



VASUDHA
FOUNDATION
Green ways for a good earth!



2022-23 ANNUAL REPORT





Vasudha Foundation is a non-profit organisation set up in 2010, with the belief in the conservation of Vasudha, which in Sanskrit means the Earth, the giver of wealth and with the objective of promoting sustainable consumption of its bounties.

ABOUT THE ORGANISATION

Vasudha Foundation is one of the prominent CSO/Think Tanks with the mission to conserve Vasudha through innovative approaches that can ensure a sustainable and inclusive future for India and Mother Earth. Vasudha Foundation approach is largely data driven analysis, creation of data repositories with cross sectoral analysis, along with outreach to ensure resource conservation with the ultimate objective of conserving Mother Earth.



VISION

We believe in the conservation of Vasudha, which in Sanskrit means the Earth, the giver of wealth, with the objective of promoting sustainable consumption of its bounties.



MISSION

We promote environment-friendly, socially just and sustainable models of energy by focusing on renewable energy and energy efficient technologies as well as lifestyle solutions.

AREAS OF WORK



Access to Clean Energy and Creation of Livelihoods through Clean Energy Applications

Vasudha Foundation is engaged in ensuring access to clean, sustainable, affordable, 24x7 energy for all and works in collaboration with various agencies to develop models and pilots for rural energy access with an aim to address livelihood enhancement and income creation in rural areas.

Renewable Energy and Power Sector – Energy Transition

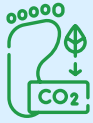
Vasudha's Energy Transition team is primarily focused on assisting India's clean energy transition by developing data repositories and conducting data-driven analysis to ensure that all stakeholders are on board with the country's clean energy transition. The team also assesses potential or possible barriers to scaling up clean energy solutions and reforming India's power sector, as well as proposes potential solutions to address the perceived barriers, through its in-depth analysis.

The energy transition team has also focused on highlighting cross-sectoral issues that have an impact on India's power sector, particularly those related to water, land, environment, and air quality.

The organisation has already built a large data repository that is housed in an exclusive website that allows easy access to data and analysis without any paywalls, which will aid in attracting a wide range of stakeholders to participate and actively engage in India's clean energy transition.



Low Carbon Pathways and Climate Policy



The Climate team engages actively with policymakers, researchers and others stakeholders at the state and national level with robust qualitative and quantitative research and analysis to ensure mainstreaming climate concerns and sustainable development goals into development planning. The climate team works with the energy transition team to develop cross-sectoral and sector specific solutions to mainstream climate and sustainable development goals.

Sustainable Transport Solutions



The sustainable transport solutions team sits with the climate and energy transition team and is engaged in promoting the policies of the Government of India to scale up electric mobility, public transportation and non-motorised transportation across the length and breadth of India. The team is currently engaged in mapping barriers towards achieving the set target of 30% electric mobility by 2030 to ensure the target achievement.

Climate Finance



The climate finance team works on the premise that finances are key to energy transition and this requires a combination of domestic financing as well as international financing. The Climate finance team is also tracking domestic financial flows and investments into clean energy solutions in India.

Climate Resilience



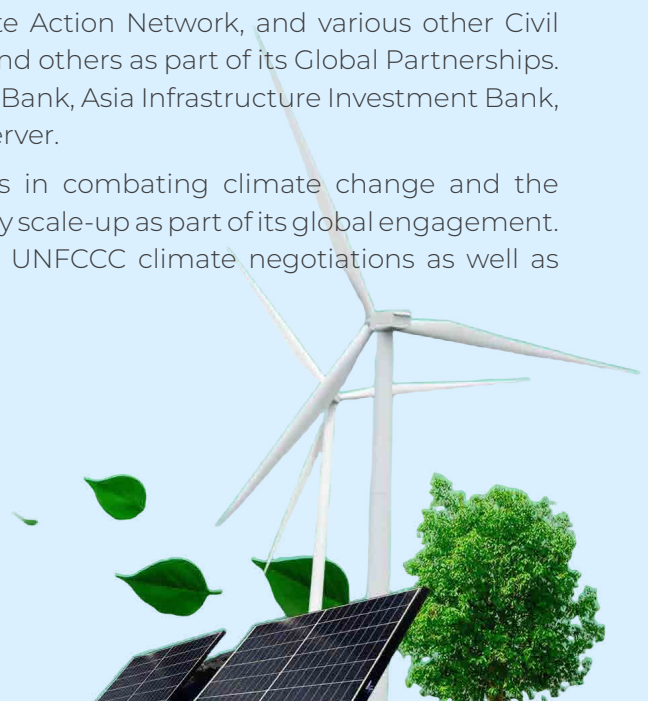
The work primarily engages with communities, particularly the farming communities in key states in promoting low water use cropping in India. The team also works with communities in minimising crop burning through alternate solutions of using crop waste.

Global Partnerships (Cross-cutting)



Global Partnerships, as a cross-cutting project, entails proactively engaging with various global platforms on climate and clean energy solutions. Vasudha Foundation is a member of the IRENA Coalition of Action, The Climate Action Network, and various other Civil Society platforms such as Civil 20, BRICS 20, and others as part of its Global Partnerships. Vasudha Foundation is also a UNFCCC, World Bank, Asia Infrastructure Investment Bank, and New Development Bank accredited observer.

The team is also showcasing India's actions in combating climate change and the leadership role it is playing in renewable energy scale-up as part of its global engagement. The global engagement also keeps track of UNFCCC climate negotiations as well as international financial flows.



MESSAGE FROM THE CEO

In terms of organisational growth, partnerships formed, and the successful completion of some of our major projects, the years 2021-22 have been very eventful for us at Vasudha Foundation.

We were able to successfully complete the preparation of District Climate Action Plans for the districts of Rajkot, Ahmedabad, Bhopal, Indore, Pune, and Nagpur on a programmatic level. These plans are the first of their kind to be developed at the district level, and they cover both rural and urban areas throughout the district. In February 2022, Gujarat's Chief Minister, Shri. Bhupendrabhai Patel, along with senior ministers in his cabinet and other prominent figures, released the District Action Plans for Rajkot and Ahmedabad.

In early February 2022, we had another opportunity to present the District Action Plans for Pune and Nagpur to Maharashtra Environment Minister Shri. Aditya Thackeray. While the senior officials from the Madhya Pradesh State Nodal Agency for Climate Change released Climate Action Plans for the districts of Bhopal and Indore.

On the power sector vertical, our team completed the development of a very comprehensive database for the Power Sector Value Chain, which was housed in an exclusive web portal, <https://vasudhapower.in>, that was launched in October 2021 by Shri. Amitabh Kant, the Chief Executive Officer of Niti Aayog.

On the partnership front, I am delighted to inform you that Vasudha Foundation has entered into a formal collaboration with NITI Aayog to build, curate, and manage NITI Aayog's India Climate and Energy Dashboard, as well as to collaborate with them in developing India's 2070 Net Zero Pathway.

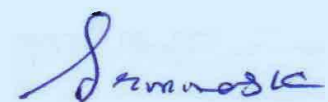
We also signed a Memorandum of Understanding with the Telangana State Renewable Energy Development Corporation Limited to collaborate on developing value products that will help the state of Telangana scale up renewable energy installation and generation.

Furthermore, our partnership with the Indian Wind Turbine Manufacturers Association allows us to work closely with the Indian Wind Industry in developing policy briefs that could help the industry play a key role in India's journey to Net Zero by 2070.

On the organisational front, I am pleased to inform you that our organisation has grown in strength, with the addition of a number of new experts to our ranks. We believe in building a strong community of professionals from various backgrounds, and we now have a team of 40 people, up from 20 in the previous financial year.

