

9. Natural Resources and Energy

Research on Biomass Technology バイオマス有効利用技術		PITD Leaders 1080034 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
		4 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
【Objective】 Participants suggest the method how to apply the acquired scientific knowledge to the effective and efficient utilization of biomass in respective countries. 【Expected Results】 1) To obtain the latest information about the biomass utilization in Japan, especially to understand the policy 'General Strategy of Biomass Nippon' and the related research trend activities that contributes to the policy, so that the participants will be able to explain his/her research objectives based on those information. 2) To make and modify a Research Plan for this training course to utilize biomass effectively in their research field under the direction of the host researcher. 3) To acquire the fundamental methods of research, that are indispensable for research implementation, under the direction of the host researcher.	【Target Organizations】 - Public research institutes, universities 【Target Group】 1) Researchers in the field of biomass in the above-mentioned organizations 2) Individuals with a master's degree or equivalent qualification 3) Individuals with at least 3 years of research experience		
CONTENTS	PROGRAM PERIOD	Oct / 11 / 2010 ~ Sep / 3 / 2011	
【Preparatory phase】 Participants are requested to make their own research proposals under the consultations of the host researchers. 【Program in Japan】 1) Lectures on the effective use of biomass (2 weeks) Technology of biomass recovery system, bio-refinery technology, Biomass energy technology (gasifying/BDF production, etc.), sugar platform technology 2) Study tour and site observation(1-3 weeks) Related industrial plant in the private sector, other institution or lab. 3) Individual research (about 10 months) Participants will be assigned as a member of the laboratory of the host researcher, conduct research under the supervision of the host researcher, and write up the results in a technical report. *reference web site : http://www.aist.go.jp/index_en.html	IMPLEMENTING PARTNER	National Institute of Advanced Industrial Science and Technology (AIST)	
	JICA CENTER	JICA Chugoku	
	COOPERATION PERIOD	2006~2010	
	REMARKS and WEBSITE	<u>Subjects to be offered in relation with the following fields (sample):</u> Biodegradable plastics, biomass energy, ethanol production technology, application of biodiesel fuel to automobiles, life cycle assessment of biomass usage.	

Electric system engineering (except distribution) 電力系統技術		PITD Trainers 1080827 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries: Countries which have electric systems		8 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
【Objectives】 Knowledge and skills for the plans and operation of reliable electric power system which are the outputs of this program will be shared and promoted among his/her organization. 【Outputs】 (1) <Unit target 1> -To understand the outline on electric power industry and to clarify the issue regarding development and operation on power systems in their country. (2) <Unit target 2> - To obtain knowledge and techniques on electric system in Japan (3) <Unit target 3> - Preparation and Presentation of Dissemination Plan. (4) <Unit target 4> - To implement a dissemination plan (progress report)	【Target Organizations】 Ministries and government offices or electric power companies which are in charge of electric system 【Target Group】 (1) Officers who belong to target organizations and are expected to play a leading role in the field (2) Individuals engaging in electric system engineering with at least 5 years of work experience and not more than 20 years experience (3) University graduates or equivalent (4) Age: 27-40 years old (5) Individuals with a good command of English (6) Individuals in good health (7) Must not be serving any form of military service		
CONTENTS	PROGRAM PERIOD	Aug / 12 / 2010 ~ Sep / 17 / 2010	
(Before training) Drawing up a country report (In Japan) (1) Country report presentation and discussion (2) Lectures and discussion of outline of the electric power industry in Japan etc. (3) Lectures and observation on •Overview of electric industry and energy saving in Japan •Overview of electric system and electric system planning •Analysis and evaluation on electric system and electric system planning •Construction and maintenance on transmission, new technology concerning transmission • Construction, maintenance and operation on transformation, new technology concerning transformation •Transformation facilities •Plants for transformation facilities •Techniques on the operation on electric system •Simulation on electric system protection •Load dispatching center •Plants for protection facilities (4) Preparation and Presentation of Action plan (In participants countries) Participants are to implement the dissemination activities based on the action plan	IMPLEMENTING PARTNER	Japan Electric Power Information Center, Tohoku Electric Power Co., Inc.	
	JICA CENTER	JICA Tohoku	
	COOPERATION PERIOD	2008~2010	
	REMARKS and WEBSITE	http://www.jepic.or.jp/en/index.html http://www.tohoku-epco.co.jp/index-e.htm	

Promotion of Hydropower Development 水力開発の促進		PITD Trainers 1080939 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
		15 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】To familiarize the inclusive knowledge related to hydropower development obtained in Japan to the home country / organization.</p> <p>【outputs】</p> <p>(1)To recognize the issues related to hydropower development in the home country / organization.</p> <p>(2)To understand about hydropower development procedures including schemes of IPP Project and CDM in the power sector, and consider these applicability to the home country.</p> <p>(3)To understand differences of required hydropower development technology (planning, design, financial analysis, O&M, rehabilitation, etc.) between the home country and Japan.</p> <p>(4)To develop an final report to familiarize the knowledge obtained in Japan to the home country / organization.</p> <p>(5)To report the progress of action plan as a Follow-up report.</p>	<p>[Target Organizations] Government agencies or electric power utilities which are in charged of the development of hydropower generation.</p> <p>[Target Group] (1) be responsible for hydropower development and those currently (or expected to be in the near future) posted to the managerial position. (2) 30-50 years of age, and have a minimum of 5 years practical experience in the field of hydropower development. (3) have an competent command of spoken and written English.</p>		
CONTENTS	PROGRAM PERIOD	Jun / 8 / 2010 ~ Jul / 8 / 2010	
<p>【Preparatory phase in home country】 Prepare a Job Report describing the present situation of each country/organization and their problems.</p> <p>【Core Phase in Japan】 Output(1):Presentation and discussion on the job report, Outline of Electric Power Industry in Japan Output(2): Execution procedure of hydropower development, Environmental impact assessment of hydropower projects, Global warming measures(CDM) and environmental problems of hydropower projects, Hydropower projects by IPP, etc. Output(3): Introduction of demand forecast in Japan, decision software for electric power development plan, etc. Output(4): Action plan presentation by the participants</p> <p>【Finalization Phase in home country】 The actions described in the Action Plan should be reviewed, authorized and implemented, and are reported as a Follow-up Report.</p>	IMPLEMENTING PARTNER	Japan Electric Power Information Center, Inc. (JEPIC)	
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE		

