



Ministry of Tourism and Environment
Male', Republic of Maldives

Date: 10 April 2026

Maldives Submission: COP30 Presidency Roadmap for Transitioning Away from Fossil Fuels in a Just, Orderly and Equitable Manner

The architecture of the modern global economy has been built on the back of fossil fuels. All major energy infrastructure developed over the past 100 years has been designed, financed, and optimised around this belief. This extends beyond electricity generation and covers all aspects of the economy, including shipping and transport networks, major industries, logistics, and chemical and agricultural production. All which rests on the assumption that hydrocarbons will continue to be cheap and readily available, an assumption that is currently being heavily challenged due to geopolitical tensions, supply chain disruptions, security concerns, and the increasing momentum of renewables.

With increasing geopolitical tensions, trade fragmentation, supply chain disruptions, price volatility, and the increasing momentum of renewables, dependence on fossil fuels is not only an environmental liability but a structural economic one. These factors can have immediate and disproportionate consequences on energy security and economic stability, falling hardest on import-dependent developing countries, which often do not have the capacity to respond in a timely manner.

There needs to be an economy-wide transition away from the existing energy infrastructure that has become deeply engrained in our societies, towards a completely new model. At this stage, this transition is not possible without a fundamental, coordinated effort to address existing barriers. These barriers, including rapidly rising energy demand, fossil fuel dependency, financial constraints, weak infrastructure, policy instability, competing development goals, and inadequate access to appropriate technology, must be tackled collectively, and not in isolation. Otherwise even with the falling cost of renewables, a genuine transition is not realistic.

The roadmap must focus on practical, implementable pathways, not only high-level commitments. It must be forward-looking, addressing timescales spanning from immediate near-term actions to medium-term horizons of 5 to 10 years, through to longer-term pathways of 50 to 100 years, all with the overarching goal of an economy-wide transition. It needs to consider short-term actions that are more readily implementable with longer-term pathways such as redesigning energy systems and reinventing transportation networks. To ensure it endures, it must be aligned with five key pillars:

- Transforming fossil fuels supply and demand
- Just transition and sustainable development
- Policy and Governance
- Predictable financing, capacity building and technology development and transfer
- International cooperation and multilateralism

Maldives and SIDS context

The Maldives is a structurally exposed non-oil producing Small Island Developing state. For the Maldives, the challenge is less about fossil fuel production and more about import dependency and exposure to global supply chains. Fossil fuels remain the primary energy source, with fuel imports accounting for approximately 13.5% of GDP in 2023. Despite its negligible contribution to global emissions, the Maldives is disproportionately impacted by climate change and determined to be part of the global solution towards climate resilient sustainable future

The geographically dispersed nature of the Maldives presents a distinct challenge for renewable uptake. Each island operates as a self-contained unit, requiring its own critical infrastructure and energy systems. This characteristic has made the Maldives one of the highest-cost power generators in South Asia, as the dispatch of diesel to each island adds significant logistical cost and heightened exposure to price volatility.

These structural characteristics make the Maldives' transition challenge complex. The roadmap must recognise that for SIDS, the barriers to transition are not just technical or financial, but geographic, logistical, and systemic, and that pathways must be tailored based on national circumstances. SIDS face high transaction costs for increasing renewable energy share, limited access to sufficient climate finance, and capacity constraints which further complicate the transition.

Pillar A) Transforming fossil fuels supply and demand

The existing electricity grids across most islands are significantly old and outdated, designed around centralised diesel consumption and ill-suited for renewable inputs. Electricity demand in most islands is comparable to the cumulative capacity of solar PV installed, and thus even small variations in solar power generation can create relatively large disturbances in island grids where equipment to monitor and control the grids, and batteries to manage surpluses or deficits, are not widely installed. A high share of distributed solar can destabilise the system, affecting the reliability, stability, and lifetime of the grid.

Battery Energy Storage Systems and Energy Management Systems are critical for smoothing out solar variability and enabling higher renewable penetration. However, despite falling costs globally, their widespread deployment within the Maldives is hindered by high capital costs and logistical barriers. There is a need to increase build out of renewables and grid infrastructure, especially for less accessible regions and to incentivise uptake by poorer households. The Maldives **Road Map for the Energy Sector 2024–2033** demonstrates that an enabling environment is as important as technology deployment, and identifies barriers that are regulatory, infrastructural, technical, financial, and human-resource related, and responds to them through flagship interventions. This underlines that successful transitions require policy reform and institutional strengthening, not just hardware investments.

