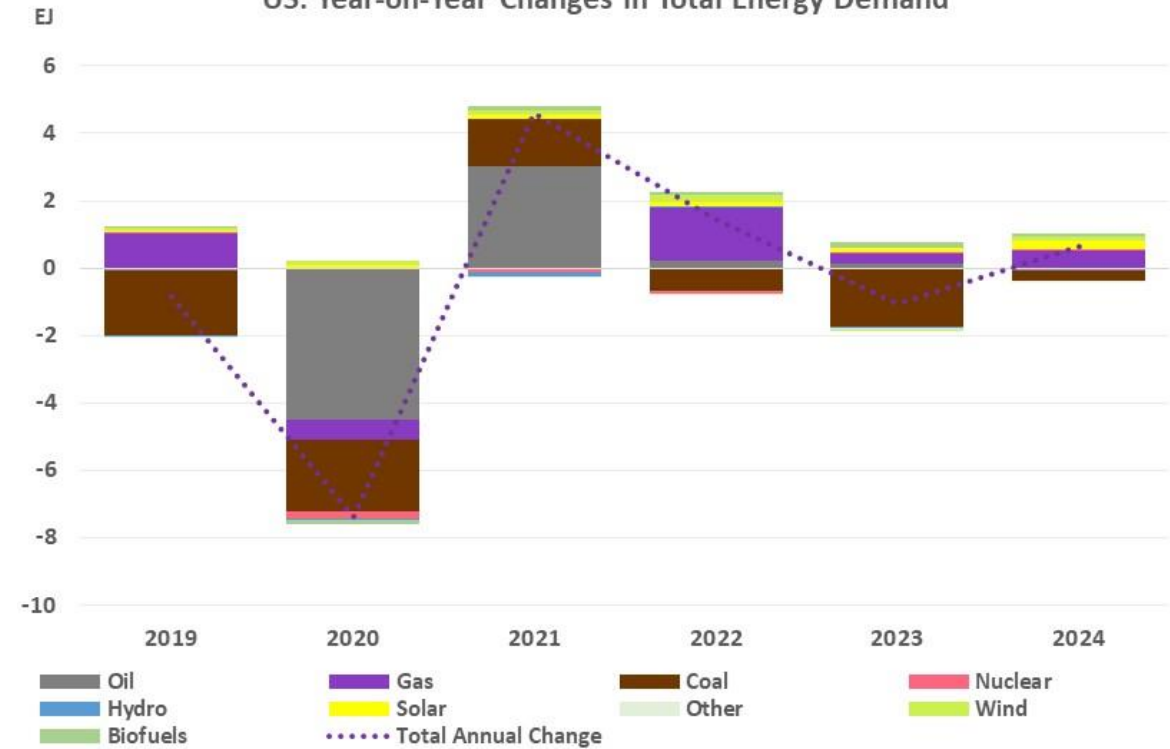


US energy demand: 0.4% increase in 2024 driven primarily by natural gas and renewables

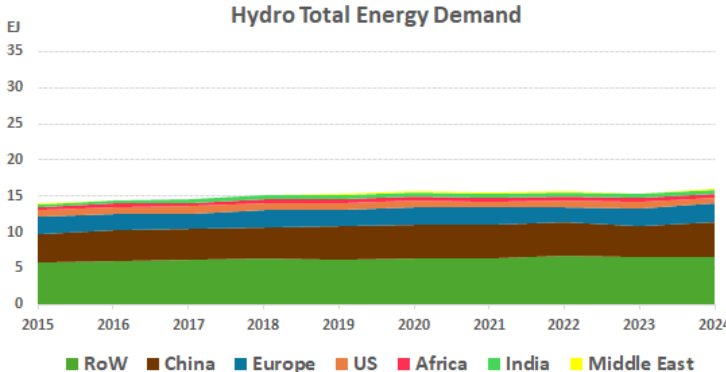
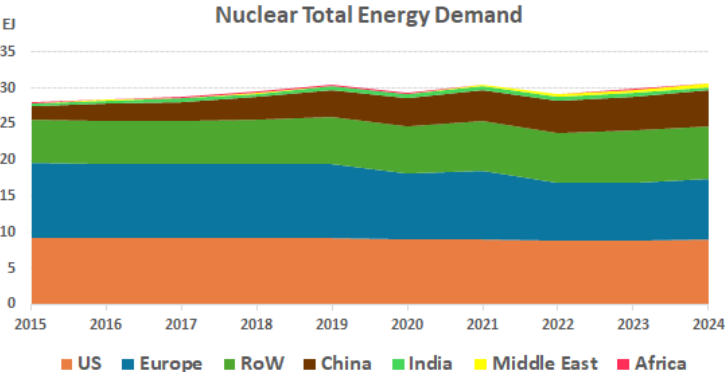
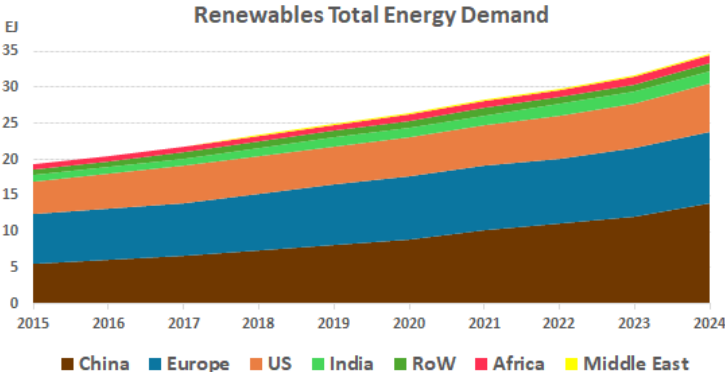
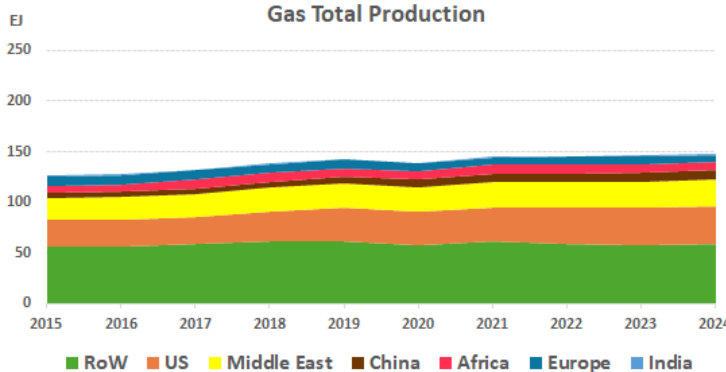
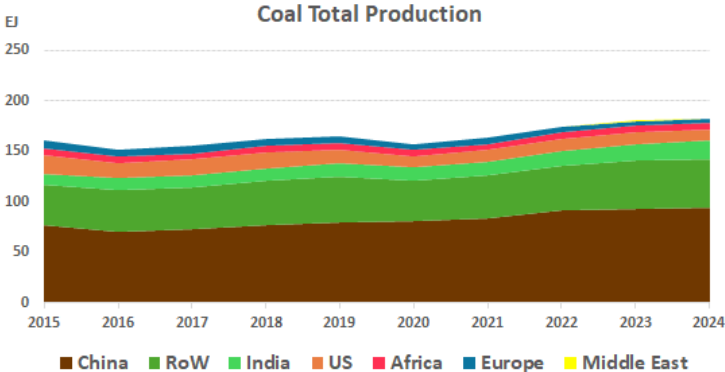
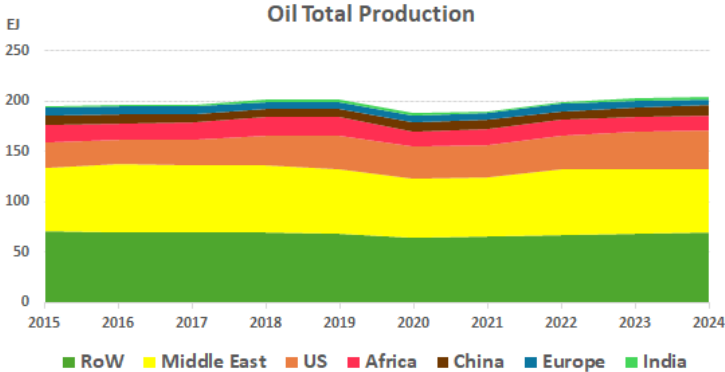
US Total Energy Demand by Fuel Type