Last but not least, we are ecstatic to welcome Shri. A R Nambi, Director of Climate Resilience Practice, World Resources Institute, India, to our board of directors. We are confident that with Shri. Nambi's addition to our board, the development of our work stream on "climate resilience, adaptation, and land use" will be greatly aided.

We are now preparing for what we believe will be an exciting and eventful 2022-23.



Bangalore/New Delhi
July, 2023

Srinivas Krishnaswamy
CEO, Vasudha Foundation



All-Staff Retreat 2022, Dausa, Rajasthan

2nd to 5th May, 2022

Vasudha Foundation's first all-staff retreat was held at Umaid Lake Palace, Dausa. The retreat brought together the teams from Delhi and Bangalore for three days of leisure and team building activities. Vasudha staff was joined by Svarya team to facilitate the development of team strategy and business plan. Day 1 & 2 had interesting team building sessions and exploring new opportunities, where the teams also shared their ongoing projects and exchanged ideas. On Day 3, the team leads and senior management discussed the outcomes and way forward, which was followed by an evening of fun activities with Jungle Safari at Rantambore National Park and shopping at Jaipur. The retreat was a great success and gave everyone an opportunity to bond and collaborate more closely.

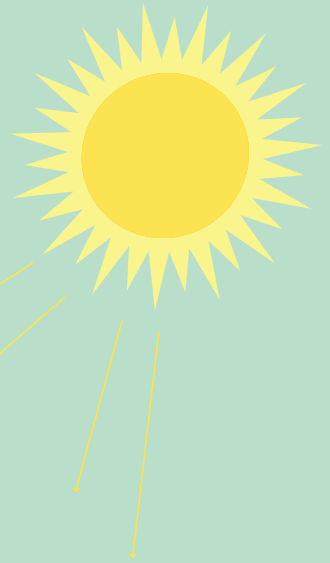


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ENERGY TRANSITION



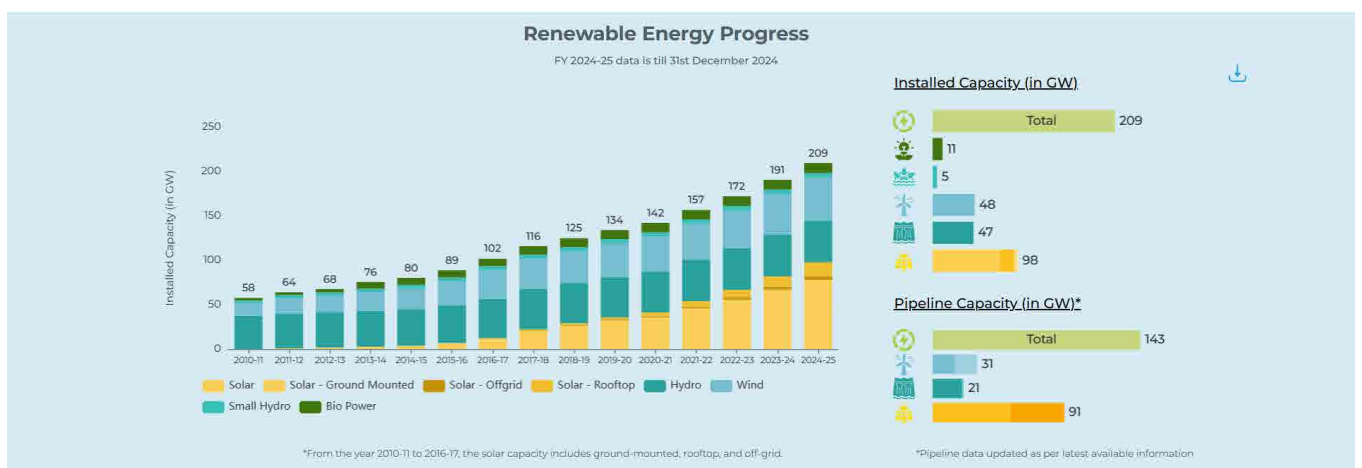
India Climate and Energy Dashboard

This one-of-a-kind, user-friendly public platform which integrates comprehensive, granular, historical, and near real-time climate and energy data to provide single window access to its users. The dashboard captures data across Climate, Energy and allied Economy datasets. Multiple ministries and departments, such as the Ministry of Power (MOP), Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Statistics and Programme Implementation (MoSPI), Ministry of Petroleum and Natural Gas (MoPNG), joined hands to furnish the dashboard with valuable data.

ICED captures data not just at the national level but further provides granular data at the sub-national, district and even city level in some cases. It further weaves data from more than 800 power plant units, over 500 tariff orders, 400+ weather monitoring stations, 700+ air quality monitoring stations and hundreds of reports and websites all aggregated to deliver numerous infographics, analysis and insights on India's decarbonization journey.

ICED stands as a testament to India's determination to embrace a greener future. We hope it can become an indispensable data-to-everything platform, driving informed decisions and spearheading India's decarbonization efforts.

The dashboard can be accessed at iced.niti.gov.in



India's Power Outlook Series

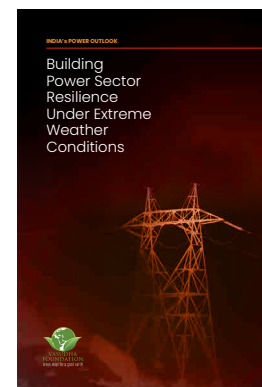
India's Power Sector has been constantly evolving and rapidly transitioning over the last few years, with several new developments in its policies, regulations and programmes. In 2018, Vasudha conceptualised the India Power Outlook Series to analyse key trends and transitions shaping our power and energy sector and further focuses on significant and emerging new policies and programmes governing them. The intent is to develop a more informed understanding of the transitions in the energy sector and enhance constructive discourse amongst various stakeholders.

By the end of the 2022-23, a series of eight volumes have been released. Each of the volumes cover various thematic areas within the power and energy space. This year volumes 6, 7 and 8 were released:

Volume 6 provides a detailed analysis of a few key central-level policies, schemes, guidelines, and standards released in the last two to three years that is expected to have a significant impact on India's pathway to meet its Net-Zero targets.

Volume 7 conducts a thorough assessment of the rise in extreme weather events and its possible impacts on the power sector value chain.

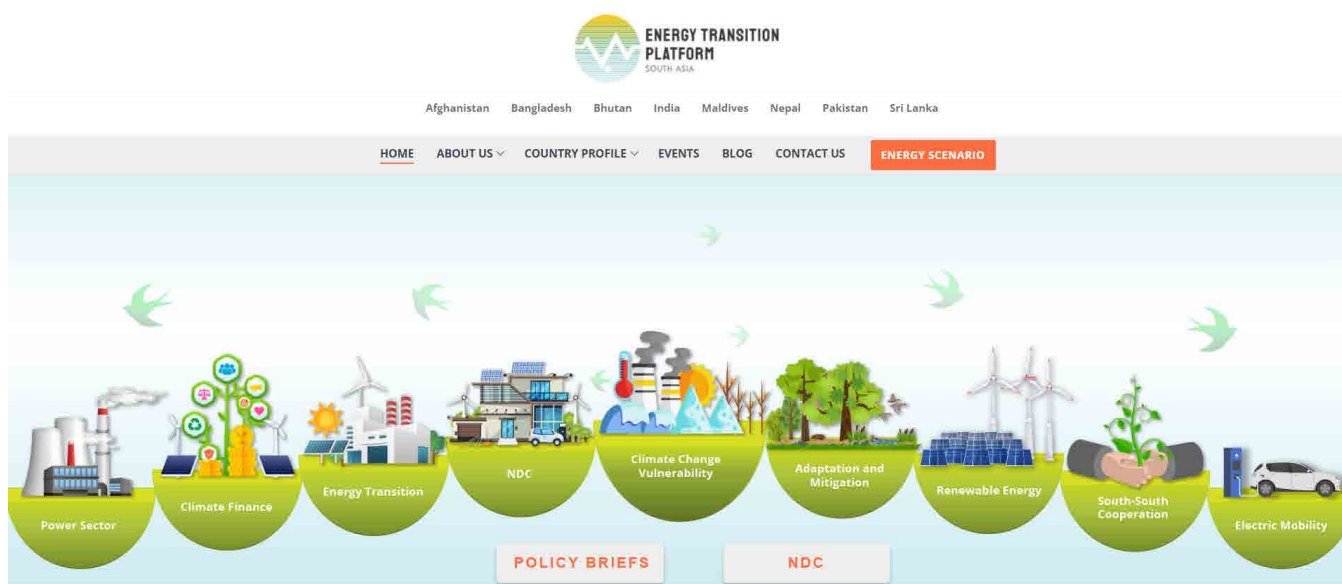
Volume 8 comprehensively captures the key transitions and developments of the energy sector in the last decade.



