



# Global Cleantech Innovation Programme

**Accelerating climate technology innovation  
and entrepreneurship**



## Global challenge

Achieving the Paris Agreement goal of limiting global warming to 1.5°C over the course of the century requires significant reductions of GHG emissions by 2030 and attainment of the net-zero target by 2050. This calls for, among others, rapid development, deployment and adoption of innovative low-carbon cleantech solutions at scale and pace that will bring about transformational change. Climate innovation and entrepreneurship plays a key role in climate action by supporting the transition towards sustainable economies while also creating new green industries and jobs. It presents a unique opportunity for small and medium-sized enterprises (SMEs), especially in low and middle-income countries.

SMEs play a central role in delivering technologies, products and services in most low and middle-income countries. As such, they have great potential to lead the emergence, development and deployment of cleantech solutions, thereby effectively contributing to the achievement of the Paris Agreement goal. According to the report "Financing Clean Energy Transitions in Emerging and Developing

Economies" (2020) by the International Energy Agency, by the end of the decade, annual capital spending on clean energy in developing countries needs to reach USD 1 trillion, in order to reach net-zero emissions by 2050<sup>1</sup>. Through leveraging this capital, SMEs in these countries can become the forerunners of sustainable and innovative economic development.

However, the emergence, development and deployment of cleantech innovations face several challenges. Key skills and networks are required to transform novel ideas into fast-growing, scalable and investable market solutions. Cleantech SMEs are confronted with several policy, regulatory and institutional barriers, as their innovations are often expected to compete in heavily regulated markets. They encounter further challenges in accessing tailored early-stage financing. Therefore, acceleration of cleantech innovation and entrepreneurship requires conducive ecosystems, including support for cleantech ventures and access to catalytic financing.

<sup>1</sup> Financing Clean Energy Transitions in Emerging and Developing Economies, IEA (2021),

[https://iea.blob.core.windows.net/assets/6756ccd2-0772-4ffd-85e4-b73428ff9c72/FinancingCleanEnergyTransitionsinEMDEs\\_WorldEnergyInvestment2021SpecialReport.pdf](https://iea.blob.core.windows.net/assets/6756ccd2-0772-4ffd-85e4-b73428ff9c72/FinancingCleanEnergyTransitionsinEMDEs_WorldEnergyInvestment2021SpecialReport.pdf)



### GEMS - Green Energy Mission SARL 2018 GCIP MOROCCO NATIONAL FINALIST

GEMS provides a water efficiency solution for the agriculture and irrigation sector through a nano-irrigation system that significantly reduces water consumption, up to 75% compared to the mainstream irrigators. It also reduces the plant's water stress, cutting operational and treatment costs while ensuring an increase in productivity.



### Biotech Fuels 2017 GCIP PAKISTAN NATIONAL RUNNER-UP

Biotech Fuels is a renewable energy solutions provider. Its main product, the solar powered flour mill and water pump, provides energy and water access in rural areas and has been piloted in a rural village in Pakistan with multiple installations in remote locations. The company received investments of USD 5M and is preparing to raise additional USD 10M.



### Eco-V 2015 GCIP SOUTH AFRICA NATIONAL RUNNER-UP

Eco-V provides renewable hot-water and electricity solutions in a form of containerised hybrid solar microgrids that are affordable and easily transportable for communities and industries. Over the next decade, Eco-V aims to replace one million electric boilers in Africa at corporate buildings, shopping malls, educational institutions and government agencies with its BlueGreenTower™ technology.

