



Alternative Fuels and the Place of Nuclear

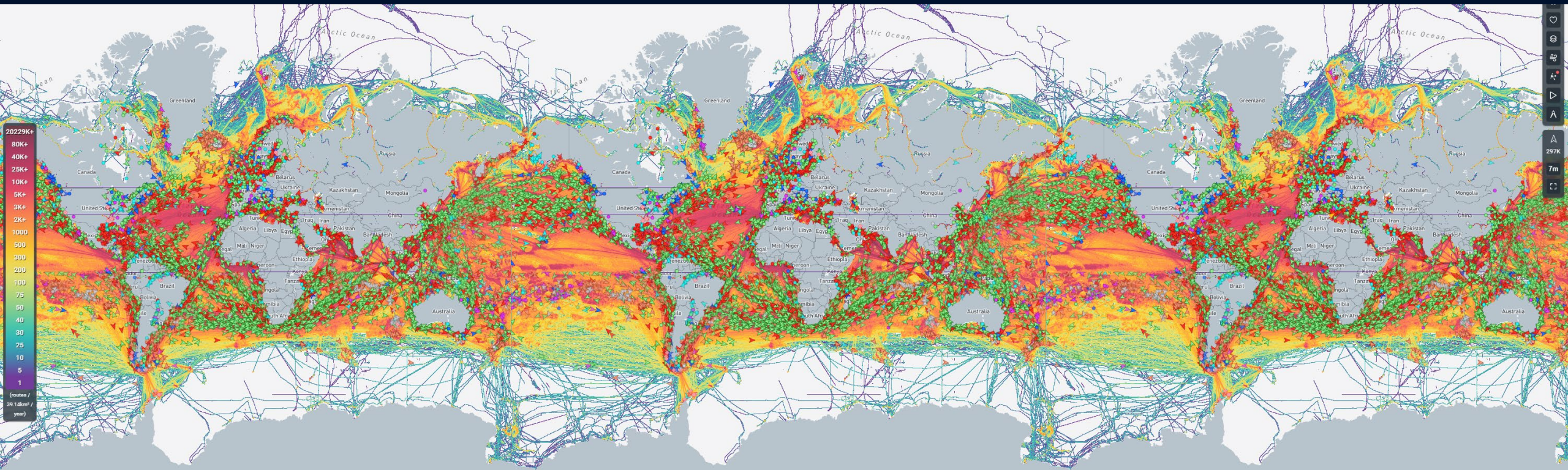
Marine Money 2025

Peter Wallace

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Nature of Trade



Marine Traffic Density for 2023 (MarineTraffic.com)

*90% of everything will still move by ship:
The “what” and “where” will be different*