Energy Transition Platform, South Asia

The Energy Transition Platform (ETP) aims to bring together a cohort of sustainable energy practitioners across the countries in South Asia. ETP is a multi-country platform that brings together energy practitioners and select Civil Society Organisations (CSOs) working in the energy domains for the South Asian countries.

Since its inception in 2018, ETP has been tracking energy transitions in these countries through a comprehensive repository of information on energy scenarios across the countries. The platform provides an assessment of changes in electricity consumption patterns due to COVID-19, the impacts of COVID-19 and changes in electricity and energy consumption patterns on air quality.



The overall objective of ETP is to take forward the mandate of the Energy Transition Platform to fast-track energy transition in the respective countries through the collaborative work of all partners.

Facilitating and Providing Technical Support for RE Scale Up in Uttar Pradesh | UPNEDA

Vasudha Foundation has signed a Memorandum of Understanding (MoU) with the Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) with an intent to provide technical and knowledge support to UPNEDA in scaling up renewable energy installations in the state. As part of this programme, Vasudha Foundation made critical inputs to the recently announced 2022 Solar Policy of the state. Further, Vasudha Foundation has also embarked on mapping the potential for installation of solar rooftop across the key cities of Uttar Pradesh, keeping in view the 2022 Solar Policy that aims at 6000 MW of solar rooftop installations by 2026-27. Vasudha Foundation is also working with UPNEDA in developing the Green Hydrogen Policy and the Pumped Storage Policy for the state. Using GIS tools, Vasudha has conducted an initial evaluation of the potential for pumped storage in Uttar Pradesh and identified several sites that have negligible impact on the environment, society, and economy.

As part of the multiple-year MoU with UPNEDA, Vasudha Foundation will also develop multiple knowledge products for the agency with the view to scale up renewable energy, pumped storage, and other green energy solutions within the state.

Support UPNEDA in the development of Green Hydrogen Policy

Green hydrogen, both as a pristine energy molecule and a crucial industrial feedstock, plays a pivotal role in realizing a net-zero future. Presently, green hydrogen holds a higher cost in comparison to grey hydrogen, which is derived from natural gas through steam methane reforming. However, the landscape of markets and policy framework, though in its early stages, is rapidly evolving, thereby stimulating the growth of green hydrogen demand across various sectors.

In order to cultivate the expansion of green hydrogen markets, UPNEDA has taken proactive measures by formulating a dedicated green hydrogen policy. Vasudha Foundation has actively contributed to UPNEDA's endeavors, culminating in the publication of a preliminary draft of the green hydrogen policy in October 2022.

Support UPNEDA in the development of Solar Policy

Conducting an in-depth assessment of solar policies and regulations across all states, Vasudha Foundation created an all-encompassing comparative tool. This instrumental tool played a pivotal role in offering cohesive suggestions to UPNEDA for the enhancement of their solar policy framework. Our consistent efforts led to the introduction of the revised solar policy, known as UP Solar Policy 2022, which was officially unveiled in November 2022.

Ayodhya: Pioneering Solar Energy Progress under UP Solar Policy 2022

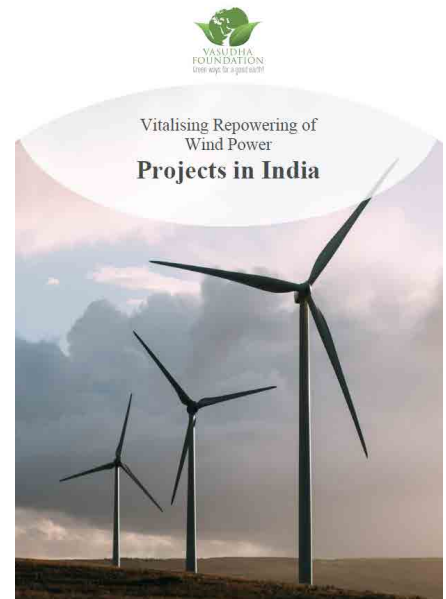
The Uttar Pradesh Solar Energy Policy 2022 outlines a target of achieving a solar installed capacity of 22,000 MW by 2027, with 6,000 MW specifically allocated for grid-connected rooftop solar installations. In alignment with this policy, Ayodhya has been designated as a model solar city. The policy's core objectives revolve around ensuring a dependable power supply for the residents of Uttar Pradesh, diminishing reliance on fossil fuels, and advancing the utilization of renewable energy sources.



Briefing Paper | Vitalising Repowering of Wind Power Projects (WPPs) in India

This paper examines the WPPs funded by the Government of India since 1986. It aims to analyse projects across 40 locations on parameters like number of turbines, the capacity of turbines, make and model, year of commissioning/age of the plant, etc. It examines the state-level wind policies in order to assess the impact of various interventions to promote repowering of WPPs.

India has set an ambitious target of 500 GW of non-fossil fuel capacity by 2030, aiming to leverage its massive renewable energy (RE) resources. The Central Electricity Authority's Report on Optimal Generation Capacity Mix for 2029-30 is expected to guide capacity bifurcation. This paper highlights that wind energy, one of the country's oldest and most developed renewable energy technologies, is expected to contribute 140 GW to this goal.

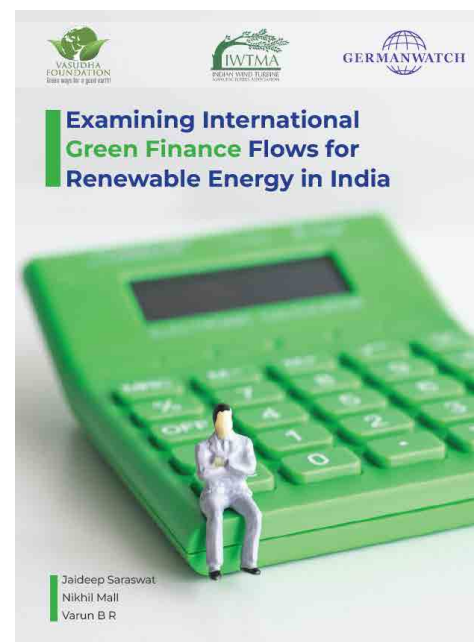


Briefing Paper | Examining International Green Finance Flows for Renewable Energy in India

Vasudha's Briefing Paper, 'Examining International Green Finance Flows for Renewable Energy in India' discusses the state of green finance in India. It examines the international aid for Renewable Energy (RE) while diving deeper into India's partnership initiatives with the world, the international finance trends for renewable energy in India such as major investments and year-wise investments.

It then highlights the quantum of international finance provided for various RE technologies while highlighting the challenges and opportunities for the sector.

