Long-Term Energy Scenarios (LTES) Network and
Clean Energy Ministerial Initiative on LTES

webinar series: Energy Planning Frameworks for Mobilizing Finance for the Energy Transition

5 September – 27 November 2024

Link to the recordings: **here**

Webinar proceedings

Context

Mobilizing investment in transition technologies is widely recognized as a significant component of efforts to keep the 1.5°C target within reach. Achieving this involves supportive policies, specific market conditions, and investor-friendly environments that actively engage a range of finance stakeholders.

Discussions within IRENA's Global Network on Long-Term Energy Scenarios (Global LTES Network) have consistently explored this challenge. Experiences shared by members suggest that while every investment carries risk, some of these risks can be mitigated through comprehensive energy planning. Energy planning frameworks, which include governance structures, inclusive stakeholder engagement, and the use of Long-Term Energy Scenarios (LTES), can play an important role in this regard. They can help build a more conducive environment for bankable projects by contributing to reduced uncertainties, better alignment of sectoral plans, and the creation of institutional capacities needed to develop the required infrastructure for the energy transition.

The Global Long-Term Energy Scenarios (LTES) Network, a Clean Energy Ministerial (CEM) LTES Initiative coordinated by IRENA, provides a platform for national energy planning institutions to exchange these experiences and best practices. Supported by the strategic framework of the CEM, the Network also contributes to broader initiatives, such as the G20 agenda, which includes enhancing government capacity in Emerging and Developing Market Economies (EDME) to develop financial strategies for the energy transition.

This webinar series was designed to facilitate dialogues between the energy planning community and financial institutions to further explore how national energy planning frameworks can support the mobilization of public and private finance and the de-risking of investments for the clean energy transition. The series featured sessions exploring the energy planning-finance nexus from multiple angles, including the perspectives of national and multilateral development banks and private sector investors.

Key takeaways from the webinar series

- **A key theme from the discussions was that energy planning can be more effective when it includes financial considerations in its development process.** Aligning energy planning with the planning of national banks and other financial strategies can make energy plans more interesting for potential investors. Engaging with financiers early in the process helps to understand specific financial needs, such as guarantees or local currency lending, to reduce risk. It will also increase a sense of transparency and improve investor confidence.

- **National energy plans that translate clearly into 5 to 10-year investment plans signal commitment to the private sector** and build a sense of predictability through a visible pipeline of renewable projects. An investment aligned with a national energy plan sends a positive signal, indicating that it is a no-regret investment for the energy transition.

- **Energy plans can outline potential risks and identify derisking pathways based on their national context with the goal of contributing to de-risking.** To encourage private sector

investment, public sector investors or development banks can take the lead by prioritising projects that introduce new technologies, and thereby carry higher risks than other projects, into the national energy mix. It is important to note that developing countries need financial support not only for investments in new renewable projects, but also specifically for measures supporting the transition away from current fossil-based energy systems.

- **Energy planning processes that engage with financial stakeholders can be a starting point for public-private collaborations and blended finance initiatives, which were highlighted in discussions as important tools for mobilizing clean energy capital at scale.** This is especially relevant when it comes to large-scale projects that are identified during the planning process. These are important elements for the energy transition, but due to the large upfront payments that they may require, private investors might be hesitant to fund them.

- **Energy plans should integrate all elements of the energy sector from generation to end-use sectors, including grid expansion needs and energy efficiency**. The discussions suggested that integrated planning frameworks can provide a broader picture of what is required in the energy transition. It will also help identify which elements in the energy value chain might require more investments.

Session 1: Development Banks' Perspectives on Leveraging Energy Planning Frameworks to Mobilize Finance

5 September 2024

Link to the webinar recording

Context

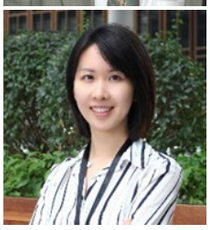
This session explored how National and Multilateral Development Finance Institutions (DFIs) can leverage national energy planning frameworks to support the clean energy transition. DFIs, with their deep local and regional insights, can assist governments in aligning energy investments with national and regional priorities, reducing investment risks, mobilizing finance, and providing technical assistance.. These efforts are aimed at supporting the coordination of energy projects and their alignment with national and regional plans, as well as international development and climate goals.

Speakers

Guilherme Arantes, Sector Manager for Energy Transition, Brazilian Development Bank (BNDES)

Ricardo Gorini, Head Renewable Energy Transition Roadmaps, International Renewable Energy Agency (IRENA)

Mengitsu Desalegn, Project Design and Credit Appraisal Team Manager, Development Bank of Ethiopia



Wei Huang, Energy Specialist in the Sector, Theme, and Finance Solutions Department, Asian Infrastructure Investment Bank (AIIB)

Arturo Alarcon, Senior Specialist in the Energy Division, Inter-American Development Bank (IDB)

Key Takeaways

- The discussion highlighted the importance of establishing a robust energy planning structure where the planning process is coordinated with national development banks. To effectively contribute to the de-risking of the energy sector, it is important for countries to outline potential risks and identify de-risking pathways based on their national context; this approach can help build trust with investors by providing information for their financing decisions.
- To encourage private sector investment, development banks can take the lead **by prioritising projects that introduce new technologies**, and thereby carry higher risks than other projects, into the national energy mix.
- Development banks can contribute to financing the energy transition by acting as focal points for collaboration, checking for alignment between energy and climate plans, and supporting countries in meeting their renewable energy targets. Banks note **that energy plans should be realistic, take a multisectoral approach and highlight planned market intervention** including deregulation strategies. These elements can help build investors' confidence and attract investment.

