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Deliverable 2.2 Report on the international support mechanisms to aid India in the refrigerant transition

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List of Prospective Sources to Fund India's Refrigerant Transition

This research compilation will be published as part of the study on Global Best Practices for Refrigerant Management. It will also be profiled as part of an upcoming dashboard that CEEW has compiled which profiles over 150 R&D initiatives ongoing in India's HVAC sector.

UNDP estimates that, taken together, there are already more than 50 international public funds, 45 carbon markets and 6,000 private equity funds providing climate change finance globally. Each of these public, private, bilateral, and multilateral sources offers new opportunities for countries to address their climate and development needs. The sources extracted below cover multilateral and bilateral sources, as well as private equity and philanthropic organisations providing funds for mitigation or adaptation to climate change. Some specifically relate to energy efficiency, GHG mitigation, HFC phase out, or sustainable heating and cooling transitions.

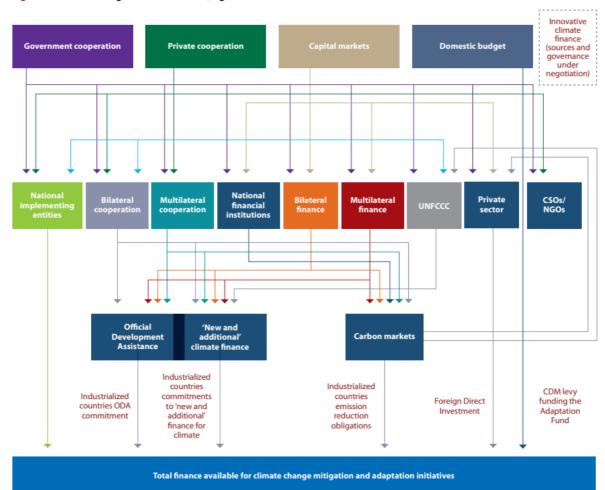


Figure 1: Climate Change Finance: Sources, Agents and Channels

Source: Shakti Foundation 2014

S. No.	Funding agency	Objective	Additional details
1	Adaptation Fund (Multilateral)	The Adaptation Fund (AF) was established in 2001 to finance concrete adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.	The Adaptation Fund is financed with a share of proceeds from the clean development mechanism (CDM) project activities and other sources of funding. The share of proceeds amounts to 2 per cent of certified emission reductions (CERs) issued for a CDM project activity. [Links: A, B]
2	Green Climate Fund (Multilateral)	The Green Climate Fund (GCF) – a critical element of the historic Paris Agreement - is the world's largest climate fund, mandated to support developing countries raise and realize their Nationally Determined Contributions (NDC) ambitions towards low-emissions, climateresilient pathways.	The GCF invests across four transitions – built environment; energy & industry; human security, livelihoods and wellbeing; and landuse, forests and ecosystems. Concrete investment tracks include new technologies and their business models, de-risking investments to mobilise finance at scale, etc. [Link: A, B]
3	Global Environment Facility (Multilateral)	Funds developing countries and countries with economies in transition to meet the objectives of international environmental conventions and agreements. Support is provided to government agencies, civil society organizations, private sector companies, research institutions,	The GEF's climate change mitigation strategy, which is financed through the GEF Trust Fund, supports developing countries as they make transformational shifts towards low emission development pathways with three fundamental objectives, including: (1) promoting innovation and technology transfer, (2) Demonstrating mitigation options with systemic impacts, (3) Mainstreaming mitigation concerns into sustainable development

		among other partners, to implement projects and programs related to environmental conservation, protection, and renewal.	strategies. [<u>Link</u>]
4	Asia Pacific Carbon Fund (Multilateral)	The fund seeks to increase the number of clean energy and energy efficiency projects in ADB developing member countries (DMCs). It is also designed to assist the fund participants in satisfying their legally binding emission reduction commitments under the Kyoto Protocol.	The Fund can cover projects working on energy efficiency, covering industrial technology, supply-side technology (e.g., upgrade of generation equipment) and public transport and vehicle efficiency. [Link]
5	The Clean Technology Fund (Multilateral)	It is a multi-donor trust funds under the Climate Investment Funds (CIF) framework, promotes scaled-up financing for demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions savings implementation in renewable energy, energy efficiency, and clean transport in emerging market middle-income and developing economies.	The CTF Trust Fund has financial inputs of about USD 5.4 billion received through contributions by donors from Australia, Canada, France, Germany, Japan, Spain, Sweden, United Kingdom and United States. CTF funding is deployed through six multilateral development banks (MDBs). All CIF finance can be classed as ODA by MDBs if It meets the criterion of promoting economic development and welfare. The grant element is at least 25 percent. [Link]
6	International Climate Initiative (IKI) (Bilateral)	Through the IKI, the ministries jointly support approaches in developing and emerging countries to implement and	The International Climate Initiative (IKI) is an important part of the German government international climate finance commitment. Since 2022, the Federal Ministry for

