



# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project  
 TYPE OF TRUST FUND: GEF Trust Fund  
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## PART I: PROJECT INFORMATION

Project Title:	The Global Cleantech Innovation Programme for SMEs		
Country(ies):	Ukraine	GEF Project ID: <sup>1</sup>	9811
GEF Agency(ies):	UNIDO	GEF Agency Project ID:	160246
Other Executing Partner(s):	Ministry of Ecology and Natural Resources, Ministry of Economic Development and Trade, State Agency of Energy Efficiency and Renewable Energy, Institute of Renewable Energy of NAS of Ukraine, National Technical University of Ukraine "Kyiv Polytechnic Institute", Cleantech Open	Submission date:	03/28/2017
		Re-submission date:	07/25/2017
GEF Focal Area(s):	Climate Change	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of parent program:	[if applicable]	Agency Fee (\$)	142,773

### A. INDICATIVE [FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES](#)<sup>2</sup>

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM-1 Program 1, Technology Transfer: Promote the demonstration, deployment, and transfer of innovative low-carbon technologies	GEFTF	1,502,875	4,600,000
<b>Total Project Cost</b>		<b>1,502,875</b>	<b>4,600,000</b>

### B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Create low-carbon economic growth by promoting clean technology innovations and entrepreneurship through a Cleantech innovation platform and accelerator programme						
Project Components	Financing Type <sup>3</sup>	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. National cleantech platform to promote clean technology innovations for global environmental benefits and green jobs in Ukraine	TA	1.1 National level platform/coordinating mechanism established to promote clean technology innovations and entrepreneurship	1.1.1 Annual Cleantech business competitions held and accelerator established across selected SME clusters covering at least four clean technology categories (e.g. energy efficiency; renewable energy; waste-to-energy; water efficiency; green buildings)	GEFT	650,000	2,200,000

<sup>1</sup> Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT guidelines](#).

<sup>3</sup> Financing type can be either investment or technical assistance.

		1.2 Clean technology entrepreneurs identified, coached and promoted during and beyond the Cleantech programme	<p>1.1.2 At least two entrepreneurship training programmes organized for students from local universities</p> <p>1.2.1 Extensive advocacy and outreach activities organized at the national level, and willing stakeholders and SME clusters identified to participate in the Cleantech platform including dedicated focus towards women associations and youth groups</p> <p>1.2.2 Post-competition support for the identified winners (e.g. testing facilities, additional mentoring/courses on clean technologies, entrepreneurship, innovations, as well as seed money for startup creation) to transform their innovation into business models creating green jobs and business opportunities</p>			
2. Building national capacity to support and promote clean energy technology innovations	TA	2.1 National institutional capacity built to support and organize the Cleantech competition and accelerator during and beyond the project duration	<p>2.1.1 Capacity building of national institutions and industrial associations to host, support and sustain the Cleantech programme (i.e. training of trainers on entrepreneurship startups, knowledge management, benchmarking of technologies and information on best practices)</p> <p>2.1.2 Methodologies and guidelines for the competition and accelerator established at the national level; Creation of a national pool of mentors and judges trained for the</p>	GEFT	500,000	1,400,000

			accelerator and the competition  2.1.3 Corporate and public private partnership forums held and knowledge/best practice exchanged with the other Global Cleantech Innovation Programme (GCIP) countries			
3. Policy and regulatory framework strengthened for the creation of a nurturing local innovation ecosystem	TA	3.1 Policy and institutional framework strengthened to promote clean technology innovations in SMEs	3.1.1. Policy analysis report on the best practice policies, regulations and incentives required for the promotion of clean technology innovations developed; and roadmap for implementation of key recommendations in place	GEFT	145,795	450,000
4. Monitoring & Evaluation	TA	4.1 Adequate monitoring of all project indicators to ensure successful project implementation and evaluation	4.1.1 Periodic reviews and independent terminal evaluation conducted	GEFT	75,000	150,000
Subtotal					1,370,795	4,200,000
Project Management Cost (PMC) <sup>4</sup>				GEFT	132,080	400,000
<b>Total Project Cost</b>					1,502,875	4,600,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ( )

**C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	UNIDO	Grants	50,000
GEF Agency	UNIDO	In-kind	50,000
Recipient Government	National Ministries (e.g. Ministry of Ecology and Natural Resources; Ministry of Economy)	Grants	2,000,000
Recipient Government	Institute of Renewable Energy of NAS of Ukraine	In-kind	250,000
Private Sector	National financing sector	Grants	2,250,000
<b>Total Co-financing</b>			4,600,000

<sup>4</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

**D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS <sup>a)</sup>**

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) <sup>b)</sup>	Total (c)=a+b
UNIDO	GEFTF	Ukraine	Climate Change		1,502,875	142,773	1645,648
<b>Total GEF Resources</b>					1,502,875	142,773	1,645,648

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

**E. PROJECT PREPARATION GRANT (PPG)<sup>5</sup>**

Is Project Preparation Grant requested? Yes  No  If no, skip item E.

**PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS**

Project Preparation Grant amount requested: \$					PPG Agency Fee:		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee <sup>6</sup> (b)	Total c = a + b
UNIDO	GEF TF	Ukraine	Climate Change	(select as applicable)	50,000	4,750	54,750
<b>Total PPG Amount</b>					<b>50,000</b>	<b>4,750</b>	<b>54,750</b>

<sup>5</sup> PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

<sup>6</sup> PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

## F. PROJECT’S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>7</sup>

Provide the expected project targets as appropriate.

<b>Corporate Results</b>	<b>Replenishment Targets</b>	<b>Project Targets</b>
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>Hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>Hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2</sub> eq mitigated (include both direct and indirect)	<i>200,000 tCO<sub>2</sub> eq metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

## **PART II: PROJECT JUSTIFICATION**

### *History of the GCIP*

The initial start of the Global Cleantech Innovation Programme goes back to 2011, when the United Nations Industrial Development Organization (UNIDO), with the support of the Global Environment Facility (GEF) and the Government of South Africa, successfully implemented the ‘Greening the COP17’ project, and received such positive feedback that replication in other countries quickly spread. One of the four components of the project focused on the design and implementation of the first South Africa Clean Technology Competition (2011 SA Cleantech) for green entrepreneurs and small and medium-size enterprises (SMEs) with innovative ideas and concepts in the areas of energy efficiency, renewable energy and green building practices. The competition was coordinated by the Department of Trade and Industry (DTI) through the National Cleaner Production Centre of South Africa (NCPC-SA), in cooperation with the Department of Environmental Affairs (DEA), the Council for Scientific and Industrial Research (CSIR), and the Technology Innovation Agency (TIA). All participants were given the opportunity to present their products on energy efficiency, renewables and green buildings and get feedback, while the best went to receive additional training, mentoring and access to Cleantech networking events. The project attracted a wide range of private-sector interest, identified 24 semi-finalist companies and 3 winners across three categories.

<sup>7</sup> Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF, SCCF or CBIT.

### ***Global scale-up and performance review***

The remarkable success of the 2011 SA Cleantech saw the project expand into other countries in 2013, namely Armenia, India, Malaysia, Pakistan and Turkey; with Thailand joining in 2014, and Morocco in 2016. More than 12 additional countries have already been identified for development under the GEF-6 cycle, including Algeria, Tunisia, Lebanon, Jordan, Egypt, Vietnam, Brazil, Nigeria, Myanmar, Cambodia, and most recently also Ukraine. This flagship programme has the potential to create an extensive network of clean energy entrepreneurs originating from countries participating in this global programme. Building on this initial success and the lessons learned, and taking into account the increased need to accelerate the pace of clean energy technologies innovation and adoption globally, the GEF and UNIDO have agreed to develop a global flagship programme, the Global Cleantech Innovation Programme (GCIP) for SMEs. The global Cleantech programme is in line with the GEF's Climate Change Mitigation Focal Area Strategy under the GEF-6 Programming Directions and the Private Sector Strategy, as well as UNIDO's mandate to promote inclusive and sustainable industrial development (ISID).