Maritime travel is essential for dispersed island economies, providing connectivity between islands and ensuring access to goods, services, and markets. For the Maldives, the inter-island ferry fleet and the country's fisheries fleet run almost entirely on diesel, accounting for approximately half of all transport-based greenhouse gas emissions. Decarbonising sea transport is challenging as, unlike land vehicles, advancements in technology are still nascent. Electric solutions for short-range vessels are emerging but remain constrained by range limitations, saltwater durability, high costs, and the absence of charging infrastructure.

Domestic aviation, encompassing both public and private tourism aviation services, contributes to approximately one-third of all greenhouse gas emissions in the transport sector. Similar to the maritime fleet, it plays a key role in island interconnectivity, particularly for more distant islands across different atolls. The private seaplane fleet also plays a critical role in the tourism ecosystem, serving as the primary means by which tourists access resorts. Decarbonising this sector is challenging given the reliance on older, less efficient aircraft models, issues with accessing the Sustainable Aviation Fuel supply chains, and the high upfront costs for accessing new technologies.

There is a pressing need to improve grid efficiency and stability, as increasing renewable uptake alone cannot address an energy demand that is growing faster than the supply can currently match. Additionally, grid losses of up to 12% in outer islands represent a significant fiscal drain that weakens the financial viability of the energy sector. Appliance efficiency must also be addressed, with the roadmap supporting parties to develop and advance the establishment of minimum efficiency standards and, eventually mandatory minimum requirements for all energy-consuming equipment.

Transition pathways must be designed around national circumstances. For Maldives, the reality of being a geographically dispersed SIDS with isolated island grids means that the transition cannot rely on a single centralised model and must therefore prioritise decentralised renewable energy systems to ensure energy security, grid resilience and reliability in the face of natural disasters, and to allow rapid and more flexible deployment of renewables to remote areas. Countries need to systematically scale up energy storage and modern grid management so that higher renewable penetration enhances, rather than undermines, grid reliability and resilience. At the same time, the roadmap must address the decarbonisation of transport sector, recognising that air and sea connectivity are key enablers of trade, tourism, and social cohesion for SIDS. Delivering on these transitions requires adequate, predictable, accessible finance, and other means of implementation, including, technology development and transfer, and capacity-building, to ensure that pathways are both ambitious and feasible for SIDS at all stages of the transition.

Pillar B) Just Transition and Sustainable Development

The transition away from fossil fuels extends well beyond the energy sector and will impact all aspects of lives and livelihood, from economic stability and quality of life to community resilience and environmental sustainability. Among these, the energy–food–water security nexus is particularly critical due to the strong interconnections between all three sectors and as any impact to energy security will have significant knock-on effects on the other two. This can be clearly seen in the context of Maldives, where fuel price volatility, and disruptions to energy supply will cascade directly into water and food insecurity.

Most islands source their potable water primarily through desalination and reverse osmosis plants, which are entirely dependent on a reliable energy supply. The soils of the Maldives are relatively young and consisting of largely unweathered coral material lacking the necessary nutrients for plant growth, requiring imported fertilisers to support agricultural production. The tuna canning industry, a major source of industrial activity, is similarly exposed, when fuel prices price volatility can cause production to be halted or slowed down due to the high cost of running processing facilities and the reliance on oil for preservation processes. Each of these sectors has been, and will continue to be, directly impacted whenever energy security is disrupted.

Transition programmes must go beyond energy alone, addressing sectors critical to economies that are indirectly dependent on fossil fuel systems. For Maldives, tourism accounts for a third of the National GDP and many other economic sectors are directly linked to the growth and stability of the sector. Any transition will need to address the significant impacts this will have on the tourism sector, given its reliance on the aviation and maritime industry. A roadmap should therefore support the transition to a green tourism model and low-carbon logistics. Complementary to this, pathways must support economic diversification beyond single-sector dependence and ensure the skill development of the workforce. There is a need to shift the perspective such that these actions are seen to improve economic stability, unlock new pathways for sustainable development and to increase competitiveness on the global stage.

The fisheries sector, accounting for approximately 6% of GDP, over 90% of all physical exports, and around 11% of all employment, is deeply embedded in Maldivian cultural heritage and the island way of life. As a traditionally fisheries-dependent nation, the Maldives has relied on its tuna fisheries across countless generations, with fish remaining the primary source of protein in the local diet. A loss to the fisheries sector is an irreplaceable loss to the Maldivian identity. The sector is almost entirely dependent on diesel and LPG, from fishing vessels to fish processing facilities and cold storage. Therefore, decarbonisation of this sector would involve decarbonisation across the entire value chain from transitioning to low-emission vessels to integrating renewables into all industrial fisheries activity. Just transition pathways must also support the economic diversification of this sector through deeper exploration of mariculture, value-addition to products, workforce transitions, opening of new markets, and exploring stronger blue economy linkages.