		ambitiously develop the Nationally Determined Contributions (NDCs) anchored in the Paris Agreement. This includes measures to adapt to the impacts of climate change and to conserve and rebuild natural carbon sinks, taking into account environmental, economic and social concerns.	Economic Affairs and Climate Protection (BMWK) has been the lead ministry for the IKI. The funding program cooperates with its founding ministry, the Federal Ministry for Environment Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), as well as the Federal Foreign Office. The activities from IKI projects range, for example, from advising policy makers on capacity building and technology partnerships to risk hedging through innovative financial instruments. It also includes studies, project preparation advice for infrastructure development, and investment instruments for climate change mitigation or biodiversity conservation. [Link]
7	Global Energy Efficiency and Renewable Energy Fund	GEEREF invests in private equity funds which focus on renewable energy and energy efficiency projects in emerging markets. GEEREF's funds target attractive financial investments that also deliver a strong positive environmental and developmental impact.	GEEREF invests public and private sector risk capital in specialist renewable energy and energy efficiency private equity funds developing small and medium-sized projects in emerging markets. (fully invested as of now) [Link]
8	Special Climate Change Fund (SCCF)	The Special Climate Change Fund (SCCF) was established under the UNFCCC in 2001 to finance projects relating to: adaptation; technology transfer and capacity building; energy, transport, industry, agriculture, forestry and waste	One of the world's first multilateral climate adaptation finance instruments, it was created at the 2001 Conference of the Parties (COP) to help vulnerable nations address the negative impacts of climate change. The SCCF's main goal is to facilitate the creation of strong, climate-resilient economies and communities by helping countries address a range of barriers, including (a) limited access

		management; and economic diversification.	to climate-resilient technologies and infrastructure, (b) limited institutional capacity to foresee and manage climate risks, (c) low engagement by the private sector, including small and medium-sized enterprises and entrepreneurs, for developing and providing adaptation solutions, (d) lack of access to finance from public sources and to markets for adaptation solutions. [Link: A, B]
9	Swedish International Development Agency (Bilateral)	The broad priority areas of Swedish bilateral development assistance are: Poverty oriented projects in the primary health sector with special emphasis on reproductive health and rights of girls and women; - Environment and urban development with focus on water and sanitation and waste management, air and noise pollution; - Mutual exchange and research cooperation in the field of knowledge and technology; - Assistance through UN Agencies/NGOs in health, water and sanitation programs	India has been a recipient of Swedish bilateral development assistance since 1964 although Sweden joined the Aid India Consortium as a full member only in 1969. The Swedish bilateral development assistance is channelled through the Swedish International Development Agency SIDA).
10	GSMA Innovation Fund for Climate Resilience and Adaptation (Bilateral)	The GSMA Innovation Fund will help accelerate the testing, adoption and scalability of digital innovations that enable the world's most vulnerable populations to adapt, anticipate and absorb the negative impacts of climate change.	The Fund will provide 15 to 18 month grants and additional support to forprofit small and growing enterprises, including start-ups, that leverage digital technology, especially mobile, to deliver climate resilience and adaptation solutions. The Fund will support grant projects delivering climate resilience and adaptation solutions. Climate resilience and

