



WORLD ENERGY ISSUES MONITOR 2024

REDESIGNING ENERGY IN 5D

ABOUT

WORLD ENERGY COUNCIL

The World Energy Council is the world's oldest independent and impartial community of energy leaders and practitioners. Through our Humanising Energy vision, we involve more people and communities in accelerating clean and just energy transitions in all world regions. Formed in 1923, the Council has convened diverse interests from across the full energy ecosystem for a century, and today has over 3,000 member organisations and a presence in nearly 100 countries. Our global network draws from governments, private and state corporations, academia and civil society, as well as current and future energy leaders. We effectively collaborate on impact programmes and inform local, regional and global energy agendas in support of our enduring mission: to promote the sustainable use and supply of energy for the benefit of all people.

Further details at www.worldenergy.org and on [LinkedIn](#) and [Twitter](#).

Published by the World Energy Council 2024

Copyright © 2024 World Energy Council. All rights reserved. All or part of this publication may be used or reproduced as long as the following citation is included on each copy or transmission: 'Used by permission of the World Energy Council.'

World Energy Council

Registered in England and Wales No. 4184478

VAT Reg. No. GB 123 3802 48

Registered Office

Temple Chambers
3-7 Temple Avenue,
London,
EC4Y 0DA

WORLD ENERGY ISSUES MONITOR 2024

The World Energy Issues Monitor provides a snapshot of what keeps CEOs, Ministers and experts awake at night in over 100 countries.

The Monitor helps to define the world energy agenda and its evolution over time. It provides a high-level perception of what constitute issues of critical uncertainty, in contrast to those that require immediate action or act as developing signals for the future. It is an essential tool for understanding the complex and uncertain environment in which energy leaders must operate, and a tool through which one can challenge one's own assumptions on the key drivers within the energy landscape.

This 14th iteration of the World Energy Issues Monitor is based on insights of nearly 1,800 energy leaders in over 100 countries to provide 40 national assessments across six world regions.

World Energy Issues Monitor 2024, published by the World Energy Council.

EXECUTIVE SUMMARY

In a world where the demands for secure, affordable and sustainable energy are ever-increasing, global and national energy systems are showing signs of deficiencies and strains everywhere. There is an urgent need for collaboration across the entire energy ecosystem to redesign energy systems that enable the improvement of billions of lives on a healthy planet.

In this complex landscape, characterised by the interplay of various energy transition pathways, there is no one-size-fits-all solution. The imperative for energy transitions necessitates profound system-level changes that transcend traditional policy frameworks. Energy transitions go beyond technological advancements, fuel substitution, electrification, or decarbonisation; they encompass a holistic approach that addresses wider and wiser uses of energy.