Nuclear Power Generation Infrastructure 原子力発電基盤整備計画		PITD Trainers 1080730 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries:IAEA and NPT affiliated country, Concluded country of CSA		8 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】 Comprehensive knowledge for introduction of nuclear power generation which is the output of this program will be shared and promoted among his/her organization. For the result of the promotion, his/her organization grapple with educational campaign of nuclear safety for public.</p> <p>【outputs】</p> <p>Output(1):To find the necessity of nuclear power generation related with electric power industry, energy security and environment. To present the problems that they faced.</p> <p>Output(2):To find the issue of nuclear safety, appropriate operation and maintenance in order to introduce a nuclear power generation and to decommission.</p> <p>Output(3):To find the consideration of social consideration in order to introduce a nuclear power generation.</p> <p>Output(4):To draw up the action plan in order to introduce a nuclear power generation and to present its included the difference/issue about the other countries.</p> <p>Output(5):To report the knowledge including the action plan obtained in Japan to the belonging organization and discuss its applicability in the organization.</p>	<p>[Target Organizations] Competent Government Agencies for nuclear power policy or electric power companies</p> <p>[Target Group] (1) Be a manager class official/candidate of central government or manager class of electric power company, who is in charge of formulation or planning of policy for nuclear power generation. (2)30-45 years of age, and have a minimum of 3 years of experience in department or section engaging in policy for electric power or electric power development plan. (3) with sufficient English conversation and English reading ability.</p>		
CONTENTS	PROGRAM PERIOD	Jan / 16 / 2011 ~ Feb / 11 / 2011	
<p>【Preparatory phase in home country】 Prepare a Country Report describing the present situation of each country/organization and their problems.</p> <p>【Core Phase in Japan】 Output(1): Country report presentation and discussion, Lectures and site visit about the outline of electric power industry in Japan, Lectures about energy policy in Japan Output(2): Lectures and site visit about the operation/maintenance of nuclear power plant, Site visit to the factories of nuclear power generation, Lectures of the human resources, Lectures of the nuclear power regulation Output(3): Lectures and site visit about the public acceptance, Site visit and discussion with the local government, Site visit about Hiroshima Peace Memorial Museum and lead to consciousness of peace Output(4): Drawing up a action plan and preparing for the presentation, Action plan presentation and discussion</p> <p>【Finalization Phase in home country】 The actions described in the Action Plan should be reviewed, authorized and implemented, and are reported as a Final Report.</p>	IMPLEMENTING PARTNER	Japan Electric Power Information Center (JEPIC)	
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE		

Thermal Power Engineering Course for Gas Turbine & Coal Fired Steam Turbine – Improvement of Maintenance Skill for Stable Power Supply ガスタービン・石炭火力発電～安定電力供給のためのメンテナンス技術向上～		PITD Trainers 1080578 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries: Countries with thermal power plants		12 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
Course Objective: Knowledge and skills for management, operations, maintenance and environmental conservation are acquired and will be shared and promoted among his/her organization. Expected Outputs: 1. To make a job report and issue analysis sheet of their organizations by the end of preliminary phase. 2. To analyze and assess similarities and/or differences between electric power industry in Japan and in their country. 3. To analyze knowledge and information on effective techniques of operation and control, maintenance and troubleshooting, advanced technologies for environmental conservation for thermal power plants, according to the prepared issue analysis. 4. To make a dissemination plan on how to share the skills and knowledge. 5. The dissemination plans made by the participants will be shared. 6. The dissemination plans will be discussed and promoted in their organizations.	[Target Organization] Operational management/maintenance section at Gas turbine/Coal fired steam turbine power plant [Target Groups] 1. Those who are senior mechanical engineers and currently involved in the operational management and maintenance of gas turbine power plants. 2. Those who are university/college graduates or with equivalent academic backgrounds. 3. Those who have a sufficient command of English. 4. Those who share the skills and knowledge with stakeholders and submit the progress report. 5. Those who are involved in JICA project (recommendable).		
CONTENTS	PROGRAM PERIOD	May / 11 / 2010 ~ Jul / 1 / 2010	
【Preliminary Phase】 Formulation and submission of Job Report and Issue Analysis Sheet 【Core Phase in Japan】 1. Lecture about Outline of the Electric Power Industry in Japan 2. Lecture and practice on operation and management techniques 3. Lecture and practice on maintenance techniques 4. Lecture and observation on manufacturing techniques 5. Lecture and observation on environmental conservation technology 6. Preparation and presentation of a dissemination plan 【Finalization Phase】 1. Share the skills and knowledge acquired in Japan in their organizations 2. Implement the relevant activities based on the dissemination plan and submit the progress report within 3 months after returning to the home country	IMPLEMENTING PARTNER	Japan Electric Power Information Center, Inc., Power Engineering and Training Services, Inc.	
	JICA CENTER	JICA Chugoku	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE	Some parts of the training program are divided into 2 courses, namely "the gas turbine course" and "coal fired steam turbine course". Participants are to choose one of them which is suitable for their current job.	

