1. Project Data

Summary project data			
GEF project ID		3917	
GEF Agency project ID		103078	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		UNIDO	
Project name		Improving Energy Efficiency and Promoting Renewable Energy in the Agro-Food and other Small and Medium Enterprises (SMEs) in Ukraine	
Country/Countries		Ukraine	
Region		ECA	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		CC SP-2; SP-4	
Executing agencies involved		Institute of Renewable Energy (IRE) at the National Agency of Ukraine for Efficient Use of Energy Resources (NASU); State Agency of Ukraine for Efficient Use of Energy Resources (SAEE); and the Ministry of Agrarian Policy of Ukraine (MoAP)	
NGOs/CBOs involvement		Institute of Renewable Energy (IRE) (co-financer and co-executing partner)	
Private sector involvement		Co-Financers: Raiffeisen Bank; UkrExim Bank; and OTP Bank. Beneficiaries: Krympapir; OJSC Krymmoloko; PJSC Khlinprom; TMC Lvivholod LLC; Rivnenska fabryka netkanyh materialiv; Firma favor; Svat LLC; Agro Plus 1 LLC; Agrotrans LLC; Domrent LLC; Variatsiya; Pavlivskyy Brewery; PE Kilgan; SE "Progres"; Azov LLC; and Druzhba LLC	
CEO Endorsement (FSP) /Approval date (MSP)		May 13, 2011	
Effectiveness date / project start		July 20, 2011	
Expected date of project completion (at start)		April 2016	
Actual date of project completion		December 31, 2018	
Project Financing			
		At Endorsement (US $M)	**At Completion (US $M)**
Project Preparation Grant	GEF funding	.09	.06
	Co-financing	.09	Not available
GEF Project Grant		5.16	5.12
Co-financing	IA own	.25	
	Government	20.8	.35
	Other multi- /bi-laterals		
	Private sector	60.93	28.63
	NGOs/CSOs	.25	.25
	Other		
Total GEF funding		5.25	5.18
Total Co-financing		82.32	29.23
Total project funding (GEF grant(s) + co-financing)		87.48	34.41
Terminal evaluation/review information			
TE completion date		December 2018	

Author of TE	Roland Wong and Natalia Perestyuk
TER completion date	January 15, 2020
TER prepared by	Laura Nissley
TER peer review by (if GEF IEO review)	Molly Sohn

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	UA	S	--	S
Sustainability of Outcomes		MU[1]	--	ML
M&E Design		MU	--	MU
M&E Implementation		MS	--	MS
Quality of Implementation		S	--	MS
Quality of Execution		UA	--	S
Quality of the Terminal Evaluation Report		--	UA	S

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Project Document does not provide Environmental Objectives separate from the Development Objective. However, the following environmental indicators and targets were set:

- 2.2 million tonnes (over 10-year lifetime) by 2015 of CO_{2eq} emission reductions as a result of the investments in industrial energy efficiency;
- 20 Gwh/yr energy saved as a result of the project; and
- 30 GWh/yr of energy generated by renewable sources as a result of the project

3.2 Development Objectives of the project:

The Development Objective of the project was to "Develop a market environment for improved energy efficiencies and enhanced use of renewable energy technologies in energy intensive manufacturing small and medium enterprises (SMEs) in Ukraine" (pg. 5).

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

The project's objective was not changed during implementation. As a result of the annexation of Crimea by Russia in early 2014 however, the project had to abandon two pilot projects. The project had already delivered equipment to Crimea, and the TE indicates that it is likely that emission reductions resulted from these investments, although this could not be verified (pg. 21).

[1] The TE provides a rating of "Moderately Unlikely" for overall sustainability, however when the scores from the sub-categories of sustainability are averaged, the overall score is "Moderately Likely."

It should also be clarified that the authors of the Terminal Evaluation amended the project's expected outputs in order to "clarify required actions to achieve the intended outcome" (pg. 18). However, the amended outputs are closely linked to the project's original results framework.