SIDS have historically been underrepresented in the conversation on the loss of jobs because they lack large extractive industries. Yet as Maldives demonstrates, virtually every facet of a SIDS economy is linked to fossil fuels through deep structural dependency. The roadmap must therefore place the protection and creation of decent work at its core. This means ensuring the loss of livelihoods is avoided and that workers in affected sectors are equipped with new skills, supported through income protection, and given genuine pathways to access green jobs. Special consideration must also be given to vulnerable groups who face disproportionate barriers in participating in an economic transition, including women, particularly single mothers, and people with disabilities.

The discussion around a just transition predominantly revolves around global governance in the energy transition, while neglecting key issues such as adaptation, Loss and Damage, and access to finance. This also neglects the potential cross-sectoral synergies and co-benefits that can be generated from a just transition that integrates water, food, security, gender-responsiveness, Sustainable Development Goals, and Social Development. Therefore, the roadmap must also give sufficient consideration on how to maximise the potential benefits that can be brought by a transition while minimising the impacts to livelihoods.

Pillar C) Policy and Governance

There is a critical need to assess and model the potential impacts brought by the transition away from fossil fuels at both a domestic and global scale. Cross-border effects are substantial and have important implications for economies, especially for small open economies with limited capacity to adapt to the changing global economic environment.

Due to global interdependence, external policies and measures adopted by major economies can generate significant shocks across all facets of another country's economy, even in the absence of a country's direct participation in fossil fuel production, large-scale industrial activity, or the fossil fuel transition itself.

The Impacts of the Implementation of Domestic and International Response Measures — A Case Study on Maldives (2024) demonstrated that global carbon pricing measures, generate measurable economic shocks across all key sectors of the Maldivian economy and can negatively impact household welfare even in the absence of direct participation. The study also highlighted an 'externality effect' whereby non-participation in global response measures gives countries an opportunity to capitalise on lower oil prices to advance social and economic development goals, but at a cost to environmental objectives and increased difficulty in achieving a country's NDCs due to expanding emissions and reducing incentives to invest in renewables. Furthermore, where all countries do participate, transfers of considerably more than USD 200 billion per year would be needed to offset the negative effects on SIDS and low-income economies. Global carbon-pricing and other wide-scale measures, including unilateral trade measures can therefore generate significant unintended spillover effects on SIDS. The roadmap must therefore include safeguards to protect the most vulnerable countries economies from such asymmetric impacts.

Such measures can affect international energy prices, shipping costs, aviation demand, and commodity markets, influencing the cost of imports and exports. These changes in global market dynamics are then transmitted to the local economy, affecting terms of trade as well as real exchange rates. Consequently, these fluctuations will result in shifts in production, consumption patterns, carbon emissions, employment dynamics, and ultimately household welfare. The welfare impacts can also differ significantly across income groups, with lower income groups being less able to absorb resulting shocks.

Policy measures to reduce emissions such as subsidy removal can generate long-term economic, social, and health co-benefits. However, while they can create fiscal space and correct distorted price signals, they must be accompanied by policy instruments to address distributional implications. Compensatory measures, including targeted transfers to low-income households, proactive fiscal policy management, reskilling programmes for affected sectors, targeted investments in decarbonising essential services and infrastructure, and well-designed social safety nets are necessary to maintain social cohesion and legitimacy of the transition.

The Maldives energy roadmap also noted that fuel subsidies for electricity generation reached approximately USD 200 million in 2023, accounting for over 70% of all indirect subsidies, and that this was financially unsustainable in the long term and economically unfair to most financially vulnerable consumers. Transitioning from a blanket subsidy mechanism to a scheme targeting consumers in need of economic assistance would free up fiscal space while addressing equity concerns.

SIDS such as the Maldives are inherently and uniquely vulnerable to exogenous shocks owing to, inter alia, their small size, geographical remoteness, highly dispersed populations, the limited scale and undiversified nature of their economies, and high dependence on external markets. The roadmap must therefore support SIDS in building capacity to generate country-specific data, economic models, and impact assessments to enable evidence-based long-term policymaking and the design of targeted social protection measures.

The transition away from fossil fuels cannot come at the expense of a country's own development priorities. The roadmap must reflect the common but differentiated responsibilities and respective

capabilities, national circumstances, and historical responsibilities of countries, while particularly recognising the special circumstances of SIDS. Transition pathways must adopt inclusive approaches that integrate development priorities to ensure that no country is left behind.

Pillar D) Predictable financing, capacity building and Technology development and transfer

Access to adequate and predictable climate finance is instrumental in driving a transition, yet the current international finance architecture hinders the ability of SIDS to adequately access it. The existing forms of climate finance involve high transaction costs, lengthy and complex application processes, and eligibility criteria anchored to GDP per capita, a measure that excludes vulnerable SIDS despite development challenges. In addition, finance that reaches SIDS arrives predominantly in the form of loans rather than grants, adding debt to existing debt rather than relieving it.

In transitioning away from fossil fuels, new and emerging technologies must be readily available, affordable, and context-specific for SIDS. Outdated, obsolete, or inefficient technology would in reverse hinder this by locking countries into infrastructure that is incompatible with long-term decarbonisation goals. The roadmap should also support parties in making use of digital tools and emerging innovations including Internet of Things, and machine learning to allow grid optimisation, advanced energy planning, smart electrification, and generation of real-time data to support planning. This is especially useful for SIDS in overcoming the barriers of geographical isolation, remoteness and lack of capacity.

Addressing stranded asset risks and investor disputes is a precondition to ensuring an orderly transition. This is particularly true for developing countries, where energy infrastructure is often financed through blended instruments combining grants, concessional loans, and debt. Unlike developed countries, much of this infrastructure has not operated for a long enough period to break even, leaving governments exposed to significant financial liability if assets are retired prematurely. Policies and cost coverage mechanisms are required to compensate owners for early retirement of infrastructure, avoid further debt burdens, and provide investor protection.

Further to this, SIDS require comprehensive capacity building and technical skills development to actively engage in the transition. Targeted capacity-building initiatives, including specialized training, research, and educational opportunities, are essential for developing the skills needed across all sectors. This includes training in the installation and maintenance of renewable energy technologies, as well as in the management of more efficient energy systems as they continue to be developed and introduced. There is an equally pressing need to develop institutional capacity, enabling governments and relevant agencies to design future-proof just transition strategies, anticipate the broader socioeconomic implications of the transition, and embed the necessary safeguards and considerations into long-term national planning frameworks.

The Maldives is committed to the ambitious target of meeting 33% of electricity needs from renewables by 2028 and has enshrined this target in its Third NDC. Translating this commitment into reality requires scaled-up, predictable, and accessible finance that matches both the scale and the structure of the challenge. The Maldives Road Map for the Energy Sector 2024–2033 estimates that achieving this target will require approximately USD 1.3 billion over four years, and points to power purchase agreements for large projects and net metering for smaller installations as delivery mechanisms. This demonstrates that ambitious targets become more credible when backed by financing pathways and delivery mechanisms that can mobilise both public and private investment. Concessional and grant-

based finance will remain essential to de-risk early investments in grids, storage, and renewables, which have high upfront costs but are lower cost over their lifetimes. Global partnerships must move beyond pledges toward concrete delivery and implementation.

Pillar E) International Cooperation and Multilateralism

The roadmap must create collaborative spaces to allow vulnerable and ambitious countries to translate ambition into action in a manner that is aligned with their needs and priorities of developing countries, especially for the most vulnerable, including SIDS. These spaces will also give countries the opportunity to share experiences and facilitate knowledge exchanges on key topic areas based on their needs and the stage of transition they are at.

The engagement of a broad range of stakeholders across differing roles will be needed to finance and implement projects that help drive the transition through multi-stakeholder partnerships between governments, private entities, research institutes, local communities, and multilateral development banks. Through public-private partnerships, joint initiatives, and innovative financing mechanisms, the necessary expertise and funding can be mobilised to enable more extensive and inclusive energy projects to be realised.

There is a need to strengthen policy coherence across institutions, as many are currently tackling different aspects of the fossil fuel transition in isolation rather than in an interconnected manner. To address this, the role of the UNFCCC in coordinating transition pathways across institutions and organisations must be further reinforced. There is also a need to identify synergies with UNFCCC constituted bodies and work programmes, ensuring alignment with the Katowice Committee of Experts on the Impacts of the Implementation of Response Measures (KCI), the United Arab Emirates Just Transition Work Programme (JTWP), the Adaptation Committee, the Technology Mechanism (TEC and CTCN), and the Santiago Network on Loss and Damage, to ensure that just transition considerations are aligned and systemically integrated across all workstreams. The roadmap must not undermine the Paris Agreement but rather complement its missing aspects and support the achievement of its goals.

The Maldives has never shied away from leading by example, developing our own ambitious energy transition roadmap. Our vulnerability compels us not to retreat, but to act, and the Maldives stands ready to do its part. However, for this to be a just transition, it cannot be borne by those least responsible for it. Consistent with the principle of common but differentiated responsibilities and respective capabilities, and in recognition of the country's negligible historical contribution to global emissions, the roadmap must ensure that SIDS receive adequate support so that no one is left behind.
