

India–Australia Track II Dialogue on Climate Change and Energy



Introduction

The India–Australia Track II Dialogue on Climate Change and Energy was convened on 25–26 August in Canberra, by the Ananta Aspen Centre in partnership with the Australian Strategic Policy Institute (ASPI). The dialogue brought together experts and stakeholders to deliberate on a range of themes, including shared challenges and opportunities, energy transition, climate resilience, critical minerals, and investment pathways. The inaugural Dialogue convened at a pivotal moment to convert shared exposure into a shared advantage. The Dialogue recognized that supply chain vulnerabilities and strategic dependencies require urgent bilateral solutions beyond traditional multilateral approaches.



Participants prioritised measures that de-risk investment, improve the interoperability of standards and regulations, and translate strategy into projects, including offtake models that crowd in capital; joint approaches to permitting and Environmental, Social and Governance (ESG) to speed responsible extraction and processing; data regimes that enhance supply-chain transparency; and financing architectures that mobilise private capital at scale. Participants acknowledged the implementation gap between policy ambition and delivery, emphasizing that practical cooperation must replace aspirational declarations.

By fostering candid conversations and building durable networks, the Dialogue positioned Australia and India to lead transforming climate action and the energy transition into engines of stability, competitiveness, and innovation across the Indo-Pacific.

Dialogue Outcomes

The 2025 Dialogue delivered on three fronts:

- 1 Built a shared understanding**

Over two days, Indian and Australian stakeholders engaged in open, expert-level exchanges. The agenda encompassed energy-transition pathways, the resilience of critical minerals supply chains, innovation for decarbonisation, climate adaptation and food security, and the financing mechanisms required to underwrite all three, thereby linking policy ambition to market reality.
- 2 Generated policy-relevant outcomes**

A format of targeted roundtables under the Chatham House Rule enabled candid debate and joint problem-solving, producing ideas ready to feed into Track I channels. Participants not only sharpened the diagnosis—the pace and sequencing of system transformation, as well as exposure to supply-chain shocks—but also surfaced scalable solutions, including clean-technology partnerships, interoperable standards, blended-finance models, offtake and certification approaches, and fit-for-purpose carbon-market mechanisms. Discussions candidly addressed technology challenges, financing constraints, and the preference for focused bilateral approaches over broader multilateral frameworks.
- 3 Strengthened strategic networks**

Hosting this first Australian iteration of the Dialogue in Canberra fostered trusted relationships that will carry beyond the event. Those connections now underpin follow-on collaboration—joint research, project development and industry engagement—suited to the Indo-Pacific's dynamic geopolitical and climate landscape.

By pairing strategic foresight with sector-specific expertise, the Dialogue positioned India and Australia not only as bilateral partners but also as co-creators of solutions with regional and global relevance—transforming climate and energy security into a domain of shared advantage and leadership.

Delegates

Australian delegates

The Australian delegates were from the following organisations:

- Australian Strategic Policy Institute (ASPI)
- Asia Investor Group on Climate Change
- Australia India Institute
- Australian National University (ANU)
- Climate Recovery Institute
- Deloitte
- Investor Group on Climate Change
- La Trobe University
- Minerals Council of Australia (MCA)
- Scyne Advisory
- Smart Energy Council
- United States Studies Centre (USSC)

Indian delegates

The Indian delegates came from the following organisations:

- The Ananta Aspen Centre (AAC)
- Council on Energy, Environment and Water (CEEW)
- Eurasia Group
- Shakti Sustainable Energy Foundation
- Vedanta
- World Resources Institute, India

Shared Challenges and Opportunities

The Dialogue framed the strategic landscape and identified areas where Australia and India can move forward together most effectively. The objective is clear: translate shared exposure in climate, energy and security into a focused agenda for bilateral action. Against a backdrop where India imports \$4.7 billion of energy daily and Australia faces \$6.8 trillion in potential climate damages by 2050, the urgency for practical cooperation has never been greater.

Country snapshots

Australia's vulnerabilities centred on concentrated supply chains, slow diversification, and workforce gaps, compounded by national-security sensitivities in segments of the offshore wind ecosystem linked to state-directed actors. India faces structural execution risks in achieving ambitious targets, including net zero by 2070 and 500 GW of renewables by 2030, where land access, financing architecture, and deployment capacity remain binding constraints. India achieved 57% growth in renewable installations over two years but needs 50 GW annually through 2030 to meet targets—more than doubling current pace. With fewer than 5% of India's ~600 million youth trained for clean-energy roles, skills development emerged as a shared bottleneck; Australia likewise lacks the specialised workforce to build resilient, diversified supply chains at pace. Additional cybersecurity vulnerabilities emerged, with 95% of solar rooftop inverters Chinese-made, creating data sovereignty risks as generation data flows to China.