Ricardo Gorini (International Renewable Energy Agency, IRENA) introduced Brazil as a successful example of a joint effort between the Brazilian Development Bank (BNDES) and Brazilian energy institutions developing a productive ecosystem for investment. In the early 2000s, Brazil developed a robust energy planning institutional structure coordinated by the National Energy Policy Council (CNPE) which incorporates institutions in-charge of research, commercialisation and grid operation for the power sector. This structure is designed to take a holistic approach from generation to end user, with the aim of creating a more predictable environment for private sector investment in Brazil's renewable energy sector. During the panel discussion, Ricardo shared that energy planning institutions in Brazil actively work towards de-risking investment in the energy sector addressing market, offtake, grid & transmission, permitting and construction risks to encourage private sector investment. To address these risks EPE collaborates with the Ministry of Mines and Energy, the body in charge of energy planning, to conduct studies to ensure alignment in the energy sector and facilitate the development and integration of renewable energy into the national grid. Finally, EPE also actively engages investors in the process, which helps identify and support renewable projects.

Guilherme Arantes (Brazilian National Bank for Economic and Social Development, BNDES) emphasized the importance of BNDES for the energy sector in Brazil, financing over 65% of the capacity addition in the past 20 years and named as the top financier of renewable projects globally by Bloomberg New Energy Finance. The fact that the financiers and energy planners have an established collaboration structure and a common language was an important contributing factor in creating the investment-friendly environment in Brazil today.

An example of how BNDES helped optimize conditions for investment is by guaranteeing the financial conditions before auctions, which reduced uncertainties and enabled bidders to make the best bids they could. Additionally, BNDES employed innovative instruments to better analyse market risks, that were previously not necessary to measure due to the PPAs that were deployed. Finally, BNDES played an important role in developing capital markets, which now finance the majority of renewable projects with BNDES providing complementary support. As a national financial institution, BNDES is a focal point for partnerships with multilateral finance institutions.

During the discussion, Guilherme emphasised that energy planning has been an important tool for BNDES to foresee what the system will need in the coming years, what technologies are well-positioned to supply the energy, and where the demand centres will be. This signal of market size encourages private companies to start new projects, which is key to de-risking and obtaining finance. What can make energy planning more useful for financiers is integrating all aspects of the energy sector, from generation to end-use.

Mengistu Desalegn (Development Bank of Ethiopia, DBE) shared insights from the perspective of the DBE on coordinating with national planning to support clean investment. He noted the DBE's close collaboration with the Ministry of Water and Energy, which manages energy planning in Ethiopia. This close collaboration helps align DBE's financing with national long-term energy plans.

DBE is currently running various off-grid renewable energy programs in partnership with international partners including the World Bank and UNDP. Through their intervention in the economy, DBE encourages private investors to invest in the energy sector focusing on geothermal, wind and solar energy projects. To reduce the risk of investing in new and renewable energy sources, DBE provides financing for medium- and long-term projects by requiring the minimum possible equity contribution and mostly holding the financed projects as collateral for its loans. DBE takes on higher credit risks compared to conventional commercial banks in financing development and start-ups projects. Additionally, for renewable energy projects the bank charges low interest rates and fees which are substantially below the market rate. DBE notes that the subsidised energy tariff set by the government is unattractive to the private sector as it makes it difficult for companies to break even and is exploring potential solutions.

During the panel discussion, Mengistu emphasised that in Ethiopia, there is a need to cultivate a strong and sustainable coordination system amongst the private sector, government, all relevant stakeholders including financier/donors and financial institutions. It is vital to enhance the capacity of stakeholders focusing on the National Development Finance. Currently, the private sector is not very engaged in the development of energy projects due to government policy surrounding energy prices. Government intervention can help mitigate the risks and bring the private sector on board.

Wei Huang (Asian Infrastructure Investment Bank, AIIB) explained how the AIIB supports its members through various financing tools, from sovereign loans and guarantees to project loans and equity. AIIB has a heightened focus on low carbon energy solutions by supporting renewable energy projects and energy efficiency initiatives. Additionally, the bank supports technology and innovations for the transition focusing on batteries, technology and supply chain development. AIIB has developed clear assessment criteria for mitigation and adaptation objectives, which is intended to provide greater clarity to stakeholders. AIIB and other MDBs jointly developed methodologies covering different financial instruments to ensure that direct investments and intermediate financing is aligned with Low Carbon Development Pathways (mitigation) and Climate Resilient- Development pathways (adaptation). This ensures alignment with the goals of the Paris Agreement and ultimately AIIB's active contribution to the energy transition.

During the panel discussion, Wei explained that when assessing an energy project, AIIB reviews the whole value chain including manufacturing and supply chain issues, transmission, distribution and despatch and end use demand. AIIB takes the approach of analysing risks as opposed to only focusing on targets; a good scenario-based energy plan properly accounts for the near and mid-term projects and provides a clear market signal for investment risks. Countries that provide a list of projects are easier to finance and work with as financiers have a clear understanding of the government's long-term perspectives. Long-term plans help AIIB properly assess government's needs and better position their financing and support. Energy plans should outline the deregulation and liberalization efforts and how that will change the market outlook and highlight the upcoming private sector investment needs. This information contributes to how AIIB plans for investment and will benefit other private investors.

Arturo Alarcon (Inter-American Development Bank, IDB) discussed challenges in Latin America and the Caribbean regarding energy planning and how energy planning attracts financing. He emphasized the importance of planning in identifying investment needs and highlighted challenges in current planning frameworks, such as growing uncertainty regarding variables, restrictions that aren't fully considered, and misalignment between power system planning and

long-term energy planning. In the LAC region, there are high levels of uncertainty brought about by technological advancements, climate change and changes in demand.

