

# UNIDO GEF Annual Monitoring Report FY 2018

Response ID:23 Data

## 1. UNIDO GEF Annual Monitoring Report II FY 2018

### 1. GEF ID:

4927

### New Analysis Question

### 2. UNIDO SAP ID:

150188

### 3. GEF Replenishment Cycle:

GEF-5

### 4. GEF Focal area:

Climate Change (CC)

### 5. Integrated Approach Pilot (IAP) Programs (only for GEF-6 projects, if applicable)

### 6. UNIDO PTC Department:

Department of Energy (ENE)

### 7. Project Title: (*as per approved CEO Endorsement document*)

Facility for Low Carbon Technology Deployment

### 8. UNIDO Project Manager:

First name : Sanjaya

Last name : Shrestha

### 9. Project Manager's email:

S.Shrestha@unido.org

### 10. Please state the geographical location(s) of the project:

#### Please select one:

Country. Please state:: India

### 11. Please provide a project summary: (*approx. 300 words*)

Objective: The objective of the project is to facilitate deployment and scaling up of low-carbon technologies in India that can address technology gaps to mitigate climate change and promote use of clean energy applications in selected sectors. Facility for Low Carbon Technology Deployment (FLCTD) is a 5-year project designed to identify high-impact opportunities that have potential for energy saving as well as large-scale carbon emission reductions. This will be achieved through a series of "Innovation Challenges", an open award competition calling for solutions in the areas of low-grade industrial waste heat recovery (WHR), space conditioning (HVAC, cold storage) and pumping (agricultural). The Innovation Challenges will be instrumental in attracting private investments in research to meet the goals stated under the award competition conditions.

The project counter part, the Bureau of Energy Efficiency (BEE), under the Ministry of Power, estimates 30 GWh of

energy saving potential contributed by efficient pumpsets in the agriculture sector and 14 GWh savings in the industrial and commercial sectors from various efficiency measures.

Project Targets:

- Demonstration of approximately 120 low-carbon innovations that meet specifications of the challenges, at least 20-50% more efficient than the state-of-art available in the market.
- Commercially scaling up and deployment of approximately 40 winning technology innovations with stakeholder companies/industries and users
- Reduction of CO<sub>2</sub>e emissions of approximately 2,3 million tonnes over the 10-year lifetime

## 2. Global Environmental Objectives (GEOs) / Development Objectives (DOs)

### 12. Please state the progress made in FY 2018 in achieving the intended Global Environmental Objectives / Development Objectives.

Please state the **progress rating of GEOs/DOs** (as per the rating filled in AMR Part I):

Moderately satisfactory (MS)

Please state the **progress made in the current FY in achieving the outlined GEOs/DOs.**

During FY 2018 the project completed the design of the first innovation challenge in the Waste Heat Recovery (WHR) vertical, which was launched on 2nd November 2017 with robust responses from targeted stakeholders. Under the supervision of the BEE and experts' panel, 3 winners were shortlisted through rigorous processes from 5 semi-finalists identified from 107 applications. The financial and technical support of the three winners to deploy their innovations will result at a later stage in the adoption of low-carbon technologies in the Indian economy. During this period the PMU also initiated consultation of launching the innovation challenges in the other two verticals, namely, Space Conditioning and Pumps & Pumping Systems. In all three innovation challenges government agencies, the industry as well as the innovators are heavily involved and work together to achieve the targeted Global Environmental Objectives.

## 3. Implementation progress

### 13. Project Objectives and Progress

Please state the **implementation progress rating** (as per the rating filled in AMR Part I):

Moderately satisfactory (MS)

Please state the **implementation progress made for this FY.**

(Progress July 2017 - Jun 2018)

- The PMU developed communication material and as well as the website for the FLCTD project ([www.low-carbon-innovation.org](http://www.low-carbon-innovation.org)). PMU followed a consultative process with the expert panel members and developed the Terms of References (TOR) for Waste Heat Recovery Innovation Challenge, which were finalized in consultation with BEE that offered detailed information about the challenge and the benefits it offers. The TOR was shared via the FLCTD portal
- The 1st Innovation Challenge for WHR category was launched on the FLCTD website on 1st November 2017, at the BEE event, "National Summit on Energy Efficiency in MSMEs", by Mr. Ajay Kumar Bhalla, Secretary, Ministry of Power.
- In November 2018 the PMU completed the process of procuring the services of Confederation of Indian Industries - Sohrabji Godrej Green Business Centre (CII-GBC), which is CII's excellence centre for energy efficiency, to assist the PMU in running innovation challenges in all three verticals (WHR, Space Conditioning and Pumping), for the calendar year 2018
- Following the launch of WHR innovation challenge, outreach of the innovation challenge through online email, social media campaigns, newspaper advertisements and roadshows were held across four (4) cities in December

2017.

