Input to COP30 Presidency Roadmap: Renewables at the Core of a System-Wide Shift Away from Fossil Fuels

REN21 welcomes the opportunity to contribute to the COP31 Presidency's reflections on advancing a just, orderly and equitable transition away from fossil fuels in energy systems.

REN21 is the global multi-stakeholder network connecting governments, industry, academia, civil society and international organisations to advance renewables-based economies. With over 130 institutional members and a broader community of more than 4,000 contributors, REN21 works to enable a rapid, system-wide transition to renewable energy.

A transition away from fossil fuels is not only a climate imperative, but also an economic, social and security priority. Continued fossil-fuel dependence exposes countries to price volatility, geopolitical disruption, air pollution and widening inequalities. In contrast, accelerating renewable energy, electrification, energy efficiency and system flexibility can strengthen resilience, improve affordability and support more equitable development pathways.

REN21 supports this shift by producing data-driven analysis, fostering cross-sector dialogue and helping align policy, markets and society. This submission builds on REN21's ongoing work, synthesising evidence and insights emerging from its global network.

REN21's input to the COP31 Presidency on transitioning away from fossil fuels

(a) Most critical barriers preventing a transition away from fossil fuels

The most critical barriers are structural rather than purely technological.

1. Fossil fuel lock-in and path dependency
Many countries remain locked into fossil fuel-based systems through long-lived infrastructure, subsidy regimes, market rules, institutional mandates, and industrial interests. This makes change politically and economically difficult, even when cleaner alternatives are available.

2. Misaligned finance and high cost of capital
In many low- and middle-income countries, renewable energy and enabling infrastructure face significantly higher financing costs than fossil fuel projects. High cost of capital, currency risk, debt burdens, and limited access to concessional finance make clean energy solutions appear more expensive, even when they are the least-cost option over time.

3. Weak enabling infrastructure and system planning
The transition is often slowed not by a lack of renewable technologies, but by inadequate grids, storage, transmission, port infrastructure, supply chains, digitalisation and planning

processes. Fossil fuel phase-down cannot happen at scale without investment in the broader systems that enable renewables-based economies.

4. Institutional fragmentation
Energy, industry, transport, buildings, trade and social policy are too often developed in silos. This prevents governments from aligning renewable deployment with electrification, industrial strategy, workforce planning, affordability measures and local value creation.

5. Social and political economy barriers
Workers, communities, consumers and public institutions may face real or perceived risks from the transition, including job losses, affordability concerns, uneven regional impacts and lack of participation in decision-making. Vested interests linked to fossil fuel production and use can further delay reform.

6. Development tensions and equity gaps
Some developing countries still view fossil fuel extraction and use as a pathway to growth, industrialisation or energy access, especially where international finance for clean alternatives remains insufficient, conditional or fragmented. Asking countries to move away from fossil fuels without expanding support for development-centred renewable pathways will not deliver equitable outcomes.

(b) Potential levers for accelerating implementation

1. Shift from fossil fuel support to renewables-based investment
Reforming fossil fuel subsidies and redirecting public finance towards renewable energy, grid infrastructure, storage, energy efficiency, clean cooking, public transport and building retrofits can accelerate the transition while improving social outcomes.

2. Lower the cost of capital for clean energy in developing countries
Public finance institutions, multilateral development banks and climate funds should prioritise de-risking tools, concessional finance, guarantees and currency risk mitigation to make renewable energy and enabling infrastructure bankable at scale.

3. Invest in whole-system transformation, not only generation capacity
Scaling renewables must go hand in hand with electrification, flexibility, storage, grids, efficiency and demand-side solutions. This includes heat pumps, electric mobility, district energy, smart grids, industrial electrification and measures to reduce and shift demand.

4. Strengthen integrated policy planning
Countries need joined-up roadmaps that connect energy policy with industrial policy, social policy, land use, trade, infrastructure and skills. This is essential for a truly orderly transition and for maximising domestic economic benefits.

5. Build domestic value creation and social legitimacy
The transition will move faster where it creates visible benefits: quality jobs, lower import dependence, reduced pollution, improved access and stronger local industries. Policies

should therefore support local skills, enterprise development, circular value chains and targeted affordability measures for vulnerable households.

6. Improve governance, transparency and participation
Inclusive policy processes, clear long-term targets, better data, public accountability and multi-stakeholder engagement are essential to sustain trust and manage competing interests.

(c) Country, regional or sector experiences, best practices and lessons learned

Several lessons are already clear from existing experience across sectors and regions:

1. Countries that combine renewable deployment with electrification and efficiency move faster and build greater resilience
The strongest examples are not those that treat renewable energy as a standalone supply issue, but those that link it with demand-side transformation, transport electrification, efficient buildings, industrial strategy and long-term planning.

2. Stable policy frameworks matter
Clear targets, predictable procurement, long-term planning and institutional continuity have proven essential for attracting investment and reducing costs.

3. Energy security is strengthened by reducing fossil fuel dependence, not by replacing one import dependency with another
Countries that expand domestic renewable energy, improve efficiency and electrify end uses are better positioned to reduce exposure to fuel price shocks and geopolitical risks.

4. Sectoral transitions require tailored approaches
Power sector progress alone is not enough. Industry, transport, buildings and heat each require dedicated roadmaps, infrastructure planning and targeted policies. Renewable power must be linked to system integration, renewable fuels where needed, and end-use transformation.

5. Infrastructure readiness is decisive
Delays in grids, storage, transmission, permitting, logistics and workforce development often become the main bottlenecks. Countries that anticipate these needs early are better able to scale.

6. Participation and fairness improve implementation
Where workers, local communities and affected groups are involved early, transition policies tend to be more robust, more legitimate and more durable.

(d) How a just, orderly and equitable transition can reflect diverse national realities

A just, orderly and equitable transition must start from the recognition that countries are not beginning from the same place. Their levels of development, energy access gaps, fiscal space, institutional capacity and dependence on fossil fuel production or imports differ significantly.

This means the transition cannot be one-size-fits-all. It should be guided by shared goals but differentiated pathways.

First, equity requires that countries with greater historical responsibility and stronger financial capacity move faster, while also providing scaled-up support to developing countries.

Second, fairness requires that the transition be assessed not only in terms of emissions reductions, but also in terms of access, affordability, jobs, public health, resilience and economic opportunity.

Third, countries that depend heavily on fossil fuel revenues or employment need support for economic diversification, industrial transformation and social protection. Workers and communities must not be treated as an afterthought.

Fourth, low- and middle-income countries should not be forced to choose between development and decarbonisation. A just transition must enable development through renewables, including improved access to electricity, mobility, cooling, productive uses of energy and local value creation.

Fifth, the transition must reflect the importance of public institutions, local governments, civil society, workers, Indigenous Peoples, youth and communities in shaping solutions that are credible and durable.

In REN21's view, the most effective way to operationalise a just, orderly and equitable transition is to frame it not only as a fossil fuel phase-down challenge, but as the building of renewables-based economies: economies that are more resilient, more inclusive, less exposed to external shocks and better aligned with long-term human development.

These inputs are grounded in REN21's global data, policy tracking and multi-stakeholder knowledge base/insights.