US: Year-on-Year Changes in Total Energy Demand

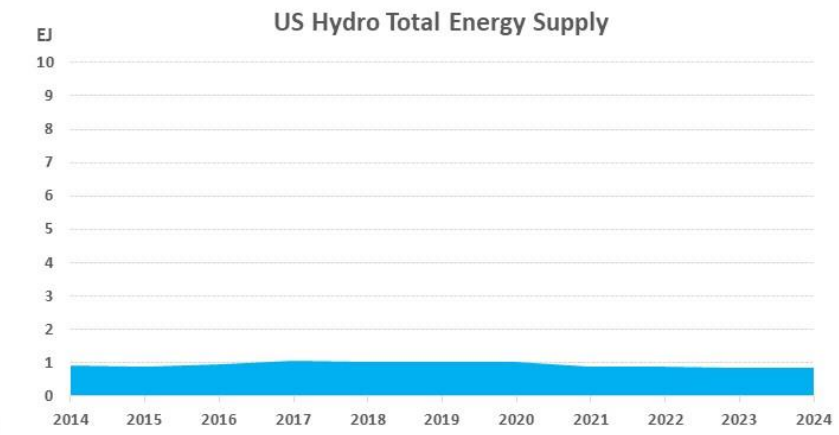
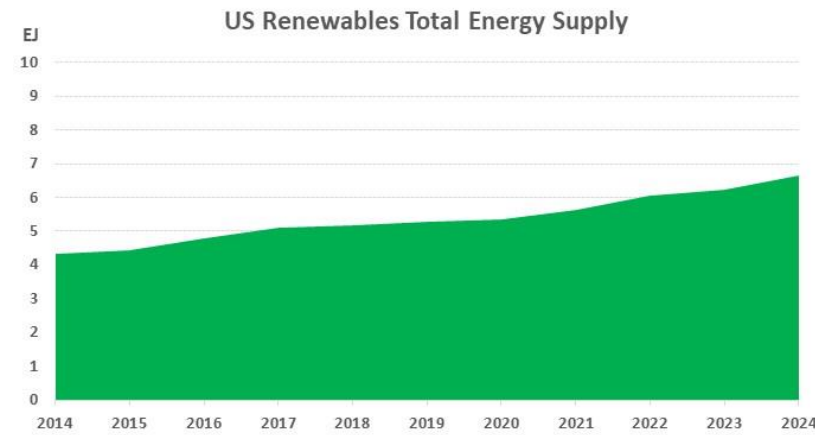
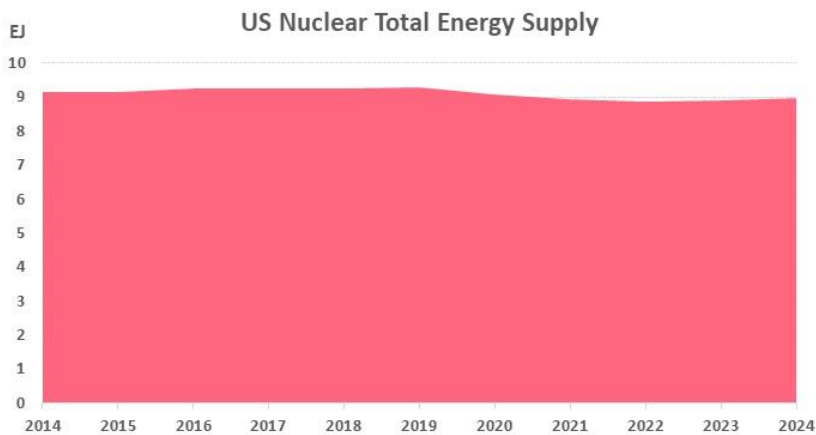
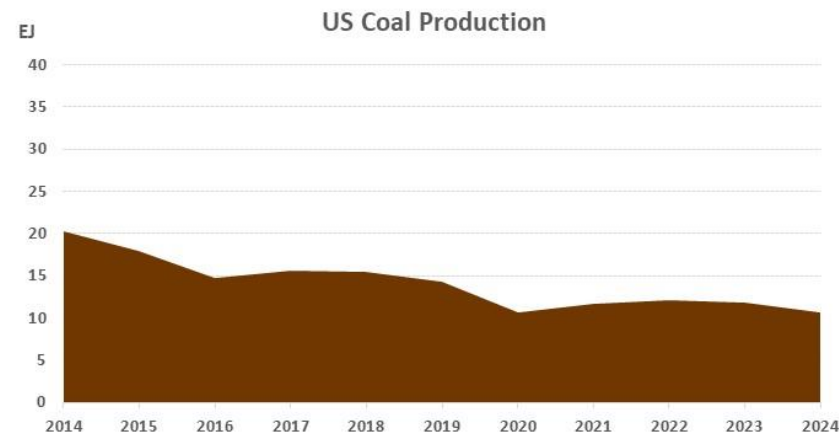
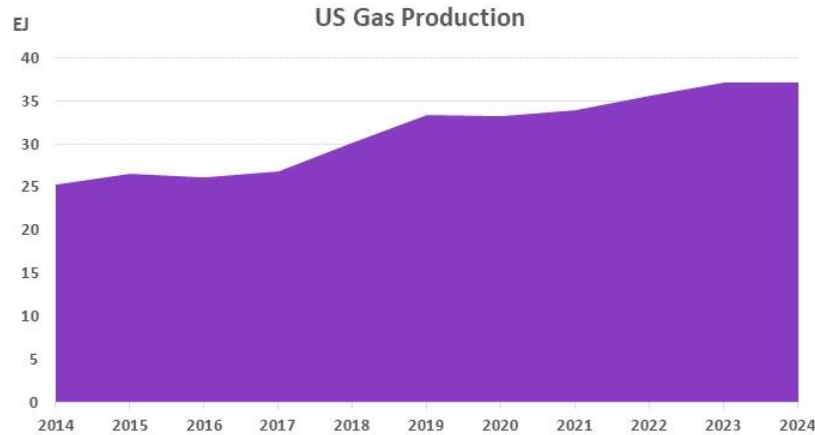
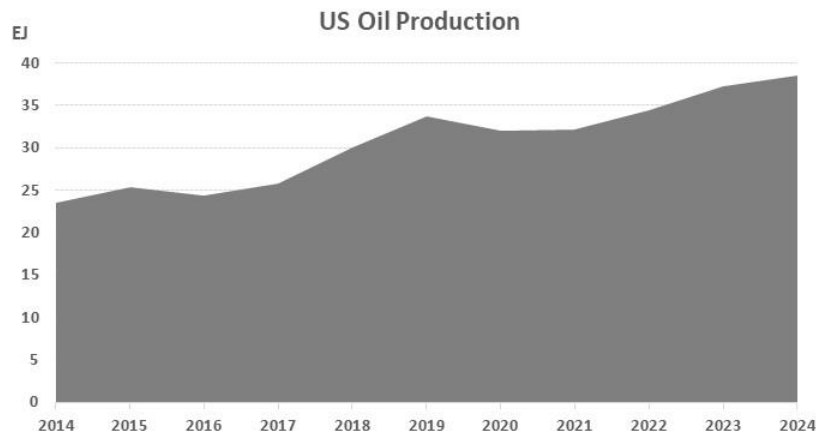