			adaptation solutions are defined as those that help to build individual, community or institutional capacities to: • adapt to multiple, long-term and future climate change risks • anticipate and reduce the impact of climate variability and extremes through preparedness and planning • absorb (i.e. face and manage) adverse conditions, emergencies or disasters The objective of the Fund is to test and generate insights from innovative use cases, partnerships and business models in selected geographies, in order to improve the sustainability and scalability of digital enabled solutions that make a positive impact on low-income populations and those who are most vulnerable to current or future climate risks. [Link: A, B]
11	International Climate Fund (Bilateral)	The ICF will focus on • Helping the poorest people adapt to the effects of climate change on their lives and livelihoods • Helping poor countries develop in ways that avoid or reduce harmful greenhouse gas emissions and enabling millions of people to benefit from clean energy	The UK Government has set up the International Climate Fund (ICF) to help developing countries tackle climate change and reduce poverty. We will work in partnership with developing countries to take action to reduce carbon emissions and to help people adapt to the effects of climate change. [Link]
12	Climate Resilience and Adaptation Finance and Technology	As a growth equity fund, CRAFT will invest in 10-20 companies, located in both developed and developing countries, which have	Investment is especially needed to bring existing technologies and solutions to new sectors, geographies, and users, particularly in developing

	Transfer Facility (CRAFT)	proven technologies and solutions for climate resilience and have demonstrated market demand and revenue. CRAFT will target companies in countries already experiencing substantial economic losses from climate change. The intentional inclusion of technology transfer from developed to developing countries into the fund will help build capacity in developing countries.	countries. CRAFT is the first commercial investment vehicle to focus on expanding the availability of technologies and solutions for climate adaptation and resilience. It is the first private sector climate resilience and adaptation fund for developing nations. [Link: A, B]
13	Global Cleantech Innovation Programme for SMEs (GCIP) [Not a fund, but connects investors with innovators]	GCIP nurtures early-stage SMEs developing cleantech through a comprehensive end-to-end solution of progressive business acceleration services, including (1) preaccelerator, (2) national and global accelerators, (3) advanced accelerator and (4) post-accelerator support.	GCIP facilitates SMEs financing opportunities by connecting investment-ready businesses to relevant financing partners, nationally and globally. Through collaboration with GCIP, investors gain exclusive access to credible cleantech solutions with high-impact potential. [Link: A, B]
14	Agence Française de Développement (French Development Agency) (Bilateral)	The AFD group finances, supports and accelerates transitions towards a fairer and more sustainable world. It supports India in achieving the SDGs.	AFD Group's action in the Orients aims to support low-carbon trajectories, consolidate social ties and reduce vulnerabilities, by mobilizing French and international actors. [Link]
15	Clean Investment Fund	The over \$10 billion Climate Investment Funds (CIF), established in 2008, accelerates climate action by empowering transformations through its existing programs: clean technology, energy access, climate	CIF tests new business models, builds track records in unproven markets, and boosts investor confidence to unlock additional sources of finance. CIF manages a collection of targeted programs that enable climate-smart development planning and action through 325 projects in 72 developing

		resilience, and sustainable forests in developing and middle income countries. The CIF's large-scale, low-cost, long-term financing lowers the risk and cost of climate financing.	and middle-income countries worldwide. [<u>Link</u>]
16	Asia Pacific Carbon Fund (Multi-donor)	The fund seeks to increase the number of clean energy and energy efficiency projects in ADB developing member countries (DMCs). The fund also aims to capitalize increased investments from developed countries to improve energy access in the Asia and Pacific region. The fund is targeting projects in energy efficiency, covering industrial technology, supply-side technology (e.g., upgrade of generation equipment) and public transport and vehicle efficiency, etc.	A trust fund established and managed by ADB on behalf of fund participants. It became operational in May 2007 and is part of ADB's ongoing Carbon Market Program (CMP), which provides financial and technical support for clean development mechanism (CDM) projects. It is also designed to assist the fund participants in satisfying their legally binding emission reduction commitments under the Kyoto Protocol. [Link]
17	Asia-Pacific Climate Finance Fund (ACliFF) (Multi-donor)	The proposed fund will support the development and implementation of financial risk management products as part of existing and future climate-related projects that would benefit from the provision of such products.	The Asia-Pacific Climate Finance Fund is a multi-donor trust fund established in April 2017. The objective of the fund is to support the development and implementation of financial risk management products that can help unlock capital for climate investments and improve resilience to the impact of climate change. [Link]
18	Canadian Climate Fund for the Private Sector in Asia	The fund aims to catalyze greater private investment in climate change mitigation and adaptation in Asia and the Pacific. The fund will aim to play a key role in helping to overcome leading edge technology risks and cost hurdles in order to initiate and scale-up projects to	The fund is ADB's first concessional debt co-financing facility specifically oriented to support private sector operations to combat climate change. The fund will provide fund resources—Concessional financing, co-financed with ADB resources, to select private sector projects that do not benefit from a sovereign