Based on the performance review of the GCIP in 7 countries, carried out for the period 2011 - 2017, GCIP creates real impact which can be measured in GHG emission reductions, new cleantech jobs created, and growth of the cleantech industry; 624 ktons of CO<sub>2</sub> have been reduced, US\$23M of revenue was generated and 329 jobs were created, based on a representative number of case studies from the participating countries. These figures are projected to increase to 4.8 Mtonnes of CO<sub>2</sub>, US\$ 263M of generated revenue, and 1,219 jobs, by 2020. The GCIP thus acts as an effective catalyzer for innovation and entrepreneurship, in support of the achievement of the Paris Agreement and the Sustainable Development Goals (SDGs), most notably SDG7 - Affordable and Clean Energy, SDG8 – Decent and Economic Growth, SDG 9 – Industry, Innovation and Infrastructure, and SDG13- Climate Action. In addition, GCIP is currently developing and enhancing its M&E tools to comprehensively capture the impact of the programme, and will also expand into innovation for sustainable cities, thus contributing to SDG11 – Sustainable Cities and Communities.

Finally, the review also showed that the majority of customers in the pilot phase of cleantech enterprises are customers in the private sector (50%), with the other public entities (municipalities, state owned companies) and educational institutions (universities, research Institutes). In the commercialization phase, the share of private sector customers increases to 57%.

Participating startups and entrepreneurs in the GCIP process acquire key skills that they use to improve their startup and increase their chances of securing investors in their startups. Furthermore, the technologies developed by these entrepreneurs, now alumni of the GCIP, are further developed and promoted at the national, regional and global levels to achieve widespread commercialization, enhance access to venture capitalists, angel investors and grant funding. Furthermore, the programme ensures that the adoption of these technologies will have a positive impact on the energy trajectory of the local communities in different countries.

This project was developed following a request by Ukraine to UNIDO to develop a project that would create green jobs by promoting clean technology innovation and entrepreneurship, and as such is relevant to the country. The experience from the global programme, especially from countries in the region, will feed into the fine-tuning of the project's outline.

### ***The global environmental and/or adaptation problems, root causes and barriers that need to be addressed***

The project will be implemented in compliance with key national priorities of Ukraine to ensure energy security in the country and address the main root causes and barriers in that regard. Ukraine's strategic objective is to reduce its fossil fuel consumption through promotion of energy efficiency (EE) and renewable energy (RE), thus reducing the country's reliance on imported fuels and strengthen the competitiveness of its industries.

In accordance with the new Energy Strategy of Ukraine towards 2030 and the Concept Program on Development of Renewable and Alternative Sources of Energy (2007), the increase of the renewable part in the country's energy balance is defined as a state policy priority. The share of RE sources in Ukraine's energy balance is expected to increase to 25% by 2030. Energy efficiency is one of the priorities of Ukraine's energy policy. At the same time, the implementation of energy efficiency measures by households and companies as well as by state authorities remains at a very low level.

The energy intensity of Ukraine's GDP as of 2015 was 0.32 kg of oil equivalent per 1 US\$<sup>8</sup>. According to international standards, Ukraine is one of the most inefficient energy consumers due to a large share of energy intensive sectors, obsolete and ineffective technologies and highly depleted fixed assets. Volatile fuel prices and high dependence on energy supplies turn energy supply and efficiency into a problem not only of economic viability but also of national security. Considering that Ukraine's rate of CO<sub>2</sub> emissions per unit of GDP is also among the highest in the region, the country has a vast potential of cutting energy use and contributing to GHG emissions reduction by introducing EE measures and increasing the use of RE in such sectors as industry, housing, and transport. However, existing barriers to expanding low-carbon practices – the lack of adequate supportive fiscal and financial incentive policy, insufficient awareness of EE & RE technologies and possibilities, difficult access to financing, weak capacity in SMEs to develop and scale up bankable EE & RE projects, and other issues – hamper the country's progress in this field.

The industrial sector accounts for more than half of Ukraine's GHG savings potential. The heavy metallurgical sector is the most energy intensive industry and, thus, is getting most of attention in national initiatives and international projects aimed at promoting EE and reducing GHG emissions. Yet, other industrial sectors are also very attractive in terms of investments in EE and in-plant use of RE, with short payback periods and much smaller amounts of funding needed. While aggregate data on GHGs emission by the energy intensive SMEs as a whole is not readily available, information on GHGs emission is available at the specific industrial cluster level. For instance, food processing, beverage and tobacco units account for 5.9 million tons of CO<sub>2</sub> equivalent per year; pulp, paper and print units account for 478 thousand tonnes of CO<sub>2</sub> equivalent per year; non-metal mineral manufacturing units (brick, ceramic, glass units are classified as building materials) account for 13.8 million tonnes of CO<sub>2</sub> equivalent per year; and the chemical units account for 4.5 million tonnes of CO<sub>2</sub> equivalent per year.

The agro-food industry, the second largest industry of Ukraine after the metallurgical sector, is particularly well-suited for scaling up EE technologies, and fuel switching through replacing fossil fuels with RE in a cost-effective manner. The importance of reducing energy use and GHG emissions in the food industry in particular is related to its key position in Ukraine's economy. The food industry alone provides around 15.3 % of the country's GDP, and is a significant consumer of energy (around 11 Mtoe per year). The industry's production continues to grow due to a stable increase in domestic demand for foodstuffs, and it is expected that it will be less affected by the current global economic crisis than the country's heavy industry, which has already gone into recession. Moreover, although Ukraine is already one of the major food producing countries in the world, the concurrent global food crisis provides opportunities for Ukraine to further develop its food producing potential and expand its food exports, provided that the industry ensures its competitiveness on the global markets by modernizing its business practices, including the introduction of EE and RE technologies.

Other important energy intensive manufacturing SMEs that can adopt EE and RE technologies and measures are bricks, ceramics, metal ware, glass etc. For instance, there are 1,140 brick making enterprises in Ukraine (500 manufacturers of ceramics bricks and 640 of silica bricks), 600 manufactures of building blocks, 200 manufactures of lime carbonate, 300 manufactures of roof tiles, 40 manufacturers of ceramic tiles, 39 manufactures of glass and 190 other manufactures in this sector of industry. These enterprises, which use obsolete and energy inefficient technologies and processes, consumed around 4.5 million tons of equivalent fuel and 3.4 billion kW of electric energy in 2007 alone.

Despite the overall trend of small but steady EE improvements observed in Ukraine over the past decade, EE of the energy intensive manufacturing SMEs is not only very low, it is actually deteriorating in certain sub-industrial sectors, such as the food industry's sugar, flour and meat producing sub-sectors as well as SMEs manufacturing ceramics and metal wear. One of the main reasons for the lack of EE in the Ukrainian food industry and other energy intensive manufacturing SMEs is a significant wear of energy equipment and obsolescence of technologies, exacerbated by traditional dependence on fossil fuels, in addition to the lack of capital, poor information about existing possibilities, insufficient expertise in developing and implementing energy-saving projects and other barriers to EE&RE projects common to all economic sectors of the Ukraine.