The speaker from the IDB noted that very few countries in the region conduct multi-energy carrier planning that would holistically consider all energy vectors and new technologies, such as green hydrogen. IDB has supported studies in Bolivia, Brazil, Panamá, Dominican Republic, Barbados and Bahamas in addition to regional studies to support local energy planning and thereby the production of energy strategies that provide certainty to potential investors.

During the panel discussion, Arturo expanded on IDB's decision-making process when assessing energy projects. To ensure that projects respond to national long-term energy plans and climate commitments, IDB reviews projects and their long-term impact before approving financing. The IDB assesses projects to ensure that they respond to national plans to national climate commitments. Long-term energy plans should contain an assessment of technical, economic, social and environmental risks, IDB relies on this when assessing risks posed by projects to select the best possible projects to finance. Financiers rely on long-term energy plans when considering the risks posed by projects and the impact on the overall national development. Plans should contain realistic timeframes based on contextual realities, as many national plans are based on political timeframes as elections are normally between 4 and 7 years.

Session 2: Roundtable: Leveraging Long-Term Energy Scenarios Planning Frameworks to Mobilize Climate Finance

9 September 2024

Link to webinar recording

Context

This roundtable session brought together various stakeholders, including national and international development finance institutions, private investors, banks, and government agencies, to discuss the critical role of energy planning in aligning investment strategies with sustainable development and climate goals. The discussions dove into the intersection of energy planning and climate finance, emphasizing the role of energy planning frameworks in securing funding for the energy transition. The objective of the session was to explore how long-term planning frameworks can be tailored to mobilize national and international climate funds and how they can be used to attract significant financial resources, ensuring that the countries' energy transition strategies are integrated with global climate objectives.

The roundtable was attended in-person by 49 participants from 25 countries, and an additional 659 participants registered for the online session.

Speakers

Asami Miketa, Head Energy Planning and Power Sector Transformation, International Renewable Energy Agency (IRENA)

Gustavo Naciff de Andrade, President, Energy Research Office (EPE)

Elizabeth Gillespie, Director, Ernst & Young

Key Takeaways

- National energy plans that translate clearly into **5 to 10-year investment plans** signal **commitment** to the private sector and build a sense of **predictability** through a visible pipeline of renewable projects. An investment aligned with a national energy plan sends a positive signal, indicating that it's a **no-regret investment** for the energy transition.
- Aligning long-term energy scenarios with financial strategies requires **deep collaboration between actors from both the energy and the financial sectors**.

Engaging with potential investors **early in the process** helps to understand specific financial needs, such as guarantees or local currency lending, to reduce risk.

- **Integrated planning frameworks** from generation to end-use sectors, including grid expansion needs and energy efficiency, can give a more **complete picture** of what is required in the energy transition. It will also help identify which elements in the energy value chain require more investments.
- Developing countries need financial support **not only for investments in new renewable projects**, but also specifically for **measures supporting the transition away from current fossil-based energy systems**.

Elizabeth Gillespie (EY) shared insights on how financial institutions are increasingly using scenarios to manage climate-related risks. She highlighted several examples, including working with a global bank to project losses under different scenarios and identifying risks and opportunities across various sectors. Another key trend she observed is the use of scenarios to assess counterparty transition plans, which are now being integrated into credit risk ratings and loan pricing. Particularly in the UK, some banks are developing customized scenarios by drawing on external resources like those from the Network for Greening the Financial System (NGFS). These scenarios help banks reassess portfolios and adjust net-zero targets based on what they consider to be the most likely future energy outlooks.

Gustavo Naciff de Andrade (EPE) emphasized Brazil's involvement in the G20 Energy Transition Working Group, highlighting the priority of accelerating financing for energy transitions. He underscored that effective energy planning, especially through long-term scenarios (LTES), plays a critical role in increasing clean energy investments by providing technical and institutional capacities that offer data, transparency, and consistency. The energy planning process can also be used to align various policy plans with a broader and coherent long-term vision, in collaboration with relevant line ministries. This builds investor confidence, especially in emerging markets, and helps de-risk investments in clean energy infrastructure.

He introduced the Global Coalition for Energy Planning, a G20 initiative aimed at advancing energy planning globally. The coalition is envisioned as a volunteer alliance involving countries, international organizations, and stakeholders to foster collaboration in energy planning. Key areas under discussion include grid planning, renewable energy integration, and supply chains for strategic minerals.

Energy planning frameworks are essential for building trust and mobilizing capital, but they must be adapted to each country's unique circumstances. Brazil, as a leading nation in this initiative, is preparing to host the first Energy Planning Summit in 2025, with the support of national institutions like Brazil's National Development Bank and the Ministry of Mines and Energy.

Asami Miketa (IRENA) highlighted the agency's work on supporting long-term energy planning, particularly in building national capacities for effective planning. She emphasized the misconception that long-term planning has little relevance to short-term investments, explaining that robust planning frameworks, such as LTES, provide critical support for creating conducive investment environments. Proper long-term planning helps align stakeholders, accelerates project implementation, avoids costly short-term solutions, and reduces investment risks by providing transparency and consistency in policy direction.

Good planning frameworks can play an important role in mobilizing climate finance, particularly for emerging markets. IRENA has been working on linking finance and energy planning since the inception of the LTES Network. The analysis has shown that energy planning frameworks can significantly de-risk investments by offering investors clear scenarios and financial insights.

Additionally, IRENA's G20 report documents case studies from countries like Brazil and the Philippines, illustrating how effective energy planning can attract investment. Finally, an ongoing IRENA assessment of over 50 countries' energy and climate planning documents shows that the

inclusion of detailed financial information has the potential to support the mobilization of investment, especially for least-developed countries.