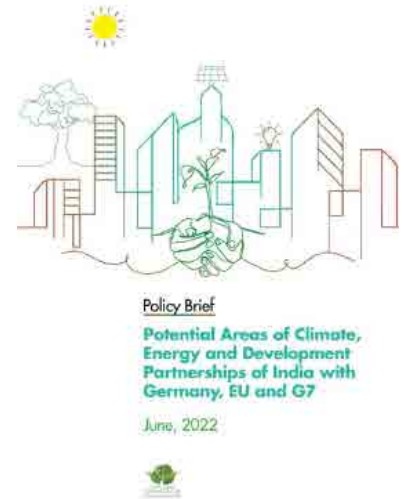
The briefing paper finally posits some key recommendations in regards to policy and regulatory interventions, investor-level interventions as well as enabling interventions.



Facilitating partnerships between India and Germany/EU/G7 Countries on Energy Transition and Climate Ambition and Workshop Series to enhance dialogue on climate action as a part of G20 and C20

Vasudha Foundation was supported by GermanWatch to develop a strategic civil society perspective towards a strong bilateral climate partnership between India and the EU/Germany. Specifically, the project aimed to bring together civil society groups from India, the EU and other key stakeholders to discuss and deliberate on key issues such as climate action and focusing on possible areas of partnership between EU/Germany/G7 to support India in its energy transition journey.

Some of the key deliverables of the project include the development of a Policy Note on 'Potential Areas of Climate, Energy and Development Partnerships of India with Germany/European Union/G7'; organising discussions/round tables to bring together Civil Society Groups and Think Tanks to deliberate and discuss on possible areas of cooperation for India's Energy Transition Journey. Further, the project also entailed bilateral discussions with various key international stakeholders who are engaged in the development of energy transition and climate partnerships between Germany/European Union and India with the intent to provide inputs, particularly to policymakers of Germany in their efforts to develop cooperation agreements with India in the clean energy and climate space.



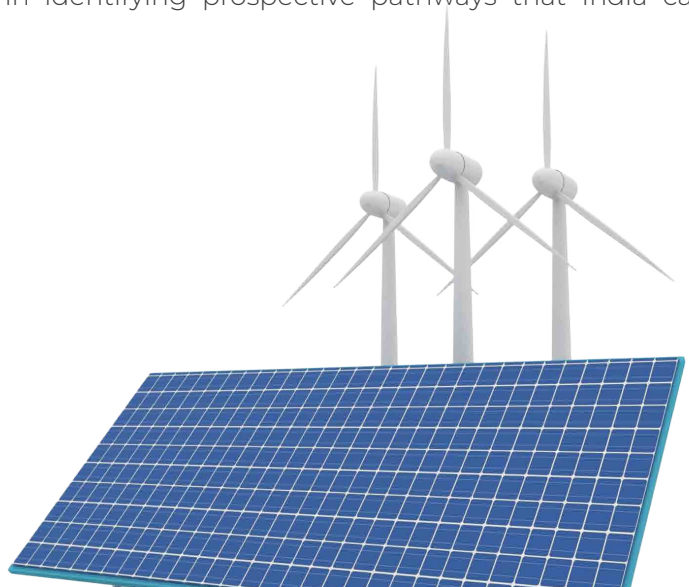
Monthly Series on India's Energy Overview

This comprehensive monthly report encompasses an overview of India's total energy usage and transition, including electricity, natural gas, oil, coal, and renewables. The report highlights the distribution of energy sources and tracks the production and utilisation of renewable energy. The analysis and trends covered in the report encompass details on electricity generation and consumption, peak demand patterns, electric vehicle progress, various fossil fuels, their production and consumption in the country, and more. It also presents recent interventions and major highlights toward increasing green energy integration into the system. The monthly report employs data visualisation to enhance understanding. Ultimately, it serves as a valuable tool for informed decision-making and the formulation of sustainable energy strategies.



Project Management Unit at Niti Aayog

Vasudha Foundation has established a Project Management Unit (PMU) within NITI Aayog, aimed at facilitating the creation of knowledge and information to formulate India's short-term, medium-term, and long-term low-carbon strategies. The PMU is collaborating closely with the government's think tank to provide technical and analytical support to develop sectoral and economy-wide low-carbon roadmaps/scenarios. These insights will assist in identifying prospective pathways that India can embrace to realise its Net Zero 2070 goal.



CLIMATE ACTION



Subnational Climate Action in Uttar Pradesh: Supporting the Department of Environment, Forest and Climate Change (DoEFCC), Government of Uttar Pradesh

Vasudha Foundation has a strategic partnership with the Department of Environment, Forest and Climate Change (DoEFCC), Government of Uttar Pradesh to support the department on a wide-range of sub-national climate action. As part of this work package, Vasudha Foundation is developing Climate Action Plans for districts, cities, and gram panchayats and in the later phase would also be developing the Net Zero Pathway for the state of Uttar Pradesh.

Climate Action Plans are in progress for the districts of Chitrakoot and Gautam Buddha Nagar, and for Ayodhya City. Further, Climate Smart Action Plans are also being prepared for 39 Gram Panchayats selected from 39 vulnerable districts of UP. These tailored action plans for the sub-national entities aim to reduce emissions, build resilience, leverage local resources, and engage communities for effective climate action.

Extensive data collection efforts were undertaken from primary and secondary sources to develop the action plans. For Gram Panchayats, Vasudha Foundation partnered with grassroots organisations to conduct detailed surveys and focus group discussions. Additionally, stakeholder consultations were also organised with field partners, Gram Pradhans and Panchayat secretaries. For District and City Action plans, meetings and stakeholder consultation sessions were held with key officials, including District Collectors, Chief Development Officers, and other line departments, requesting their support and coordination in formulating the plans and data provision.



Further, Vasudha Foundation also provides technical support to the Department of Environment, Forest and Climate Change (DoEFCC), Government of Uttar Pradesh in a wide range of activities, like developing frameworks, giving inputs on policy documents, knowledge material for events/workshops and other knowledge products. Vasudha Foundation supported the DoEFCC in organising the 'side event' at the India Pavilion during the UNFCCC COP27, Sharm-El-Sheikh, Egypt. Details given in the "COP27 section".

Developing a Carbon Neutral Pathway for Kerala

Vasudha Foundation has signed an MoU with the Directorate of Environment & Climate Change (DoECC), Government of Kerala, to develop a carbon neutral pathway and a detailed Greenhouse Gas (GHG) inventory for the state of Kerala.



Kerala carbon neutrality plan: Vasudha Foundation in collaboration with the Directorate of Environment and Climate Change, Government of Kerala is preparing the carbon neutrality plan for Kerala with a target year of 2050. This comprehensive plan will involve a thorough evaluation of current emissions, the establishment of ambitious carbon neutrality objectives with interim milestones, and the promotion of renewable energy integration within the state's energy portfolio. In addition to analysing past carbon emission inventories, Vasudha Foundation is also undertaking a sectoral bottom-up energy system modelling exercise aimed to develop carbon-neutral scenarios for the state. These scenarios will support the state policy makers to make informed decisions, identify synergies and trade-offs between sectors, and develop effective strategies to mitigate climate change while promoting sustainable development.

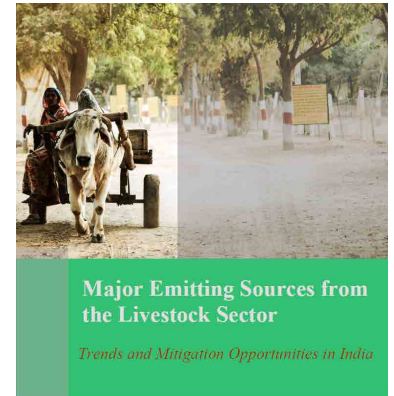
Greenhouse Gas (GHG) Inventory for Kerala: The GHG emissions for the state is estimated from 2005 to 2021 (year-on-year) accounting for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emissions. Sub-sectoral and category level emissions are estimated across four sectors, namely, Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry & Other Land Use (AFOLU), and Waste, as per the Intergovernmental Panel on Climate Change (IPCC) guidelines. For this work, Vasudha team has held meetings with line departments and relevant stakeholders to overcome data gaps and refine the draft estimates.