4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 **Relevance**	Rating: **Satisfactory**

The TE provides a rating of **Highly Satisfactory** for project relevance. This TER, which uses a different scale, provides a rating of **Satisfactory**. The project is consistent with GEF-4 Climate Change Strategic Program 2: *Promoting Energy Efficiency in the Industrial Sector*. The TE also notes that the project addresses existing information, capacity, and policy barriers for sustainable industrial energy efficiency, which directly contributes to GEF-4 Climate Change Strategic Objective 2: *To Promote Energy-Efficient Technologies and Practices in Industrial Production and Manufacturing Processes* (TE pg. 20). The project is also consistent with Ukraine's Energy Strategy up to 2030, as outlined by the Order of the Cabinet of Ministers of Ukraine in 2006. The Strategy included long-term objectives of decreasing natural gas consumptions and increasing the use of renewable sources in energy production. The project design was also consistent with existing laws on energy efficiency and renewable energy in the following areas: energy conservation; alternative energy sources; alternative types of liquid and gaseous fuel; and the combined generation of heat and electric energy and the use of waste energy potential (CEO Endorsement Request, pg. 30). In particular, the project's strategy was consistent with the Law on Energy Savings (1994), which outlines tax preferences for producers of energy equipment; tax preferences for companies that use renewable energy; priority financing by state banks; and targeted subsidies and grants for research in renewable energy and energy efficiency (TE pg. 11). The project's outcomes were also consistent with the National Renewable Energy Action Plan (NREAP), and the National Energy Efficiency Action Plan, which emerged during the life of the project.

4.2 **Effectiveness**	Rating: **Satisfactory**

The TE provides a rating of **Satisfactory** for project effectiveness, and this TER concurs. The project was designed to develop a market environment for improved energy efficiencies and enhanced use of renewable energy technologies in energy intensive manufacturing small and medium enterprises (SMEs) in Ukraine. The project's strategy included fostering the necessary policy environment, developing energy efficiency and renewable energy interventions, scaling up investment in improved energy efficiency and renewable energy technologies, and building SME representatives' capacity to develop energy efficiency and renewable energy projects. The project largely achieved its intended outcomes, although it fell short of achieving all of its objective-level targets. By project end, 1.9 million tonnes CO_{2eq} emission reduction was achieved as a result of investments in energy efficiency and renewable energy, compared to an expected reduction of 2.2 million tonnes. Additionally, 960 MWh/yr of energy was saved, and 208 MWh/yr of energy was generated by renewable energy sources (pg. 21).

A summary of the project's achievements, by component and outcome, is provided below:

Component 1: Policy Support Integrating Energy Efficiency and Renewable Energy Priorities into National Industrial Policies and Development Programs on Agro-Food Industry and SMEs in Ukraine.
Outcome 1: Policy and regulatory framework regarding energy management and use of renewable energy revised

Expected results under this outcome included: (1) Review and analysis of existing policy and regulatory framework regarding energy management and use of renewable energy; (2) Recommendations for strengthening institutional and policy incentives and tools; (3) Action plans on promoting energy efficiency and renewable energy priorities into local and national industrial policies; (4) Recommendations for guiding relevant state agencies on integrating energy efficiency and renewable energy priorities into local and national industrial policies; and (5) Sustainability indicators for use of biomass residues. By project end, two reports were produced analyzing draft laws on energy efficiency, energy savings, and renewable energy sources, as well as current policy, legislative, and regulatory frameworks in Ukraine. Additionally, six reports were produced recommending incentives and tools in the following areas: financial mechanisms and rules; market mechanisms and incentives for agro-food SMEs; policy instruments; methodology for calculating energy produced by heat pumps; and the possible establishment of a Ukrainian Energy Efficient Fund. The project also provided technical assistance in developing the National Renewable Energy Action Plan (NREAP), which was adopted in 2014. Recommendations for state agencies were prepared in two reports on how to popularize and educate the public on the benefits of energy efficiency and renewable energy, as well as an analysis of Ukraine's agro-food sector. Lastly, five knowledge products were produced in support of sustainability indicators for use of biomass residues (TE pgs. 27-29).