Nature of Shipping



Source: Maersk



Source: DSME



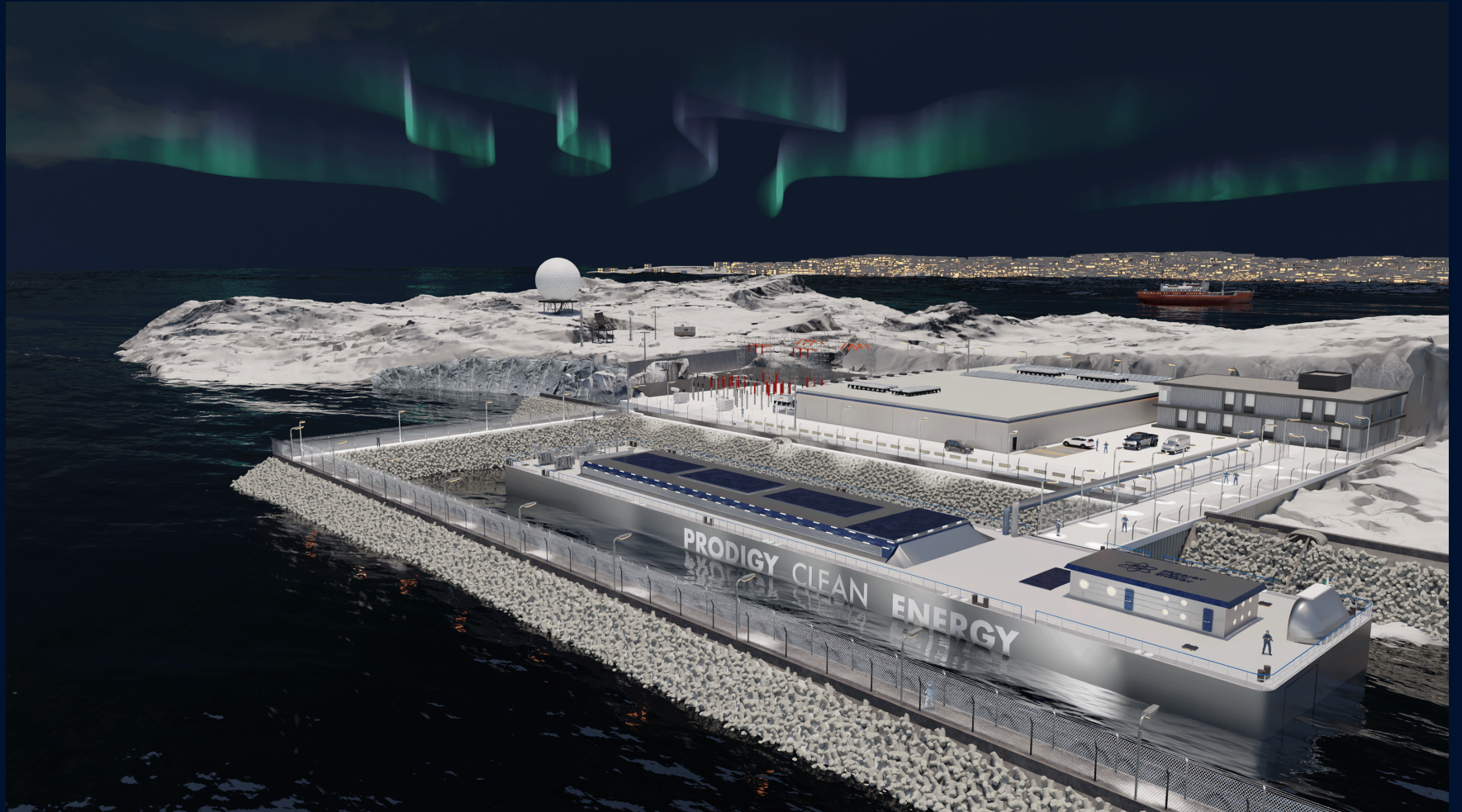
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Shipping is getting more technical and more interesting

Yara Birkeland, (Knut Brevik Andersen, Wilhelmsen Ship Service)