		reduce greenhouse gas emissions and increase climate resilience.	guarantee and require some financing on concessional terms to be viable or acceptable from a risk-reward perspective. These projects may include but are not limited to: clean energy (including renewable energy, energy efficiency and cleaner fuel) in energy sector and non-energy sector including agriculture, urban infrastructure and sustainable transportation projects. [Link]
19	Climate Change Fund	The fund provides financing through: grant component of investments, technical assistance (stand-alone and piggy-back or linked to loan), and direct charge. It has three components: (i) adaptation, (ii) clean energy development, and (iii) reduced emissions from deforestation and forest degradation, and improved land use management (REDD+ and land use).	The following types of activities may qualify for the fund's support: • Preparation of relevant strategies or action plans for DMCs • Investment in climate change mitigation or adaptation measures • Development of knowledge products and services related to climate change • Facilitating knowledge management activities, including regional conferences and workshops • Funding to off-set ADB's corporate carbon footprint
20	Urban Climate Change Resilience Trust Fund	The fund supports cities by improving urban planning, designing climate resilient infrastructure and investing in projects and people. It aims to scale up investments in urban climate change resilience (UCCR), especially for the urban poor across 25	The Trust Fund provides technical assistance and investment grant financing to projects, through the ADB Operation Departments to support climate change integration into city planning, implementation of both 'hard' (infrastructure) and 'soft' (policy or institutional) interventions and includes a strong

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		secondary cities in Asia and prioritizes in eight developing member countries (DMCs) of the ADB, including India.	knowledge component. These three components will help cities reduce the risks that rapid urbanization and climate change have on their population, particularly the urban poor. [Link]
21	Urban Environmental Infrastructure Fund (UEIF)	The UEIF aims to support pro-poor and environmentally friendly urban development, with a specific mention of urban cooling and heating services.	The Urban Environmental Infrastructure Fund (UEIF) was established in 2009 by the ADB as a trust fund, and is financially supported by Sweden. The Trust Fund provides technical assistance and investment grant financing to projects, through the ADB Operation Departments to support climate change integration into city planning, implementation of both 'hard' (infrastructure) and 'soft' (policy or institutional) interventions and includes a strong knowledge component. These three components will help cities reduce the risks that rapid urbanization and climate change have on their population, particularly the urban poor. [Link]
22	Federal Ministry for Economic Cooperation and Development (Bilateral - Germany)	Climate-change and sustainable energy related priorities are: NDC support; Energy and climate; Energy efficiency; Low-carbon transportation; Migration and climate; Cities and climate; Water and climate; Agriculture and climate; Forests and climate; Climate risk management; Climate risk insurance; Climate finance.	Priority areas of German-Indian development cooperation are renewable energy and energy efficiency, sustainable urban development, and environmental protection and resource conservation. The main focus of this cooperation is supporting climate change mitigation and adaptation. [Link]
23	Kreditanstalt für Wiederaufbau (KfW) (Bilateral)	In terms of climate change, KfW has a focus on resilience building, risk management and risk transfer (insurance),	KfW Development Bank works on behalf of the German Federal Government to implement a large

		and mitigation, ranging from low carbon infrastructure development, to renewable energies, energy efficiency and transportation.	part of Germany's contribution. From 2013 to 2018, KfW invested approximately EUR 23.6 billion in climate-related projects. Over half of its new commitments have the stated aim of climate change mitigation or adaptation. Around 75 percent of the commitments focus on climate change mitigation and 25 percent on adapting to the impacts of climate change. [Link]
24	Japan International Cooperation Agency (JICA) (Bilateral)	Climate-change related priorities of JICA are: • Promoting low-carbon climate resilient urban development and sustainable infrastructure investment (energy efficiency, transportation, resilience planning); • Enhancing comprehensive climate risk management; • Supporting climate policy and institutional development (national, subnational); • Enhancing sustainable forest and ecosystem management; • Aligning climate and development planning; • Building of partnerships and alliances.	Japan International Cooperation Agency (JICA) is a governmental agency that coordinates ODA for Japan. JICA is one of the largest bilateral development organizations, headquartered in Tokyo with 97 overseas offices and projects in more than 150 countries, and annual resources of approximately USD 8.5 billion. JICA provides ODA in the form of technical cooperation, concessional loans, grants, and contributions to multilateral organizations. Climate change has become an important pillar to JICA. [Link]
25	Foreign, Commonwealth & Development Office (Bilateral – UK)	Climate change (adaptation, mitigation, disaster risk reduction) is an important theme for DFID but does not rank amongst the top priorities. The DFID climate change programs prioritise, inter alia: • Green growth and low carbon development; • Climate adaptation; • Climate risk reduction and risk transfer, including climate risk insurance; • Sustainable infrastructure	Governmental and non- governmental entities, depending on the program or call are eligible. DFID works globally, but has a priority focus on Asia-Pacific and Africa. Pakistan, Syria, Afghanistan, Jordan, Bangladesh and Nepal, as well as Nigeria, Ethiopia, Tanzania, and Kenya, amongst others are top recipient countries. [Link]

