

CLEAN EDGE ASIA

Opportunities for Innovation

Ensuring Equitable Development in the Indo-Pacific

Event summary by Micah Sindelar and Arsalan Ahmed

During the last decade, South and Southeast Asian nations have begun to transition from nonrenewable energy sources to renewable, clean energy sources. This transition has led to positive changes in local communities but has at times come at a cost. As part of its project on Clean EDGE Asia, NBR convened a virtual conference on February 15 bringing together senior leaders from the government, industry, and academia.

The conference focused on how the United States and its partners in the Indo-Pacific can increase cooperation to ensure equitable green development across the region amid changing national strategies and priorities to reduce carbon emissions. Featured experts discussed the policy, economic, and social implications of clean energy transitions in their countries, including the impact on marginalized communities. Panels explored technologies outside of wind and solar that could bolster a clean energy transition, the challenges of climate financing, and the steps needed to ensure a just transition in the region.

This event summary highlights the key findings from the conference and presents recommendations for policymakers, industry leaders, and other major stakeholders.



Keynote speaker Laura Lochman, Deputy Assistant Secretary, Bureau of Energy Resources



Promoting Innovative Technology Beyond Wind and Solar

Wind and solar are expected to play a critical role in the national strategies of countries looking to reduce their carbon emissions. But countries will differ in their pathways, tools, and power mixes. In addition to wind and solar, countries are looking to leverage their strategic resources and capacity for hydrogen, nuclear, biomass, hydropower development, and other technologies to bolster a green energy transition.

KEY TAKEAWAYS FROM THE CONFERENCE

Tailoring low-carbon transitions to local conditions. Hydrogen, nuclear, biomass, and hydropower are all technologies that regional countries have been factoring into their national plans. However, **James Bowen** of the Perth USAsia Centre pointed out that many countries will need to overcome political barriers or acquire these technologies through foreign sources. Nuclear is a prime example, yet some countries are not deterred by the high barriers for this energy source. Clean EDGE Asia Fellow **Niharika Tagotra** stated that India is looking to ramp up its use of nuclear from 2%–3% to 5%–6% due to its already high dependence on imports of solar and wind technologies. Ultimately, countries are looking to utilize the resources they have. According to Clean EDGE Asia Fellow **Nguyen Linh-Dan**, while wind and solar remain the priorities for renewable energy generation in Vietnam, biomass is also being considered given the country's deep agriculture and forestry potential.



Synergizing resources. With varying national approaches to ensure just transitions, countries are looking to synergize their natural resources, technologies, and policies to ensure an efficient transition. India is looking to pair its existing solar generation output with hydrogen to support domestic renewable energy production. Thinking beyond the electricity sector, countries are also focusing on decarbonizing their infrastructure and transportation systems. Ms. Tagotra acknowledged that “India is still a transitioning agriculture society, making land an important resource for livelihood.” She observed, “If you want to make huge nuclear or hydropower projects, it requires land to be taken from the public, which can spark protest.” Energy resource synergy must also consider food and water security and other related issues.

Improving market transparency and regional cooperation. Countries in the region are at a unique moment when they have the choice to consciously develop in a just and sustainable fashion. But taking on this task independently would be a tremendous feat. Examining Nepal's challenges, **Deepak Rauniar** of the Betan Karnali Sanchaykarta Hydropower Company Limited noted that Nepal has the ability to supply significant amounts of hydropower but needs access to larger markets like India and Bangladesh to maximize its potential benefits. Dr. Nguyen also added that supporting technologies such as battery storage and carbon capture, utilization, and storage (CCUS) will require international sharing: “Vietnam wants to learn from the experiences of other countries as we try to diversify our investment in renewables. Because we are a young player in the market, we need transparent mechanisms and open transfer of knowledge from other countries.”





Mobilize Energy Investments

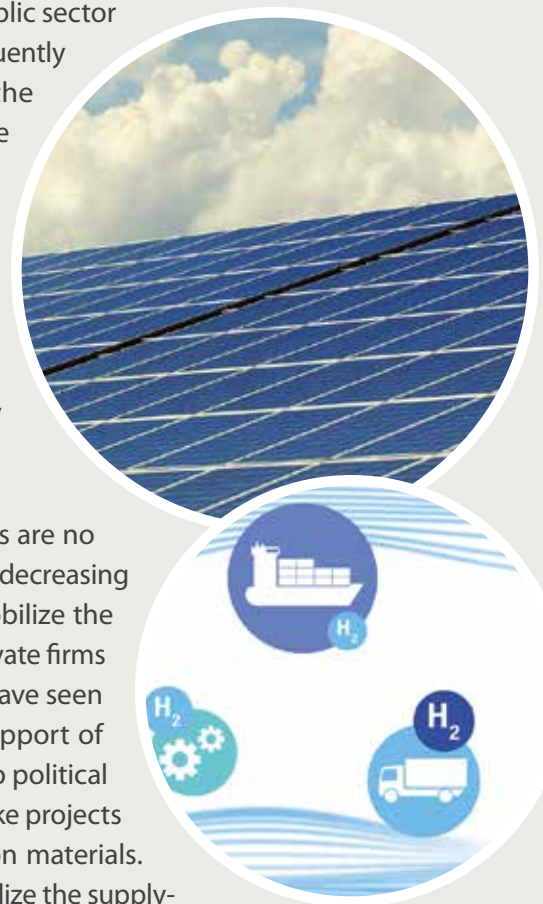
A green and just energy transition will not be possible without an enormous infusion of capital. Although private companies have pledged to ramp up funding, the process of private-sector investment in a cleaner energy mix remains complex and will require new levels of cooperation between industry and government.