Component 2: Energy Efficiency and Renewable Energy Interventions
Outcome 2: 10 Pilot projects, demonstrating reduced energy costs due to better energy management and use of renewable energy, implemented

Expected results under this outcome included: (1) Reports on energy efficiency benchmarking, methodology, and practice; (2) Sector-level energy management plans; and (3) Energy Management

Systems (EMS) pilot and demonstration projects. By project end, energy efficiency benchmarking reports were produced for the following agro-food sub-sectors: bakeries; beverages; canning; confectionaries; dairy products; livestock raising; meat processing; vegetable oil; and sugar. Roadmaps for improving energy efficiency were also developed for agro-food sub-sectors. Additionally, 10 pilot projects demonstrating EMS were implemented by project end, including installing LED systems in 7 locations in Ukraine and a biodiesel production certification (TE pgs. 29-30).

Component 3: Scaling Up Strategy and Catalyzing Investment

Outcome 3: Energy intensive SMEs in the Ukraine increase their investment in improved energy efficiency and renewable energy technologies

Expected results under this outcome included: (1) Energy efficiency and renewable energy scaling up strategy; and (2) technical and financial packages for 50 prospective energy efficiency and renewable energy projects. By project end, numerous reports were prepared which contributed to an energy efficiency and renewable energy scale-up strategy, including: a toolkit for industrial SME owners on identifying opportunities for scaling-up agro-food businesses; a report on best practices for the creation of green bond markets; a report on developing a draft concept for green bond market introductions in Ukirane; and a report on the establishment of the UNIDO center for facilitating green projects. Additionally, 30 business plans were prepared for agro-food entities (below the target of 50) from which 10 were selected for pilot projects under Component 2. Additionally, 66 representatives of SMEs, government agencies, and higher education institutions, were trained in the use of the COMFAR III Expert Software for preparing business plans (TE pgs. 35-37).

Component 4: Capacity Building

Outcome 4: Capacity of key players which as senior members of SMEs, ESCOs, and energy efficiency and renewable energy technology suppliers to develop and implement energy efficiency projects enhanced

Expected results under this outcome included: (1) Training of trainers program; (2) Guidebooks on energy efficiency and renewable energy targeting energy intensive SME; (3) Energy efficiency and renewable energy website; (4) Study course on energy management standards and industrial applications on renewable energy; and (5) Dissemination of best energy efficiency and renewable energy practices. By project end, 50 trainers were trained, and 28 training modules were developed. Subsequently, 320 representatives of SMEs in the agro-food sector were trained on the use of renewable energy sources and improvement of energy efficiency. Additionally, two guidebooks were developed targeting industrial stakeholders and educational institutions. By project end, a website was launched and operational. 24 manuals and textbooks on applying renewable energy sources for the agro-food industry were distributed to 12 higher education institutes. Lastly, best practices were disseminated through newsletters, study tours, awareness visits, and workshops (TE pgs. 37-39).

4.3 **Efficiency**	Rating: **Moderately Satisfactory**

The TE provides a rating of **Satisfactory** for project efficiency, which this TER downgrades to **Moderately Satisfactory**. The project end date was extended 2.5 years, from April 2016 to December 2018, in order to complete project activities. Project implementation was delayed due to political instability in Ukraine from late 2013 to mid-2014, which resulted in the devaluation of Ukraine's currency and an increase in the cost of borrowing. The TE indicates that this environment affected the volume of energy efficiency and renewable energy projects after 2015 (pg. xii). The TE notes that the disbursement rate of the GEF grant reflects the slowdown in project activities during this time (pg. 40). Additionally, the project was forced to abandon projects in Crimea due to its annexation by Russia in 2014. The TE notes that it is likely that the project would have exceeded its GHG emissions savings targets if the projects in Crimea had continued, rather than falling short (pg. 21). Additionally, the TE estimates the loss of these projects totaled approximately $482,000 (TE pg. 41). Despite these shortcomings, the TE indicates that project managed to achieve key project outcomes, including support for revised energy efficiency and renewable energy policies, satisfactorily executing the remaining pilot projects, and delivering effective capacity building activities (pg. 41).

4.4 **Sustainability**	Rating: **Moderately Likely**

The TE provides a rating of **Moderately Unsatisfactory** for project sustainability, which this TER upgrades to **Moderately Likely**.

Financial Resources

The TE assesses the sustainability of financial resources as **Moderately Unlikely**, and this TER concurs. The TE indicates that "the sustainability of EE [energy efficiency] and RE [renewable energy] investments in Ukraine for the industrial sector is dependent to a high degree on the availability of financing." As it stands, the agro-food industry does not have access to cheaper non-commercial loans to invest in energy efficiency and renewable energy. The TE does indicate that the Ukrainian government approved an Energy Efficiency Fund in 2018, however this fund is solely for the residential sector (TE pgs. 41-42).