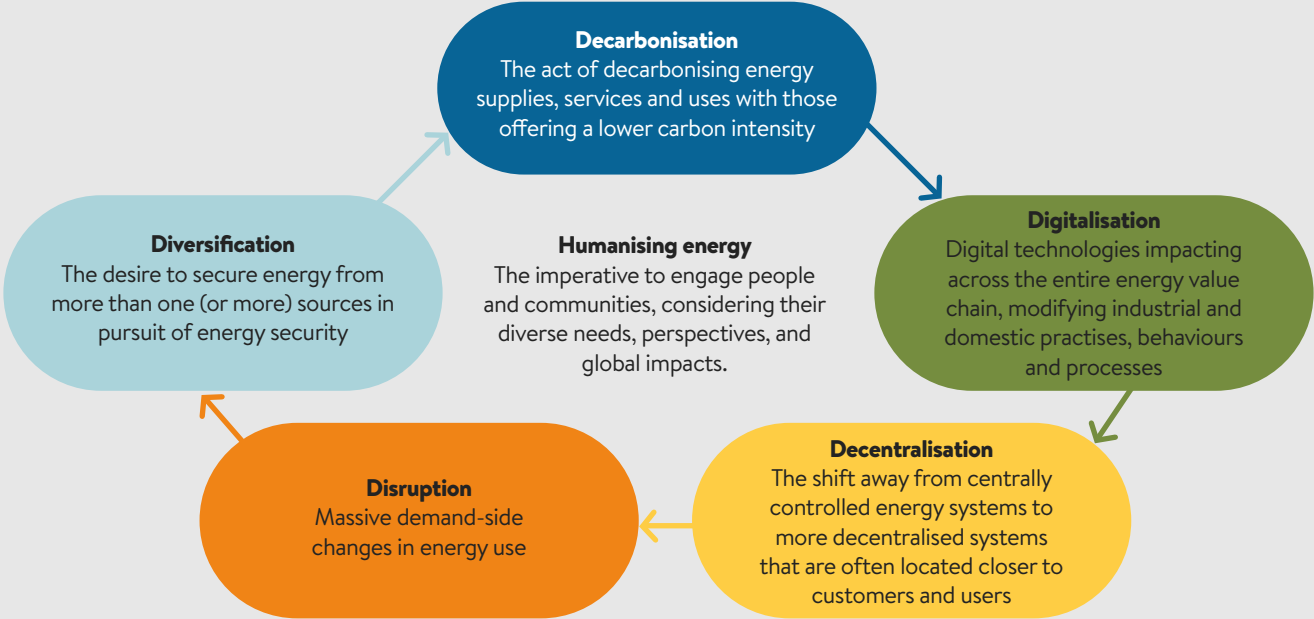
Energy transitions’ transformative impacts extend far beyond the energy sector alone. They intersect with other vital systems such as industry, agriculture and urban infrastructure, reshaping the fabric of society. To catalyse faster, fairer and more far-reaching energy transitions, diversity must be activated, and people empowered, including women, workers and the next generation.

As energy transitions unfold within the broader context of systemic shifts, they signify a fundamental reorientation of our relationship with energy. Energy transitions underscore the importance of equipping diverse communities with the knowledge and agency to shape the future of energy, reflecting a deeper understanding of our interconnectedness with the planet and each other.

Following the conclusion of COP28 in the United Arab Emirates, this edition of the World Energy Issues Survey captures the perspectives of nearly 1,800 energy leaders across more than 100 countries, providing a timely and insightful snapshot of the dynamic global energy landscape. As an essential tool for navigating the complexities and uncertainties faced by energy leaders, the World Energy Issues Monitor prompts a reconsideration of assumptions regarding the key drivers shaping energy transitions.

Moreover, when considered in conjunction with the Council’s [World Energy Trilemma Framework](#) and the [World Energy Scenarios](#), these resources collectively provide a comprehensive understanding of current advancements, future challenges and emerging opportunities in the global energy sector. Together, they offer valuable insights that can guide strategic decision-making and policy formulation in the energy domain.

The 2024 World Energy Issues Monitor reaffirms the World Energy Council’s “5 Ds” that are driving change in energy systems across the world.



These “5Ds” are connected and shaped by regional diversity and differences in demographic patterns, energy needs and wants. The survey results offer a rich and diverse set of views on global energy issues, shedding light on key trends and priorities, and their implications for the five global drivers of change shaping energy transitions in all regions. Key insights include:

