

A. CONTEXT

A1. Project Purpose

The overall objective of the project is to support commercialization and scale-up of sustainable energy and environmental technologies and projects in Small and Medium-sized Enterprises (SMEs) in the partner countries through promotion of investment and trade.

The project objective will be achieved by mentoring businesses and projects, helping them build capacity and by facilitating access to financing. The services offered will be tailored to specific markets and open avenues for SMEs to grow and upscale. At the same time, UNIDO will work with partners to establish and strengthen markets. The market intelligence gathered together with regional or global best practices and norms inform the shaping of the demand and market pull. This, in turn, will create demand for technology facilitation, innovation, commercialization, entrepreneurship and upscaling.

Therefore the two main interrelated approaches of the project are:

- 1) Providing technical assistance to identify and develop high-impact innovations and investment projects in SMEs in the sustainable energy and environment sector
 - a. Baseline data gathering and analysis conducted
 - b. Identify sustainable energy and environmental technology innovations and projects in SMEs in the seven partner countries
 - c. Develop innovations and projects into a well-structured investment opportunities through dedicated expert coaching and mentoring
 - d. Facilitate policy dialogues, knowledge creation and linkages between the sustainable energy and environmental technology projects and other international partners (i.e. IRENA)
- 2) Facilitating investment, commercialization and trade opportunities through international partnerships and collaboration
 - a. Provide dedicated matchmaking services for SMEs with innovations and projects in the seven countries with potential partners and investors in Italy and elsewhere
 - b. Offer curated networking opportunities among SMEs from the seven countries and Italy and other countries in similar fields to discuss product co-development, joint venture and investment, trade, and collaboration opportunities in a business-to-business context
 - c. Facilitate knowledge exchange and transfer among policy makers from the seven countries and Italy to discuss best-practices and lessons is supporting energy and environmental technologies in SMEs

A2. Baseline Scenario

National context of partner countries

Republic of Botswana

Botswana is a landlocked country of southern Africa, borders with Namibia, South Africa, Zimbabwe and the Republic of Zambia. The state extends for 582,000 km² and has a population of 2,214,848 most located in the following cities: Gaborone, Francistown and Maun. Botswana is a member of the Southern African Development Community (SADC) and has also joined the Energy Protocol, which ensures for regional integration and cooperation for the development of renewable energy.

The solar industry in Botswana has great potential. The country receives more than 3200 hours of sunshine a year, with an average horizontal surface isolation of 21 MJ / m² and an average of 320 clear and sunny days a year. According to Botswana Power Corporation (the sole entity that generates, transmits and distributes electricity within the country), the country requires electricity for 600 MW and is expected to increase to 700 MW by 2019. The energy balance of energy sources marketed in Botswana is 75% represented by sources of

oil, electricity and coal, while fuels based on biomass and wood fuel represent 25%; renewable energy is therefore minimally used.

Furthermore, the Botswana government has promised a nationally determined contribution (NDC) as a commitment to the Paris Agreement. For the energy sector, the NDC states that the government expects renewable energies (RE) to reach 25% of the electricity demand by 2030.

Republic of Cuba

Cuba, comprising the island of Cuba as well as Isla de la Juventud and several minor archipelagos, has a population of 11,221,060 people and an area of 110,860 square kilometers. The Country actively participates in international climate agreements, including signing the Paris Climate Agreement. As part of the agreement, the country intends by 2030 to use renewable resources to make 24 percent of its electricity. Today, Cuba's electricity is generated principally from low-grade domestic crude oil and oil imports from neighboring Venezuela. However, like many other Caribbean islands, Cuba has great potential for renewables, including biofuels and biomass from the island's sugar cane production, hydroelectric from its many rivers, wind and photovoltaic solar. In an effort to reduce dependence on imports of expensive fossil fuels for power generation, Cuba has taken the decision to prioritize changing the energy matrix; hence the use and development of renewable energy sources will be up-scaled and, at the same time, efficiency enhanced. Today, renewable energy (RE) sources make up about 5% of generation capacity.

Supportive structures to attract and manage foreign investments are needed to meet the aforementioned targets have been weak in Cuba. Particularly, grid-connected renewable energy generation plants are still facing a range of barriers, due to the complex regulation and process for admission of foreign capital; limited grid capacity for greater RE uptake; scarcity of qualified professionals and properly trained technicians; lack of innovation and lack of a documented body of experiences allowing and the lack of information about available options, best practices, benchmarks and related financing mechanisms and options. Furthermore, there is a limited experience with and lack of coordination of international investments; as well as a lack of experience and tools to perform technical evaluations of RE projects (in the financial sector).

In Cuba, UNIDO is currently supporting the reduction of country's GHG emissions by enhancing the capacity, skills and knowledge of relevant actors to successfully implement solar photovoltaic (PV) investments through a project titled "Strengthening of national capacities for the development of solar photovoltaic (PV) in Cuba." A 2 MW solar PV park will be operationalized and connected to the grid. It will provide a real training case for the trainees at different levels, and is expected to deliver 63,600 t CO₂eq direct emission reductions in its lifetime. In collaboration with UNEP, UNIDO also completed a project to reduce greenhouse gas emissions in Cuba by promoting environmentally sound renewable energy technologies for power generation, as well as for providing modern energy services on a commercial basis in the Isla de la Juventud.

Federal Democratic Republic of Ethiopia

The Federal Democratic Republic of Ethiopia, the most populous landlocked country in the world and the second-most populous nation on the African continent, occupies a total area of 1,100,000 square kilometers with an estimated population of 105 million people. The country has one of the fastest growing economies in the world, but remains one of the poorest countries at the same time, with 24% of the population living below the poverty line.

Ethiopia has experienced one of the highest economic growth rates in the region, a significant 10.9% from 2003-2014. As impressive as this number is, the economy is largely dependent on agriculture, which constitutes around 85% of the labour force. However, the service sector represents the largest portion of the GDP. Many other economic activities depend on agriculture, including marketing, processing, and export of agricultural products.

In this framework, Ethiopia is experiencing the effects of climate change. Besides the direct effects such as an increase in average temperature or a change in rainfall patterns, the sectors mainly affected were renewable

energy, waste and water resource management. Therefore, climate change presents the necessity and opportunity to switch to a new, sustainable development model.

UNIDO has been actively involved in Ethiopia since 1968, implementing nearly 300 projects comprising a wide range of technical assistance interventions, such as vocational training, cluster building and value chain development. Interventions have also focused on food security and agro-industries development, investment promotion, private sector development, as well as renewable energy, and resource-efficient and cleaner production. Between 1999 and 2008, UNIDO also implemented two phases of its Integrated Programme for Ethiopia, based on which UNIDO is currently implementing a Partnership Country Programme (PCP) for Ethiopia to promote and support inclusive and sustainable industrial development (ISID). The PCP is developed under the framework of Ethiopia's Industrial Development Strategy Plan and its Growth and Transformation Plan (GTP).

UNIDO is currently implementing an energy project titled "Improving public health by solar-powered water sanitation systems in Ethiopia". By utilizing the potentials of the water-energy nexus, the project aims to set up a solar-powered slow filtration system to produce clean water adopting innovative technologies in rural settings. Another UNIDO project titled "Identifying and recommending a road map to establish industrial enterprises related to electric systems and appliances and/or electronics in Regional Industrial Clusters", to support SMEs working in the sector in the Regional Industrial Clusters, to enhance their competitiveness by addressing challenges to finance, infrastructure development and access to business development services and training courses.

Islamic Republic of Iran

With over 81 million inhabitants and an area of 636,372 square miles, Iran is the second-largest country in the Middle East. It is a resource rich country and it holds the world's fourth-largest proved crude oil reserves and the world's second-largest natural gas reserves.

In recent years the Islamic Republic of Iran has supported the international effort to mitigate greenhouse gas emissions (GHGs) and to adapt to the impacts of climate change, however dependence of the national economy on revenues from production and export of oil and its by-products that are high-carbon intensive have made the economy, public welfare, resources and technology of the country vulnerable to mitigation of GHGs emission. In the coming years, economic growth, social development, poverty eradication and environmental sustainability will continue to be the main priorities of the national development agenda as pointed out in the Intended Nationally Determined Contribution (INDC) reported on November 2015.

