



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Global Cleantech Innovation Programme

Promoting climate and clean energy
technology innovation and entrepreneurship



Global Cleantech
Innovation Programme

UNIDO and GEF are working together under the Global Cleantech Innovation Programme (GCIP) to accelerate cleantech innovation and entrepreneurship in developing countries and economies in transition.



development for poverty reduction, inclusive globalization and environmental sustainability. With its unique mandate to promote and accelerate inclusive and sustainable industrial development (ISID) in developing countries and in economies in transition, UNIDO contributes to the three pillars of sustainable development, as recognized by the recently adopted 2030 Agenda for Sustainable Development. UNIDO works to promote the related Sustainable Development Goals (SDGs), and in particular SDG-9 which calls on all to help “build

UNIDO, the United Nations Industrial Development Organization is the specialized agency of the United Nations that promotes industrial

resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”.

Within this context, UNIDO supports the transition to a sustainable energy path as a key solution to a climate that is resilient and non-responsive to economically sustainable growth. The institution also accords high priority to technology transfer and capacity building of industries including small and medium sized enterprises. It supports projects and programmes that leverage the power of innovation and entrepreneurship to address the energy, environmental and economic challenges of today by empowering emerging cleantech start-ups and bolstering the local entrepreneurial ecosystem and policy frameworks.



The Global Environment Facility (GEF) is a catalyst for action on the environment. Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues. GEF funding helps reduce poverty, strengthen

governance and achieve greater equality between women and men. Thus, GEF occupies a unique space in the global partnership for a more sustainable planet. The facility aims at expanding private sector investment and commitment to environmental solutions across its focal areas and initiatives. It equally seeks to identify potential opportunities to enhance private sector engagement.



Innovation for impact

Promoting innovation in clean technologies through a cross-sectoral and multi-stakeholder approach to build sustainable innovation ecosystems for small and medium-scale enterprises and start-ups.

The **Sustainable Development Goals** and the **Paris Agreement** highlight global commitment to **safeguarding the global commons**. The United Nations Industrial Development Organization (UNIDO), with its unique mandate to support inclusive and sustainable industrial development, has partnered with the Global Environment Facility (GEF) to address the most pressing global environmental challenges of our time. Through fostering **innovation and entrepreneurship ecosystems**, UNIDO seeks to promote affordable and scalable solutions enabling our partner countries to leapfrog to cleaner, more resilient economies while protecting our global commons.

In today's economic landscape, where resource constraints and climate concerns are no longer externalities but rather opportunities for new and sustainable business models, technology innovation has emerged as a major driver of economic growth. The GCIP seeks to harness the catalytic potential of innovation and entrepreneurship in SMEs and start-ups to be catalysts of sustainable economic development.



› Innovation

Technology innovation is key to finding transformative solutions to both economic and environmental challenges. The GCIP supports creation of a robust innovation ecosystem in partner countries.

› Entrepreneurship

The GCIP leverages the power of entrepreneurship to address the economic and environmental challenges of today by empowering emerging cleantech start-ups and bolstering the local entrepreneurial ecosystem and policy frameworks.

› Global SME Innovation Value Chain

Today's clean technology innovations will more than likely fuel the next industrial revolution that will shape tomorrow's global economy and job market. Recognizing the vital role that SMEs play in catalyzing technology innovations, the GCIP is unique in its approach of fostering the expansion of SMEs into cleantech products and markets, thus strengthening the entrepreneurial innovation ecosystem in emerging economies and developing countries. From identification of technology innovations to their commercialization and application, the GCIP supports entrepreneurs across the innovation value chain to develop demand-driven and investment-ready climate solutions.