Drivers

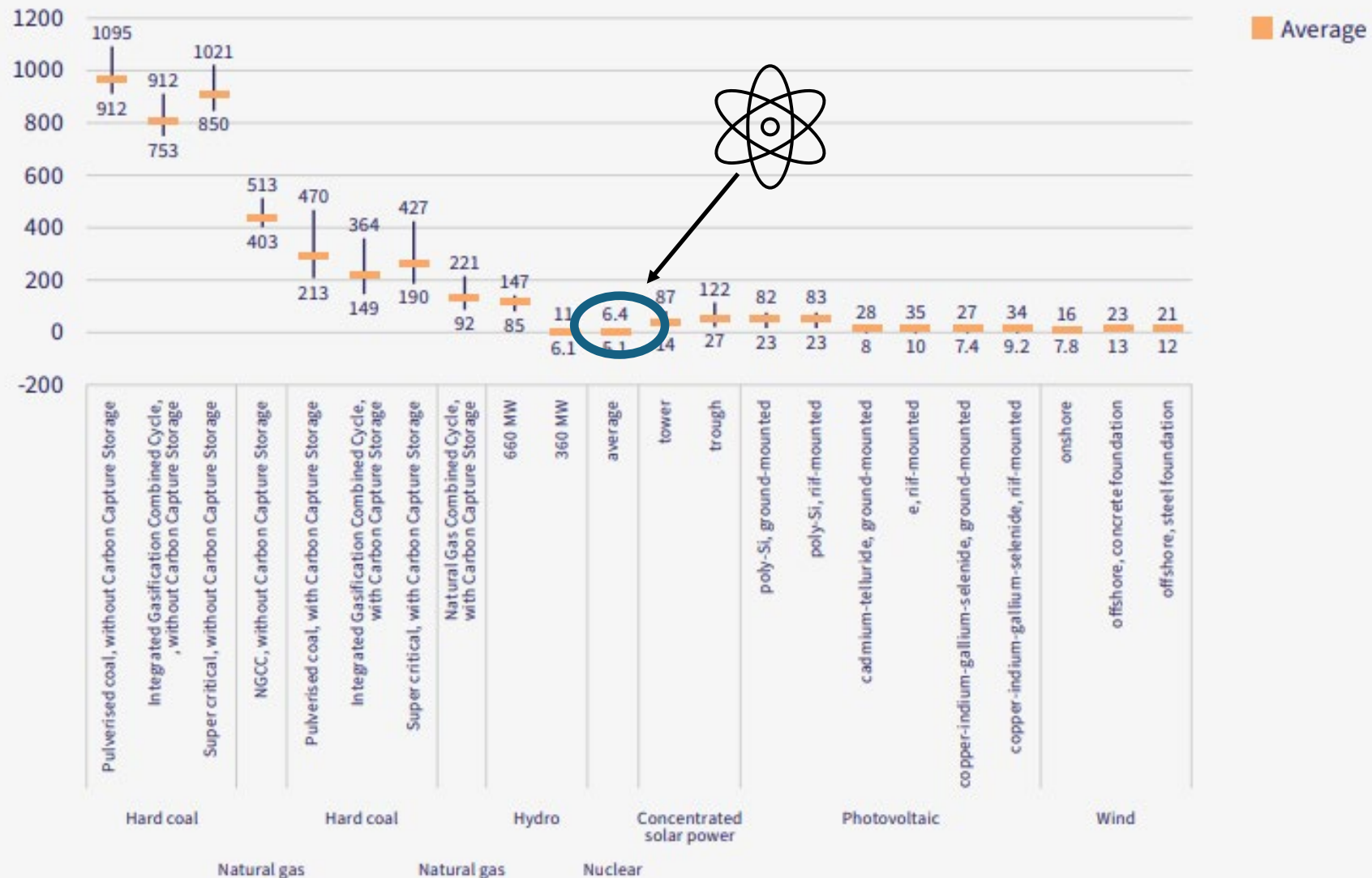
- Emissions
- Power Demand



Source: Prodigy Clean Energy/Serco

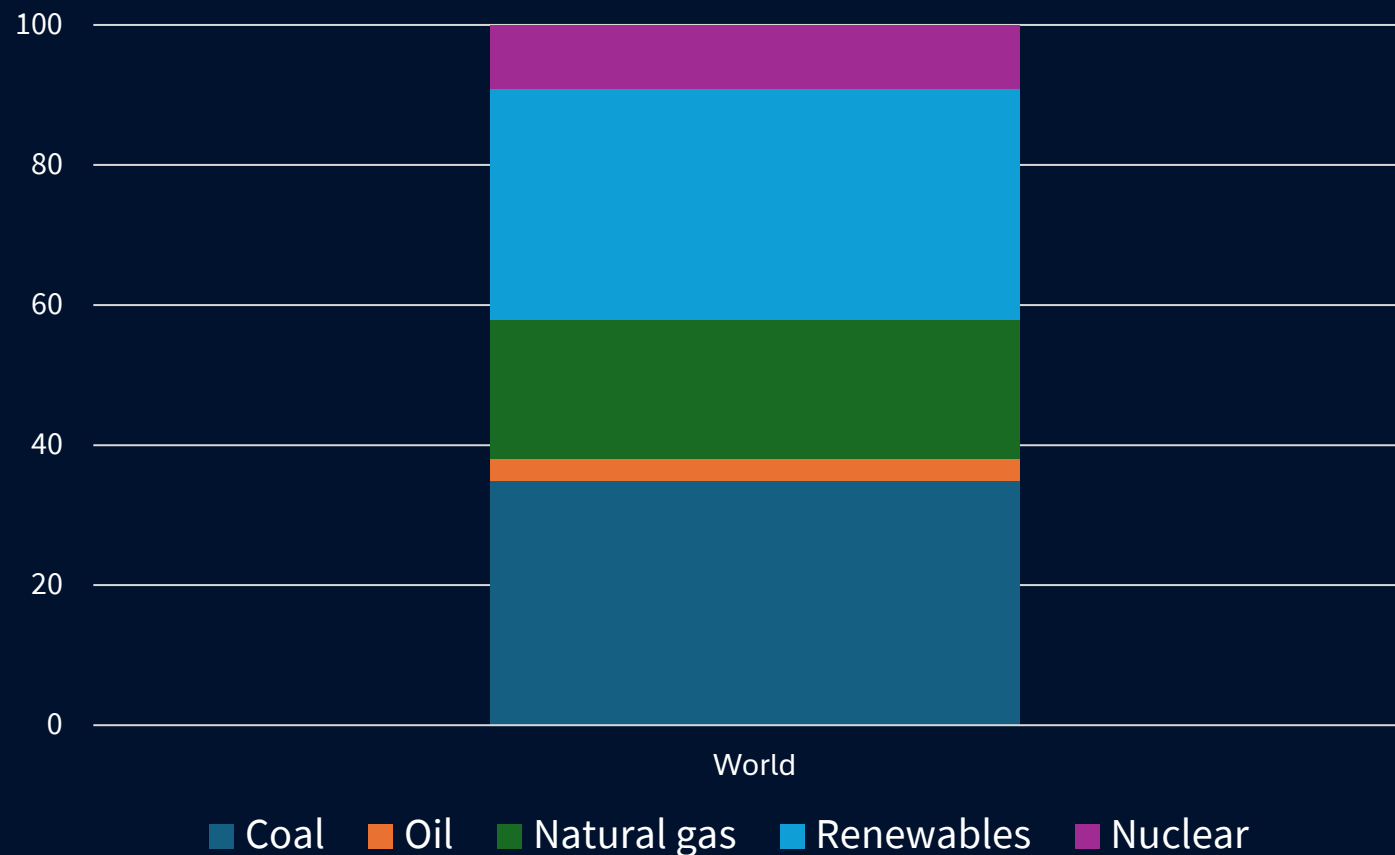
Lifecycle emissions for power generation

Lifecycle GHG emissions, in g CO₂ equivalent (eq.) per kWh, regional variation, 2020