Roundtable interventions

Francisco Domenech Guzman (Ministry of Energy, Chile) highlighted Chile's unique approach to integrating climate finance within its national energy planning. He explained that Chile's energy market is predominantly private, and the government's role is to set the ground rules to facilitate private sector participation in clean energy projects.

- The Chilean government focuses on making infrastructure, such as transmission lines, accessible to private investors. Given the country's long and narrow geography, efficient transmission is crucial to connecting renewable energy projects like solar plants in the north and wind projects in the south to the national grid. The rapid expansion of solar PV in the north is causing transmission constraints, but also opportunities for innovation: project developers are increasingly integrating storage solutions into their planned projects.
- Chile has facilitated the development of emerging technologies like Concentrated Solar Power (CSP) by offering limited government funding to bridge gaps and make these projects more viable for private investors. Private investors value predictability and mitigated risks. Sudden policy changes, like those common during a change in national administration, can undermine long-term energy plans and investor confidence.
- In the long-term, Chile is adopting "development poles," identifying strategic regions with strong renewable potential (e.g., areas rich in solar or wind resources) and developing coordinated infrastructure to make these projects more secure and attractive to private investors.

Jessica Arias Gaviria (UPME, Colombia) outlined Colombia's ongoing efforts to integrate climate finance and long-term energy planning. She emphasized that this is still a work in progress, facing various challenges due to Colombia's status as a net exporter of fossil fuels.

- Intersectoral collaboration is key: Colombia is working to align long-term energy scenarios with financial strategies, which involves collaboration across various sectors, including ministries of environment, mining, finance, labour, and commerce, along with the private sector.
- The country is focused on building a portfolio of strategic investments, not just in energy supply but also in demand sectors. This includes dismantling fossil fuel subsidies to redirect investments toward renewable energy.
- Colombia has established a green taxonomy and a national climate finance strategy but communicating the transition to the public and investors remains a challenge. Jessica stressed the need for external support from independent institutions to better communicate the country's long-term goals and ensure economic competitiveness in the future.
- A significant portion of Colombian public funding comes from royalties from the fossil fuel industry; the speaker noted this context is linked to resistance to the energy transition from both the private sector and within government.

Natacha Marzolf (Inter-American Development Bank) emphasized the LAC region's relatively clean energy mix, with 60% of electricity generated from renewables, but highlighted challenges such as high investment needs, energy access gaps, and infrastructure inefficiencies. She outlined the need for $150 billion annually by 2030 to meet energy transition goals. In this context she highlighted the relevance of energy planning to overcome these challenges:

- Energy planning frameworks are crucial for identifying energy investment needs and addressing uncertainties, such as technological advancements and future demand. Effective planning is not just about generation but also about expanding transmission infrastructure to avoid potential bottlenecks due to the growth in renewable capacity.

There is a need for integrated planning across generation, distribution, and transmission, supported by long-term and concessional financing to unlock investments, particularly for new technologies like green hydrogen.

- Regulation plays a central role in turning planning into investments, with examples like auctions in Brazil, Chile, and Colombia being effective.
- IDB supports several countries in planning, emphasizing the importance of climate finance and Paris-aligned operations. The speaker from the IDB described their approach to engaging countries on planning, which often starts with a country's renewable energy targets to help shape subsequent policies and investment strategies. Last year, IDB mobilized $1.4 billion in co-financing from various partners like CIF, GCF, and European Investment Bank.

Natacha concluded by emphasizing the critical role of partnerships in securing concessional financing and supporting the region's decarbonization efforts.

Claire Nicolas (World Bank) highlighted the importance of ensuring that Long-Term Energy Scenarios (LTES) are developed in consultation with power sector actors and endorsed by utilities. She explained that when the LTES isn't fully integrated into the planning of the utilities or isn't widely accepted, it can limit its impact. It's crucial that LTES outputs translate into clear 5 to 10-year investment plans that signal commitment to the private sector, building trust through a visible pipeline of renewable projects. There is a need for integrated planning, not only between generation and demand but also across transmission and distribution systems. Auctions could be useful in timing renewable deployment to ensure grid infrastructure is prepared to support new capacity. Also, many auctions now require PV and wind projects to be coupled with storage, ensuring that energy can be delivered in a way that is manageable by grid operators. As energy systems evolve, market mechanisms like capacity markets or ancillary services might be necessary to facilitate the energy transition. To better support developing countries, the World Bank is incorporating market model analysis alongside traditional power system planning to advise clients on how markets can be designed to promote flexibility and energy transition goals.

An investment aligned with an LTES sends a positive signal, indicating that it's a no-regret investment for the energy transition. While due diligence is still required, having LTES alignment facilitates the investment process.

When discussing climate financing, Claire mentioned the need to leverage this financing to enhance private sector participation. This includes funding projects that support grid reinforcement, storage, and flexibility while also exploring risk mitigation instruments like guarantees to make clean energy investments more attractive for private investors.

Vivien Foster (Climate Compatible Growth) introduced the Data-to-Deal framework. This approach emphasizes the integration of political facilitation and technical analysis to unlock climate finance for energy transitions. She explained the importance of building bridges between the technical planning process (usually led by the Ministry of Energy) and the financial mobilization process (driven by the Ministry of Finance). While many countries have developed solid energy transition plans, their financing and affordability remain unclear. To address this, CCG developed an open-source tool called MINFIN, which evaluates the cost of financing energy plans and assesses whether the funding flows are sufficient to service the associated debt. Key lessons from their pilot studies in 10 countries include:

1. Affordability challenges: Net-zero energy transition plans are often unaffordable under current conditions.
2. Financing costs: The terms and conditions of financing greatly affect affordability, making it essential for countries to access concessional finance and reduce country risk.
3. Weak utility cash flows: This makes the energy transition unaffordable without energy price increases, which raises justice issues about who bears the costs.