Sociopolitical

The TE assesses sociopolitical sustainability as **Moderately Likely**, and this TER concurs. The TE indicates that the political climate in Ukraine is normalizing following the instability in 2013 and 2014, and therefore investment confidence is slowly returning. The TE also indicates that the senior managers who participated in the pilot projects supported investments in energy efficiency and renewable energy. The TE indicates that there has been considerable staff turnover at the State Agency of Ukraine for Efficient Use of Energy Resourced (SAEE), particularly in senior positions, which could threaten the sociopolitical sustainability of the project if it continues (TE pg. 42).

Institutional Frameworks and Governance

The TE assess the sustainability of institutional frameworks and governance as **Moderately Likely**, and this TER concurs. The TE indicates that Ukraine has a fairly strong regulatory and policy framework for energy efficiency and renewable energy, including the Law on Energy Savings and the National Renewable Energy Plan (NREAP), which was supported by the project (pg. 42). Additionally, Ukraine became a member of the Energy Community in 2011, which commits the country to achieving and maintaining renewable energy at 10%, as well as committing to update its 2006 Energy Strategy (TE pg. 11). The TE does note that the staff turnover at SAEE is also a risk to governance, as it creates substantial delays in obtaining permits for renewable energy projects (pg. 43).

Environmental

The TE assesses environmental sustainability to be **Highly Likely**. The TE does not indicate any threats to environmental sustainability, however there is not enough information for this this TER to properly assess sustainability in this area.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

Actual co-financing for the project ($29.23 million) was substantially lower than expected ($82.23 million). The bulk of co-financing came from the private sector ($28.63), although it was lower than expected ($60.93 million). $13.3 million was contributed by more than 16 industrial SMEs to fund the pilot projects under Component 2 (TE pg. 47). The TE does indicate that at least one bank, Erste Bank, pulled out of Ukraine following the 2014 conflict, which affected co-financing (pg. 42). Contributions from the Ukrainian government were also substantially lower than expected ($.35 million vs. $20.8 million). The TE does not indicate the reasons for this, however it does note that overall, expected co-financing levels were "unjustifiably high" given the size and scope of the project. The TE also notes that the project came close to achieving its GHG emission reduction targets even though actual co-financing was substantially lower than expected (TE pg. 47).

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The project was extended 2.5 years, from April 2016 to December 2018, for a total implementation period of 6 years and 5 months. The extension allowed the project to finish implementing activities, which had been delayed due to the political instability in Ukraine from late 2013 to mid-2014 (pg. xii). The TE does not indicate that these delays affected the project's outcomes or sustainability, however the project was forced to abandon the pilot projects in Crimea, which did affect the achievement of the target GHG emissions reduction.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The TE indicates that country ownership was strong, as evidenced by the Ukrainian Government's support for laws and policies on energy efficiency and renewable energy (pg. 46). Country ownership is also evident in the support the project received from its executing partners, the Institute of Renewable Energy (IRE), the State Agency of Ukraine for Efficient Use of Energy Resources (SAEE), and the Ministry of Agrarian Policy (MoAP). Additionally, $13.3 million was contributed by more than 16 industrial SMEs to fund the pilot projects, which indicates strong support for the project (TE pg. 47).

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 **M&E Design at entry**	Rating: **Moderately Unsatisfactory**

The TE provides a rating of **Moderately Unsatisfactory** for M&E design at entry, and this TER concurs. The project's results framework is logical and hierarchical; however, it is a weak M&E tool given its lack of SMART (specific, measurable, achievable, realistic, and timely) indicators and targets. The objective-level indicators appear to be the strongest, however the TE indicates that they are not achievable or realistic given the size and scope of the project (pg. 21). At the output and outcome levels, indicators and targets are either of poor quality or missing altogether. Examples of unmeasurable indicators include: *Convergence with international norms in the energy intensity of selected agro-food and energy intensive SMEs, allowing greater profitability to be achieved*; and *Level of investments (domestic and foreign) in EE and RE projects in the agro-food sector*. Additionally, the TE notes that "Component 4 has 5 outputs but only one indicator with an unmeasurable target of "raised awareness"" (TE pg. 15).

