

# Knowledge Co-Creation Program (Group & Region Focus)

General information on

### RENEWABLE ENERGY IN GRID -MAINLY ON PHOTOVOLTAIC-(A) 課題別研修 再生可能エネルギー導入計画 - 太陽光発電を例として - (A) JFY 2023 Course No.: 202208418J001

Course period in Japan : From June 27, 2023 to August 26, 2023

In the context of the COVID-19 pandemic, please note that there is still a possibility the course period will be changed, shortened, or the course itself will be cancelled.

This information pertains to one of the JICA Knowledge Co-Creation Program (Group & Region Focus) of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

JICA Knowledge Co-Creation Program (KCCP)

The Japanese Cabinet released the Development Cooperation Charter in February 2015, which stated, *"In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together." JICA believes that this 'Knowledge Co-Creation Program' will serve as a foundation of mutual learning process.* 

## I. Concept

### <u>Background</u>

The Paris Agreement, which entered into force in 2016, calls for (1) efforts to keep the global average temperature increase well below 2°C above pre-industrial levels and to limit it to 1.5°C, and (2) to peak out global greenhouse gas emissions as soon as possible and to achieve a balance between greenhouse gas emissions and sinks in the second half of the 21st century.



It is necessary to reduce greenhouse gas emissions within the momentum of the Paris Agreement. Renewable energy can contribute to the realization of the Paris Agreement because it does not emit greenhouse gases.

Photovoltaic power generation is attractive to developing countries because it is a low-carbon, clean power source with a short development lead time and low running costs. It is an attractive power source for developing countries because of its low carbon, clean power source, short development lead time, and low running costs.

On the other hand, if more than a certain percentage of PV is introduced into the grid, grid stabilization measures and additional energy storage functions will be required. However, if more than a certain percentage of the grid is covered, grid stabilization measures and additional energy storage functions will be required, which may worsen the overall economics of the grid.

When introducing such power sources, it is important to consider the appropriate in introducing solar power, appropriate decisions need to be made in comparison with other power supply options. In order to address issues such as grid instability associated with the mass introduction of solar power, it is necessary to contribute to sustainable development in developing countries by leveraging Japan's technological capabilities.

In light of this background, the purpose of this training course is to acquire the basic principles and characteristics of renewable energies, especially solar power generation, as well as the knowledge and technologies necessary for the introduction, promotion, and maintenance of solar power generation, and to propose action plans for the diffusion of solar power generation that are appropriate to the circumstances of each country.

### For what?

This program aims at learning necessary knowledge technologies, and policies to adequately introduce, promote, maintain and manage PV generation for the effective use of solar energy, especially local grid system and local or national grid connected system for power source diversity.

### For whom?

This program is intended for officials who develop and manage PV generation projects at central or local governmental organization, and will continue to spread PV generation after JICA Training.

### How?

Participants shall have opportunities to learn technologies of photovoltaic generation, storage, control, electricity consumption, etc. through lectures, practices, field visit and discussions, and to understand the issues of their home countries through learning theoretical perspectives and experience of Japan.

When considering "new solutions," it is first necessary to "relativize the situation in one's own country and look at the issues objectively. For this purpose, it is necessary to provide opportunities for country report presentations and post-presentation discussions to share perspectives on "what commonalities exist" and "what is currently being done in response to what issues.

It is also beneficial to provide opportunities for case studies on a group basis to learn about "differences in viewpoints on issues.

Participants should also bring their ideas for action plans, present them to each other, receive feedback from other trainees on "what points are good" and "what points could be improved," and further develop their own ideas.





## II. Description

### 1. Title (Course No.)

Renewable Energy in Grid -Mainly on Photovoltaic-(A) (202208418J001)

2. Course period in Japan : From June 27, 2023 to August 26, 2023

### 3. Target Countries :

Algeria, Brazil, Egypt, Indonesia, Jordan, Pakistan, Sri Lanka, Turkey,

### 4. Eligible /Target Organization

This program is intended for Energy policy departments of the central and local government in charge of introduction, promotion, maintenance and management of photovoltaic generation.

### 5. Course Capacity (Upper limit of Participants)

8 participants

### 6. Language

English

### 7. Objective:

Action plans will be developed for the diffusion of photovoltaic power generation that are appropriate to the circumstances of the participating countries.

### 8. Overall Goal

Photovoltaic power generation is appropriately introduced, promoted, and maintained in developing countries.



