Beyond COP26
Investing in India

Investing in a Green Recovery for India

India Climate Collaborative

Why do we need a recovery and why does it need to be green?

India has faced a combination of shocks since the global outbreak of the COVID-19 pandemic -

- A labour migration crisis due to lost livelihoods
- Major industries and small businesses disrupted due to prolonged lockdowns
- A series of extreme weather events such as super cyclones Amphan and Tauktae

Like COVID-19, climate change presents a future of overlapping crises that disproportionately impact India's poorest and most vulnerable populations.

As we rebuild our economy and livelihoods after the pandemic, we must prioritise co-benefits across jobs, growth, and sustainability, to ensure that urgent climate action is also a priority on the road to recovery.

Examples of high impact opportunities for philanthropy to invest in a green recovery

There are opportunities across multiple sectors that can use new drivers of investment and growth to benefit underserved communities and build resilience against future shocks. Here are three such interventions, which are primed for philanthropic investment:

- Climate smart agroforestry
- Sustainable cold chains
- Clean energy transition for SMEs

Climate smart agroforestry

Efficient land-use management systems like **agroforestry**, if deployed correctly, can bolster **carbon sinks** and improve livelihood opportunities for India's farming communities.

Agroforestry has the potential to -

Agroforestry involves growing trees & shrubs within crop and animal farming systems. These systems are nature-positive solutions that build socio-economic and ecological resilience. They can enhance farmer incomes and biodiversity, reduce soil erosion, improve water tables, sequester carbon and therefore play a vital role in regulating climate.

A **carbon sink** is any reservoir that absorbs more carbon from the atmosphere than it releases.

3-8X

Demonstrate growth in farmer returns in 5-7 years, as evidenced from a program covering close to 70,000 farmers in riparian areas of Tamil Nadu.[1]

152-305

Sequester million tons of CO2 equivalent annually from 13.7 million hectares of land.[2]

Sequestering **1 million tons of CO2** = taking **197,294 passenger vehicles** off the road for one year.

US Environmental Protection Agency

943

Generate million person-days of employment annually from 25.4 million hectares of land.* [2]

*Based on data from CAFRI, Jhansi and Bhuvan LISS III, the area currently under agroforestry is 13.75 million hectares

Sustainable cold chains

Building up India's agricultural **cold chains** using decentralised renewable energy (DRE) can help alleviate post-harvest agricultural losses and improve farmer incomes, while also mitigating carbon emissions.

A **cold chain** is a temperature-controlled supply chain of refrigerated storage, processing, and transportation activities.

At present, **~30-40% of India's fruit and vegetable output is lost postharvest**, resulting in an estimated **economic loss of ~INR 63,000 crores annually.**[4]

Postharvest horticultural losses

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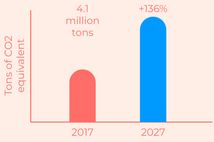
~INR 63,000 crores annually



~136% increase in emissions is possible from 2017 level of 4.1 million tons of CO2 equivalent, if latent demand for cold chain infrastructure is met through conventional, GHG-emitting solutions over the next decade.[5]

Clean energy transition for SMEs

Supporting India's small and medium enterprises (SME) sector to transition to renewable energy and increase resource efficiency can enable the development of sustainable livelihoods at the local level. This can also help SMEs attract and retain the growing number of international and domestic buyers that have sustainability targets for their supply chains.

3.5 million jobs[6] provided by the SME sector, along with economic contribution of **over INR 16 lakh crore.**[7]

22 of the top 100 firms listed on India's National Stock Exchange hold clean energy procurement targets,[8] and SMEs form a critical component of these corporates' value chains.

175 million tons of CO2 equivalent in cumulative GHG emissions was emitted by energy intensive sub-sectors** during 2017-18.[9]

** Brick kiln, steel re-rolling, sponge iron, cement and food processing sub sectors contribute about 98% of the total GHG emissions from these fourteen energy intensive subsectors

What role can philanthropy play?

Area/sector	Philanthropic intervention	Challenge addressed
Climate smart agroforestry	**Invest in bridging critical technical knowledge gaps**, support early-stage designs, and provide research grants across regions and agro-ecosystems.	**Existing agroforestry investments are limited to value chains and regions where technical knowledge exists** - leading to initiatives anchored on a select few products and focused heavily on a few states.
Sustainable cold chains	**Pilot innovative, community-managed business models** that illustrate how to successfully deploy and scale affordable and accessible clean cooling solutions for farmers in diverse regional and agronomic settings.	**Smallholder farmers in India have poor access to cooling infrastructure.** High upfront costs of DRE-based cooling solutions relative to conventional solutions deters adoption. Improving accessibility and affordability of cleaner solutions available at or near the farm gate can have multiple positive economic and environmental benefits.
Clean energy transition for SMEs	**Create an enabling ecosystem for a multi-pronged approach to innovation** by establishing platforms to promote cooperation on the demand side (corporates) and supply side (SMEs).	**Critical coordination gaps and siloed corporate and development sector initiatives** prevent SME decarbonisation at a meaningful scale.

Sources

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[2] Report of the Committee on Doubling Farmers Income, Volume IX", Ministry of Agriculture and Farmers Welfare, February 2018, pp. 76-77

[3] Forest Survey of India, "India's Nationally Determined Contribution of Creating an Additional Carbon Sink of 2.5 to 3 billion tonnes of CO2 eq through Additional Forest & Tree Cover: Possibilities, Scale & Costs for Formulating Strategy", Volume I, No. 3, 2019, pp. 43

[4] Report of the Committee on Doubling Farmers Income, Volume II", Ministry of Agriculture and Farmers Welfare, August 2017

[5] Carbon Trust, "Net Zero Cold Chains for Food", 2020, pp. 18-19

[6] Ministry of Micro, Small, and Medium Enterprises, "Annual Report 2020-21", 2021, pp. 27

[7] OECD, "OECD SME and Entrepreneurship", 2019

[8] Economic Times, "On the rise: Renewable energy adoption by corporates sees strong growth", 2021

[9] Foundation for MSME Clusters, GIZ, "Study on Enabling Emission Reductions in the MSME Sector in India", 2018, pp. 54-55