On the other hand, the Project Document does include an M&E plan which details the M&E activities, responsible parties, and timeframe for implementation (CEO Endorsement Request, pg. 6). A total budget of $50,000 is also provided for the M&E system. However, as the TE notes, "the M&E design without output level targets is open to interpretation in terms of what is to be delivered by the Project, and the resources required to achieve particular outputs and outcomes" (pg. 43).

6.2 **M&E Implementation**	Rating: **Moderately Satisfactory**

The TE provides a rating of **Moderately Satisfactory** for M&E implementation, and this TER concurs. The project's results framework was not amended to include SMART output and outcome-level indicators and targets. The project diligently documented project activities in the annual Project Implementation Reports (PIRs) to the GEF, however the progress ratings are not well-substantiated without indicator data. The TE does note that the project created "soft" targets for some of the indicators, such as 500 persons to be trained under Output 4.1: *Trainer of Trainers Program*. The TE also provides examples of adaptive management, such as adjusting outputs to provide clarity and consistency with the Project Document. Additionally, a Midterm Evaluation was conducted in 2014, and the TE reports that UNIDO implemented their recommendations, such as ensuring the dissemination of the pilot projects' successes (TE pg. 44).

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 **Quality of Project Implementation**	Rating: **Moderately Satisfactory**

The implementing agency for the project was the United Nations Industrial Development Organization (UNIDO). The TE provides a rating of **Satisfactory** for the quality of project implementation, which this TER downgrades to **Moderately Satisfactory**, largely due to the poor quality of the project's results framework. As noted above, the project's results framework lacked SMART indicators and targets, which affected the project's ability to use monitoring and evaluation data to improve the implementation of activities and track progress toward achieving its outcomes and objectives. However, the TE indicates that the overall project design and strategy was relevant and "responsive to the needs of Ukrainian industrial stakeholders in 2009" (TE pg. 15; 45). Additionally, the TE indicates that UNIDO provided effective technical backstopping to the Project Management Unit (PMU), and that it was responsive to the Government of Ukraine and the Ukrainian agro-food industrial stakeholders (TE pg. 47).

7.2 **Quality of Project Execution**	Rating: **Satisfactory**

The TE does not directly assesses the quality of project execution, however it does provide a rating of **Satisfactory** for project coordination and management, which was the responsibility of the Project Management Unit (PMU). The project had three executing partners: the Institute of Renewable Energy (IRE) at the National Agency of Ukraine for Efficient Use of Energy Resources (NASU); the State Agency of Ukraine for Efficient Use of Energy Resources (SAEE); and the Ministry of Agrarian Policy of Ukraine (MoAP). The PMU was housed within IRE and staffed by UNIDO (TE pgs. 9; 48). The TE indicates that the PMU played a crucial role in improving the existing regulatory framework (Component 1) and identifying potential partners for pilot projects (Component 2) (pg. 48). A Project Steering Committee (PSC) was also established by the project and was tasked with reviewing project plans and providing advice on strategic approaches. The TE indicates that the PSC met on an annual basis, which was less frequent than anticipated in the Project Document (TE pg. 9). Overall, the TE notes that "management and coordination of the IEEPRE Ukraine Project has led to the project achieving most of its intended outcomes, and coming close to the GHG emission reduction target" (pg. 49). This TER concurs, and provides a rating of Satisfactory for quality of project execution.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

> By project end, 1.9 million tonnes CO_{2eq} emission reduction was achieved as a result of investments in energy efficiency and renewable energy. Additionally, 960 MWh/yr of energy was saved, and 208 MWh/yr of energy was generated by renewable energy sources (TE pg. 21). The GHG emission reduction was lower than expected due to the political events in Crimea, which forced the project to abandon activities there.

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not indicate any socioeconomic changes that occurred by the end of the project.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

By project end, 66 representatives of SMEs, government agencies, and higher education institutions, were trained in the use of the COMFAR III Expert Software for preparing business plans. 30 business plans were produced, and ten pilot projects were implemented (TE pg. 36). Additionally, 50 trainers were trained in scaling-up energy efficiency and renewable energy projects, and 28 training modules were developed. Subsequently, 320 representatives of SMEs in the agro-food sector were trained on the use of renewable energy sources and improvement of energy efficiency (TE pg. 38).

