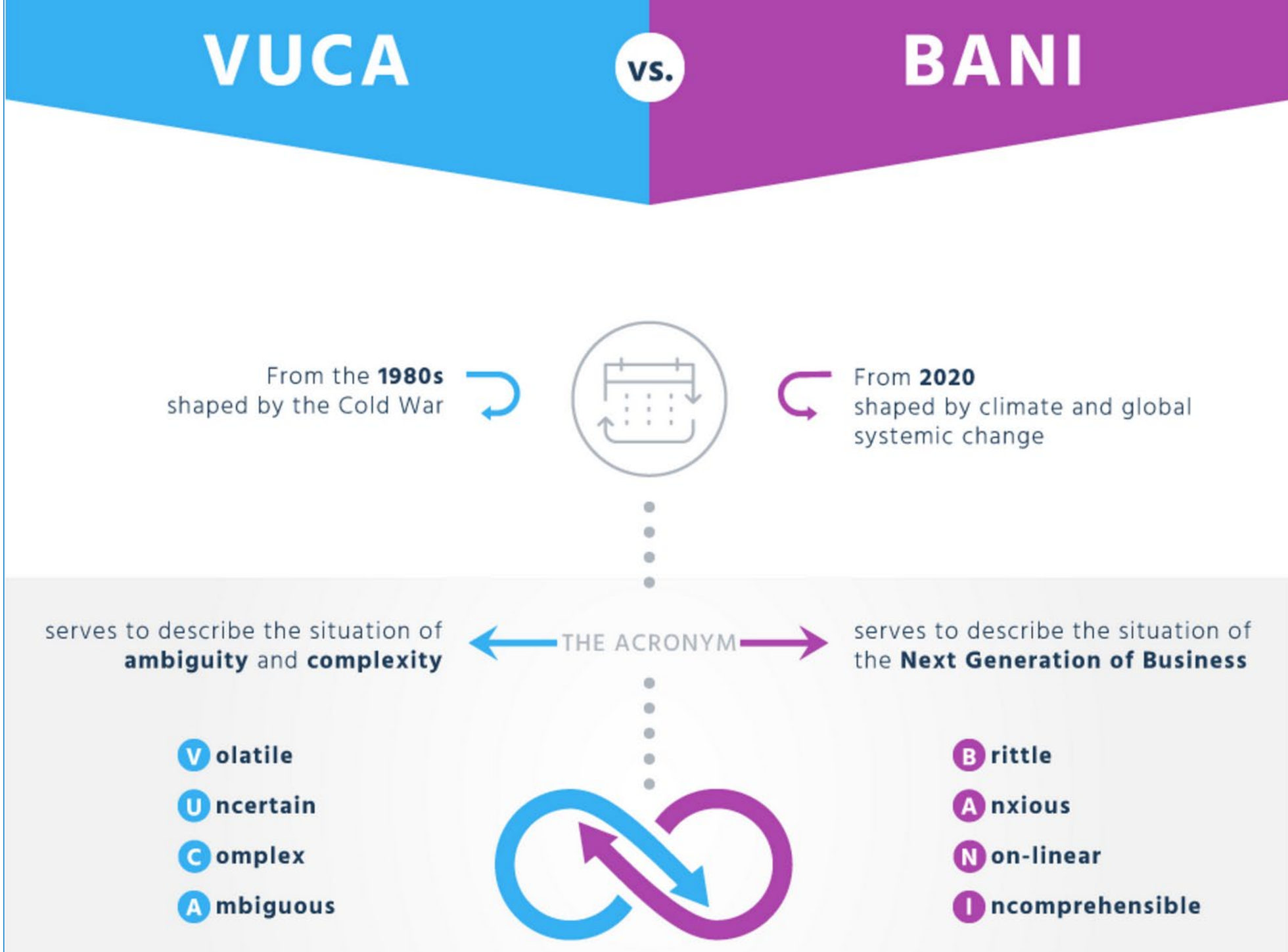
Center on Global Energy Policy at COLUMBIA | SIPA

Thinking the Unthinkable: Energy Futures in Disrupted Times

By Tatiana Mitrova • 29 May 2025

Welcome to BANI-world!