Critical Minerals: From Exposure to Advantage

Participants agreed that market forces alone are insufficient to deliver secure, ESG-compliant supply chains. That leaves industry exposed to coercion, price manipulation and disinformation, including China's 90-day denial of rare earth access to Japan and systematic market flooding to undermine alternative supply chain investments. Examples cited ranged from the leverage of rare-earth exports to targeted campaigns against processing projects in Malaysia and Australia. Yet heavy-handed policy risks inefficiency. The consensus is that interventions must be targeted, time-bound, and investment-grade, including offtake floors, blended-finance vehicles, streamlined permitting, and interoperable ESG/traceability standards.

Managing Strategic Risk

Managing strategic risk without new dependencies

Shared concerns about China's supply chain processing dominance informed the discussion. India has dramatically tightened scrutiny, reducing Chinese Foreign Direct Investment (FDI) from \$4-5 billion to \$400 million annually, banning 250+ apps, and investigating 140 Chinese companies. Australia has used selective divestment orders for state-linked stakes, including Northern Minerals, while both countries seek to avoid fresh single-point dependencies in equipment, materials and data flows.

Carbon markets and investor confidence

It became apparent through the Dialogue that, carbon-pricing settings diverge. Australia lacks an economy-wide carbon price; India is preparing a national market with design choices (baseline, cap-and-trade or hybrid) still in play. Australia's safeguard mechanism covers only one-third of emissions, while superannuation funds—projected to become globally second-largest by 2030—face regulatory constraints limiting patient capital deployment. Investors on both sides are seeking greater certainty: granular sectoral pathways, credible interim targets, durable policy signals, and clear Measurement Reporting and Verification rules to anchor long-horizon capital.

Narratives that travel

In India, climate action is politically durable when framed around jobs, investment and growth; however, the relative affordability of renewables has outpaced EV uptake. In Australia, it was noted that momentum is strongest when decarbonisation is tied to regional employment, critical minerals value-adding and industrial competitiveness. Messaging matters for coalition-building and execution.

Platforms to build from

In both Australia and India, existing vehicles such as the National Critical Minerals Mission, renewable energy partnerships, and greenhouse task forces offer immediate scaffolding. Emerging domains, including advanced storage, grid-firming, power electronics, and additive manufacturing for energy components, were identified for near-term pilot opportunities. Looking ahead, COP31 was seen as a platform to showcase credible, jointly delivered outcomes and to underscore India's leadership alongside a results-oriented bilateral.

Priority Avenues for Bilateral Cooperation

1

Joint skills and certification pipeline

A joint skills and certification pipeline for critical minerals processing, grid integration and renewables Operation and Maintenance, addressing India's massive training gap where only 4.7% of 600 million youth have clean energy skills.

2

Secure-supply program

A secure-supply program for critical minerals aligned ESG/traceability standards, offtake frameworks and de-risking finance.

3

Carbon-market cooperation

Carbon-market cooperation: design dialogue, MRV alignment and sectoral pilots to crowd in private capital.

4

Fast-track permitting

Fast-track permitting and codes/standards interoperability for clean-tech deployment and manufacturing.

5

Joint R&D projects

Joint Research and Development (R&D) and demonstration projects in long-duration storage and grid-support technologies, with clear pathways to scale.

6

Green hydrogen cooperation

Green hydrogen cooperation framework, building on India's five million tonne 2030 target and Australia's \$2 billion Head Start Program, with focus on desalination technology transfer and water security integration.

7

Technology transfer mechanisms

Enhanced technology transfer mechanisms, leveraging Australia's power electronics and cybersecurity expertise with India's manufacturing scale, including engineer-to-engineer showcases and Public Sector Undertaking (PSU)-facilitated commercialization pathways.

There is a need to focus on bankable measures that reduce risk, create investable pathways and harden resilience. With 80% of India's green finance domestically sourced and Australian policy barriers dropping 30% under climate-focused leadership, the foundation exists to ensure the transition strengthens, rather than strains, national security and economic competitiveness in both countries.

Critical Mineral Supply Chains

The Dialogue took a hard look at the strengths and vulnerabilities of Australia–India critical minerals supply chains and what it will take to make them investable at scale. With India launching a \$2 billion National Critical Mining Scheme in 2025 and 16-year development timelines creating planning challenges against rapidly evolving battery technologies, the window for strategic positioning is narrowing.



