

Turning the tide in scaling renewables

KPMG believes that greater understanding of the real-world challenges of scaling renewables is needed if global climate ambition for 2030 onwards is to be achieved.

Scaling renewable energy is regarded as one of the most critical actions required to achieve a Paris Agreement target of limiting global temperature rise to 1.5 degrees.

Recognizing this, the COP28 Presidency has announced a core objective to triple renewable energy capacity by 2030. This ambition is supported by various other international organizations such as the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA). However, notwithstanding the fantastic strides made by the industry in recent years, renewable energy sources still generate only 14 percent of the total energy mix.^{1,2} The current reality is that there are several serious challenges faced by most renewable energy developers today that, unless new approaches are adopted immediately, will likely hamper the degree of scaling of renewables needed this decade. Clearly, the risk of insufficient scaling has significant consequences for the global climate agenda.

To respond to this reality, KPMG is undertaking a study to identify and understand the global and regional challenges that hinder the rapid deployment of renewable energy. Importantly, this study aims to capture the real-life practical issues faced by renewable developers and investors all over

the world and will outline potential solutions and make specific recommendations as to how these challenges can be overcome.

We want to hear from you.

We encourage contributions from all interested parties, from renewable energy industry participants to investors, corporates, academia and policy makers. Your perspectives will enrich our comprehensive report, which we plan to present at the 2023 United Nations Climate Change Conference (COP28).

Renewable energy is seen as pivotal for achieving 2030 climate goals.

- **Mitigation of greenhouse gas emissions:** Renewable energy sources, such as wind, solar, and hydropower, do not emit greenhouse gases once operational.³ The IEA Net Zero 2050 scenario assumes renewable deployment will contribute one-third of global emissions reduction between 2020-30.⁴ As the world's energy demand continues to grow, integrating a larger share of renewables can substantially offset the amount of greenhouse gas emissions produced.

- **Innovation and advancements:** The rapid innovation in renewable energy technologies has resulted in significant efficiency improvements and cost reductions, making them more accessible and practical for widespread implementation.⁵
- **Energy security and independence:** By harnessing local renewable energy sources, countries can reduce their dependence on imported energy and increase energy security.⁶ This can be pivotal for many countries aiming to achieve energy autonomy by 2030.
- **Job creation:** The renewable energy sector has shown potential in creating numerous manufacturing, installation and maintenance jobs.⁷ This economic benefit can aid countries in transitioning to a sustainable energy-driven economy by 2030.
- **Scalability and diversity:** Renewable energy sources are versatile and can be implemented on various scales, from large solar farms to small rooftop installations.⁸ This diversity can ensure that renewables can be integrated into multiple energy systems and infrastructures.

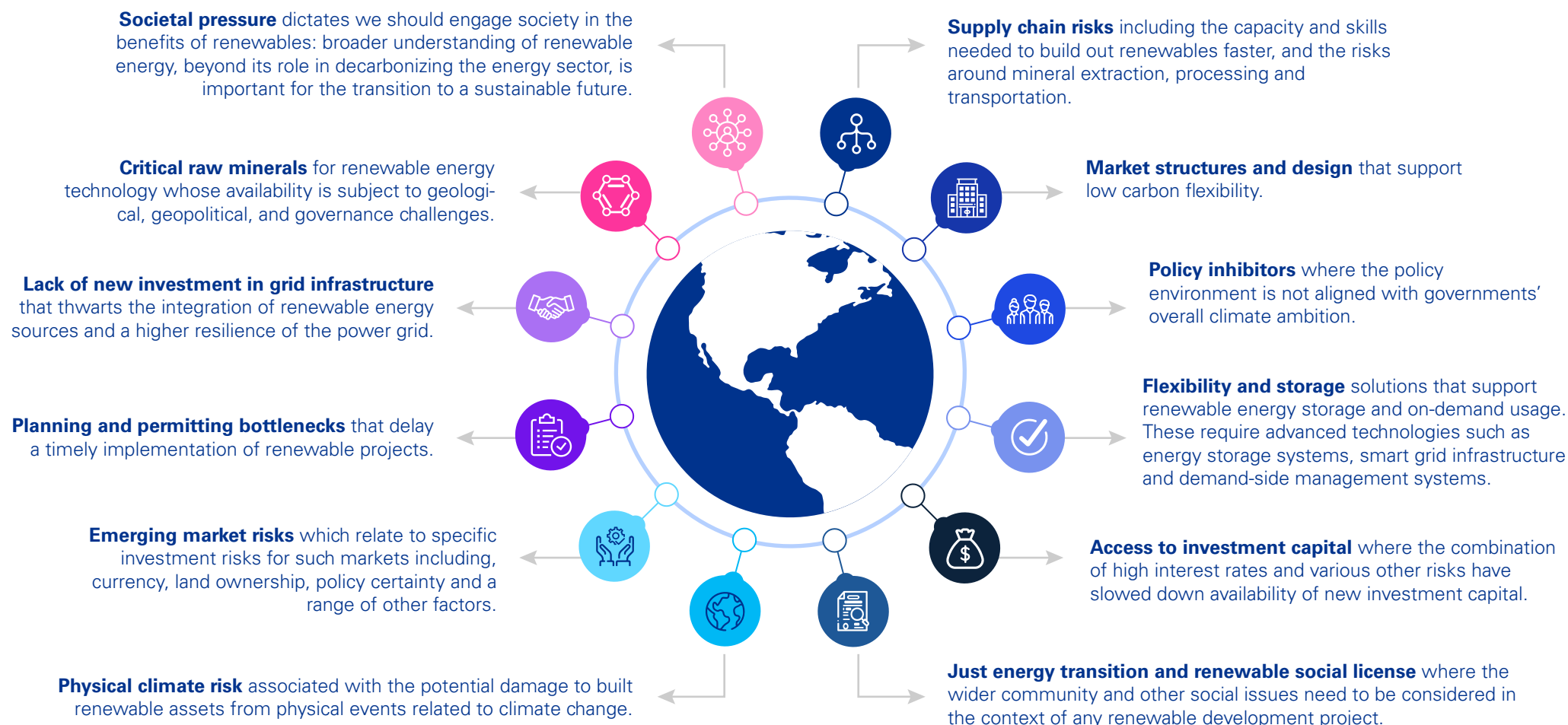
- **Supporting ecosystems and biodiversity:** When implemented responsibly, renewable energy sources have a smaller ecological footprint than many other energy sources. This can help preserve ecosystems and biodiversity, an essential aspect of many 2030 climate goals.
- **Alignment with global commitments:** Many countries have made international commitments, such as the Paris Agreement, to reduce carbon emissions by 2030.⁹ Despite these commitments, the world