CONTEXT: The age of polycrisis has arrived

- Global systems are colliding: climate, security, technology, finance
- Energy transition is no longer a smooth, technocratic process
- Standard scenario models are unfit for discontinuities
- Today’s volatility makes linear forecasts obsolete
- We need new frameworks to navigate structural breaks

MACRO TRENDS: Five structural fault lines shaping our future

- **Geopolitical fragmentation** → energy weaponization
- **Tech bifurcation** → competing standards & supply chains
- **Transition-security trade-offs** → rising state intervention
- **Societal polarization** → fractured mandates
- **Institutional fatigue** → loss of strategic foresight

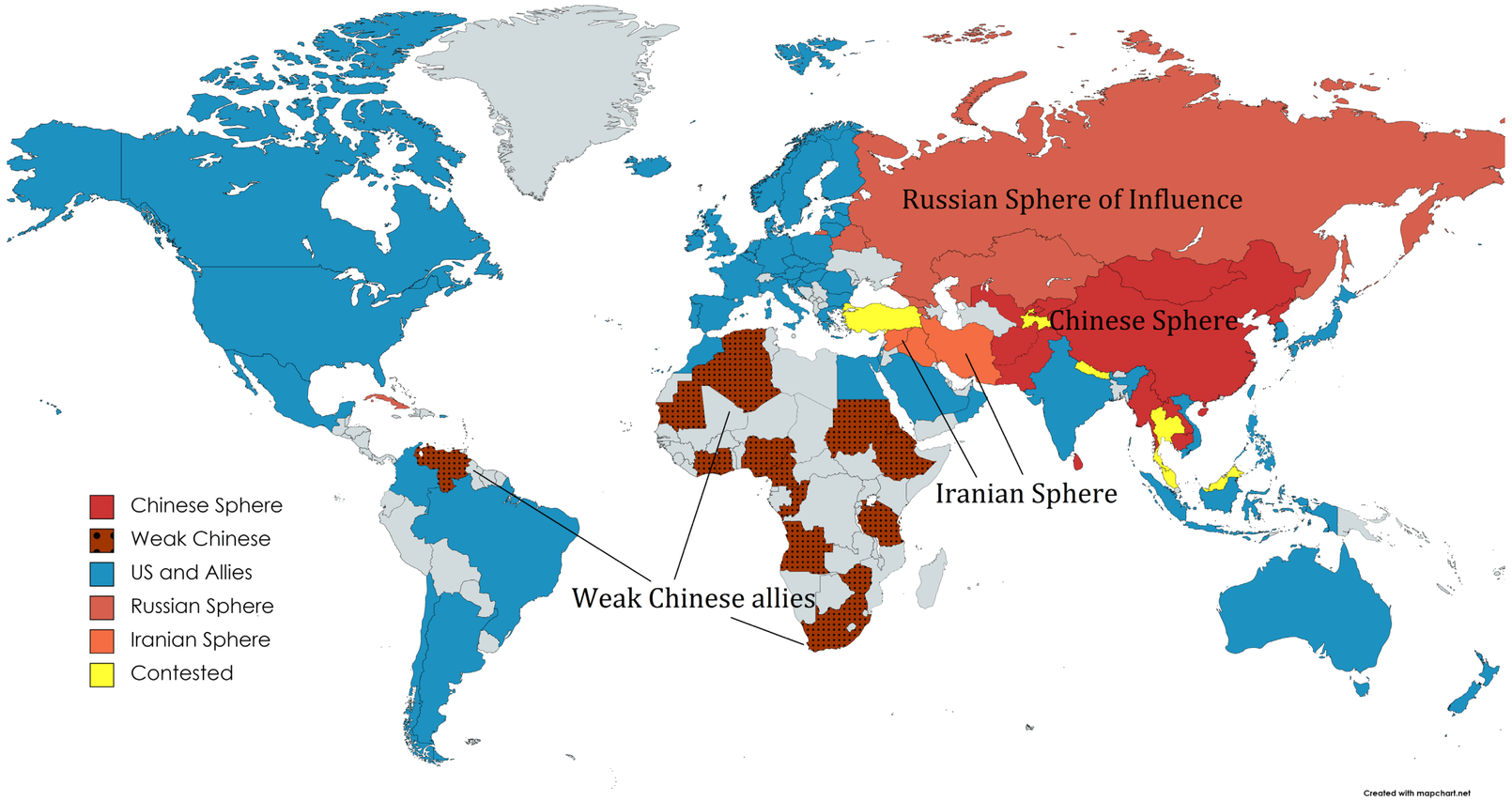
The last few years marked a new stage of geopolitical transformation: bipolar/ multipolar world?

