



**12<sup>th</sup> India - U.S. Track II Dialogue on Climate Change and Energy  
April 17-19, 2023 | Washington, D.C.**

**Key Outcomes**

On April 17-19, members from the U.S. and Indian Delegations of the Track II Dialogue on Climate Change and Clean Energy met in person in Washington D.C. for the 12th meeting of the Dialogue. This year, the Track II Dialogue engaged on key issues related to India's and the U.S.'s bilateral climate and energy relationship, including how the two countries can yield significant benefits on the topics of hydrogen, climate finance, climate-resilient solutions, supply chains and critical minerals, and cooling.

**I. HYDROGEN**

Global Marketplace Governance

Uniformity in how the green hydrogen marketplace is regulated will be critical to ensuring its effective development and deployment. There are several areas around which joint agreement between the U.S. and India could encourage and advance this shared goal, and these include:

1. Jointly developing a certification system for green fuels;
2. Developing a mutually acceptable Measurement, Reporting, and Verification (MRV) protocol
  - a. Demand-side studies should be conducted, specifically looking to fertilizer and industry companies for their thoughts to identify the best path forward;
3. Developing/harmonizing a common standard for green fuels, similar to the U.S Department of Energy's clean hydrogen production standard to reduce the issue of diverse and unaligned private sector certification systems in different regions, without common metrics;
4. Collaborating to develop hydrogen hubs
  - a. The proposition that industries move to green hub locations, instead of vice versa was examined, and additional research is necessary to gauge this feasibility;
5. Developing a regional Green Hydrogen Price Index.

There are processes within the U.S. government and QUAD to channel some of these next actions and to advance the goal of global standards (i.e. a potential green hydrogen partnership/alliance - including Australia and Japan). Some caution must be exercised in developing standards to ensure the hydrogen market is not disabled before it is established, and to avoid the challenges of navigating an interconnected grid and "islands of regulation," which would be inefficient for scaling economies.

Cost Reduction Recommendations

To achieve the cost reduction that is needed to spur respective domestic goals on the research, development, and deployment of green hydrogen so that it can effectively displace fossil-fuels in key industries, a number of bilateral initiatives should be explored:

1. A clean **steel** partnership;
2. A green **ammonia** partnership;
3. Paris-aligned targets for **shipping** decarbonization & using lifecycle “Well-to-Wake” Accounting;
4. **Viable markets and trading systems** for green hydrogen and derivatives.

## II. CLIMATE FINANCE

There was consensus that the scale of climate finance necessary is still off by a factor of thousands, globally, and trillions, not just billions, need to be deployed. A combination of which should couple public and private dollars, and should leverage Sovereign Wealth funds. Financial de-risking was emphasized as ripe for continued discussion.

The following are recommendations bilateral initiatives at the G20, where the U.S. and India can explore regulatory frameworks conducive to mobilizing developing country investments:

1. **Sectoral regulations:** The G20 could facilitate cross-learnings between countries on best practices in policy and regulation for creating a conducive business environment for investors in specific green sectors e.g., renewables, sustainable transport, industrial decarbonization etc.
2. **Financial regulations:**
  - Facilitate the international harmonization of regulatory **taxonomies** by coordinating with other platforms pursuing similar objectives.
  - Advance regulations that mandate pricing **environmental and social factors into credit ratings**, complemented by a standardized framework for this purpose.
  - Advocate for regulators globally to issue mandates to draw at least a **minimum investment of their portfolios in sustainable assets**.

### MDB and IFI reform recommendations:

1. Create and expand **de-risking facilities** that help reduce the cost of capital and mobilize finance, build resilient supply chains for emerging clean energy technology development and deployment, and scale up transition bonds.
2. **Increase the usage and deployment of extreme weather and disaster and pandemic clauses**, allowing for more flexibility and resilience when countries are in crisis, and providing the fiscal space to recover from climate emergencies.
3. **Transform emerging finance hubs in developing countries into centers of catalytic finance:** Initiatives such as the Gujarat International Finance Tec-City’s International Financial Services Centre (GIFT IFSC) in India and the Global Blended Finance Alliance in Indonesia could become gateways for climate-aligned capital flows to the Global South and increase access to concessional capital in emerging economies.
4. **Capital adequacy:** Build consensus around the need for responsibly stretching resources available to MDBs and boldly implementing the Capital Adequacy Framework (CAF) recommendations, in order to vastly expand lending to address global challenges.
5. **Global public goods:** Promote work on and harmonizing visions for how MDBs define, prioritize and invest in global public goods.

### G2G collaboration recommendations:

1. **Leverage the USD 150 billion credit** line announced by the U.S. Development Finance Corporation to unlock the USD 53 billion opportunity for clean energy productive use appliances in India. This aligns with the credit's mandate to bridge the country's economic gender gap through micro-financing.
2. **Utilize the new India-U.S. energy task force** to explore opportunities to boost production and deployment of existing and emerging technologies such as green hydrogen through technology co-development.
3. **Promote a small-scale early investment** with low-interest rates for higher-risk sectors such as green hydrogen to de-risk capital.
4. **Provide non-financial trade-related incentives** to develop long-term markets supported by supply contracts, where few exist.

### Collaboration avenues at the multilateral level

1. **Establish a GCI-RMM** to de-risk utility-scale renewables and ease the flow of capital and access to non-project risk management tools in emerging markets, such as India. Support from the U.S. is critical to establish this de-risking facility.
2. The U.S. government, the Government of India, and private sector lenders should collaborate to jump-start the lending market by de-risking finance and establishing a secondary market (resale value) for two- and three-wheel electric vehicles. Furthermore, priority sector lending, risk-sharing mechanisms, interest rate subvention, and product guarantees are all critical to unlocking finance for a more comprehensive EV transition in India.
3. India and the U.S. should partner with the International Solar Alliance (ISA) to provide technical assistance and innovation transfer to scale up large-scale clean energy deployment in sub-Saharan Africa.
4. The U.S. and India should lead in developing a multilateral and multi-stakeholder platform to drive large-scale adoption of productive uses of clean energy to stimulate jobs and growth for rural livelihoods and economies globally. The platform would solve specific barriers to catalyse a DRE-based productive use market at scale

### Collaboration avenues at the plurilateral level

1. India and the U.S. should **leverage the combined benefits of the QUAD using existing platforms/initiatives** and current or planned manufacturing capacity in QUAD and other like-minded countries.
2. As part of the QUAD, India and the U.S. should **push for a pooled technology de-risking fund for technologies at early stages of development**. This would mitigate the risk of underperformance, boost investor confidence, leverage greater private sectoral buy-in, and commercialize and deploy these technologies.
3. **Build local capacity in the Global North and South** through guaranteed investments towards pilot projects, mitigate concerns about clean energy insecurity, and lay the foundations of a rules-based architecture for trade and investment in existing and emerging clean technologies, such as green hydrogen.

### III. SUPPLY CHAINS AND CRITICAL MINERALS

Both countries are aware of China's dominance in processing and mining (even owning mines in other countries). This dominance, however, also has been associated with poor labor practices and both India and the U.S. should seek to avoid any such legacy of extractionism and consider different models that can be offered to the global south. Other challenges include and will continue to affect both countries around the challenges of environmental impacts, relocation, procedural equity, ensuring there is community buy-in, and workforce development.

Recommendations for collaboration on critical minerals:

1. The U.S. could benefit from knowledge-sharing from India on **recycling and reusing batteries** (as part of a circular economy at scale).
2. More should be spent on R&D to find **alternate battery solutions** as there is currently an inadequate amount of research to find viable alternatives to lithium-ion chemistries (i.e., sodium). A joint research initiative between the U.S. and India might be helpful.
3. The U.S. Department of Energy's ARPA-E program has funded many projects on **innovative approaches to mining**, seeking to make mining more efficient and with a lower impact. There is huge potential for innovative programs to work on these alternatives. The two countries should consider joint research and pilot projects in this space to address given the negative perception of current mining practices in both countries.
4. India could join the **Mineral Security Partnership** or the two countries could collaborate on investment in third countries by leveraging the combined benefits of the QUAD.
5. The U.S. and India should develop a model for **skill development academies** to develop a workforce that can be active on all levels of the critical minerals value chain.
6. To provide some certainty that minerals are being extracted and processed responsibly, the U.S. and India should work together on **developing norms for responsible mining**, considering the range of assurance protocols that currently exist and providing guideposts for understanding company reporting on responsible mining.
7. There could be opportunities for collaborative work on critical minerals/battery recycling around the CHIPS and Science Act with the U.S. Department of Energy (though the CHIPS and Science Act does not specifically fund critical mineral projects, whether the Department of Commerce interprets the provisions to include critical mineral projects is to be determined).

#### Supply chains

The U.S. Department of Energy has been working on stockpiling components beyond critical minerals, but there can be massive delays with the current level of reliability. There are also concerns about permitting and substitutability.

Recommendations for collaboration:

1. A focused task force could be established to deconstruct component-by-component, what a reliable supply chain would look like.
2. The QUAD and other partnerships should look to diversify supply chains and help developing countries to process and manufacture the components they need.

#### IV. CLIMATE RESILIENCE

Natural systems around the world are changing faster than humans can adapt. Everywhere, ecosystems are at risk but conservation is often seen as less pressing than mitigation efforts and nature is often taken for granted. Both countries can turn this key focus on adaptation and increasing resilience and develop creative ways to mobilize finance. Specifically, a focus on heat stress and partnerships on cooling were discussed as being immensely valuable.

##### Recommendations for collaboration:

1. Securing funds to educate the future green workforce.
2. Knowledge-sharing among farmers around crop insurance programs and generally creating more sophisticated language around insurance.
3. Promoting climate-friendly and resilient buildings (i.e. replacing concrete with permeable surfaces to reduce flooding risk and reducing the carbon intensity of infrastructure). Advancing adaptive urban planning and looking at sourcing more sustainable materials for buildings like cross-timber construction and bamboo as structural support.
4. Supporting an emphasis on municipal bonds. Funding and financing are key, and are historically difficult to leverage for adaptation, raising the potential for bond insurance, and other mechanisms to bring prices down and draw more investment.
5. Utilizing air quality meters.
6. Knowledge-sharing around wildfire detection and resilience.
7. Developing an ocean-climate action and sharing ideas around protecting marine biodiversity in international waters.
8. Building cooling action plans. The world's cooling demand is predicted to triple by 2050, contributing to 7% of global greenhouse gas emissions (more than the entire Indian nation) and 100 gt of CO<sub>2</sub> emissions can be avoided if this challenge can be addressed and there was consensus that the Track II has a unique opportunity to develop a joint vision regarding cooling bilaterally and across the global community. A "Cooling Collaborative" led by the U.S. and India could work to ensure cooling progress is moving in both the U.S. and India, while ultimately adding additional countries to the effort. The collaborative could generate these cooling action plans worldwide, effectively building political momentum and potentially promoting these efforts at succeeding COPs. Hypothetical cooling action plans would detail examples of making adaptation financeable, innovative methods of combining adaptation and mitigation, and mobilizing finance
9. Building extreme heat infrastructure.
10. Reforming international financial institutions for adaptation.
11. Knowledge sharing around community engagement and resource management (i.e. Colorado River).
12. Building solar panels on aqueducts; growing seaweed farms with offtakes going to livestock and resulting in fewer methane emissions and healthier cattle; and restoring forests to restore water resources for cities, among others, and they highlighted the many avenues for collaboration between the two countries and how the two countries can learn from one another.

Both private and public sectors will need to play a vital role in making funding available, as there are limits to what the private sector can do and the world has struggled for decades to find a meaningful balance between the two.