Turning point in power

World's electricity generation mix, 2024

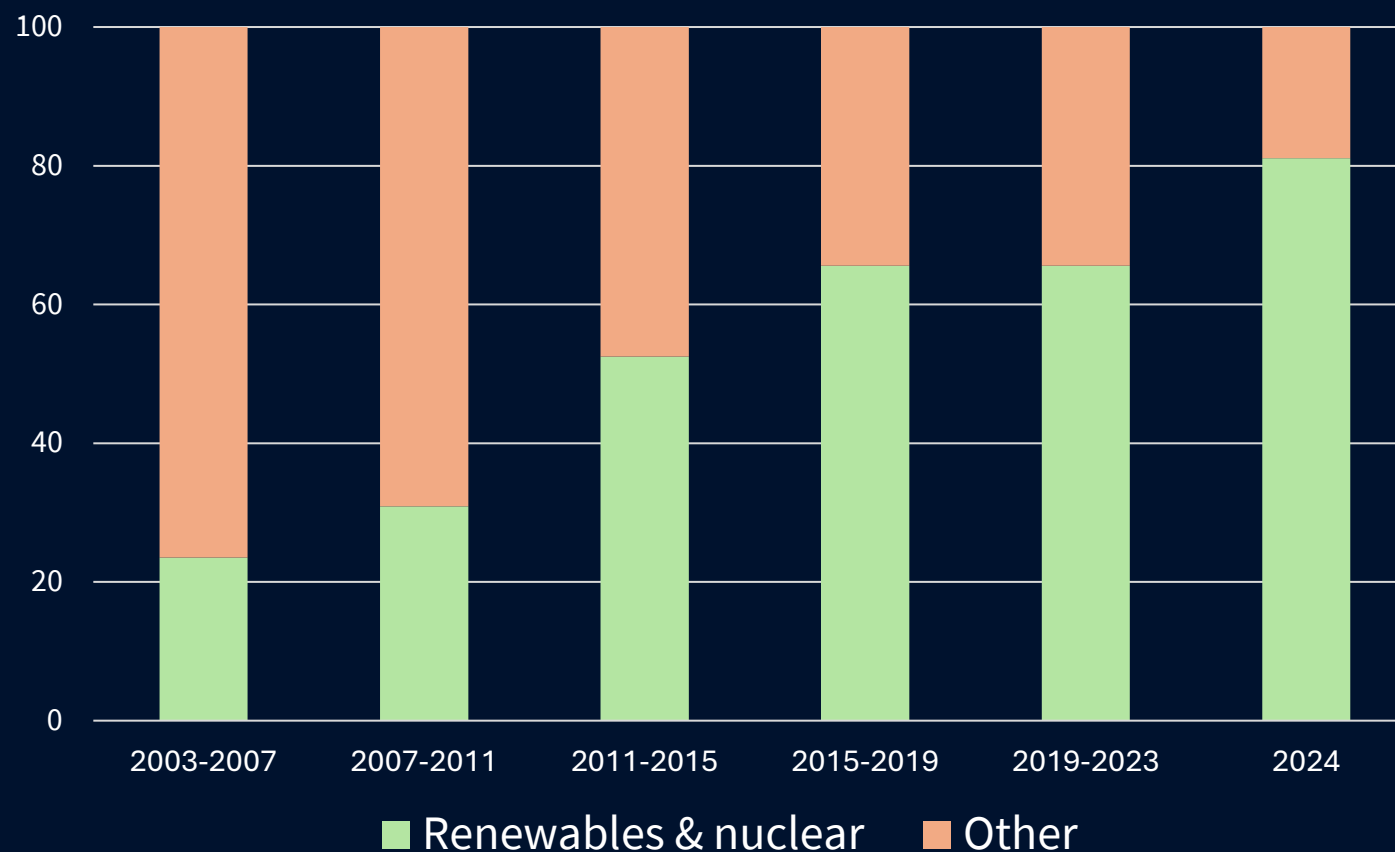


Electricity demand predicted to double by 2050

1/3 from **renewables**
9% from **nuclear**
Natural gas the 2nd largest source of electricity
Very limited use of **oil-fired** power plants (3%)
Coal still leads with 35%