KEY TAKEAWAYS FROM THE CONFERENCE

Supporting investment in next-level sectors like the decarbonization of heavy industry. Madison Freeman of the Office of the Special Presidential Envoy for Climate stated that private-sector investment in developing countries is primarily focused on easy-to-access areas like solar and wind. Thus, the question is how to mobilize the private and public sectors to fund more difficult areas such as industrial decarbonization, transmission, and emerging technologies like green hydrogen, CCUS, and large-scale grid storage. Developing countries in the region are in a position to plan pathways for renewable power with a grid that fits their needs, potentially saving costs in the long run. Clean EDGE Asia Fellow **Shafiqul Alam** acknowledged this opportunity but also highlighted that there is a high upfront cost to this type of development.

Engaging central and local governments. Regarding the more difficult areas to mobilize investment, Clean EDGE Asia Fellow **Rajiv Ratna Panda** stated that the “public sector can make these harder areas easier to fund with subsidies, which will consequently be followed by private-sector investment.” For India’s solar parks, the government purchased the land and offered it for investment, leaving private firms flexibility to develop their projects. **Mikkal Herberg**, senior advisor to NBR and a professor at the University of California, San Diego, added that federal, state, and local level governments can have competing mandates, which can make managing these relationships difficult. In India, the central government gives development and financial assistance, but the groundwork happens at the state level. As such, in India’s case, pairing local governments with the private sector rather than federal personnel will likely be most effective.

Reducing risk. In pursuit of a just transition, the public and private sectors are no longer looking at only mitigation and decarbonization but also adaptation, decreasing vulnerability, and increasing resilience of global communities. To fully mobilize the private sector, immediate action is needed to reduce risk and incentivize private firms to invest in clean energy and just transitions. Ms. Freeman noted that we have seen many new commitments from large banks and finance institutions in support of climate action, but this funding will not go to developing economies due to political and currency instability. Tools like loans with longer time horizons could make projects more bankable. Another challenge is the lack of demand for lower-carbon materials. Participants drew attention to the First Movers Coalition, which aims to mobilize the supply-side pressure for low-carbon materials. This includes shipping, aviation, steel, and trucking, with several companies committed to purchasing a certain amount of low-carbon materials by 2030.





Avoiding Adverse Effects on Labor Forces and Marginalized Communities

Many governments have had to delay transition plans to assess how changes will affect labor forces in nonrenewable energy sectors. Marginalized communities often rely on energy sources that are nonrenewable. Forcing individuals to adapt and learn new skills in the clean energy sector has proved difficult to justify for developing nations as increasing energy demand solidifies reliance on nonrenewable energy sources.

KEY TAKEAWAYS FROM THE CONFERENCE

Understanding what “just transitions” mean. Clean EDGE Asia Fellow **Twarath Sutabutr** emphasized that a just transition is a relatively new responsibility that Thailand and other nations in Southeast Asia have begun to address. Thailand began its pursuit of a just transition due to increasing oil prices, which motivated the government to look toward developing clean energy sources and sectors such as electric vehicles. Given that a just transition will differ within national contexts, it is important to ensure that relevant stakeholders have fluency in the terminology and goals being achieved.

Scaling labor and production. Thailand’s focus on transitioning to electric vehicles disclosed the need to scale production within automobile manufacturing. The labor force became overwhelmed by demand spikes while relying on supply chains that were already strained from the pandemic and other global or regional events. Scaling down production in the initial stage allows for governments to bring outside skilled labor that already understands new energy sources and sectors and can help educate domestic laborers about clean energy jobs.

Including marginalized communities. In **Kate Hugh’s** experience working at the Asian Development Bank, the organization has focused on supporting governments in creating policies in Southeast and South Asia that bring social protections to informal working sectors, which employ many members from marginalized communities. By pushing for social protections directed toward informal laborers, the government can both formally account for them and provide clean energy to their communities.






Policies and Budgets

Countries across South and Southeast Asia have passed legislation that moves their national and local governments closer to a clean energy future. Implementing these laws, however, has proved difficult in the face of global uncertainties. Nations have begun to understand that while they are working to decarbonize their energy sectors, they need to ensure that other sectors are working toward using sustainable energy sources. Despite the immense pressure to reduce carbon emissions, the pandemic, alongside natural and man-made disasters, has caused countries to slide back to nonrenewable energy to keep up with demand.

KEY TAKEAWAYS FROM THE CONFERENCE

Prioritizing adaptation over mitigation. Panelists argued that nations should prioritize adaptation rather than mitigation policies as they embark on clean energy transitions. In the United States, tax credits have been a positive mitigation step but are often not equitable, given the high upfront cost of electric vehicles, solar panels, and other widely available clean energy products. South and Southeast Asian nations must make similar decisions in transitioning from mitigation to adaptation policies to support a just energy transition. Central control of the energy industry may not be a sustainable plan given environmental and geopolitical uncertainties. The region instead must adapt to create policies that decentralize energy transitions.



Support from the international community. Many regional countries need support in creating sustainable budgets and finding funding. According to Dr. Sutabutr, Thailand has received assistance in creating microfinancing programs for island communities that had proved difficult to integrate into the country's energy grid. With outside funding, the government sent small solar plants to these islands and formulated a plan that allowed households to pay for their energy use as needed. The case of Thailand affirms the crucial role for international financial support in funding sustainable local projects.