4. Fossil fuel savings: These savings should be used to help cover financing costs for energy transition investments.
5. Comparing net-zero vs. least-cost energy plans offers a clear basis for determining a country's future climate finance needs.

Alessia De Vita (GET.Transform) highlighted the ongoing challenges related to the global understanding of energy policy and planning. She noted that while many countries are successfully placing energy at the forefront of their strategies, this isn't the case everywhere.

- Many countries still lack sufficient understanding of how energy planning contributes to broader policy goals. Often, non-energy sectors, including finance ministries, fail to recognize the critical role energy plays in areas like agriculture, which heavily depends on energy inputs like fertilizers.
- She emphasized the need for clear communication from technical experts to avoid misconceptions about energy planning, which is sometimes seen as narrowly focused on electricity distribution rather than a broader, long-term framework for national development.
- Key Message: Energy infrastructure has long-term impacts, with assets like PV panels and power lines lasting 20 to 50 years. This makes it crucial to plan carefully and ensure all sectors understand the strategic importance of energy investments, particularly when seeking finance.

Andrea Wainer (REN21) emphasized the urgent need to accelerate renewable energy adoption across various sectors globally.

- Despite some progress, renewables only account for 13% of global final energy consumption, with significant disparities across different sectors. For example, agriculture, industry, and buildings see only 15-17% penetration of renewables, and transport lags even further behind at less than 4%.
- Andrea echoed earlier remarks about the gaps in investment, especially in areas like generation, grid, and storage flexibility, and emphasized the higher cost of capital in lower-income countries compared to wealthier nations. It is important to incorporate flexibility beyond storage into energy planning discussions, particularly linking flexibility with demand-side sectors. She highlighted that while flexibility and demand-side management involve significant operational expenditures (OpEx) compared to capital expenditures (CapEx), this creates unique challenges for financing.
- The speaker stressed the need for integrated planning and policies to help bridge these gaps. She stressed the importance of involving all end-use sectors, creating value through local manufacturing, industrial development, and job creation, while ensuring civil society participation to make the renewable transition more inclusive and impactful.

Andrea concluded by posing the critical question of how policymakers can effectively implement these integrated approaches across sectors.

Lucia Fuselli (Climate Strategies) offered a comprehensive climate finance perspective, emphasizing the critical role of long-term scenario planning for clean energy projects.

- Climate finance requires careful attention to both the scope and readiness of projects, especially in countries with less conducive energy markets or socio-economic volatility. Investors want to see how energy plans address project pipelines and the nation's ability to maintain long-term investments (e.g., 15-20 years).
- Strategic decisions in scenario planning are essential, including balancing future energy demand with an optimal energy mix and diversifying supply chains to reduce volatility. Additionally, coordination across generation, transmission, distribution, and climate programming is crucial to develop projects efficiently and ensure synergy between these sectors.

- She concluded by stressing the importance of enabling contexts (e.g., capacity-building, permitting, policy regulation) and engaging with financiers early in the process to understand specific financial product needs, such as guarantees or local currency lending, to reduce risk and align with ESG ambitions.

Charlie Heaps (Stockholm Environment Institute) emphasized that energy planning discussions often focus only on supply, especially electricity, overlooking the crucial demand side. He highlighted the need for a more integrated approach that includes demand management and energy conservation to avoid climate catastrophe. He also pointed out that emerging trends, like large EVs and AI, are increasing energy demand, which risks undermining renewable gains. Charlie urged planners to broaden their focus and ensure that demand-side solutions are fully integrated into energy planning frameworks. Energy planning should address both financing and broader systemic challenges.

Alexandra O'Sullivan Freltoft (Danish Energy Agency) highlighted Denmark's commitment to moving away from fossil fuel investments as part of the Beyond Oil and Gas Alliance. Denmark has pledged to halt all new investments in fossil fuel extraction in the North Sea and aims to end all oil and gas production by 2050. This policy sends a clear signal to investors, effectively preventing them from putting money into fossil fuel projects and redirecting investments toward clean energy. Despite challenges posed by the recent energy crisis, Denmark maintains its stance, allowing limited expansions in existing oil fields but staying committed to its long-term goals. Alexandra hopes other countries will join the alliance and set similar targets to phase out fossil fuel investments.

Ilija Batas Bjelic (Serbia Institute of Technical Sciences of SASA) highlighted the challenges governments face in securing funding for energy projects, noting that many governments often lack the necessary financial resources. He explained that when governments seek financing from banks, banks typically assess individual projects separately, which can lead to gaps. While a project may score well on its own, it might miss key elements within the broader energy transition. Ilija stressed the importance of integrated energy planning, which considers all necessary projects as part of a cohesive strategy to achieve sustainability.

Malene Hovgaard Vested (Danish Energy Agency) shared Denmark’s approach to addressing transmission bottlenecks, explaining how the Danish Energy Agency annually prepares a report outlining both planned energy projects and those that will be necessary to meet climate goals by 2050. This report, which includes projections beyond the projects currently in the pipeline, is provided to utility companies to help them plan future transmission infrastructure accordingly. While there are uncertainties and challenges, updating this report every year offers a clear framework for utilities to align with Denmark's energy transition needs and long-term climate targets.