The Improvement for Electric Power Distribution Grid 配電網整備		PITD Trainers 1080797 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
		9 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
【Objectives】 After this training end, participants grasp issues of their home country and be able to work for the solution as well as acquire comprehensive knowledge for efficient development of distribution systems. 【Outputs】 (1) Being able to find by themselves the difference about the electric power industry and facilities formation between participant's country and Japan. (2) Acquiring the techniques for appropriate operation and maintenance, for blackout accident prevention and for early blackout recovery, which lead to reduction of distribution loss and improvement of supply reliability. (3) Acquiring the techniques for planning and designing in order to develop efficient and reliable distribution grid. (4) Being able to formulate behavior guideline after returning home based on acquired knowledge and etc.	【Target Organizations】 Competent government agencies for electric power sector and electric power companies 【Target Group】 - Persons in charge of manager and/or leader position or expected to be in charge of following position. - Electrical engineers belong to power company or public organization in distribution area with five years experience of this area. - University graduates or equivalent. - Age: From 30 years to 40 years old.		
CONTENTS	PROGRAM PERIOD	Aug / 24 / 2010 ~ Oct / 1 / 2010	
<Preparatory phase(Before coming to Japan)> Country report describing present job activities and current situation of electric power distribution facilities is developed. <Program in Japan> Following contents are provided for each output mentioned above: (1) - Lectures about the outline of electric power industry in Japan - Lectures and site visit(L and SV) about the outline of distribution systems (2) - L and SV about the operation of distribution systems - L and SV about the outline of quality management in Japan (3) - L and SV about the planning/designing of distribution systems - L and SV about the electrification and the correspondence to isolated island (4) - Drawing up an action plan and presentation and discussion <Post-program activities(After participants' return)> Within 6months of the end of the course in Japan, participants are expected to implement the plan proposed in the Action plan and report the progress as a final report.	IMPLEMENTING PARTNER	Japan Electric Power Information Center Inc, Okinawa Electric Power Co. Inc	
	JICA CENTER	JICA Okinawa	
	COOPERATION PERIOD	2008~2010	
	REMARKS and WEBSITE	Based on the training contents of all outputs, participants will make action plan about enlightenment of technical knowledge and skills during Core Phase in Japan.	

Energy Policy エネルギー政策		PITD Solution 1080049 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
		24 participants /	English
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】A Policy plan contributing to the formulation of energy policy based on each country's characteristics and issues will be formulated, and then shared and studied in the participating organization.</p> <p>【outputs】</p> <p>(1) Energy situation and issues in each country are shared among the participants and priority issues are examined.</p> <p>(2) Challenges in energy policy in each country are clarified through understanding and comparing changes and current status of energy situation/energy policies in Japan and the rest of the world.</p> <p>(3) Concepts and methods of energy supply-demand forecasting, energy balance and energy best mix are understood and their applicability in each country is examined.</p> <p>(4) A draft Policy Plan of specific countermeasures which contribute to solving challenges in each country is formulated.</p>	<p>[Target Organizations] Governmental agencies such as Ministry of Energy or Industry, which are engaged in energy policy formulation.</p> <p>[Target Group] (1) be a managerial level official or its equivalent of governmental agency such as Ministry of Energy or Industry, which is engaged in energy policy formulation, (2) University graduate or its equivalent and more than 3(three) years of experience in the fields, (3) have a competent command of spoken and written English.</p>		
CONTENTS	PROGRAM PERIOD	Apr / 4 / 2010 ~ Apr / 24 / 2010	
<p>【Preparatory phase in home country】 Prepare a Country Report describing the present situation of each country/organization and their problems.</p> <p>【Core Phase in Japan】 Output(1): Country Report presentation Output(2): Energy demand forecasting in the world, The latest trends of CDM projects, Changes in lifestyle and energy demand and supply in Japan, Energy Policy in Japan (Oil, electric power, gas, coal, Energy Conservation, renewable energy), Process to introduce Nuclear Power in Japan, Power plant site visit, etc. Output(3): Energy Balance Table, Introduction of market principle in energy field, Survey technique for energy statistics data, Energy statistics system in Japan, etc. Output(4): PCM work shop, Policy plan making, presentation</p> <p>【Finalization Phase in home country】 The actions described in the Policy Plan should be reviewed, authorized and implemented, and are reported as a Final Report.</p>	IMPLEMENTING PARTNER	The Institute of Energy Economics, Japan (IEEJ)	
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE	This course will be implemented 2 times, as Energy Policy(A) and Energy Policy (B)(from May 9 to May 29, 2010).	

Power System Engineering for Planning, Operation and Maintenance in Africa アフリカ地域 電力システムの計画・運用および保守技術		PRTD Trainers 1084267 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
		9 participants /	English
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【Objective】</p> <ul style="list-style-type: none"> •Technique on planning, operation, and maintenance of power system will be shared with technicians in government agencies and electric power companies. •Knowledge on interconnected power system will be shared with technicians in government agencies and electric power companies. <p>【Expected Results】</p> <ol style="list-style-type: none"> 1.Understand power industry and the system in Japan 2.Acquire the skills for analysis and planning on power system. 3.Acquire the skills for power system operation and interconnected power system. 4.Acquire the skills such as evaluation and review of power equipment maintainance. 5.Share the skills and knowledge aquired from this training in organizations, and report the result to JICA. 	<p>Organization in charge of power system planning, operation and maintenance in electric power companies or government agencies in charge of electric power</p>		
CONTENTS	PROGRAM PERIOD	Sep / 7 / 2010 ~ Oct / 30 / 2010	
<p>The project enhances the knowledge and skill of power system planning, operation and maintenance, which leads to effective power system operation.</p> <ol style="list-style-type: none"> 1. power industry and power system in Japan 2. (1)formulation of power system plan (2)power system analysis (3)site tour of power facilities 3. (1)power system operation (2)power system interconnection 4. maintenance of power facilities 5. Progress report writing on power system improvement within three months 	IMPLEMENTING PARTNER	Chubu Electric Power Co.,Inc.	
	JICA CENTER	JICA Chubu	
	COOPERATION PERIOD	2009~2011	
	REMARKS and WEBSITE		