**9. Output and Contents** This course consists of the following components. Details on each component are given below.

Expected Output	Subject	Contents	Methodology
To be able to	Part I	(1) Fundamentals of Renewable Energy Technology	
explain basics of PV	PV Generation	(2) Basics of PV Generation	
Generation	Technology	(3) PV Generation Technology	
lechnology		(4) Key Points for Sustainable Mini-grid Solar PV Systems	
		(5) Introduction to Mega Solar Power Plant -Yosinogari-	
		(6) Explanation of PV Generation Estimation	
		(7) Preparation of Solar Radiation & Generation	
		(8) Estimation of Solar Radiation & Generation	
		(9) Design of Independent-type Solar PV system	Lectures, Practice
		(10) Design of PV Generation System	Field Study
		(11) Review of PV System	-
		(12) Practice of PV System Maintenance	
		(13) Manufacture of PV Measurement Instruments	
		(14) Introduction to PV System Installer	
		(15) Introduction of Circuit Simulation	
		(16) Chopper and Inverter	
		(17) Practice for PV System Installation	
		(18) Inspection and Maintenance of Lead Acid Battery	
To be able to	Part II	(19) Basics of Grid & Grid interconnection	
explain grid System	Power System	(20) Basic experiment of Grid interconnection	
Technology	Technology	(21) Outline of Japanese Grid-Interconnection Code	
		(22) Visit to Central Research Institute of Electric Power Industry	
		(CRIEPI) -Akagi Lab	
		(23) Approach to Renewable Energy by KEPCO	
		(24) Optimization of RE Integrated Grid	
		(25) Visit to Verification and Evaluation plant for Mega-Solar	Lectures, Practice
		(26) Status of Grid Management - Load dispatching Center	Field Study
		(27) Capacity calculation exercise of lead acid battery	
		(28) Explanation of Sodium Sulfur Batteries	
		(29) Visit to the Sodium Sulfur Batteries site	
		(30) Lithium-ion Battery	
		(31) Summary of storage battery capacity estimation	
		(32) Key Points for Sustainable Mini-grid Solar PV Systems	
		(33) Example of Micogrid Introduction	

To be able to explain policy and Operation of Renewable Energy, especially Photovoltaic Generation	Part III Japan's Policy & Measures on Renewable Energy	<ul> <li>(34) Global Trends in Solar PV Development and Its Support Scheme</li> <li>(35) Conditions to Promote Photovoltaic Technologies and Its Policy</li> <li>(36) Economic Evaluation for PV Generation</li> <li>(37) Case Examples of PV Promotion Actives by participants</li> <li>(38) Current Situation and Issues of Solar PV Systems in Developing Countries</li> <li>(39) Overview of Japans Renewable Energy Policy</li> <li>(40) Introduction to VRE Integration and Energy Storage Technologies</li> <li>(41) Mass Disposal of PV Array &amp; System</li> <li>(42) Policies for Spreading PV generation in Japan</li> <li>(43) Introduction to All-electric Residence</li> <li>(44) Introduction to Japan Photovoltaic Energy Association (JPEA)</li> <li>(45) Kitakyushu City's challenge for realizing hydrogen-based society</li> <li>(46) Visit to Kitakyushu ECO-Town</li> <li>(47) Visit to Disaster Prevention PV Generation System</li> <li>(48) Visit to Model house for net Zero Energy House</li> <li>(49) Visit to Kitakyushu Environment Museum</li> </ul>	Lectures, Practice, Field Study
To be able to make action plan and improve skills of policy planning	Part IV Practical Training to Draw up an Action Plan	<ul> <li>(50) Guidance on Recognition of issues</li> <li>(51) Issue Identification Exercise by Analyzing SHS Problem</li> <li>(52) Training Theme discussion</li> <li>(53) Presentation of Job Report</li> <li>(54) Discussion for the Job Report</li> <li>(55) Preparation of Action Plan</li> <li>(56) Course Summery</li> </ul>	Lectures, Practice, Presentation

### <Structure of the program>





Visiting to Kitakyushu Environment Museum

## III. Eligibility and Procedures

### 1. Expectations from the Participating Organizations:

- (1) This program is designed primarily for organizations that intend to address specific issues or problems identified in their operation. Participating organizations are expected to use the project for those specific purposes.
- (2) In this connection, applying organizations are expected to nominate the most qualified candidates to address the said issues or problems, carefully referring to the qualifications described in section III-2 below.
- (3) Participating organizations are also expected to be prepared to make use of knowledge acquired by the nominees for the said purpose.
- (4) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the project to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

### 2. Nominee Qualifications

Applying Organizations are expected to select nominees who meet the following qualifications.

### (1) Essential Qualifications

### 1) Target Organization:

Energy policy departments of the central and local government in charge of introduction, promotion, maintenance and management of PV generation.

### 2) Target personnel:

### <Position>

Applicants in charge of PV generation at the target organizations mentioned above.

### <Experience>

Applicants are engaged in policy or promotion for PV generation for more than 1 year.

### <Education Background>

Applicants must have a good command of PV generation engineering in general.

### < Language>

Have a competent command of spoken and written English which is equal to TOEFL iBT 100 or more (This workshop includes active participation in discussions, which requires high competence of English ability. Please attach an official certificate for English ability such as TOEFL, TOEIC, etc., if possible).

### < Health>

Health: must be in good health to participate in the program in Japan.

To reduce the risk of worsening symptoms associated with respiratory tract infection, please be honest to declare in the **Medical History (QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION of the application form)** if you have been a patient of following illnesses; Hypertension / Diabetes / Cardiovascular illness / Heart failure / Chronic respiratory illness.

Pregnant applicants are not recommended to apply due to the potential risk of health and life issues of mother and fetus. Because live vaccines administered to a pregnant woman pose a theoretical risk to the fetus; therefore, live, attenuated virus and live bacterial vaccines generally are contraindicated during pregnancy.

Please refer to the following. https://www.cdc.gov/vaccines/pregnancy/hcp-toolkit/guidelines.html

### < Basic Knowledge of Computer Skills>

Participants are required to prepare several documents in MS Word, MS Excel and MS PowerPoint. Therefore, it is essential to handle these computer soft wares to complete this training program activities.



### (2) Recommendable Qualifications

1) Experience

<u>Applicants are engaged in policy or promotion for PV generation for more than 2 year</u> and must have genera<u>l knowledge of engineering</u> such as renewable energy technologies, grid and grid interconnection, chopper and inverter.

- Expectations for the participants: Preferably, be in relation with past or on-going JICA projects targeting energy efficiency and conservation.
- 3) Age: be between the ages of thirty and fifty years old.
- 4) Gender Equality and Women's Empowerment:

Women are encouraged to apply for the program. JICA is committed to promoting gender equality and women's empowerment, and provides equal opportunities for all applicants regardless of their sexual orientation or gender identity.

### 3. Required Documents for Application

(1) <u>Application Form</u>: The Application Form is available at the JICA overseas office (or the Embassy of Japan)

### (2) Job Report and Issue Analysis Sheet (IAS) (ANNEX I & II)

- To be submitted with application form. Job Report and IAS are necessary documents for screening of applicants.
- Each participant will be required to present IAS in approx. 10 minutes in an early stage of the course. Visual materials such as PowerPoint and pictures may be helpful for your presentation if you bring them.
- When you use PowerPoint, it is preferable to use letters more than 24-point and not to use pictures on the background.
- <u>An applicant should submit an IAS with approval of his/her superior and an IAS without approval of an applicant's superior is not accepted.</u>
- The purpose of an IAS is to logically organize relationships between challenges of an applicant's organization and contents of fields to be covered in a training course.

### (3) Photocopy of passport

To be submitted with the application form, if you possess your passport which you will carry when entering Japan for this program. If not, you are requested to submit its photocopy as soon as you obtain it.

\*Photocopy should include the followings:

Name, Date of birth, Nationality, Sex, Passport number and Expire date.

### (4) Nominee's English Score Sheet

To be submitted with the application form, if the nominees hav any official English examination scores (e.g., TOEFL, TOEIC, IELTS)

### 4. Procedure for Application and Selection

(1) Submission of the Application Documents Closing date for applications: May 11, 2023

## Please confirm the local deadline with the JICA overseas office in your country (or the Embassy of Japan).

\*Deadlines mean that the required materials have arrived at JICA Kyushu Center through the overseas office.

### (2) Selection

Primary screening is conducted at the JICA overseas office (or the embassy of Japan)

after receiving official documents from your government. JICA Center will consult with concerned organizations in Japan in the process of final selection. Applying organizations with the best intentions to utilize the opportunity will be highly valued.

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development Cooperation Charter of Japan.

### (3) Notice of Acceptance

The JICA overseas office (or the Embassy of Japan) will notify the results not later than May 26, 2023

### 5. Conditions for Participation

The participants of KCCP are required

- (1) to strictly observe the course schedule,
- (2) not to change the air ticket (and flight class and flight schedule arranged by JICA) and lodging by the participants themselves,
- (3) to understand that leaving Japan during the course period (to return to home country, etc.) is not allowed (except for programs longer than one year),
- (4) not to bring or invite any family members (except for programs longer than one year),
- (5) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of the course,
- (6) to observe the rules and regulations of the program implementing partners to provide the program or establishments,
- (7) not to engage in political activities, or any form of employment for profit,
- (8) to discontinue the program, should the participants violate the Japanese laws or JICA's regulations, or the participants commit illegal or immoral conduct, or get critical illness or serious injury and be considered unable to continue the course. The participants shall be responsible for paying any cost for treatment of the said health conditions except for the medical care stipulated in (3) of "5. Expenses", "IV. Administrative Arrangements",
- (9) to return the total amount or a part of the expenditure for the KCCP depending on the severity of such violation, should the participants violate the laws and ordinances,
- (10) not to drive a car or motorbike, regardless of an international driving license possessed,
- (11) to observe the rules and regulations at the place of the participants' accommodation, and
- (12) to refund allowances or other benefits paid by JICA in the case of a change in schedule.