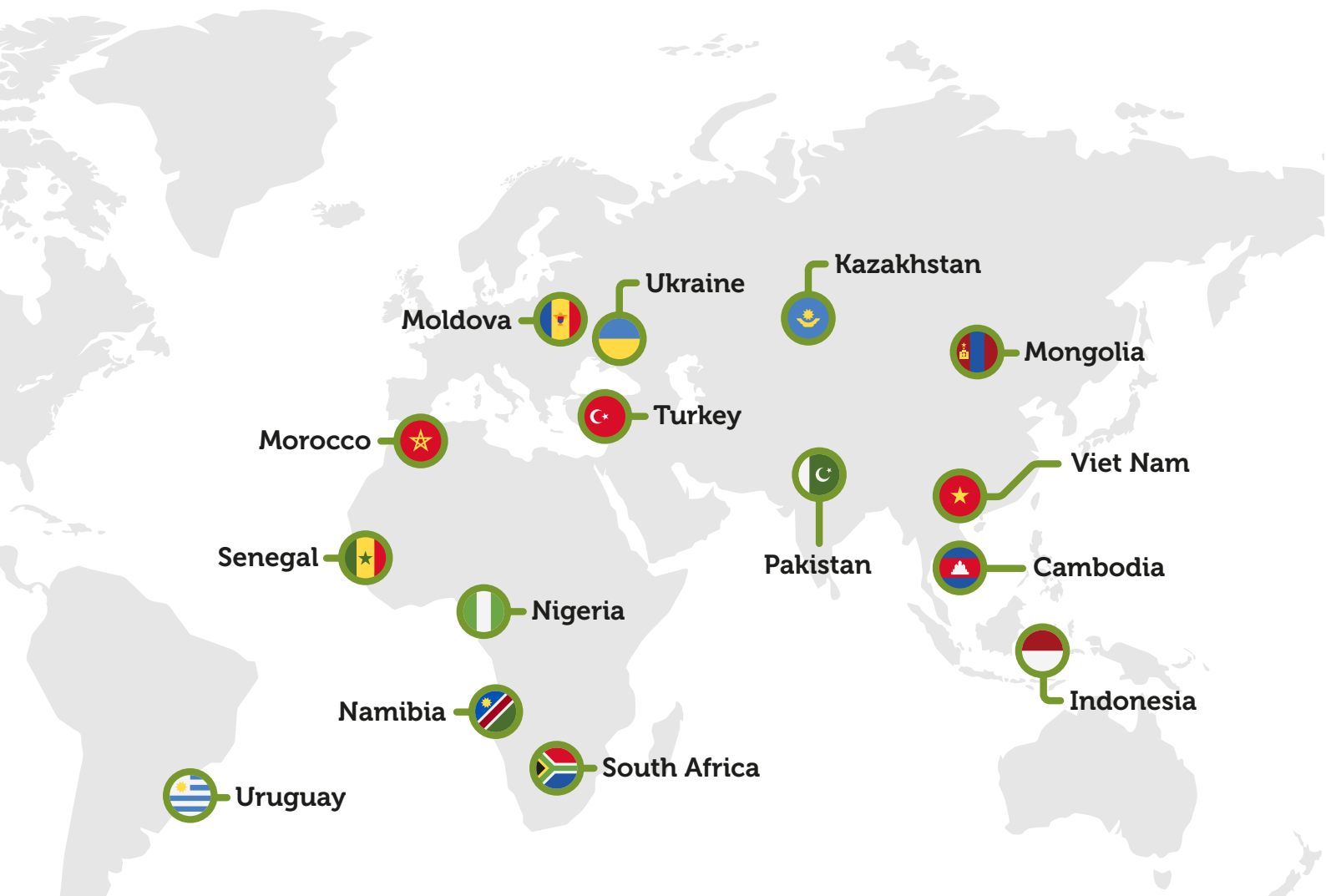
## Programme overview

The Global Environment Facility (GEF) has partnered with the United Nations Industrial Development Organization (UNIDO) to systematically address this challenge through the Global Cleantech Innovation Programme (GCIP). GCIP aims to bring about transformative change in low and middle-income countries through two main lines of intervention – 1) **direct support to emerging SMEs offering innovative cleantech solutions** and 2) **development and strengthening of cleantech innovation and entrepreneurship ecosystems (CIEE)**. The GCIP objective is to address market and policy shortcomings that prevent the emergence, deployment and adoption of cleantech solutions in the long term, thus enabling low and middle-income countries to leapfrog to greener economies. The ultimate mission of GCIP is to contribute to climate change mitigation through greening the existing industries and creating new innovative solutions while also delivering other social and economic co-benefits. GCIP builds key capacities of relevant stakeholders to enable them to effectively integrate support to cleantech SMEs into their mandates and operations.

GCIP features a proven, carefully constructed and replicable service offering that is easily adjustable to country needs. GCIP can account for specific national circumstances, such

as economy structure, and is sensitive to the market forces of demand and supply. The programme does not stimulate demand for and supply of predefined technologies and business models, but rather encourages bottom-up and homegrown innovative solutions through its open call for accelerator applications. GCIP's design is mission-oriented – any innovative solutions are supported as long as they have a strong GHG emissions reduction potential and foster cleaner economic development. GCIP supports local entrepreneurs to connect their solutions to global markets through linking actors across CIEEs and leveraging UNIDO's international network of partners. Promoting innovation and providing tailored training and mentoring to cleantech entrepreneurs enable them to refine their business models and establish meaningful partnerships within CIEEs nationally and internationally.

Currently, GCIP's implementation is underway in fifteen countries, including Cambodia, Indonesia, Kazakhstan, Moldova, Mongolia, Morocco, Namibia, Nigeria, Turkey, Ukraine, Uruguay, Pakistan, South Africa, Senegal and Viet Nam.



## Three GCIP pillars

GCIP's intervention is based on three carefully designed programmatic pillars common across all partner country projects.