Electric Power Development Planning in Mekong Region Countries 東南アジア地域 メコン地域における電力開発計画		PRTD Solution 1084058 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries : Mekong Region		10 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【Objective】A report which includes the electric power development planning with electricity interchange within the Mekong regions is formulated and it will be shared and discussed within organizations.</p> <p>【Outputs】(1) To share the efforts for power development planning by participating countries, relevant basic data and standards of each country, together with issues which includes the electric power development planning with electricity interchange.</p> <p>(2) To acquire pragmatic information on power development planning.</p> <p>(3) To understand the points to consider at the planning stage of power transmission and transformer station facility based on the newly acquired knowledge of system planning, while also to understand the perspective of system operation such as supply & demand operation and power interchange.</p> <p>(4) To understand characteristics, system operation method and equipment outline of each power generation method through site visits.</p> <p>(5) To make an final report.</p>	<p>【Target Organizations】 Electric power planning bodies (e.g. Ministry of energy, Electric power company)</p> <p>【Target Group】 (1) Managerial posts in charge of power development planning and its implementation in central government or electric power company, (2) University/college graduates or equivalent and currently engaged in the field for more than 10 years, (3) Individuals with sufficient English conversation and reading ability.</p>		
CONTENTS	PROGRAM PERIOD	Jul / 19 / 2010 ~ Aug / 7 / 2010	
<p>【Preparatory phase in home country】Prepare a Country Report describing the present situation and problem of each country/organization .</p> <p>【Core Phase in Japan】 (Lecture): An approach to energy source best-mix, power system operation and electric power development in consideration of cost, stability/energy-security and environment. Outline of Planning surveys of power plant and transmission system, Permissions, Plannings and Locations, etc. (Observation): Load Dispatching Office, Thermal Power Plant(Gas/Coal/Oil-fired), Water PP(Conventional/Pumping storage), Nuclear PP, New-energy PP, etc. (Practice): Presentation and discussion of country reports in each country. Summary of the training program (Training report and countermeasures in each country)</p> <p>【Finalization Phase in home country】The actions described in the final report should be reviewed, authorized and implemented. The results of the actions are reported as a Follow-up Report.</p>	IMPLEMENTING PARTNER	Japan Electric Power Information Center (JEPIC)	
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)	
	COOPERATION PERIOD	2008~2010	
	REMARKS and WEBSITE		

Strengthening Capacity of Electric Pool in Eastern and Southern Africa 東南部アフリカ電力プール機能増強		PRTD Solution 1084314 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries : Southeast Africa		10 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】 Policy proposal for the promotion of the electric power facilities reinforcement plan in the southeast part Africa nations is examined, shared and discussed within organizations.</p> <p>【outputs】 (1)To share the status of power development planning by participating countries, relevant basic data and standards of each country, together with issues which includes the electric power development planning with electricity interchange.</p> <p>(2)The status of the power supply in Japan, the reinforcement plan of power generation and transmission, the methodology of the financing, the approaches on the energy efficiency improvement, and the reliability securing are understood, and the problem for the electricity shortage solution of each country is examined.</p> <p>(3) To examine the approaches on the personnel training, environmental measures, the security precaution, and dynamos processing technology in Japan. Then the possible application to each country is examined.</p> <p>(4)A concrete Policy proposal to contribute to the solution of the problem in each country will be made.</p>	<p>【Target Organizations】 Ministries and agencies of Electricity</p> <p>【Target Group】 (1)Executive officials at bureau's director generals level who are responsible for power sector in the Ministry of Power or Ministry of Energy (2)Individuals with sufficient English conversation and reading ability</p>		
CONTENTS	PROGRAM PERIOD	Oct / 31 / 2010 ~ Nov / 20 / 2010	
<p>【Preparatory phase in home country】 Prepare a Country Report describing the present situation and problem of each country/organization.</p> <p>【Core Phase in Japan】(Lecture): An approach to energy source best-mix, power system operation and electric power development in consideration of cost, stability/energy-security and environment. Outline of Planning surveys of power plant and transmission system, Permissions, Plannings and Locations, etc. (Observation): Load Dispatching Office, Thermal Power Plant(Gas/Coal/Oil-fired), Water PP(Conventional/Pumping storage), Nuclear PP, New-energy PP, etc. (Practice): Presentation and discussion of country reports and proposal.</p> <p>【Finalization Phase in home country】 The actions described in the policy proposal should be reviewed, authorized and implemented. The results of the actions are reported as a Follow-up Report.</p>	IMPLEMENTING PARTNER	Japan Electric Power Information Center (JEPIC)	
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)	
	COOPERATION PERIOD	2009~2011	
	REMARKS and WEBSITE		