- **Old and new geopolitical agendas are vying for pole position.** The ongoing war in Ukraine and instability in the Middle East escalate uncertainty, affecting energy trade and security. The expansion of BRICS with 6 new members illustrates changing global political affiliations and partnerships, impacting energy dynamics and collaboration. The geopolitics of energy are extending beyond oil and gas resources to supply chains and data.
- **Energy security concerns have evolved beyond conventional supply side security to demand driven shocks and disruptions and the impacts of climate change.** These include resilience, diversity of supplies, climate change, the energy-water-food nexus, shifts in supply chains and accessibility of critical minerals and metals. The shift towards resilience is observed in both this report and the 2024 World Energy Trilemma Report. Demand management policies and a transition of control towards end users.
- **Investor confidence in de-risking clean energy investment has grown significantly** – except in Africa and Latin America and the Caribbean. While de-risking investment in energy has exhibited one of the lowest levels of uncertainty in the global average, the start-ups and innovators group indicate a higher level of uncertainty, necessitating leadership attention. There is an urgent need for a greater flow of finance and investment into infrastructure and the scaling up of new technologies to facilitate energy transitions towards a more sustainable, low carbon future.
- **Key technologies are emerging as pivots in energy transitions, disrupting the energy landscape** and reshaping the sector as they gain traction. While increasing the supply of renewable electrification in the energy mix is common to all, there is significant difference in how key technologies pivot. Hydrogen and P2X technologies are increasingly becoming pivotal in achieving net zero emissions. Uncertainties still exist in some regions, notably the Middle East and Gulf States. Scaling up these key technologies requires essential enablers such as appropriate and timely regulation, as well as financial innovation. Carbon Capture, Utilisation and Storage (CCUS) hardly features, with Middle East and Gulf States being a notable exception where it is considered an action priority.
- **Transmission grid strengthening and expansion, as well as more flexible energy storage solutions, including demand management, are globally recognised areas of focus and action.** An exception is observed in Latin America and the Caribbean. Urgent action and investment are needed to upgrade and integrate electricity transmission grids globally, particularly to accommodate the increasing demand for energy, expand and integrate renewable energy sources, and enhance climate resilience. Whilst much of the debate around energy transitions centres around energy sources, a strong infrastructure is required to deliver energy to hungry markets. There is no transition without transmission.
- **Climate action priorities, encompassing mitigation, adaptation, and compensation, vary across regions** and extend to broader concerns about energy for sustainable development including water stress and food security. Mixed views on climate adaptation exist, with high uncertainty among respondents from Asia and Latin America and the Caribbean. The interdependence of water, energy and food systems is a top priority for African respondents but remains uncertain for those in Latin America and the Caribbean.
- **New mixes of policy and regulations are needed to manage the multiple objectives in redesigning energy for people and planet.** Uncertainty increased regarding policy environments necessary to transform energy demand across sectors, including energy efficiency, requiring a reevaluation of policies and stakeholder collaboration. Demand management is a new policy imperative for a stable electricity system. This issue was firmly in the uncertainty domain for all regions and groups, except for start-ups and



Innovators where it was an action. There are marked regional differences in progressing peer-to-peer and peer-to-market trading solutions.

- **Social transformation gains momentum: demands for shared benefits, social inclusivity and justice increasingly influence energy strategies.** Bottom-up engagement is weaker than needed and better-quality leadership dialogue and enhanced stakeholder coordination are essential to address interconnected issues such as demand management, quality energy access, and wider and wiser uses of energy. Changes in mindsets are required to generate new forms of collaboration. The polarisation of views about energy, notably the “good” vs “bad” energy, is unhelpful and can hinder tangible progress. The complexity of engaging diverse stakeholders and finding new ways of collaboration cannot be underestimated. While many locally appropriate novel approaches are emerging, the next challenge lies in scaling and connecting these initiatives.

The 2024 World Energy Issues Monitor underlines the complex nature of energy transitions, emphasizing their multifaceted character where a one-size-fits-all strategy proves inadequate. Signals of deficiency, stress and strain are everywhere emphasizing that redesigning energy for people in planet is imperative, making faster fairer and more far-reaching energy transitions happen is not easy. Regional priorities and uncertainties varied significantly as did responses from key stakeholder groups such as Future Energy Leaders and Start-ups and Innovator. Multiple energy transition pathways are emerging in all regions and increasing the supply of renewable electrification in the mix is common to all, but significant difference in baskets of technology pivots (H2, CCS, storage and grids) exist. This divergence hints at varying risk appetites or awareness, differences in culture, resource endowment, economic and intergenerational distinctions as well as differences between established organisation and burgeoning start-ups.

Central to the success of energy system transformations is the imperative to lead with diversity, leveraging and learning from differences, and fostering quality dialogues to reconcile divergent perspectives and enable collaboration tailored to each distinct context.

The 2024 World Energy Issues Monitor is akin to an energy Rubik’s Cube, offering a multifaceted view of the energy landscape where each issue represents a colourful facet, yet only a portion of the whole can be examined at a time, providing a snapshot of emerging trends and transformations.