## IV. Administrative Arrangements

 Organizer (JICA Center in Japan) Center: JICA Kyushu Center (JICA KYUSHU) Program Officer: Ms. OGAWA Yoko (kicttp@jica.go.jp)

### 2. Implementing Partner:

Name: Kitakyushu International Techno-cooperative AssociationURL:<a href="http://www.kita.or.jp/english/">http://www.kita.or.jp/english/</a>

### 3. Travel to Japan

- (1) Air Ticket: In principle, JICA will arrange an economy-class round-trip ticket between an international airport designated by JICA and Japan.
- (2) **Travel Insurance**: Coverage is from time of arrival up to departure in Japan. Thus traveling time outside Japan (include damaged baggage during the arrival flight to Japan) will not be covered.

### 4. Accommodation in Japan

Basically, JICA will arrange the following accommodation(s) for the participants in Japan:

### 5. Expenses

The following expenses in Japan will be provided by JICA

- (1) Allowances for meals, living expenses, outfits, and shipping and stopover.
- (2) Expenses for study tours (basically in the form of train tickets).
- (3) Medical care for participants who become ill after arriving in Japan (the costs related to pre-existing illness, pregnancy, or dental treatment are <u>not</u> included).
- (4) Expenses for program implementation, including materials.
- (5) For more details, please see "III. ALLOWANCES" of the brochure for participants titled "KENSHU-IN GUIDE BOOK," which will be given before departure for Japan.
   \*Link to JICA HP (English/French/Spanish/Russian):
   <u>https://www.jica.go.jp/english/our\_work/types\_of\_assistance/tech/acceptance/training/index.html</u>

### 6. Information

\*YouTube of "Knowledge Co-Creation Program and Life in Japan" and "Introduction of JICA Center" are viewable from the link below.

Part I: Knowledge Co-Creation Program and Life in Japan						
English ver.	https://www.youtube.com/watch?v=SLurfKugrEw					
French ver.	https://www.youtube.com/watch?v=v2yU9ISYcTY					
Spanish ver.	https://www.youtube.com/watch?v=m7I-WIQSDjI					
Russian ver.	https://www.youtube.com/watch?v=P7_ujz37AQc					
Arabic ver.	https://www.youtube.com/watch?v=1iBQqdpXQb4					
Part II: Introduction of JICA Centers in Japan						
JICA Kyushu	https://www.jica.go.jp/kyushu/english/office/index.html					



JICA Kyushu Main Entrance

Introduction of JICA Kyushu - YouTube

guide\_en.pdf (jica.go.jp)

Introduction of JICA Kyushu (YouTube, external link)

guide\_sp.pdf (jica.go.jp)

Requirements for a valid vaccination certificate (3 doses) Quarantine Station, Ministry of Health, Labor and Welfare, the Government of Japan

000997373.pdf (mhlw.go.jp)

## V. Other Information

- 1. Report and Presentation
  - (1) Job Report & Issue Analysis Sheet (IAS)

Each applicant is required to submit his/her own Job Report & Issue Analysis Sheet following the instruction. Participants will have a presentation of his/her Job Report & Issue Analysis Sheet up to 10 minutes at the earlier stage of the training in order to share knowledge and background with other participants as well as instructors. Visual materials such as Power Point and pictures may be helpful for your presentation if you bring them with you.

### (2) Action Plan

Participants are required to make an Action Plan at the end of the training to express your idea and plan that you carry out after your return, reflecting the knowledge and method you acquire in the training. Each person will have 10 minutes for presentation.

In addition, participants are required to complete IAS by the end of the training and present it at the Action Plan Presentation.

- 2. Participants who have successfully completed the program will be awarded a certificate by JICA.
- 3. Participants are recommended to bring a **laptop computer** for your convenience. During the program, participants are required to work on the computers, including preparation of Action plans, finalizing Job report etc.
- 4. Allowances will be deposited to your temporary bank account in Japan after 2 to 5days after your arrival to Japan. It is highly advised to bring some cash in order to spend necessary money for the first 2 to 5 days stays after your arrival.
- 5. It is very important that your currency must be exchanged to Japanese Yen at any transit airport, Narita International Airport in Tokyo. It is quite difficult to exchange money after that, due to no facility or time during the training program.
- 6. The field trip is arranged during the training program. It would be convenient if you bring small bag.
- 7. Regarding the post-arrival waiting period measures, in principle, Participants may be required to stay at a JICA-arranged hotel for approximately 7 days.
- 8. Participants in countries designated as endemic countries/regions for new coronavirus mutations will be placed in quarantine-secured accommodations for three days. If the test result is negative, the participants will be moved to a hotel arranged by JICA, and will be asked to continue to stay in the marked course for 3 nights and 4 days.

## **VI. ANNEX**

- I. Job Report
- II. Issue Analysis Sheet
- III. Issue Analysis Sheet (IAS) Guidelines
- IV. Sample Training Schedule (for reference)



### Annex I

Name of Training Course	Renewable Energy in Grid -Mainly on Photovoltaic-(A) (202208418J001)
Name of Applicant	
Email address	
Name of Country	

### Job Report

- **Remarks 1**: The Report should be <u>typewritten in English</u> (11-point font, A4 size paper) and total pages of the report should be limited to <u>4 pages</u> (not including organization chart).
- **Remarks 2**: Each one of you is required to have presentation of 10 minutes based on this Job Report at the early stage of training in order to share knowledge and background with other participants as well as instructors. Visual materials such as PowerPoint and pictures may be helpful for your presentation to bring with you.

Remarks 3: The following is an example of the contents of the Job Report;

### 1. Energy Situation in your country (up to 1 page)

- Primary energy consumption rate (circle graph)
- Energy self-sufficient rate
- Electric power consumption rate (circle graph)
- Electrification cover rate
- Gap between electric power supply & demand
- Electricity charges (for residence & Industry), Coke charge (for 350 ml can)
- Enactment & enforcement situation of renewable energy law and/or regulation

### 2. Organization and main tasks (up to 1 page)

- (1) Main tasks of the organization
- (2) Organization chart:
   Please draw a chart of your organization including the department (section) names with the number of staffs in it and mark where you are positioned.
   (The chart should be attached and not be counted in this page limit.) Please describe a duty of each department (section) briefly.
- (3) Brief description of your assignments
- (4) Problems in your job

### 3. Expectations for the training course (up to 1 page)

- (1) Your purpose of participating in this course
- (2) Subjects of the course which you are interested in the most
- (3) How do you expect to apply skills and knowledge that you will gain through the module (refer to Annex III) to tackle problems in your home country?
- (4) Other matters which you are expecting to obtain from the course

### 4. Have you ever learned the following subjects in your work? We want to know your work

experience. Please check either "Yes" or "No". If your answer "Yes", please fill in "Years" column as to the length of your application on the respective items.

subjects	Yes	No	Years
1) Energy policy, law, or regulation			
2) Renewable energy without PV generation			
3) PV system promotional activities			
4) Installation of PV generation facilities			
5) Electrical power network system and/or micro-grid			
6) Microsoft Excel (Important for software exercises)			
7) Others			

If you check 7) others, please specify subject associated with solar power technology, not covered in items 1) to 6).

### ANNEX II Issue Analysis Sheet (IAS)

#### Country:

Name:

No	[A] <u>Issue</u> that you confront.	[B] <u>Actions</u> that you are taking to deal with the issue now.			
	【 I】 <u>Task</u> to solve the Issue.	【 II】 The <u>information</u> that I need to carry out the Task.	[Result]		
1		1-1			
		1-2			
		1-3			

• In the Job Report, you shall describe challenges you are facing in your section. But in the "column [A]" of this IAS, you are requested to describe only issues you expect to solve utilizing information and knowledge being delivered in this training course respectively

• [I], [I], [Result] : These columns will be filled during the training course.

• **[Result]**: If you have obtained / found useful information, please mark it with a circle. If not, mark x.

No	[A] <u>Issue</u> that you confront.	[B] <u>Actions</u> that you are taking to deal with the issue now.			
	【 I】 <u>Task</u> to solve the Issue.	【II】 The <u>information</u> that I need to carry out the Task.	[Result]		
2		2-1			
		2-2			
		2-3			

### ANNEX III

### Issue Analysis Sheet (IAS) Guidelines

### 1. What is IAS?

- (1) IAS is a tool to logically organize relationships between issues and contents of the training program.
- (2) IAS will help the nominee to clarify his/her challenges to be covered in each expected module output and to formulate solutions to them.
- (3) The sheet is to be utilized as a logical process control sheet to draw up improvement plans for the issues by filling out the sheet in phases from prior to the nominee's arrival through to the end of the training.
- (4) In addition, it is used for the course leader and lecturers to understand the issues that each participant is confronting, and provide him/her with technical advice, useful references and solutions through the training program.