In this framework, this project represents the second phase of the project "Support to Iran's SMEs upgrading through Investment Promotion and Technology Transfer in energy and environment" funded by the Italian Ministry of Environment, Land and Sea (IMELS) and implemented by UNIDO ITPO Italy from January 2017 to June 2018.

In March 2019, UNIDO also completed a GEF funded project in Iran titled "Industrial Energy Efficiency in Key Sectors" to promote energy efficiency in five high energy consuming industrial sectors (iron and steel, petrochemicals, refinery, brick and cement) by adopting a national framework for Energy Management Standards (EnMS). The project successfully supported the mainstreaming of energy efficiency practices in selected sectors, Building on UNIDO's work through the GEF project, the current project will focus on developing enterprises in the energy and climate change space that will drive market based dissemination of these technologies across many other sectors.

Republic of Kazakhstan

Kazakhstan is the world's largest landlocked country and the ninth largest in the world, with an area of 2,724,900 square kilometers. The Country's population is estimated at 18,488,067 people, and nearly 50% of the population resides in urban areas. After achieving independence in 1991, Kazakhstan has successfully restructured its economy and propelled itself to become one of the economic leaders in Central Asia.

In 2006, it entered the upper-middle-income group of countries, driven by its strong economic growth drawn from its extensive use of natural resources, particularly the exploitation of oil and natural gas. The oil-and- gas sector contributes about a third of the country's public revenues, which in turn support Kazakhstan's fast-paced development and growth.

In this context, one of the main priorities for the Government of Kazakhstan is the transition of the economy to low carbon development, in order to address issues in the field of climate change and ensure the sustainability of the national economy.

Republic of Kenya

With a population of 48,397,527 people, Kenya is the economic, financial, and transport hub of East Africa. Kenya's real GDP growth has averaged over 5% for the last decade. Since 2014, Kenya has been ranked as a lower middle-income country because its per capita GDP crossed a World Bank threshold. While Kenya has a growing entrepreneurial middle class and steady growth, its economic development has been impaired by weak governance and corruption. Although reliable numbers are hard to find, unemployment and under-employment are extremely high, and could be near 40% of the population.

Agriculture remains the backbone of the Kenyan economy, contributing one-third of GDP. About 75% of Kenya's population of roughly 48.5 million works at least part-time in the agricultural sector, including livestock and pastoral activities. Over 75% of agricultural output is from small-scale, rain-fed farming or livestock production.

In this framework, Kenya's energy sector is largely dominated by petroleum and electricity, with wood fuel providing the basic energy needs of the rural communities, urban poor, and the informal sector. There is a heavy dependency on wood fuel and other biomass that account for 68% of the total energy consumption (petroleum 22%, electricity 9%, others account for 1%). Electricity access in Kenya is low despite the government's ambitious target to increase electricity connectivity, but the Country has also aggressively pursued connections, having nearly doubled electricity access of households in 4 years. However, Kenya with its huge potential has an opportunity to take its power sector from good to great by implementing policies, strategies and plans in the sustainable energy sector, in order also to achieve the emission reduction target adopted by the Country.

UNIDO's energy portfolio in Kenya includes promotion of waste to energy (WTE) technologies, through a project titled "Sustainable conversion of waste into clean energy to reduce GHG emissions in Kenya. UNIDO is also supporting Kenya Electricity Generating Company (KenGen) to improve the efficiency in geothermal power generation at the Olkaria plant, through technology transfer and collaboration for Internet of Things (IoT) technologies.

Republic of Peru

Peru, with a population of 32,162,184 people and an area of 496,225 square miles, has had an unprecedented economic growth over the last two decades, but still faces a number of developmental challenges. In recent years, poverty has decreased from approximately 60% in 2004 to less than 21.8% in 2015, yet the distribution of wealth is highly unequal. Peru's continuing socio-economic progress relies on productivity increases in diversified sectors, as well as a reduction of the informal economy and overall inequality.

Peru's productivity and competitiveness lag significantly, particularly in terms of infrastructure and human capital. To drive productivity, Peru needs to invest in education, skills development and innovation capacity. Additionally, the government ought to address regional disparities and enduring levels of inequality, as poverty in the rural areas reaches a rate of 46% in comparison with urban areas where this number only amounts to 11%. Inequality is also evident in terms of gender-based disparities.

Furthermore, Peru is endowed with diverse energy resources but has an energy matrix centered in fossil fuels,

which represent 80% of total primary energy supply. Despite being a gas-rich nation, it's a net importer of liquid fuels, including oil and intermediate distillates. In addition to a developed hydropower sector, renewable energy technologies have a small share of the Peruvian energy matrix, representing only 3% of supply.

In this framework, the Government of Peru has recognized the importance of adopting energy efficiency measures and passed comprehensive regulation, with the main policy being National Energy Policy (Política Energética Nacional 2010- 2040) from 2010, which states that energy efficiency should be recognized within the national energy matrix.

UNIDO launched a Programme for Country Partnership (PCP) for Peru in 2014, through which UNIDO, together with the Ministry of Production (PRODUCE) and other national and international partners, will support the Government of Peru in fostering Inclusive and Sustainable Industrial Development (ISID). Within this framework, the PCP Peru will support the implementation of national policies which support the productive transformation of the Peruvian economy. UNIDO and the PRODUCE will work together to strengthen the national systems of quality and innovation, support the development of a national programme on industrial parks and identify new business models for the priority sectors. The Technical Cooperation Framework jointly developed by UNIDO and the Ministry of Production (PRODUCE) is comprised of four components: (i) quality and innovation, (ii) value chain and enterprise development, (iii) sustainable industrial parks and (iv) industrial resource and energy efficiency, including renewable energy for productive use and the environmentally sound management of chemical substances and waste. These components will be implemented at the national level, with the support of partnering institutions.

A3. Main Target Groups and Stakeholders

Direct beneficiaries of the project interventions are:

- SMES from the seven partner countries, working in the sustainable energy and environment technology sector
- SMEs in Italy who are in the environment and energy technology business and are interested investment and joint venture opportunities in the seven recipient countries.
- Policy makers from the seven countries who will interact with other policy makers to appreciate best-practices and lessons in supporting SMES in energy and environment
- Investment and trade promotion agencies from the seven countries that will interact with counterparts in Italy.

The target beneficiaries of this project will be both women and men since UNIDO recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive industrial development, which are key drivers for poverty alleviation and social progress.

In addition, stakeholders will also consider relevant gender focal points and experts, as well as local and international associations and/ or agencies promoting gender equality and women's empowerment, in particular those focusing on the nexus between gender and entrepreneurship.

Stakeholders of the project include Chambers of Commerce, Industrial Associations, Renewable Energy Associations, as well as national agencies mandated with the promotion of technology innovation, SME development, etc. Other private and public ecosystem players and stakeholders relevant for successful achievement of the project objectives will be identified and engaged through a stakeholder mapping during the project inception phase.

A4. Synergy

Global trends and experiences have shown the catalytic potential of technology innovation in addressing the challenges of climate change mitigation and adaptation. In addition, climate change also offers opportunities for economic growth through creation of new industries and business models. In particular, the agility of SMEs

and start-ups allow them to be key players providing innovative technology solutions and products. A thriving and robust SME sector is key to poverty reduction, and supporting start-ups and SMEs with technology innovations that provide solutions to environmental concerns to become profitable businesses, allows private sector to lead a green and sustainable economic growth trajectory. This also allows synergies between Sustainable Development Goals 7, 9 and 13 on energy, industry and innovation, and climate action.

However, SMEs and start-ups with such technological innovations are not systematically identified, accelerated and fostered, as the innovation ecosystems in developing countries are often weak or non-functional. Therefore SMEs and start-ups are not given the opportunity to transform their clean technological innovations into viable enterprises that attract investments at local and global level so as to bring them to scale and have transformative economic, social and environmental impact. Another primary obstacle to the large-scale deployment of low carbon, climate resilient technologies in developing countries and emerging economies is a shortage of bankable projects on the demand side and difficulties assessing risks and a conservative lending culture on the supply side.