Energy production: all forms of energy reach record levels



2024 saw record coal, record oil, record gas, record renewables, record hydro and record nuclear

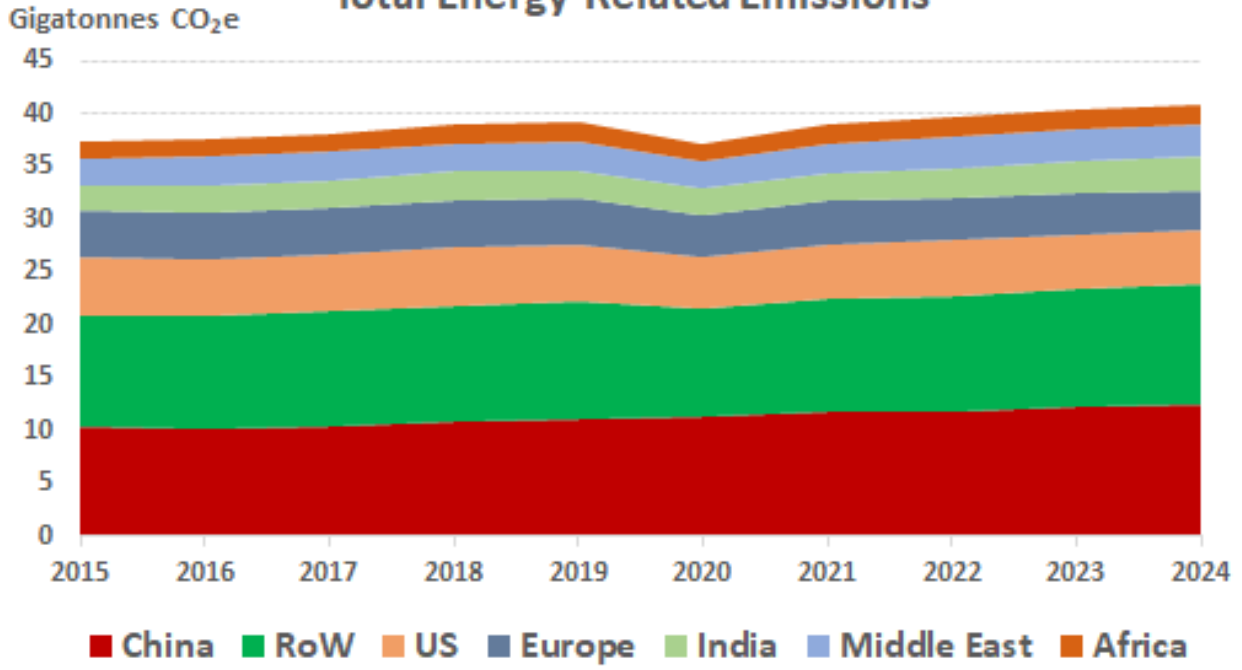
US production: 2024 oil production broadly equaled Saudi Arabia and Russia combined



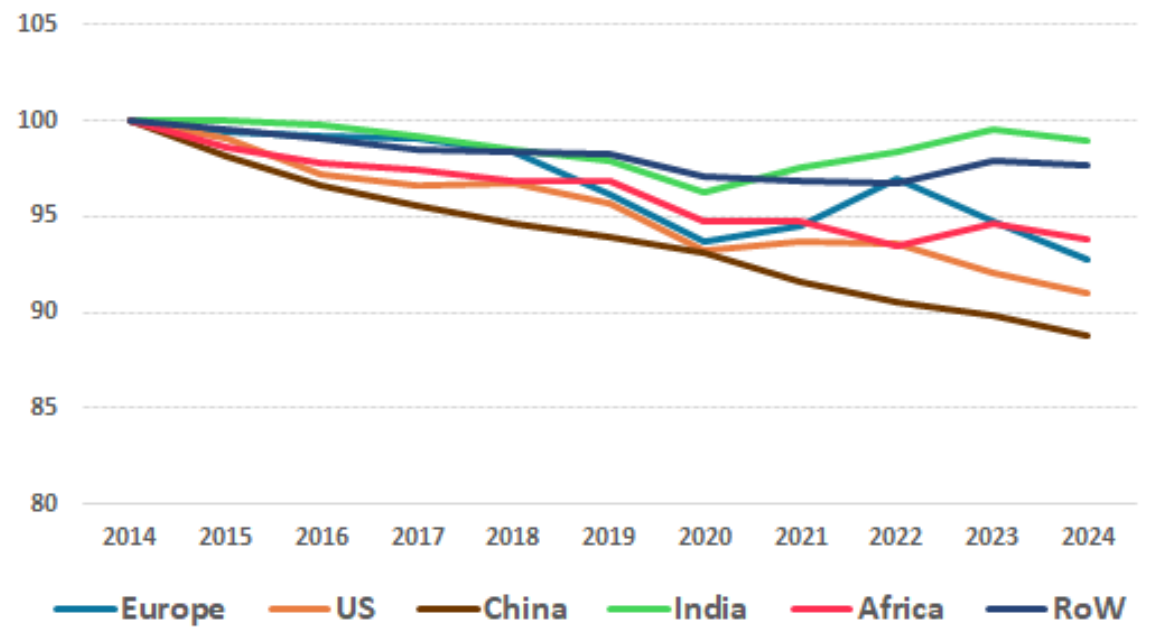
Global emissions from energy: Up 1% setting a new record level for the 4th consecutive year



Total Energy-Related Emissions



CO₂e Emissions per GJ (Index 2014 = 100)

