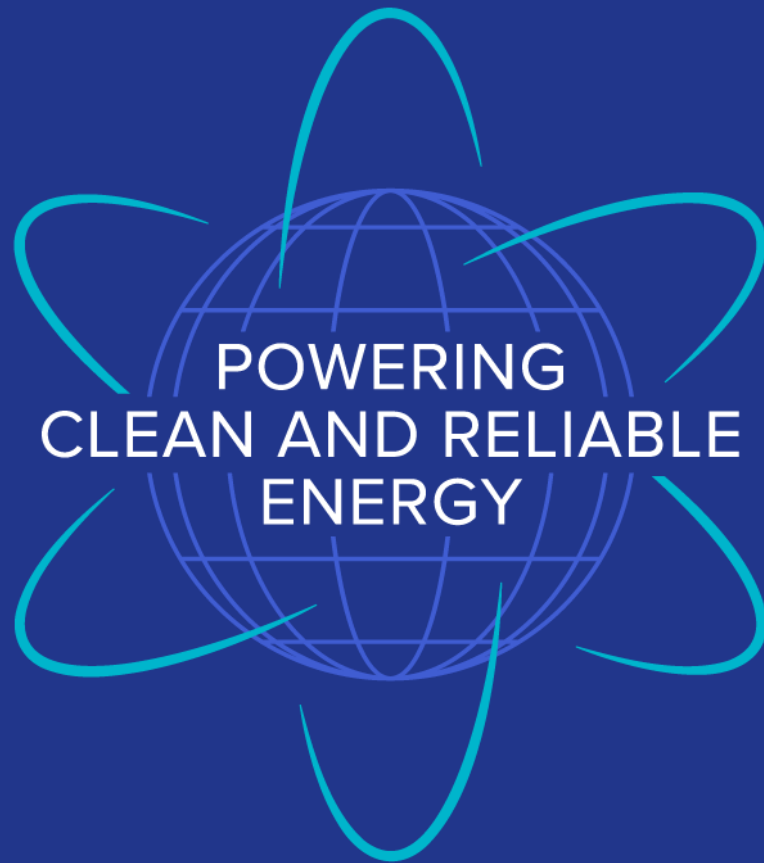


Nuclear Energy Trends

Innovation for Cool Earth Forum
Session A-2: Advanced Nuclear

Marc Nichol
VP, Nuclear Deployment & Fuel Cycle

October 8, 2026



The Global Energy Challenge

Standard of Living

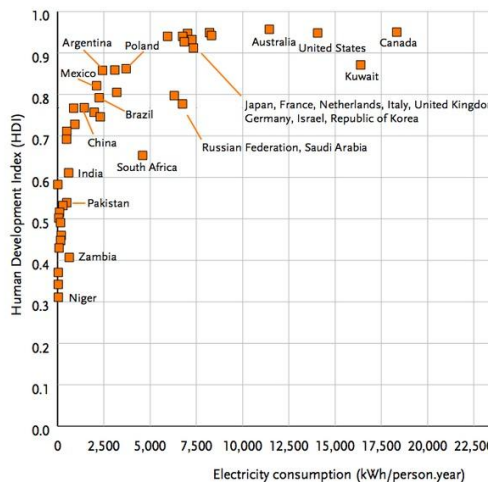
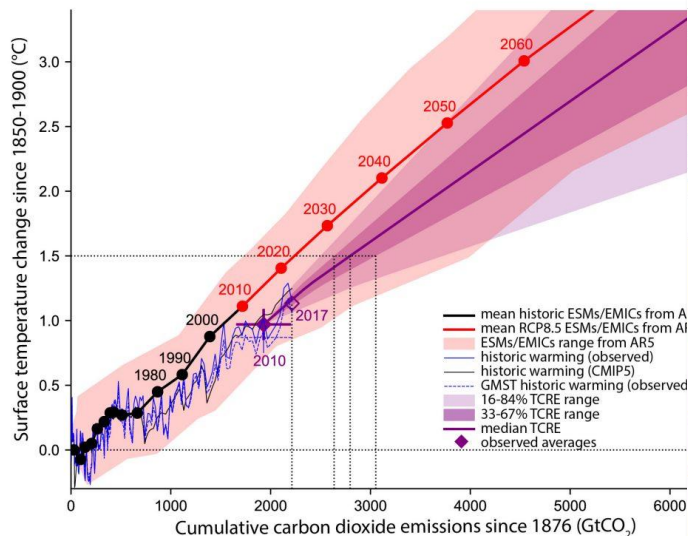


Figure 1.6 Relationship between human development index (HDI) and per capita electricity consumption, 2003 – 2004

Note: World average HDI equals 0.741. World average per capita annual electricity at 2,490 kWh per person/year, translates to approximately 9 gigajoules (GJ)/person kilowatts (kW) = 36 GJ

Source: UNDP, 2006.