- 5,000 emails were sent to Indian technical institutes/ universities, research institutes, start-ups, large industries, micro, small & medium enterprises, R&D units in public center enterprises and government laboratories to spread awareness about the projects
- PMU organized outreach events (Roadshows) which were held in 4 cities, namely, Delhi, Chennai, Pune and Ahmedabad and two webinars were organized in January 2018 - that presented the opportunity to interact with over 100 potential applicants.
- The first WHR innovation challenge was closed on 18 Feb 2018.
- The PMU, along with CII-GBC conducted a screening exercise that identified 44 applications that met the criteria of the WHR innovation challenge. The screening exercise looked at the originality of the innovation, energy recovery, return on investment, replication potential and readiness for commercial application.
- The applications that qualified the screening round were reviewed by the WHR expert panel and 5 WHR innovators/entrepreneurs were invited for the final presentation to the expert panel, on 20th June at the Bureau of Energy Efficiency.
- In the final presentation round, experts scrutinized the applications for the technology soundness, paybacks and replication potential in target industries. The experts found 3 innovations eligible to receive the funding support up to US\$ 50,000 each for demonstration of winning innovations
- The process of selection of innovations for financing was developed through a consultative process and the guidelines will be used for all the three technology verticals under the FLCTD innovation challenge (with minor modification to suit the demonstration requirements innovation under each technology vertical).
- Based on the learning of conducting the Waste Heat Recovery challenge, the plan for conducting the innovation challenge for space conditioning and pumps & pumping systems were commenced in March 2018.
- The second meeting of experts for Pumps held on 18th April 2018 and the second meeting of experts for Space Conditioning vertical held on 3rd May 2018 defined the problem statements for the innovation challenges. Taking these inputs, the PMU prepared the Terms of References for Space Conditioning and Pumps & Pumping Systems innovation challenges, that were approved by the expert panel members and the BEE. In June 2018 the BEE approved to launch the first innovation challenge for Space Conditioning and Pumps & Pumping Systems on 1st July 2018 via the FLCTD portal.

#### 4. Risk management

14. Please indicate the overall risk management: (i) as identified in the CEO Endorsement document, and (ii) progress to-date.

**\*Risks identified as per CEO Endorsement document. Please indicate in the "Risks" column if some are new/additional risks.**

	(i) Risks	(i) Risk level	(i) Mitigation measures	(ii) Progress to-date
1	Political risk: Changes in government priorities resulting in reduced support for the project, delays in activities and overall ineffectiveness of the interventions.	Low risk (L)	The project seeks to facilitate deployment of low carbon technologies in India that can address technology gaps to mitigate climate change and improve the energy efficiency in selected sectors. The low carbon technology interventions are considered a high priority of the Government. Thus, the risk of a drastic change is unlikely. To mitigate this risk the Project Steering Committee will be closely involved in the project's activities, giving guidance and advice throughout the identification, selection, and intervention processes.	To mitigate this risk the Project Steering Committee will be closely involved in the project's activities, giving guidance and advice throughout the identification, selection, and intervention processes.
			The project builds upon the work done in the past	