In summary, energy intensive manufacturing SMEs present both challenges and broad and cost-efficient opportunities for increasing EE and promoting the use of RE in Ukraine. These include retrofit of existing facilities and introduction of EE technologies, standards and operational techniques. In addition, many of energy intensive SMEs have a huge

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<sup>8</sup> GESY2015/global-energy-statistical-yearbook-2016

potential for using RE (biomass gasification technologies in particular) to meet their process heat applications, depending on the location of facilities and specificities of their production processes. By putting the necessary financial incentive schemes in place to encourage SMEs to venture into more EE management ideas, the Cleantech Innovation Programme would thus play an important role in addressing this need. Moreover, the creation of green jobs through the promotion of clean technology innovation by local SMEs under the Cleantech Innovation Programme will contribute to achieve the policy goals as outlined by the government.

Specifically, the following key barriers have been identified as a hindrance to the introduction and adoption of innovative clean energy technologies in Ukraine, as well as the development and growth of SMEs which the project will seek to address:

1. Lack of technology innovation platforms specifically tailored for and targeted to clean energy technologies and SMEs;
2. Low contribution and dynamism of SMEs in clean technologies innovation and relevant market transformation and economic growth, along with high entry barriers for new enterprises;
3. Financial barriers, including limited government incentives to support industrial enterprises in the uptake of clean energy technologies, subsidies that hinder existent incentives, weak creditor rights for SMEs and limited awareness and coordination of existing schemes, requirements and procedures (i.e. poor SME financial literacy);
4. Limited technology transfer/ translational research between educational institutions and businesses;
5. Inconsistent vocational and managerial training to support growth by startups and entrepreneurs actively involved in Cleantech innovations;
6. Lack of coordination amongst sectoral players on market intelligence research;
7. Insufficient dissemination of success stories and case studies of SME-led technology innovation, leading to persistent low attention to change and to high-risk/capability-gap perception;
8. Insufficient impact monitoring and evaluation of existent policies supporting entrepreneurship.

The project will contribute, through its activities and continual engagements with the national government, the private sector and other relevant stakeholders, to mitigating the above barriers in a holistic manner, promoting the development and deployment of clean energy technology innovations. It will also create a platform capable of linking Ukrainian entrepreneurs with investors, business, and commercial partners, with a view to result in the commercialization of new products, the creation of new manufacturers, services and the according local jobs, all of which will stimulate economic growth in the country. Finally, it will leverage the comparative advantage of Ukraine to foster growth through established best practices in the region. Ukraine can play an important role in promoting innovation for clean technology and policy coordination at SME level. Neighbouring countries therefore stand to gain from a regional approach that would foster an environment for entrepreneurship in clean technology, as it covers cross-cutting themes of innovation, as well as social and environmental sustainability through stimulating entrepreneurship, supporting job creation and promoting environmentally sound technology development.

### ***The baseline scenario or any associated baseline projects***

The project is in line with key national priorities of Ukraine to ensure the country's energy security, since the promotion of innovative technologies, improvement of EE and wider use of RE could effectively reduce consumption of fossil fuels and, in this way, lessen the country's dependence on imported fuels. The specific issue of promoting EE and RE is also regulated by a number of laws and by-laws of Ukraine: the Law on Energy Conservation (1994), the Complex State Energy Conservation Program of Ukraine (1997), the Programme of State Support for the Development of Non-Traditional and Renewable Energy Sources and Small Hydro- and Thermal Power (1998), the Law on Alternative Sources of Liquid and Gas Fuel (2000), the Law on Alternative Energy Sources (2003), the Law on Cogeneration (2005), and the Law on the Green Tariff in Power Generation (2008). Over the recent past years, Ukraine has taken positive steps in reforming its energy legal framework. In 2010, Protocol concerning the accession of Ukraine to the Treaty establishing the Energy Community was signed and later on ratified by Law of Ukraine N 2787-VI and since



2011 Ukraine has become fully legitimate member of the Energy Community. According to the Treaty, Ukraine has to implement the following acts of *acquis communautaire*: Directive 2003/55/EC concerning common rules for the internal market in natural gas; Regulation 1775/2005 on conditions for access to the natural gas transmission networks; Directive 2003/54/EC concerning common rules for the internal market in electricity; Regulation 1228/2003 on conditions for access to the network for cross-border exchanges in electricity; Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants; Plan for the implementation of Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport; Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources; Directive 2012/27/EU of 25 October 2012 on energy efficiency and others. For the purposes of compliance with the Treaty establishing the Energy Community, Ukraine has reformed the national energy legislative framework as follows. On 2014, Ordinance No. 791-r “On Approval of the Implementation Plan for Directive 2009/28/EC” was approved.

In response to the requirements of Directive 2009/28/EC on the promotion of the use of energy from renewable sources National Renewable Energy Action Plan till 2020 was developed and adopted (2014). The above Directive established 11% national overall target for Ukraine for the share of energy from renewable sources in gross final consumption of energy in 2020. The Directive also sets sustainability criteria not only for biofuels-, but also for biomass production.

In 2015, the Law on the Natural Gas Market was adopted. Immediately after the adoption of this Law, Ukraine started developing natural gas market secondary legislation. In 2017, the Electricity Market Law was adopted. After the gas market reform, this is a second major step in the reform of the national low efficient energy sector. The Electricity Market Law enables the country’s transition towards a competitive electricity market. The Law also introduces long-term contracts for purchase of electricity at the Green Tariffs.

The Law of Ukraine On the National Energy and Public Utilities Regulatory Commission entered into force in November 2016. A politically and financially independent national regulator - as envisaged by the Law - is absolutely crucial for ensuring the benefits of market reform in energy sector of Ukrainian economy. Considering the fact that metering of heat consumption is currently not obligatory in Ukraine, while there is a significant potential in place to decrease energy consumption for heating purposes, Law on Commercial Metering was adopted only on the 23 of June 2017. Moreover, the National Energy Efficiency Action Plan till 2020 was developed and adopted by government’s Resolution No. 1228 dated 25 November 2015. According to the Plan, Ukraine takes a commitment to reduce the energy consumption by 9% by 2020. On 08 June 2017, the Law on Energy Efficiency Fund was adopted by the Parliament of Ukraine.

In response to the requirements of Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, in May 2017, Verkhovna Rada of Ukraine adopted the Law of Ukraine On Environmental Impact Assessment.

Still there are some gaps in the energy efficiency *acquis* of Ukraine. Following the Ministerial Council’s adoption of Directive 2012/27/EU on energy efficiency, Ukraine still continues to elaborate the draft Energy Efficiency Law and the draft Law on Energy Performance of Buildings

However, it will be necessary to develop normative documents on economic incentives for those entrepreneurs and SMEs who produce and consume RE heat. The elaboration of economic incentives for enterprises (especially SMEs) and individuals who are willing to adopt and implement EE and RE technologies also requires legal initiatives. By promoting innovative green energy technologies for industrial applications in the energy intensive manufacturing SMEs, the project will contribute to the national goal by scaling up EE and RE technologies in the energy intensive manufacturing SMEs in the country.