Diagnosis

Market forces alone have not delivered secure, ESG-compliant supply chains. Definitions of "critical" continue to shift, from energy-transition inputs (lithium, nickel, and cobalt), to defence-dependent rare earths, to industrial staples like copper, complicating policy and capital allocation. China's overwhelming dominance in processing—controlling 90% of heavy rare earth value chains and reaching 95-97% in some critical mineral sectors—was identified as the defining vulnerability, compounded by historical patterns of market flooding to undermine alternative investments. Beijing's push into sodium battery chemistries that eliminate lithium, nickel, and cobalt entirely adds further demand volatility, while lithium price crashes from \$30/kg to \$8/kg demonstrate market manipulation risks that undermine confidence in long-horizon investment.

India–Australia Constraints and Opportunities

India's targets are constrained by financing gaps, limited domestic processing and acute shortages of skilled labour in chemical processing. The 2022 equity partnership where India invested in five Australian mines, including Glencore's cobalt facility which became operational within two-three years, demonstrates progress, but participants assessed that Delhi will increasingly seek tangible domestic benefits through recycling, urban mining, and broader circular economy plays. Current job distribution challenges—where agreements create employment in Australia while supporting secondary industries in India—require rebalancing toward more equitable opportunity sharing. These are underdeveloped but potentially transformative in cutting import dependence while supporting livelihoods.

From Memorandum of Understandings (MoU) to delivery

Despite a dense web of MoUs—bilateral, Quadrilateral Security Dialogue (Quad) and Supply Chain Resilience Initiative—delivery has been thin. Australia has signed 30 different critical mineral compacts and MOUs with no tangible production outcomes, while initiatives like the India-Australia-Japan Supply Resilience Initiative show no concrete progress despite high-level political support. Analysis paralysis across nine agreements and 30 partnerships has created complexity without actionable results. The consensus was to move from declarations to implementation by identifying priority technologies and value-chain segments for joint projects and co-investment. With approximately 30 minerals identified as critical for both countries' climate goals currently discussed in separate policy silos, coordination mechanisms need fundamental restructuring. Japan's Ministry of Economics, Trade and Industry initiative in Delhi on critical minerals and permanent magnets was seen as a platform for practical trilateralism (Australia–India–Japan), bringing patient capital and industrial policy know-how, while acknowledging that it may also introduce competitive dynamics that must be managed.

ESG and licence to operate

Environmental and social risk is central, not peripheral. Seabed mining in the Pacific was cited as a potential ecological and security flashpoint that could undermine the legitimacy of the transition. Democratic Republic of Congo supply chains infected with child slavery, modern slavery, and corruption highlight the urgency, while proposed consumer labeling for recycled content could drive sustainable demand. Community consent, credible safeguards and interoperable ESG/traceability standards were treated as prerequisites for bankable projects.

Instruments that work

Institutional capacity on both sides remains thin after decades of market-first approaches. Participants highlighted the need for government-to-government guarantees, de-risking finance, and clearer regulatory pathways to anchor long-term private capital. Australia's 2022 \$1.25 billion non-recourse loan to Iluka Resources for a rare-earths refinery in Western Australia was discussed as a deliberate "insurance policy" against supply-chain risk—controversial given the public balance-sheet exposure but strategically justified. India's recent centralization of mineral block allocation from state to central government level, combined with an ambitious program to launch 1,200 new critical mineral exploration projects under the National Critical Minerals Mission, demonstrates growing institutional capacity building. However, uncertain failure cost allocation mechanisms and 15-year development timelines in India create additional planning complexities. Delegates saw scope to adapt elements of Australia's regulatory frameworks and guarantee mechanisms to lift governance to global best practice.

Technology transfer and capability building

Government-to-government technology transfer emerged as essential to building processing capability and securing investor confidence with Australian mining companies willing to share expertise with Indian firms in exchange for government guarantees. India's existing chemical processing industries could provide foundation for critical mineral processing capabilities, while advanced Artificial Intelligence (AI) applications for exploration data analysis are becoming investor confidence prerequisites. However, 20 to 30 year investment cycles require political continuity assurances across government changes, with processing economics already shifting as Australia's zinc processing became uncompetitive due to India's subsidized coal power advantages.

Priority Implementation Areas

The following priority implementation areas were identified in the Dialogue:



Bilateral technology showcase programs

Engineer-to-engineer presentations of Australian innovations to Indian manufacturing counterparts, moving beyond government declarations.



Joint recycling and urban mining initiatives

Leveraging India's labor-intensive recycling capabilities with Australia's automated mining technologies.