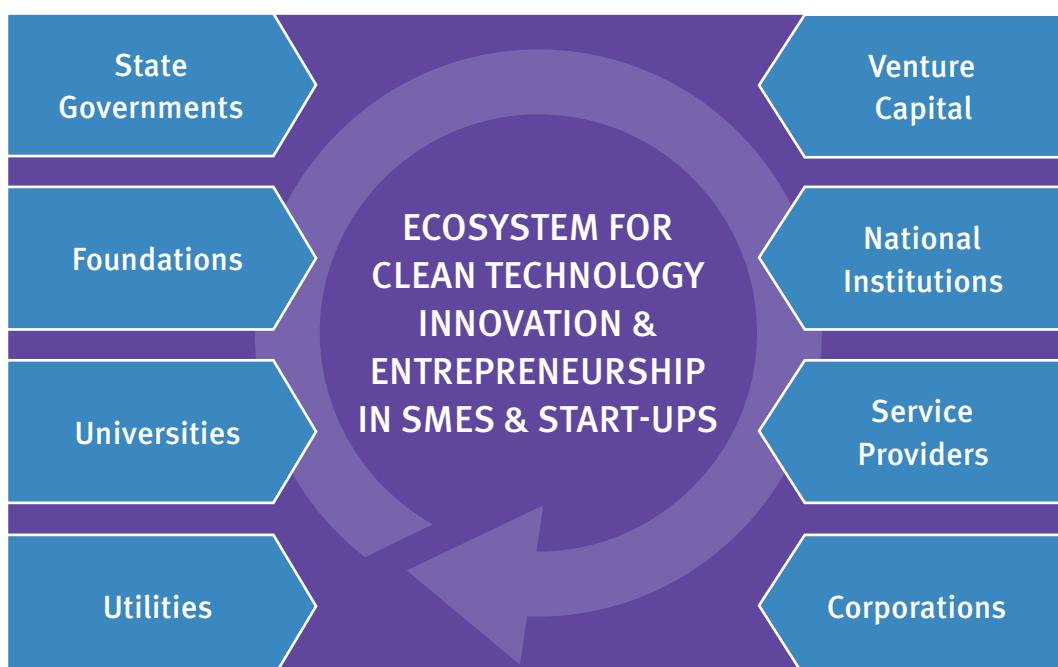
By supporting emerging cleantech start-ups, and bolstering the local entrepreneurial ecosystem and policy framework, the programme delivers both environmental benefits and economic vitality.

The Cleantech Innovation and Entrepreneurship Ecosystem

The GCIP promotes an innovation and entrepreneurship ecosystem by identifying and nurturing cleantech innovators and entrepreneurs; by building capacity within national institutions and partner organizations for the sustainable implementation of the cleantech ecosystem and accelerator approach; and by supporting and working with national policy makers to strengthen the supportive policy framework for SMEs and entrepreneurs.

Through this approach (via cleantech ecosystems and accelerators), the GCIP catalyzes investment to support and move start-ups entrepreneurs forward towards the development and commercialization of their innovative ideas.

Partnerships and close consultations with all national stakeholders are seen as critical to maximizing synergies and sharing knowledge and best practices which can help in enhancing the contribution of cleantech start-ups towards climate change mitigation, while increasing productivity and generating growth and wealth.