The project also produced a significant number of knowledge products, including a website and 24 manuals and textbooks on applying renewable energy sources for the agro-food industry (TE pg. 39). Other knowledge products included: 2 reports analyzing existing policies; 6 knowledge products on strengthening institutional and policy incentives; 2 reports on recommendations for integrating energy efficiency and renewable energy priorities into local and national industrial policies; 5 knowledge products supporting sustainability indicators for use of biomass residues; and 9 benchmarking reports for agro-food sub-sectors (TE pgs. 27; 30). Additionally, 8 agro-food energy management plans were produced (TE pg. 30).

b) Governance

The project provided technical assistance in developing the National Renewable Energy Action Plan (NREAP), which was adopted in 2014 (TE pg. 28). Additionally, Ukraine became a member of the Energy Community in 2011 (TE pg. 11).

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The TE does not indicate any unintended impacts of the project.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end.

Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

> The TE indicates that a new GEF project, entitled "Global Cleantech Innovation Program for SMEs," will support the outcomes of the project in Ukraine, including "the accelerated adoption of an innovative low carbon growth strategy and mainstreaming technology innovation and entrepreneurship across all economic sectors" (TE pg. 54).

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE provides the following lessons learned (pg. xii):

- **Lesson 1**: The implementation approach of the IEEPRE Ukraine Project by first implementing pilot projects followed by training can be a more effective tactic convincing the industrial sector to increase its investment towards energy efficiency and renewable energy, on the condition that the cost of financing such investments is affordable.
- **Lesson 2**: Despite the completion of a US$5.1 million grant project to promote EE and RE in the agro- food sector over a 7.5 year period, capacity building is still required for agro-food and industrial enterprises to sustain implementation of measures to reduce energy costs in their sectors (Para 126).
- **Lesson 3**: Project investments that use biomass as feedstock need to have secure supplies of biomass to be viable, and market demand for products from the investment

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE provides the following recommendations (pgs. xii-xiii):

- **Recommendation 1** (to the IRE and SAEE): Seek the continuation of awareness raising and capacity building for all industrial sector stakeholders.
- **Recommendation 2** (to SAEE, IRE and UNIDO): Continue with efforts to seek less costly sources of financing for the scale-up of EE and RE investments.
- **Recommendation 3** (to the Ministry of Agrarian Policy and the Ministry of Energy): Continue efforts to mainstream the use of domestically sourced biofuels in the Ukraine that includes discussions with higher level government officials on the removal of a 25% excise tax.
- **Recommendation 4** (to the GEF, Ministry of Agrarian Policy and UNIDO): Use resources of follow-up projects including a Global Cleantech Innovation Programme to extend the benefits of EE and RE technologies to more rural agro-food industries, notably in autonomous energy generation in rural areas.

- **Recommendation 5** (to the SAEE): Engage dialogue with the Ministry of Economic Development and Trade to transition the PMU of the IEEPRE Ukraine Project into a facilitation center that can provide guidance to industrial SMEs in reducing their operational energy costs.
- **Recommendation 6** (to SAEE and MoAP): Find donors or resources to continue the updating of the roadmaps for the implementation of energy-efficient measures at agro-food industry enterprises.

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The TE thoroughly assesses the relevant outcomes, objectives, and impacts of the project in regard to effectiveness. This TER recognizes this was a challenge given the lack of SMART indicators and targets. The Theory of Change provided was helpful in understanding the project's logic.	**S**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is consistent (except with regard to financial data), the evidence is strong, and the ratings are well substantiated.	**S**
To what extent does the report properly assess project sustainability and/or project exit strategy?	The report adequately assesses most areas of sustainability; it does not provide enough information to assess environmental sustainability.	**MS**
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The IA Evaluation Office Review indicates that not all findings are reflected in the lessons learned, particularly regarding the project design and future projects (pg. 2).	**MS**
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The financial data provided is inconsistent throughout the report.	**U**
Assess the quality of the report's evaluation of project M&E systems:	The TE adequately assesses M&E design and implementation.	**S**
Overall TE Rating		**S**

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

IA Evaluation Office Review (2019); Midterm Evaluation (2014).