TIME 4 ACTION

ACTIONS TO DELIVER 3xRENEWABLES BY 2030

Global Renewables Alliance

International Geothermal Association

Global Solar Council

GWEC Global Wind Energy Council

Green Hydrogen Organisation

iha international hydropower association

LDES Long Duration Energy Storage Council

DOUBLE DOWN, TRIPLE UP.

TIME 4 ACTION

After the adoption of the target to triple global renewable energy by 2030 at COP28, it is now Time 4 Action. GRA is spearheading a global 3xRenewables campaign by focusing on key enablers to increase renewables at the needed scale, speed, and distribution: increased financing, faster permitting, strengthened supply chains, and building grid infrastructure.

GRA, as the single industry voice, is collaborating with partners to raise awareness, develop recommendations, tackle bottlenecks, identify opportunities, and deliver projects to help triple renewable energy by 2030.

ACTION 4 FINANCE

Increase renewable energy investment in terms of speed, scale, and distribution. Focus on scaling up investment flows – especially in EMDEs – by mobilising both public and private finance to deliver the $10 trillion required to triple renewables by 2030. p.2

ACTION 4 SUPPLY CHAINS

Establish robust, secure, and resilient renewable energy supply chains. These serve as a critical foundation necessary to achieve the scale and speed required to reach the tripling renewables target by 2030. p.5

ACTION 4 PERMITS

Streamline planning and permitting processes to reduce time and cost constraints of renewable energy projects. Acceleration is urgently needed to triple renewables by 2030 – it still takes longer to permit a project in many markets than it does to build one. p.7

ACTION 4 GRIDS

Increase much needed investment in new grid infrastructure and optimise the existing energy system to make it fit for an ever higher share of renewables. Investment in power generation needs to go hand in hand with investment in transmission and distribution infrastructure to triple renewables by 2030. p.9

Reference report: IRENA, GRA, COP28 2023

Core Actions

Action 4 Finance: Mobilise Renewable Energy Financing

Repurpose select public capital flows and development financing to renewable energy infrastructure as well as to the clean energy transition of the conventional energy sector.

Collaborate with public and private sector actors to create innovative financing models tailored to the needs of underinvested countries, using tools like blended finance, green bonds, and risk mitigation strategies.

Update countries' renewable energy targets, roadmaps, and plans to align with the goal of tripling renewables by 2030, and include them in ambitious and investible NDCs to attract investors.

Action 4 Supply Chains: Strengthen Renewable Energy Supply Chains

Collaborate with renewable energy industry on sustainable transition plans, including diversifying production sources, anticipating production gaps, and localising value chains to mitigate supply risks and price volatility.

Promote socially responsible procurement by encouraging the adoption of sustainable supply chain assurance schemes, like the Solar Stewardship Initiative and Hydropower Sustainability Standard.

Foster fair and transparent trade practices for critical renewable energy technologies, and cooperate with international fora to safeguard international trade corridors for key materials and components to ensure a just, equitable, and cost-effective transition.

Action 4 Permits: Steamline Renewable Energy Project Permitting

Introduce best practices in administration, digitalisation, policy support, and public engagement to address challenges and bottlenecks.

Establish a central authority to oversee, manage, and issue permits transparently, consolidating information and requirements from all relevant authorities.

Enforce maximum lead times for permitting stages, allocate more resources and invest in digital tools and open-source databases for better efficiency.

Action 4 Grids: Prepare Electricity Infrastructure for Renewable Energy

Expand and modernise electricity infrastructure with innovative power planning, grid expansion, enhanced and modernised grid management, electricity storage, supply-side flexibility, and demand-side management, while boosting cross-sector planning, cross-border cooperation, and regional power grids.

Align grid planning, timelines, and investment assessments with long-term renewable energy targets and sector decarbonisation goals.

Mobilise funds for long-term grid investments, use development finance for building capacity and infrastructure for renewables, and streamline permitting for new and upgraded grid infrastructure.