To move forward in the implementation of the Paris Climate Agreement, Ukraine under the guidance of the Ministry of Ecology and Natural Resources commenced drafting of the Action Plan to the Low Carbon Development Strategy of Ukraine. The Action Plan would stipulate for the development of infrastructure, energy efficiency and the use of renewable sources of energy in various areas. It would be important to incorporate the transfer of low carbon technologies to Ukraine into the plan. However, so far, the government’s institutional structure concerning the implementation of low carbon development goals, presents fragmented responsibilities among several ministries. The

Project implementation would correspond to the following SDGs : Goal 13: Climate action, Goal 17: Partnerships for the goals, Goal 9: Industry, innovation and infrastructure, Goal 7: Affordable and clean energy, Goal 6: Clean water and sanitation, Goal 8: Decent work and economic growth

### ***The proposed alternative scenario, with a brief description of expected outcomes and components of the project***

The proposed alternative scenario will be the implementation of the Global Cleantech Innovation Programme (GCIP) for SMEs in Ukraine as part of the larger GEF-UNIDO global programme that aims to support and nurture clean energy technology entrepreneurs around the world. This project will help SMEs in the Cleantech sector, including in RE and EE, to compete on the global market, connecting them to potential investors, customers, and partners through the global Cleantech network. The global Cleantech network currently consists of 7 countries, including Malaysia, India, Armenia, South Africa, Turkey, Pakistan and Thailand, with another approximate 10 countries committing or expressing interest in GCIP. The flagship programme has the potential to create an extensive network of clean energy entrepreneurs originating from countries participating in this global programme. Moreover, the project will aim to increase market adoption of clean technology innovations, thus leading to a reduction in emissions and fossil fuel consumption. Furthermore, the nurturing of nascent industries will lead to increased capacity, job creation and market development.

### **Project Approach**

The project will primarily aim to promote an innovation ecosystem in Ukraine by: (i) identifying and nurturing Cleantech innovators and entrepreneurs; (ii) building capacity within national institutions and partner organizations for the sustainable implementation of the Cleantech ecosystem and accelerator approach; and (iii) supporting and working with national and sub-regional policy makers to strengthen the supportive policy framework for SMEs and entrepreneurs through south-south collaboration. Accordingly, the project will, with a relatively minimal GEF grant, catalyse investment to support and accelerate start-up entrepreneurs toward the commercialization and development of their innovative concepts, through the creation of a Cleantech knowledge platform.<sup>9</sup>

To achieve this, the project will adopt an inter-disciplinary approach involving SMEs, national ministries and institutions, academia and research centres, industrial associations, financing institutions, foundations, venture capitalists and utilities within and beyond Eastern Europe. The project will cooperate with the Investment Promotion Office, AGROGeneration, The Bleyzer Foundation, Horizon Capital. The project will closely coordinate with other similar national and international efforts as it is critical to maximise synergies and share knowledge and best practices that can help in enhancing SMEs' and new businesses' contributions towards climate change mitigation, while increasing productivity and generating growth and wealth. The project will also seek to establish formal collaboration with the Climate Technology Centres Network (CTCN), in which UNIDO is an implementing partner together with UNE.

Cleantech Open network is an active, operating organisation. Currently, Ukraine is not its member, however the consultations carried out with the management proved CleanTech Open is ready to admit Ukraine to membership. The direct involvement of the Cleantech Open will ensure, on the one hand, Ukrainian investors' confidence in the quality and chances of success of the clean technology solutions, start-ups and business ideas that will emerge from the competition selection process; this in light of almost 10 years of experience and successful track records, and a brand that is recognized and trusted internationally by investors in clean technologies and startups. On the other hand, the direct involvement of the Cleantech Open will ensure the immediate integration of the GEF-supported Ukraine Cleantech Platform and SMEs/startups in a global network of clean technology developers and investors, with subsequent substantial benefits in mobilizing investments and accelerating their establishment in the market.

### **Project Description**

In addition to creating an enabling policy environment and institutional capacity, the project will assist Ukraine in the establishment of a supportive innovation ecosystem through the organization of an annual competition, with associated accelerator programmes. The Project will provide support to the government of Ukraine in the establishment of the

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<sup>9</sup> According to the Global Cleantech Innovation Index 2012 Report, innovations, specifically innovation entrepreneurs, are identified as, "companies introducing incremental innovations; those transferring technological applications from one industry or geography to another; and those presenting business model innovations."

Council for Innovation Development which would be responsible for forming of the prerequisite conditions to launch the best innovative ideas in our economy, to support science and implement various projects in the real economy. Establishment of the special fund for support and development of industrial startups to finance on competitive basis the measures to facilitate startups to faster enter into operation phase.

The Project will also provide assistance in drafting of the Low Carbon Development Strategy, National Hi-Tech Strategy 4.0, finalizing of the draft Concept of Cleaner Production implementation in Ukraine.

The Project implementation would correspond to the following SDGs : Goal 13: Climate action, Goal 17: Partnerships for the goals, Goal 9: Industry, innovation and infrastructure, Goal 7: Affordable and clean energy, Goal 6: Clean water and sanitation, Goal 8: Decent work and economic growth

The project is part of a global initiative to promote innovative and environmentally friendly energy technologies and is in line with National Policies and GEF focal area priorities. Clean energy technologies developed and promoted as a result of the competition and the accelerator programme will lead to a reduction in GHG emissions and seek to contribute to Ukraine's sustainable green growth, thereby addressing a global issue of climate change and national issues of energy security. The promotion of innovation through clean energy technology as a means to trigger and support sustainable and competitive entrepreneurship and create jobs in Ukraine through the Cleantech Programme for SMEs is envisaged through the following three components:

### **Component 1 – National Cleantech platform to promote clean technology innovations and green jobs in Ukraine**

Outcome 1.1 National level platform/coordinating mechanism established to promote clean technology innovations and entrepreneurship

*Output 1.1.1 Annual Cleantech business competitions held and accelerator established across selected SME clusters covering at least four clean technology categories (e.g. energy efficiency; renewable energy, waste-to-energy, water efficiency, green buildings)*

This competition is based on the experience gained under the successful Cleantech business competition and accelerator pilot programme carried out across the world. In Ukraine, it is planned to run a business competition, facilitate mentoring to link up to up-to-date clean technologies in the field of energy, water and resource efficiency, renewable energy and waste to energy and set up a more complete accelerator, modeled on the national Cleantech Open in the United States for selected SME sectors. The Cleantech Open and UNIDO will partner to develop this programme in Ukraine keeping in view of local conditions and needs. The competition and accelerator may focus on different regions of Ukraine and a mapping of possible areas will be conducted during the project preparation phase.

The project will organize a preliminary call for participation in different regions of the country, with activities focused on areas with the highest concentration of Cleantech startups. This will be followed by three judging rounds, held nationally in order to select semi-finalists to participate in the final round.

At the onset, the clean energy technology categories will be: Energy Efficiency, Renewable Energy, Waste to Energy, and Water Efficiency, with additional categories to be introduced in subsequent years based on national needs and advantages. The selection of the regions will be determined, among other factors, according to the existing base of Cleantech innovators, commitment of stakeholders and existing policy structures to foster a culture of innovation. The final winners of the competition will be selected by an independent panel of judges based on merit.

It is expected that each competition will have around 100 to 150 entrants. Of these entrants, the panel of judges will select around 40 semi-finalists per region to receive support through the accelerator programme as described hereunder. In the end, 10-15 finalists will be determined by the judges.

As part of the project's sustainability strategy, various panels will also be established and trained, such as the evaluators' panel and judges' panel. The project will also assist project counterparts and participants in approaching and negotiating with potential sponsors, etc.