Recognizing these challenges, and in line with the mandate to promote inclusive and sustainable industrial development (ISID), UNIDO has been supporting member states to be better equipped to benefit from the economic opportunities embedded in environmental challenges. This stems from the understanding that developing and emerging economies need to be fully engaged in the transition towards an alternative development trajectory, conducive to business models that prioritize low carbon economy considerations. To address these issues in a systematic and comprehensive manner, UNIDO offers three key initiatives as following:

1) The Global Cleantech Innovation Programme (GCIP)

GCIP support the shift towards a low carbon economy, by engaging directly with cleantech-based start-ups and SMEs in developing countries, and support their transformation into fast-growing, scalable, and investible business. In particular, key interventions provided under the GCIP include:

- Innovation and entrepreneurship ecosystem analysis: Through assessment of the strengths and weaknesses of the national innovation landscape, set of services required to create an enabling environment for cleantech based start-ups and SMEs in the partner country are determined.
- Business acceleration for cleantech based enterprises: Early-stage cleantech and business model innovations are identified and accelerated through coaching, mentoring, and training so that they become fast-growing, scalable and investible enterprises.
- Advance commercialization and investment facilitation support: For select enterprises with high-impact potential, advanced support is provided for product development, piloting and commercialization of the innovations. Continued support is also provided for enterprises to access early stage financing and risk capital instruments and opportunities. Strategic partnerships are established with venture capital funds, industry associations, banks and angel investors to increase their awareness and increase the likelihood of investments.
- Supporting implementation of legal and regulatory frameworks: Governments and agencies with policy mandates are supported with advice and tools to enhance the frameworks that create business incentives and or obligations that address both the supply and demand side of cleantech markets. This includes assisting in the development of standards, norms and other instruments that facilitate overall growth of the cleantech markets.
- Strengthening national ecosystem and institutional capacities: Key ecosystem players such as national institutions, industry associations, universities, investor networks, large corporations etc. are engaged and consulted as stakeholders, and receive targeted training to understand

their respective roles in the ecosystem, and to be able to promote commercialization, and entrepreneurship and upscaling of cleantech innovation.

- Cross border ecosystem connectivity: Leveraging GCIP's unique strength as a global initiative, national ecosystems of GCIP partner countries are connected at all levels (government agencies, start-ups and SMEs, investors, universities etc.) to facilitate knowledge transfer and sharing, technology collaboration, market expansion, and investment facilitation.

These services help in the establishment of effective cleantech ecosystems where innovations are systematically supported so that they can be transformed into successful enterprises. Between 2014 and 2019, GCIP supported over 865 clean technology innovations from SMEs and start-ups, demonstrating the potential of technology innovations in accelerating the transition to a low carbon economy.

Examples technology innovations supported rated by GCIP include:

- Thevia from South Africa developed roofing tiles produced from 99% waste materials, which reduce 1.99kg of CO2 emissions per tile, and consumes 100 tons of slimes and 30 tons of plastic waste per production line per week. Made from recycled High-density Poly Ethylene (HDPE), one of the most commonly used plastics, these green roof tiles are twice as strong as traditional concrete tiles and 70% lighter. Thevia's selling price yields an 8–15% saving on the total roof installation cost. These roof tiles are especially suited to low-cost housing, and offer a green solution for roof building and construction.
- Atomberg Technologies from India developed energy-efficient ceiling fans, which are 65 per cent more energy efficient than conventional fans. Assuming a market share of 10% in India, the potential energy savings per year are projected to be 3690 GWH, with a potential economic saving of \$283m and CO2 emission reduction potential of 3.6m tonnes. <https://atomberg.com/>
- Free the Seed team from Malaysia produces biodegradable packing using waste paddy husks. The business model provides additional revenue streams for over 1300 rice farmers, and is calculated to save 600,000kg of CO2 reductions per annum.
- Saathi from India produces fully biodegradable sanitary pads from sustainably sourced banana fiber, addressing plastic and chemical disposal issues of conventional sanitary pads. The product is also providing local solutions for women and girls that were previously prevented from working and attending school during menstruation as they had no access to sanitary pads. <https://saathipads.com/>

2) Private Financing Advisory Network (PFAN)

UNIDO hosts the Private Financing Advisory Network (PFAN), which is a multilateral public private partnership initiated by the Climate Technology Initiative and the United Nations Framework Convention on Climate Change (UNFCCC). It identifies and nurtures promising, innovative clean and renewable energy projects by bridging the gap between investors, clean energy entrepreneurs and project developers. The primary obstacle to the large-scale deployment of low carbon, climate resilient technologies in developing countries and emerging economies is the access to finance. PFAN mobilizes private sector's expertise in financing climate-friendly projects and technologies to screen business plans and select projects that are economically viable, as well as environmentally and socially beneficial. For the selected projects, PFAN provides guidance in areas such as economic feasibility, project structure, investment and financing, preparation of the business plan, and introductions to investors. By assisting with the development and deployment of low carbon generation capacity in developing countries, PFAN also contributes to achieving the goals of the UNFCCC Paris Agreement, and meeting the 2030 Agenda for Sustainable Development Goals, in particular Goal 7 (energy), Goal

9 (industry), Goal 13 (climate action), and Goal 17 (partnership).

PFAN interventions are designed to:

- Unlock frontier markets for climate technologies
- Create financial service ecosystems
- Capacitate businesses to develop bankable projects
- Mitigate investor risk with increased project quality and knowledge
- Facilitate project-to-finance match-making
- Aggregate pipeline of projects for large-scale investment
- Collect and promote best practices, and replicate promising business models

PFAN is one of few actors in the climate finance field addressing the barriers for small and medium enterprises (SMEs) in developing countries and emerging economies, by leveraging private sector investment with a small amount of public funds (leverage rate of USD 80-100 for every USD 1 of donor funds).

PFAN has raised total financing of \$1.2 billion, which is being used to build, install and operate 701 megawatts (MW) of clean power for 87 projects across Africa, Asia and Latin America. These projects – which include solar and wind farms, biomass and biogas power plants, small hydro generation, decentralized renewable energy mini-grids for underserved areas, and others – together translate to over 2.6 million tonnes of CO₂ that would otherwise be released into the atmosphere annually.

3) Investment and Technology Promotion Offices (ITPOs)

UNIDO's network of Investment and Technology Promotion Offices (ITPOs) are established in strategic cities to contribute to the reduction in development imbalances by brokering investment and technology agreements between developed, developing countries and countries with economies in transition. Located in both hemispheres, the specialized network of UNIDO ITPOs opens up opportunities for investors and technology suppliers to find potential partners and offers unique services to both entrepreneurs and business institutions.

ITPO services include:

- Providing professional support to enterprises for partnership and business negotiations: ITPOs guide potential investors from their host countries and from developing countries at each stage of the investment cycle, from project identification through appraisal to implementation. In doing so, ITPOs offer a full package of up-to-date information on screened and validated investment opportunities, including manufacturing facilities, and technology supply sources. ITPOs also provide first-hand knowledge on how to do business in local environments, including legal and economic aspects.
- Operating the delegate programme for investment and technology promotion:

Within this programme, ITPOs host officials from developing countries and economies in transition to give them hands-on training in investment promotion techniques so that delegates are able to promote portfolios of screened investment and technology opportunities from their own countries. Thereafter, delegates act as contact points between their countries and potential foreign partners.

The Italian ITPO based in Rome was created in 1987 with the mandate to enhance the competitiveness of small to medium-sized enterprises (SMEs) in developing countries, through the mobilization of investments as well as the transfer of technology, and management skills together with capacity building activities required for the implementation of industrial projects and SMEs upgrading in developing and emerging countries. Main partners of the ITPO are the Italian Ministry of Foreign Affairs, Italian Cooperation and the Italian Ministry for Environment, Land and Sea.

The Italian ITPO focuses on providing the following:

- Services to enterprises: dissemination of information on investment climate in developing countries; reliable business partners scouting and matchmaking activities; organization of business delegations and B2B meetings during fairs and international events; preliminary evaluation of investment projects; organization and implementation of capacity building activities for SMEs upgrading and development.
- Services to institutions: training and capacity building activities; arrangement and implementation of study tours and technical assistance programs for the development of specific industrial sectors; country and industrial sector promotion; institutional networking; dissemination of information on developing and emerging countries' investment opportunities; and organization and implementation of the delegate programme.