Urgent Recommendations to Policymakers

- Repurpose select public capital flows and development financing – including direct investments, subsidies, export credit guarantees, and concessional financing – to renewable energy and supportive infrastructure (including grid and transmission modernisation) as well as to the clean energy transition of the conventional energy sector.

- Promote the adoption of a comprehensive definition of investment risk within public and private institutions that encompasses environmental and social externalities, thereby aligning financial decision-making with broader public and social goals.

- Collaborate with public and private sector actors to develop innovative, context-specific financing and business models that address renewable energy financing gaps in underinvested countries. This involves utilising blended finance, green bonds, financial aggregation, and innovative risk mitigation tools tailored to each country's unique needs.

- Direct the proceeds of fossil fuel taxation and carbon pricing mechanisms towards initiatives that support a just and inclusive energy transition, such as targeted support for lower income households and the provision of energy access.

- For Global North countries, actively engage in international climate finance frameworks that support the equitable distribution of renewable energy investment and technologies across the Global South.

- Align countries' Nationally Determined Contributions (NDCs) with the commitment to triple renewables by 2030. This entails updating renewable energy targets, planning, policies, and roadmaps to reflect the new commitments, whilst delivering ambitious and investible NDCs before the February 2025 deadline. This alignment will provide clear signals to investors, facilitating financing of renewable energy initiatives.

Challenges to 3xRenewables in Financing and Investment

Global investment in clean energy transition technologies, including energy efficiency, soared to a record high of USD 1.3 trillion in 2022. Investment in renewable energy alone also reached a record high in 2022 – at close to USD 0.5 trillion. However, the flow of investments falls short in terms of pace, scale, and distribution. Remarkably, 85% of clean energy finance went to China, the US, and Europe – benefiting less than 50% of the world's population. Meanwhile, Sub-Saharan Africa, for example, received less than 1% of the global total renewable energy investment in the past two years.

To achieve the goal of tripling renewables by 2030, a cumulative investment of USD 10 trillion needs to be mobilised. This means annual average renewable energy investment will need to roughly triple to USD 1.3 trillion by 2030, a significant increase from USD 486 billion in 2022. Furthermore, it is crucial to ramp up investments in modernising power grids and enhancing operational flexibility from the annual average investment of USD 274 billion in 2022 to USD 605 billion by 2030.

This financing gap poses a dual challenge: first, how to **scale existing investment flows** in countries and technologies to meet the global target of tripling renewables, and second, how to **ensure these investments reach emerging markets and developing economies (EMDEs)** that are currently underserved by the energy transition.

Efforts to address the much higher cost of capital faced by developing economies – as much as three to five times more than in most OECD countries – are rapidly needed. A substantial increase in public funding (especially in developing countries), along with interventions and innovations across fiscal, financial, and regulatory policy are crucial to drive cross-sector investment and ensure a sufficiently large pipeline of bankable renewable energy and storage projects. Without this, the gap in investment between the Global North and the Global South could continue to widen, to the detriment of billions of people and of a just and inclusive global energy transition.

Reaching the level of investment needed to triple renewables will require mobilising both private and public finance, repurposing certain funds, enhancing public-private partnerships and blended approaches to finance, and putting in place policies that ensure risks are dealt with in the crucial years ahead. In particular, countries have to ensure that their commitment to triple renewables by 2030 is front and centre in their renewable energy policymaking, planning, and implementation, in order to deliver clear signals for financing. GRA seeks to make meaningful progress on these challenges on the road to COP29 and COP30 – the Financing COPs – by defining alignment among climate, renewables, development, and financing actors on the priorities ahead.