Special attention will be given to address gender issues, such as: (i) recruitment of women trainers, mentors, judges; (ii) specific training and mentoring to promote women innovators, entrepreneurs, startups; and (iii) design of specific prizes and follow-up support programmes for innovative startups that will have a significant impact on women's entrepreneurial development and job creation, etc.

*Output 1.1.2 At least two entrepreneurship training programmes organized for students from local universities*

The accelerator programme consists of official launches, investor conferences, a 3-day training programme known as the National Academy, Business Clinics, Mock Judging and specific activities, namely trainings, facilitating access to capital and showcasing best practices to students. The leading universities in Ukraine will be an excellent source of new clean technologies, emerging entrepreneurs and additional team members. The partnership will focus on supporting education on entrepreneurship in these universities (with a focus on clean technologies), developing case studies and co-hosting events. The aim is to have the universities encouraging and facilitating their students and graduates to enter the Cleantech accelerator programme.

*Outcome 1.2 Clean technology entrepreneurs identified, coached and promoted during and beyond the Cleantech programme*

*Output 1.2.1 Extensive advocacy and outreach activities organized at the national level, and willing stakeholders and SME clusters identified to participate in the Cleantech platform including dedicated focus towards women associations and youth groups*

The project will also undertake continuous outreach activities to raise the profile of the programme, as well as its alumni, to ensure that they receive a high level of recognition and support once the programme has come to an end. Activities will include briefing sessions, press releases, social media activity and advertising; the mix of these activities will vary in line with the local conditions. Outreach activities will be supported by the local entrepreneurs, celebrities and/or earlier participants involved in similar programs or competitions. Outreach partners will include service providers (e.g. patent attorneys, accountants etc.), university departments and societies, including engineering, entrepreneurship and energy clubs, and organizations that are in frequent contact with entrepreneurs across numerous clean technology sectors (e.g. trade groups, entrepreneurship groups, inventors clubs, etc.). The final decision on the amount of the prize, the quantity of pilot projects and the competition cycles will be taken during the PPG phase. It is preliminary planned to select ten startups that are expected to be granted an amount between 5,000 to 50,000 US\$ prize money primarily from the GEF grant.

Negotiations with relevant partners to provide seed funding to the project have been carried out with the Risk Reduction Foundation (<http://rr-f.ch/en>). Today, the key organizations to facilitate seed money for startup creation will be Risk Mitigation Fund, Ukgazbank and TA Ventures. Key parties like venture capital funds and angel networks<sup>10</sup> will be involved from the start. Indeed, in order to increase the scope and the impact of the project, financial support for specific prizes will be considered from parties including (but not restricted to PJSC Ukgazbank, the State Finance Institution for Innovations (SFII, <http://difku.gov.ua/en/pro-difku>), and a number of venture capital providers which are already active in Ukraine, including:

- Dekarta Capital is a private equity and venture capital firm founded in December 2008 and specializing in early stage and growth equity investments in private companies. Today, Dekarta Capital manages the assets of a private fund equal to \$100 million. The fund seeks to invest in all sectors with a focus on financial services, Internet, retail, distribution, media and technology.
- TA Ventures is a venture fund that invests in innovative projects in USA, Europe and Ukraine. They focus on investing in seed stage and on other stages of deals of tech companies.
- AVentures Capital is a venture capital firm. Via its in-house Corporate fund, AVentures has since 2000 successfully co-founded and financed more than ten companies with total revenues exceeding US\$1B. The firm's investment experience ranges across a variety of sectors, including retail, information technology, telecom, high tech, clean tech, real estate and others.

Importantly, outreach provides not only an opportunity to find potential competition and accelerator participants, but also a means to increase awareness of clean energy technologies, climate change and the role of entrepreneurs.

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<sup>10</sup> Angel networks are made up of angel investors, defined as individuals that provide capital to start-up businesses, that pool research and investment capital in order to achieve a broader scope.

*1.2.2 Post-competition support for the identified winners (e.g. testing facilities, additional mentoring/courses on clean technologies, entrepreneurship, innovations, as well as seed money for startup creation) to transform their innovation into business models creating green jobs and business opportunities*

Today, the key organizations to facilitate seed money for startup creation such as the Risk Mitigation Fund, Ukrzazbank, TA Ventures. Potential sources of the project funding will include PJSC Ukrzazbank, the State Finance Institution for Innovations (SFII, <http://difku.gov.ua/en/pro-difku/>).

As part of the extensive advocacy and post-competition follow-up, the winner and runners-up of each annual competition cycle, as well as other finalists, will be invited to participate in regional and global events, to showcase their concepts and access the regional and international markets and investors. The regional winner from each year will be given the opportunity to attend the Cleantech Open Global Forum, organized in Silicon Valley every November by the Cleantech Open, where they may meet with the winners of other Global programme countries and compete for the Global Prize.

## **Component 2 – Building of national capacities for the support and promotion of clean energy technology innovations**

*Outcome 2.1 National institutional capacity built to support and organize the Cleantech competition and accelerator during and beyond the project duration*

*Output 2.1.1 Capacity building of national institutions and industrial associations to host, support and sustain the Cleantech programme (i.e. training of trainers on entrepreneurship startups, knowledge management, benchmarking of technologies and information on best practices)*

To ensure the long-term growth of the Cleantech competition and accelerator in Ukraine and to support Cleantech startups and foster a vibrant and sustainable Cleantech ecosystem through partnerships and collaboration, the executing partners and other stakeholders will develop a platform for collaboration and training for the organization and implementation of the programme, based on national and international best practices. “Platform for collaboration” will be run by the Project Team, including General Mentors and Specialist Mentors. The primary role of general mentors shall be business model validation, understanding of the BMV content and the “logic” of it, making specialist, partner and potential customer introductions. Mentors will be invited from universities having business development programs, national banks, investment companies, CleanTech Open Mentor Program. Mentors (both national and international) will be identified during the PPG phase.

Capacity building initiatives promoting south-south collaboration, among others, will include on-the-job training of national mentors and judges by international consultants and local specialists on knowledge management, benchmarking of technologies and coordination mechanisms. Specific focus will be placed on successful women entrepreneurs and their participation in the programme. Activities within this work stream will include participation at the Global Cleantech competitions and meetings, which bring together competition hosts and partners from around the world to share best practices and experiences.

The Project is expected to cooperate with the Union of Ukrainian Entrepreneurs (the largest union of Ukrainian entrepreneurs established to form a conducive business environment and popularizing innovations among representatives of small, medium and large enterprises in Ukraine & <http://sup.org.ua>). Cooperation will also be established with the Ukrainian League of Industrialists and Entrepreneurs (<http://uspp.ua>). More details on the cooperation will be provided at PPG phase.

*Output 2.1.2 Methodologies and guidelines for the competition and accelerator established at the national level; Creation of a national pool of mentors and judges trained for the accelerator and the competition*

The specific methodologies and guidelines for participation in and execution of the competition and accelerator programme will be developed in close cooperation with national counterparts. This will include a schedule, eligibility requirements, selection and identification criteria for the participants, competition rules and handbooks for applicants, mentors and judges. The level of innovation sought by the competition will be specified during the development of the selection criteria and guidelines as mentioned above. A standardized definition of SMEs, as well as the definition for innovation companies, will be agreed on and incorporated into the selection criteria. These will define the scope and impact of the programme and will, therefore, be in line with national needs and priorities.