Shared ESG/traceability standards

Interoperable certification systems enabling market access and premium pricing for ethical supply chains.



Strategic mineral stockpiling

Coordinated buffer stocks for defence-critical materials with small global demand scales.



R&D collaboration expansion

Council of Scientific and Industrial Research (CSIR) India and Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australia partnerships in rare earth processing, magnet manufacturing, and lithium carbonate processing.



Patient capital mobilization

Structured co-investment vehicles bringing Japanese long-term financing to Australia-India mineral projects.

Bottom line. Resilience will not emerge on its own; it requires active state facilitation and disciplined industrial policy. China's processing dominance remains the central exposure. India's transition will hinge on aligning energy security with job creation and domestic capability. Growing skepticism about Quad Critical Minerals Initiative effectiveness, combined with preference for mini-lateral frameworks like ASPI's Darwin Dialogue, suggests bilateral and trilateral approaches may prove more practical than large multilateral structures. Partnerships must now deliver tangible projects and offtakes, with environmental and community considerations built in from the start and institutional capacity strengthened to sustain credible, long-horizon investment. Success ultimately requires private sector integration and capital market understanding, not just government policy coordination.

Transition to Clean Energy

The Dialogue also focused on converting shared ambition into practical cooperation, while confronting the reality that green hydrogen remains economically unviable even at current subsidy levels. Both governments have set stretching targets, yet momentum has not translated into visible outcomes—a pattern reflected in the absence of concrete Intellectual Property (IP) sharing agreements, offtake agreements, and investment outcomes despite numerous engagements. Participants agreed to narrow collaboration to a few signature initiatives that could deliver early wins, build trust and signal joint leadership in the transition.



Climate urgency and global context

The session began with sobering analysis: countries need 3% annual emissions reductions from 2030 to 2050, but current Nationally Determined Contributions achieve only 0.4% annually. With the 1.5°C target slipping away, renewable energy subsidies being rolled back globally, and climate finance tightening as development aid shifts to defense spending, the window for effective climate cooperation is narrowing rapidly. Innovation approaches face extreme challenges in implementing solutions within the current global environment of multiple concurrent crises.

Anchor opportunities: hydrogen and ammonia

India's National Green Hydrogen Mission (targeting 5 Mt by 2030, scaling to ~20 Mt by 2050) and Australia's \$2-billion Hydrogen Headstart initiative were identified as complementary pillars. Together, they underpin near-term projects such as carbon-free fertiliser production—critical to both agricultural economies—creating a pipeline for industrial offtake. However, massive water requirements for India's green hydrogen targets necessitate significant desalination infrastructure investment, this is where Australia's advanced desalination expertise becomes crucial. The transition also poses fiscal challenges, potentially reducing 40% of India's government tax revenue from decreased fossil fuel taxation, requiring new carbon pricing mechanisms as alternative revenue sources.

Lighthouse Projects and Skills Development

Lighthouse projects to prove and scale

The roundtable prioritised "show-don't-tell" pilots to move beyond theory, focusing on off-grid solutions for remote communities and industry, accelerated solar deployment, power-electronics upgrades for grid stability, and scalable rooftop solar analytics. Critical cybersecurity vulnerabilities emerged around India's 10 million household solar rooftop deployment, where 95% of inverters are Chinese-made, creating data sovereignty risks as generation data flows to China while inverters remain remotely controllable. Australian power electronics expertise could address these distributed solar system vulnerabilities. India was seen as a high-tempo "technology sandpit" to test, iterate and validate solutions before scaling bilaterally.

Skills and workforce are the enabling layer

Skills and workforce are the enabling layer, with India's advanced transmission capabilities in some areas exceeding Australia's, while Australia faces massive skills deficits requiring Indian expertise. India's Power Grid Corporation partnerships enable transmission design engineering training in Australia, breaking incumbent monopolies. However, structural barriers prevent large portions of India's workforce from accessing planned initiatives due to inequalities, while Australia's immigration policies need adjustment to create specific visa categories addressing skills shortages. Two-way exchange models, learning from Germany's transformed approach showing record participation growth, enable trilateral skill deployment to third countries in Africa and Latin America. Existing ties with Power Grid Corporation and Australia's Smart Energy Council provided a foundation. However, the translation from training to durable jobs was identified as a gap to be closed.

Technology transfer and commercialization gaps

Significant technology transfer barriers emerged, with Indian university innovations typically spun off into separate entities rather than scaling. Australian companies possess world-class expertise in power electronics and cybersecurity for remote monitoring, while India's manufacturing scale provides unmatched scaling opportunities. However, lack of systematic documentation and awareness of available technologies limits commercialization. PSU-facilitated technology acquisition could bridge this gap, learning from ISRO's successful \$1 million battery cell technology transfers to eight companies, which enabled domestic lithium-ion battery manufacturing and supported India's emerging EV and energy-storage sectors. Think tanks could coordinate government technology acquisition and commercialization through PSU partnerships.