B. UNIDO APPROACH

B1. Rationale

Origin of the proposal

UNIDO's Investment and Trade Promotion Office of Italy (ITPO Italy) established a strong and longstanding collaboration with the Italian Ministry for the Environment, Land and Sea since 2006, becoming one of its main implementing agencies for different projects of investment promotion and technology transfer concerning renewable energies and green technologies in developing countries.

ITPO Italy is committed to promoting an environmentally sustainable and socially inclusive industrial development model mainly in the African Continent, where the ITPO Italy implemented projects for benefiting Egypt, Morocco (with a focus on solar energy and waste & wastewater treatment and management technologies), Cameroon, Ghana and Tanzania (with a focus in tech transfer and investment promotion on the whole range of renewable energies and green technologies).

Starting from 2015, this role as implementing agency for ad hoc projects on investment and technology promotion funded by the Italian Ministry for the Environment, Land and Sea, continued within the framework of Italy's commitments to addressing climate change at the 21st United Nations Climate Change Conference in Paris.

In the past 3 years ITPO Italy has implemented projects in Iran (focused on energy efficiency and renewable energy), Botswana (focused on solar energy and biogas) – both completed in 2018 – and one, still ongoing, in 6 selected MENA countries (Jordan, Tunisia, Lebanon, Morocco, Egypt, Palestine).

In the framework of the consolidated collaboration, established in 2006, between the Italian Ministry of the Environment, Land and Sea (IMELS) and UNIDO ITPO Italy and on the basis of the experience of ITPO Italy as cooperating agency in numerous environmental projects with the Italian Ministry, IMELS defined the priority countries for collaboration with ITPO, for the biennium 2019-2020 in accordance with the commitments undertaken at COP 21 in 2015.

This project was originated directly from the relevant Direction at the Italian Ministry for the Environment, Land and Sea, and responds to an increasing demand for strengthened partnerships, experience sharing, multi-level and integrated solutions to address the energy, climate and development challenges simultaneously, by contributing to covering the gap in the nexus between energy and environment issues in selected countries through ad hoc scouted Italian technologies and best practices.

The seven partner countries were identified on the basis of a careful overlapping of the donor's geographical

interests, the matching between the requests of support from the beneficiary countries expressed in the MoUs and the core activities of the ITPO Italy, and the target countries of UNIDO's PCP roll out.

Challenges to be addressed

The most recent IPCC report¹ notes that if current trends continue, global warming will pass 1.5C above pre-industrial levels between 2030 and 2052. Although the 2015 Paris Agreement sets a clear ambition for investment flows in innovations for a low carbon future, the recent IPCC report does not deem these commitments sufficient to keep the temperature rise below 1.5C. The only scenario that ensures 1.5C level is for CO2 emissions to be reduced 45% below 2010 levels by 2030, and to reach 'net-zero' by around 2050. This scenario requires transformational and systemic changes at all levels of scientific, technological, political, social and economic sectors with all nations, organizations and individuals actively participating in the transition. Within this context, a systematic adoption of climate and clean energy technology (cleantech) innovations is a key tool in efforts to reduce CO2 emissions and mitigate climate change.

In many developing countries and emerging economies, SMEs are already developing local cleantech innovations, but they are currently not supported to achieve large-scale deployment. Therefore the opportunities for these cleantech innovations to contribute to climate change mitigation are missed. In the process of developing the cleantech innovations into viable businesses and enterprises, entrepreneurs and SMEs face several barriers and the "valley of death" that is deeper and wider compared to developed countries. In particular SMEs face:

- absence of an enabling policy and regulatory environment that would create the market-pull for cleantech innovations in SMEs;
- weak and non-functioning innovation ecosystems where resources invested in the knowledge economy are not linked to changes in the commercial economy and institutions mandated to promote technological innovation lack capacity and policy guidance on accelerating cleantech innovations;
- lack of coordination amongst sectoral players on market intelligence research (undermining decision-making regarding market opportunities and penetration strategies) and meaning they do not collaborate to support and foster cleantech SMEs to develop new innovations and commercialize their products and services;
- limited access to finance, partly due to a mismatch of start-up needs and offerings of financing institutions and a lack of interaction between SME innovators and potential investors;
- limited knowledge of cleantech innovation and investment amongst local investors and subsequently a reduced appetite for risk.
- limited awareness of financial schemes, requirements and procedures to access financing for cleantech and limited government financial incentives to support industrial enterprises on the uptake of innovation in the cleantech space. In particular there is limited or no knowledge of potential international finance opportunities in their sector and it is difficult for them to access this finance;
- lack of startups' and entrepreneurs' strategic business planning and marketing skills leading to high risk of failure;
- lack of awareness in businesses and private sector of new developments and trends on innovations related to their operations, manufacturing and distribution, locally or globally;
- limited knowledge of markets and potential partners outside their country which could expand their business; and
- lack of public awareness regarding market potential of low-carbon innovation technologies.

Ultimately, such SMEs are not given the opportunity to transform their cleantech innovations into viable enterprises that can attract investment at local and global levels, which in turn would allow them to scale and to deliver transformational economic, social and environmental impacts. To overcome these barriers so as to achieve transformational change, a holistic ecosystems approach must be adopted to create a conducive environment to systematically identify, accelerate and scale SME led cleantech innovations. Targeted

¹ IPCC, October 2018 (<http://www.ipcc.ch/report/sr15/>)

acceleration of fast-growing cleantech innovation SMEs creates new green jobs and industries and catalyzes greater private sector investments in protecting the local and global environment. In parallel to this, there is need to galvanize stakeholders to develop policy and regulatory innovations that create the market pull for these cleantech innovations. Likewise, it is equally important to build capacities of clean technology innovation and entrepreneurship ecosystem players to be able to systematically support the origination, development, commercialization and large-scale deployment of cleantech innovations by SMEs. Furthermore, to create extended market opportunities across different countries, it becomes important to connect ecosystems across countries and promote partnerships amongst innovators, entrepreneurs, financiers, and policy makers.

B2. Comparative Advantage

This project brings together the three UNIDO approaches (GCIP, PFAN and ITPO), as detailed in section "A4. Synergy", into a package of services to support the seven partner countries in creating conducive environments that can systematically support cleantech innovations developed by SMEs, and to strengthen cross-country ecosystem connectivity for investment and trade opportunities. A curated combination of UNIDO interventions under this project will promote i) transformation of innovations into fast-growing enterprises, ii) systematic link to investment opportunities, iii) policy and regulatory environment conducive to risks associated with technology innovation and investments, v) linkages and connectivity among innovators, governments, R&D community, investors and businesses, vi) strengthening of partnerships for investment and trade.

Combined, the interventions delivered under the project will support developing and emerging economies to be fully engaged in the energy and climate transition and the associated growth opportunities. The project will contribute to promoting an alternative development trajectory conducive to business models that prioritize both profit and environmental concerns by engaging directly with the private sector in developing countries to offer commercially viable technology solutions.

B3. Inception Phase

First six months of project implementation will be the project inception phase, at the end of which an inception report with detailed work plan will be prepared for submission to the donor and all key partners. Please see further details explained in Output 1.1.

UNIDO Representatives in the seven partner countries will be extensively consulted during the inception phase to ensure that the project interventions are fully aligned with national priorities and UNIDO activities in each partner country.

B4. Sustainability Strategy

A key dimension and consideration of the project will be to build national capacities in the partner countries. All training materials developed under component 1 will be transferred to the national counterpart agencies in order to facilitate knowledge and capacity transfer to the partner countries.

Under component 2, ITPO Italy will recruit seven national experts (one for each country) that will act as a local focal point and coordinate project activities national wide. They will liaise with local stakeholders and advocate on behalf of the project and will support in the implementation of a work-plan for the establishment and sustainability of project activities.

B5. Gender Mainstreaming Strategy

UNIDO recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive industrial development, which are key drivers for poverty alleviation and social progress. Commitment of UNIDO towards gender equality and women's empowerment is demonstrated in its policy on Gender Equality and the Empowerment of Women (2015), which provides overall guidelines for establishing a gender mainstreaming strategy. UNIDO has also developed an operational

energy-gender guide to support gender mainstreaming within its sustainable energy initiatives.