		development; • Energy efficiency, renewable energies, and sustainable transportation.	
26	United States Agency for International Development (USAID)	Under the thematic priority of Environment and Global Climate Change, climate change is one of nine issues that covers the following specific sectors: • Adaptation; • Clean energy; Sustainable landscapes; • Mainstreaming climate change in development, food security, infrastructure and disaster preparedness planning; • Low emission development; • Tropical Forest Alliance 2020.	The United States Agency for International Development (USAID) is the U.S. governmental agency for development cooperation, founded in 1961, headquartered in Washington D.C., and spends an annual budget of about USD 27 billion. USAID aims to end extreme poverty and to enable resilient, democratic societies to realise their potential. Environment and global climate change is one of the ten thematic priorities of USAID. [Link]
27	Global Climate Resilience Partnership	The Global Climate Resilience Partnership (GCRP) was established in 2014, and aims to foster climate resilience in particularly climate vulnerable countries and regions.	GCRP is interested to support innovative and people-centred projects that can serve as good practice examples, with the potential to be scaled-up. It aims to serve as a safe space to test and scale disruptive and bold ideas. GRP surfaces and tests resilience innovations and incubates new ideas by designing and running innovation challenges and supporting peer-to-peer learning on innovation.
28	ClimateWorks Foundation/ Clean Cooling Collaborative	Among various focus areas, it specifically finances projects in the cooling space. Formerly the Kigali Cooling Efficiency Program (K-CEP), Clean Cooling Collaborative is a ClimateWorks initiative advancing efficient, climatefriendly cooling for all. It focuses on super-efficient cooling/heating appliances, passive cooling, climatefriendly refrigerants, etc.	ClimateWorks was established in 2008 as a US-based charity, aimed at responding to the challenge of climate change. Apart from providing finance, the Climate Works Foundation provides climate services to partners and funders including, climate data analysis, general picture analysis, the identification of opportunities for emission reductions and other services. [Link]

29	Ford Foundation	Natural resources and climate change is one of the eight thematic pillars of the Foundation's grants. Though in India the Foundation is not explicitly engaging in climate change related initiatives from a technology perspective, the Foundation does harness project specific finance for applicants, as per its 'Mission Investments' vertical.	The Ford Foundation was established in 1936 as a charitable foundation in the U.S. The Ford Foundation provides a total in grants of approximately USD 500 million annually. Headquartered in New York, the Ford Foundation has a number of regional offices around the globe. [Link]
30	Hewlett Foundation	The main priorities under the climate change and clean energy pillar are: • Clean power; • Sustainable low emission transport; • Energy efficiency; • Non-CO2 gases; • Forests and land use; • Finance: to increase capital investments in low-carbon technologies that promote climate solutions and incorporate climate risks into financial decision making to reflect the true costs of climate change.	The Foundation mainly supports long-term programs that focus on education, environment, global development and population. Climate change and clean energy is one of the primary environmental priorities. In December 2017, the Hewlett Foundation announced a USD 600 million commitment to tackle climate change. [Link]
31	MacArthur Foundation	It engages in programmes towards ensuring that the Earth stays well below a two-degrees Celsius temperature increase to avoid catastrophic global effects. We use our institutional voice to increase support from domestic and international funders for advancing equitable climate solutions, and we invest catalytic capital to help deploy clean energy and technology to communities that have or will be	Our grant making focuses on reducing greenhouse gas emissions (carbon dioxide, methane, etc.) from energy-related sources. There is an emphasis on strengthening support for subnational work in key cities, states, and regions across the world, with heightened attention to the United States and India. We will support equitable climate solutions by improving citizen engagement in shaping climate policy within the context of each country's politics, society, and economy. To a lesser extent, we provide seed funding to