In the upcoming phase of the project, the Vasudha team will be finalising the inventory and seeking approval from the DoECC on the same. This will be followed by developing a GHG dashboard/portal for Kerala to house the activity data, templates and GHG estimates.

Briefing Paper | Major Emitting Sources from the Livestock Sector: Trends and Mitigation Opportunities in India

The Agriculture, Forestry and Other Land Use (AFOLU) sector comprises of greenhouse gas (GHG) emissions from agriculture practices, livestock, and changes in forest and land use. GHG emissions from the livestock sub-sector include emissions due to enteric fermentation in herbivores and manure management practices.

Between 2012 and 2019, GHG emissions from livestock sub-sector grew at a (CAGR) of 0.05 per cent. Projections indicate livestock emissions to be approximately 223.27 million tonnes CO₂e by 2030. Various factors such as flock size, weight of animal, diet, manure management practices and topography influence GHG emissions from the sub-sector. This paper studies the emission trends and projections up to 2030 in the livestock sub-sector as well as suggests the best practices which can support mitigation of GHG emissions from the livestock sub-sector.



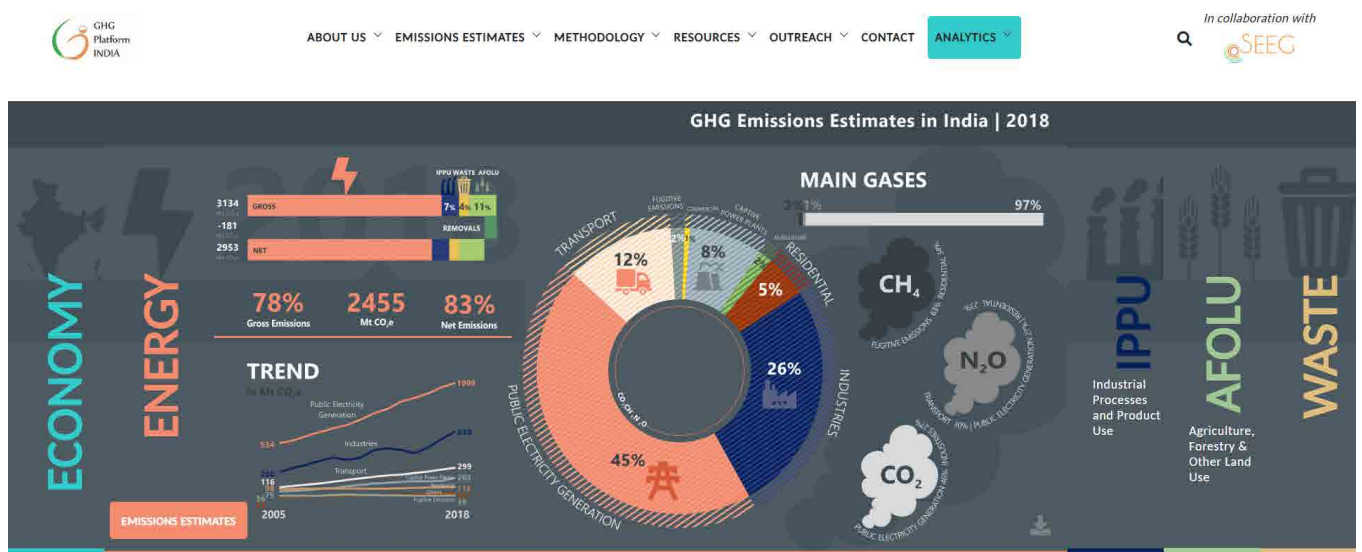
Authors: Shivika Solanki,
Monika Chakraborty,
Vrinda Vijayan, and
Rini Dutt



GHG Platform India

Vasudha Foundation conceptualised the setting up of the GHG Platform – India (GHGPI) along with other civil society organisations. GHGPI is a collective civil society initiative providing independent estimates of year-on-year greenhouse gas emissions at national and sub-national levels. These assessments account emissions from CO₂, CH₄ and N₂O along with analysis of key sectors including Energy, Waste, Industry, and AFOLU. The GHGPI is supported by partner organisations such as the Council on Energy, Environment and Water (CEEW), the Center for Study of Science, Technology and Policy (CSTEP), ICLEI Local Governments for Sustainability-South Asia, and International Maize and Wheat Improvement Center (CIMMYT) in collaboration with SEEG.

Since its inception in 2015, the GHG Platform-India has calculated greenhouse gas emissions for India and its states. The latest phase, Phase IV, of the Platform, estimates emissions from 2005 to 2018 (year-on-year). This estimation covers all major emitting sectors and sub-sectors, following the methodology of the Inter-Governmental Panel on Climate Change (IPCC). The successful launch of GHGPI Phase IV took place in September 2022. The efforts of the GHG Platform have gained recognition from the Government of India in its biannual submissions (in both BUR II and BUR III) to the United Nations Framework Convention on Climate Change (UNFCCC).



Access: GHG Platform India

Contribution to Climate Resilient City Action Plans of Jammu and Srinagar Cities

Vasudha Foundation in collaboration with UNDP and Taru Leading Edge supported the Union Territory of Jammu and Kashmir towards developing the Climate Resilient City Action Plans for the cities of Jammu and Srinagar. Vasudha Foundation developed the baseline emissions inventory for the cities of Jammu and Srinagar. The inventory captures all major emitting sources across key sectors and sinks for both cities. Vasudha Foundation also developed the BAU future emission trends, assessing the potential to reduce emissions and proposed recommendations for the same. In January and March of 2023, two workshops were organised in Jammu and Srinagar cities respectively. This enabled enhancing the on-ground understanding of Jammu and Srinagar cities and refining the emission estimates and city-specific recommendations.



Development of Climate Smart Panchayat Plans, District Climate and Environment Action Plans, and Climate Smart City Plans for Select Panchayats/Districts and Cities in Tamil Nadu (Phase 2)

Further and a very recent development, Vasudha Foundation is in the final stages of signing an MoU with the Department of Environment, Forests and Climate Change, Government of Tamil Nadu and the Tamil Nadu Green Climate Company, a company formed as a subsidiary of the Department of Environment, Forests and Climate Change. The MoU envisages the preparation of climate smart district plans for four districts, namely, Nilgiris, Coimbatore, Viruddhanagar and Ramanthapuram.



Short-lived Climate Pollutants (SLCP)

Short-lived Climate Pollutants (SLCP), as the name suggests, are harmful gases/chemicals that remain in the atmosphere for a relatively shorter time, but have a significantly higher global warming potential, in comparison to carbon dioxide. It is estimated that up to 45 percent of the current global warming is attributed to SLCPs. Additionally, SLCPs contributing to indoor and outdoor air pollution are largely to blame for major health hazards and subsequent premature deaths. There is scope and need for more impactful measures to be operationalised. A plethora of research worldwide is being carried out in the field of identification and assessment of air pollutants, adaptation strategies, and mitigation measures to curb pollution.

As a strategic partner in the project, Vasudha Foundation will develop an online tracking tool for SLCP monitoring through three key activities – creating a data repository encompassing empirical data and high-resolution satellite images, developing a deep-learning model for quantifying SLCP emissions, and identifying sector-specific technologies and mitigation options. The project also has partner organisations, Environmental Management and Policy Research Institute (EMPRI) and The Energy and Resources Institute (TERI). The partner organisations have their own objectives and milestones contributing to the broad objective of addressing SLCP emissions.



