



PROJECT IMPLEMENTATION PLAN

17 October 2018

- 1. Project Code** 18-IN-04-GE-DMP-C-01
- 2. Title** Development of Demonstration Companies
(Off-grid Solar PV Training Project, Indonesia)
- 3. Reference** Project Notification 18-IN-04-GE-DMP-C dated 11 December 2017
- 4. Timing and Duration** The duration of the implementation of this project will be 12 months including the dissemination period. The commencement date is scheduled for December 2018. Tentative details of the implementation schedule will be given later.
- 5. Implementing Organization** Directorate of Productivity Development, Directorate General for Training and Productivity Development, Ministry of Manpower, Indonesia (NPO Indonesia)
- 6. Mission** The mission of an APO Productivity Demonstration Company is to convey success stories on the development and implementation of productivity improvement initiatives undertaken by all stakeholders. An APO Productivity Demonstration Company should epitomize an organization-wide productivity movement that achieves business expansion, increases profits and customer satisfaction, reduces waste, enables energy saving, and leads to fair, equitable, mutually satisfying productivity gain-sharing for both management and workers.

7. Objectives

Under an APO Productivity Demonstration Company project, the designated implementing organization is expected to assist the selected demonstration company in applying productivity improvement initiatives, and the demonstration company is expected to:

- a. Establish an off-grid solar photovoltaic (PV) demonstration system for applications in and training for rural electrification based on solar energy;
- b. Develop a training curriculum for domestic technical personnel on solar energy, solar technologies, and operation and maintenance of off-grid solar PV systems;
- c. Develop the capacity of domestic technicians and specialists in applying solar energy and operating off-grid solar PV systems; and

- d. Disseminate the results of this demonstration project and promote suitable applications of solar energy with the curriculum developed.

8. Background

In response to the project notification on the Development of Demonstration Companies dated 11 December 2017, the NPO Indonesia submitted a proposal for a demonstration company in an off-grid solar PV training project, which aims to establish a demonstration PV system and develop a training curriculum on solar energy, technologies, and off-grid PV systems to enhance the capacity of domestic technicians in utilizing solar energy.

The economy of Indonesia has been growing strongly at an average rate of 5% over the last five years, which was accompanied by rapid electrification and high consumption of power. Nonetheless, electrification in rural and remote areas and the adoption of environmentally friendly energy sources remain a major challenge for the emerging giant. Considering the high level of solar irradiance and archipelagic nature of the country, the application of off-grid solar PV systems provides a remarkable opportunity for rural electrification and the adoption of renewable energy. This project aims to equip the designated national training institution with knowledge on solar energy, suitable technologies, and practical training methodology to promote, develop, and sustain the utilization of solar power.

The APO has been promoting sustainable socioeconomic development. In recent years, it dispatched technical experts to Bangladesh, India, and Indonesia; organized workshops and study missions in the ROC, IR Iran, and Japan; facilitated bilateral collaboration between IR Iran and the ROK; and established demonstration projects in Lao PDR and India. The APO is commissioning this project for the multiplier effects envisaged by the NPO Indonesia as well as to meet its commitment to support sustainable productivity growth.

9. Collaborating Partners

This project is to be implemented in close collaboration with the following parties:

- a. The APO Secretariat (referred to as the APO in this document);
- b. Directorate of Productivity Development, Directorate General of Training and Productivity Development, Ministry of Manpower, Indonesia (referred to as the NPO);
- c. China Productivity Center (CPC), Industrial Technology Research Institute (ITRI), and Tatung Company of the ROC;
- d. The Center for Work Training Development (BBPLK), Serang, Indonesia (referred to as the demonstration company).

10. Roles and Responsibilities

The collaborating parties will perform the following duties:

APO Secretariat

- a. Assign an international technical expert(s) to the demonstration company for the implementation of the project;

- b. Coordinate communication among the expert(s), NPO, and demonstration company to ensure smooth implementation of the project; and
- c. Advise the NPO and demonstration company in planning and organizing follow-up activities such as developing promotional materials and/or organizing dissemination workshops or seminars for local participants.

NPO

- a. Appoint a coordinator from the NPO office/NPO branch office who will serve as the focal point for communication and coordinate the overall schedule for implementation of the project in the country;
- b. Provide, in addition to a coordinator, the necessary number of technical experts from the NPO to work as counterparts to the international expert(s) assigned by the APO, if necessary;
- c. Arrange all logistical requirements relating to the project (e.g., local transportation, discussion room, etc.) for the APO and NPO experts;
- d. Monitor closely the process of implementation, particularly the key performance areas;
- e. Coordinate and supervise the production of a multimedia record such as video/DVD demonstrating the experiences of the demonstration company;
- f. Assist and supervise the demonstration company in preparing an interim report and comprehensive final report for submission to the APO;
- g. Organize a dissemination workshop prior to or upon completion of the project to enable experience sharing and learning by the local public and/or international participants;
- h. Compile the overall activities of the project in a practical, easy-to-follow manual/guidelines so that similar exercises can be replicated by other organizations in the country; and
- i. Prepare a final report, stressing analyses of the impact of the demonstration project and its contribution to productivity improvement and/or socioeconomic development as well as suggestions and recommendations for replication utilizing local talent, local networks, and local resources.

CPC, ITRI, and Tatung Company

- a. Provide hardware and materials for installing one 3-kW and one 2.8-kW solar PV and energy storage systems (a list of the equipment is given in the Annex);
- b. Support the demonstration company in developing a training curriculum on solar PV systems; and
- c. Designate a coordinator and necessary team members to work closely with the APO Secretariat, NPO, and demonstration company;

Demonstration Company

- a. Accept and facilitate consultancy services conducted by the expert(s) assigned by the APO and NPO experts;
- b. Designate a responsible coordinator (preferably top-management level) and necessary team members to work closely with the APO and NPO experts;
- c. Record on video from the start of the process of implementation activities to produce a multimedia record such as video/DVD upon completion of the project in association and consultation with the NPO;
- d. Announce, publicize, and prominently display the APO's presence and involvement in the demonstration company throughout the duration of the project;
- e. Share the experiences of the demonstration company with local parties interested in learning about productivity improvement and the demonstration project;
- f. Present the experiences in a dissemination workshop to be organized prior to or upon completion of the project; and
- g. Prepare a comprehensive final report for submission to the APO explaining the initiatives taken during the project and their technical details along with overall analyses of the benefits and impact of the project and the improvements made by the demonstration company upon completion of the project.

11. Expense Sharing

APO

- a. All expenses for assignment of the international expert(s), including honorarium, airfare, daily subsistence allowances, and overseas travel insurance;
- b. Total of up to USD10,000 as the local implementation costs, including production of a practical manual and a multimedia record for replication of the experience (to be prepared by the NPO) and holding a dissemination workshop(s)/seminar(s) for the local public (to be arranged by the NPO); and
- c. Fifty percent of the above-mentioned local implementation costs can be advanced to the NPO to cover the expenses soon after the Project Implementation Plan is issued, if necessary; the remaining 50% will be paid after receiving the training manual, multimedia record, and final project report with the submission of necessary supporting documents under the applicable APO rules and regulations for the disbursement of project expenses.

The disbursement of expenses will be made at the appropriate times corresponding with the specific activities undertaken and following submission of the necessary supporting documents under the applicable APO rules and regulations for disbursement of project expenses.

NPO

- a. Expenses relating to the assignment of a coordinator and NPO expert(s) involved in this project.

CPC, ITRI, and Tatung Company

- a. Tatung Company is responsible for all necessary costs of the hardware and materials prior to equipment handover, and the CPC and ITRI are responsible for all necessary communication and arrangements for the provision of hardware and materials.

Demonstration Company

- a. Expenses for logistical arrangements related to the implementation of the project, including the local travel costs of the APO and NPO experts for transportation between the demonstration company/sites and the NPO office/branch office;
- b. Costs associated with the operation and maintenance of the demonstration equipment after handover from Tatung Company and other necessary procurement, if any; and
- c. All other expenses for the implementation of the project not covered by the APO, NPO, CPC, ITRI, and Tatung Company.

12. Methodology

The project will be conducted in the following three stages:

- Planning;
- Implementation; and
- Dissemination.

The planning stage consists of a diagnostic survey regarding the feasibility of setting up an off-grid solar PV system in the demonstration company and developing and redesigning the curriculum for solar energy and off-grid PV systems before developing a master plan for the remainder of this project and its implementation. This stage may also involve the capacity building of all stakeholders engaged in the implementation. It is expected to be completed within two months.

The implementation stage involves implementation of the master plan and refinement of the plan, if necessary. This refers to practical, action-oriented, onsite activities that involve the international and local experts, NPO, and all other stakeholders. This stage will be carried out by the demonstration company with the guidance of the experts and is expected to be completed in eight months.

The dissemination stage evaluates the improvement efforts and initiatives implemented. It also extracts the main lessons learned to provide a practical guide and encourage other organizations to follow it in the future. Among the main activities expected in this stage are the finalization and production of a practical manual, a multimedia record, and a dissemination workshop. This stage is expected to be completed in two months.

13. Project Schedule

It is expected that four visits of the APO expert(s) will be needed for this project, although the actual number and duration will be identified by the expert(s), demonstration company, and APO after the first expert visit in December 2018. Subsequent visits should tentatively be scheduled at intervals of two to three months such as in February, April, and June 2019. The duration of each visit should be approximately within one to two weeks, subject to the availability of the expert(s) and approval by the APO.

14. Accounting Procedures

- a. In regard to the expenses for the multimedia record and training manual production, 50% of the APO share can be advanced after the Project Implementation Plan is issued. The remaining 50% will be paid in exchange for the training manual, multimedia record, and final project report according to the proof of expenses payment.
- b. If a local seminar/workshop is to be held, 50% of the APO share can be advanced before the seminar/workshop implementation and the remaining 50% will be paid after implementation according to the proof of expenses payment.
- c. For the settlement of expenses, the NPO is requested to provide all necessary proof of payment to the APO after completion of the program. The proof of payment, such as bills, payment records, and receipts, should be issued by third parties and must be submitted to the APO altogether at one time. The proof of payment should be written in clear English or with an English translation if not originally in English. The final payment will be made based on the actual expenditure after the NPO submits the proof of payment, training manual, multimedia record, and the final project report. In general, internal evidence is not accepted as proof of payment and the expenses claimed by it will not be reimbursed.

15. Final Project Outputs

The demonstration company project will be completed with the submission of the following:

- a. A final report prepared by the NPO and demonstration company;
- b. A practical manual for replication (in soft copies and/or printed hard copies) prepared by the NPO; and
- c. A multimedia record such as video/DVD of the experiences of the demonstration company prepared by the NPO and demonstration company.

The APO will issue a certificate of completion to the demonstration company upon completion of the project.



Dr. Santhi Kanoktanaporn
Secretary-General

Annex

The hardware and materials to be provided by Tatung Company for the APO Development of Demonstration Companies project, Off-Grid Solar PV Training Project, Indonesia (18-IN-04-GE-DMP-C-01), are listed below:

Item	Product	Description	Quantity	Note
01	PV solar module	Poly 60 cell, 280W	13 pcs	HS Code: 8541.40.40.00-4
		Mono 60 cell, 300W	13 pcs	HS Code: 8541.40.40.00-4
02	PV inverter	Hybrid offgrid	1 pc	HS Code: 8504.40.99.90-0
		Hybrid ongrid	1 pc	HS Code: 8504.40.99.90-0
03	Aluminum racking	Ground type	2 sets	
04	Battery	Lead acid, 12V 200Ah	4 pcs	HS Code: 85072000
		Li-ion, 48V 3KW	1 pc	HS Code: 8507 600
05	Mini shelter	Metal cabinet	2 sets	
06	Accessories	PV cable	200 meters	
		DC-to-AC control system	2 sets	
		Breaker/fuse	2 sets	



PROJECT NOTIFICATION

11 December 2017

1. **Project Code** 18-IN-04-GE-DMP-C
2. **Project Title** Development of Demonstration Companies
3. **Duration & Timing** Maximum 12 months (10 months for planning and implementation and two months for dissemination activities)
4. **Venue** Selected member countries
5. **Implementing Organizations**
 - (1) Industry(ies), farm(s), or organization(s) (referred to as the demonstration company[ies])
 - (2) National Productivity Organizations (NPOs)
6. **Participating Countries** APO member countries
7. **Closing Date for Nominations**

Member countries interested in the project are requested to nominate a demonstration company(ies) based on the selection criteria (Attachment I) and submit a proposal document for the demonstration project following the application guidelines (Attachment II).

The nomination letter and supporting documents should reach the APO Secretariat before **31 March 2018**.
8. **Objectives**

To establish demonstration-cum-productivity model companies/organizations to showcase the processes and results of improvements in productivity, quality, environmental impact, energy efficiency, innovation, utilization of smart technology, or food safety in factories, farms, companies, or other organizations in a tangible, practical manner while assisting NPOs in building the capacity to provide consultancy and training services through their complete involvement in such projects.

9. Background

The demonstration projects undertaken by the APO are meant to illustrate practical applications of productivity tools and techniques in the industry, service, and agriculture sectors. Demonstration companies convey success stories on the development and implementation of

productivity improvement initiatives undertaken by all stakeholders. By observing the established demonstration/model organizations, companies, and communities that showcase tangible results of productivity improvement programs, others are encouraged to undertake similar efforts.

Potential candidates for demonstration company projects are recommended by NPOs, and the final selection is at the discretion of the selection committee of the APO Secretariat. The APO assigns experts to the selected organizations to perform diagnostic studies, recommend an action plan for productivity improvement, and help to implement the plan. The results are documented for learning by others. Through this program, NPOs are expected to develop the ability to manage their own demonstration/model projects.

All member countries are invited to submit detailed, comprehensive proposals in response to this project notification. However, member countries that were not involved in this project in the past two years will be given priority in 2018. Based on the strengths and appropriateness of the proposed projects, two to three projects are expected to be undertaken in 2018. As one of the outputs, case studies may be developed based on the outcome of demonstration projects, which can be utilized for training purposes by NPOs and the APO in related projects.

10. Scope and Methodology

Scope

Establishment of demonstration companies/organizations for applications of smart technologies (such as cloud computing, big data, cybersecurity, digitization, enterprise mobility, business intelligence, the Internet of Things, robotics, simulation, additive manufacturing, and augmented reality), clean technologies, climate-smart agriculture, and innovative food-processing and safety systems to enhance productivity in SMEs and public-sector organizations.

Methodology

This project involves a tripartite arrangement among a demonstration organization or group of demonstration organizations, the NPO, and APO. The APO will mainly be responsible for the assignment of technical experts to assist demonstration companies in the implementation of the project.

An international expert(s) designated by the APO will be assigned three or four times during the project period to assist in implementation of the demonstration project in the selected member country based on need.

11. Implementation of Demonstration Company Projects

The implementation of the demonstration company project will comprise five stages: selection; planning; implementation; evaluation and dissemination; and postproject assessment. The flow of the demonstration project is described below.

Stage I: Selection

- a. The NPO nominates a company (or a few candidate companies) and submits the proposal documents. The nomination of a company requires careful consideration as the demonstration company must be in a strong position to act as a model that exhibits leadership and influence

on other organizations in similar fields with a high level of commitment from the management.

- b. In the case of multiple candidate companies, the NPO and APO Secretariat may conduct a preassessment exercise in consultation with relevant professionals.
- c. Based on the selection criteria and assessments, the APO Secretariat approves a company/organization for a demonstration project.
- d. After the selection is finalized and the demonstration project is approved, the APO identifies and designates an international expert(s) in consultation with the concerned NPO and issues a Project Implementation Plan to the NPO, which includes a mutually agreed plan, budget, and other details.

Stage II: Planning (1–2 months)

- a. The expert(s) analyzes the level of productivity-related issues (Item 10) and problems through a diagnostic survey at the demonstration company.
- b. The expert(s) proposes an improvement plan to the relevant parties and obtains a consensus on a mutually agreeable action plan for the scheduled duration of the project.

Stage III: Implementation (8–9 months)

- a. The agreed-upon productivity improvement plan is implemented, which will include training and capacity building of the parties involved in the demonstration project.
- b. The expert(s), NPO, and APO communicate at various stages of implementation to review the diagnosis and progress and recommend ways to resolve any problems or administrative bottlenecks.

Stage IV: Evaluation and dissemination (2 months)

- a. The expert(s), NPO, and APO conduct an evaluation upon the completion of the demonstration project to determine whether the objectives have been achieved. The NPO takes the lead in this stage and carries out dissemination activities ensuring multiplier effects in the region/area.
- b. In this stage, the results of the demonstration project are disseminated through locally organized activities. The final report, training manual, dissemination material, and/or a demonstration video in a local language (if possible, in English) are distributed for wider dissemination. The NPO in consultation with the demonstration company should submit the results for dissemination activities to the APO before the completion of stage III.

Stage V: Postproject assessment

The NPO is requested to submit an impact evaluation report six months after the completion of the demonstration project that assesses the outcomes and benefits derived by the company and overall impact of the project. A suggested format for the report is provided in Attachment III.

12. Roles and Responsibilities of Parties Involved

Demonstration company

The demonstration company should assign a team of dedicated, technically qualified professionals and staff members to work on the project in consultation with the NPO/APO.

It will provide all necessary inputs and information required for the project, extend all necessary local support to the expert/NPO/APO, implement all suggestions and recommendations of the expert based on feasibility, and document the results and outcomes of the improvement plans.

It will demonstrate complete openness and willingness during dissemination activities for the benefit of other enterprises as planned by the NPO/APO including observational study missions.

It will cooperate and provide all necessary support during the postproject impact evaluation.

NPO

Since NPOs are the key to the sustainability and reproducibility of demonstration company projects, their active participation in the project is essential. The NPO concerned is the nodal implementing agency responsible for successful execution of the project from the selection of units until the end of the project including dissemination.

Prior to nomination to the APO, it is imperative that the NPO hold meetings with top managers of prospective demonstration companies to explain the objectives and methodology of the demonstration project and ensure their commitment.

The NPO will identify and assign at least one qualified NPO expert/consultant/professional to be fully involved in the project and will be responsible for his/her involvement throughout the project.

The NPO will guide and assist demonstration companies in planning, coordinating, executing, monitoring, and documenting project activities in consultation with the expert and APO.

The NPO will play the main role in dissemination activities and prepare a prior action plan for dissemination and implement it. The tentative dissemination plan should be submitted along with the application.

The NPO is advised to involve relevant industrial associations in the project from the beginning to ensure multiplier effects and dissemination. The NPO will also explore possibilities of obtaining financial support from such industrial associations for dissemination activities, ultimately benefiting other organizations in the area.

The NPO will, in collaboration with demonstration companies, prepare dissemination materials for distribution among other organizations in similar areas.

APO

The main responsibilities of the APO are to provide the expert(s) during specified periods of the demonstration project and provide expenses according to the cost-sharing basis to be specified in the Project Implementation Plan.

Expert(s)

The role of the expert(s) is to perform consultancy and training in the areas specified in the productivity improvement plan. Whenever necessary, he/she will organize training programs for skill development of the employees of the demonstration company. On a continuing, regular basis, he/she should monitor and evaluate the performance and progress of the productivity enhancement activities of the company. It is also his/her responsibility to assist the NPO in developing a training manual and multimedia dissemination materials for the demonstration project. He/she is requested to undertake the role of chief resource person in organizing a dissemination seminar/workshop.

13. Financial Arrangements

The APO will apply the following guidelines for the sharing of expenses among the parties involved:

Expenses to be borne by the APO

- a. Expenses for the expert(s) designated by the APO during the entire demonstration project; and
- b. Partial expenses for dissemination-related activities (documentation, video production, dissemination workshop, dissemination material, etc.). The budget details will be explained in the Project Implementation Plan.

Expenses to be borne by the NPO

- a. Expenses for coordinating and implementing the demonstration project; and
- b. Partial expenses for dissemination activities (documentation, production of training manual and dissemination materials, dissemination activities, final report, etc.).

Expenses to be borne by the demonstration company

- a. Expenses of local counterparts and assistants for implementation of the demonstration project;
- b. Purchase of equipment and physical alterations, if necessary; and
- c. Local transportation for the expert(s).

The APO expects the NPO and demonstration company to consider ways to share the implementation costs to the extent possible in the APO's spirit of mutual cooperation. Cost-sharing arrangements will be specified in the Project Implementation Plan.



Santhi Kanoktanaporn
Secretary-General

SELECTION CRITERIA FOR A DEMONSTRATION PROJECT

The major factors that are considered in the selection of a demonstration project include:

1. NPO commitment

- a. NPOs should demonstrate their clear intentions and capabilities in implementing demonstration projects and supporting the identified demonstration company(ies).
- b. NPOs should submit proposals with thorough planning, information on candidate companies/organizations, and strategies with specific plans for national-level dissemination.

2. Priority

- a. Priority is given to small- and medium-sized organizations in sectors with strategic importance to the applying countries and in line with the APO's strategic directions.
- b. Member countries that were not involved in this project in the previous two years will be given priority in the selection process.

3. Dissemination potential for multiplier effects of the project

- a. The proposed organizations should demonstrate good potential for dissemination of the results and multiplier effects in the country.
- b. The topic and scale of the proposed project should be adequate for completion in one year's time and triggering further learning and adoption by similar companies/organizations.

4. Other considerations for the demonstration company

- a. The nominated organizations should demonstrate their willingness and commitment to improving their productivity and to sharing the results with other organizations in similar sectors.
- b. The nominated organizations should have sufficient organizational resources (time, staff, capital, and business plan) to plan, implement (for example, making modifications in processes, technologies, and work functions), and disseminate the results of the project.
- c. In principle, the selected organizations should not have received or be receiving concurrent funding from another international agency without the consent of all parties concerned.

APPLICATION GUIDELINES

The following information should be included in the application:

1. Profile of the demonstration company/organization

- a. Name, address, website, and type of businesses/activities of the company/organization and basic information on its representative/leader;
- b. Location and contact information of the demonstration site, including postal mailing address and telephone/fax/e-mail of the main contact person responsible for this project;
- c. Organizational information including number of employees, organizational chart, and type and volume of products/services; and
- d. Financial information including annual turnover/budget and financial statements for the last three years.

2. Topic and scale of the productivity improvement plan

- a. Challenges encountered by the company/organization in productivity improvement and efforts that have been made to overcome them, if any;
- b. Specification of the processes, technologies, and/or aspects of performance that are to be improved; and
- c. Envisaged improvement plans and expected results based on the discussion between the NPO and candidate company/organization.

3. Dissemination plan for multiplier effects of the project

- a. Details of activities that the NPO will undertake for dissemination purposes; and
- b. Names of other organizations that are expected to learn from and follow the demonstration company(ies) identified by the NPO.

4. Partnering institute/organization

Profile of any partnering institute/organization (national level) expected to join the NPO in the project, especially to enhance the visibility and impact of the project in the country.

SUGGESTED IMPACT EVALUATION REPORT FORMAT

The NPO is requested to submit an impact evaluation report six months after the completion of the demonstration project which assesses the outcomes and benefits derived by the company and overall impact of the project. The report is expected to include the following points:

1. Identify the postproject initiatives developed by the demonstration company/organization that are related to the completed project;
2. Showcase the follow-up activities implemented by the NPO and/or demonstration company/organization in continuation of the demonstration company project;
3. Identify the performance improvement initiatives derived from the project and undertaken by other organizations in the host country; and
4. Indicate the productivity improvement resulting from this process in qualitative and/or quantitative terms.