		disproportionately impacted by the climate crisis.	innovative and/or timely approaches to advance climate solutions, including in areas of finance, governance, and philanthropy. [Link]
32	Packard Foundation	Their scope of work specifically mentions reduction of HFCs. We aim to: (1) Promote clean power alternatives that reduce reliance on coal; (2) Increase the availability of low carbon transportation options to minimize global oil consumption; (3) Increase energy efficiency across all sectors; (4) Minimize emissions from land use practices around the world by stopping deforestation and improving agricultural practices; (5) Reduce emissions of potent greenhouse gases beyond carbon dioxide alone, including black carbon, methane, and hydrofluorocarbons; (6) Identify breakthrough strategies that will change the trajectory of greenhouse gas emissions.	The David and Lucile Packard Foundation was established in 1964 as a charitable, family foundation aimed at improving the lives of children, families, and communities – and restoring and protecting Planet Earth. The Foundation mainly supports work on the following issues; fighting climate change (through conservation, policies and science), providing access to health and early learning, advancing reproductive health and rights, ocean protection, supporting local communities, empowering science, agriculture, nature protection, and organizational effectiveness. [Link]
33	Rockefeller Foundation	Within its work on climate, the Foundation mostly focuses on expanding green sources of energy. This has been listed because it is one of the major global foundations and may be considered. The main priorities with regard to climate financing are: • Smart Power for Rural Development Initiative;	The Rockefeller Foundation was established in 1913 as a charitable foundation in the US, aimed at promoting the well-being of humanity throughout the world. Headquartered in New York, the Rockefeller Foundation has a number of regional offices around the globe. Health, food, clean power, resilient cities, innovation and development co-benefits are

		 Smart Power India; Sustainable Energy for Economic Development (SEED) in Africa; 100 Resilient Cities 	the main areas for successful grants. [Link]
34	Shakti Sustainable Energy Foundation	Shakti Sustainable Energy Foundation works to facilitate India's transition to a cleaner energy future by aiding the design and implementation of policies that promote clean power, energy efficiency, sustainable transport, climate policy and clean energy finance.	Shakti Sustainable Energy Foundation was established in 2009 to support India's energy transition. It aims to promote an enabling policy framework for clean power, energy efficiency, sustainable urban transportation, and climate action. The Shakti Foundation is headquartered in New Delhi. [Link]
35	IKEA Foundation	Climate change is one of the five thematic areas of the Foundation.	The IKEA Foundation is funded by INGKA Foundation, owner of the Ingka Group of companies. The IKEA Foundation is independent from the retail business with a sole focus on creating brighter lives on a liveable planet through philanthropy and grantmaking. [Link]
36	Bloomberg Foundation	The climate-related focus of the environment program of Bloomberg Philanthropies is currently on: • Clean energy (including the global phaseout of coal, e.g. through the "Beyond Coal Campaign"); • America's Pledge (i.e. the "We are still in" campaign aimed at fulfilling the commitments of the U.S. under the Paris Agreement); • Sustainable cities (e.g. the C40 Cities Climate Leadership Group with more than 90 cities as members); • 50 Reefs (a program to identify and protect resilient reefs from climate-induced extermination).	Bloomberg Philanthropies supports cities around the world as they work to promote climate action, sustainability, resilience, and equity in the fight against climate change. [Link]
37	Grantham Foundation	The Foundation seeks to bridge the gap between innovation and	Both environmental advocacy and applied research into climate

		commercialization of new technologies. Along with environmental philanthropy, it makes investments in entrepreneurs and firms building green industries and systems.	solutions are vital and rely mainly on philanthropic and governmental funding. The Foundation make grants to journalists, NGOs, and scientists to drive advocacy and research. [Link]
38	European Climate Foundation	Helping fund the clean energy transition.	The European Climate Foundation is dedicated to responding to the global climate crisis by creating a net-zero greenhouse gas emissions society. Over 80% of the ECF funding goes directly into grants to partners, such as the Shakti Foundation. [Link]

Sources: Author's compilation