Best Practices and Solutions Ahead

Repurposing select public capital flows and development financing, including direct investments, subsidies, export credit guarantees, and concessional financing, to renewable energy and supportive infrastructure (including grid and transmission modernisation) as well as to the clean energy transition of the conventional energy sector, can help accelerate progress towards unlocking the capital required. This public money can then catalyse private capital flows, amplifying investment efforts towards the USD 10 trillion required in the remainder of this decade. For example, public financial flows to fossil fuels in the G20 countries alone reached USD 1.4 trillion in 2022 – more than double 2019 levels. Moreover, G20 governments supported the global fossil fuel industry through international aid, export credit support, and concessional financing (such as equity, grants, loans, and loan guarantees) at an average of USD 50 billion per year from 2019 to 2021 (IISD, 2023).

Public funds (domestic or through international collaboration) must flow through **intermediaries** (e.g. governments, development finance institutions, and global funds such as the Green Climate Fund). Such instruments should channel public funds towards **policies that support structural change and a**

just transition. Furthermore, these instruments should be designed progressively to speed up the process of delivering financing to recipients and ensure economic benefits are shared in an equitable way. Public funding is also urgently needed for basic energy infrastructure in the developing world, as well as to drive deployment in **less mature technologies** (especially in end-uses such as industry, transport, or synthetic fuel production) and in areas where private investment is scarce.

Finally, public investment is needed for economic interventions to support **a more equitable distribution of benefits** from large-scale growth of renewables. National carbon pricing revenues, for example, could be redirected to support clean, affordable electricity access for lower-income households on a progressive basis. Carbon pricing needs to be instrumentalized to shrink the green premium for clean energy technologies.

Actively engaging the private sector will be vital, as it will account for the majority of financing of renewables. 75% of global investment in renewables from 2013 to 2020 came from the private sector (IRENA, 2023). Public financing alone will not be anywhere near sufficient to address the huge investment needs for the global energy transition. The public sector can play a catalysing role by providing a conducive and predictable enabling environment for the long-term investment decisions made in the private sector. Also, governments can set the right conditions for private sector actors to build and finance a viable pipeline of projects oriented towards the energy transition.

For example, **blended finance structures** would allow concessional public finance, and even philanthropic grant-based finance, to improve the risk-return profile of an investment, so that private capital is attracted at lower cost and/or better terms (IRENA, 2023). Banks can also pool loans to relatively small renewables projects into a securitised product aimed at impact-minded investors, including retail investors who otherwise have few avenues to earn returns while funding renewables deployment (GFMA and BCG, 2020). The resulting financial portfolio of projects would reduce the perceived risk associated with its individual components. Such an approach would require a level of contract standardisation to enable the bundling of small projects (IRENA, 2021).

A more **comprehensive definition of risk around investing in energy assets** is needed, especially in EMDEs. A narrow focus on the return risk to investors must expand to encompass environmental and social risks. This approach, which should be exercised through rigorous international benchmarks and protocols for investment can also help to shift funding from fossil fuel assets to the renewables sector. With limited public funds available in the developing world, the international community must step up.

While there is no shortage of capital to meet current rates of renewable energy deployment, it is clear that both public and private finance must expand significantly to support a pipeline of projects compliant with the 1.5°C target by 2030. In addition to the measures described above, capital mobilisation schemes like green bonds for renewables, as well as international coalition-building to guide distribution of renewables investment between the Global North and Global South, will be crucial to ensure renewables can equitably scale this decade.

ACTION 4 SUPPLY CHAINS

Urgent Recommendations to Policymakers

- Collaborate with the renewables industry on industrial development reviews and plans for the transition that are sustainable, achievable, and adequately mitigate risk of supply insecurity and price volatility. Approaches include diversifying sources of production, anticipating critical production gaps, and localising value chains.

- Ensure socially responsible procurement of renewables by encouraging uptake of sustainable supply chain assurance schemes, such as the Solar Stewardship Initiative and Hydropower Sustainability Standard.

- Incentivise public–private partnerships and investment in circularity to encourage reuse of materials and a circular economy approach to project development, which can help to reduce concentration risk and supply insecurity of critical materials.