Carbon Reduction



Energy Security

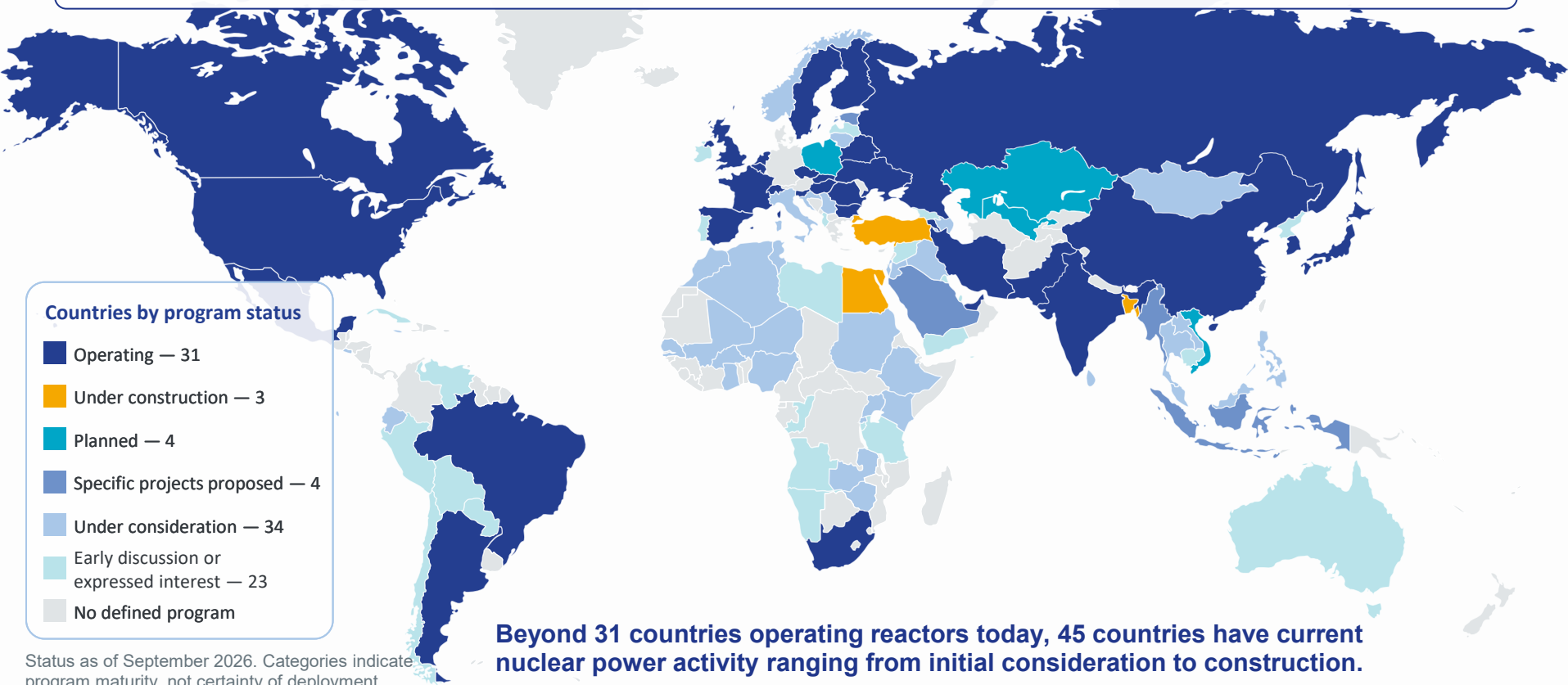
The New York Times

The European Union seeks independence from Russian oil and gas.

Europe had long trusted in what many thought was a mutually beneficial business relationship. That has changed.



Nuclear Power Interest Is Expanding to New Countries



Powering National and Economic Security



Expedite Fullest Use of Nuclear Energy

- Unleash the industrial base
- Increase domestic fuel production
- Accelerate deployment of new nuclear
- Enable private investment, innovation and use
- Achieve licensing efficiency
- Used fuel & recycling
- Export of US technologies
- Prepare a robust workforce



Enhance U.S. Technology Portfolio



Micro

Advanced Technologies



Small



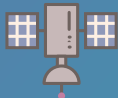
Large



Power Critical Industries



Data Centers



Space



Military Bases



Agriculture



Petrochemical



Mining



Maritime



Steel



Protect National and Economic Security

- Achieve energy independence and dominance
- Produce abundant, reliable and resilient energy
- Prioritize diversified sources of dispatchable energy
- Ensure energy is affordable, safe and clean
- Secure global industrial and digital leadership
- Create 10,000s high-paying jobs



Public Support and
Value Recognition



Federal Legislation and
Executive Actions



State Legislation and
Market Policies



Industry Actions and
Nuclear Benefits

Key Enablers from the Executive Orders on Nuclear Energy

National Security (14299), NRC Reform (14300), DOE Testing (14301), and Industrial Base (14302)



Add 300 Gigawatts of U.S. Nuclear Capacity by 2050

- Restarts and power uprates
- 10 large reactors in construction by 2030



Speed up Nuclear Reactor Licensing

1

- NRC licensing less than 18 months
- Faster for DOE/DoD tested designs



Lay the Ground-Work for Faster Reactor Testing

2

- Pilot 3 reactors outside of labs
- Expand DOE testing pathways



Deploy U.S. Reactors for AI and Military Bases

3

- Operate at DoD facilities in 3 years
- AI as critical defense facilities



Amp Up Domestic Nuclear Fuel Production

4

- Maximize domestic fuel production
- Mine, enrich, convert, de-convert



Assess Spent Fuel and Recycling

5

- Recommend a National policy
- Safe, Secure Long Term Fuel Cycle



Expand U.S. Nuclear Energy Exports

6

- Compete for civil nuclear globally
- Pursue new 123 Agreements



Bolster the American Nuclear Workforce

7

- Increase nuclear apprenticeships
- Prioritize nuclear energy careers

Reference: <https://www.energy.gov/ne/articles/9-key-takeaways-president-trumps-executive-orders-nuclear-energy>