The accelerator programme is a central aspect of the project and the mentoring that characterizes it aims to maximize every semi-finalist's chances of winning the competition, raising investment capital and of achieving sustainable commercial success. The mentoring programme consists of both mentoring methodology and training development. Each semi-finalist team will be matched with one "generalist mentor" and multiple "specialist mentors" based on mutual areas of interest and proper matching of team needs and mentor strengths. Mentors will be invited from universities having business development programs, national banks, investment companies, CleanTech Open Mentor Program. Mentors will be identified on the PPG phase.

Generalist Mentors - A generalist mentor is the general coach, guide and advisor for the team, typically with extensive Cleantech or start-up experience. They are experts with relevant experience in startup preparation, specialized in the area, understanding business models. Often, generalist mentors are serial entrepreneurs and active investors who can become trusted advisors to and investors in the company once the competition has concluded. Primary role of general mentors shall be business model validation guide, understanding of the BMV content and the "logic" of it, making specialist, partner and potential customer introductions. Mentors are unable to join or invest in a mentee company during the competition cycle.

Specialist Mentors - A specialist mentor is an expert in a key functional discipline such as finance, marketing, engineering or law. They act as on-call subject-matter experts and may be from both large corporations and startups.

To ensure the maximum impact of the accelerator programme, the mentors and judges will receive training on the specific requirements of the programme, as well as the opportunities it presents. This will be to the benefit not only of the entrepreneurs taking part in the programme, but will also have a long-lasting impact on the capacity of the mentors and judges.

*Output 2.1.3 Corporate and Public Private Partnership (PPP) Forums held; lessons learned and experiences shared with the other Global Cleantech Innovation Programme (GCIP) countries*

In order to encourage the participation of more seed stage investors from both the national, regional and global stages and leverage on the experience and knowledge of other GCIP countries, a number of regional and international events will be organized and/or attended by the project team and GCIP semi-finalists. Among the last forums on investment promotion, the following ones can be mentioned: Ukrainian innovative agro-industrial forum, Kyiv, June 8, 2016; International forum "Ukrainian Investment Initiative", London, January 23-27, 2017. In 2016 – 2017, the series of conferences and round-table discussions on development and implementation of the Low Carbon Development Strategy were held in Ukraine. They contributed and gave the impetus to the commencement of drafting of the Action Plan to implement the Low Carbon Development Strategy. To assist the semi-finalist entrepreneurs in making connections with potential investors and partners, half-day events will be organized at partner corporations and government agencies to highlight opportunities for investment, loans, grants, technology adoption and partnerships. In particular, technical and financial advice, given by Specialist Mentors under the supervision of the Project team, will be provided to foster venture capital funds investing in successful clean technology start-ups in the country, with a regional outreach where possible. The intention is to assist as many semi-finalist companies as possible to receive financing (grant and equity), find customers and build partnerships within 12 months of completing the competition to ensure sustainability of the project's efforts. The details on location and frequency will be completed during PPG phase.

### **Component 3 – Policy and regulatory framework strengthened for the creation of a nurturing local innovation ecosystem**

Outcome: 3.1 Policy and institutional framework strengthened to promote clean technology innovations in SMEs

*Output 3.1.1 Policy analysis report on the best practice policies, regulations and incentives required for the promotion of clean technology innovations developed; and roadmap for implementation of key recommendations in place*

Policy analysis report" will be provided to define and detail the status and prospects of the development of key economic sectors attractive for Cleantech. The government may use the report to develop and implement a low carbon development strategy of Ukraine and facilitate the implementation of the low carbon development strategy of Ukraine, promote the development of expert potential and best practice dissemination, raising investment into energy efficiency and renewable energy. Undoubtedly, the project goal is creation of the potential for low carbon growth, support to programmes of investments into energy- and resource-savings.

The project will assist in reviewing the existing policies and regulations relating to the promotion of clean energy technologies, innovation and entrepreneurship in order to identify those that need to be developed and/or improved, especially from the perspective of encouraging and supporting increased engagement and participation of SMEs. However, the Project will assist to the government in updating of the Concept of introduction of cleaner production of Ukraine, first draft of which was developed in 2005. Additionally, the Project will support the government in development of policy instruments on innovation technology usage for the purpose of the adjustment to climate change.

The related policies and regulations can be those promoting the clean energy technologies of the competition categories, as well as those governing the protection of intellectual property rights, agreements on sponsorships, roles, responsibilities, and rights of different stakeholders involved in the Cleantech Competition/Accelerator (competition organizer and entrants, sponsors, mentors, judges, etc.). These enhanced policies will help support the entrepreneurs that progress through the Accelerator Programme, as well as their sustainable commercial success beyond the project period.

#### **Component 4: Monitoring and Evaluation**

The objective of this component is to facilitate a detailed and extensive M&E structure to be put in place under the project in compliance with UNIDO and GEF procedures. This will allow not only the monitoring of the project's progress but also the construction of an overall project impact assessment on a rolling periodic basis, built-up from the project's different components. The analysis of the M&E and impact assessment results of the different components will allow for periodic reviews of the project's 'Theory of Change' and subsequent implementation strategies and work plans. Beyond this tailor-made M&E and IA approach, the proposed GEF project would also come under UNIDO's standard M&E approach for GEF funded projects, this consisting of final evaluations as well as defined period project implementation reporting based on the GEF/UNIDO templates (MTR/PIR/TR).

As a starting point, an ESMP will be formulated during the PPG and relevant environmental and social impact mitigation measures will be incorporated into project design.

#### ***Incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing***

The proposed project will actively incorporate the lessons learned from the COP17 in 2011, as well as the on-going projects under the GCIP for SMEs. To ensure sustainable impact, the project is closely aligned with national priorities and will actively seek to coordinate with relevant ongoing initiatives which will be identified in detail during the project preparation phase. While there is a clear government prioritization to promote SMEs in Ukraine and put the necessary policies and strategies in place, long-term and effective impact is being hindered by a lack of linkages between the support services required to support innovation and entrepreneurship. For this reason, GEF funding is being requested to remove the barriers currently present in the market to stimulate a long-term shift in SMEs and innovation towards clean energy technologies.

The focus of the project on the promotion of commercially viable clean energy technology innovations in Ukraine will have lasting positive effects on the global environment, as well as the development of a dynamic and vibrant local market for clean technologies. As a result, the promotion of clean energy technology innovations will allow a balance to be struck between growing economic activity and its global environmental impact.

In the case of no support from the GEF in assisting Ukraine in removing the above-mentioned barriers, it is very likely that clean technology innovations will remain off the market; with entrepreneurs lacking the skills and support mechanisms to fully commercialize their products. Consequently, many opportunities to reduce GHG emissions, strengthen partnerships with the private sector interested in investing in clean energy technologies, and provide support to entrepreneurs and innovators seeking to establish commercial ventures in clean energy technologies would go unrealized.

#### ***Global environmental benefits (GEFTF)***

The long-term life cycle of the clean technology innovations introduced to the market and the strengthened and enlarged low-carbon culture advocated will be reflected in GHG emissions reductions. The reduction achieved through the implementation of this project will be measured and quantified on the basis of the innovations marketed and their uptake. Given the nature of the project, the low-carbon products that will be introduced in the market and the high

potential for replication of the project's activities, GHG reductions can be achieved beyond the project duration and scope.

The availability of an appropriate methodology to accommodate the various innovation in the cleantech space has been a challenge, especially with innovations which are outside of the traditional energy saving or renewable energy space. The PPG phase will therefore come up with a more detailed approach and methodology for the calculation of the global environmental benefits.