Resource allocation challenges and skepticism

India's tendency toward mission proliferation—spreading resources across hydrogen, semiconductors, critical minerals, and other priorities—creates concerns about achieving sufficient scale versus marginal progress across all areas. Growing skepticism emerged about green hydrogen's role in advancing bilateral relationships versus separate national programs, with participants noting financing difficulties compared to established solar technologies. The focus shifted toward knowledge sharing, technology transfer, and regulatory alignment rather than joint production initiatives.

Clean Energy Priority Implementation Areas

The following priority implementation areas were identified in the Dialogue:



Joint desalination technology transfer

Leveraging Australia's advanced capabilities for India's green hydrogen water requirements across four coastal hubs.



Cybersecurity partnership for distributed solar

Leveraging Australia's power electronics expertise addressing vulnerabilities in India's Chinese inverter dependency.



Two-way skills certification

Implementing standardized credentials for Indian workers in green construction and Australian workers in transmission engineering.



Carbon-free fertilizer demonstration

Facilitating small-scale pilot projects in both agricultural economies to demonstrate viable alternatives.



Technology commercialization pathway

Rolling out PSU-facilitated acquisition and scaling of Australian laboratory innovations with Indian manufacturing capabilities.



Low-carbon materials coordination

Undertaking joint research and purchase mandates for cement and other building materials with 40% emission reductions.

COP31: Looking ahead, COP31—if hosted in Australia—was viewed as an opportunity and a deadline to showcase tangible, jointly delivered outcomes and to highlight India's role as a climate leader within a credible bilateral program. However, uncertainty remains whether Australia-India cooperation will feature prominently given Australia's heavy Pacific Island focus for COP31, requiring concrete project successes beforehand to credibly demonstrate partnership achievements.

Bottom line. The delegates agreed to focus the portfolio on a handful of bankable, co-branded lighthouse projects, lock in offtake and workforce pathways early, and use COP31 as the public proving ground for Australia-India clean-energy delivery. Success requires learning from the German Society for International Cooperation's model of sustained government commitment to long-term relationship building despite cultural differences, combining high-level ministry engagement with ground-level industry cooperation. Policy coordination across visa frameworks, certification mutual recognition, and technical standards interoperability will be essential, building on UK Free Trade Agreement precedents for certification reciprocity that enhance market access through rules of origin changes and streamlined procurement processes.

Enhancing Investment Opportunities

The Dialogue examined how Australia and India can mobilise capital commensurate with their clean-energy ambitions. The central constraint was not the absence of policy frameworks, but a misalignment between risk appetite and the scale/profile of projects required. With Australia facing \$6.8 trillion in climate damage by 2050 and superannuation funds performing 40% worse under current climate scenarios, the urgency for investment realignment has never been greater. Australia's policy barriers dropped 30% under recent Labor government climate policies, moving from very low global starting point to middle of the pack, yet risk-return profile shortages persist.



Where the capital is—and isn't

Australia's superannuation system manages >\$3 trillion yet remains structurally risk-averse and fiduciary-bound, limiting exposure to pre-seed and first-of-a-kind (FOAK) projects. By contrast, sovereign wealth funds across the Gulf and Asia (such as Saudi Arabia, Singapore, and Norway) have demonstrated greater patience and strategic flexibility in renewables—underscoring the need to rethink how Australian pools can be safely mobilised for higher-risk, system-shaping investments. However, many Australian investors were 'really badly burnt' in India's first wave of solar development, creating lingering appetite challenges despite Australia's superannuation funds projected to become second-largest globally by 2030. Australian companies face scaling challenges, with examples like Life H2O forced to sell to US Marine Corps due to insufficient domestic procurement ecosystems.

India's scale sets the tempo

With a net-zero target by 2070 and 500 GW of renewables by 2030 (~245 GW to date), India's transition requires approximately US\$10 trillion over coming decades. Currently, 80% of India's green finance is domestically sourced, with only 17% from official development assistance and 2% from foreign institutional investors. However, Gulf sovereign wealth funds like Saudi PIF have gained significant footholds, receiving regulatory exemptions from dividend and interest payment taxes. Three major state entities—Rural Electrification Corporation Limited, Power Finance Corporation, and Indian Renewable Energy Development Agency—handle bulk financing, though Indian green bonds receive only 'medium green' ratings from Cicero due to greenwashing concerns. Australian investors often underestimate the pace and quality of policy execution in India and the broader region, pointing to the value of targeted exchanges, market immersions, and industry-to-industry dialogues in building literacy and trust.

Nuclear Pivot and Climate Disclosure

Nuclear pivot and hydrogen skepticism

A significant shift emerged with growing private sector disinterest in hydrogen projects across India, as major companies (Tata, Reliance, Adani) pivot toward nuclear power development. India's emergence as semiconductor hub creates massive data centre power requirements driving nuclear interest, with government planning amendments to civil nuclear liability and atomic energy acts enabling private participation. This contrasts with continued hydrogen financing difficulties compared to established solar technologies, with 75 Small Nuclear Reactor designs under development globally but only one Nuclear Regulatory Commission approved design indicating continued fragmentation.

Climate disclosure chilling effects

Policy instability trauma from Australia's decade of climate policy chaos until recent Labor government created investor 'Post Traumatic Stress Disorder,' while India maintained stability since 2014. Paradoxically, new climate disclosure requirements are causing companies to reduce public climate ambition statements due to legal liability concerns, amplified by US anti-ESG rhetoric creating global chilling effects on climate investment discussions. Legal advice increasingly conservative, with lawyers advising against setting targets without definitive implementation plans.

Sharing risk to unlock projects

Priority opportunities included financing models that distribute risk across governments, financiers and industry to catalyse First-of-a Kind and frontier projects—hydrogen, nuclear and advanced biofuels among them. However, bilateral investment progress remains limited despite 2024 Australia-India economic framework and free trade agreements, with only one major Indian investment in Australia (Reliance project) despite India allowing 100% FDI in renewable energy. Mutual perception challenges persist, with Australian investors viewing India as bureaucratic while similar misconceptions exist about Australia in Indian investment circles. Lessons from Australia's disaster bonds, global climate-bond architectures and the Asian Development Bank's coal-transition facilities in the Association of Southeast Asian Nations (ASEAN) highlighted what credible structures look like: robust MRV, clear revenue backstops, political-economy feasibility and transparent governance.

Carbon markets and regional coordination

Interoperability challenges between Australian and Indian carbon pricing standards complicate efforts to establish interoperable markets, while China's heavy involvement in regional carbon bonding discussions adds competitive complexity. Multiple calls emerged for Asian regional green bank structures to aggregate and de-risk climate investments, with ADB potentially providing regional functionality. COP30 Brazil's 'country platforms' concept offers models for consolidating private finance flows and allowing recipient countries to prioritize investments according to national development needs.

Innovation and System Fixes

Innovation engines and human capital

Participants emphasised technology co-development, university–industry consortia and "sandpits" that de-risk early deployment. However, India lacks experience evaluating technology and mining projects, requiring Australian expertise in technical assessment. Proposed 'engineer-to-engineer' technology showcases could bring Australian innovations in power electronics and cybersecurity to Indian manufacturing counterparts, while learning from the Japan International Cooperation Agency 0% interest loan model requiring Japanese product purchases. Low-cost, high-impact exchange programs—modelled on the US International Visitor Leadership Program—were identified to upskill practitioners, align expectations and accelerate cross-border teaming.

System fixes investors notice

Structural reforms flagged included interoperable green-finance taxonomies, transparent valuation of exploration and IP-rich technology assets, and stronger rules for data ownership and access. The upcoming Climate Investment Forum (Melbourne, 2026) was identified as a platform to crowd in solutions on the Australian side, with the India Green Investment Forum as a counterpart—both suitable vehicles to incubate new, higher-risk investment products and to surface pipelines timed to COP31. However, uncertainty remains about Australia-India cooperation prominence given Australia's heavy Pacific Island focus for COP31, requiring concrete bilateral successes beforehand to credibly demonstrate partnership achievements.

Policy implementation trauma and coordination needs

Australia's 'pink batts' insulation program failure (including deaths) created lasting government reluctance for rapid deployment programs, while balancing public risk assumption with private innovation incentives remains delicate. State-level implementation offers opportunities given Australian states' size comparable to countries but requires coordination across multiple government levels and agencies. Multiple crisis context makes implementing innovative climate solutions extremely challenging in current global environment.

Priority Investment Mechanisms

The following priority investment mechanisms were identified in the Dialogue:



Aggregated fund structures

De-risked models like EIB Global Energy Efficiency Fund (achieving double-digit returns) more attractive than direct project investment.



Co-investment vehicles

Australian superannuation funds partnering with Norwegian pension fund, GIC Singapore, and established sovereigns in India.



Green finance taxonomy alignment

Interoperable standards addressing greenwashing concerns and actual use of proceeds verification.



Technology commercialization partnerships

PSU-facilitated scaling of Australian laboratory innovations with Indian manufacturing capabilities.



Regional green banking

Clean Energy Finance Corporation establishing Asia-Pacific climate investment capabilities.



Bilateral scaling solutions

Addressing domestic ecosystem gaps forcing Australian companies to scale offshore.

Bottom line. Capital will flow when risks are intelligible, shared and credibly managed. Australia and India can move the needle by:

1. Co-designing de-risking instruments for FOAK projects.
2. Standing up trilateral and sovereign-linked vehicles alongside private capital.
3. Building practitioner-level literacy through sustained exchanges.
4. Delivering a visible slate of investable projects for COP31 that proves the model.

The Dialogue was deliberately sequenced in two stages:

Day one ranged widely across the intersection of climate change, energy security and geoeconomics—mapping the strategic terrain, surfacing points of vulnerability and convergence, and identifying the breadth of actors and sectors that will shape outcomes. It set the operating picture in which Australia and India must act.

Day two pivoted to consolidation. Participants distilled the breadth of discussion into a focused set of priorities and near-term actions. A structured whiteboard exercise captured perspectives under three headings—day one takeaways, collaboration opportunities, and challenges to collaboration—enabling collective triage: separating what is desirable from what is practical, and what is merely possible from what is genuinely urgent. The result was a crisp, outcome-oriented agenda to guide practical bilateral cooperation.

Collaboration Opportunities

The following collaboration opportunities were identified:

Critical minerals

- Elevate ASPI's 2026 Darwin Dialogue, in partnership with the Indian Government, as a standing platform for bilateral and regional engagement.
- Stand up joint processing capacity and targeted technology transfer to unlock value along the chain from ore to magnet.
- Launch shared pilots in recycling, urban mining and circular-economy solutions to reduce import dependence.
- Coordinate strategic stockpiling with like-minded partners (for example, Japan and Korea) to strengthen supply security.
- Build on 2022 equity partnership success where India invested in five Australian mines, scaling the model with more balanced job distribution.
- Leverage India's recent centralization of mineral block allocation from state to central government and \$2 billion National Critical Mining Scheme launched in 2025.

Skills and training

- Establish a Joint Green Skills Academy, drawing on Japan's model, to deliver industry-aligned curricula and certifications.
- Expand TAFE-style vocational programs and apprenticeships for mining, processing and renewables O&M.
- Run joint skilling pipelines that place workers into real projects on both sides, closing persistent workforce gaps.
- Address critical cybersecurity vulnerabilities in India's 10 million household solar program where 95% of Chinese-made inverters create data sovereignty risks.
- Leverage India's advanced transmission capabilities through Power Grid Corporation partnerships to address Australia's massive skills deficits.

Research, Finance, and Regional Cooperation

Research and innovation

- Create shared technology repositories and digital twins to map collaboration, avoid duplication and speed translation.
- Stand up new interdisciplinary centres linking Australian and Indian universities (including satellite campuses such as La Trobe's Bangalore presence).
- Co-develop priority technologies in hydrogen, green steel and battery recycling with clear pathways to demonstration and deployment.
- Establish PSU-facilitated technology acquisition pathways, learning from ISRO's successful \$1 million battery cell transfers to eight companies.
- Adopt Germany's GIZ model of sustained government commitment combining high-level ministry engagement with ground-level industry cooperation.

Finance and industry engagement

- Seed a co-shared India–Australia fund, recognizing that Australian superannuation funds—projected to become second-largest globally by 2030—remain structurally risk-averse and cannot provide patient capital like Gulf sovereign wealth funds that have gained footholds in India through regulatory tax exemptions.
- Use blended-finance structures to bridge the valley between venture and infrastructure scale, with a focus on pre-seed and pilot-stage innovations.
- Run targeted roadshows to reintroduce Indian opportunities to Australian super funds and institutional investors.

Subnational and regional cooperation

- Pursue state-to-state partnerships (for example, Tamil Nadu–Victoria) around defined industry clusters.
- Trial triangular cooperation in the Pacific and Africa, where climate, development and security objectives intersect.
- Explore naval bases and green shipping corridors as joint climate-security initiatives that can scale.