Electricity demand led by clean energy

Share of increase in global electricity generation, 2003-2024

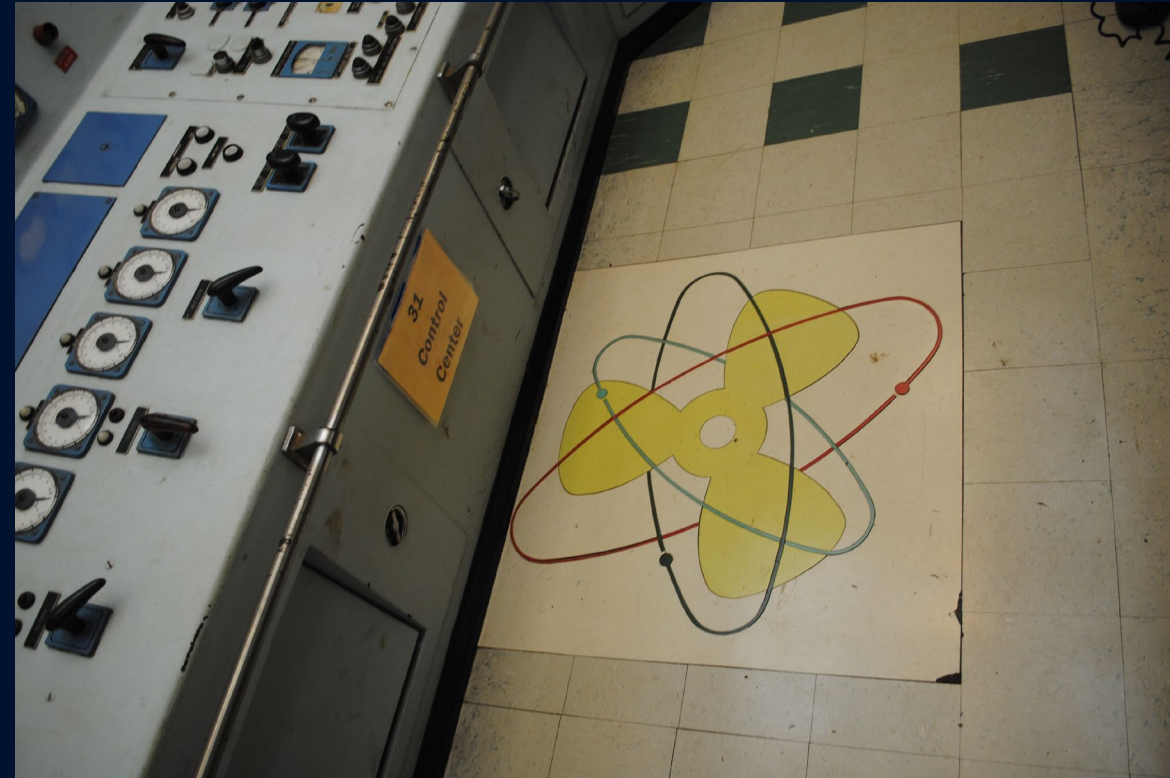


Global power generation up **1,200 TWh** in 2024

Renewables & nuclear drove **over 80%** of power growth (nearly 3/4 renewables)

A lot is happening...

- COP 28 Agreement: Triple nuclear power by 2050
- Separately: Policy support including US, UK, EU and others
- Power Demand growth is real: Data centers are only one example.
- Power Density: This matters for ships and offshore
- Energy Security
- Emissions: EU and IMO are moving forward
- Global Attitude is changing



Source: Peter Wallace

Markets in maritime and offshore

Size Range	Applications	Arrangements
<10 MW	Small ships and small rigs	Islanded
10-50 MW	Medium size ships and medium size rigs	Islanded and Shore Power
50-100 MW	Larger ships, medium sized floaters	Islanded, Shore Power, and Microgrid
100 MW -1+ GW	Offshore Systems	Islanded, Macrogrid, and Microgrid

Questions people ask...

- Cost
- Social License to Operate
- Regulatory Environment
- Timeline
- Offshore or Shipping



Source: Peter Wallace

Civil nuclear started with a ship...



Source: Peter Wallace

- Atoms for Peace



“Atoms for Peace and Development”

Charting the course for nuclear...

Regulators and Related

- IAEA and ATLAS
- IMO: co-sponsor of updates to nuclear regulations through IACS, US, and South Korea
- IACS: Chair of Nuclear Power team
- NEMO: Cofounder and executive leadership
- National Regulators: Discussion in depth with four major regulators around the world.