Power Sector Development in Central Asia 中央アジア地域 電力セクター開発		PRTD Int.Dialogue 1084008 Sector : Natural Resources and Energy Sub-Sector : Energy Supply	
Target Countries : Central Asia		10 participants / Russian	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】 Participants will exchange information on challenges and efforts by electric power sectors in their countries, and share awareness of the issues with Japanese authorities concerned in electric power sector.</p> <p>【outputs】 (1) Participants provide basic information on electricity policies and share them with other participants (2) Participants understand the Japanese effort for electricity demand-supply plan, electricity rate structure and efficiency improvement, and identify issues to solve power shortage. (3) Participants discuss regional cooperation on electric power interchange. (4) With the Japanese electricity policy and the electricity policy of other Central Asian countries as a reference, participants will specify the policy goals and propose the procedure to achieve them.</p>	<p>【Target Organizations】 Ministries and agencies of Electricity or Electric power company</p> <p>【Target Group】 (1) Managerial posts in charge of power development planning and its implementation in central government or electric power company, (2) University/college graduates or equivalent and currently engaged in the field for more than 5 years,</p>		
CONTENTS	PROGRAM PERIOD	Nov / 28 / 2010 ~ Dec / 11 / 2010	
<p>(Lecture): ① Introduction to the Japanese electricity (including visits to hydro and thermal power plant) ② efficient power generation and transmission ③ energy conservation, new energy policy ④ electricity rate structure (Observations): Visits to hydro, thermal and other power plants (Practices): Country Report Presentation Discussion to develop a network among participants and Japanese counterparts</p>	IMPLEMENTING PARTNER	under planning	
	JICA CENTER	JICA Tokyo (Industrial Dev. & Finance)	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE		

Energy Efficiency and Conservation 省エネルギー		PITD Solution 1080315 Sector : Natural Resources and Energy Sub-Sector : Energy Conservation	
		18 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【objective】A policy proposal for better Energy Efficiency and Conservation (EE&C) promotion in the field of policymaking and institution building in participating countries will be formulated by the EE&C organization which each participant belongs to, through participation to the program in Japan and ex-post activities by the participants after returning home country.</p> <p>【outputs】 (1) To understand the outline of the energy situation of Japan, an energy conservation policy, and energy-saving technologies, and the point which leads to the energy conservation policy and promotion of system construction of their own country is arranged. (2) A policy proposal which leads to the energy conservation policy and the promotion of system construction of their own country is created. (3) Draw up a Final Report which includes the result of sharing and discussion within the organization each participant belongs to, after the return.</p>	<p>【Target Organizations】 The organization for Energy Conservation Promotion</p> <p>【Target Group】 (1) Officials working in the organization for Energy Conservation Promotion, (2) Individuals currently engaged in work in the energy conservation field for more than 3 years, (3) University/college graduates or equivalent, (4) Individuals under 45 years old, (5) Individuals with sufficient English conversation and English reading ability.</p>		
CONTENTS	PROGRAM PERIOD	May / 9 / 2010 ~ Jun / 5 / 2010	
<p>【Preparatory phase in home country】 Prepare a Country Report describing the present situation of each country/organization and their problems. 【Core Phase in Japan】 Formulate a Policy Proposal describing issues in their own organizations/department, and analysis for solving the issues identified. (Lectures): Energy Policy and Energy Conservation Policy in Japan, Promotion Measures and Activities, Energy Conservation Technology, Energy Audit, Outline of ESCO Projects in Japan, etc. (Observations): Excellent Cases of Energy Conservation and Energy Management (Practices): Measurement of Energy Consumption and analysis 【Finalization Phase in home country】 The actions described in the Policy Proposal should be reviewed, authorized and implemented, and are reported as a Final Report.</p>	IMPLEMENTING PARTNER	The Energy Conservation Center, Japan (ECCJ)	
	JICA CENTER	JICA Tokyo (Industrial Dev. & Finance)	
	COOPERATION PERIOD	2006~2010	
	REMARKS and WEBSITE		

Energy Conservation Technique for MERCOSUR region メルコスール地域 省エネルギー技術		PRTD Leaders Sector : Natural Resources and Energy Sub-Sector : Energy Conservation	1084269
		8 participants /	Spanish
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【Objective】 Participants' capabilities to introduce appropriate energy conservation activities in the member countries of MERCOSUR are strengthened.</p> <p>【Expected Results】 (1)Understand and can explain energy conservation administration policy of Japan (2)Understand and can explain versatile energy conservation technique (3)Participants are able to formulate and propose Action Plan for introducing energy conservation technique</p>	<p>【Target Organization】 Governmental organization related to energy conservation, Organization related to audit energy conservation</p>		
CONTENTS	PROGRAM PERIOD	Oct / 3 / 2010 ~ Oct / 23 / 2010	
<p>(1)Energy conservation law of Japan・Energy conservation policy of Japan ・Energy conservation policy of local government・Plant visit (2)Energy technological outline・Conservation of energy of power plant ・Conservation of energy of proof equipment・Conservation of energy of steam equipment・Conservation of energy by inverter ・Equipment diagnosis technology for conservation of energy ・Electric equipment diagnosis technology・Comportement and measurement ・Rotation machine equipment diagnosis technology ・Rotation machine equipment diagnosis technology practice (3)Discussion about energy conservation ・Formulation of Action Plan ・Presentation of Action Plan</p>	IMPLEMENTING PARTNER	Kitakyushu International Techno-Cooperative Association	
	JICA CENTER	JICA Kyushu	
	COOPERATION PERIOD	2009~2011	
	REMARKS and WEBSITE	This training program is offered to those who are in charge of energy conservation policy. Follow-up seminar was conducted in Argentina in JFY 2009.	