- Foster fair and transparent trade practices for critical renewable energy technologies, and cooperate with international fora to safeguard international trade corridors for key materials and components to ensure a just, equitable, and cost-effective transition.

Challenges to 3xRenewables in Supply Chains

Without well-functioning and cost-efficient industrial supply chains, the energy transition will not materialise. The renewable energy transition will need to be based on strong, robust, and diverse global supply chains for energy security, affordability, and reliability. If not well managed, competition and scarcity challenges in renewable energy supply chains could lead to a disorderly transition, characterised by slower rates and inflated costs of renewables deployment.

The vulnerabilities of key energy industries to logistics bottlenecks, commodity price volatility, trade barriers, and commodity and component import dependencies have become increasingly apparent in recent years. Energy supply chains have become a priority agenda for policymakers, as demand and competition for critical raw materials, rare earth elements and production capacity become more acute.

A mismatch between supply and demand for several critical minerals is already evident, with particularly high levels observed for lithium – a key material required for short-duration energy storage and the electric transport sector (IRENA, 2023). Bottlenecks for key components in the wind industry – e.g. nacelles, blades, and gearboxes – are set to emerge by the second half of this decade in Asia and the Americas (GWEC, 2023). High concentration risk in the global renewables

supply chain also raises the prospect of price or security of supply uncertainty in the future.

Best Practices and Solutions Ahead

Private-public sector exchange on these criticalities can shift the needle in terms of sharing considerations on trade and industrial policy for the energy transition, such as by sharing lessons learned from other sectors. Continuous dialogue is needed to create robust, secure supply chains and foster fair and transparent trade practices for a just transition – these are critical foundations which will enable the scale and speed needed to reach 3xRenewables by 2030.

Robust and resilient global supply chains are required to support the 1.5°C pathway. The mining and processing of critical materials including lithium, copper, nickel, and other rare earth metals are constrained within specific geographies, exposing these supply chains to geopolitical tensions and concentration risks (IRENA, 2023). Policymakers should work with the private sector to **identify production gaps and supply chain weaknesses on a national and regional basis**, and generate strategies to reinforce supply chain security.

Socially responsible procurement is another key issue, where many critical materials and components refined or manufactured in one country are imported by others for use in the renewables sector. It will be vital to ensure supply chains – in the mining and processing segments in particular – are managed with respect to fair trade and **high environmental and social governance (ESG) and sustainability standards**. Resilient supply chains are also key to sustaining the cost-value proposition of renewable energy around the world.

As countries usher in large industrial policy packages for the energy transition, there is a risk of increasing barriers in the global exchange of renewable energy knowledge, innovation, and technology – all of which will be essential for a cost-effective and fair transition, particularly for emerging markets and developing economies. The need for **local value creation and regional supply chain investment** must be carefully balanced with fair and transparent trade practices for goods and services central to the renewables industry. Companies should be able to participate in markets on a level playing field. These factors will be key to avoid intensifying supply chain bottlenecks and making renewables less cost-competitive, while maximising socio-economic benefits.

Multilateral alignment of supply chain, trade, and industrial policies for the energy transition will be important in creating **unified standards and investment protocols** that can channel capital to the renewables sector and nascent green hydrogen sector, and encourage best-in-class development standards. This will require governments to work with industry, civil society, and other stakeholders to ensure supply chain planning is conducted through a wider lens that encompasses national interests, cost-effective and socially responsible sourcing, long-term social and environmental sustainability, and climate and renewable energy targets.

Urgent Recommendations to Policymakers

- Create a centralised authority to oversee permitting of renewables projects, consolidating information and requirements from all relevant authorities and issuing permits according to a transparent timeline.

- Mandate and enforce maximum lead times for applicants and authorities to complete the permitting stages of renewable energy projects, with discretionary additional time under exceptional circumstances for more complex projects.

- Allocate greater resources to permitting authorities, including human resources and investment in digitalisation and open-source databases, such as for land titles, mapping data, and historical dispute records.

- Consider adopting efficient legal challenge processes by implementing a limited time window for raising disputes and establishing an authority to screen challenges, balancing public interests.

- Expedite processes for developers repowering assets on existing sites and provide the flexibility to adjust a proposed infrastructural, technological, or social approach to projects without having to reapply for new permits.

Challenges to 3xRenewables in Permitting & Planning

Getting to 3xRenewables by 2030 will urgently require expediting project development and multiplication to the needed scale. This, in turn, needs a major effort in overcoming cumbersome administrative barriers, permitting procedures, and social acceptance issues. The time and cost constraints imposed by permitting procedures represent a real bottleneck impacting the deployment of renewable energy projects in many countries. It is essential that permitting procedures are fit-for-purpose and keep pace with renewable and climate targets without compromising environmental and social impact standards.

Renewable energy developers often need to consult numerous authorities at the national, sub-national, and local level for the necessary permits to build a project. This process can be lengthy and extremely bureaucratic. For instance, the global average time required for permitting an offshore wind project is nine years. Onshore wind and utility-scale PV permitting processes can also be long, although they are typically shorter than those for offshore wind. Similar obstacles exist for hydropower projects and smaller-scale distributed projects for end consumers using renewable energy technologies like rooftop solar.

Moreover, meeting the global tripling renewables goal will require a strong expansion of

renewable projects into new land and sea domains. Consequentially, social acceptance issues in local communities may rise in tandem, requiring careful, efficient, and continuous engagement across government, industry, and local communities. This is needed to provide complete and reliable information, prevent disinformation, provide a role for stakeholders, and underline the distribution of benefits.

Best Practices and Solutions Ahead

Private-public sector exchange on these insights can shift the needle in terms of streamlining planning and permitting by highlighting lessons learned. Streamlining permitting processes for renewable energy projects can reduce time and cost constraints while ensuring alignment with renewable and climate targets. Experience from the public and private sectors indicate that best practices in permitting centre on four areas: **administrative consolidation**, **digitalisation**, **policy support**, and **public engagement** (European Commission, 2023).

Creating dedicated, centralised authorities is one way to streamline this process by ensuring developers can refer to a single focal point. Countries like Denmark and the Philippines have already adopted a '**one-stop shop**' **model** to accelerate renewables deployment, but this model works best given adequate resources. In addition, **digitalised processes** to submit and track applications would enable developments to progress more efficiently, while access to digitised local consenting and historical dispute records would allow developers and authorities to screen sites that could be high-risk or unsuitable at an early stage (IRENA, 2023).

An overarching best practice is the introduction of legislation mandating a **maximum lead time** for the permitting of renewable energy projects. Revisions to the EU Renewable Energy Directive in 2023, for instance, set a maximum two-year lead time for permitting new renewables projects, and one year for repowering (refurbishing or replacing) wind and solar projects. Gaining **social acceptance** through public engagement with relevant stakeholders is critical in the consenting and constructing stages of a renewable energy project. This includes early and continuous consultation by authorities and developers with local communities to communicate the benefits and considerations brought by a project to the area, as well as a transparent conflict resolution mechanism that sincerely addresses community concerns.

Comprehensive and efficient permitting frameworks represent a clear win-win, allowing renewable energy development to expand this decade while cultivating acceptance with other interests in land and sea spaces. **The Planning for Climate Commission** has produced a **nine-point plan** for tackling climate change through fast and fair permitting for renewable energy and green hydrogen that provides best practices and can be consulted by policymakers worldwide (GHO, 2023).

Recent studies indicate that adopting **best practices in permitting could cut consenting time** for utility scale wind and solar projects by more than half; for example, onshore wind farms could be permitted within one year, offshore wind farms in 1.5 years, and solar farms in as little as three months (ETC, 2023). This makes permitting a high-impact enabler for the energy transition, where the necessary investment in resource, policy support, and capacity will bring enormous value to countries in accelerating renewables growth and securing associated socio-economic and environmental benefits.

Urgent Recommendations to Policymakers

- Ensure planning, timelines, and assessments of investment needs for grids are aligned with long-term targets for renewable energy buildout and end-use sector decarbonisation, e.g. transport.

- Mobilise funds for long-term grid investment, channel donor finance towards building capacity and infrastructure for the integration of renewables, and streamline permitting procedures for new grid infrastructure and upgrades to existing transmission and distribution infrastructure.

- Develop modernised, decentralised (where suitable), and more resilient grid systems using digitalisation, smart applications for demand-side management, and interconnections with neighbouring grid systems.

Challenges to Grid Infrastructure, System Optimisation, and Connections

Tripling renewables – especially variable solar and wind energy – will require enhancements to and expansion of power systems operations. With variable renewable energy (VRE) sources becoming the main source of power in a world compatible the 1.5°C pathway, countries must start upgrading and expanding their power grid infrastructure to prepare for an increase in renewable energy capacity and end-user sector electrification.

Moreover, investments in the electricity grid have lagged behind those in renewable power and must now significantly ramp up in anticipation of the considerable renewable power additions required. Insufficient investment in grid infrastructure could prevent faster expansion of renewables. Countries need to prepare for the large amounts of VRE that will come online in the next few decades. Time is of the essence, as grid investments must be made 3-5 years before renewable energy investments to accommodate renewable energy penetration (LBNL, 2022).

Action is needed to expand and modernize existing electricity infrastructure to create an energy system fit for tripling renewables. Multiple measures will be required, including innovative power planning, grid expansion, modernisation and enhancement, and changes in grid operation and management, but also growth in electricity storage, supply-side flexibility, and integration of demand-side management. There is also an urgent need to boost cross-sector infrastructure planning, increase cross-border cooperation, and develop regional power grids.

Enhancing cross-border grid interconnections will also play a particularly important role, as it adds to the list of important benefits of the energy transition. By linking power systems across different regulatory frameworks, interconnections can enable system operators to leverage larger and more diverse power networks. This enhances efficiency in responding to supply changes, crucial in a high-renewables context. Interconnectors also manage peak demand by sharing surplus supply and

reserves, while also granting access to high-demand regions for developers. This facilitates cost-effective and secure integration of renewable resources and can help deliver the needed renewables scale up.

Best Practices and Solutions Ahead

With **clarity on grid infrastructure development plans and reasonable guarantees** on connection availability, investors will feel more confident building new generation. Meanwhile, consumers would be more likely to invest in electrification when a reliable supply of low-cost electricity can be made available.

When integrating higher shares of locally available variable solar and wind power, power systems will also need to **innovate to become** increasingly **decentralised**, allowing electricity to be generated at locations closer to demand, and **bi-directional**, allowing electricity from distributed power generating facilities to be injected into the grid.

Modernised, smarter grids are required. In the EU, around 30% of the envisaged investment in grids by 2030 could be earmarked for **digitalisation** (European Commission, 2022). Grids will also need to be larger and more robust. Hence, grid costs are expected to increase over time (IRENA, 2023). This will require **fast-tracked permitting** to ensure timely investments in modern grids. Adding more widely distributed power generation sources will also bring resilience, especially against increasingly intense extreme weather events owing to climate change (IPCC, 2023).

The electrification of transport also requires significant investments in enabling infrastructure. Electric vehicles will potentially account for more than 80% of all road transport activity by 2050,with 359 million electric and plug-in hybrid light passenger vehicles worldwide by 2030 and 2,182 million by 2050 (IRENA, 2023). However, their market entry will be contingent upon co-ordinated **investments in charging infrastructure and power grids**.

DOUBLE DOWN, TRIPLE UP. TIME 4 ACTION

The 'Time 4 Action' campaign brings together stakeholders across the globe, across sectors, and across generations to collectively drive action to achieve the global 3xRenewables target by 2030.

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