#### Estimation of Global Environmental Benefits:

In view of the Ukrainian low carbon growth path and given the specific focus of the project on promoting innovations in clean energy technology innovations, a ten year horizon has been selected for estimating the indirect savings of GHGs. Direct GHG reduction (resulting from the course of the project) cannot be calculated at this stage due to the various innovations in the cleantech space, which are often outside of the traditional energy saving or renewable energy space.

Based on experience from other GCIP projects, it has been estimated that if 200 entrepreneurs and startups participate in the project, 200,000 tonnes of CO<sub>2</sub> could be reduced, based on a sample of different cleantech innovations (i.e. renewable, energy efficiency, water efficiency). The methodology will be refined during the PPG and in alignment with the other GCIP countries, in order to sharpen the assumptions and inputs per typical cleantech innovation.

The specific number of contestants and associated GHG emissions mitigated will be monitored through the course of the project. The methodology for monitoring the GHG emissions will be developed after the first year of the competition cycle, when the true results and lessons are more visible.

#### ***Innovation, sustainability and potential for scaling up***

Keeping in view the high priority awarded to the innovation of products and services, technology development and transfer, and capacity building of industry, including SMEs, as critical components of the overall industrial strategy to address competitiveness of the Ukrainian industry, as well as climate change and overall resource efficiency, the project will primarily aim to promote an innovation ecosystem approach driven by incentives, to encourage the development and commercialization of innovative clean energy technology products in small businesses and SMEs in the country. Beyond this, the organization of the Cleantech competition and associated Accelerator Programme will guide start-up entrepreneurs through the development process of the concepts and enterprises to ensure that their innovative concepts are sustainable and will have a real impact on the Ukrainian market. To ensure that this intensive mentoring approach is sustained beyond the project implementation period, the project will conduct capacity building activities for the national counterpart institutions, and form a pool of mentors and judges.

The project will adopt an inter-disciplinary approach; working with its international and national partners from various sectors to involve SMEs, state ministries and institutions, academia, research centres industrial associations and other relevant organizations and initiatives. The project will also closely coordinate with other similar international efforts as it is critical to share and document best practices and knowledge that can simultaneously help in enhancing productivity in SMEs and mitigating climate change.

Scaling up of the project is foreseen within the project period; the initial year of competition will focus primarily on industry-intensive regions, with expansion into other parts of the country with different industrial activities, such as agriculture and agro-processing, in the subsequent years. In addition, the global nature of the Cleantech Programme will offer ample opportunity for the Ukraine Programme to continuously expand, especially with the potential support of global sponsors, investors, etc. beyond the project implementation period.

A number of national institutions have already committed their support to the project, especially the State Finance Institution for Innovations (SFII) which will provide assistance at the seed stage, and PJSC Ukgazbank for the next stage towards commercialisation. The PPG phase will fine-tune the roles of the national institutions in the project, with capacity development for long-term sustainability at the core of this exercise; the objective is for the target enterprises to be commercially viable, and for the accelerator efforts to be embedded in national institutions for post-project continuation of the initiative.

## **2. Stakeholders**



Will project design include the participation of relevant stakeholders from [civil society organizations](#) (yes  /no ) and [indigenous peoples](#) (yes  /no )? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

UNIDO is the implementing agency of the project, and is accountable for the GEF grant, and other funding resources to be provided by the Government and private sector.

The project will build on existing Government initiatives and cooperate with major partners including National Ministries of Energy, Economy, Environment; and relevant national agencies on renewable energy, innovation and entrepreneurship.

Potential government partners include agencies such as the State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEES) whose responsibility is to develop renewable energy in Ukraine, which is also acting as one of the government partners under the ongoing UNIDO/GEF-4 project “Improving Energy Efficiency and Promoting Renewable Energy in the Agro-Food and other Small and Medium Enterprises (SMEs)” in Ukraine. The compatibility and alignment of both projects is described in B.6. The capacity and interest for this project will be assessed in detail during the PPG phase.

Where relevant the project will create a link with UNIDO’s National Cleaner Production Centre (NCPC) in Kiev, in order to jointly strengthen the institutional capacity and align the respective activities.

Apart from the above mentioned governmental and support organizations, the project will cooperate with the the State Finance Institution for Innovations (SFII) and Chamber of Commerce of Ukraine.

During the PPG phase further partnerships will be fletched out in more detail and interaction can be envisaged with financial institutions such as Nordic Environment Finance Corporation (NEFCO), PJSC Ukgazbank, Alfa Bank and others with respect to co-financing for the project proposals which will be identified under this project. The PPG phase will be used to explore additional partners where required.

Beside mentioned institutions (State Finance Institution for Innovations (SFII), Ministry of Economy and Ministry of Ecology), the project intends to work with the National Academy of Sciences of Ukraine, lead universities and research centres to encourage participation and increase awareness among students and entrepreneurs. These will form the source of new clean technologies, emerging entrepreneurs, knowledge network, applied research collaboration and additional team members.

Relevant women entrepreneurs, associations and gender focal points will be invited to participate in all activities of the project. The project will deliberately mobilize interest from women entrepreneurs by targeting the involvement of their associations in the project process.

**3. Gender Equality and Women’s Empowerment.** Are issues on [gender equality](#) and women’s empowerment taken into account? (yes  /no ).

The project will actively seek to make gender a key dimension of project execution, including the conducting of a gender analysis. Based on this analysis, gender mainstreaming of other project outputs and activities, notably in awareness raising and capacity building, will take place. The project will also pay special attention to encourage women to participate in the programme; to this end, the project will develop gender disaggregated indicators at the project inception phase to consistently measure the impact of the project on gender dimensions in Ukraine, for example, the percentage of women participating in various trainings/events, percentage of women applicants, etc. The expected target for female participants is at least 10%.

The UNIDO Energy Department’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 in order to ensure that the project is in line with both UNIDO and the GEF requirements.

**4. Risks**

The main risks, their rating and mitigation strategy for the project are listed below:

Risk	Rating	Mitigation
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<p><b>INSTITUTIONAL RISK</b> Lack of capable and relevant institutional partners for project execution, coordination and sustainability</p>	<p>Low</p>	<p>During the first 6 months of project implementation, and based on the capacity assessment of the PPG phase, UNIDO will directly involve the key relevant institutions and partners of the project to establish working relations and collaboration. UNIDO will also ensure that such key institutions and partners will be closely engaged in the project implementation process.</p> <p>Furthermore, the project has in the Cleantech Open US, a key execution partner and sub-contractee of the project. The Cleantech Open US will bring expertise, long-standing experience, methodologies and tools to the project and its future Ukrainian partners that have proven effective and successful in the US, as well as in other countries under the GCIP.</p> <p>The project will work with Ukrainian institutions that have some or substantial experience in setting-up and operating technology competitions or competitive grant funding programs.</p>
<p><b>MARKET RISK</b> Lack of interest by the public and industrial associations in participating in the Cleantech competition and accelerator programme as entrepreneurs and mentors, resulting in limited participation, or entries with low quality, especially in the first years</p>	<p>Medium</p>	<p>Proper communication programmes will be prepared and implemented with adequate resources allocated to ensure effective and widespread communication of the Cleantech programme; tailored workshops will be carried out to support this.</p> <p>Effective support will be provided to innovative SMEs/entrants. User-friendly entry forms will be prepared. Mentors will be identified through stringent selection criteria and an assessment of their ownership of the competition shall be determined at an early stage.</p>
<p><b>FINANCING RISK</b> Incentive and financial support system are insufficient</p>	<p>Low</p>	<p>The promotion and outreach activities for the present project will have financing institutions, venture capitalists and angel investors as one key target group.</p> <p>The transfer of a branded model such as the Cleantech Open, and the direct involvement of the Cleantech Open's US experts in the execution of the project, aims to build stronger confidence of national and international venture capitalists and investors in the clean energy technology innovation investments proposed by the Ukrainian Cleantech programme. In addition, the direct involvement of the Cleantech Open US will give the project direct access to the Cleantech Open global network of investors.</p> <p>The project will facilitate access by the Cleantech Competition semi-finalists and finalists to the different existing government funded grant programs for SME development and technology modernization and innovation.</p>
<p><b>CLIMATE CHANGE RISK</b></p>	<p>None</p>	<p>There is no climate change risk foreseen for the achievement of the project's objectives; this will be further assessed in the ESS analysis and an ESMP</p>