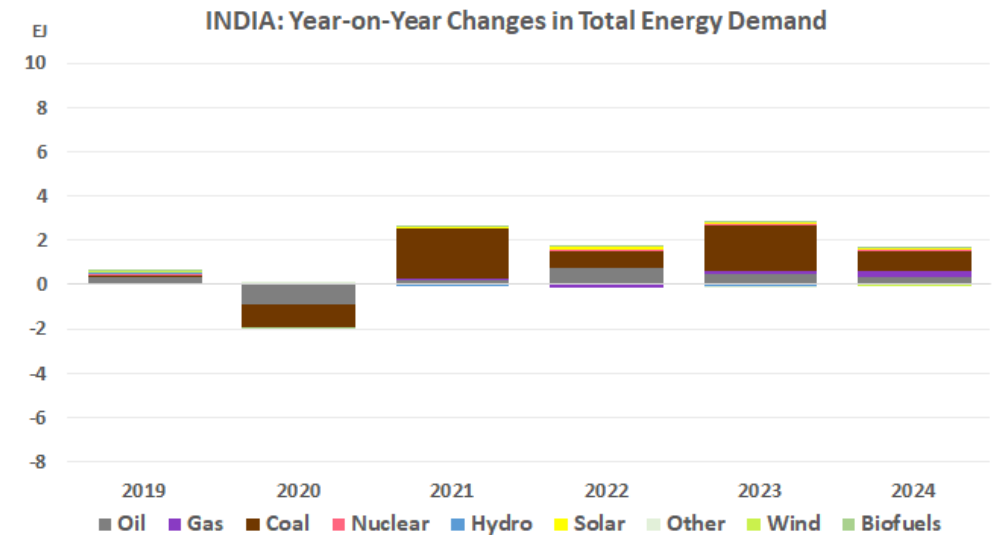
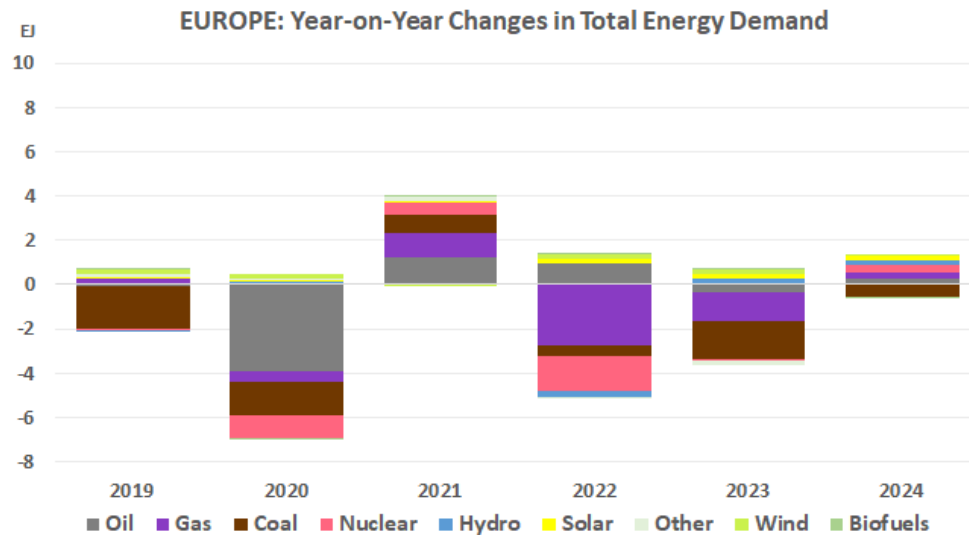
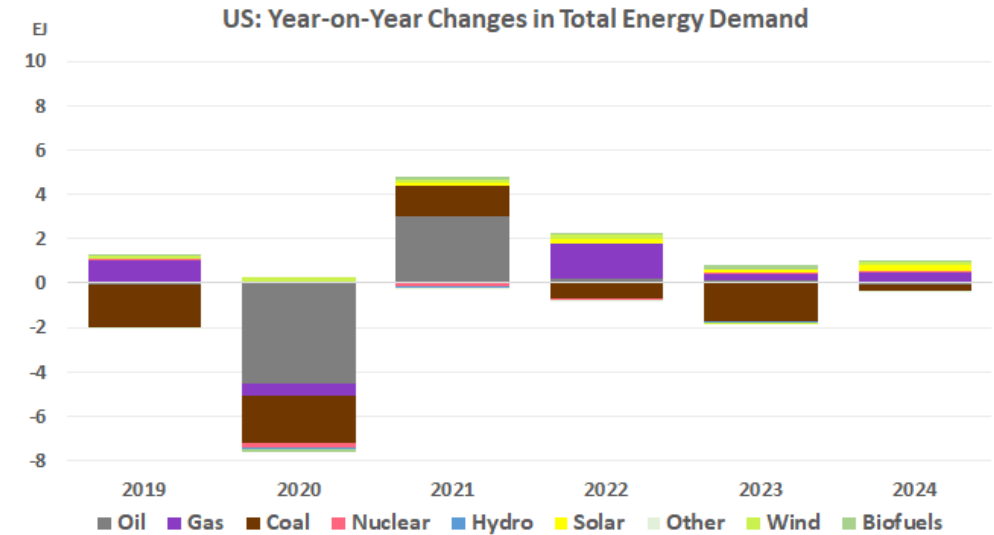
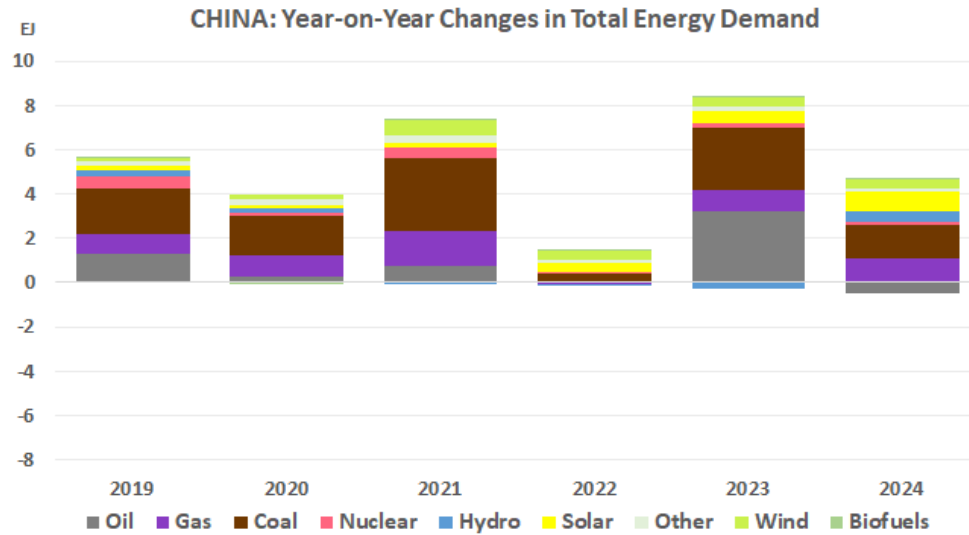