### PILLAR 1 - BRINGING TRANSFORMATIVE CLEANTECH SOLUTIONS TO THE MARKET AT SCALE AND SPEED

This pillar provides direct assistance to early-stage entrepreneurs to enhance their capacity and competitiveness as well as to help them leverage market opportunities. There are four types of GCIP acceleration activities available:

- Pre-accelerator enables team formation and development of initial ideas that can then undergo validation, such as proof of concept.
- Accelerator is a four- to six-month-long curriculum designed to support a cohort of cleantech entrepreneurs to develop viable business models and transform their ideas into fast-growing, scalable and investable solutions.
- Advanced accelerator services are offered to selected high-potential entrepreneurs to provide them with tailored and needs-based individual support. It is time-bound and outcome-focused, in that concrete milestones need to be achieved within a predefined period.
- Post-accelerator services provide entrepreneurs with assistance in four related but not necessarily linear dimensions: advanced business growth and commercialization, investment and market readiness.

A core part of this pillar is also the training of cleantech innovation and entrepreneurship ecosystem experts, such as trainers, mentors and judges that can support entrepreneurs along their journey.

### PILLAR 2 - BUILDING, STRENGTHENING AND CONNECTING CLEANTECH INNOVATION AND ENTREPRENEURSHIP ECOSYSTEMS

GCIP's "ecosystems approach" ensures that project results contribute to national priorities and are sustainable in the long run. Under this pillar, GCIP provides participating national institutions, such as government entities, R&D organizations, industry associations and business platforms, with capacity building and relevant strategy frameworks. With regards to policy and regulatory action, the programme disseminates guidance on global best practices on the strengthening of policy and regulatory frameworks.

GCIP also enables knowledge creation and exchange, which is essential to promoting linkages, collaboration and synergies across cleantech innovation and entrepreneurship ecosystems of GCIP countries. GCIP provides a coordination platform to ensure effective communication and collaboration as well as to guide thinking and decision-making processes around innovative cleantech solutions.

As an integral part of programme connectivity, GCIP organizes an annual Global Forum to enhance opportunities among cleantech innovation and entrepreneurship ecosystem stakeholders by connecting them, promoting networking and providing opportunities for the exchange of best practices and lessons learned.

### PILLAR 3 - PROGRAM COORDINATION AND COHERENCE

Activities within this pillar ensure the coherence of the GCIP programmatic approach and its outreach messaging. The key objective is to capture and communicate GCIP activities and achievements globally. To maintain high standards of the GCIP execution, programme implementation guidelines are developed and disseminated to the participating countries.

Apart from that, GCIP's carefully developed state-of-the-art web platform serves as a tool for global coordination and maintenance of the GCIP community. The web platform is also a knowledge depository to raise awareness about cleantech benefits for potential customers and investors interested in cleantech innovation and entrepreneurship.

This pillar also enables consistent programme impact monitoring and provision of appropriate tools and methodologies to countries, so that relevant data may be gathered, aggregated and comprehensively analyzed, ultimately serving as evidence for decisions of investors and policymakers as well as guiding technical assistance interventions.

## Expected Impact

GCIP currently supports more than 1,250 SMEs in fifteen countries, of which 35-40% are women-led. As a result, GCIP is expected to cumulatively mitigate direct GHG emissions of at least 2,225,000 CO<sub>2</sub>e and indirect emissions of at least 11,275,000 CO<sub>2</sub>e over ten years. In addition, GCIP aims to achieve other environmental, social and economic co-benefits, including job creation, poverty reduction and empowerment of women.

Ultimately, GCIP improves baseline conditions for all relevant CIEE stakeholders, including entrepreneurs, financial and technology advisors, policymakers and investors, subsequently enabling them to act independently of GCIP in the long term.

SMEs, thanks to their enhanced capacities built through GCIP, are well equipped to enter national and international markets and raise investment. GCIP alumni also serve as peer demonstration cases for other innovators, encouraging them to propose and scale up their own business ideas. As a result of the development of consistent policies and a conducive legal environment that is induced by GCIP, as well as thanks to subsequently reduced information asymmetries, investors can, in turn, mitigate their investment risks and identify investable SMEs.

Policymakers are provided with knowledge and tools and are linked to counterparts in other countries, thus being well positioned to design better policy and regulatory instruments. GCIP-trained national trainers, mentors and judges have the potential to become independent market players and agents of change that continue offering their services on commercial terms.

GCIP's approach is built on a premise that delivering the change the world needs requires partnerships between private and public actors and across thematic and sectoral silos. This reflects the transformational impact that is successfully created by GCIP.

*Atchara Poomee, Founder and Managing Director of PAC Corporation (Thailand)  
GCIP beneficiary*





*Award Ceremony of the finalists of first wave of GCIP Ukraine Accelerator*



The Global Environment Facility (GEF) was established 30 years ago on the eve of the Rio Earth Summit to tackle our planet's most pressing environmental problems. Since then, it has provided more than \$21.5 billion in grants and mobilized an additional \$117 billion in co-financing for more than 5,000 projects and programs. The GEF is the largest multilateral trust fund focused on enabling developing countries to invest in nature, and supports the implementation of major international environmental conventions including on biodiversity, climate change, chemicals, and desertification. It brings together 184 member governments in addition to civil society, international organization, and private sector partners. Through its Small Grants Programme, the GEF has provided support to more than 25,000 civil society and community initiatives in 135 countries.



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