SUSTAINABILITY SOLUTIONS



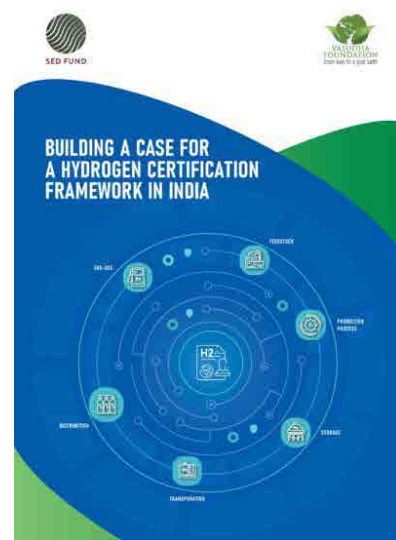
Electric Vehicle Policy Implementation Support to the Directorate of Housing and Urban Development, Government of Madhya Pradesh

Vasudha Foundation is engaged with the Environmental Planning and Coordination Organisation (EPCO), the Nodal Agency for Climate Change, Government of Madhya Pradesh, and the Directorate of Housing and Urban Development, Government of Madhya Pradesh to provide technical support to the said agencies in the implementation of the MP Electric Vehicle (EV) Policy 2019. The initiative involves activities such as policy revision, development of a state EV portal, and implementation of a consumer awareness strategy, with the aim of positioning Madhya Pradesh as a front-runner in the EV space. This initiative is a recent addition to our portfolio, the work has begun in March 2023.

Building a Case for a Hydrogen Certification Framework in India

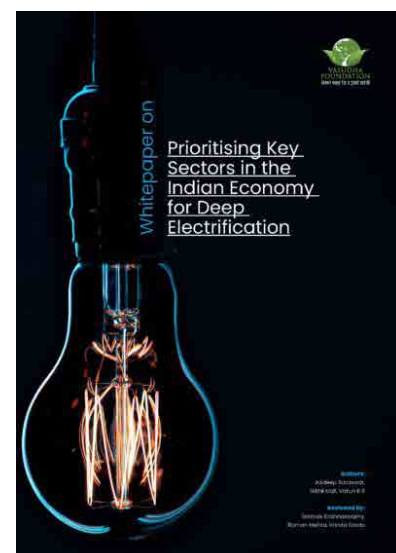
Vasudha Foundation has initiated a project to encourage the certification of green hydrogen in India, which includes reviewing case studies from around the world and conducting stakeholder consultations. The project involves developing a whitepaper to document the process and outcomes, as well as hosting a convening for policymakers to share the findings. In the subsequent phase, the organisation intends to collaborate with all key stakeholders in the hydrogen value chain to conduct a pilot project and gather essential recommendations for developing the framework optimised for India.

India's energy transition is viewed with keen interest globally. It has witnessed high economic growth over the past two decades, and the energy demand is further expected to soar to be the highest in the world in the coming decades. Thus, India's net zero pathway encompasses green hydrogen as a critical vector to sustainably support its low-carbon energy needs. Given, the huge potential to become a major hydrogen exporter, whilst securing energy independence, there is an urgent need to secure mechanisms to foster a strong hydrogen market in India.



Whitepaper on Prioritising Key Sectors in the Indian Economy for Deep Electrification

The Deep Electrification Project is an ongoing initiative of Vasudha Foundation in partnership with SED Fund to create a forum of experts and practitioners with the aim to electrify other energy uses, focusing on the transport and cooking sectors in the first phase of the project (ongoing) and industrial decarbonisation focusing on fertiliser, cement, and textiles sectors in the second phase (starting from June 2023). The objective of first phase of this initiative is also aimed at determining potential methods for achieving deep electrification across various sectors and evaluating the electricity demand for several scenarios leading to a developed economy that is both energy-secure and net-zero by 2070. This programme is in line with the Government of India's "Go Electric Campaign".



At the COP26 conference held in Glasgow, India committed to reducing the Greenhouse Gas (GHG) emission intensity of its Gross Domestic Product (GDP) by 45 percent below 2005 levels by 2030. It aims to achieve the net-zero target by 2070. Several econometric studies have established that energy usage by a country has a positive correlation with its GDP. As a developing economy, India will have to strike a balance between registering continuous GDP growth and decarbonisation of its energy and other energy-intensive sectors. It necessitates enhancing resource efficiency and exploring new clean technologies to meet future energy demand.

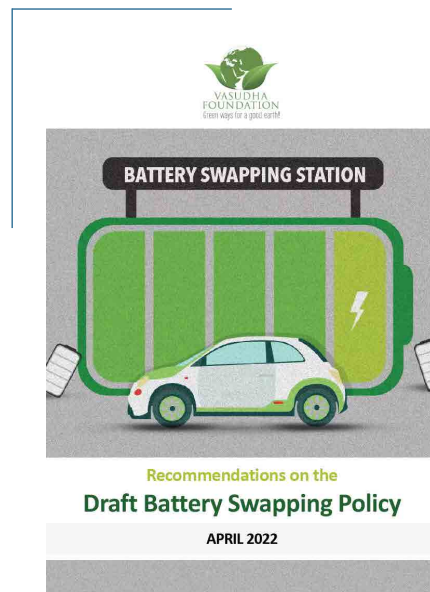
Recommendations on the Draft Battery Swapping Policy

With growing demand of fast charging in EV sector, the Government of India (GOI) expressed interest in battery swapping technology in the FY 2022-23 budget session. Following this, a draft battery swapping policy was released on April 20, 2022.

It is a holistic policy that aims to catalyse the large-scale adoption of EVs by ensuring efficient and effective use of scarce resources like public funds, land, and raw materials for advanced cell batteries for delivery of customer-centric services. The policy is battery technology- and business model-agnostic and is applicable for all Advanced Chemistry Cells (ACCs).

The draft policy also aims to streamline technical and operational requirements to provide impetus to the battery swapping ecosystem. It also talks about the provision of direct and indirect financial incentives to various stakeholders to promote battery swapping. Reuse and recycling of batteries after first life and end-of-life have also been considered in the policy.

Finally, there is an institutional framework put in place to ensure smooth implementation of the policy.



Climate, Environment, Development Platform (CEDP)

Climate, Environment, Development Platform (CEDP) is developed by Vasudha Foundation with support from Oak Foundation. The key purpose of the platform is to bring together grassroots voices in India to engage constructively with state and district administration on mainstreaming climate concerns into



CEDP Workshop in Madhya Pradesh



CEDP Workshop in Gujarat



CEDP Workshop in Nagpur



CEDP Workshop in Pune

development planning and implementation. The ultimate goal of the platform is to ensure that through active and robust civil society participation and engagements, various states embark on a pathway to decarbonise the major greenhouse gas emitting sectors of their respective economies and synchronise their climate actions to India's Nationally Determined Contributions (NDCs), both the existing as well as future NDCs. Post the formal launch of the CEDP in 2017-18, a number of civil society groups particularly working in the states, districts and at the community level were brought onto the CEDP, primarily from the states of Uttar Pradesh, Tamil Nadu, Telangana, Andhra Pradesh, Jharkhand to name a few.

Working towards further strengthening the participation of CSOs in development planning, Vasudha Foundation organised meetings in the states of Gujarat, Madhya Pradesh and Maharashtra to enhance the reach of CEDP. These meetings helped to add more members to the platform and understand the regional issues, challenges and opportunities in advancing climate action.