A disorderly transition

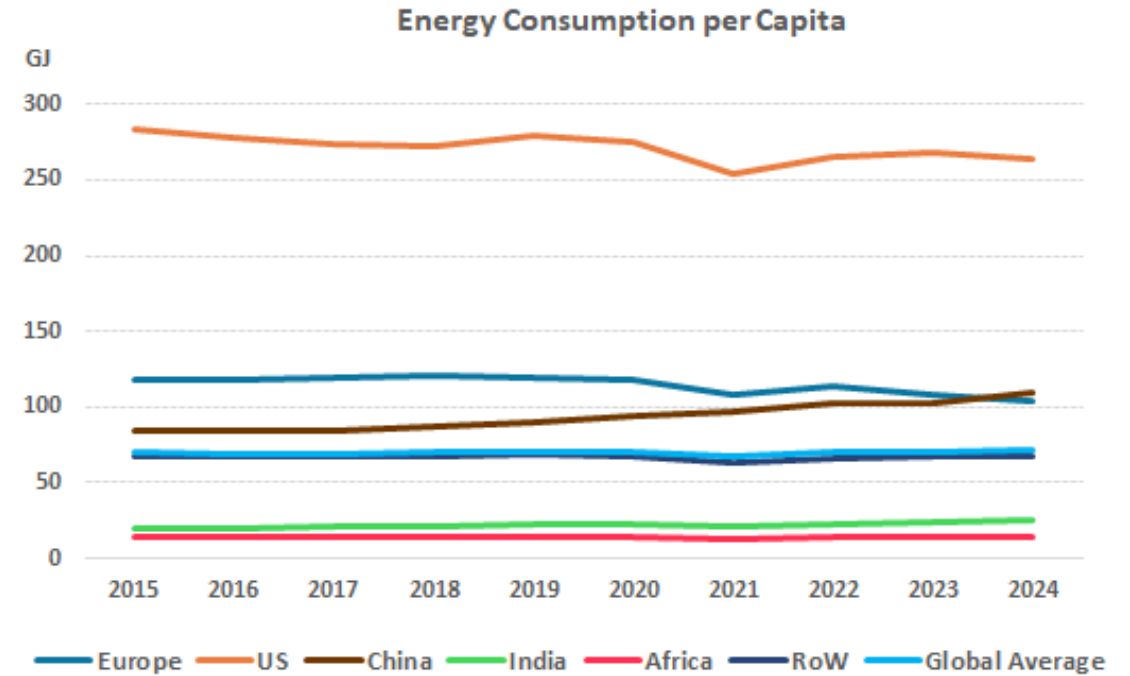
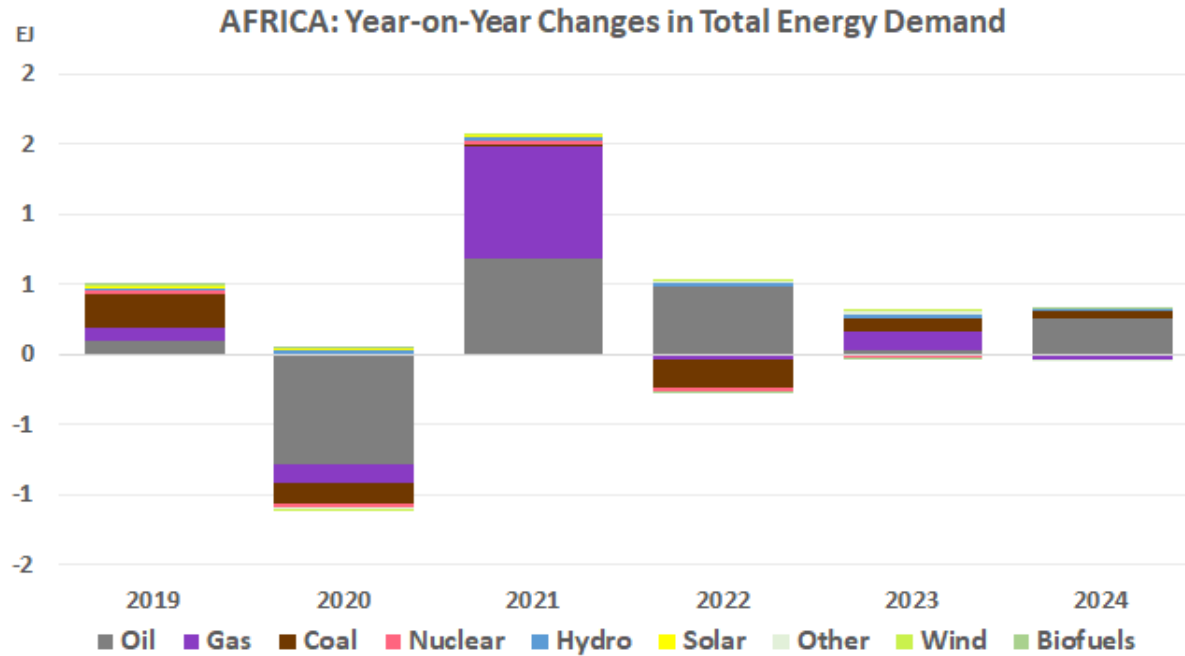
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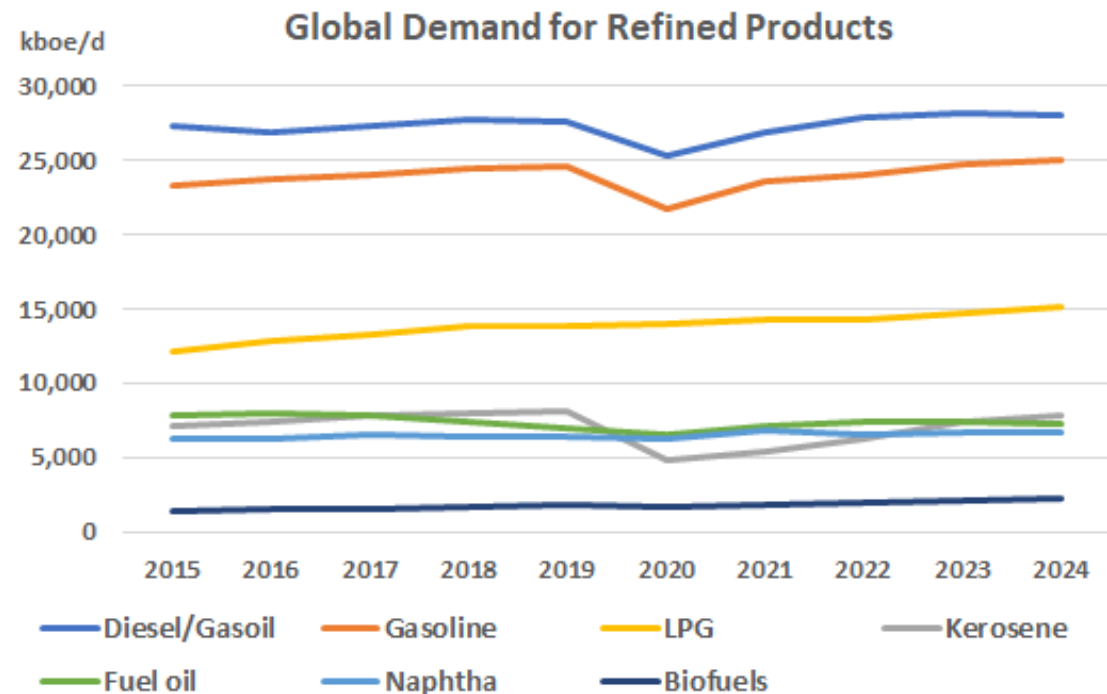
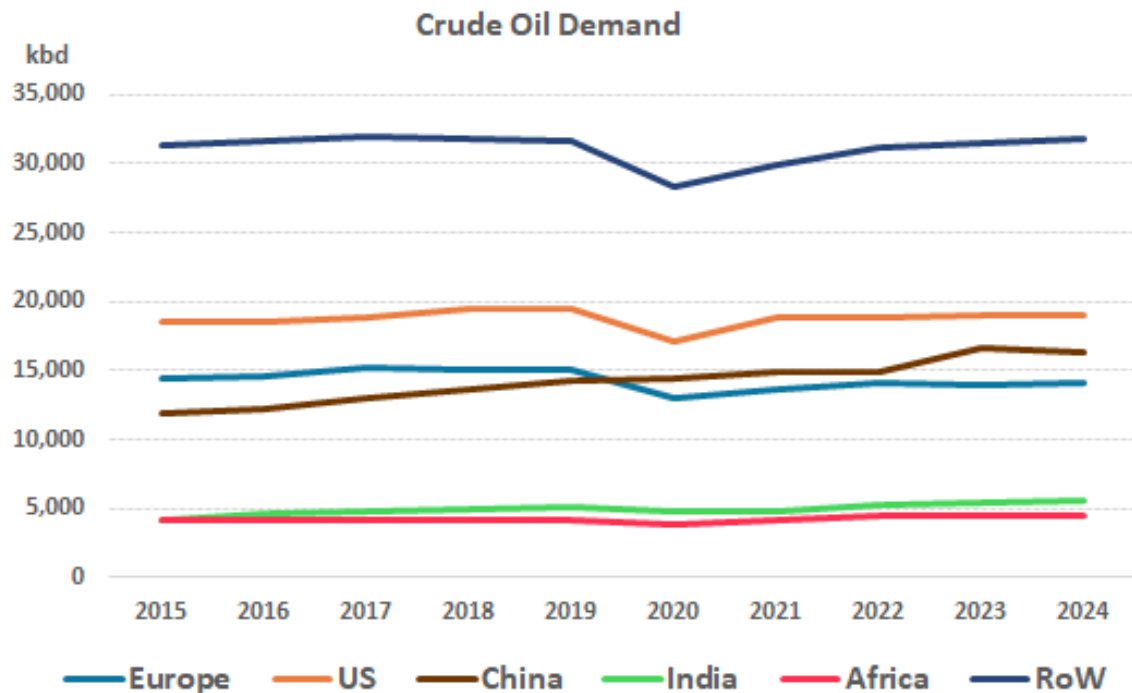
Regional consumption changes demonstrate a disorderly transition