Farhan Ahmed (Ministry of Planning, Pakistan) emphasized the challenges faced by developing countries like Pakistan in transitioning from fossil fuels to renewable energy. With over 40% of power generated from fossil fuels, Pakistan is burdened by capacity payments, making it difficult to introduce more renewable energy into the grid. He stressed the need for financial support to help existing fossil fuel plants transition to renewables, rather than solely investing in new renewable projects. The focus, he argued, should be on shifting from fossil fuels to renewables to reduce the financial strain on consumers and promote a cleaner energy mix.

Session 3: Enhancing Private Sector Investment through Energy Planning Frameworks

13 November 2024

Link to webinar recording

Context

This session took a practical approach to understanding how energy planning frameworks can attract private investment by focusing on three elements: what private investors are looking for, how some countries have delivered it, and what specific financial tools are available.. By combining private banking insights with the World Economic Forum's collection of 100 referenced solutions from emerging markets, the session explored potential pathways to bridge public policy objectives and private investment requirements.. The discussion focused on practical examples and implementable solutions to make energy planning frameworks work for private finance. The webinar was attended by 92 participants from 50 countries.

Speakers

Tomohiro (Tomo) Ishikawa, Chief Regulatory Engagement Officer, Mitsubishi UFJ Financial Group / Net Zero Banking Alliance

Justine Roche, Energy Transition Lead, World Economic Forum

Key Takeaways

- Energy plans can help private investors get an understanding of the **macro-level developments** in the national energy system, like the general policy direction of the energy transition and relevant market developments.
- Energy planning must go beyond decarbonization targets and **integrate financial planning** into its process to move from planning to implementation. Ideally, the engagement of financial actors and the integration of financial aspects should happen early into the planning process to ensure the final energy plans are **aligned with financing opportunities**. Energy plans can also be actively 'marketed' towards private investors to spark their interest.
- The discussion highlighted public-private cooperation and blended finance as important factors in mobilizing clean energy capital at scale. . Egypt's Country Platform enabled large-scale public-private collaboration through a cooperative target-setting and policy-making process, and Brazil's National Development Bank partnered with banks to co-finance clean energy projects, thereby lowering the risk for private investors.

Tomo Ishikawa (MUFG/NZBA) outlined the role of a private financial institution like MUFG in the global energy transition. Emissions from banks like MUFG are usually predominantly scope 3 (i.e., indirect) emissions. To achieve its net zero target, MUFG focuses its efforts on supporting their clients to decarbonize through financing. He stressed that it should be noted that there needs to be an active interest in decarbonization from clients on both the supply and demand side of the

energy sector. Once there is demand for clean energy finance, banks can be critical enablers for the implementation of clean energy projects.

Transitioning the energy sector requires understanding both the macro-level as well as the micro-level picture. Energy planning is an important tool to gain insights into macro-level developments, like general policy priorities surrounding the energy transition and market developments, which help identify the right financing opportunities. This is especially relevant for countries where banks doesn't have an existing client base.

During the panel discussion, Tomo stressed that early involvement of the private sector during the development phase of the plans as well as active 'marketing' of the plans among private investors can help spark interest from investors and create funding opportunities. The risk of stranded assets is driven by macro-level policy and market dynamics. Banks assess national transition plans to determine the pace of fossil fuel phase-outs and evaluate financing viability accordingly.

When it comes to the micro-level, the most important factor that investors consider is risk adjusted return and impact. If projects are bankable, they can be financed. Determining bankability of a project relies on several factors, such as the type of technology employed and potentials for scalability.

Justine Roche (WEF) drew from examples of WEF's work with emerging and developing economies (EMDEs) in mobilizing clean energy investments with the help of long-term energy planning. Long-term energy plans provide certainty for investors by outlining a clear vision, transparent targets, and long-term commitments. Investors value transparency, predictability, inclusivity and consistency, which are all elements that can be covered by the energy planning process.

It is important for investors that long-term energy plans contain clear targets, financial mechanisms, and risk-mitigation strategies. Success stories from three EMDEs that WEF worked with include Egypt, Chile and Brazil:

1. Egypt's approach to attracting finance included the creation of a Country Platform for the Nexus of Water, Food and Energy: a structured framework designed to bring together government, international financial institutions, private investors, and development banks to facilitate large-scale investment. The platform set clear renewable energy targets, identified priority projects for a defined investment pipeline, and promoted a blended finance approach through a mix of grants, concessional loans, guarantees, and private investments. It also employed financing mechanisms like sovereign green bonds, public-private partnerships, and debt swaps where national debt was converted into clean energy investments.
2. Chile was an early adopter of a national net-zero target, a type of commitment that, as the speaker noted, can provide long-term certainty for investors. It set clear renewable energy targets and developed binding phase-out plans for coal assets, creating market space for renewables and reducing regulatory uncertainties. Chile's energy market liberalization started in the 1980s and has led to a diversified energy market today. It facilitated grid access for renewables and introduced feed-in tariffs and renewable energy auctions in the 2000s, which, as noted by the speaker, were measures that can incentivize the creation of projects. . Finally, Chile created financial incentives for investment in renewables through tax benefits and long-term power purchase agreements which ensured reliable revenue streams for investors.
3. Brazil was presented as an example of a country with a structured and long-term-focused energy planning system.. The government established a centralized and transparent planning system that provides long-term visibility for investors. It provides long-term energy plans guiding investment for up to 30 years, including generation and transmission needs and aligning energy demand, supply and grid expansion. The National Development

Bank of Brazil (BNDES) has been a key enabler in the financing of renewable energy projects through direct financing of high-risk projects, as well as mitigating risk for private investors through partnering with them and co-financing projects.