witnessed a 0.6 percent rise in CO₂ emissions compared to 2022, matching emission levels in 2019.¹⁰ Scaling up renewable energy is a tangible and practical measure to meet these commitments.

- **Contribute to economic growth:** The economic benefits of renewable energy are evident, with the IRENA estimating that doubling the share of renewable energy in the global energy mix by 2030 would increase global GDP by up to 1.1 percent, or about US\$1.3 trillion.¹¹

However, challenges and concerns are indicating that renewables might not be on track to meet net-zero targets.

The reality is that while demand for renewable energy is likely to grow exponentially, there are some serious challenges and concerns on the supply side which, if not resolved, may mean that dependence on fossil fuels will continue for much longer than is currently anticipated. Here are the key challenges:



Addressing these challenges is pivotal to realizing our global climate aspirations and ensuring a seamless energy transition.

Despite these barriers, the renewable sector has witnessed remarkable growth, with annual investments poised to reach an impressive US\$659 billion by 2023. This has been boosted by numerous supportive policies worldwide such as the Inflation Reduction Act.¹²

Further, there is strong consumer and corporate support for decarbonization, with over 4,000 companies having net-zero targets in 2022, nearly double that in 2021 and availability of renewable energy is a core focus for most of these zero plans.¹³ By addressing the barriers to renewable deployment, this commitment can be quickly translated into tangible action.

Connect with KPMG professionals on scaling renewables and the energy transition.

KPMG is deeply committed to positive climate action and advancing decarbonization efforts worldwide. We aim to collaborate closely with the renewable energy industry, policymakers and other influential stakeholders to address challenges in scaling renewable energy.

In the coming months, we'll engage with global market participants to validate our insights and showcase our findings at COP28. If you share our passion and wish to be part of this impactful journey, we invite you to **get in touch** on this topic of scaling renewables. Your insights and collaboration could be pivotal in shaping a sustainable future.

1. Referred to the sum of 'renewable' and 'hydroelectric' as percent of total primary energy consumption in 2022.
2. Energy Institute in partnership with KPMG and Kearney. "[2023 Statistical Review of World Energy](#)." 2023.
3. International Renewable Energy Agency (IRENA). "Renewable Energy Benefits: Measuring the Economics." 2016.
4. International Energy Agency (IEA). "Net Zero by 2050: A Roadmap for the Global Energy Sector." 2021.
5. REN21. "Renewables 2020 Global Status Report." 2020.
6. International Energy Agency (IEA). "Contribution of Renewables to Energy Security." 2007.
7. International Renewable Energy Agency (IRENA). "Renewable Energy and Jobs: Annual Review 2019." 2019.
8. U.S. Energy Information Administration (EIA). "Renewable energy explained: Types & uses."
9. United Nations Framework Convention on Climate Change (UNFCCC). "The Paris Agreement."
10. Energy Institute in partnership with KPMG and Kearney. "[2023 Statistical Review of World Energy](#)." 2023.
11. International Renewable Energy Agency (IRENA). "Renewable Energy Benefits: Measuring the Economics." 2016.
12. International Energy Agency (IEA). "World Energy Investment 2023." 2023.
13. Science Based Targets initiative (SBTi). "SBTi Monitoring Report 2022." 2022.

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates or related entities.

kpmg.com/energytransition



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2023 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

KPMG refers to the global organization or to one or more of the member firms of KPMG International Limited ("KPMG International"), each of which is a separate legal entity. KPMG International Limited is a private English company limited by guarantee and does not provide services to clients. For more detail about our structure please visit kpmg.com/governance.

The KPMG name and logo are trademarks used under license by the independent member firms of the KPMG global organization.

Throughout this document, "we," "KPMG," "us" and "our" refers to the global organization or to one or more of the member firms of KPMG International Limited ("KPMG International"), each of which is a separate legal entity.

Designed by Evalueserve. | Publication name: Turning the tide in scaling renewables | Publication number: 138988-G | Publication date: September 2023

Contact us



Anish De
Global Head for Energy, Natural Resources & Chemicals
KPMG International
T: +91 124 669 1000
E: anishde@kpmg.com



Franceli Jodas
Global Leader, Power & Utilities
KPMG International
T: +55 113 940 3171
E: fjodas@kpmg.com.br



Mike Hayes
Climate Change and Decarbonization Leader, Global Head of Renewable Energy
KPMG International
T: +35 314 101 656
E: mike.hayes@kpmg.ie



Simon Virley CB FEI
Partner and UK Head of Energy
KPMG in the UK
T: +44 207 3115037
E: simon.virley@kpmg.co.uk