Africa continues to lag despite global energy intensity increasing



Chinese oil demand falls as global diesel and gasoline demand stagnates



The age of electricity

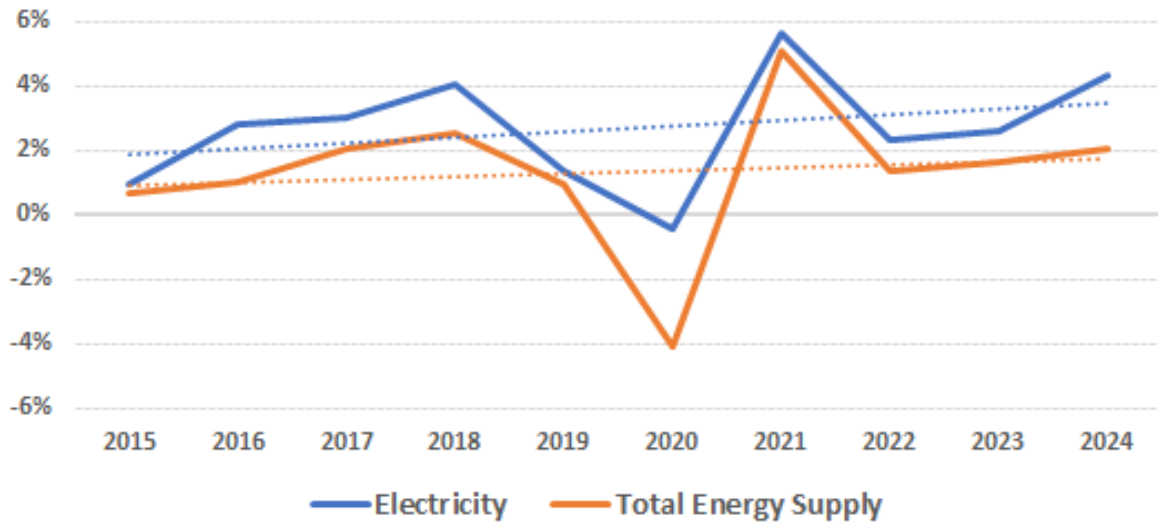
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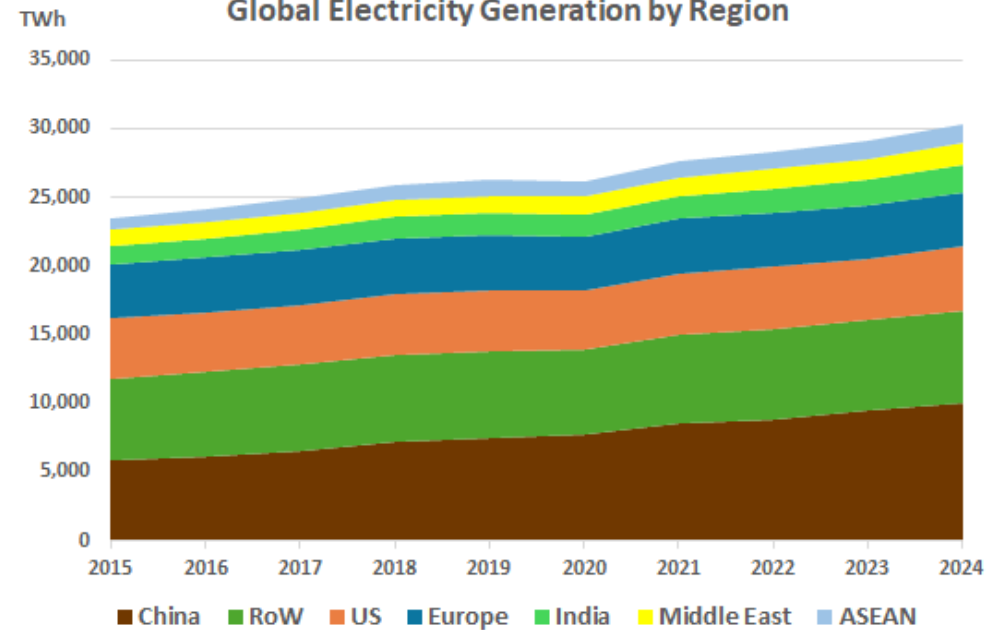
The global energy system continues to electrify at pace

Over the past 10 years, global electricity generation has grown on average at around 2.6% per annum, broadly twice the rate of Total Energy Supply