WEF produced a Playbook of Solutions, referencing 100 good practices from the Global South on successful enablers for de-risking and increasing finance flows for clean energy projects in EMDEs. It aims to support private investors, development financial institutions (DFIs), energy developers and governments in decision-making and structuring of clean energy projects.

During the discussion, Justine emphasized that energy plans should better reflect investor priorities. One way of integrating these priorities is through early engagement and consultation of private sector stakeholders, to identify challenges and opportunities and realistic transition pathways. Long-term plans cannot mitigate all risks that potential investors are facing, but they can address political, regulatory and infrastructure risks by providing a strategic blueprint that aligns the government's vision with a regulatory framework and market expectations. Energy plans can also develop and highlight a bankable project pipeline by showing the evolutions in energy demand, supply, and infrastructure needs.

Session 4: Energy Planning Frameworks for Investment Mobilization and Risk Reduction

27 November 2024

Link to webinar recording

Context

This session examined how national transition planning, with a focus on whole-of-government coordination, can help create the foundations for energy planning and investment mobilization. . The panellists explored how coordinated transition planning enables policy alignment, risk mitigation, and finance flows for the clean energy transition. The webinar was attended by 99 participants from 58 countries.

Speakers

Mark Manning, Sustainable Finance advisor, London School of Economics and Independent Consultant

Marcus Stewart, Head of Secretariat, Green Grids Initiative

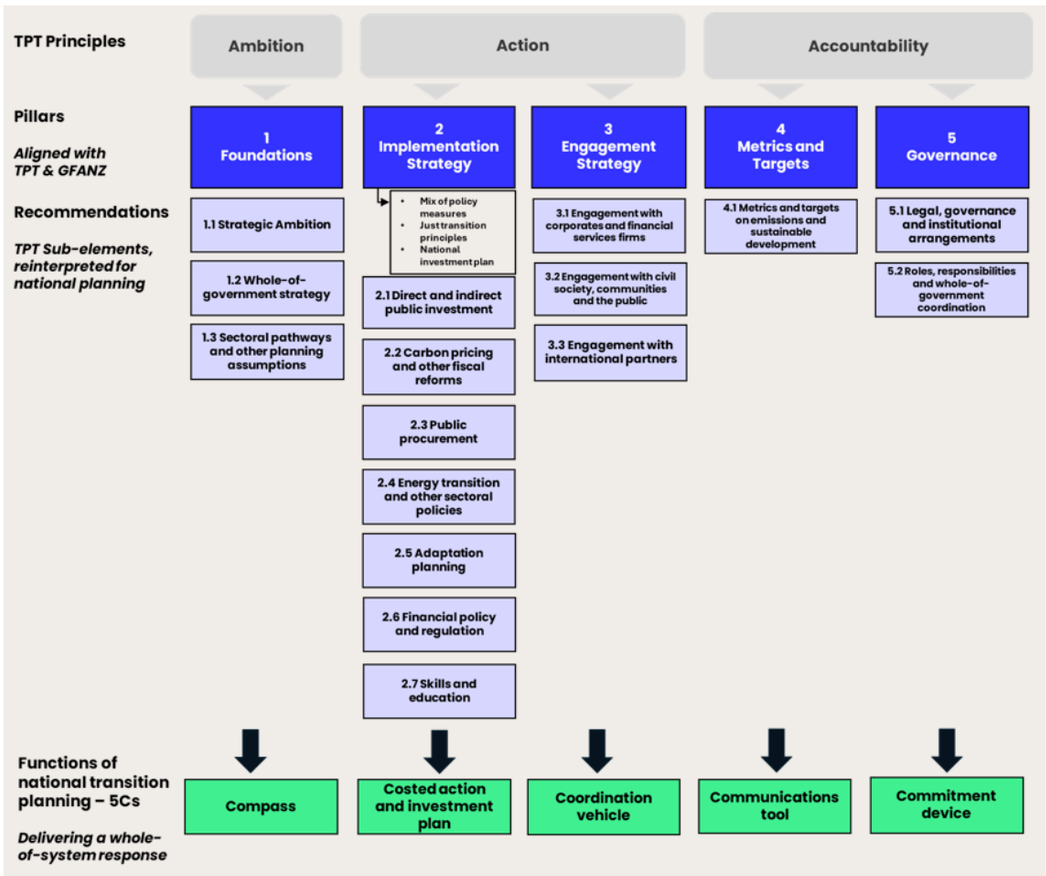
Key takeaways

- Energy planning should be **integrated** and **include financial decision-makers** into its development process. All relevant governmental sectors should be involved in the national energy plan. Additionally, engaging financial stakeholders early in the development of the plans can help increase **transparency** and ensure that the plans are **aligned with market realities**. The discussion highlighted that robust metrics and reporting are important for maintaining investor confidence.
- The speakers suggested that public-private collaboration can help reduce risks for private investors and attract additional financing opportunities. **Blended finance mechanisms** such as concessional loans and risk-sharing constructions can enhance private sector confidence. This is especially relevant when it comes to **large-scale infrastructure investments**. These are important elements for the energy transition, but due to the large upfront payments that they require, private investors may be hesitant to fund them.

Mark Manning (independent consultant) emphasized the need for embedding energy planning within broader national transition strategies to recognise the interdependence between energy planning and diverse government policies. He called for a 'whole of government' approach translating into a costed action and investment plan, which spans all sectors, integrates policy measures, and coordinates efforts between government and the private sector to ensure a cohesive and effective national transition plan.