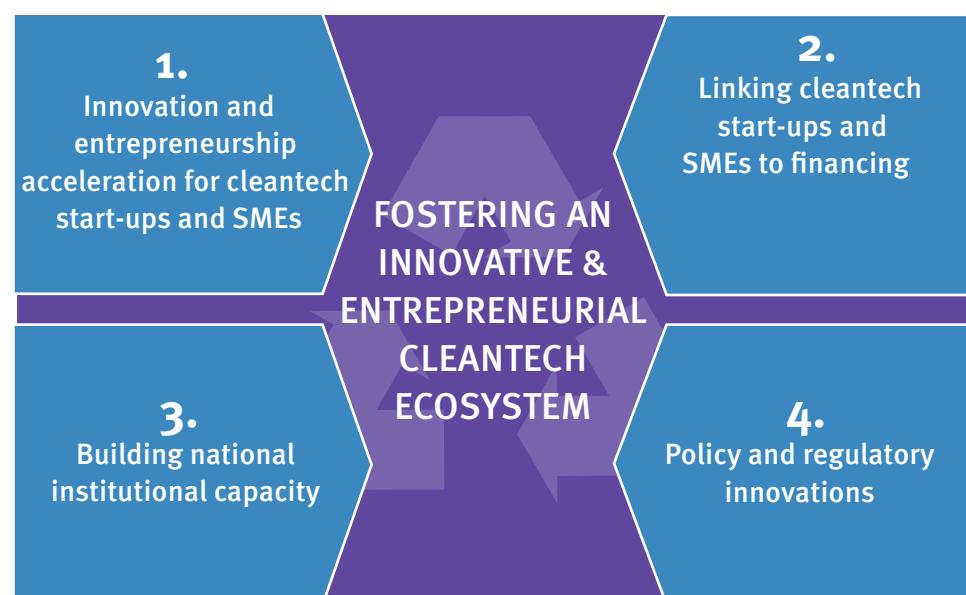


Innovation and Entrepreneurship Policy Frameworks

An integral part of GCIP is the development of an enabling environment for cleantech innovation and entrepreneurship, and GCIP employs a cross-sectoral and multi-tiered approach with a view to building a sustainable “ecosystem” for innovative entrepreneurship in small businesses. This entails supporting national partners to strengthen the institutional capacities of government agencies focused on small and medium-sized enterprises (SMEs) and on development, clean technology and innovation.

With its regular review of existing policies, regulations and guidelines relating to the promotion of clean technologies, innovation and entrepreneurship, GCIP also advises governments to focus on high-impact areas, especially from the perspective of encouraging and supporting increased engagement and participation of SMEs. Awareness raising and capacity building activities are also supported through regional stakeholder meetings and by developing partnerships with leading institutions, agencies and, indeed, universities.

ECOSYSTEM APPROACH



Innovative Technology Solutions

Technology innovations promoted through GCIP are in the areas of Energy Efficiency, Renewable Energy, Waste Beneficiation, Water Efficiency, Green Buildings, Transportation, and Advanced Materials and Chemicals.

GCIP is planning a transition to an **impact-focused accelerator** to leverage innovation and entrepreneurship and provide solutions to protect our global commons. Existing technology categories will evolve to impact categories to accelerate **transformative clean technology solutions** as well as integrated approaches for **energy systems, sustainable cities, healthy oceans and sustainable fisheries, food systems and landscape restoration**.

GCIP also supports identification and development of demand-driven solutions that can address the most pressing environmental challenges at national levels. Through National Innovation Challenges, innovators are invited to propose technology innovations that can address a particular problem with high-impact potential. This approach allows direct market access for the technologies, ensuring efficiency and effectiveness in impact scaling.