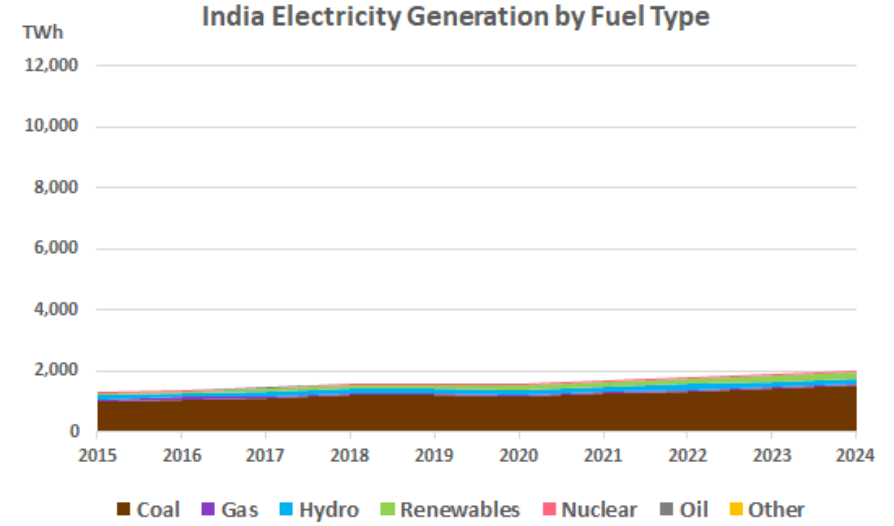
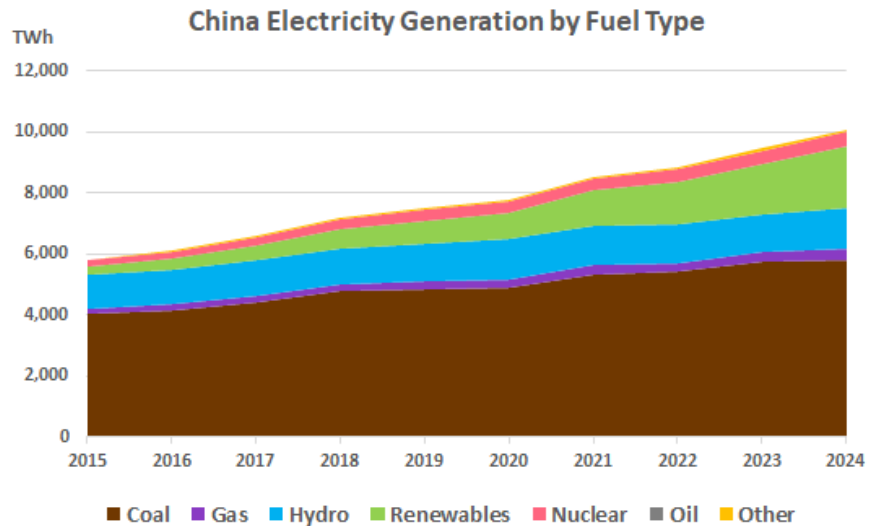
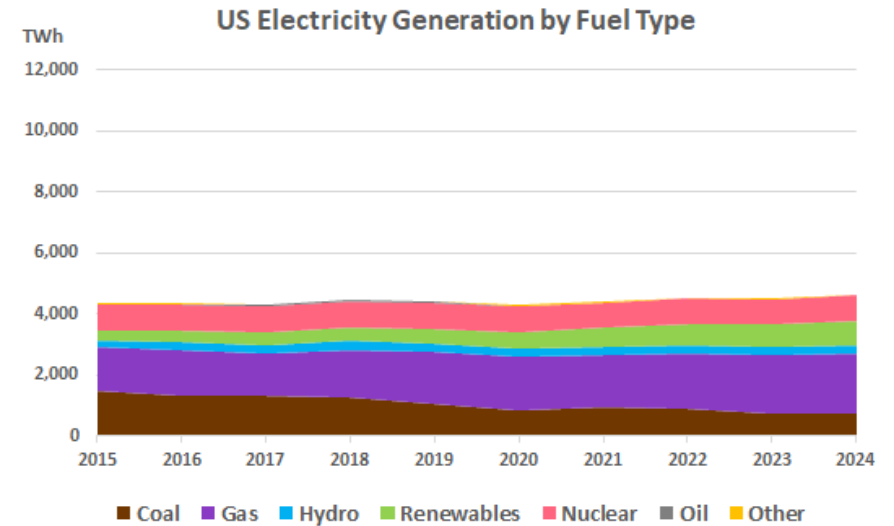
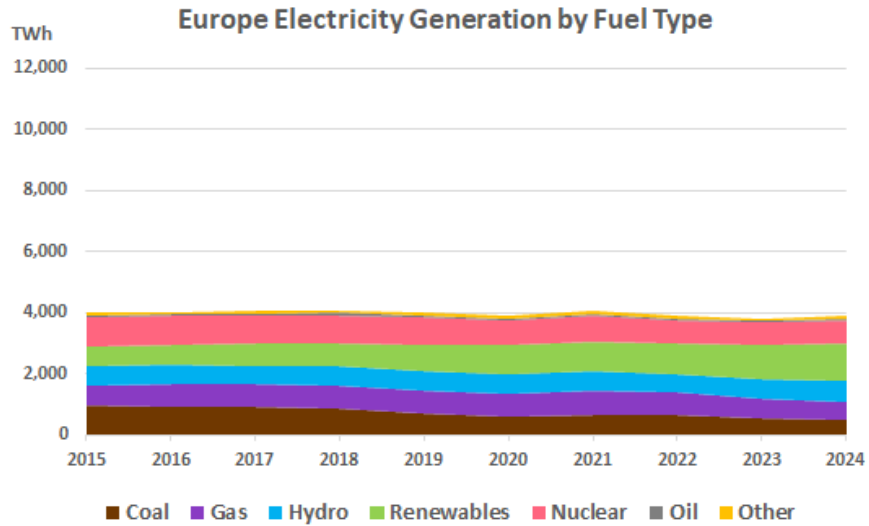
Annual Growth Rates



Global Electricity Generation by Region



Increasingly stark contrasts in regional generation mix

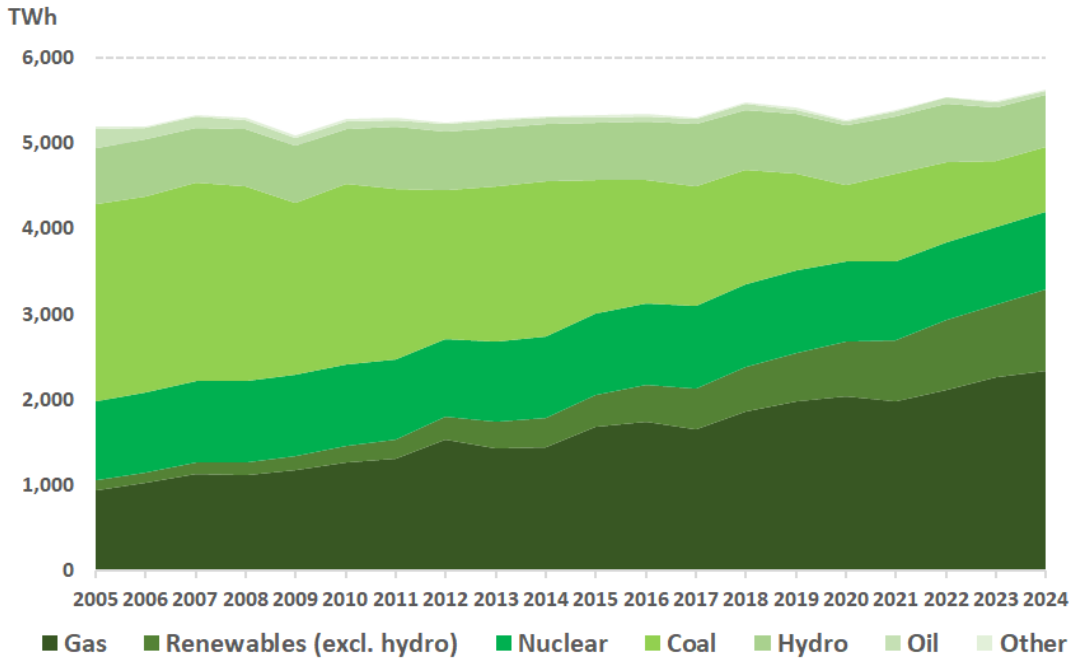


Generation mix: Just over half of North America's electricity generation came from fossil fuels in 2024