2	Technical risk: Lack of energy savings from deployment of efficient technologies	Low risk (L)	where such technologies have been identified based on field studies and cluster level energy audits. Moreover, the demonstration projects to be audits. Moreover, the demonstration projects to be conducted using the GEF grant will ensure that only those technologies where the technical performance risk is minimal are taken up. UNIDO and BEE will ensure this by leveraging technical expertise from all stakeholders, including industry, government and others.	The project will invite participation of technology innovators which have developed prototypes and assist in conducting tests to validate energy savings before deployment.
3	Sustainability risk: The risks envisaged here include inability to scale up implementation and lack of financing beyond the project period.	Low risk (L)	BEE has committed financial resources to ensure that replication occurs beyond the project's implementation period. The Technology Transfer Support Facility will be established in close coordination with a financial institution, which will also ensure that the best practices of project design and implementation are replicated in other clusters.	Not applicable, as the project has not yet reached this stage of implementation
4	Financial risk: The risk of nonpayment for investments made by EESL/ESCOs	Modest risk (M)	UNIDO and BEE will not only provide training to industries for building their capacity on the long-term financial benefits of investing in energy efficiency, but the project will also leverage risk mitigation measures that are being set up by BEE, such as the Partial Risk Guarantee Fund under NMEEE.	UNIDO's partnership with PFAN and other private equity investors, who invests in cleantech startups are being engaged in the programme to mitigate the risk
5	Climate change risk: The project is not subject to any climate change risks.	Low risk (L)	While no climate changes risks are foreseen, the project will mitigate any potential risks to project demonstration sites by include criteria related to such risks in the cluster surveys, and if a risk is identified, develop a mitigation strategy before implementation begins.	Not applicable
6	Social and Gender Risk:	Low risk (L)	Risk of resistance against, or lack of interest in, the project activities from stakeholders, especially with regard to the active promotion of gender equality. Low participation rates of suitable female candidates due to lack of interest, inadequate project activity or missing qualified female population within engineering sector. This Project will pursue thorough and gender responsive communication and ensure stakeholder involvement at all levels, with special regard to involving women and men, as well as CSOs and NGOs promoting GEEW, and a gender expert. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in the energy field.	This Project will pursue thorough an gender responsive communication and ensure stakeholder involvement at all levels, with special regard to involving women and men, as well as CSOs and NGOs promoting GEEW, and a gender expert. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in the energy field.
7				
8				
9				
10				

15. If the project received a **sub-optimal risk rating (H, S)** in the previous PIR FY, please state the **actions taken** since then to mitigate the relevant risks.

## 5. Implementation and Execution issues

### 16. Please state any **implementation issues** occurred in overseeing and supervising during FY 2018:

- Approval delays from the project counterpart have caused delays in the implementation progress.
- Lack of procedural clarity for disbursement of grant for the technology demonstrations. These procedures were developed by the PMU in consultation with the project steering committee, the expert panel and the BEE, leading to delays in final approval and disbursement of funds for technology demonstration.

### 17. Please state any **execution issues** faced during FY 2018:

- The launch date of the WHR innovation challenges were delayed because of approval delays at the Bureau of Energy Efficiency
- Lack of guidelines for fund disbursal to the winners affected the WHR winning technologies' deployment milestones indicated in the workplan in FY 2018. This affected the expected outcome for allocation of awards to winners in tranches, under project outcome 1.2 as indicated in the prodoc.

## 6. Environmental and Social Safeguards (ESS)

As part of the requirements for projects, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

As required for all projects, please report on activities undertaken in FY 2018 to meet the ESS monitoring/management commitments made in the Project Document and/or the Environmental and Social Management Plan (ESMP).

	E&S risk	Mitigation measures undertaken in FY 2018	Monitoring methods and procedures used in FY 2018
(i) Risks identified during PIF and verified during PPG (as per the submitted ESMP)			
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)			

## 7. Gender mainstreaming

### 18. Please describe the **gender considerations** mainstreamed into the CEO Endorsement:

- Gender-sensitive recruitment will be practiced at all levels where possible, especially in selection of project staff, experts and consultants. Gender responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. Furthermore, whenever possible existing staff will be trained and their awareness raised regarding gender issues.
- All decision-making processes will consider gender dimensions and consult, wherever feasible, representatives of CSOs and NGOs promoting gender equality and empowerment of women (providing them with equal voice). At project management level, the Project Steering Committee will make efforts to be gender balanced and/ or during meetings will invite observers or gender focal points to ensure that gender dimensions are taken into consideration. Also at the level of project activity implementation, efforts will be made to consult with stakeholders focusing on gender equality and women's empowerment issues. This is especially relevant in policy review and formulation.
- To the extent possible, efforts will be made to promote participation of women in competition activities, both at managerial and technical levels, as participants and organizers. This can include advertising of the events to women's technical associations, encouraging companies to send female employees, provide childcare and safe transport, offer scholarships or reduced fees for women, adjusting TOR for selection of the trainers, etc.
- When data-collection or assessments are conducted as part of project implementation, gender dimensions will be considered particularly with reference to the impact of low carbon technologies on the livelihood of communities. This can include sex-disaggregated data collection, performing gender analysis as part of ESMP (Environmental and Social

Management Plan).

- Similarly, participating industries with female entrepreneurs will also be selected on priority basis.