### 5. Coordination

Coordination with the other countries of the Global Cleantech Innovation Programme for SMEs will be a key activity of the proposed project and learning opportunities will be sought through shared training programmes for the project teams and other events, such as the Cleantech Open National Academy in Silicon Valley. In addition, coordination with on-going in-country initiatives will also be undertaken by the project to maximize impact and avoid overlap of activities. Considering the chosen competition categories, the proposed project will work closely with relevant on-going projects to spread awareness of the competition and involve project counterparts/beneficiaries where relevant.

The importance of mitigating climate change has been recognized by Ukraine, as demonstrated by its signing of the UN Framework Convention on Climate Change.

Coordination will be ensured with other UNIDO GEF projects in the area of energy efficiency and renewable energy such as these two ongoing projects:

- GEF-4 project on “Improving energy efficiency and promoting renewable energy in the agro-food and other small and medium enterprises (SMEs) in Ukraine” in partnership with the Institute of Renewable Energy at the National Academy of Sciences of Ukraine, the State Agency on Energy Efficiency and Energy Savings of Ukraine (SAEE), National Agency of Ukraine for Efficient Use of Energy Resources and Ministry of Agrarian Policy and Food of Ukraine
- GEF-5 project on “Promoting the adaptation and adoption of Resource Efficient and Cleaner Production through the establishment and operation of a Cleaner Production Centre (CPC) in Ukraine” in partnership with the Ministry of Economic Development and Trade of Ukraine

Synergies and concrete areas for collaboration and coordination will be assessed during the PPG phase.

The proposed project will also coordinate closely, where relevant, with other UNIDO Departments, specifically the Trade, Investment and Innovation (TII) in the area of entrepreneurship development and job creation for youth, and the Environment Department, on aspects of resource efficiency. UNIDO’s in-house expertise will offer technical oversight and the UNIDO Project Management Unit (PMU) in Kiev will take care of the day-to-day operations alongside representatives from project counterparts, and other key stakeholders. UNIDO’s Centres such as National Cleaner Production Centres (NCPC) and Investment and Technology Promotion Centres (ITPO) and their networks will be closely involved in key activities of the project, wherever relevant and applicable.

**6. Consistency with National Priorities.** Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no  ). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project objectives are in line with and complement the national priorities of Ukraine as well as those of UNIDO in that the project will contribute to capacity building and will invest in the creation of comprehensive energy policy frameworks and an extensive network of clean energy entrepreneurs.

The Ukraine Cleantech programme is designed to achieve economies of scale in its management and organization. The project will leverage the comparative advantage of the country in order to allow for knowledge sharing from the onset, and to reduce costs of replication in later years. Ukraine has a high potential in terms of human capital, and has a vested interest in developing its SME sector. The country would benefit from a systematic approach to promoting sustainable enterprise development in Cleantech, as it covers cross-cutting themes of innovation as well as social and environmental sustainability through stimulating entrepreneurship, supporting job creation and promoting environmentally sound technology development. The project will further realise economies of scale through its position as part of the Global Cleantech Innovation Programme.

The implementation of this project will also be closely coordinated with other related projects and initiatives in order to create synergies and avoid overlap. In addition to the Project Steering Committee, working groups and other coordination mechanisms will be established when necessary to ensure the effective coordination.

The project will closely link up with other GEF-UN(IDO) and international development projects and programmes in Ukraine to promote clean energy technology innovations in industrial sectors and will aim at coordinating efforts to support and encourage green growth amongst SMEs.

In its first NDC Ukraine defines ambitious, but at the same time substantiated and fair targets with regard to the level of GHG emissions. It will not exceed 60% of 1990 GHG emissions level in 2030.

### **7. Knowledge Management.**

Knowledge management has been embedded in the Global Cleantech Innovation Programme (GCIP) at the global, regional and national levels. The global programme institutionalizes knowledge sharing and management across participant countries by making the structure of the programme accessible and replicable, and bringing selected finalists from around the world to showcase their innovations at the Global Cleantech Open in the USA. A number of regional and international events to bring project teams and semi-finalists together will be organized, as stated in the outputs.

The project will strive to create a vibrant and sustainable Cleantech ecosystem through partnerships with various stakeholders, holding meetings with partners and SME associations to review successes in the various competition cycles and establish commitments moving forward. Inclusive and sustainable methods for fostering innovation in the region will also be discussed, in order to identify tangible solutions to existing challenges in the country. These results will be made accessible to the public through the Cleantech platform and accelerator programme.

A key element in knowledge management will be the creation of a national pool of mentors and judges, through the “training the mentors” approach, which allows for quality best practices and business skills to be shared with participants and stakeholders in a structured manner.

The national pool of mentors/judges will be created from representatives of universities having business development programs, national banks, investment companies and the Cleantech Open Mentor Program. The pool of mentors and judges will be trained to provide entrepreneurs with the skills needed to participate in the programme, and ultimately to bring their innovations to the market. Mentors and judges will broaden the impact of the programme by providing one-on-one training for entrepreneurs and alumni of the programme. The PMU will be responsible for including various stakeholders, such as universities, nonprofit institutions, and government authorities to ensure that the selection process for entrepreneurs is inclusive and impactful in identifying the right candidates for the programme.

Knowledge Sharing will be conducted through trainings, workshops, roundtable, printing materials and through the Cleantech platform, which is well established based on the completed and ongoing GCIP projects, and will be strengthened as the programme expands into new countries and cleantech areas. The combined set of outreach activities will ensure recognition of and support for the programme beyond the competition cycle. National coordinators will be tasked with ensuring the visibility of the programme and accessibility of key findings through the Cleantech Platform. Such activities will provide the opportunity to reach out to future entrepreneurs and investors, while raising public awareness on clean energy technologies and ultimately climate change mitigation.

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

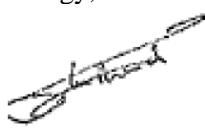
**A. RECORD OF ENDORSEMENT<sup>11</sup> OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**

(Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
VLADYSLAV MARUSHEVSKYI	Head of Department for International Cooperation and European Integration	MINISTRY OF ECOLOGY AND NATURAL RESOURCES	20/03/2017

**B. GEF AGENCY(IES) CERTIFICATION**

**This request has been prepared in accordance with GEF policies<sup>12</sup> and procedures and meets the GEF criteria for project identification and preparation under GEF-6.**

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Philippe R. Scholtès, Managing Director, Programme Development and Technical Cooperation; UNIDO-GEF Focal Point		07/25/2017	Mark Draeck, Industrial Development Officer, Department of Energy, UNIDO 	+431-260-26-5317	<a href="mailto:m.draeck@unido.org">m.draeck@unido.org</a>

**C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)**

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

<sup>11</sup> For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

<sup>12</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT