

UNIDO**ONUDI**

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
ORGANISATION DES NATIONS UNIES POUR LE DEVELOPPEMENT INDUSTRIEL

Progress Report
(01 July 2018 – 30 June 2019)

Name of country Malaysia

Title¹	GHG EMISSION REDUCTION IN TARGETED INDUSTRIAL SUB-SECTORS THROUGH EE AND APPLICATION OF SOLAR THERMAL SYSTEMS
GEF ID:	4878
UNIDO SAP ID:	120264
GEF Replenishment Cycle:	GEF-5
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs²:	(select)
GEF Project Size:	Full-Sized Project (FSP)
UNIDO PTC Department:	Department of Energy (ENE)
UNIDO Project Manager:	Sanjaya Shreshta

I. Brief description of the project

I.1 Objective: To reduce GHG emissions in the country by promoting and demonstrating the energy efficiency improvements and solar thermal system application in the heating and cooling process in sector specific of Malaysian industries.

The project "GHG Emissions Reductions in Targeted Industrial Sub-Sectors through EE and Application of Solar Thermal Systems in Malaysia" is promoted as Malaysian Energy Efficiency and Solar Thermal Application (MAEESTA) project. The project is under the supervision of the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC).

¹ As per approved CEO Endorsement document

² Only for **GEF-6 projects**, if applicable

I.2 Baseline: Malaysia has a good solar radiation throughout the year. In addition, the availability of various types of subsectors as rubber product, food and beverage, pharmaceutical, textile, chemical etc whose processes need temperature levels of which solar thermal can be integrated, provided great opportunity for the technology implementation. Additionally, renewable energy and energy efficiency have been supported by available policies, incentives, research and small demonstration projects, with the potential to incorporate thermal energy efficiency and solar thermal technology for further technology adaption.

Targeted results: The project seeks to bring the application and diffusions of EE and application of solar thermal in industrial (heat) processes in Malaysia to a higher level, by means of a concerned effort by a number of Malaysian organizations and institutions in a mix of policy and regulatory framework enhancement, targeted training, awareness creation and demonstrations activities. The use of solar thermal energy for industrial applications demonstrates a very new development in the industrial energy supply systems for which only some hundreds realized examples exist worldwide. Therefore, this project is crucial and incremental in realizing the high potential in utilizing solar thermal energy, reducing energy consumption and hence GHG emissions reductions in Malaysia.

The project implementation is expected to result in 3 outcomes:

1. Policy papers and financial incentives schemes established and endorsed by stakeholders.
2. Awareness and capacity building of equipment vendors, service providers, industry management, plant engineers, financial institutions in targeted industrial sub-sectors strengthened and utilized.
3. Thermal energy efficiency and solar thermal technology demonstrated and deployed in the targeted industrial subsectors.

II. Targeted results and progress to-date

II.1 Describe in tabular form the project's progress made in achieving its outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Project Strategy	KPIs/Indicators	Target level	Progress to-date
Component 1 – Development of regulatory framework, support programme and financial incentive mechanism to facilitate solar thermal energy utilization			
Outcome 1: Adequate policy framework, support programmes and financing mechanisms facilitating implementation of solar thermal energy utilization			
Output 1.1: National counterparts supported to develop three policy papers on solar thermal energy.	Number of policy papers developed;	At least 3 policy papers on solar thermal energy developed;	For the moment, Malaysia does not have any act/regulations/policy and custodian on thermal energy. The existing policy framework and support programs in Malaysia for RE only focus on electricity power generation and not thermal applications.
	% of counterparts taking part in the development of policy papers report having benefitted from built capacity;	At least 70% of counterparts taking part in the development of policy papers report having benefitted from built capacity;	The drafting of the Energy Efficiency and Conservation Act (EECA) will be the key for the thermal energy policy and frameworks enabled in Malaysia. EECA is targeted to be tabled in Parliament by the 3rd quarter of year 2020.
	Number of workshops and seminars organized.	At least 5 workshops and seminars organized.	Without the act in place, no specific policy papers and frameworks on solar thermal are to be developed. As such, the MAEESTA project works toward providing policy input and recommendation documents to the government. The targeted documents are:

		<p>I. National Solar Thermal Roadmap & Roadmap Deployment Plan</p> <p>II. Review of existing policy – National Energy Efficiency Action Plan (NEEAP)</p> <p>III. Renewable Energy Transition Roadmap</p> <p>i. National Solar Thermal Roadmap & Roadmap Deployment Plan</p> <ul style="list-style-type: none"> o The final document of the solar thermal roadmap is still at the final draft stage. o PMU, UNIDO and AEE INTEC are pushing the contractor PwC to incorporate all the comments and complete the final draft by August 2019. <p>o Roadmap Deployment Plan</p> <p>The roadmap deployment plan methodology and updates as follows;</p> <p>21st Feb 2019 – Meeting with MESTECC; to get consent on the formation of the Roadmap Deployment Plan Technical Committee (RDPC)</p> <p>4th March 2019 – The RDPC had its first meeting chaired by Under Secretary, Division of Science, Technology and Application, MESTECC.</p> <p>12th March 2019 – 1st Workshop; the draft roadmap was presented and the key recommendations were discussed. Outcomes from the workshop were categorized into 3 phases for deployment which are Phase 1 (year 2020-2022), Phase 2 (year 2023-2025) and Phase 3 (beyond year 2025). The key recommendations from Phase 1 were further discussed in the second workshop.</p> <p>29th – 30th March 2019 – 2nd Workshop; discussed on the Phase 1 recommendations which covers status quo, gaps, challenges and possible application for the solar thermal technology. Outcomes from the workshop were listed and further discussion with the identified related agencies are carried out.</p> <p>April – June 2019 – Series of in depth discussions undertaken with related agencies are listed below;</p> <ul style="list-style-type: none"> • 29th May – meeting with MGTC; discussed on the Green Technology Financing Scheme (GTFS) and Green Investment Tax Allowance (GITA/GITE) • 18th June – meeting with Energy Commissions; discussed on the <ul style="list-style-type: none"> a. status of Energy Efficiency Conservation Act (EECA), b. EPC Guideline -status, target and way forward, c. Expanding the energy commission reporting format to include solar thermal/RE heat – for data collection d. Enhancing the existing guideline and methodology for energy audit to include thermal energy
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			<p>ii. Review existing policy – National Energy Efficiency Action Plan (NEEAP) Initial meeting with MESTECC (Energy Division) will be held on 24th July 2019 for possible UNIDO input for the policy revision activities.</p> <p>iii. Renewable Energy Transition Roadmap Initial meetings with SEDA will be held on 19th July 2019 for possible UNIDO input for the roadmap development activities.</p>
Output 1.2: Two financial incentive schemes focusing on solar thermal applications developed.	<p>Number of financial incentive schemes (e.g. tax breaks, certification schemes) developed;</p> <p>Number of seminars/ events to present and discuss proposals organized.</p>	<p>At least 2 financial incentive schemes developed.</p> <p>At least 5 workshops and seminars/events to present and discuss proposals organized</p>	<p>MAEESTA project managed to clarify and provide awareness to the related agencies on the applicability of solar thermal projects for the existing green technology financial incentive and scheme.</p> <p>The applicable green technology financial incentives and schemes are as listed below:-</p> <ul style="list-style-type: none"> - Green Technology Financing Scheme (GTFS) - Energy Performance Contract Fund (MDV) - Green Sukuk Issuance - GITA/GITE - Eco Labelling MyHijau Mark <p>It is suggested that the existing incentives and schemes that expire by 2020 will be extended for the growth of solar thermal technology application in Malaysia.</p> <p>Since currently there is no existing Act, Regulation and Policy on thermal energy/solar thermal available, no new government's financial incentive and scheme can be developed until year 2020.</p> <p>MAEESTA project continuously promotes the existing financial instrument to the industries and solar thermal technology to the policy makers and financial institution.</p> <p>Number of workshop/events organized:</p> <ol style="list-style-type: none"> 1. Roadmap Deployment Plan Workshop 1 (Financial Group); 12th March 2019 2. Roadmap Deployment Plan Workshop 2 (Financial Group); 29th April 2019 3. Meeting with financial providers and EE INTEC; 27th June 2019
Component 2 – Awareness raising and capacity building program related to process heating and cooling optimization and solar thermal energy utilization			
Outcome 2: Widespread awareness and capacity strengthened among various stakeholders (industry, SMEs, financial institutions) in process heating and cooling optimization and solar thermal energy utilization in 5 targeted industrial subsectors			
Output 2.1: Training programme on energy savings based on process heating and cooling conducted for service providers, consultants and industry in selected sub-sectors.	Number of trainees at various levels, users, experts, etc. trained in process heating optimization and waste heat recovery.	50 equipment vendors, 100 users and 50 experts trained.	<p>o In summary, throughout the project implementation, the training programme has successfully met the target, with a total number of participants that attended the trainings as follows:</p> <ul style="list-style-type: none"> - 2- Day User Training : 212 participants - One Day User Training: 150 participants - Expert Course 1: 167 participants (Energy Efficiency) - Expert Course 2: 105 participants (Solar Thermal Technology)

Output 2.2: Training programme on solar thermal technology conducted for equipment/ component suppliers, service providers, consultants and industry in selected sub-sectors..	Number of trainees trained at various levels on solar thermal systems and integration in industrial processes.	30 equipment vendors, 80 users and 40 experts trained	<ul style="list-style-type: none"> - Extended Expert Courses: 43 participants - Financial Training: 33 participants - Training for Vendor : 15 participants <p>o From July 2018 – June 2019, the organized trainings are as follows:</p> <ul style="list-style-type: none"> - Expert Course 2: 40 participants (Solar Thermal Technology) - One Day User Training for industries : 23 participants - Extended Expert Courses: <ul style="list-style-type: none"> o Course 3 on Solar Thermal Design Optimisation: 13 participants o Course 4 on Solar Thermal System Performance & Verification: 12 participants
Output 2.3 - Awareness raising events organized for industry management and financial institutions on investment in energy savings and solar thermal application.	<p>Number of awareness raising events organized;</p> <p>Number of publications issued; project website developed.</p>	<p>At least 20 awareness raising events for the target group (industry managers, financial institutions) organized, including experience with the demonstration projects;</p> <p>20 publications, posters etc. issued; project website operational.</p>	<p>o In summary, throughout the project implementation the total numbers of Awareness Seminars organized are 19 with 731 attended participants.</p> <p>o From July 2018 – June 2019, 2 awareness seminars collaborated with MGTC organized.</p> <p>i. Awareness Seminar for Financial Providers: 35 participants</p> <p>ii. Awareness Seminar for Industries and Vendors : 66 participants</p> <p>oThe list of events participated to promote the MAEESTA project are:</p> <ul style="list-style-type: none"> • Organize Booth & Pocket Talk Session in International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM 2018), 17th -20th October 2018 • Peer to peer promote at: MIDA National Investment Seminar, 30th October 2018 • The Malaysia International Halal Showcase (MIHAS); organized by MATRADE on 3rd – 6th April 2019 • Green Talks for Hotels; at Sunway City on 23rd April 2019
Component 3 – Demonstration and scaling up sector-specific EE and solar thermal energy utilization in targeted industrial sub-sector			
Outcome 3: Commercial and technical viability of energy saving and solar energy applications assessed and demonstrated in 5 sub-sectors (e.g plastic, rubber, textile, food and beverage, pharmaceutical etc) using trained capacity under component 2 and created incentives and mechanism under component 1.			
Output 3.1:Energy saving measures and investment projects implemented in about 40 factories.	Number of facilities in which EE in thermal processes have been implemented.	40 companies with EE improvements in process heating and cooling;	<p>o In summary, EIGHT companies implemented energy efficiency measures namely:</p> <ol style="list-style-type: none"> 1. Guocera Tile Industries Sdn Bhd 2. Perusahaan Perkayuan Wan Feng Sdn Bhd. 3. Top Glove Sdn Bhd 4. Sanwa (M) Sdn Bhd 5. Toyo Tires Sdn Bhd 6. Spirit AeroSystems MALAYSIA Sdn Bhd 7. JB Cocoa Sdn Bhd 8. Perodua Manufacturing Sdn Bhd

Output 3.2: Of the above 40 factories, around 10 implemented solar thermal demonstration projects.	Number of facilities in which solar thermal energy utilized.	10 facilities with integrated solar thermal systems.	<p>• In summary, TWO companies completed the solar thermal technology implementation as follows;</p> <p>1. PPNJ Poultry & Meat Sdn Bhd; Completed June 2017</p> <p>2. MIWA Manufacturing Sdn Bhd; Completed May 2019</p> <p>The following two are in the progress of installing:</p> <p>3. IOI Pan Century Oleochemicals Sdn Bhd; Targeted to be completed by end of year 2019. The company is awaiting approval from MIDA on GITA to proceed with procurement. MIDA approval is pending since Feb 2019.</p> <p>4. NB Poultry Processing Industries Sdn Bhd; Targeted to be completed by end of year 2019.</p> <p>Potential companies for the Solar Thermal Project investments:</p> <p>o The progress on the potential companies for the solar thermal integration under the training programme are:</p> <p>1. Royal Selangor Int. Sdn Bhd - Solar thermal & electrical heater supply heat to melt the pewter. The research and prototype study is still on going.</p> <p>2. Idaman Pharma Manufacturing 1 Sdn Bhd</p> <p>o To pre heat the electrical boiler for WFI using solar thermal</p> <p>o To pre heat diesel boiler using solar thermal</p> <p>Waiting for the date to present to the top management for approval.</p> <p>2. Mycron Steel CRC Sdn Bhd</p> <p>o To pre heat supply water for process</p> <p>Waiting for the date to present to the top management for approval.</p> <p>Other projects</p> <p>1. Seremban Hospital</p> <p>o Replace diesel boiler with solar thermal for shower and autoclave process</p> <p>2. Gardenia Bakeries Bakers Maison</p> <p>Supplementing the electrical heater with solar hot water</p> <p>3. Lone Pine Hotel</p> <p>Replacing existing electric heater with solar thermal.</p>
Output 3.3 - Case studies prepared and presented under output 2.3 to raise more investment in EE and solar thermal integration using the trained capacity and various;	Number of case studies prepared and presented at awareness raising events	10 case studies prepared and presented at seminars/ workshops (total of 20 event days, held at workshops at various places throughout Malaysia);	Case studies are in the process of being developed.

III. Project Risk Management

III.1 Please indicate the overall risk management: (i) as identified in the CEO Endorsement document, and (ii) progress to-date.

[Describe in tabular form the priority activities undertaken during the reporting period in line with the project document. **Note** that risks, risk level and mitigations measures should be consistent with the ones identified in the CEO Endorsement/Approval document.]

	(i) Risks	(i) Risk level	(i) Mitigation measures	(ii) Progress to-date	New defined risk ³
1	Management priorities in the participating public sector and private sector organizations change over time before and during project implementation	Low risk (L)	Signing of a Terms of Reference (ToR) and Cooperation Agreement with the project partners before commencement of the project as well as Co-financing letters.	<p>Established process flow for the demonstration project which been shared to the stakeholder and industry. In short the requirement for the project approval for UNIDO fund are as follows;</p> <ul style="list-style-type: none"> - The proposal has to be presented to the top management and received approval to proceed. - The company provides evidence/letter of commitment before the proposal is being presented to the project steering committee (NPSC). - The NPSC Chairman Office (MESTECC) provides letter for UNIDO regarding the agreed fund for the company. The letter was shared with the company- as the commitment from the MAEESTA project to fund the proposal. <p>PMU provide technical advise for the project specification for the prolong project monitoring for the successful of the project commencement.</p> <p>As progress to date: 2 letters has been inssued for 1) IOI Pan Century Oleochemicals and NB Poultry Processing Sdn Bhd and 2) MIWA Manufacturing Sdn Bhd on 1st March and 10th May 2019.</p>	<input type="checkbox"/>
2	Effective coordination between various project partners.	Low risk (L)	A proper coordination will be sought through the Project Steering Committee and ad-hoc working groups per subsector or theme that can be set up as needed and by bringing in other partners and beneficiaries. The Project Management Unit (PMU) will play a key role in the coordination of these interests and channeling them into the day to day execution of the project.	<p>Effective coordination and the project progress was continuously updated through a series of meetings.</p> <p>In summary, the National Project Steering Committee (NPSC) whose the body that purview the MAEESTA project progress and platform to network the government ministry/agency.</p> <p>The sub working groups established for the project delivery are as follows;</p> <ol style="list-style-type: none"> 1. Project Technical Committee (TC); chaired by SIRIM. Established in Dec 2016, this committee works to provide technical advice for the project implementation. The committee is still on going. 2. Solar Thermal Roadmap Task Force (TF); chaired by SERI UKM; Established in Dec 2016; this committee is to provide advice and monitor the development of the national solar thermal roadmap by industry. The committee has final meeting and completed the exercise in July 2018. 3. Roadmap Deployment Plan Technical Committee (RDPC); chaired by MESTECC. This 	<input type="checkbox"/>

³ New risk added in reporting period. Check only if applicable.