**19. Please state the **measures taken** so far, and the **results achieved** in FY 2018 against the intended gender mainstreaming actions (refer to question above):**

- Gender-sensitive recruitment was practiced at all levels where possible, such that the PMU is gender balanced
- In the Innovation Challenges, gender-responsive TORs were prepared from female entrepreneurs by indicating the added benefits to invite female entrepreneurs.
- The application processes to the programme are gender dis-aggregated

## 8. Stakeholders consultation

**20. Please describe the stakeholders consultations that have taken place for FY 2018?**

- i. 2nd PSC Meeting, 2nd Nov 2017
- ii. 1st experts meeting (Space Conditioning & Pumps) 27th March 2018
- iii. 2nd experts meeting - Space Conditioning, 3rd May 2018
- iv. 2nd experts meeting - Pumps, 18th April 2018
- v. Final presentations of WHR semi-finalists, 20th June 2018

**21. Please upload the relevant consultation documents:**

*(Eg: Project Steering Committee minutes, Aide Memoire, Meeting Agenda, etc.)*

- [4927\\_FLCTD\\_Minutes\\_of\\_2nd\\_PSC\\_meeting\\_-\\_approved.pdf](#)
- [4927\\_FLCTD\\_MOM-2nd\\_SpaceCond\\_Expert\\_Meeting\\_03May2018.docx](#)
- [4927\\_FLCTD\\_Approved\\_MoM\\_2nd\\_Pumps\\_Expert\\_18th\\_Apr\\_2018.pdf](#)
- [4927\\_FLCTD\\_Approved\\_MoM\\_Final\\_Presentatons\\_WHR\\_18.0.2018.pdf](#)
- [4927\\_FLCTD\\_Approved\\_Minutes\\_of\\_Combined\\_Meeting.pdf](#)
- [4927\\_FLCTD\\_Approved\\_Minutes\\_of\\_3rd\\_PSC\\_meeting.pdf](#)

## 9. Knowledge Management

**22. Please list the titles of knowledge management or publicity materials that have been produced for the project.**

*(i.e. online information exchange/sharing platforms, technical reports, project website or video links, publications, posters, flyers, etc.)*

- 1 : FLCTD Innovation Challenge FLYER - WHR
- 2 : FLCTD Innovation Challenge FLYER - SpCn & Pumps
- 3 : FLCTD Financial Assistance Form
- 4 : WHR Progress Report
- 5 : Project Portal: [www.low-carbon-innovation.org](http://www.low-carbon-innovation.org)

**23. Please upload the materials mentioned above.**

*(i.e. photos, brochure, flyer, leaflet, feasibility studies... up to 10 files)*

- [4927\\_FLCTD\\_Flyer-WHR.jpg](#)
- [4927\\_FLCTD\\_Flyer\\_SpCon-Pumps.jpg](#)
- [4927\\_FCLTD\\_-\\_Invite\\_and\\_Agenda.pdf](#)
- [4927\\_FLCTD\\_Financial\\_Assistance\\_form.pdf](#)
- [4927\\_FLCTD\\_Progress\\_Report\\_WHR-1stChallenge.pdf](#)
- [4927\\_FLCTD\\_Photos\\_Pune.docx](#)
- [4927\\_FLCTD\\_Photos\\_Chennai.docx](#)

**24. Please share a story on how the project has benefitted the environment and communities.**

The project created its portal <http://low-carbon-innovation.org/>, and shared the explainer video that was used to sensitize stakeholders of the benefits of the FLCTD innovation challenges for the industry to find innovative technological solutions to reduce greenhouse gas emissions and help Indian government to meet its NDC target agreed in Paris agreement.

**10. Files upload (Required for PIR, MTR and TE)**

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**25. The following information is filled as part of the:**

Project Implementation Report (PIR)

**26. GEF Project size:**

Full-Sized Project (FSP)

**27. Please upload the **Project Progress Update Report** showing progress by output-level for FY 2018 (1 July 2017 to 30 June 2018):**

[4927\\_FLCTD\\_Progress\\_Update\\_Report\\_2018.pdf](#)

**28. Please upload the **updated work plan** for FY 2018:**

[4927\\_FLCTD\\_workplan.docx](#)

**29. Please upload any other materials you wish to share from the project:**

***(i.e. feasibility study reports, technical reports, etc) For PTC/ENV projects with SCD requirements, please upload it here.***

***Please name your file "GEFID\_document name".***

[4927\\_TOR\\_WHR\\_Innovation\\_challenge\\_12102017.docx](#)

[4927\\_TOR\\_SpaceCon\\_Innovation\\_challenge\\_v3\\_\(FINAL\).docx](#)

[4927\\_TOR\\_Pumps\\_Innovation\\_challenge\\_v4.5\\_\(FINAL\).docx](#)