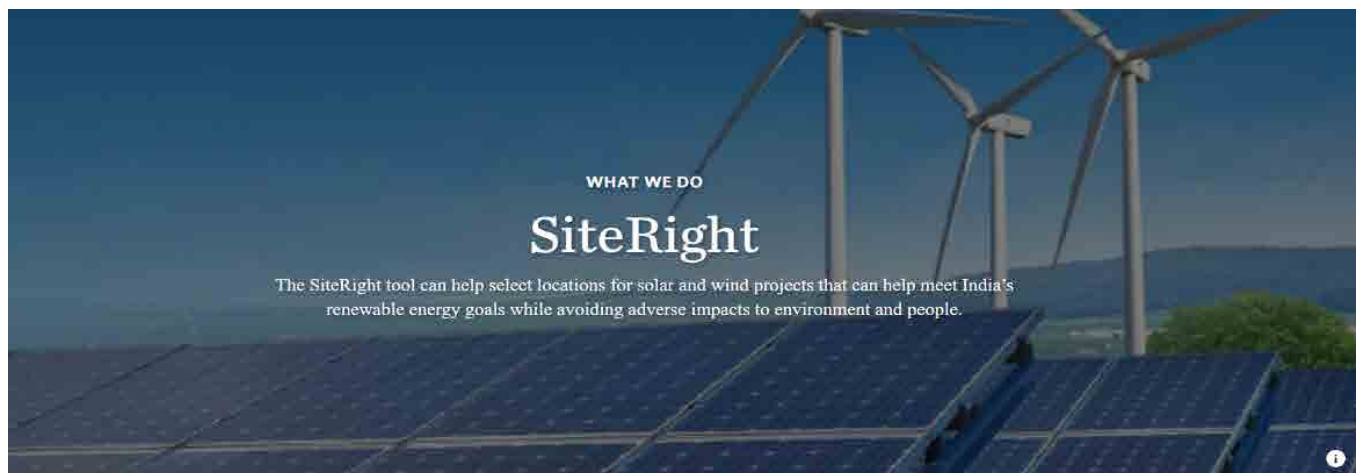
SiteRight Tool | The Nature Conservancy, India

Renewable Energy (RE) projects are required to be sited responsibly and smartly to avoid land conflicts, associated project delays, higher risks, and costs. The Nature Conservancy (TNC), Vasudha Foundation, Centre for Science, Technology, and Policy (CSTEP), and Foundation for Ecological Security (FES) have collaborated to create a tool—SiteRight—to support decision makers make better siting choices.

The SiteRight tool identifies areas where solar and wind development is less likely to encounter socio-ecological conflicts, thereby helping to reduce project delays and cost overruns.

SiteRight uses the best available information to support early screening and inform siting decisions. It is one of the sources of information which might be considered while taking siting decisions. The tool is NOT intended to replace the need for a site-level assessment of impacts or consult relevant agencies before making siting decisions.

In the year 2022-23, extensive outreach activities were undertaken by the team in the state of Rajasthan which included meeting with relevant officials from the Government of Rajasthan.



EVENTS

C20 Dialogues by CSOs of G20 countries on Net-Zero targets

Stakeholder Consultation on India's Just Transition Pathways

Vasudha Foundation, in partnership with GermanWatch, hosted a stakeholder consultation on India's Just Transition Pathways on September 15, 2022, at the India Habitat Centre, New Delhi. This was one amongst a series of meetings that aims to brainstorm and discuss issues that could be brought up at the G20 meetings with the intent to scale up climate action.



September 22, 2022

Workshop on India's Contribution towards being Nature Positive by 2030

In October, 2022, Vasudha Foundation organised a workshop on 'India's Contribution towards being Nature Positive by 2030'. The Workshop aimed to discuss the integration of implementable solutions in the Post 2020 Global Biodiversity Framework for reversing nature loss, minimising climate impacts and enhancing resilience. In addition, the workshop aimed to discuss the next steps for G20 engagement in biodiversity conservation. Discussions along these lines were then followed by panel discussions from the perspective of both state and non-state actors on tangible points of action and recommendations for India's Presidency to include in the G20 deliberations.



October 29, 2022

Leading C20 Sub-Group on Net Zero Emissions Management

The endeavours of Vasudha Foundation in the space of climate policy, energy transition and stakeholder engagement were recognised and Vasudha Foundation formally entered the C20 group as the lead for the sub-group on 'Net Zero Emissions Management' which is one of the key sub-groups of the Climate Working Group of the India Civil 20.

Working further in this direction, Vasudha Foundation in collaboration with Amrita Vishwa Vidyapeetham and the Climate Action Network South Asia (CANSA) with support from Germanwatch organised a workshop on "Technology Integration, Finance and Adoption Strategies for Addressing Net Zero Emissions Management" on 8th February, 2023 in New Delhi.



February 8, 2023

The convening brought together representatives of Civil 20, Foundations 20, Business 20, and Think Tank 20 as well as CSOs and academia. Video messages for the event were received from Mr. V. Muraleedharan, Hon'ble Union Minister of State, Ministry of External Affairs, Government of India and Sri Mata Amritanandamayi Devi, Chair, Civil 20.

Discussions focused on the importance of effective partnerships in finance and technology at the international level to achieve global climate goals. Subsequent High-level Plenary and Thematic Group Discussions focused on the cost and complexity of a Net Zero Pathway. Panelists and speakers deliberated on the necessary policy levers, technology needs, research & development, and finance required across sectors in order to achieve the Net Zero target.

Launch of IWTMA Data Repository and Vasudha's Briefing Paper on Strategies to Vitalise the Repowering of Wind Power Projects in India

Vasudha in collaboration with the Indian Wind Turbine Manufacturers Association (IWTMA) hosted a webinar to launch IWTMA's Data Repository and a Briefing Paper on Strategies to Vitalise the Repowering of Wind Power Projects in India by Vasudha.



April 7, 2022

Windyrgy 2022

Windyrgy India 2022, India's exclusive International Trade Fair and Conference for the wind sector, took place from April 27th to 29th, 2022. The event was meticulously organized by the Indian Wind Turbine Manufacturers Association (IWTMA) in collaboration with PDA Ventures Pvt Ltd. Over the course of three days, this trade fair and conference served as a dynamic platform for networking, interactions, and discussions involving policymakers, regulatory authorities, as well as international and domestic technology, solution, and service providers within the wind power industry.



April 27-29, 2022

Playing a crucial role, Vasudha Foundation was honored to be the knowledge partner for the event. In collaboration with IWTMA, Vasudha Foundation facilitated the seamless organization of the conference, ensuring the success of dedicated sessions. This partnership contributed to the event's overall effectiveness and smooth execution.

Stakeholder Consultation to Examine International Green Finance Flows for Renewable Energy Projects in India

Vasudha in partnership with Indian Wind Turbine Manufacturers Association (IWTMA) and Germanwatch organised a Stakeholder Consultation to Examine International Green Finance Flows for Renewable Energy Projects in India on September 15, 2022 at the Casuarina Hall, India Habitat Centre, New Delhi.



September 23, 2022

Stakeholder Workshop titled - Green Hydrogen in India: Prospects and Opportunities

The Institutionalisation of Capacities on Climate Change Studies and Actions (ICCC) project implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) in partnership with the Union Ministry of Environment Forest and Climate Change (MoEFCC), Government of India aims to develop and institutionalise capacities in the areas of climate protection, resilience, and NDC implementation as well as transdisciplinary issues. Under this project, the MoEFCC, Government of India, and GIZ together with Vasudha Foundation formulated and organised capacity development events that aimed to develop and institutionalise capacities of the concerned stakeholders across the green hydrogen value-chain in India. Three panel discussions were organised on varied themes to gather maximum insights from stakeholders on key elements concerning green hydrogen, namely-

- Building knowledge and understanding of Government perspectives on Green Hydrogen including the current Hydrogen fuel ecosystem in India.
- Understanding developers' and manufacturers' experiences in executing Green Hydrogen Projects in India including the various approaches for project implementation.
- Exploring ways to bolster the efforts made by the Indian Government to boost Green Hydrogen uptake.



October 11, 2022

National Convening: Launch of Deep Electrification Forum

Vasudha Foundation with support from SED Fund launched the Deep Electrification Forum to deliberate and develop the policy discourse on deep electrification for the Indian economy. The forum convening was held on 20th January 2023 at India Habitat Centre (IHC), New Delhi.

The Forum provided an opportunity for delegates from government, industry, funders, academia, media and civil society organizations to synergistically understand deep electrification aspects and challenges related to sustainably implementing it.



January 20, 2023

Workshop on Developing Action Plans for Climate Smart Gram Panchayats in UP

Vasudha Foundation and Gorakhpur Environmental Action Group (GEAG) hosted a Workshop on Developing Action Plans for Climate Smart Gram Panchayats in UP, on March 02, 2023 at Vasudha Foundation, New Delhi. The workshop was organized as a part of the initiative by the Department of Environment, Forest and Climate Change, GoUP, to develop Climate Smart Gram Panchayat Action Plans for 39 Gram Panchayats across the state. In January, 2023, another such workshop was undertaken to orient NGO partners working in 27 of the 39 selected Gram Panchayats. This workshop was conducted to orient the NGO partners who will be working in the remaining 12 Gram Panchayats about their role and responsibilities in the development of Climate Smart Gram Panchayat Action Plans.



March 2, 2023

Vasudha Foundation at COP27, Sharm-El-Sheikh, Egypt

Vasudha Foundation actively participated during the UNFCCC COP27 at Sharm-El-Sheikh (November, 2022). Team Vasudha attended meetings and convenings organised on the topic of Just Energy Transition Programmes (JETP) from an Indian perspective as well as from a global/G20 perspective. The team explored partnerships around India's JETP with global G20 and G7 partner countries. Further, attending COP27 helped to identify synergies with various G20 groupings such as Civil20, Business20, Youth20, Women20, Foundations20, Thinktank20 etc and secure partnerships that later enabled Vasudha to organise joint meetings, and events around the various G20 thematic sessions, such as energy, climate change, finance, etc.

In addition to this Vasudha Foundation also supported the Department of Environment, Forest and Climate Change (DoEFCC), Government of Uttar Pradesh in organising the 'side event' at the India Pavilion during the UNFCCC COP27, Sharm-El-Sheikh, Egypt. Vasudha Foundation was the technical and on-ground partner of the DoEFCC in organising the "Road to Resilience 2030: Innovative Approaches for Localising Climate Action at the District & Village Level" that was held on November 11, 2022 at the India Pavilion, COP27 (Sharm-El-Sheikh, Egypt). The event was addressed by the Hon'ble Minister for Environment, Forest & Climate Change, Shri Arun Kumar Saxena; the Chief Secretary, Shri Durga Shankar Mishra, IAS; the Additional Chief Secretary, Shri Manoj Singh, IAS; and the Secretary, Department of Environment, Forests and Climate Change, Shri Ashish Tiwari, IFS. Further, key experts and senior representatives of Vasudha Foundation, GIZ, Gorakhpur Environmental Action Group (GEAG), Bloomberg Philanthropies, Children Investment Fund Foundation and Smart Freight Centre were also the expert speakers during this event. Vasudha Foundation managed all the coordination and activities including knowledge material for this event. The event showcased Uttar Pradesh Government's key achievements, initiatives and innovations undertaken to mainstream climate change through activities like the development of detailed climate action plan and road map to empower communities to address climate change, promote circular economy, facilitate public private partnerships for community and village level adaptation and mitigation projects.

As part of this work as well as for G20, Vasudha Foundation held a series of meetings to enhance dialogue on climate action at the G20 level. These dialogues covered a wide-range of important themes: Just transition pathways for India, biodiversity and climate linkages, and net-zero target and management.



KEY PARTNERSHIPS

Vasudha Foundation has partnered in the form of Memorandum of Understanding with the following organisations:

- **NITI Aayog** to create a detailed repository to aid the development of Net Zero Pathways for India and in the development of the said pathways, and also to develop the ICED dashboard.
- **Department of Environment, Forests and Climate Change, Government of Uttar Pradesh** for a wide range of issues including developing a net zero vision for the state.
- **Uttar Pradesh New and Renewable Energy Development Agency** for providing technical support in the scale up of renewable energy deployment in the state.
- **Department of Climate Change, Government of Gujarat** for facilitating the development of district climate action plans.
- **Department of Climate Change** and particularly, **Environment Planning and Coordination Organisation (EPCO)**, the nodal agency for Climate Change of the Government of Madhya Pradesh for a wide range of issues including the development of district climate action plans amongst others.
- **Telangana Renewable Energy Development Corporation Limited** for providing technical support in the scale up of renewable energy deployment in the state.
- **Directorate of Environment, Government of Kerala** for developing detailed GHG Inventory for the state and for developing a detailed carbon neutral plan for the state.
- **Department of Environment, Forests and Climate Change, Government of Tamil Nadu, and Tamil Nadu Green Climate Company** to develop climate smart district plans, state specific data and information dashboard on energy transition amongst others. (This MoU has not yet been signed, but in advanced stages of finalisation)
- **Indian Wind Turbine Manufacturers Association** for providing technical support to the association on scaling up wind generation in India.

Vasudha Foundation is a not-for-profit NGO/Think Tank, headquartered in Delhi and having its registered office in Bangalore. The Foundation was set up in 2010 and became fully operational in 2014. Vasudha Foundation is registered with the Ministry of Home Affairs, FCRA Division, and has an FCRA Number: 094421672. The organisation also has income tax exemption status with the Income Tax Authority of India.

Vasudha Foundation primarily works in the Clean Energy and Climate Policy space. “Vasudha” in Sanskrit language means the “earth” and as its very name suggests, the organisation’s ethos is to work towards conserving Vasudha by adopting “green ways” for a clean and good earth.

FINANCIALS

VASUDHA FOUNDATION

Regd. Office: No 7/3, Third Floor, Mytri Park View, 100 Ft Ring Road, BSK 3rd Stage, Bangalore, Karnataka-560085
Project Office: CISRS House, 14 Jangpura B, Mathura Road, New Delhi-110 014

FCRA RECEIPTS AND PAYMENTS ACCOUNTS FOR THE YEAR 01.04.2022 TO 31.03.2023

RECEIPTS	31-MARCH-2023	PAYMENTS	31-MARCH-2023
Opening Balances:			
Cash in hand	1,903.00	Project Expenses	76,452,165.17
Bank Balance		Administrative Salaries	11,202,481.79
- Indian Bank	18,374,545.14	Travel,Accomodation, Food,Local conveyance	697,495.33
- SBI Bank	20,640,537.00	Office rent	2,357,170.00
Fixed Deposits	-	Printing & Stationery	106,661.00
Interest Accrued on Fixed Deposits	-	Professional Expenses	2,295,180.00
		Audit and Certification Fees	87,105.00
		Bank Charges	63,842.50
		Postage & Courier Charges	18,381.00
Interest Received - Savings	1,007,179.00	Office Maintenance	458,712.00
Interest Received - Fixed Deposits	69,985.00	Communication	136,188.54
		Electricity Expenses	225,489.00
Grant Received	123,207,660.46	Membership Fee	198,358.00
		Staff Welfare	566,568.87
		Recruitment Expenses	20,650.00
		Purchase of Fixed Assets	2,422,935.00
		TDS Receivable	7,000.23
		Staff Loan	600,000.00
		Security Deposit - Rent	1,104,960.00
		Closing Balances:	
		Cash in hand	1,903.00
		Bank Balance	
		Indian Bank	14,891,311.49
		State Bank Of India	45,310,646.68
		Fixed deposit and Interest accrued	4,000,000.00
		Interest accrued on Fixed Deposits & Saving Acco	76,605.00
	163,301,809.60		163,301,809.60

For Tinu Sood and Company
Chartered Accountant

Tinu Sood
Partner
M.No. 511444, FRN 022090N
UDIN: 23511444BGYUS16820

Date: 07/07/2023
Place: New Delhi



For Vasudha Foundation

Srinivas Krishnaswamy
Trustee





Vasudha Foundation

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