Supported Organization Spotlight: Centre for Research and Implementation for Decarbonization

The Giving Green Fund is awarding restricted funding to the Centre for Research and Implementation for Decarbonization (CRID) to build the evidence base, standards, and deployment pathways needed to scale industrial heat pumps (IHPs) in India. CRID is an Indian think tank that combines technical expertise, field research, and commercial experience to develop short-, medium-, and long-term strategies to scale decarbonization technologies.

CRID's work falls within our philanthropic strategy of supporting cross-cutting enablers for industrial decarbonization and, more specifically, our sub-strategy to decarbonize industrial heat emissions (as discussed in our *Industry* sector report).

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What Is CRID?

Founded in 2025, CRID is a think tank that aims to accelerate technology solutions for energy and industrial decarbonization in India. It applies a multidisciplinary approach to engineering and scientific research to address real-world deployment challenges. CRID's work spans research, field assessments, technology development, and engagement with policymakers and industry.

CRID has focused on industrial heat pumps as an emerging decarbonization technology for India. It is working on developing India's first Industrial Heat Map to estimate the share of industrial heat demand below 200°C, where heat pumps can potentially replace carbon-intensive heating. CRID has been actively building stakeholder relationships. It has signed a memorandum of understanding (MoU) with Energy Efficiency Services Limited (EESL) to develop a national industrial heat pump program and has endorsement from the Bureau of Energy Efficiency (BEE) to advance heat pump technology in the food and beverage sector.

What Are We Funding, and How Could It Help Address Climate Change?

Despite the global maturity of heat pump technology and numerous pilots, India has low heat pump adoption, particularly in industrial sectors. Limited reliable evidence on the performance and economics of existing installations, the absence of common standards for specifying and rating heat pumps, and a lack of practical sector-specific deployment roadmaps are key barriers to adoption. This funding will support CRID to address these barriers through the following activities:

- **Installation assessments:** documenting approximately 25 existing IHP installations across India through field visits, including operating performance, capital costs, fuel displaced, and integration quality. CRID will use this data to conduct techno-economic analysis of the barriers limiting wider adoption.
- **Standardization framework:** developing a common framework for IHP terminology, applicability, installation sizing, and performance ratings in consultation with manufacturers, vendors, end-users, and other stakeholders.
- **Sector deployment roadmaps:** conducting field surveys in food and beverage and pharmaceutical clusters to identify suitable applications, integration opportunities, pilot projects, and financing options, and developing practical deployment roadmaps for both sectors.
- **Stakeholder engagement:** sharing findings through stakeholder convenings and consultations with policymakers, industry, manufacturers, financiers, and other ecosystem actors to build alignment on the evidence and proposed framework.

The above activities aim to address the information and coordination barriers limiting industrial heat pump adoption in India. Reliable operating data can give policymakers, industry, and financiers a clearer understanding of IHP performance and economics, while common standards can reduce uncertainty when evaluating and procuring systems. Sector-specific roadmaps can then identify viable applications and integration approaches to replace carbon-intensive heat, accelerating demand for IHPs in the sub-200°C segment of industrial processes. IHPs deployed at scale are expected to drive greater electrification of industrial heat while reducing emissions by lowering dependence on conventional energy sources.

Why Do We Think CRID Will Use This Funding Well?

CRID combines technical expertise in heat pumps and industrial energy systems with direct commercial experience. The team brings strong technical expertise in industrial energy systems, techno-economic analysis, and energy optimization.

Despite being an early-stage organization, CRID has quickly built relationships with key stakeholders in India's industrial heat space. Its MoU with EESL provides a platform for

developing a national industrial heat pump program, while its endorsement from BEE and ongoing discussions with NITI Aayog, Indian Society of Heating, Refrigerating and Air Conditioning Engineers, and Confederation of Indian Industry provide channels for engaging policymakers and industrial actors.

Industrial heat has received limited philanthropic attention in India relative to other industrial decarbonization technologies. Market participants are unlikely to fund the fieldwork and market analysis needed to build a reliable evidence base, as they have limited incentives to produce sector-wide data and standards. We think CRID's technical expertise, commercial experience, and partnerships with EESL and BEE provide promising early indicators that it can translate this evidence into common standards and practical deployment programs that support wider adoption.

We publish spotlights to offer transparency to Giving Green Fund donors and resources for those interested in the impact strategies each disbursement supports. Giving Green believes our Top Climate Nonprofits have the greatest impact potential for large, unrestricted gifts. For several reasons, we also disburse and recommend funding to other organizations surfaced through our research process for work that we believe is at least as impactful as supporting our top recommendations.

This is a non-partisan analysis (study or research) and is provided for educational purposes.

CRID is a registered private think tank in India.