A greater number of powerful actors will shape an increasingly complex global system.

As great powers, the US and EU, China and Russia will continue to shape the global operating environment in profound ways.

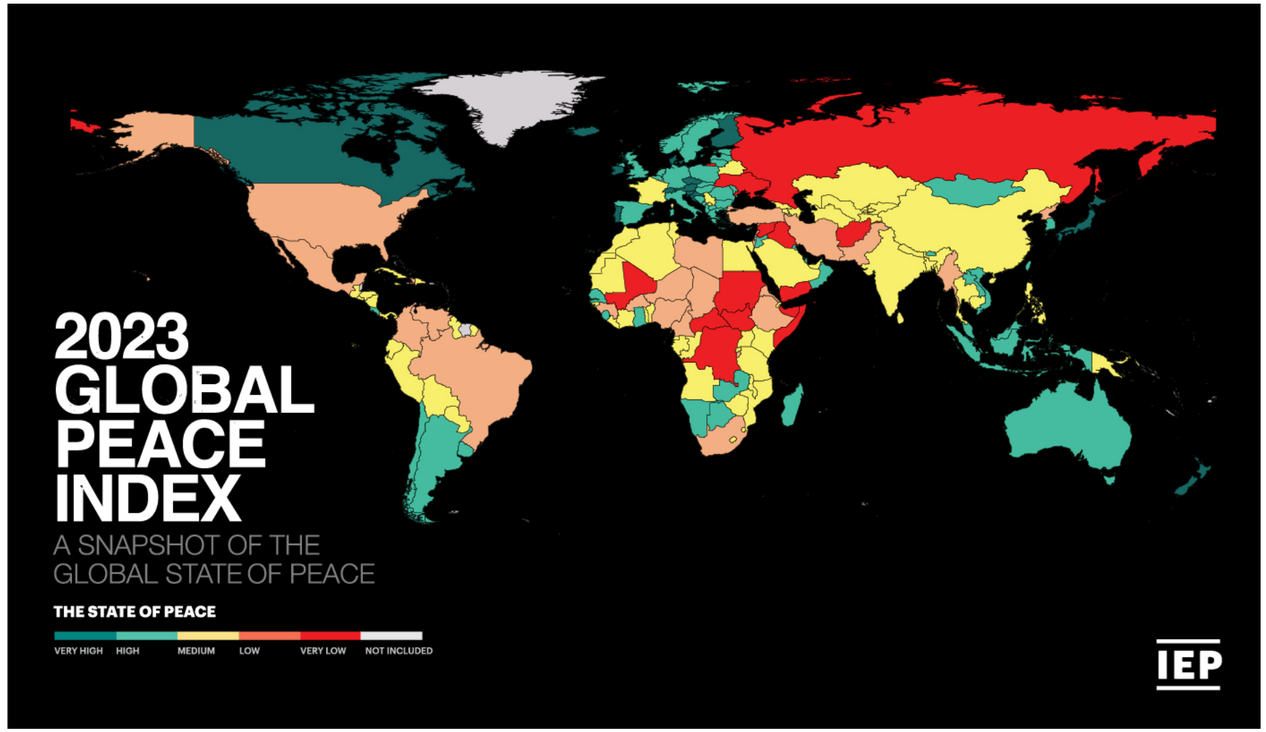
Geopolitical swing states – countries such as India, Saudi Arabia, Turkey, South Africa and Brazil that are not specifically aligned with any major power or bloc – will gain more sway over the international agenda.

Geopolitical alignment 2025



Geopolitical fragmentation and militarization

- **Internationalised conflicts have increased nine-fold since 2004**.
- Russia-Ukraine - the largest military conflict in Eurasia in the last 80 years.
- Large-scale military conflict in the Middle East (Israel-Hamas war and Red Sea shipping attacks).
- Afghanistan, Ethiopia, Iraq, Yemen, Syria, Somalia, Libya, the Central African Republic, the Democratic Republic of Congo, Myanmar, Colombia, and Mali are currently in civil wars.



Source: 7th edition of the Global Peace Index, the Institute for Economics & Peace (IEP)

Energy weaponization

The erosion of multilateralism and increasing geopolitical rivalry is fragmenting the global order. This disintegration fuels the use of energy as a tool of coercion and influence.