Clients

- Prodigy Clean Energy
- Allseas
- SeaTransport
- Microsoft (JDP)
- Maersk/CorePower (JDP)
- NorthStandard/CorePower (JDP)

Others...

A 21st Century Trade and Shipping Revolution

The Nature of Trade is on the edge of a revolution

The Nature of Shipping is on the edge of a revolution

Nuclear is an enabler

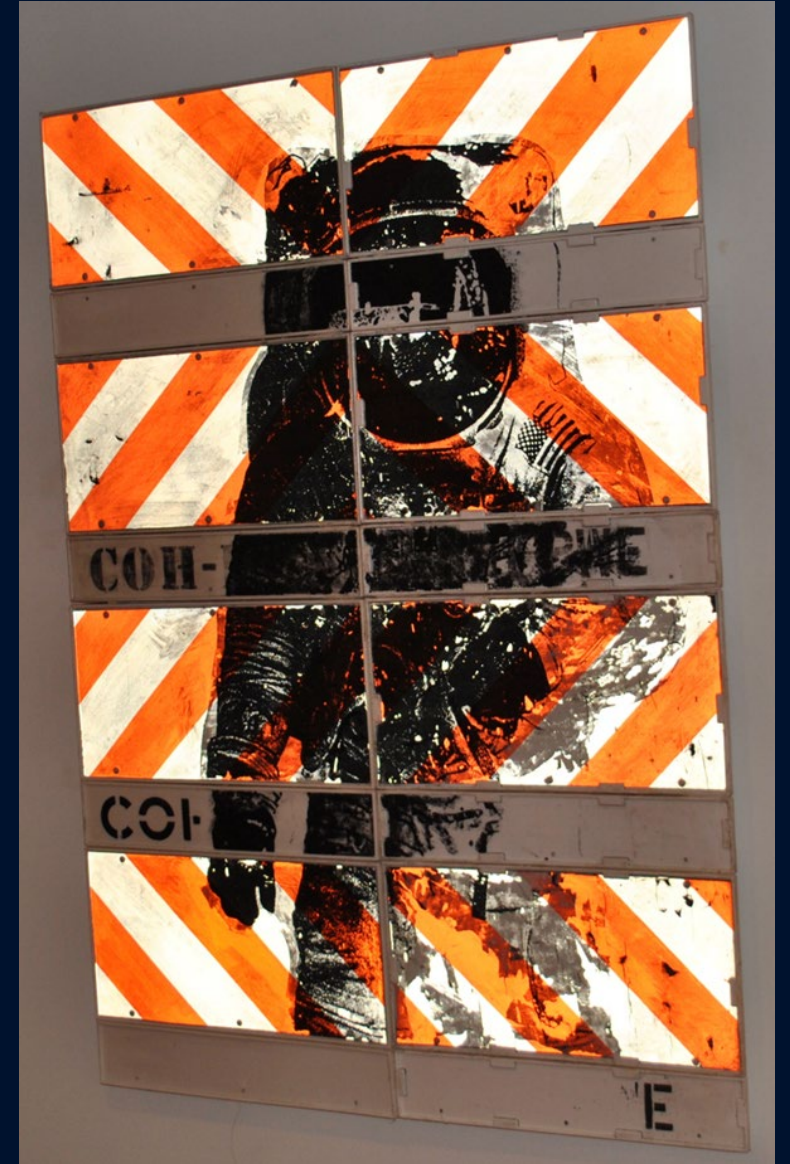


Photo: Peter Wallace

Fuel for thought

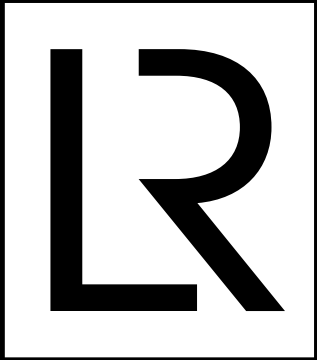


Nuclear

**Expert insights into the
future of alternative fuels**

Your trusted adviser in alternative
and low carbon maritime fuel





Thank you

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