Mark presented a framework for national transition planning with five pillars (Foundations, Implementation Strategy, Engagement Strategy, Metrics & Targets, and Governance), which he stated deliver five essential functions, referred to as the '5Cs': a compass, a costed action and investment plan, a coordination vehicle, a communications tool, and a commitment device.:

1. Foundations: Establishing a clear strategic ambition, outlining national energy goals and setting a long-term vision.
2. Implementation strategy: Creating actionable, costed investment plans that translate strategic ambitions into deployable initiatives. This includes identifying priority projects and their financing structures.
3. Engagement strategy – Establishing public-private collaboration mechanisms to ensure alignment between policy goals and investment decisions, leveraging private sector expertise and funding.
4. Metrics & targets – Defining accountability mechanisms that measure progress, ensuring that investments yield tangible decarbonization outcomes and economic benefits.
5. Governance – Setting clear roles and responsibilities across government agencies to streamline coordination and execution, ensuring cross-sectoral alignment in energy transition strategies.



Existing plans and strategies can be built upon using the framework to support integrated transition planning and achieve better targeted resource and capital allocation, increased mobilization of capital for the transition, and increased development support and private finance for emerging markets and developing economies (EDMEs). The speaker suggested that a target outcome of implementing national transition plans is that they can help reduce investment risks and attract higher levels of financing, particularly in EDMEs.

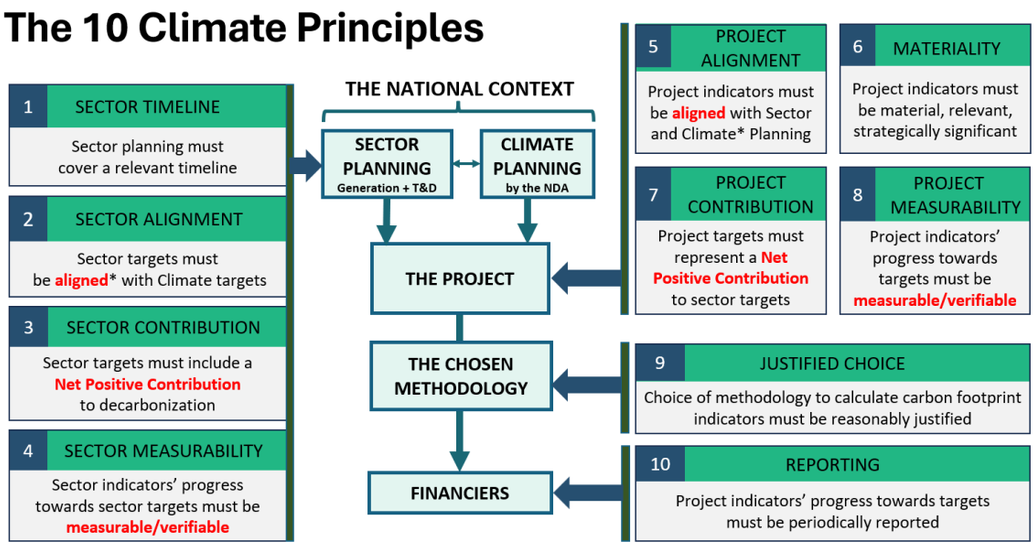
Financing decisions must be embedded within long-term planning frameworks to ensure consistency and predictability for investors. Robust transition plans can help reframe risk perceptions, making it easier to attract international finance. Transparent reporting mechanisms and measurable impact indicators are crucial for maintaining investor confidence.

During the panel discussion, Mark stressed the importance of constructive collaboration between the public and private sectors. The private sector is a good partner in identifying challenges and implementation barriers and working with the government to find solutions. Involving private actors in the planning process can give them greater confidence in the results.

Marcus Stewart (GGI) introduced the Green Grid Initiative and its work on financing, planning for, and working on the supply chains of large-scale grid infrastructure. GGI coordinates international action and mobilises technical expertise to accelerate the development of electricity grids essential to enable the integration of variable renewable energy. It conducts its work through thematic and regional working groups with experts, as well as by producing programmes and tools that aim to share good practices.

The speaker noted that grid investments in EMDEs often need concessional finance to make projects bankable and attractive for private investors. Under current taxonomies, only 40% of projects are eligible for climate finance. To unlock finance for the remaining 60%, GGI launched 10 Climate Finance Principles, aimed at aligning long-term energy planning with decarbonization targets, establishing measurable outcomes for emissions reduction, and creating blended finance models to de-risk investments.

1. Sector timeline. Sector planning must cover a relevant timeline.
2. Sector alignment. Sector targets must be aligned with climate targets.
3. Sector contribution. Sector targets must include a net positive contribution to decarbonization.
4. Sector measurability. Sector indicators' progress towards sector targets must be measurable or verifiable.
5. Project alignment. Project indicators must be aligned with sector and climate planning.
6. Materiality. Project indicators must be material, relevant, and strategically significant.
7. Project contribution. Project targets must represent a net positive contribution to sector targets.
8. Project measurability. Project indicators' progress towards sector targets must be measurable or verifiable.
9. Justified choice. Choice of methodology to calculate carbon footprint indicators must be reasonably justified.
10. Reporting. Project indicators' progress towards targets must be periodically reported.



The discussion highlighted public-private collaboration as an important component of a successful energy transition. Clear and early engagement with private sector actors during the national transition planning process is essential for attracting investment and ensuring that energy projects align with market realities. Additionally, blended finance mechanisms such as concessional loans and risk-sharing mechanisms can enhance private sector confidence in energy infrastructure investments. Finally, it is important to integrate social and economic considerations into energy transition strategies, ensuring equitable benefits across different regions and communities.

During the discussion, Marcus stated how failing to plan is planning to fail. Today we see situations where decarbonizing the economy is seen as risky because the grids aren't able to transport the additional green electricity, but the grids cannot account for this additional electricity since the demand for it is uncertain. This shows the need for integrated planning.