



***ENERGIZING TIES: AN INDO-AUSTRALIAN PARTNERSHIP TO POWER RENEWABLES REVOLUTION***

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*Anthony Albanese raised human rights concerns with Narendra Modi, DFAT has confirmed. Source: AP / Mark Baker*

The Indian-Australian bilateral relationship is soaring to new heights, with renewable energy leading the charge.

On the sidelines of the recently concluded November Group of 20 (G20) Summit in Brazil and ahead of the fifth anniversary of the Australia-India Comprehensive Strategic Partnership next year, Australia and India signed a number of measures designed to strengthen bilateral cooperation. Renewable energy featured heavily in these agreements.

Indian Prime Minister Narendra Modi and Australian Prime Minister Anthony Albanese welcomed the launch of the India-Australia Renewable Energy Partnership (REP), a new initiative that will [focus on](#) solar photovoltaic (PV), green hydrogen, and energy storage, along with fostering two-way investment in renewable energy projects. Building on existing cooperation mechanisms, such as the [Australia-India Annual Summit](#) and the India-Australia Energy Dialogues, the REP brings both nations closer to leadership in the global energy transition.

As emerging players in the renewable energy sector, a closer partnership between India and Australia holds enormous potential to help both countries address climate change, enhance energy security, and accelerate their clean energy transitions.

### **What India Needs from Australia**

India's energy sector remains heavily reliant on fossil fuels. In 2023, coal alone made up [approximately 57.6 percent of India's energy mix](#), with oil and gas pushing the total share to 87 percent. To meet its decarbonisation targets, India has set an [ambitious renewable energy goal](#) of achieving "500 gigawatts (GW) from non-fossil sources by 2030."

Australia's rich deposits of critical minerals such as lithium, cobalt, nickel, and rare earth elements are essential for manufacturing the batteries, solar panels, wind turbines, and electric vehicles necessary for India's green energy transition. India has [identified 21 critical minerals](#) available in Australia to help meet its renewable energy needs. The Australia-India Critical Minerals Investment Partnership is a crucial step in securing supply chains to support this transition.

Concurrently, India's rapidly growing electric vehicle (EV) market and renewable energy projects will

require significant quantities of lithium. For instance, demand for lithium-ion batteries alone is expected to [rise to 127 Gigawatt-Hours \(GWh\)](#) by 2030.

Australia's vast lithium reserves make it a key partner for India in ensuring a stable supply of materials for India's green energy transition. As [highlighted](#) by an Observer Research Foundation (ORF) report, Australia has an upper edge in upstream lithium production. However, to meet mining goals outlined by the Minerals Security Partnership, both nations must engage in an honest dialogue about the economic scale and environmental challenges.

Australia's critical mineral wealth—such as lithium, cobalt, and rare earth elements—aligns perfectly with India's demand for these materials, creating a natural demand-supply partnership. This partnership can significantly strengthen the energy strategies and security strategies of the two countries.

### **Green Hydrogen Export and Infrastructure Development**

Australia is a natural partner for India in the green hydrogen sector. The cost of green hydrogen production in India is 40 percent higher than in Australia, which boasts the [lowest production costs](#) among G20 countries. While an India-Australia Hydrogen Task Force was proposed in 2023, its progress has yet to gain significant media attention.

To begin, the transition from coal-dominated energy trade to green hydrogen exports could play a pivotal role in jointly decarbonizing heavy industries, transportation, and power generation in both countries. Joint infrastructure projects - such as the development of pipelines, storage systems, and distribution networks (which collectively make the costs prohibitive)- are essential for making green hydrogen more cost-effective and viable for India's energy mix.

Australia, which has considerable expertise in hydrogen production, could help India develop the necessary infrastructure to scale up its hydrogen economy. To this end, a Public Private Partnership (PPP) model with Australia for cost-effective production should be considered as part of [India's Green Hydrogen Diplomacy](#).

As Prime Minister Albanese noted during the first India-Australia Annual Summit in March 2023, "India's manufacturing scale and huge domestic demand and Australia's abundance of critical minerals" underscores the potential for mutually beneficial collaboration. Joint renewable energy projects, such as those in solar and offshore wind, could leverage these strengths.

### **Investment Opportunities**

There are also significant opportunities for Indian foreign direct investment (FDI) in Australia's renewable energy sector. Indian companies could invest in joint renewable energy projects, especially in offshore wind farms, solar plants, and energy storage systems. Australia's abundant solar resources and vast coastlines make it an ideal location for large-scale solar and wind energy projects.

Indian investors could also focus on Australia's burgeoning green hydrogen sector. With Australia poised to become a global leader in hydrogen production by 2030, India's rising demand for clean hydrogen makes this a promising area for investment. India is the [world's third-largest hydrogen consumer](#) after the United States and China. Indian demand for hydrogen is expected to [more than double](#) by 2040 necessitating an early investment in green hydrogen initiatives with Australia as a critical partner.

### **Addressing Regulatory and Infrastructure Gaps**

However, challenges remain in terms of policy infrastructure. As former High Commissioner to India, Lisa Singh, [aptly pointed out](#), "regulatory frameworks, certification mechanisms, and quality standards" must be strengthened to institutionalize bilateral cooperation.

Another critical issue is the need to upgrade transmission infrastructure. Introducing large amounts of renewable energy into the Australian grid could [destabilize it](#) due to multiple frequencies. While the 2022 India-Australia Energy Dialogue identified grid management as a priority area, practical steps to achieve grid synchronization are sluggish, pending which the scale of costs involved could delay the realization of mutual energy goals. Nonetheless, this

presents an opportunity for both nations to cooperate in revamping Australia's grid infrastructure (India's electric grid being the [largest](#) synchronized grid in the world).

From critical minerals and green hydrogen to investment and infrastructure development, the foundation for a robust partnership is already in place. By addressing regulatory hurdles and infrastructure gaps, the two countries can achieve the full potential of their renewable energy cooperation. With coordinated action, India and Australia can play a pivotal role in spearheading global energy transition, advancing their climate goals and ensuring energy security for the future.

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