- **Economic basis**: pariah states/ sanctioned states providing already for a significant part of the international trade, growing shadow markets and non-dollar payments.
- **Ideological basis**: anti-Western sentiment, rising dissatisfaction with the Western policies. OPEC+ activities and BRICS enlargement are good examples of this trend.

Implication:
Energy no longer flows according to market logic alone - political alignment increasingly determines access, price, and infrastructure use.

• **Natural gas** and **oil flows** are being redirected based on loyalty rather than efficiency.

• **Sanctions, export bans**, and **infrastructure sabotage** (e.g., Nord Stream, Baltic Pipe, cyber attacks) have become instruments of strategic pressure.

• **Energy weaponization** undermines trust in markets and long-term investments.

Tech bifurcation → competing standards & supply chains

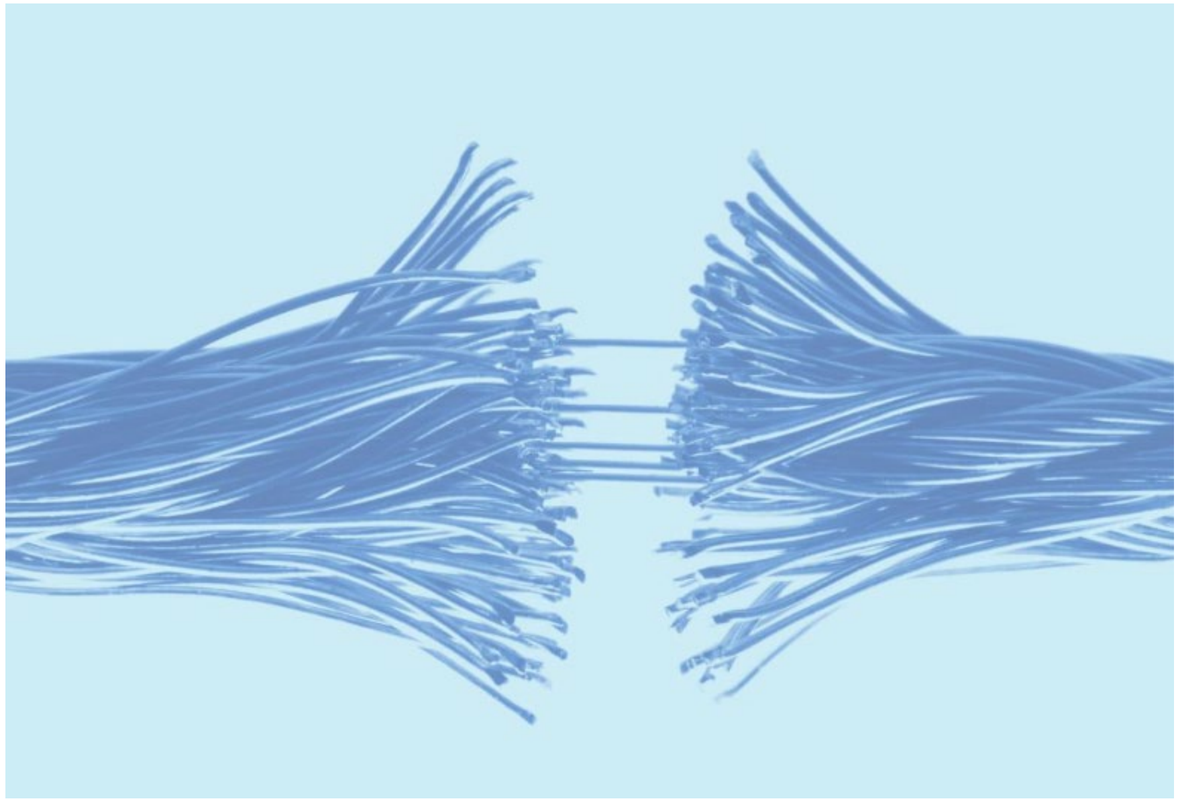
Technological ecosystems are diverging between Western and Chinese-led systems:

• Competing standards in **smart grids**, **EVs**, **battery chemistries**, and **nuclear technology** fragment global supply chains.