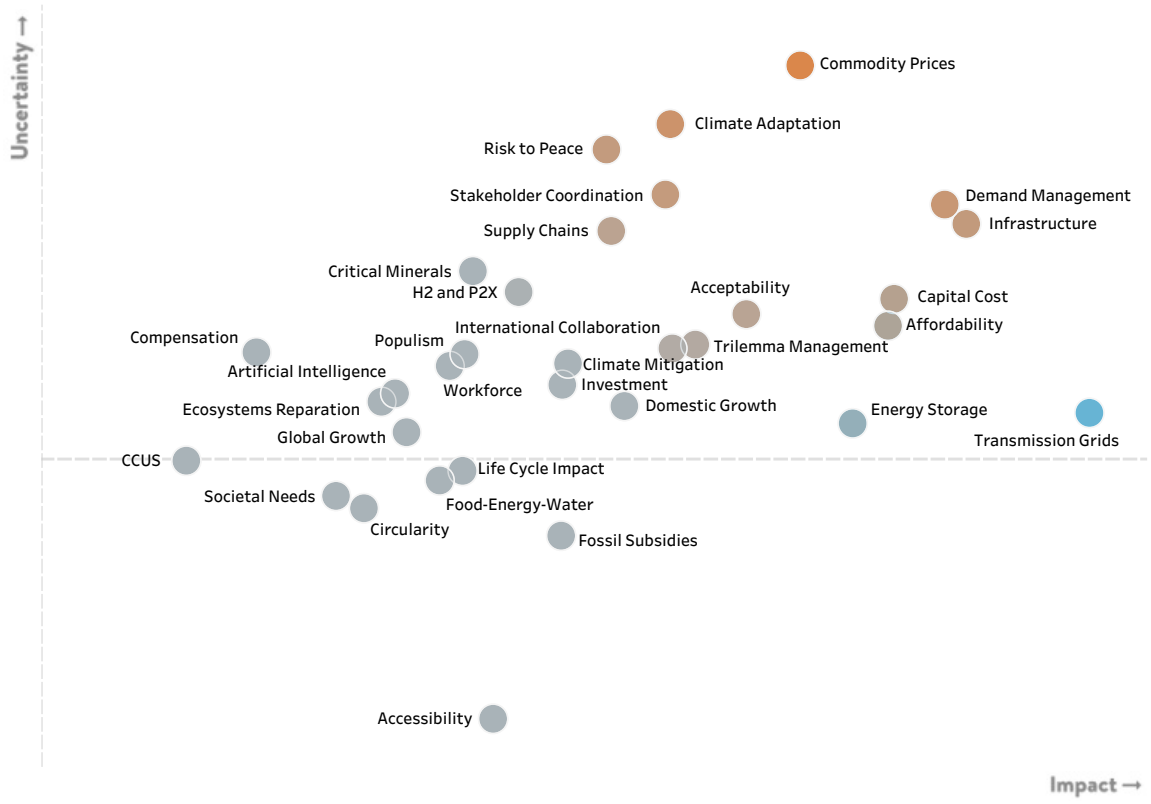
Beyond where you are directing your focus in 2024, how do you interpret the concept of diversity in orchestrating orderly transitions and how can we effectively leverage these differences to drive meaningful action and collaboration?

Our commitment lies in redesigning energy for people and planet, as we strive to connect the dots in a faster-paced, fundamentally shifting and increasingly fragmented leadership landscape. Through our convening power for common good, we endeavour to engage a broader spectrum of people and diverse communities, ensuring that new voices are included in better quality dialogues. We are a community of change makers, seeking to make energy transitions happen that are faster, fairer and more far-reaching. This involves scaling a multitude of smaller steps and designing innovative policy mixes to achieve multiple objectives, including security, affordability, and sustainability, while emphasising dynamic resilience and broader justice.

We invite you to harness the power of this tool not just for reading and reflecting, but also as a catalyst for action and collaboration in our pursuit of making faster, fairer and more far-reaching energy transitions happen.