### 2. How to fill out IAS?

- (1) Please describe the issues you confront in column" A: Issue that you confront".
- (2) You shall describe challenges you are facing in your section also in the Job Report. Among them, in column A, please describe only those issues you expect to solve utilizing information and knowledge being delivered in this training course. Prepare the separate rows for each problem; if necessary, please add new rows.
- (3) In column "**B: Actions that you are taking to deal with the issue now.**", please describe actions that you are taking to solve the issue shown in "**Column A**".
- (4) This information is very important to carry out the training course and also to make Action Plan as a fruit of the training.
- (5) It's not necessary to fill in column " I : Task to solve the Issue", column " II : The information that I need to carry out the Task." and column "Result". These columns shall be filled out during the training.
- (6) **"Column I**" shall be clarified and filled out in the subject "**Confirmation of Task based on IAS**" implemented at the earlier time in the training.
- (7) **"Column II**" and **"Column Result**" shall be filled out during the training and you are required to present completed IAS in the subject **"Action Plan Presentation**". **II**

ANNEX	IV Tenta	ative scl	hedu	le			
Date	Time			Subject		Place	Stay in
Jun 27				Arrival at JICA Kyushu			
II IN 28	09:40	12:00		Briefing		Briefing	JICA
Wed	13:30	16:30		Program Orientation	Ogawa	Training Wing	Kyushu
lun 20	09:55	11:40	L	General Orientation Japanese Economy	Kyushu University	Briefing	
Thu	13:30	15:10	L	General Orientation Politics and Administration in Japan	Osawa Kitakyushu Municipal Univ.	Room	JICA Kyushu
	09:30	10:00		Course Orientation	Morinaga	Seminar	
Jun 30.	10:00	12:30	L	Problem Solution using IAS	Morinaga	Room 5	JICA
Fri	13:30	16:30	D	Task findings based on IAS	Morinaga & Ueyama	Seminar Room5 or 6	Kyushu
	17:00	18:40		Japanese Language Lesson ①	Katsuki	Seminar R4	
July 1 Sa	t			off			JICA
July 2 Su	IN			off			Kyushu
July 3	09:30	12:30	L	Basics of PV Power Generation	Ueyama	R3 & 4	JICA
Mon	13:30	16:30	L	Issue Analysis Exercise using SHS topics	Morinaga & Ueyama	R3 & 4	Kyushu
July 4	09:30	12:30	E	Issue Analysis Exercise using SHS topics	Morinaga &	R3 & 4	JICA
Tue	13:30	16:30	D	Task findings based on participant's IAS	Ueyama	R5 or 6	Kyushu
July 5	09:30	12:30	D	Task findings based on participant's IAS	Morinaga & Ueyama	R5 or 6	JICA Kyushu
Wed	13:30	16:30	L	Current situation and issues of PV in developing countries	Dr. Shiota, Mysol	R6	
July 6	09:30	12:30	L	Key points for a sustainable Solar PV system	Dr. Shiota,	R6	JICA
Thu	13:30	16:30	L	Basics of Mini-grid	Mysol	R6	Kyushu
July 7.	09:30	12:30	L	Design of Standalone PV systems	Dr. Shiota, Mysol	R1&2	JICA
Fri	13:30	16:30	L	Preparation for Solar Radiation & Power Generation Calculation	Morinaga & Ueyama	R1&2	Kyushu
July 8. Sa	at			off			JICA
July 9. Si	un			off			Kyushu
July 10	10:00	11:40		Japanese Language Lesson (2)	Fukamachi	R5	JICA
Mon	14:00	15:30		Exchange Program; HIPPO Family Club Kurume	Katsuki, Fukamachi	Conference Room 3F	Kyushu
July 11	09:30	12:30	L	Outline of Photovoltaic Power Generation Technology	Ueyama	R6	JICA
Tue	13:30	16:30	L	Basic of Grid and Grid interconnection 1	Ueyama	R6	Kyushu
July 12	09:30	12:30	Pr	Job Report Presentation		R1&2	JICA
Wed	13:30	16:30	D	Discussion on the Theme for participating in the program	Morinaga	R1&2	Kyushu

July 13	09:30	12:30	L	Conditions to Promote Photovoltaic Technologies and its Policy 1	Hayashi, Nyika	R6	JICA
Thu	13:30	16:30	L	Conditions to Promote Photovoltaic Technologies and its Policy 2	Consultant	R6	Kyushu
July 14	09:30	12:30	L	Policy for PV Generation Spreading in Japan	Ueyama	R6	JICA
Fri	13:30	16:30	L	Solar Radiation and Power Generation	Nishimura	R6	Kyushu
July 15 Sat	08:30	13:15		Bus tour (Mojiko, Kokura Castle)	Yamashita		JICA Kyushu
July 16. S	Sun			off			JICA Kyushu
	09:00	12:00	L	Basic of Grid and Grid interconnection 2	Ueyama	R6	
July17	12:45	13:15		JICA Kyushu →KIT			
Mon	13:30	16:30	E	Experiment for Understanding Renewable Integrated Power Grid	Watanabe, Ueyama	кіт	Kyushu
	16:30	17:00		KIT→JICA			
July 18	09:30	12:30	E	Exercise for Solar Radiation & Power Generation Calculation	Ueyama	R1&2	JICA
Wed	13:30	16:30	E	Exercise for Solar Radiation & Power Generation Calculation	Ueyama	R1&2	Kyushu
	08:30	9:10		JICA Kyushu →Eco Town			
July 10	09:30	11:30		Eco Town		Ecotown	
Thu	11:30	13:45		Eco Town → Yoshinogari Solar PP			JICA Kyushu
mu	14:00	16:30		Yoshinogari Solar Power Plant (NTT Node Energy)	Kawakubo	Yoshinogari Mega solar	
	16:30	18:30		Yoshinogari → JICA			
	08:00	9:15		JICA $\rightarrow$ System JD			JICA Kyushu
July 20	09:30	12:30	L	PV System Maintenance	Date, Matsuo	System JD	
Tue	13:30	16:30	Е	PV System Maintenance Exercise	Date, Matsuo	System JD	
	16:30	17:45		System JD to JICS			
July 21	09:00	12:00	L	Introduction to Economic Evaluation for PV Generation	Ueyama	R14	
Fri	12:40	13:50		JICA to Buzen Power Plant			JICA
	14:00	16:00	V	NaS battery Site visit (KEPCO)	Furukawa	Plant	Kyushu
	16:00	17:15		Buzen Power Plant to JICA			
July 22. 9	Sat			off			JICA
July 23. 9	Sun			off			Kyushu
July24	09:30	12:30	E	Economic Evaluation for PV Generation 1	Ueyama	R14	JICA
Mon	13:30	16:30	E	Economic Evaluation for PV Generation 2	Ueyama	R14	Kyushu
	09:00	12:00	L	Introduction to Circuit Simulation	Ueyama	R1&2	
July 25	12:45	13:20		JICA to Fukusho		R1&2	JICA
Tue	13:30	16:30	L	Introduction to PV system installation company	Fukuoka, Momar	FUKUSHO	Kyushu
	16:30	17:15		Fukusho to JICA			
July 26	09:30	12:30	L	Chopper and Inverter 1	Hanamoto,	R6	JICA
Wed	13:30	16:30	L	Chopper and Inverter 2	KII	R6	Kyushu
July 27	09:30	12:30	L	Lead-acid Battery Maintenance	Sano	R6	JICA
inu	13:30	16:30	Ε	Lead acid battery capacity calculation	Sano	R6	Kyushu

1l. 20	09:30	12:30	L	Policy for PV Generation Spreading in Japan 2	Ueyama	R6	
July 28 Fri	13:30	16:30	L	NaS battery explanation (bring your passport)	Tanaka	R6	JICA Kyushu
	16:30			Return flight arrangement meeting	Inoue	R6	
July 29. 9	Sat			off			JICA
July 30. 9	Sun			off			Kyushu
July 31	09:30	11:30	L	Mass Disposal of PV systems	Ueyama	R6	- JICA Kyushu
Mon	11:30	12:30		Action Plan Explanation	Morinaga	R6	
	13:30	16:30		PCB test		R6	
	09:00	12:00	L	Summary of Battery Capacity and PV system certification	Ueyama	R6	
Aug 1	14:20	15:20		Leave JICA for Ogawa Residence			JICA
Tue	15:30	16:30	v	All Electric Home	Ueyama	Ogawa Residence	Kyushu
	16:30	17:30		Leave Ogawa Residence for JICA			
Aug 2. W	/ed 13:00	16:30		Kitakyushu to Kyoto			
	07:50	8:50		Hotel to Kyoto Eco Energy School			Two nights
Aug 3	09:30	12:30	L	PV System Installation	Shimizu	Kvoto Eco	in Hotel Elcient
Thu	13:30	16:30	Ε	PV System Installation Exercise	Ecolinks	Energy	Kyoto
	16:30	17:30		Leave for Hotel			
	08:30	9:30		Leave Hotel for Ichijo Komuten			
Aug 4. Fri	09:30	11:30	V	ZEH Display Site	Ohashi	Ichijyo	JICA Kyushu
	11:30	12:30		Leave for JICA Kyushu			
Aug 5. Sa	at			off			JICA
Aug 6. Su	un			off			Kyushu
Aug 7	09:30	12:30	L	Microgrid case study	Arai	R6	
Mon	13:30	15:00	L	Grid interconnection code 1	Takahashi	R6	Kyushu
	15:00	16:30	L	Grid interconnection code 2	Omine	R6	
Aug 8	09:30	12:30	L	Design of PV systems	Nakagawa	R6	JICA
Tue	13:30	16:30	Е	Exercise for Design of PV systems	Nakagawa	R6	Kyushu
Aug 9	09:30	12:30	L	PV instrumentation manufacturer	Kubota	R6	JICA
Wed	13:30	16:30	L	Lithium Ion Battery	Okada	R6	Kyushu
Aug 10. <sup>-</sup> 09:30	Thu	12:30		Kitakyushu to Yamanashi			
Aug 11	9:00	12:00	L	Verification and Evaluation for Mega-Solar Power Plants 1	Konishi, AIST	Royal Hotel	Two nights In Royal
Aug 11 Fri	13:00	13:30		Hotel $ ightarrow$ Mega Solar site			Hotel Yatsu-gatake
	13:30	14:00	L	Verification and Evaluation for Mega-Solar Power Plants 2	Konishi	Hokuto PV site	ratsu-gatake