Fuel-reduced Operation By Economical Load Distribution of Multiple Diesel Generators 複数台ディーゼル発電機における経済的負荷配分による省燃料運用		PRTD Trainers Sector : Natural Resources and Energy Sub-Sector : Energy Conservation	1084270
Target Countries: There are electric plants which manage plural diesel generators		8 participants /	English
OBJECTIVE	TARGET ORGANIZATION / GROUP		
<p>【Objective】 The methodology of economical load distribution among multiple diesel generators will be disseminated in the electric power company or local government which conduct the improvement of the power generation efficiency.</p> <p>【Expected Results】 (1)To explain mechanism of a diesel generator. (2)To explain theory and methodology of economic load distribution. (3)To use of economic load distribution. (4)To formulate an action plan for dissemination into participant's organization and shared in participant's organization.</p>	<p>【Target Organizations】 Electric power companies and the local government which engage in use and management of diesel generation.</p> <p>【Target Group】 -electric power operation manager, electric facility manager and operator -Having over 3 years experiences of diesel electric power operation and management.</p>		
CONTENTS	PROGRAM PERIOD	May / 18 / 2010 ~ Jun / 17 / 2010	
<p><Preparatory phase(Before coming to Japan)> Inception report describing present job activities and current situation of diesel generators in respective countries is developed. <Program in Japan> (1)Training in theory and structure of diesel generator., (2)Practical construction of economic load distribution list in Excel sheet based on real sample data. (3)Training based on basics data of fuel consumption rate in economic load distribution calculation with a small diesel generator. (4)Based on the knowledge from the training, study through a report of improvement method and introduction plan. <Post-program activities(After participants' return)> Within 6 months of the end of the course in Japan, participants are expected to implement the plan proposed in the Action plan and report the progress as a final report</p>	IMPLEMENTING PARTNER	Okinawa Enetech CO., Inc	
	JICA CENTER	JICA Okinawa	
	COOPERATION PERIOD	2009~2011	
	REMARKS and WEBSITE	It is recommended to prepare the basic information/data of your country, such as follows; the control method for diesel power facilities; the fuel consumption rates for each diesel generator of a model power station	

Planning Support for Introduction of Solar Power Generation 太陽光発電導入計画支援		PITD Leaders 1080008 Sector : Natural Resources and Energy Sub-Sector : Renewable Energy	
		36 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
Plan/ Policy in regard with installed and maintaining PV system will be settled in three years. [1: Pre-activities] PV development plan and PV current situation will be organized [2: Activities in Japan] PV development plan and PV current situation of Japan and participating countries are recognized, and own efforts will be reconsidered [3: Activities in Japan] Trial plan for appropriate introduction/maintenance of PV will be proposed refer to the Japan and participating countries' experiences and lessons [4: Subsequent Activities] Trial plans for appropriate introduction/maintenance of PV will be reported, discussed, and practiced after the end of training programs	Officials/ Engineers working for government ministry in charge of energy conservation, Promoting PV system and PV industry		
CONTENTS	PROGRAM PERIOD	Oct / 1/ 2010 ~ Oct / 30/ 2010	
1)Experience sharing, discussions among participants 2)Renewable energy in Japanese electrical power master plan 3)Technology of manufacturers, Management of power plants 4)Case of central and local government, business enterprises 5)Cooperation scheme of JICA and institutions concerned 6)Discussions 7)Preparation of the presentation 8)Presentation of the plan	IMPLEMENTING PARTNER	To be decided	
	JICA CENTER	JICA Osaka	
	COOPERATION PERIOD	2010~2012	
	REMARKS and WEBSITE	This program is organized 3 times within FY 2009. 2nd implementation: 2011/02/01~2011/03/01(JICA Osaka) 3rd implementation: 2011/02/01~2011/03/01(JICA Okinawa)	

Solar Power Generation Technology for Middle East Area 中東地域 太陽光エネルギー発電技術		PRTD Leaders 1084069 Sector : Natural Resources and Energy Sub-Sector : Renewable Energy	
		6 participants / English	
OBJECTIVE	TARGET ORGANIZATION / GROUP		
【Objectives】 To gain the fundamental knowledge and practical examples that is able to use to introduce of system, promotion of utilization, and maintenance management of solar power generation. 【Outputs】 (1) To understand the place of solar power generation in Japanese energy policy and its actual cases of generation applies. (2) To know and gain the techniques of principal of solar power generation (semiconductor material, solar battery) and its structure and production method (3) To learn the techniques of PV facilities, set up of equipments, maintenance and management (4) To learn the technology of cost evaluation, environmental assessment (5) To make an action plan to solve the problem of the organization which participants belong to	【Target Organizations】 Governmental organization of energy development 【Target Group】 Engineers working for energy-related government ministry, electric power public corporation, and other public organization		
CONTENTS	PROGRAM PERIOD	May / 24/ 2010 ~ Aug / 3/ 2010	
(1)Japanese energy policy, needs, economic efficiency and future aspect of solar power generation of solar power generation (lectures) (2)General information of solar power generation, semiconductor material, solar battery, accumulator, electronic circuit, process of solar battery and module making, observation of information transmission/ relay station (lectures, practices and observations) (3)Constitution, design and assembling of PV, system constitution according to the purpose of use, constitution and set up cases of system for home and industrial type, cases of middle scale PV system, observation of solar house and solar office (lectures, practices and observations) (4)Regional characteristics of PV, solar irradiation and amount of insolation, energy effective utilization, kind of the solar battery and an evaluation method, structure of the solar battery and those characteristic evaluation, environmental assessment (lectures, practices and observations) (5)Action plan making	IMPLEMENTING PARTNER	Graduate School of Engineering, Osaka City University	
	JICA CENTER	JICA Osaka	
	COOPERATION PERIOD	2008~2010	
	REMARKS and WEBSITE		

Enhancement of Capabilities for Geothermal Energy Development for Plan Puebla Panama Countries 中米・カリブ地域 プエブラ・パナマ計画地熱開発事業計画策定能力向上		PRTD Leaders 1084075 Sector : Natural Resources and Energy Sub-Sector : Renewable Energy
		10 participants / Spanish
OBJECTIVE	TARGET ORGANIZATION / GROUP	
【Objectives】 Participants will enhance their ability to utilize geothermal energy development by the understanding of the policy making addressed to geothermal energy, and the necessary process of development. 【Outputs】 (1) Capacity building to promote national awareness and determination in utilizing geothermal resources (2) Capacity building in the basics to explore and exploit the utilization of geothermal resources (Technical aspects) (3) Capacity building in the basics to explore and exploit utilizing geothermal resources (Economy and environmental aspects) (4) Understanding about geothermal powerplant operation and multipurpose utilization of geothermal energy (Field trip)	【Target Organizations】 Governmental institutions dealing with policy design and with finance of energy, and geothermal energy development 【Target Group】 (1) Individuals from above-mentioned governmental institutions (2) Individuals with more than 5 years occupational experience in this field	
CONTENTS	PROGRAM PERIOD	Oct / 25 / 2010 ~ Nov / 15 / 2010
(1) Setting of the general framework with respect of the energy situation of the PPP region and renewable resources, Schemes for development / exploitation (including private sector), Direction to be given by governments to promote development and exploitation of geothermal resources (2) Geothermal risk and its mitigation, Exploration of geothermal resources by surface studies and surveys, Evaluation of the geothermal resources using well data, Utilization of the geothermal resources, Otake-Hatchobaru Geothermal Power Station, Takigami Geothermal Power Station (Kyushu Ekectric Power Co., Inc), (3) Economy of the geothermal development project, Financial support and international support / environmental values - Clean Development Mechanism (4) Facilities of multipurpose geothermal utilization projects	IMPLEMENTING PARTNER	West Japan Engineering Consultants, Inc.
	JICA CENTER	JICA Kyushu
	COOPERATION PERIOD	2008~2010
	REMARKS and WEBSITE	

Installation Method of Small-scale Hydro-power Generation and Wind Power Generation in Rural Area 地方における小規模水力発電・風力発電の導入手法		PRTD Trainers 1084268 Sector : Natural Resources and Energy Sub-Sector : Renewable Energy
Target Countries: Oceania countries and Small islands in Southeast Asia		8 participants / English
OBJECTIVE	TARGET ORGANIZATION / GROUP	
【Objective】 Installation method of a small-scale hydro-power generation and a wind power generation will be disseminated into local electrification of electric power ministry, electric power public corporation or regional development charge ministry. 【Expected Results】 (1) To explain principle of Hydro-power and Wind-power. (2) To explain influence on small-grid when Hydro-power and Wind-power are introduced. (3) To explain installation method and production technique of small Hydro-power and Wind-power. (4) To master production of small wind-power machine. (5) To formulate an action plan for dissemination into participant's organization and shared in participant's organization.	【Target Organizations】 Person in charge of local electrification of electric power ministry, electric power public corporation or regional development charge ministry, NGO, university. 【Target Group】 - Officer in charge of local electrification of electric power ministry, electric power public corporation or regional development charge ministry - Having over 3 years experiences of recyclable energy and electrification	
CONTENTS	PROGRAM PERIOD	Jul / 6 / 2010 ~ Aug / 10 / 2010
<Preparatory phase(Before coming to Japan)> Inception report describing present job activities and current situation of diesel generators in respective countries is developed. <Program in Japan> (1) It lectures on basic mechanisms, which are structure and principle of operation of Hydro-power and Wind-power. (2) It lectures on the influence and the feature when Hydro-power and Wind-power are introduced into a small-grid. (3) It lectures on small Hydro-power and Wind-power introduction technique. (4) Each group produce small Wind-power. (5) Based on the knowledge from the training, study through a report of improvement method and introduction plan. <Post-program activities(After participants' return)> Within 6months of the end of the course in Japan, participants are expected to implement the plan proposed in the Action plan and report the progress as a final report	IMPLEMENTING PARTNER	Okinawa Enetech CO., Inc,
	JICA CENTER	JICA Okinawa
	COOPERATION PERIOD	2009~2011
	REMARKS and WEBSITE	

Sustainable Rural Electrification Promotion Utilizing Renewable Energies 再生可能エネルギーによる持続的な地方電化の推進		PRTD Solution 1084028 Sector : Natural Resources and Energy Sub-Sector : Renewable Energy
Target Countries: Africa Region	10 participants /	English
OBJECTIVE	TARGET ORGANIZATION / GROUP	
<p>【objective】The program enables an official in charge to draft a strategy/plan for rural electrification using renewable energies, and the drafts will be reflect to thire organization activities in the countires.</p> <p>【outputs】</p> <p>(1) Basic data and existing issues for rural electrification promotion using renewable energies will be shared.</p> <p>(2) Renewable energy's technologies such as photovoltaic, small hydro and wind will be introduced.</p> <p>(3) Barriers and solutions for rural electrification promotion using renewable energies will be discussed.</p> <p>(4) A strategy/plan for rural electrification promotion using renewable energies will be drafted and improved.</p> <p>(5) Results of the program will be fed back to the organization where trainee are belonging to.</p>	<p>【Target Organizations】 Authorities which are promoting rural electrification, like a Rural Electrification Agency.</p> <p>【Target Group】 (1) Managerial posts in charge of romoting rural electrification, (2)University/college graduates or equivalent and currently engaged in the field for more than 15 years,</p>	
CONTENTS	PROGRAM PERIOD	Sep / 26 / 2010 ~ Oct / 23 / 2010
<p>【Preparatory phase in home country】 Prepare a Country Report describing the present situation of each country/organization and their problems.</p> <p>【Core Phase in Japan】</p> <ul style="list-style-type: none"> • introduction of relevant technologies and key issues (policy, fund, human resources, industries/business etc.) for rural electrification promotion, site visit • introduction of a relation between government and business • introduction of practices in other countries • introduction of challenges of international organizations and donors • drafting a strategy/plan for rural electrification promotion using renewable energies • exchange opinions to improve drafted strategy/plan <p>【Finalization Phase in home country】</p> <ul style="list-style-type: none"> •the results will be fed back to the organization where participants are belonging to •the results of the feedback will be reported to Japanese side 	IMPLEMENTING PARTNER	New Energy Foundation
	JICA CENTER	JICA Tokyo(Industrial Dev.&Finance)
	COOPERATION PERIOD	2010~2012
	REMARKS and WEBSITE	

Efficient and Environment-Friendly Mining and Recycling for Metal Resources 環境に配慮した効率的資源開発・利用に関する研修		PITD Trainers 1080882 Sector : Natural Resources and Energy Sub-Sector : Mining
12 participants /	English	
OBJECTIVE	TARGET ORGANIZATION / GROUP	
<p>【Objective】 Officers of metal resources sector in th government of developing countries understand and obtain technologies and tools to promote efficient and environment-friendly mining and recycling. The knowledge and skills obtained in Japan will be shared with their colleagues in their countries.</p> <p>【Expected Results】</p> <p>(1)Understanding and recognizing the importance of natural resources (2)Aquiring the knowledge and technologies of efficient mining development (3)Aquiring the technologies and laws for environment protection and recycling (4)Enhancing the knowledge and skills to promote adequate mining and recycling (5)Formulating action plan how to share knowledge and skills obtained in the training</p>	<p>【Target organization】 Officials working for government or governmental organization, engaging on mining policies including mining development, prevention mining pollution and recycling comprehensively</p> <p>【Target Group】 (1) Officers who belong to target organizations (2) University graduates or equivalent (3) Individuals with a good command of PC (4)Individuals with a good command of English (5) Individuals engaging in mining policy with at least 3 years (6) Individuals in good health, both physically and mentally, to undergo the course of rigorous training (7)Must not be serving any form of military service</p>	
CONTENTS	PROGRAM PERIOD	Sep / 26 / 2010 ~ Dec / 5 / 2010
<p><Preliminary Phase in a participant's home country></p> <ul style="list-style-type: none"> •Country Report on mining sector <p><Core Phase in Japan></p> <p>(1) •Lecture on history which is that natural resources development like minerals</p> <ul style="list-style-type: none"> •Presentation and discussion on participants' country report <p>(2)• Lecture on how to extract minerals from ore efficiently</p> <p>(3)• Lectures on history and experiences on the mining pollution from mining activities and how Japan overcome it.</p> <ul style="list-style-type: none"> •Method for recovery of metals including rare metals from waste like e-waste that is called Urban Mines nowadays. <p>(4) •Lecture and exercercise on how to evaluate the mining project.</p> <ul style="list-style-type: none"> •Presentation on their action plans on how to share knowledge and skills obtained in the training with their own section in their organization. <p><Finalization Phase in a participant's home country></p> <ul style="list-style-type: none"> •Implementaion on action plan 	IMPLEMENTING PARTNER	MINETEC
	JICA CENTER	JICA Tohoku
	COOPERATION PERIOD	2009~2011
	REMARKS and WEBSITE	<ul style="list-style-type: none"> •Participants are highly expected to participate in discussions, formulation action plan actively. •Action plans formulated are to be open to public. Intra-net set by MINETEC will be used to monitor the progress of action plans, and to provide advices with participants.

Basic Techniques of Remote Sensing in Mineral Exploration アフリカ地域別研修「リモートセンシング技術を活用した資源探査の基礎」		PRTD Trainers 1084289 Sector : Natural Resources and Energy Sub-Sector : Mining
		11 participants / English
OBJECTIVE	TARGET ORGANIZATION / GROUP	
【Objective】 Draft of the materials to disseminate the skills to estimating potential of natural resources with remote sensing technique is formulated. 【Expected Results】 (1) Satellite image data are appropriately processed with full understanding of variety and features of image data. (2) Airborne geophysics data are appropriately processed with full understanding of variety and features of data. (3) Structure of Geographical Information System (GIS) and how to develop GIS database are understood, and appropriately developed. (4) Geologic tectonics and mineral resources potential are estimated by remote sensing data analysis. (5) Estimated potentials are investigated by ground truth.	【Target organizations】 Ministry of Mines / Natural Resources, Geological Survey, and Universities 【Target group】 (1) Geologist, Senior Geologist who belong to target organizations (2) Have Bachelor of Science or Engineering in Geology and/or Mining field. (3) Individuals with a good command of PC (4) Individuals with a good command of English (5) Have working experience in Geological field (6) Individuals in good health, both physically and mentally, to undergo the course of training (7) Must not be serving any form of military service	
CONTENTS	PROGRAM PERIOD	Feb / 7 / 2011 ~ Mar / 12 / 2011
<Preliminary Phase in a participant's home country> • Country Report on mineral resources exploration. <Core Phase in Japan> (1) • Variety and features of satellite image data. (2) • Variety and features of airborne geophysics data. (3) • Structure of Geographical Information System (GIS) • How to develop GIS database are understood, and appropriately developed for mineral resources exploration. (4) • How to estimate geologic tectonics and mineral resources potential by remote sensing data analysis. (5) • To formulate action plan to disseminate the skills to estimating potential of natural resources with remote sensing technique <Finalization Phase in a participant's home country> • Implementaion on action plan	IMPLEMENTING PARTNER	MINETEC
	JICA CENTER	JICA Tohoku
	COOPERATION PERIOD	2009~2011
	REMARKS and WEBSITE	• Participants are highly expected to participate in discussions, formulation action plan actively. • Action plans formulated are to be open to public. Intra-net set by MINETEC will be used to monitor the progress of action plans, and to provide advices with participants.