UNIDO has extensive experience in promoting and achieving gender sensitive impact, even in countries where gender inequality is systemic. A guiding principle of the project will be to ensure that both women and men are provided equal opportunities to access, participate in, shape, and benefit from the project. Special efforts will be made to promote equal participation of women and men, both at managerial and technical levels, as consultants, participants, entrepreneurs, mentors, etc. in all stages of project implementation.

UNIDO's Guide on Gender Mainstreaming Energy and Climate Change Projects will be used as a framework and guide for the gender studies of the project. Based on the guidelines, attention will be paid to:

- Gender-sensitive recruitment at all levels where possible, especially in selection of project staff. Gender responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. Furthermore, whenever possible existing staff will be trained and their awareness raised regarding gender issues.
- Considering gender dimensions in all decision-making processes (this will consider but will not be limited to efforts to achieve gender balance/ representation in such processes).
- Collection of sex-disaggregated data.

This project is considered to be with limited expected contribution to gender equality, as the project scope does not target women's empowerment specifically. Robust efforts will be made to ensure that women-led SMEs are given the equal opportunity to benefit from the project activities. Gender analysis to be conducted during the inception phase will inform the detailed project work plan, and a section on gender mainstreaming will be included as part of the project inception report. Gender analysis conducted for GCIP and PFAN project will also be taken into account during the inception phase.

B6. Environmental and Social Assessment

Environmental and social sustainability is fundamental to the achievement of development outcomes and is systematically mainstreamed into UNIDO's project cycle through consistent application of an environmental and social screening and assessment procedure.

In line with the UNIDO Environmental and Social Safeguards Policy and Procedures (ESSPP), the project has been screened and found to be a Category 'B' project as technology solutions identified may have an environmental and social impact. During the identification and selection of technology solutions to be supported through the project, environmental and social sustainability consideration will be taken into account and, if necessary, follow-up steps e.g. in the form of an ESMP carried out.

C. THE PROJECT

C1. Project Logical Framework

Project Components

Outcome

Sustainable energy and environment technology innovations from Small and Medium-sized Enterprises (SMEs) in the in the partner countries receive support for commercialization and scale-up

Output 1 (Technical Assistance)

Investment readiness of high-impact innovations and projects in SMEs enhanced

This component will focus on strengthening the capacity and competitiveness of SMEs in partner countries to commercialize technology innovations and projects in the field of sustainable energy and environment. This will contribute to strengthen the SME sector of the partner countries, so they are better able to benefit from market opportunities in the sustainable energy and environment sectors.

Component 1 will employ UNIDO's established and proven approaches of its two flagship initiatives – namely the Global Cleantech Innovation Programme (GCIP) and the Private Financing Advisory Network (PFAN), and will be led by the Department of Energy.

1.1 Baseline data gathering and analysis conducted

To ensure that the interventions delivered under this project are fully in line with the national development priorities of each partner country as well as their market contexts, an inception phase of 6 months will be conducted to further refine and concretize the intervention approaches.

1.1.1. Conduct technical missions to each partner country

- Technical missions for project scoping and stakeholder consultations will be conducted to:
 - identify priority sustainable energy and environmental technologies for each partner country, and related market context and investment trends in each partner country
 - identify execution partners in each partner country
 - consult strategic stakeholders and UNIDO Country Representatives to strengthen the relevance and alignment of the project with existing national initiatives in each partner country

1.1.2. Develop a detailed project work plan

- Based on the findings from the technical mission, a detailed project work plan will be developed. The detailed work plan will include a refined description of activities and approaches for each project component, revised project results framework (logframe) including revised indicators if required, and assignment of responsible entity for each activity.
- In the development of the detailed project work plan, the below considerations will be incorporated
 - additional risks will be identified and the corresponding mitigation measures will be incorporated into the project approach and work plan
 - priority sustainable energy and environmental technologies and related investment trends in each partner country will be defined, and will inform the selection of enterprises under output 1.2 and 1.3.
 - key execution partners will be identified in each partner country, and their specific roles will be agreed on
 - all relevant JDs/TORs for national and international experts and consultancies will be drafted, and recruitment/procurement plans will be incorporated into the project work plan
 - a gender analysis of the partner countries and Italy will be conducted, based on which gender mainstreaming efforts to be taken under the project will be outlined as part of the detailed project work plan.

1.1.3. Prepare an inception report for submission to all key partners and donor

- All findings of the inception phase will be compiled into a Project Inception Report which will summarize all activities undertaken during the inception phase and the related results. The inception report will also include the detailed work plan developed under activity 1.1.2, and will be submitted to all relevant key stakeholders of the partner countries and the donor.

1.2 Competitiveness and investment-readiness of SMEs with technology innovations and projects enhanced

Technical assistance will be provided to enterprises in the partner countries to enhance the competitiveness and investment-readiness of their cleantech innovations. They will be supported to develop their products and business models in consideration of the national development priorities and global cleantech market opportunities.

The SMEs that receive the acceleration and coaching services under this output will be equipped with an enhanced business case and better prepared to benefit from the investment and technology collaboration opportunities offered under outcome 2 of the project.

1.2.1. Select SMEs with high-impact potential technologies in the seven partner countries

- Based on the findings from the technical missions under output 1.1, a final assessment of market opportunities and development priorities for technology innovations in each of the partner countries and Italy will be conducted. This assessment will inform the definition of “high impact potential” technology innovation for each partner country.
- At least five enterprises/projects with high-impact potential cleantech innovations will be identified in each partner country. The selection process will entail a robust promotion and advocacy campaign in each country, to ensure that all eligible enterprises and projects are informed of the opportunities under this project. Efforts will be made during the outreach campaign to encourage eligible women and youth-led enterprises/projects are given equal opportunity to benefit from the project interventions and activities.
- The exact application process and selection criteria for each partner country will be specified during the project inception phase. Screening measures will be placed to ensure that enterprises/projects that do not comply with national labor laws or technology solutions with potential adverse impacts on the human health and the environment are not selected.

1.2.2. Provide business coaching and acceleration services for the selected SMEs to enhance their business competitiveness and investment readiness

- The enterprises/projects selected under activity 1.2.1 will receive targeted support from the project to enhance their investment readiness and business competitiveness. The specific methodology and curriculum for business coaching and acceleration will be mainly based on the GCIP and PFAN approaches, but tailored to fit the particular needs of each enterprise/project and the corresponding cleantech market context.

→ International and national experts will be recruited to ensure that each selected enterprise/project receives tailored business acceleration coaching, mentoring, and training. Budget for recruitment of experts is allocated under output 2, and the recruitment process will be conducted in close consultation with the Department of Energy to ensure that the right technical and business expertise are employed to provide the acceleration services based on GCIP and PFAN approaches. This component will consist of online webinars, one-on-one mentoring and coaching, and national workshops. Topics to be covered through the component include the following:

Business Model Innovation
Business Model Validation
Product/Market Fit
Market(s) and Getting to Them
Product/Technology Validation
Finance
Funding
Legal Issues
The Team & The Board
IP Protection & Strategy
Social and environmental sustainability (including sensitization on gender dimensions)
Tracking & Monetizing Impact
Executive Summary & Investor Presentation
Investor Pitch Interactive Session
Customer Discovery & Development Review
Corporate Partnerships
Government Relations, Regulations & Funding
Project Finance

Angel Investment & Venture Capital
Going Global
Next Steps / Path to "Success"

- The methodology and curriculum combine will need to be also refined according to the type of cleantech innovation selected to receive support. Therefore, coaching and acceleration curriculum and identification of expertise required can only be confirmed after the selection of enterprises/projects under activity 1.2.1. Two month lead time is expected between selection of enterprises/projects and start of the business coaching and acceleration, for finalization of the business coaching and acceleration curriculum. Another important consideration would be the language requirements, and experts and consultancies that can provide the services in the local languages will be recruited/procured. The project work plan will also be developed in consideration of this requirement. A separate strategy and work plan for the business coaching and acceleration service will be fully developed before start of activity 1.2.2.
- The business coaching and acceleration curriculum is expected to take between 6 to 8 months.

1.3 Advanced support provided for investment facilitation and technology collaboration for selected SMEs

A select number of high-growth potential enterprises/projects accelerated under output 1.2 will also receive advanced support for investment facilitation and technology collaboration.

1.3.1. Invite high-growth potential SMEs to participate in global events for exposure and networking

- Selected enterprises/projects will be invited to showcase their technology innovations and business cases at the GCIP Global Forum and PFAN Investment Forum.
- The enterprises/projects will also be invited to other global events as opportunities arise, where they will gain exposure to potential investors, partners and policy-makers at such as the Vienna Energy Forum and the annual UN Climate Change Conferences.
- The enterprises/projects will also benefit from dedicated match making services with investor networks, commercialization partners as well as government procurement offices, to increase their exposure to the market.

1.3.2. Facilitate curated networking among select SMEs to explore joint technology collaboration and transfer opportunities for cross border expansion

- Some selected SMEs will be given curated peer networking opportunities with other SMEs from the seven countries and Italy. Through peer networking, the SMEs will explore opportunities for technology collaboration, product co-development, joint ventures for market expansion, among other collaboration opportunities in a business-to-business to context.

1.3.3. Support communication and promotion efforts of high-growth potential SMEs

- To support the enterprises/projects to fully benefit from the networking opportunities, support will be provided to each enterprise/project in producing promotional materials such as product brochures, company profiles, videos.

1.4 Policy dialogues, knowledge creation and linkages facilitated between the sustainable energy and environmental technology innovations and other international partners

Under this component, research will also be conducted to inform global policy dialogues on sustainable energy and environmental technology innovations, in collaboration with key strategic partners.

1.4.1. Facilitate knowledge exchange and research to inform national policy dialogues

- In parallel to other activities under component 1, research will be conducted to provide evidence-based policy tools to governments of the partner countries for promotion and scale-up of sustainable energy and environmental technology innovations. The research topic and type of policy tool to be developed

will be determined during the inception phase of the project, in consultation with the partner country governments and stakeholders to ensure that the knowledge products will make a meaningful contribution to the policy environment of each partner country, and are in line with the requests of the partner countries. UNIDO Country Representative of each partner country will also be extensively consulted in facilitating dialogues with the relevant policy makers and stakeholders. Knowledge exchange and transfer among partner country governments and stakeholders will be facilitated to promote synergies and sharing of best practices and lessons learned among the partner countries and Italy.

1.4.2. Conduct global policy dialogues with key strategic partners

- Global policy dialogues will be conducted with key strategic partners such as the International Renewable Energy Agency (IRENA), to discuss for promotion of technology innovations in sustainable energy and environment sectors for a transition to a low-emission economy. This may take the form of a UNIDO Expert Group Meeting (EGM), or may entail UNIDO's proactive leadership and participation in existing dialogues.
- Policy makers and experts from the partner countries will also be invited to take part in the global policy dialogues.

Output 2 (Business Promotion)

Investment, commercialization and trade opportunities facilitated for SMEs through international partnerships and collaboration

This component is designed to promote business and investment opportunities in Italy and partner countries, and to facilitate networking among key stakeholders including national agencies and institutions. This will result in enhanced ecosystem connectivity among national ecosystems of innovation and entrepreneurship among Italy and the seven partner countries

2.1 Business and investment opportunities in Italy and partner countries promoted

Business promotion services will be provided to enterprises both from Italy and the partner countries, during the investment promotion activities. They will receive logistic support and customized assistance to participate in the selected global fairs/events, in the sustainable energy and environment sectors.

UNIDO ITPO Italy will lead component 2, and build the capacity of local institutions in incorporating international best practices into their own investment promotion efforts by providing accurate, up-to-date investor information and technical assistance to help them readjust investment promotion strategies towards the implementation of customized business support services reap benefits of international investment and link local productive sectors to the global economy.

Furthermore, UNIDO ITPO Italy, in synergy with the Italian Ministry for the Environment, Land and Sea (IMELS) will play an active role in developing linkages between local entities and foreign development / investment promotion agencies.

2.1.1. Identify suitable local fairs/events and key stakeholders to be selected by IMELS and partners in the selected countries

- Based on the findings from the technical missions under output 1.1, business opportunities will be explored in order to:
 - accelerate development of contacts between interested business counterparts
 - identify fairs and events for potential domestic and foreign investors/enterprises.

2.1.2. Promote identified fairs among Italian relevant stakeholders/companies

- Selected Italian stakeholders/enterprises will be invited to participate in specialized technology fairs as opportunities arise, where they will gain exposure to potential partners and policy-makers
- Information and advice will be provided to interested parties in Italy regarding global events/fairs and international exhibitions.

2.1.3. Conduct investment promotion activities through technical tours and organization of B to B and other business gatherings and follow-up:

- Organization of ad hoc outgoing business missions to participate to the promoted fairs/events in the selected countries will be carried out in order to promote business partnerships between Italy and the selected countries.
- Through the identification of business opportunities, Italian selected enterprises will have the opportunity to showcase their cutting-edge technology and business cases and/or to know potential partners
- Surveys will be carried out in order to identify appropriate technologies to be introduced for the benefit of the enterprises from selected countries.
- The enterprises will benefit from dedicated match making services with investor networks, commercialization partners to increase their exposure to the market.
- The enterprises will be provided with all the information regarding potential partnerships and any other form of transfer of technology and knowhow.

2.1.4. Provide customized assistance and local logistic support to Italian and local participants to the selected fairs/events

- Companies and enterprises will be given logistic support during their participation in the selected fairs/events.
- To support the enterprises to fully benefit from the business opportunities, individual support will be provided to each company, providing them all the information needed.

2.1.5. Arrange company visits in the selected countries

- An Italian business delegation will participate in an organized study tours in order to introduce respective technologies to the potential beneficiaries.
- The local enterprises will receive information regarding transferable technologies owned by Italian companies and institutions
- The Italian companies will have the opportunity of discuss with local enterprises about their technology innovations and business cases.

2.1.6. Organize the participation of an incoming institutional and business delegation from the selected countries to specialized fairs (i.e. Ecomondo 2019)

- In order to introduce respective technologies to the potential beneficiaries, an incoming institutional and business delegation from the selected countries will come to Italy to participate in specialized fairs (i.e. Ecomondo 2019).
- The delegation will have the opportunity to participate in B to B meetings with selected Italian stakeholders, with the aim to foster business partnerships in the field of interest.

2.1.7. Facilitate follow up activities on the opened negotiations

- Follow-up with the companies in the selected countries interested in the acquisition of Italian technology will be carried out in order to support them in the negotiations with Italian enterprises.
- Regular contacts with Italian enterprises and stakeholders will be carry out in order to assist them in their negotiations with enterprises from selected countries

2.1.8. Ensure visibility to the project activities

- In order to disseminate all the information regarding the project activities, success stories and/or, publications on the UNIDO ITPO Italy website, newsletters and other communication media targeting potential investors will be developed, including:
 - a. Social media coverage
 - b. Dedicated project website and matching platform
 - c. Promotional activities on Italian and local newspapers
 - d. Booklet of the realized activities
- In addition, project results and activities will be promoted on a continuous basis through the UNIDO ITPO Italy website (www.unido.it) and other social media channels including Twitter, Facebook, LinkedIn, Instagram, etc.

2.1.9. Maintain and operate the UNIDO ITPO Italy matching platform between Italian and foreign companies

- Italian and foreign companies will be provided with a service to promote and facilitate dialogue between selected countries and Italian productive excellences in order to create new business opportunities by strengthening cooperation and international partnerships, through the activities 2.1.2-6.
- Through matching platform, the SMEs will explore opportunities for technology collaboration, product co-development, joint ventures for market expansion, among other collaboration opportunities in a business-to-business to context.

2.2 Networking facilitated among national agencies and institutions

Under this component, business partnership promotion will be conducted to ensure and facilitate the exchange of technical information relevant public and private sector stakeholders and key partners in Italy and in the selected countries.

In implementing its activities, UNIDO ITPO Italy will, as much as possible, work with institutions in the selected countries so as to enhance their capacities and to promote collaboration between such institutions. The support offered to the Local Authorities and entities will help them in becoming leaders of their own territorial development, inducing a more responsible use of available resources and, finally, gaining an improved awareness and a more qualified opinion and perception of their own territory, boosting its capacity to attract sustainable investments and wealth.

2.2.1. Maintain relations with local partners in order to assess the business climate and private sector development in the relevant sectors

- UNIDO ITPO Italy will maintain and develop relations with relevant public and private sector stakeholders identified in each country, facilitating the exchange of technical information in the relevant energy and environment sectors.

2.2.2. Maintain and operate the UNIDO ITPO Italy matching platform between Italian and foreign companies and possible investors, based on the suitable projects identified (IIPPs database)

- The matchmaking between Italian and foreign SMEs as well as possible investors, will be fostered through the promotion of the portfolio of suitable industrial projects (IIPPs) identified. The projects selected will receive targeted support and promotion through an ad hoc database and website and continuous promotion among the Italian business community.

2.2.3. Support the design of promotional tools and regular advisory services to Italian and local companies

- Specific programs and advisory services will be designed and organized, to facilitate the exchange of technical information.

2.2.4. Organize an Investment Forum

- Based on an assessment of the investment opportunities in the relevant energy and environment sector of each partner country, a dedicated investment forum will be designed and organized with

the involvement of the Italian business community. Within this activity, targeted B to B and B to G meetings between selected Italian and foreign stakeholders would be supported.

2.2.5. Arrange professional tour/s on specific energy and environment subsectors

- Foreign SMEs and relevant local institutions will be involved in targeted study tours to foster their technical expertise and enhance their readiness and business competitiveness through the introduction to cutting-edge technology and specific methodology developed by selected Italian technology providers operating in their sectors of interest.

2.2.6. Facilitate knowledge exchange facilitated among national agencies of Italy and the partner countries

- The exchange of information among relevant stakeholders will be facilitated by the promotional activities implemented by UNIDO ITPO Italy, that will act as a mediator between Italian and local partners intuitions.
- Policy makers and key ecosystem players from the seven countries and Italy will be brought together for knowledge exchange and transfer to discuss best-practices and lessons is supporting energy and environmental technologies and projects in SMEs.

2.2.7. Propose and maintain strategic partnership between relevant public and private sector stakeholders

- The experience and the network developed through the implementation of the different phases of the project will allow UNIDO ITPO Italy to support the definition of strategic synergies and agreements between relevant public and private sector stakeholders, and to ensure the necessary follow-up.
- Cooperation with a wide range of public/private and local/international stakeholders during implementation will maximize the local added value, north–south and south–south technology and know-how transfer to the selected countries. This will prevent unnecessary duplication of efforts and competition with already existing national energy institutions and companies. In addition, this approach maximizes the impact and visibility of the projects' activities in the region.

Output 3

Project Evaluation Conducted

A final evaluation will be conducted by an external evaluator at the end of the project (month 25-27) for submission to the donor and other stakeholders as relevant.

Project Intervention Logic

	Description	Objectively verifiable indicators	Sources of verification	Assumptions
Impact	Cleantech based SMEs in the partner countries participate in the economic opportunities in the transition to a low-carbon economy	<ul style="list-style-type: none"> No. of cleantech based SMEs in the partner countries Investment flows in cleantech solutions 	<ul style="list-style-type: none"> National statistics 	X
Outcome	SMEs in the partner countries are able to commercialize and scale-up their innovative cleantech solutions	<ul style="list-style-type: none"> No. of cleantech solutions/products commercialized 	<ul style="list-style-type: none"> Annual reports of participating SMEs 	<ul style="list-style-type: none"> Commercialization of cleantech innovations from SMEs will contribute to the transition to a low-carbon economy
Outputs	<p>1. Investment readiness of high-impact innovations and projects in SMEs of partner countries enhanced</p> <p><u>Activities</u></p> <p>1.1 Baseline data gathering and analysis conducted</p> <p>1.1.1. Conduct technical missions to each partner country</p> <p>1.1.2. Develop a detailed project work plan</p> <p>1.1.3. Prepare an inception report for submission to all key partners and donor</p> <p>1.2 Competitiveness and investment-readiness of SMEs with technology innovations and projects enhanced</p> <p>1.2.1. Select SMEs with high-impact potential technologies in the seven partner countries</p> <p>1.2.2. Provide business coaching and acceleration services for the selected SMEs to enhance their business competitiveness and investment readiness</p> <p>1.3 Advanced support provided for investment facilitation and technology collaboration for selected SMEs</p> <p>1.3.1. Invite high-growth potential SMEs to participate in global events for exposure and</p>	<ul style="list-style-type: none"> No. of bankable proposals for investment developed No. of SMEs participating at investment fora 	<ul style="list-style-type: none"> Investment proposals of participating SMEs Reports from investment fora 	<ul style="list-style-type: none"> Acceleration services and investment facilitation support provided will enhance the capacity of SMEs to raise financing Policy dialogues and knowledge sharing contribute to an enabling environment for cleantech-based SMEs/projects to raise financing

	<p>networking</p> <p>1.3.2. Facilitate curated networking among select SMEs to explore joint technology collaboration and transfer opportunities for cross border expansion</p> <p>1.3.3. Support communication and promotion efforts of high-growth potential SMEs</p> <p>1.4 Policy dialogues, knowledge creation and linkages facilitated between the sustainable energy and environmental technology innovations and other international partners</p> <p>1.4.1. Facilitate knowledge exchange and research to inform national policy dialogues</p> <p>1.4.2. Conduct global policy dialogues with key strategic partners</p> <p>Key partners Governments of partner countries, SME associations, chambers of commerce etc. of partner countries, GCIP, PFAN, IRENA</p>			
	<p>2. Investment, commercialization, and trade opportunities facilitated for SMEs through international partnerships and collaboration</p> <p>Activities</p> <p>2.1 Business and investment opportunities in Italy and partner countries promoted</p> <p>2.1.1. Identify suitable local fairs/events and key stakeholders to be selected by IMELS and partners in the selected countries</p> <p>2.1.2. Promote identified fairs among Italian relevant stakeholders/companies</p> <p>2.1.3. Conduct investment promotion activities through technical tours and organization of B to B and other business gatherings and follow-up:</p> <p>2.1.4. Provide Customized assistance and local logistic support to Italian and local participants to the selected fairs/events</p> <p>2.1.5. Arrange of company visits in the selected countries</p> <p>2.1.6. Organize the participation of an incoming institutional and business delegation from the</p>	<ul style="list-style-type: none"> • No. of business partnerships facilitated • No. of cleantech innovations promoted • No. of business events organized • No. of policy makers/stakeholders participating in networking opportunities 	<ul style="list-style-type: none"> • Press releases • Reports from events and investment fora 	<ul style="list-style-type: none"> • Exposure to business opportunities and international partnerships will contribute to an enhance the capacity of SMEs to raise financing • Networking among governments of partner countries will result in knowledge exchange and meaningful collaboration for an enabling environment for SMEs

selected countries to specialized fairs (i.e. Ecomondo 2019)

2.1.7. Facilitate follow up activities on the opened negotiations

2.1.8. Ensure visibility to the project activities

2.1.9. Maintain and operate the UNIDO IPTO Italy matching platform between Italian and foreign companies

2.2 Networking facilitated among national agencies and institutions

2.2.1. Maintain relations with local partners in order to assess the business climate and private sector development in the energy and environment subsectors

2.2.2. Maintain and operate the UNIDO IPTO Italy matching platform between Italian and foreign companies and possible investors, based on the suitable projects identified (IIPPs database) Support the design of promotional tools and regular advisory services to Italian and local companies

2.2.3. Support the design of promotional tools and regular advisory services to Italian and local companies

2.2.4. Organize an Investment Forum

2.2.5. Arrange professional tour/s on specific energy and environment subsectors

2.2.6. Facilitate knowledge exchange among national agencies of Italy and the partner countries

2.2.7. Propose and maintain strategic partnership between relevant public and private sector stakeholders

Key partners
 IMELS and governments of partner countries, business associations and chambers of commerce of Italy and partner countries, relevant UNIDO divisions, selected business meetings/events, relevant local institutions and aggregators

C2. Risks & Mitigation measures

Risk Description	Risk Type	Risk Level	Assumptions	Mitigation Measures
Limited interest shown by enterprises and projects to receive the business acceleration and coaching services	Beneficiaries	Medium	High visibility of the project's business acceleration services is necessary to involve SMEs and projects with high-impact potential.	Given the rise in interest and relevance of the cleantech sector globally, and the trends that recognize the value of business accelerators, this risk is not considered high. However, the proposed project will focus on active promotion and advocacy to prompt applications from the cleantech innovators and entrepreneurs in each partner country.
Lack of interest and involvement by national ecosystem players including government/ institutional partners	Beneficiaries	Low	An ecosystem approach is necessary to create an enabling environment conducive to commercialization of cleantech innovations	Key partners and ecosystem players will be identified during the project inception phase to ensure that this risk is mitigated. As all countries and sectors are committed to addressing climate challenges, and prioritize SME development, this risk is considered low.
Potential breakdown in the political and security situation in the target countries	Governance	Medium	The political un-certainty may cause serious law and order problem that could affect the smooth functioning of the project activities	ITPO Italy will promote active participation and commitment of the selected partners and the donor which will be involved and continuously informed on the progresses of the project
Eventually introduced changes in the calendar of trade fair events, technical tours, B to B meetings and other business gatherings in the selected countries	Project Management	Low	The local counterparts may not possess the appropriate standing for the implementation of successful activities at the local level	ITPO Italy will ensure the organization of specific activities in the target countries with the aim of organizing specific direct business-matching activities between Italian and local stakeholders
Security situation may not be attractive enough for foreign investors and technology providers to operate in the selected countries	International Environment	Medium	The political un-certainty may cause a low investment effort from foreign investors and technology providers	ITPO Italy will support the organization of ad hoc outgoing and incoming missions

C3. Institutional Arrangements and Coordination Mechanism

The project will be jointly implemented by ITPO Italy as a main focal point for investment trade promotion related interventions, and the Department of Energy (ENE), for coherence in the design and implementation of the technical interventions, with inputs from the Department of Environment (ENV).

ITPO Italy will also act as a liaison to ensure close cooperation with the Italian Ministry for Environment, Land and Sea.

D. BUDGET ITEMS

D1. Counterpart inputs

The national counterparts of the seven target countries, including the Ministries and local authorities will provide the required cooperation and contributions concerning the local context and needs during project implementation, and assign a reference person to UNIDO ITPO Italy.

Local partner institutions will support in the identification and nomination of local focal points that will be funded by the project.

D2. UNIDO Inputs:

1. International staff

Department of Energy will provide technical expertise for business acceleration and investment facilitation support for the cleantech sector, through the GCIP and PFAN methodologies under component 1. The project manager will be housed in the Department of Energy, and will oversee services delivered by international experts to be recruited as per the detailed work plan. UNIDO staff will also be engaged to provide support services for project administration and operations.

ITPO Italy will provide business promotion services under component 2. ITPO Italy will recruit seven international experts (one for each country) that will be based in Rome, Italy and will work closely with the national experts to assure continuous project implementation in line with the work plan, including milestones and deliverables.

The following responsibilities for the International Experts are envisaged:

- Responsible for overall project coordination in the field in his/her respective country;
- Provide project management advice to the project manager;
- Monitor field activities;
- Liaise with national experts and government/international institutions on project related issues.

An international evaluator will be recruited for final evaluation of the project.

2. National staff

Department of energy will provide technical expertise and networks in recruiting national experts with the adequate business and technology expertise and the language skills needed to deliver business acceleration and coaching services under component 1 of the project. The budget for this is allocated under output 2 of the project.

ITPO Italy will recruit seven national experts (one for each country) that will act as a local focal point and coordinate project activities national wide. They will liaise with local stakeholders and advocate on behalf of the project and will support in the implementation of a work-plan for the establishment and sustainability of project activities.

The role and responsibilities of the local focal points are as follows:

- Liaise with local institutions on behalf of the project;
- Support and guide the team of trainers/counsellors/national experts in their respective Countries;
- Oversee the timely implementation of the project activities in the governorate, in particular in cases when EDCs are to manage UNIDO subcontracts;
- Regular reporting of project activities to the international experts.

3. Training

The project will emphasize on capacity building of local experts in order to create national expertise to provide quality services to the beneficiaries.

Activities foreseen include:

- Trainings on investment promotion tools for the national counterparts
- Study Tours:
 - SMEs and relevant local institutions from partner countries will be involved in targeted study tours to foster their technical expertise and enhance their readiness and business competitiveness through the introduction to cutting-edge technology and specific methodology developed by selected Italian technology providers operating in their sectors of interest
- Participation in fairs
 - 2 business delegations from each target country to international fairs and exhibitions
- An investment forum to present the investment and business opportunities in the seven target countries will be organized

4. Equipment and supplies

- Major investment on equipment and supplies will not be undertaken within the purview of the present Project as it will be able to utilize the existing infrastructure of ITPO Italy and of the local counterparts combined with further in-kind contributions from host institutions.
- The project could support the local counterparts with some minimal equipment and accessories so as to ensure the smooth functioning of the offices.

UNIDO HQ will provide support for procurement to be undertaken compliance with UNIDO's standard procurement procedures. Project manager holds the right to transfer project assets to beneficiaries or counterparts, at any period during implementation, as deemed necessary.

E. BUDGET

Component	Bu.Li	Description	Year 1	Year 2	Total
Output 1 (PTC/ENE)	11-00	International Expert (L3 based in Vienna)	165,000	165,000	330,000
	15-00	Project Travel	20,000	20,000	40,000
	51-00	Miscellaneous	5,000	5,000	10,000
		Output total	190,000	190,000	380,000
Output 2 (ITPO/Italy)	15-00	Project Travel (2 per year for each country)	35,000	35,000	70,000
	17-00	National Investment Expert for each country	220,000	200,000	420,000
	17-01	Administration and support costs	22,000	22,340	44,340
	17-50	National Experts for each country	90,000	62,000	152,000
	30-00	In-service training, conferences, workshops	110,000	100,000	210,000
	35-00	International Meetings	77,000	77,000	154,000
	51-00	Miscellaneous	12,500	10,160	22,660
	Output total	566,500	506,500	1,073,000	
Output 3	11-00	International evaluator	0	25,000	25,000
		Output total	0	25,000	25,000
Subtotal			756,500	721,500	1,478,000
Support Costs 10%			75,650	72,150	147,800
Grand Total in €			832,150	793,650	1,625,800

F. MONITORING, REPORTING AND EVALUATION

Reporting

- Project inception report will be submitted to the donor and other stakeholders as relevant at the end of the project inception phase (month 6).
- Further reporting requirements are as specified in the Trust Fund Agreement.

Monitoring and Evaluation

- An independent final evaluation will be conducted by an external evaluator at the end of the project for submission to the donor and other stakeholders as relevant.
- The evaluation of the project will be conducted at the project's conclusion to comprehensively assess the results achieved. The evaluation will include assessments on efficiency, effectiveness, sustainability, relevance and impact as well as on environmental friendly approaches and gender sensitivity of the implementation to draw lessons learned.

Wherever feasible, monitoring and evaluation tools and documents, such as the monitoring plan, progress reports, final evaluation report, and thematic evaluations (e.g. training needs assessment), will include gender dimensions, and report with respect to an established baseline for gender related targets.

G. PRIOR OBLIGATIONS AND PREREQUISITES

A Trust Fund Agreement will be signed between UNIDO and the Italian Ministry of the Environment, Land and Sea (IMELS) for transfer of project funds.

H. LEGAL CONTEXT

It is expected that each set of activities to be implemented in the target countries will be governed by the provisions of the Standard Basic Cooperation Agreement concluded between the Government of the recipient country concerned and UNIDO or – in the absence of such an agreement – by one of the following: (i) the Standard Basic Assistance Agreement concluded between the recipient country and UNDP, (ii) the Technical Assistance Agreements concluded between the recipient country and the United Nations and specialized agencies, or (iii) the Basic Terms and Conditions Governing UNIDO Projects.

LIST OF ACRONYMS

GHG	Greenhouse gases
GCIP	Global Cleantech Innovation Programme
IMELS	Italian Ministry of the Environment, Land and Sea
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
PFAN	Private Financing Advisory Network
PCP	Partnership country programme
SMEs	Small and Medium Sized Enterprises