	14:00	16:30	V	Royal Hotel to PV plant site	Konishi		
	16:30	17:20		PV plant to Hotel			
Aug 12 S	at 10:00	15:00		Yamanashi to Kitakyushu			JICA Kyushu
Aug 13. 3	Sun			off			
Δυσ 14	09:30	12:30	L	Action plan preparation (Self-study.)		R6	JICA Kyushu
Mon	13:30	16:30	L	Action plan preparation (Self-study.)		R6	
Aug 15	09:00	12:00		Action plan preparation (Self-study.)		R5&6	IICA Kyushu
Tue	13:30	14:45		Action plan preparation (Self-study.)			Jierrikyushu
	09:00	11:30		Action Plan Guidance (Submitting the paper by March 4)	Morinaga & Ueyama	R5&6	
	12:20	13:20		JICA to KEPCO			
Aug 16 Wed	13:30	16:30	L	Grid Management; Central Load Dispatch Center, Current Status of Renewable Energy in Kyushu and Efforts for Stable Power Supply	Kawasaki, Ide KEPCO	KEPCO	JICA Kyushu
	16:30	17:30		KEPCO to JICA			
Aug 17	09:30	12:30	L	Fundamentals of Renewable Energy Technology 1	Nishi	R6	
Thurs	13:30	16:30	L	Fundamentals of Renewable Energy Technology 2	Nishi	R6	JICA NYUSIIU
Aug 18	09:30	12:30	Е	Exercise on Structural Optimization of Renewable Integrated Grid 1	Ueyama	R1&2	JICA Kyushu
Fri	13:30	16:30	E	Exercise on Structural Optimization of Renewable Integrated Grid 2	Ueyama	R1&2	
Aug 19. 3	Sat			off			
Aug 20. 3	Sun			off			JICA Kyushu
Aug 21	09:30	12:30	L	Fundamentals of Renewable Energy Technology 1	Nishi	R6	IICA Kyushu
Mon	13:30	16:30	L	Fundamentals of Renewable Energy Technology 2	Nishi	R6	
Aug 22 Tue	09:30	12:30	L	Review for PV systems	Ueyama	R6	JICA Kyushu
A	09:30	12:30	L	Global trends in Solar PV Development its Support Scheme	Kimura IEEJ	R6	
Aug 23 Wed	13:30	15:00	L	Renewable Energy Policy in Japan	Matsumoto,	R6	JICA Kyushu
	15:00	16:30	L	Energy Storage Technology	IEEJ	R6	
	09:30	11:30		Wrap-up of the program		R6	
A	12:40	13:00		JICA to Environmental Museum			
Aug 24 Tue	13:00	16:00		Approach to Hydrogen Society	En	vironmental JICA Kyushu Museum	
	16:00	16:20		Museum to JICA			
Aug 25	10:00	11:30		Evaluation Meeting	Ogawa	R1&2	
Fri	13:30	16:30	Pr	Action Plan Presentation Meeting		R1&2	JICA NYUSHU

	16:30	17:00	Closing Ceremony	R14	
Aug 26. Sat		Departure			

### For Your Reference

### JICA and Capacity Development

Technical cooperation is people-to-people cooperation that supports partner countries in enhancing their comprehensive capacities to address development challenges by their own efforts. Instead of applying Japanese technology per se to partner countries, JICA's technical cooperation provides solutions that best fit their needs by working with people living there. In the process, consideration is given to factors such as their regional characteristics, historical background, and languages. JICA does not limit its technical cooperation to human resources development; it offers multi-tiered assistance that also involves organizational strengthening, policy formulation, and institution building.

Implementation methods of JICA's technical cooperation can be divided into two approaches. One is overseas cooperation by dispatching experts and volunteers in various development sectors to partner countries; the other is domestic cooperation by inviting participants from developing countries to Japan. The latter method is the Knowledge Co-Creation Program, formerly called Training Program, and it is one of the core programs carried out in Japan. By inviting officials from partner countries and with cooperation from domestic partners, the Knowledge Co-Creation Program provides technical knowledge and practical solutions for development issues in participating countries.

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized course cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs is being customized by the different target organizations to address the specific needs, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

### Japanese Development Experience

Japan, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving its tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from a process of adoption and adaptation, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to

mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.



### **Contact Information for Inquiries**

For enquiries and further information, please contact the JICA overseas office or the Embassy of Japan. Further, address correspondence to:

JICA Kyushu Center (JICA KYUSHU)