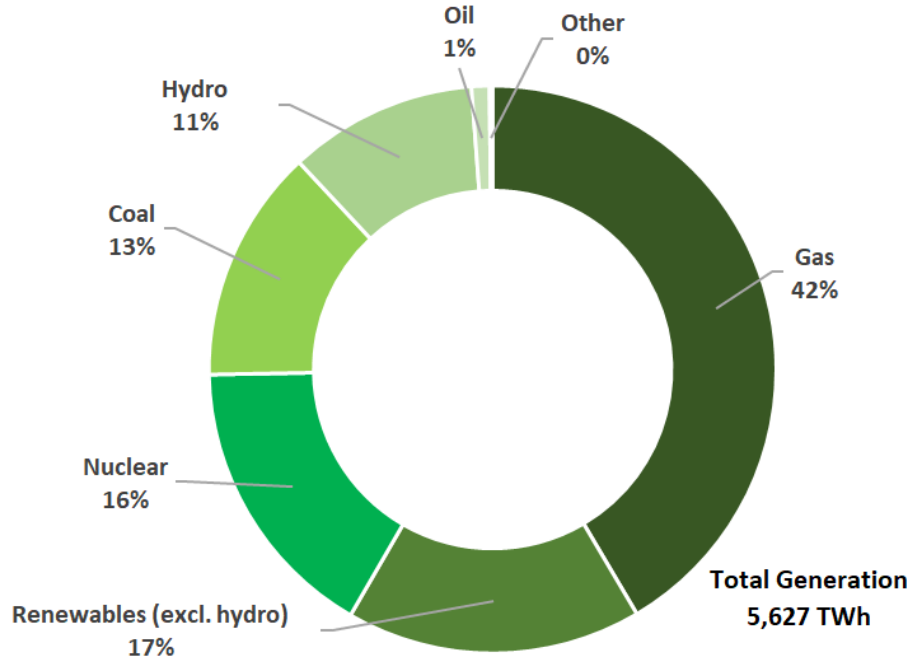


- Over the past 10 years, North America's electricity generation has increased by 5% to reach 5,627 TWh.
- In 2024, 28% of total electricity generation was from Renewables and 56% from fossil fuels.
- Ten years ago, 19% of total electricity generation was from Renewables and 62% from fossil fuels.
- North America's fastest growing fuel type in 2024 was Renewables (excl. hydro) which grew by 12% over 2023.
- Over the past 10 years, North America's fastest growing fuel type has been Renewables (excl. hydro) with an average annual growth rate of 11%.

North America Electricity Generation by Fuel Type



North America 2024 Electricity Generation Shares



2024: Record energy demand amid a disorderly transition



All forms of energy and emissions reach record highs



Age of electrification: 4% growth in electricity underpinned by 16% growth in solar & wind



Slowing oil growth, driven by decline in Chinese demand



Diverging regional differences contributing to an increasingly disorderly transition



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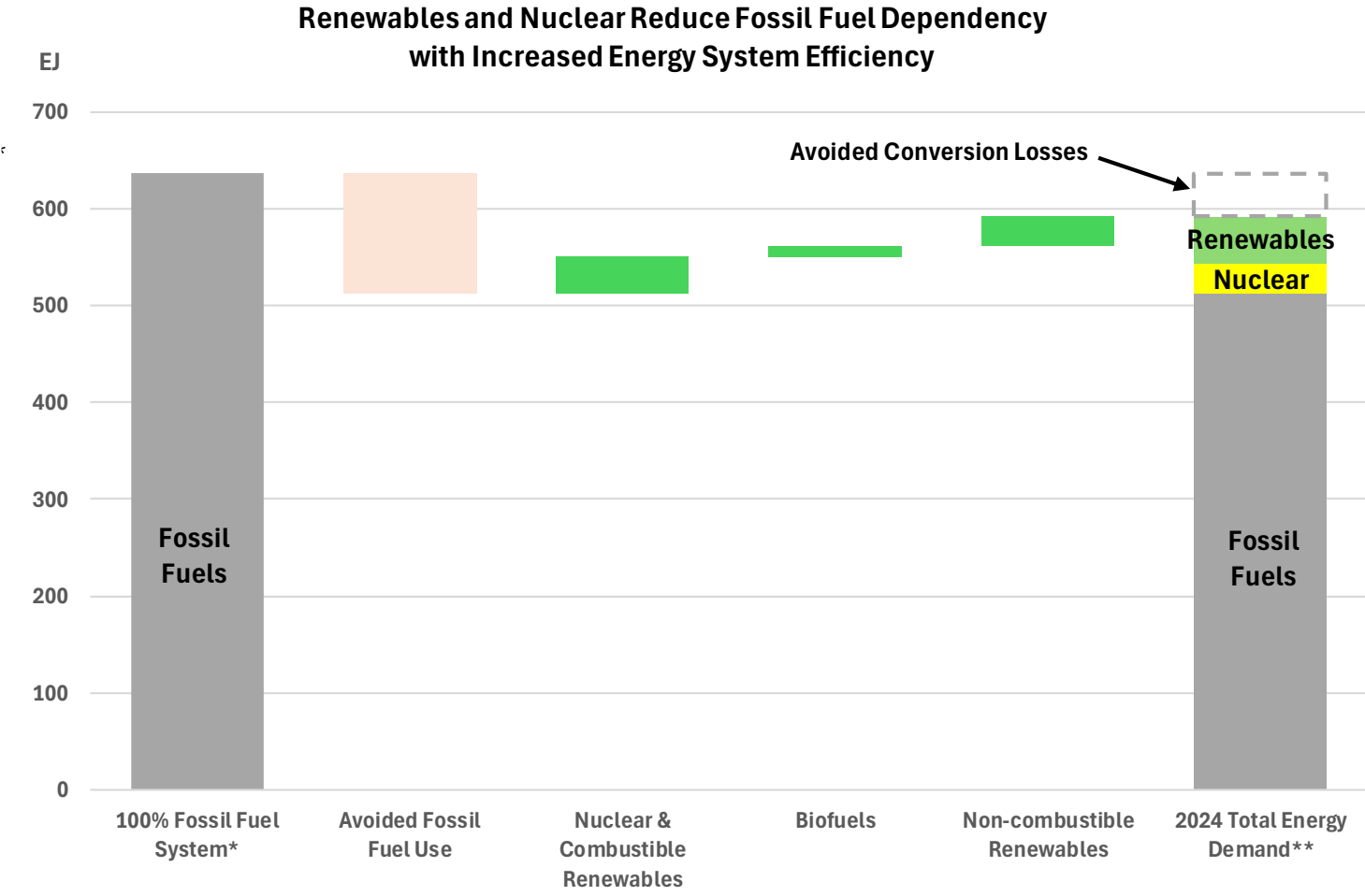
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Updated
methodology:
total energy supply

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Total Energy Demand: A New Perspective



* Calculated using Fossil Fuel Equivalent method

** Calculated using Physical Energy Content method