				<p>committee established in March 2019; this committee is to provide advice and monitor the development of the roadmap deployment plan document. The committee will has meeting on 26th July 2019 and targeted to complete the exercise in Aug 2019.</p> <p>PMU works as the secretariat for the above meetings coordination.</p> <p>As progress to date, the meetings for above committees as follows;</p> <p>1. NPSC Meeting: - No.4, 18th October 2018 - No.5, 14th March 2019</p> <p>2. Technical Committee Meeting - No.3, 10th October 2018 - No.4, 7th March 2019</p> <p>3. RDPC Meeting - No.1, 14th March 2019 - No.2, 23rd April 2019</p>	
3	Companies have doubts regarding technoeconomic viability. Thus, demonstration projects are delayed,hence limiting the opportunity to disseminate success stories and to develop case studies.	Low risk (L)	To overcome this risk, the factories selected as demonstration sites will be carefully evaluated; this will include management support, financial strength, technical backup, and replication abilities. The demonstration project proponents are anticipated to provide initial case study results and thus serve as examples for other factories to replicate. While the GEF grant will support the demonstration projects in a number of ways (including up to 20% of equipment costs), all other costs will be borne by the participating companies, thus ensuring that continued participation is in the	<p>To secure the proposal for the companies, PMU focuses on the techno economic and matching with financial providers to provide a total solution proposal. The approaches used for the company are;</p> <p>1. The proposal was highlighted on the Levelized Cost of Energy (LCOE) of the solar thermal system and current fuel cost. This will give an idea of fuel cost price and saving for the long term fuel cost saving.</p> <p>2. UNIDO increased fund from 20% to 30% with ceiling amount of MYR 400k for better techno economic viability for the project.</p> <p>3. Matching with other funding such as SIRIM SME Development program which provided fund maximum MYR200k per project.</p> <p>4. Propose the Energy Performance Contract model; as the option for zero capex for the company.</p>	<input type="checkbox"/>
4	Limited number of participants interested in training and no immediate demand for services for trained experts as the growth of the market	Low risk (L)	The integrated approach of the project is expected to mitigate this risk by not only promoting the technology but also creating a new market and demand for the application in	<p>Currently there is low demand from the industry for the solar thermal integration due to no/low enforcement from the government for the thermal energy saving and green technology application. However with the new government targets to increase the RE share to 35% and the new act will be implemented in the next year (EECA) the market will grow for solar thermal. In term of the capacity</p>	<input type="checkbox"/>

	for solar thermal technology is slower than expected.		heat processes in the industrial and commercial sectors. The capacity building approach adopted by the project combined with awareness campaigns and policy coordination will ensure the sustainability of the project and thus development of the solar thermal technology market in Malaysia to mitigate this risk. The capacity of SERI and the FMM Institute will be strengthened by the project so that they will continue providing support to the local experts, industries, and the training.	building, the number of participants attended training has exceeded the targeted numbers, thus will be ready to serve the market in future years. Based on the roadmap deployment plan, an agency like SEDA has been identified to be a body to promote and provide training for the solar thermal technology for near future.	
5	Incentives and the financial support system are insufficient.	Low risk (L)	The capacity of financial and governmental institutions will be strengthened on energy saving opportunities and solar thermal systems and their potentials. Grant and nongrant instruments will be developed and applied to ensure the availability of financing resources. Experiences from other countries will be shared, and results from the demonstration projects will be widely presented.	There are sufficient and ample of existing private funding and government incentive/schemes that can benefit from solar thermal applications. PMU provides awareness and discussing with financial providers on the funding/incentive/scheme usage for the solar thermal application. More than 10 financial providers have been met covering the funding/incentive/scheme as follows; 1. Private Financing Advisory Network - Asia 2. Green Technology Financing Scheme 3. Energy Performance Contract Fund 4. Green Sukuk Issuance 5. Green Investment Tax Allowance & Green Income Tax Exemption 7. Eco labelling MyHIJAU Mark	<input type="checkbox"/>
6	Government financing and policy instruments for thermal energy application in industry are not effective enough to incentivize industrial stakeholders' investment in solar thermal technologies.	Low risk (L)	Chambers of Commerce and Industries, etc. will aim to mitigate this risk by designing or revising financing/policy instruments that are in line with the needs of industry. Focus will be given to provide adequate support to the industries for the implementation of solar thermal energy application: better technical support, awareness raising on the consequences of climate change, zero-	Through national solar thermal roadmap and deployment plan; PMU will provide input for MESTECC on the NEEAP revision and possible integration in the RMKe 12. These instruments will be the support policy when EECA regulated after year 2020.	<input checked="" type="checkbox"/>

			GHG emissions from solar energy, sufficient information on the availability of various financing schemes, etc		
7	Climate change risks: increased cloud cover from climate warming reducing solar radiation levels	Low risk (L)	Careful design of the solar thermal systems will be ensured during project implementation.	<p>The energy audit was properly done to determine the energy consumption per heating process.</p> <p>The design for the solar thermal system was stimulated using tools with the real daily solar irradiation data to ensure the design system size can cater the needs of the targeted heating process.</p> <p>The design is also being checked by the international expert to ensure workability and optimizing design</p>	<input type="checkbox"/>

III.2 If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks.