WORLD ENERGY ISSUES MONITOR | 2024

Global



----- Centre-point line

Critical Uncertainties: what keeps energy leaders awake at night



Action Priorities: what keeps energy leaders busy at work





TRUSTEES

MIKE HOWARD

Chair

NAOMI HIROSE

Chair – Impact

FAHAD ALAJLAN

Chair – Gulf States / Middle East

OMAR FAROUK IBRAHIM

Chair – Africa

JOHN CARNEGIE

Chair – Finance Committee

CRISTINA MORALES

Chair – Future Energy Leaders

RAFAEL CAYUELA VALENCIA

Chair – Studies Committee

NORBERT SCHWIETERS

Chair – Finance

BURKHARD VON KIENITZ

Chair – Regional Initiatives

JOSE ANTONIO VARGAS LLERAS

Chair – Programme Committee

CLAUDIO SEEBACH

Chair – Latin America/Caribbean

PATRICIA VINCENT-COLLAWN

Chair – North America

BARBARA TERENCE

Co-Chair – Programme Committee

KIM YIN WONG

Chair – Asia

JEROEN VAN HOOF

Chair – 2024 World Energy Congress

OMAR ZAAFRANI

Chair – Communications & Strategy Committee

BEATRICE BUFFON

Chair – Europe

ANGELA WILKINSON

Secretary General

WORLD ENERGY COUNCIL PARTNERS

ACWA Power

EY

ADNOC

KAPSARC

Aramco

PwC

Boeing

State Grid Corporation of China

California ISO

Sarawak Energy

EDF

TEPCO

EON

WORLD ENERGY COUNCIL MEMBER COMMITTEES

<u>Algeria</u>	<u>India</u>	<u>Spain</u>
<u>Argentina</u>	<u>Indonesia</u>	<u>Sri Lanka</u>
<u>Armenia</u>	<u>Italy</u>	<u>Switzerland</u>
<u>Austria</u>	<u>Japan</u>	<u>Thailand</u>
<u>Bahrain</u>	<u>Jordan</u>	<u>Trinidad & Tobago</u>
<u>Belgium</u>	<u>Kazakhstan</u>	<u>Tunisia</u>
<u>Bosnia & Herzegovina</u>	<u>Kenya</u>	<u>Türkiye</u>
<u>Botswana</u>	<u>Korea (Rep.)</u>	<u>United Arab Emirates</u>
<u>Brazil</u>	<u>Latvia</u>	<u>United States of America</u>
<u>Bulgaria</u>	<u>Lebanon</u>	<u>Uruguay</u>
<u>Burkina Faso</u>	<u>Lithuania</u>	<u>Vietnam</u>
<u>China</u>	<u>Malta</u>	
<u>Chile</u>	<u>Monaco</u>	
<u>Colombia</u>	<u>Morocco</u>	
<u>Congo (Dem. Rep.)</u>	<u>Namibia</u>	
<u>Croatia</u>	<u>Nepal</u>	
<u>Cyprus</u>	<u>Netherlands</u>	
<u>Dominican Republic</u>	<u>New Zealand</u>	
<u>Ecuador</u>	<u>Norway</u>	
<u>Egypt (Arab Rep.)</u>	<u>Panama</u>	
<u>Estonia</u>	<u>Paraguay</u>	
<u>Eswatini (Kingdom of)</u>	<u>Poland</u>	
<u>Ethiopia</u>	<u>Portugal</u>	
<u>Finland</u>	<u>Romania</u>	
<u>France</u>	<u>Saudi Arabia</u>	
<u>Germany</u>	<u>Serbia</u>	
<u>Greece</u>	<u>Singapore</u>	
<u>Hong Kong (China)</u>	<u>Slovenia</u>	
<u>Iceland</u>	<u>South Africa</u>	

Temple Chambers
3-7 Temple Avenue,
London,
EC4Y 0DA
T (+44) 20 7734 5996
F (+44) 20 7734 5926
E info@worldenergy.org

www.worldenergy.org | [@WECouncil](https://twitter.com/WECouncil)