**11. Project Implementation Report (PIR)**

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**30. Please insert information on progress, challenges and outcomes on **project implementation activities**:**

a) Progress

- Experts Panels for all the three verticals are established and actively engaged in the designing and conducting the innovation challenge in each vertical
- Successful PSC meetings held for guidance of the project
- Regular Expert Panel meetings held for designing and developing the technical and implementation criteria of each technology vertical
- Roadshows, outreach activities and events held for WHR
- WHR Innovation Challenge completed its first cycle and 3 winners selected for financial support
- Innovation challenges for Space Conditioning and Pumps & Pumping System launched

b) Challenges – identification of cities for roadshows, reaching out to potential entrepreneurs/innovators,

- How to engage and encourage idea-stage entrepreneurs, such that they can benefit from the FLCTD support in the coming years
- Very few female stakeholders/entrepreneurs in the 3 technology verticals identified in the project

c) Outcomes

- Collaboration with CII-GBC has been effective in building networks and sensitizing government agencies, industry,

innovators, the research community, financing institutions, and technology experts about FLCTD innovation challenges  
 - 3 WHR technologies identified that can be deployed with FLCTD assistance

**31. Please insert information on progress, challenges and outcomes on stakeholder engagement (based on the description of the Stakeholder engagement plan included at CEO Endorsement/Approval):**

- Project Steering Committee Constituted
- Expert Panel Constituted for each of the three verticals constituted
- PMU is constituted and fully functional
- Financial Institutions are yet to be engaged in the project

**32. Please insert information on progress on gender-responsive measures as documented at CEO Endorsement/Approval in the gender action plan or equivalent:**

- Gender-sensitive recruitment was practiced at all levels where possible, such that the PMU is gender balanced
- In the Innovation Challenges, gender-responsive TORs were prepared from female entrepreneurs by indicating the added benefits to invite female entrepreneurs.
- The application processes to the programme are gender dis-aggregated

**33. Please outline knowledge activities / products (when applicable), as outlined in knowledge management approved at CEO Endorsement / Approval:**

- PIR FY 2017 submitted
- Project progress update report 2018
- Progress Report on WHR submitted
- Project Publications like TORs for each innovation challenge, Flyers for each innovation challenge outreach submitted

**12. Mid-Term Review (MTR)**

Please indicate the committed co-finance at CEO Endorsement (Table C)\* and the materialized co-finance\*\* as of FY 2018. If additional sources of co-finance have been added during project implementation, please add as appropriate.

	Sources of co-finance* (i.e. National government)	Name of co-financier* (i.e. Ministry of Finance)	Type of co-financing*	Amount confirmed at CEO (USD)*	Amount materialized at MTR (USD)**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Total					

Please upload the relevant Tracking Tool (optional for MSP):

Please upload the relevant Core Indicators numbers / figures as of the date of the MTR.

If there has been commitment in the CEO Endorsement document to submit a **Mid-Term Evaluation (MTE)**, please upload:

Please insert information on progress, challenges and outcomes on **stakeholder engagement** (based on the description of the Stakeholder engagement plan included at CEO Endorsement/Approval):

Please insert information on progress on **gender-responsive** measures, indicators and intermediate results as documented at CEO Endorsement/Approval in the gender action plan or equivalent:

Please outline **knowledge activities / products** (based on the Knowledge management approach approved at CEO Endorsement / Approval) and lessons learned (if available):

Please outline **main findings** of the **Mid-Term Review (MTR)**, i.e. key findings, recommendations and lessons learned:

### 13. Terminal Evaluation (TE)

Please indicate the (a) committed co-finance at **CEO Endorsement (Table C)** and (b) the materialized co-finance as of FY 2018. If additional sources of co-finance have been added during project implementation, please add as appropriate.

	(a) Sources of co-finance* (i.e. National government)	(a) Name of co-financier* (i.e. Ministry of Finance)	(a) Type of co-financing*	(a) Amount confirmed at CEO (USD)*	(b) Amount materialized at MTR (USD)**	(b) Amount materialized at TE (USD)**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Total						

Please upload the relevant Tracking Tool (TT):

Please upload the relevant **Core Indicators numbers / figures** as of the date of the TE.

Please upload the **Terminal Evaluation (TE)**:

Please insert information on progress, challenges and outcomes on **stakeholder engagement** (as evolved from the time of MTR):

Please insert information on progress on **gender-responsive** measures, indicators and intermediate results (as evolved

from time of MTR), lesson learned if available:

Please outline **knowledge activities / products** (as evolved from time of MTR) and lessons learned:

Please outline **main findings** of the **Terminal Evaluation (TE)**, i.e. key findings, recommendations and lessons learned:

15. Thank You!

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AMR II submission confirmation 4927