NA

IV Environmental and Social Safeguards (ESS) & Stakeholder Engagement

IV.1 As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

☐ Category A project

☐ Category B project

☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not been escalated to Category A or B).

[Notes on new risks:

- If **new risks** have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.
- If these new/additional risks are related to Operational Safeguards # 2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.
- Please refer to the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP) on how to report on E&S issues.]

IV.2 Please provide any feedback submitted by co-financiers, and other Partners/Stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

Feedback by the stakeholders:

- For the sustainability of the project, need to decide the owner of the solar thermal technology and

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	NA	NA	NA
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	NA	NA	NA

IV.3 Please provide any **relevant stakeholder consultation documents**:

GEFID 120264_NPSC Minutes Meeting No.1 2018
GEFID 120264_Minutes Meeting NPSC No.1_2019_14 March

GEFID 120264_Minutes TC No.1 2019
GEFID 120264_Minit Mesyuarat TC No 1 2018

GEFID 120264_Minit RDPC No 1_2019
GEFID 120264_Minit RDPC No 2_2019

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V Knowledge Management

V.1 Please provide any **relevant knowledge management mechanisms / tools** that the project has generated:

In summary, the generated knowledge management mechanisms and tools are:

Project Promotions

- Project Profiles (2)
- Bunting (2)
- Newsletter (1)
- Articles (1)
- SIRIM's Annual Report 2017 (1)
- Website (1)
- Social media (Facebook) (1)
- Newspaper 2015 (1)
- Posters for training (3)
- Video (1)

Project Data

- Usage of One Notes for online information exchange among PMU and external
- Tools for CO₂ emissions calculation
- Directory of the EE measures and solar thermal project
- Tools for project expenditure and co-financing record
- Directory of awareness events and trainings

For FY 2019, the MAEESTA project keep updating the Project Data and relevant project promotion activities such as website, social media and conferences.

VI Financial report

VI.1 **Financial** implementation of the project:

Please see the attachment
4878_Project_Delivery_Report

VII Work Plan and Budget

VII.1 Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Outputs by Project Component	Year 1				Year 2				Year 3				GEF Grant Budget Available (US\$)	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Component 1 – Adequate policy framework, support programmes and financing mechanisms facilitating implementation of solar thermal energy utilization														
Outcome 1: Adequate policy framework, support programmes and financing mechanisms facilitating implementation of solar thermal energy utilization														
Output 1.1: National counterparts supported to develop three policy papers on solar thermal energy.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	410,920	
Output 1.2: Two financial incentive schemes focusing on solar thermal applications developed.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Component 2 – Awareness raising and capacity building program related to process heating and cooling optimization and solar thermal energy utilization.														
Outcome 2: Widespread awareness and capacity strengthened among various stakeholders (industry, SMEs, financial institutions) in process heating and cooling optimization and solar thermal energy utilization in 5 targeted industrial subsectors														
Output 2.1: Training programme on energy savings based on process heating and cooling conducted for service providers, consultants and industry in selected sub-sectors.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	673,329	
Output 2.2: Training programme on solar thermal technology conducted for equipment/ component suppliers, service providers, consultants and industry in selected sub-sectors.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Output 2.3: Awareness raising events organize for industry management and financial institutions on investment in energy savings and solar thermal application.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Component 3 – Demonstration and scaling up sector-specific EE and solar thermal energy utilization in targeted industrial sub-sector														
Outcome 3: Commercial and technical viability of energy saving and solar energy applications assessed and demonstrated in 5 sub-sectors (e.g plastic, rubber, textile, food and beverage, pharmaceutical etc) using trained capacity under component 2 and created incentives and mechanism under component 1.														
Output 3.1: Energy saving measures and investment projects implemented in about 40 factories.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	911,211
Output 3.2: Of the above 40 factories, around 10 implemented solar thermal demonstration projects.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Output 3.3: Case studies prepared and presented under output 2.3 to raise more	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

