

Result-oriented Analysis Report of Energy Component for UNDP- MOWE Projects

Solutions adopted to increase access to clean, affordable, and sustainable energy.	
Successes	Challenges
<p>Through UNDP’s support, energy access gap has been closed for 1,402,245 people out of which 60 % are females. Meanwhile, UNDP’s renewable energy interventions in Ethiopia enabled 50,319 people (32% Female) to gain access to clean, affordable, and sustainable energy services through trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in rural areas of Amhara, Harari, and new south Ethiopian regions.</p> <p>As a result of the interventions, a total of 157,310.297tCO₂eq emissions have been reduced through promoting productive uses of solar and biogas technologies in rural communities of the country. As a valuable benefit package, the solar-powered irrigation system spans a vast expanse of 53.5 hectares of fertile land in North Wollo of Amhara region, allowing for the cultivation of high-value, revenue-generating cash crops. Through UNDP’ support, 152 people (23% Female) have benefited from training sessions on Solar and Biogas System Design, Installation, Operation & Maintenance, as well as solar PV Mini-Grids system design and business models innovation.</p> <p>UNDP collaborated closely with the Ethiopian government to develop a transformative policy highlighting the gender-energy nexus to integrate gender equality into energy policy frameworks and enhance the capacity of women to influence governance structures of Ethiopia. UNDP has produced the Assessment Report on China-Ethiopia Renewable Energy Technology Transfer for Production in terms of 1) technology assessment of RETs for productive uses; 2) business models for long-term viability; 3) investment plan in Ethiopia that undergone rigorous validation and serves as a comprehensive guide for renewable energy technology transfer and exchange. Furthermore, UNDP has also undertaken the task of compiling a Research Agenda that seeks to</p>	<p>While considerable progress has been made in accomplishing our planned activities, we have encountered significant challenges throughout the process. These challenges include limitations in institutional capacity, which has hampered the execution of projects and program activities with the necessary level of quality and efficiency. Furthermore, the lack of a conducive policy environment for private sector engagement in the promotion of renewable energy sources has impeded our efforts. Additionally, the limited expertise in deploying modern renewable energy technologies, such as solar PV and biogas, has posed difficulties. Lastly, the presence of fragile ecosystems in the country has presented barriers to the successful execution of our programs.</p>
	Corrective Measures
	<p>The course of actions suggested to alleviate the above-mentioned challenges includes a. continuous capacity building and institutional strengthening of our government counterparts to enhance expertise and capabilities in effectively executing projects and activities to meet the required standards of quality and efficiency; b. assisting the government in designing incentive mechanisms and improving the policy environment to encourage private sector involvement in the promotion of renewable energy resources; c. the development of a robust stakeholder ecosystem to foster collaboration and engagement among all relevant actors involved in the renewable energy sector.</p>

<p>mainstream biogas and solar energy potential to foster a seamless transition towards sustainable energy practices in Ethiopia.</p>	
<p>Energy Gap Closed</p>	
<p>Successes</p>	<p>Challenges</p>
<p>Through UNDP’s support, energy access gap has been closed for 1,402,245 people out of which 60% are females have benefited from solar and biogas solutions applied at scale to accelerate transition to improved energy efficiency and clean energy in Ethiopia. As a result of the interventions, a total of 157,310.297tCO₂eq emissions have been reduced through promoting productive uses of solar and biogas technologies in rural communities of the country. As a valuable benefit package, the solar-powered irrigation system spans a vast expanse of 53.5 hectares of fertile land in North Wollo of Amhara region, allowing for the cultivation of high-value, revenue-generating cash crops.</p>	<p>Despite the achievements made in 2023, there were constraining challenges which affected the effective implementation of the programme including inadequate institutional capacity to execute project and programme activities to the required level of quality and efficiency; lack of policy environment for the involvement of private sector in the promotion of renewable energy sources in the country; limited capacity of experts to execute the modern renewable energy technologies, including solar PV, biogas and others; the existence of fragile ecosystem in the country has also remained barriers for programme execution. In addition, the global and national supply chain including shipping and custom authority arrangement affected effectiveness and efficiency of programme implementation process.</p>
<p>UNDP has also supported the Ethiopian government to produce the Assessment Report on China-Ethiopia Renewable Energy Technology Transfer for Production in terms of 1) technology assessment of RETs for productive uses; 2) business models for long-term viability; 3) investment plan in Ethiopia that undergone rigorous validation and serves as a comprehensive guide for renewable energy technology transfer and exchange. Furthermore, UNDP has also undertaken the task of compiling a Research Agenda that seeks to mainstream biogas and solar energy potential to foster a seamless transition towards sustainable energy practices in Ethiopia.</p>	
<p>Corrective Measures</p>	
	<p>The proposed ways to correct a course of action to alleviate the above mentioned challenges include a. continuous capacity building and institutional strengthening of our government counterparts to enhance expertise and capabilities in effectively executing projects and activities to meet the required standards of quality and efficiency; b. assisting the government in designing incentive mechanisms and improving the policy environment to encourage private sector involvement in the promotion of renewable energy resources; c. the development of a robust stakeholder ecosystem to foster collaboration and engagement among all relevant actors involved in the renewable energy sector; d. engagement of concerned authorities of the custom and shipping line through participatory consultative processes.</p>

Programme Indicator	Milestone/Target		Remarks
	Target	Actual	
Number of people, who gained access to clean, affordable and sustainable energy			
Female	839,157	839,157	The female-led people have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in urban and rural areas of Ethiopia.
In rural area	1,241,839	1241,839	The people in rural areas have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in Ethiopia.
In urban area	160,405	160,405	The people in urban areas have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in Ethiopia.
Male	563,086	563,086	The male-led people have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in urban and rural areas of Ethiopia.
Sex-disaggregated data unavailable			
Number of people, who benefited from services from clean, affordable, and sustainable energy			
Female	802	16,008	The female-led people have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in urban and rural areas of Ethiopia, as well as technical training services on Solar and Biogas System Design, Installation, Operation & Maintenance, as well as solar PV Mini-Grids system design and business models innovation.
In rural area	2,590	48,569	The people in rural areas have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in urban and rural areas of Ethiopia, as well as technical training services on Solar and Biogas System Design, Installation, Operation & Maintenance, as well as solar PV Mini-Grids system design and business models innovation.
In urban area	1,430	1,750	The people in urban area have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in urban and rural areas of Ethiopia, as well as technical training services on Solar and Biogas System Design, Installation, Operation & Maintenance, as well as solar PV Mini-Grids system design and business models innovation.
Male	1,282	34,311	The male-led people have benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm, and technical training services on renewable energy system.

Sex-disaggregated data unavailable			
Number of households benefiting from solutions applied at scale to accelerate transition to improved energy efficiency and clean energy (modified IRRF 2.5.1.1)	36%	36%	The targeted households have been benefited through promoting trials and demonstrations of biogas and solar energy solutions in schools, universities, and solar-powered irrigation farm in Ethiopia.
Proportion of population with primary reliance on clean fuels and technology. (SP 1.7)	50%	48%	Through UNDP support, the national energy coverage (45%) has increased to 48 %.