Nuclear pivot and hydrogen skepticism

- Address growing private sector disinterest in hydrogen across India, with major companies (Tata, Reliance, Adani) pivoting toward nuclear power development driven by semiconductor hub data centre requirements.
- Coordinate on India's planned amendments to nuclear liability acts enabling private participation, representing a significant strategic shift requiring bilateral coordination.
- Focus hydrogen cooperation on knowledge sharing, technology transfer, and regulatory alignment rather than joint production initiatives given current economic unviability.

Challenges to Collaboration

While the dialogue identified numerous avenues for cooperation, several significant challenges must be addressed to ensure successful implementation and sustained impact. These obstacles span policy, finance, social license, and geopolitical dependencies, demanding a nuanced and coordinated approach from both nations.

Policy & Bureaucratic Hurdles

Fragmented mandates, thin staffing, and overlapping dialogues often slow down decision-making processes and dilute the impact of initiatives. The proliferation of agreements without clear, streamlined coordination creates complexity. Moving from conceptual promise to tangible delivery requires clearer authorities and more efficient processes across existing Memoranda of Understanding.

Social & Environmental Concerns

Achieving social license is paramount for large-scale projects. Genuine and early community engagement on land rights and environmental impacts is essential, not a late-stage formality. Furthermore, new climate disclosure requirements, coupled with a global rise in anti-ESG rhetoric, are causing some companies to reduce public climate ambitions due to legal liability concerns, creating a chilling effect on investment discussions.

Investment & Financing Gaps

Investor confidence is hampered by long regulatory approval timelines in Australia and persistent regulatory uncertainty in India. Outdated geological data, fragmented governance, and weak offtake visibility further suppress capital flows. Australian superannuation funds remain risk-averse, while India's venture and risk-sharing tools are still maturing, leading to many promising projects stalling between prototype and scale-up stages without viable blended-finance models.

Structural Asymmetries & Dependence

India's energy sector is focused on expanding total generation, whereas Australia is transforming an existing system. Both nations remain heavily exposed to China's dominance in critical mineral processing, introducing geopolitical and price risks. India's ambitious green hydrogen targets necessitate massive desalination infrastructure, an area where Australia's expertise is vital. The energy transition also poses a threat to 40% of India's government tax revenue, highlighting the need for alternative revenue streams like carbon pricing.

Addressing these systemic and practical challenges is fundamental to unlocking the full potential of India–Australia collaboration on climate change and energy.

Conclusion: From Diagnosis to Delivery

The 2025 India–Australia Track II Dialogue on Climate Change and Energy underscored a critical message: the strength of our partnership will ultimately be measured by tangible delivery. This dialogue successfully moved beyond conceptual discussions to identify concrete, actionable priorities and mechanisms for sustained collaboration.

Immediate Priorities for Bilateral Action



Formalized Cooperation

Integrate ASPI and Government of India cooperation through ASPI's 2026 Darwin Dialogue, creating a formal platform for strategic discussions.



Carbon-Free Fertiliser

Advance opportunities for carbon-free fertiliser, linking Australia's renewable energy production capabilities with India's significant agricultural demand.



Desalination Technology

Establish joint desalination technology partnerships to support India's four coastal green hydrogen hubs, leveraging Australian expertise.



Technology Showcases

Organize engineer-to-engineer technology showcases, bringing Australia's power electronics innovations directly to Indian manufacturing counterparts.

Participants committed to a year of progress, with built-in accountability. The Dialogue will reconvene in Delhi in August 2026 to rigorously assess delivery, showcase outcomes, and recalibrate priorities, maintaining a sharp focus on practical, visible results that demonstrate tangible impact.

The Enduring Value of Track II Diplomacy

The Dialogue demonstrated why second-track diplomacy matters: it creates trusted lanes between policy and markets, turns abstract ambition into bankable pathways, and builds the relationships that endure beyond a communiqué.

Over two intensive days, participants successfully transitioned from initial diagnosis to defining concrete delivery pathways. This involved prioritizing a concise list of signature initiatives designed to mitigate risk, attract capital, and bolster resilience across crucial sectors including critical minerals, clean energy, and finance.

The practical value of the Dialogue was evident in its ability to pressure-test interventions ready for immediate implementation by governments and industry. These included targeted offtake frameworks and blended-finance vehicles to de-risk first-of-a-kind projects, interoperable ESG, MRV, and traceability standards for responsible resource extraction, streamlined permitting processes, and robust skills pipelines to foster job creation in both nations.

Ultimately, **delivery is the test**. The next phase demands discipline and accountability through setting clear decision points, publishing transparent progress updates, and critically assessing outcomes at the 2026 reconvening. By sustaining this outcome-oriented focus, Australia and India can transform shared challenges into shared advantages, fostering a more secure, competitive, and prosperous Indo-Pacific region.



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