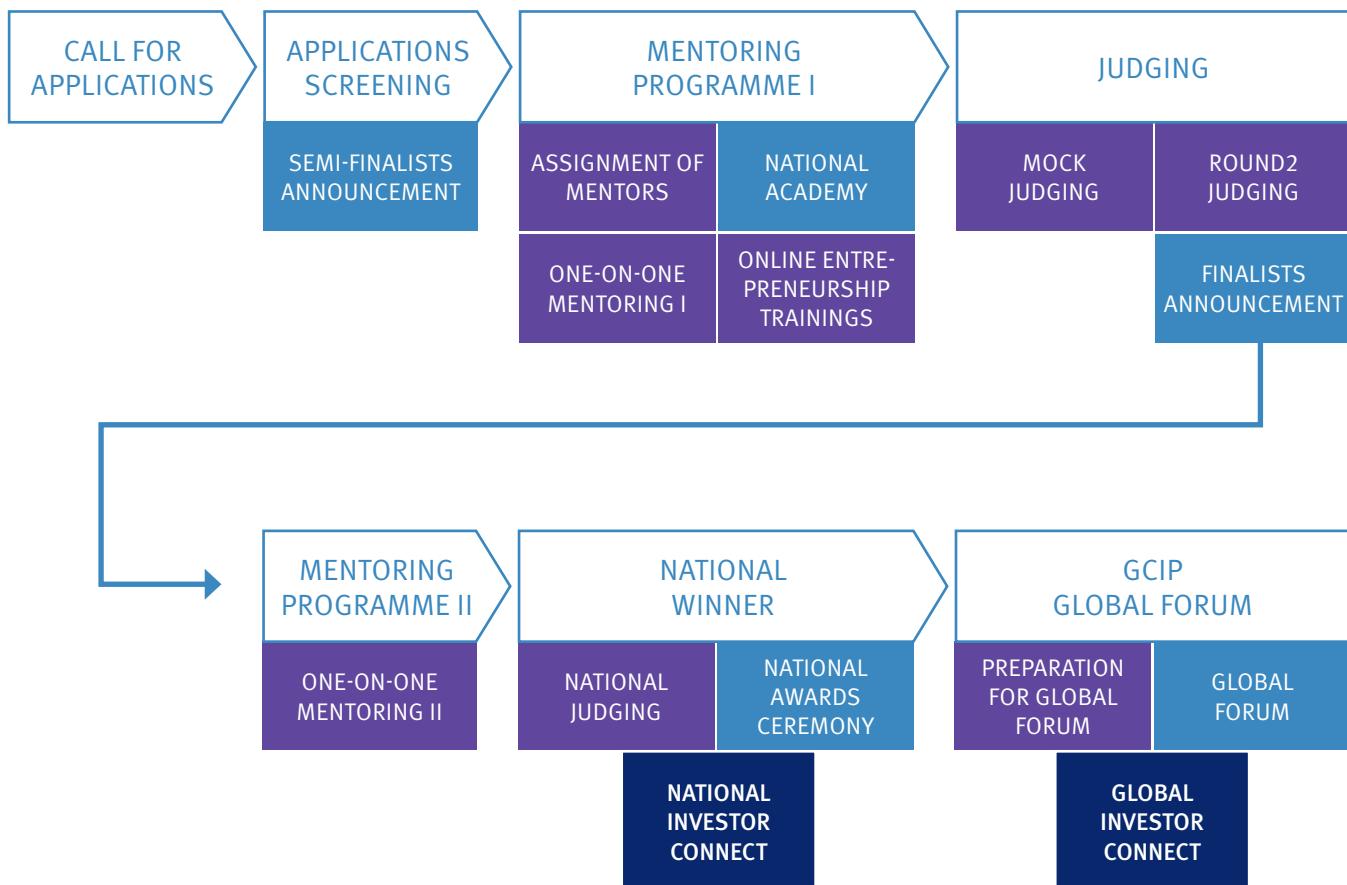


The GCIP Accelerator

A key component of the GCIP is its annual competition-based **Accelerator**, which identifies the most promising innovators and entrepreneurs across a country. A selected number of start-ups in a GCIP country participates in a rigorous, competitive national acceleration programme that trains, mentors, promotes, and connects them to potential investors, customers and partners. As the best cleantech companies make progress, they are continuously developed and assessed.

The Accelerator consists of an Official Launch, Investor Connect, National Academy, Business Clinic and Mock Judging. In addition, the selected start-ups are continuously mentored and trained. Access to capital and showcasing opportunities are equally facilitated on a regular basis in order to enhance their business skills and connect them to potential business partners, financiers and investors.

A tailored mentoring programme is provided through an elite group of general and specialist mentors. Trainers are drawn from industries, universities and professional institutions, as well as business leaders from within the country and abroad.



Investor Connect

In bridging the gap between the start-ups with technology innovations and investors that can support market-based dissemination of the solutions, Investor Connect events are organized at national and global levels. Through this networking opportunity, GCIP teams introduce their innovations to the investment community, and investors gain exclusive access to credible cleantech solutions with high-impact potential. GCIP will continue to engage with impact investors and cleantech targeted financial mechanisms to further support the commercialization and market-based scale-up of the cleantech solutions.

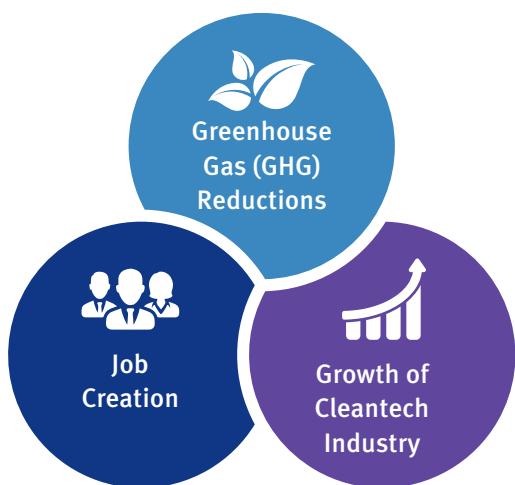
GCIP Global Forum

National GCIP winners are invited to the annual GCIP Global Forum a confluence of the cleantech industry and the climate. The event aims at creating new business opportunities, highlighting solutions, engaging citizens, and cultivating partnerships, while spurring investment in clean technologies to address climate change.

The GCIP national winners and finalists are connected to a community of cleantech innovators and entrepreneurs from all over the world. The GCIP national winner also meets with the national winners of the other GCIP countries and compete for the Global Prize.



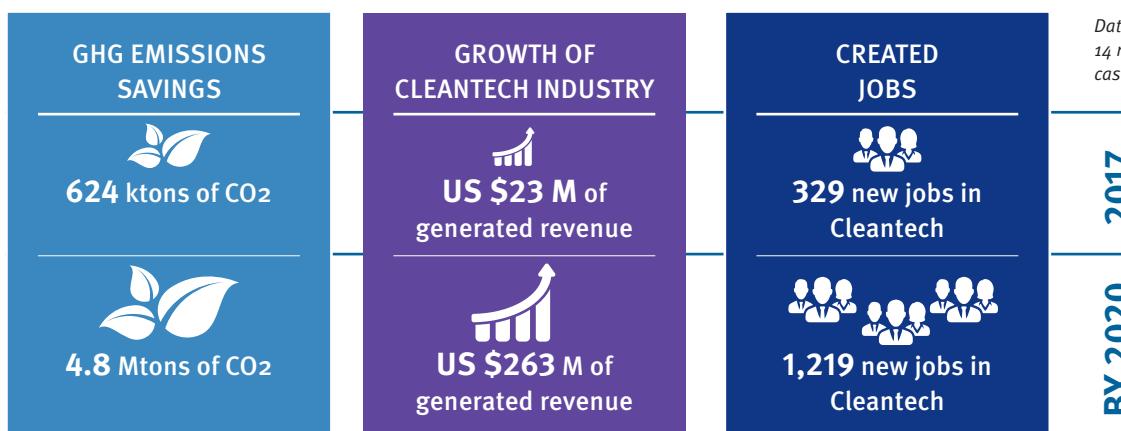
The Impact



The GCIP has been transforming the way we address the most pressing environmental challenges of our time, and is now a global programme, making impact in eight countries around the world.

Between 2014 and 2017, the GCIP cumulatively received almost 3,000 applications in the eight countries of operation, and over 865 start-up companies were selected as semi-finalists. They benefited from the Accelerator's training and mentoring programme, as well as the exposure to investors and the media.

In addition to contributing to greenhouse gas emissions reductions, the technology innovations fostered under GCIP also reap positive impacts for the environment including improved water efficiency, soil protection and waste beneficiation. Through growth of the cleantech industry, employment opportunities are created, both leading to poverty reduction through income generation.



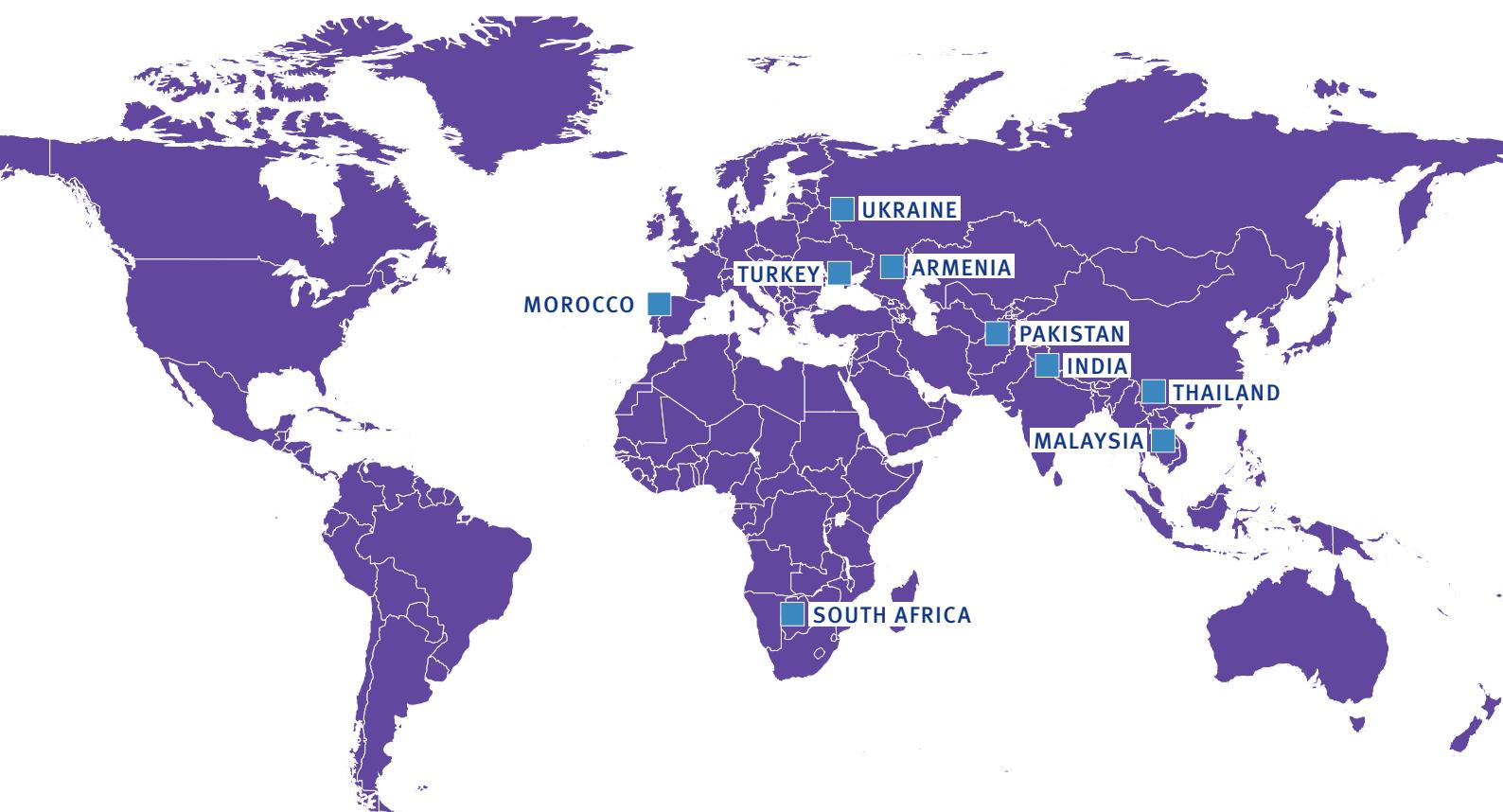
To demonstrate the current and potential impact of GCIP, an assessment exercise is currently taking place. From the preliminary data collected, 14 GCIP alumni companies have been selected through sampling of available data. The impact to date of these 14 companies showed 624 ktons of CO₂e reduced, USD 23m of revenue generated, and 329 new cleantech jobs created. The growth and expansion potential of these 10 alumni companies by year 2020 are projected to be 4.8 Mtons of CO₂e reduced, US\$ 263m of revenue generated, and 1,219 new cleantech jobs created. While the accuracy of the preliminary data and calculation methods leave likely room for error, these projections show the exponential potential of the GCIP, taking into account that there are over 580 companies that have graduated from the GCIP. Upon completion of the impact assessment exercise, a more accurate compilation of the impact achieved and impact projections will be available.

Global Ecosystem Connectivity

The synergistic value of collaboration among developing countries and advanced economies is quickly leading to innovation linkages, and receiving recognition as a catalyst for game changing solutions at the global level.

Starting with the pilot in South Africa in 2011, the GCIP has been implemented in a total of eight countries, including Armenia, India, Malaysia, Morocco, Pakistan, Thailand and Turkey. With the addition of Ukraine in 2018, geographic reach of GCIP is expanded to nine countries and following the success of GCIP thus far, UNIDO plans to expand the geographic scope of GCIP to twenty five countries by 2020 to become a truly global accelerator of cleantech innovations.

Between 2014 and 2018, more than 865 start-ups have been mentored, trained and supported across the participating GCIP countries, selected from thousands of applicants. The innovations identified and developed in GCIP partner countries also have the potential to address challenges in other parts of the world. GCIP provides opportunities for locally grown solutions to reap global impacts by providing mentoring and market access across borders.



Global Cleantech Innovation Index

The Global Cleantech Innovation Index (GCII), a biennial index and report, was first created in 2012 to investigate the question: which countries currently have the greatest potential to produce entrepreneurial cleantech start-up companies and which will commercialize clean technology innovations over the next 10 years?

The World Wide Fund for Nature (WWF) and the Cleantech Group (CTG) have produced the 3rd edition of the GCII for 2017, and UNIDO has partnered with WWF and CTG to provide a special addendum to the GCII focusing on cleantech innovation ecosystem of the eight GCIP countries. Under its policy component, GCIP seeks to enhance the enabling environment in partner countries by supporting national policies which promote innovation in clean technologies. The GCII-GCIP Country Profiles will serve as a valuable policy tool to stimulate a broader economic action plan including strategic support for cleantech solution providers.



Empowering Women and Engaging Youth

Mainstreamed within the vision of GCIP is the promotion of gender equality and women's empowerment in the technology innovation and entrepreneurship space. As part of the awareness-raising and communication activities of the GCIP, special focus is paid to ensuring that women innovators and entrepreneurs are fully informed of the opportunities of the GCIP. Targeted outreach activities for women-led start-ups and women engineering students are some examples that aim to encourage and increase women's participation in the GCIP.

Particular efforts are also made to recruit women judges and mentors, so that gender balance is achieved at all levels of the GCIP cycle. In addition, all training materials, resources and documents are gender-mainstreamed to ensure that both men and women are informed of the gender dimensions of the GCIP, and the gender dimensions relevant to technology innovation and entrepreneurship in general. In some GCIP partner countries, specific prizes and follow-up support for women-led start-ups are also being considered. All these efforts combined, GCIP is expected to contribute to ensuring that all men and women are given equal access and information to succeed as cleantech innovators and entrepreneurs.

The GCIP also engages extensively with young cleantech leaders of tomorrow. The global youth unemployment crisis has led many highly educated young minds to consider entrepreneurial initiatives, and the GCIP can provide strong guidance and mentoring needed by the young entrepreneurs. GCIP continues work with youth organizations as well as government partners to raise awareness (among youths) of the opportunities and trends in the cleantech innovation field.

32 %

Percentage of female-led ventures in GCIP-SA 2017 cohort

32 %

Percentage of female-led ventures in GCIP-Pakistan 2017

25 %

Percentage of female-led ventures in GCIP-Turkey 2017

53 %

Percentage of female-led GCIP ventures at the 2018 GCIP Global Forum



National Counterparts



ARMENIA

The key objectives of the **Enterprise Incubator Foundation (EIF)** are to improve competitiveness in the Armenian IT/High-Tech sector in the global marketplace, build linkages with international entities, provide assistance in investment attraction, export promotion and establishment of a venture capital institutes and start-up acceleration, as well as to stimulate formation of the Armenian IT industry development infrastructure, capacity building, IT/High-Tech industry development in the regions and formation of e-society in the country.

www.eif.am



INDIA

The **Ministry of Micro, Small & Medium Enterprises (MoMSME)** promotes a vibrant micro, small and medium-enterprise (MSME) sector through design and implementation of policies and facilitation and monitoring of programmes, projects and schemes. The target is to assist and scale up MSMEs. MoMSME encourages entrepreneurship, employment and livelihood opportunities and enhances the competitiveness of MSMEs in the changed economic scenario.

www.msme.gov.in



MALAYSIA

The **Malaysian Industry-Government Group for High Technology (MiGHT)** is a partnership between the industry and the public sector in Malaysia, working together to prospect for business and technology at the domestic and international market-place. It is an independent and non-profit organisation driven by a membership drawn from both the public and private sectors. It acts as a think-tank that underlines the key strategies that must be taken in order to develop the country's high technology industry and further the position of Malaysia as a globally competitive player. MiGHT constructs these strategies based on the combined input from the high technology industry, governmental and nongovernmental organizations and academic institutions.

www.might.org.my

MOROCCO



The **State Secretariat of Sustainable Development** is the ministerial department in charge of the development of the national sustainable development strategy and the monitoring of its implementation and evaluation, in coordination and collaboration with the relevant ministerial departments. The State Secretariat also promotes cooperation with public bodies, local and regional authorities, the private sector and non-governmental organizations in the field of environment and sustainable development. The Secretariat works as well on the integration of the environmental dimension into development, education, training and scientific research programs and development of green entrepreneurship and friendly initiatives.

<http://www.environnement.gov.ma/fr/>



PAKISTAN

The **Pakistan Council for Science and Technology (PCST)** is mandated to advise the Government on the development of Science and Technology (S&T) at the national level. The Council is involved in S&T and Innovation Policy making, planning, implementation and carrying out of policy studies. The PCST is also the secretariat of the National Commission of Science and Technology (NCST), headed by the Prime Minister (who takes the major decisions for the development of S&T). The PCST works as a 'Think Tank' to identify the priority areas of research and development keeping in view the futuristic developments of science and technology in Pakistan.

www.pcst.org.pk

SOUTH AFRICA

The **South African Technology Innovation Agency (TIA)** was established with the objective of stimulating and intensifying technological innovation in order to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations. TIA's core business objective is to support the development and commercialization of competitive technology-based services and products. The Agency primarily uses South Africa's science and technology base to develop new industries, create sustainable jobs and help diversify the economy.

www.tia.org.za



THAILAND

The **Department of Industrial Promotion (DIP)**, under supervision of the Ministry of Industry, is mandated to support and reinforce small and medium-sized enterprises (SMEs), community-based enterprises, entrepreneurs and industrial service providers to achieve excellent performances and sustainability. The activities DIP carries out to deliver on its mandate comprise enhancing industrial networking of relevant public and private sectors; recommending policies and measures on development of (as well as supporting) capacity building of SMEs, community-based enterprises, entrepreneurs and service providers.

www.dip.go.th



TURKEY

The **Scientific and Technological Research Council of Turkey (TÜBITAK)**, established in 1963, is the leading agency for management, funding and conduction of research in Turkey. TÜBITAK is responsible for promoting, developing, organizing, conducting and coordinating research and development in line with national targets and priorities. Setting its vision to be an innovative, guiding, participating and cooperating institution in the fields of science and technology, TÜBITAK not only supports innovation and academic and industrial R&D studies, it also - in line with national priorities - develops scientific and technological policies and manages R&D institutes, carrying out research, and technology and development studies.

www.tubitak.gov.tr



UKRAINE

The **State Finance Institution for Innovations (SFII)** was established in 2000 by the Cabinet of Ministers of Ukraine, with the mandate to strengthen the economy of Ukraine by attracting foreign and domestic credit and investment resources and direct them to financing of innovative and investment projects in strategic industries of economy. SFII is responsible for the implementation of innovation policy through the provision of financial instruments, full administrative support, co-investment and project management. It provides financial support to economic entities of various forms of ownership within the framework of state innovation policy, conducts a competition of innovative and investment projects and programs, attracts funds for their financing and controls the effective implementation of them.

www.sfii.gov.ua





Global Cleantech Innovation Programme

GCIP is an integrated programmatic approach to leverage the power of innovation and entrepreneurship and address the energy, environmental and economic challenges of today. GCIP supports the development of climate solutions as profitable business models and does this by empowering cleantech start-ups and bolstering the local entrepreneurial ecosystem and policy frameworks.

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