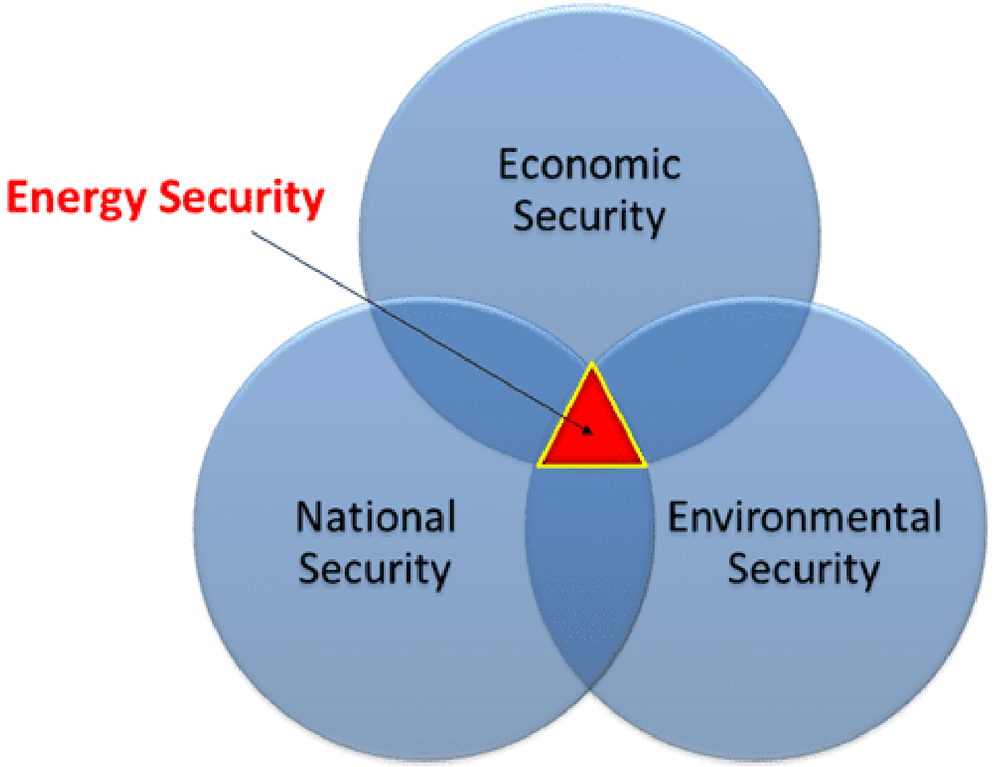
• Countries are being forced to "choose sides" on technologies that underpin energy transition (e.g., solar panels, critical minerals, digital infrastructure).

• This bifurcation undermines economies of scale and global interoperability.

Implication:
Energy transition technologies - once seen as global public goods - are now embedded in techno-industrial competition.



Transition-security trade-offs → rising state intervention



Governments are increasingly caught between decarbonization goals and immediate energy security imperatives:

• Spikes in energy prices or disruptions (as in 2022–23) lead to reactivating coal plants, subsidizing fossil fuels, or delaying transition policies.

• State actors step in to regulate, subsidize, or directly operate parts of the energy system in response to public pressure and strategic needs.

Implication:
The ideal of market-led energy transition is eroding. The state is back - not just as a regulator, but as a central actor managing contradictions.

Societal polarization → fractured mandates

In many democracies, energy and climate policies are becoming politically divisive:

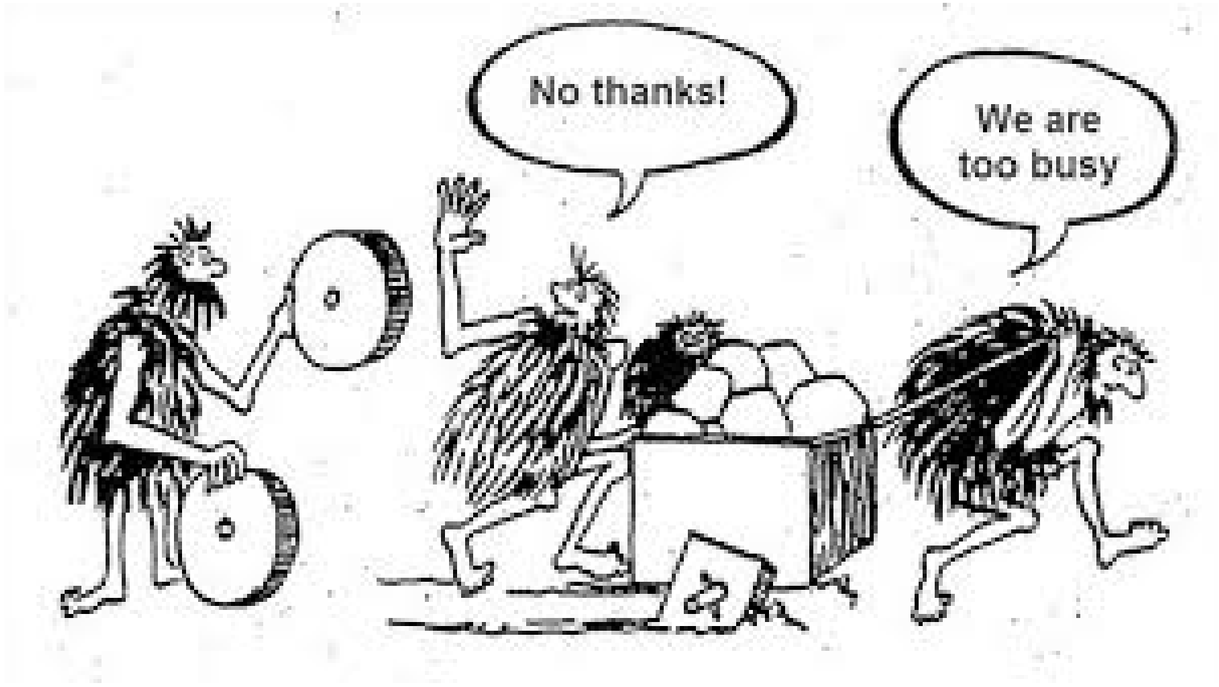
• Climate action is increasingly aligned with specific political or cultural identities.

• Backlashes against perceived “green elitism” or cost burdens fragment public support.

• This leads to policy reversals, short-termism, and stop-start implementation.

Implication:
Governments lack stable social mandates for long-term transitions, especially in polarized or populist political environments.

Institutional fatigue → loss of strategic foresight



Governments, international organizations, and corporate actors are overwhelmed by compounding crises and short-term firefighting:

- Attention spans shrink; long-term planning is crowded out by immediate urgencies.
- Traditional institutions struggle to adapt to disruptive, non-linear changes.
- Foresight, imagination, and experimentation are underfunded or deprioritized.

Implication:
Strategic blindness is growing - institutions are unprepared for future shocks because they're trapped in outdated playbooks.

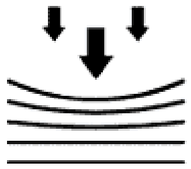
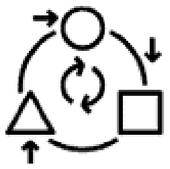
The energy sector: between accelerated change & political drag

- Decarbonization is advancing - but unevenly
- Energy security is back on top of national agendas
- Transition = political, not just technical or economic
- Expect messiness, reversals, "transitions within transition"

What leaders often miss:

- Overconfidence in consensus-based pathways
- Underinvestment in imaginative capacity
- Energy leaders often blind to societal and geopolitical wildcards

How to deal with this BANI-world?

Volatile	**U**ncertain	**C**omplex	**A**mbiguous
Brittle needs	**A**nxious needs	**N**on-linear needs	**I**ncompre- hensible needs
Resilence	**A**ttentiveness Mindfulness	**A**daption	**T**ransparency
			

Beyond forecasts: tools to navigate uncertainty

Backcasting from rupture points

Start with a desired or disruptive future, then work backward to identify the steps needed to reach or avoid it. Useful for stress-testing assumptions and exposing gaps in current strategies.

Signals radar

Continuously scan the horizon for weak signals and emerging trends that may grow into disruptions. Essential for anticipatory awareness and early strategic pivots.

Scenario stress-testing

Assess how strategies perform under extreme but plausible scenarios (e.g., geopolitical conflict, tech bans, resource shocks). This helps uncover vulnerabilities before they turn into crises.

Structured brainstorms

Dedicated offsite sessions with cross-disciplinary thinkers to step out of daily firefighting and refresh long-term vision. Encourages imaginative thinking and coalition-building.

Regional implications: what this means for APEC & Asia

- Asia's dual role: global demand center & policy innovator
- Nuclear, gas, renewables will evolve along divergent paths
- Resilience requires narrative pluralism, not one-size fits all: energy mix is based on national / regional policy preferences, unique circumstances - each region has its own energy transition pathway (changing attitude towards nuclear is a good example).

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- Old model: consensus → comfort
- New need: pluralism → preparedness
- APERC can lead by enabling foresight, not enforcing forecasts

Thank you.