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## **AFGHANISTAN EXECUTIVES EXAMINE STRATEGIES FOR CLEAN ENERGY INTEGRATION**

### **EXECUTIVE EXCHANGE FOR DA AFGHANISTAN BRESHNA SHERKAT (DABS) & THE MINISTRY OF ENERGY & WATER (MEW) TO INDONESIA**

**APRIL 2015 – JAKARTA, INDONESIA –** Supported by the U.S. Agency for International Development (USAID), senior officials from Afghanistan’s national electric utility, Da Afghanistan Breshna Sherkat (DABS), and the Ministry of Energy & Water (MEW) recently participated in an executive exchange with their counterparts in Jakarta, Indonesia to review best practices in the renewable energy integration process. During the exchange, conducted by the U.S. Energy Association (USEA) as part of the U.S. – Afghanistan Utility Partnership, the delegation gained exposure to renewable energy integration process. The 10-member Afghan delegation met with key institutions involved in the Indonesian clean energy sector, including the Directorate General, New Renewable Energy and Energy Conservation (DGNREEC); the Indonesian Renewable Energy Society (METI); ASEAN Centre for Energy; and PT PLN (Persero).



Over the course of the weeklong executive exchange, the 10 member delegation from Da Afghanistan Breshna Sherkat (DABS) and the Ministry of Energy and Water (MEW) had the opportunity to visit the key institutions involved in deploying renewable energy in Indonesia. (Left) The delegation met with staff from the Directorate General, New Renewable Energy and Energy Conservation (DGNREEC) to discuss the lessons learned in Indonesia when promoting renewable energy planning and policies.

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## BACKGROUND: THE U.S. – AFGHANISTAN UTILITY PARTNERSHIP PROGRAM

The U.S. – Afghanistan Utility Partnership is part of USEA’s Energy Utility Partnership Program (EUPP), which is aimed at increasing sustainable modern energy services and clean energy production in developing countries through volunteer-driven partnerships. The aim of these partnerships is to mobilize overseas utilities to better address energy service priorities, while improving productivity and quality of service. Extended in late 2014, the U.S. – Afghanistan Utility Partnership Program supports the objectives of USAID/Afghanistan, Da Afghanistan Breshna Sherkat (DABS) and the Afghanistan Ministry of Energy and Water (MEW) through the establishment of international partnerships with other national utility companies and ministries. Through these partnerships, DABS and MEW will be exposed to best practices in the integration of renewable energy into the power sector.



Delegate Mr. Mohammad Yousef Anwari, representing DABS, receives a plaque from PT PLN (Persero) thanking the delegation for their

### RENEWABLE ENERGY DEPLOYMENT: THE AFGHANISTAN PERSPECTIVE

Currently, Afghanistan does not possess any grid-scale renewable energy assets. While gifted with solar and wind resource potential, the country relies primarily on power imports, followed by hydro and thermal plants, and finally diesel generation. Da Afghanistan Breshna Sherkat (DABS) is the state-owned provider of electrical power in Afghanistan. Of the estimated 5 million MWh of electricity consumed in Afghanistan in 2013, 78% was imported from neighboring countries and 19% was generated in Afghanistan with hydroelectric sources. Given this supply scenario, Afghanistan is currently embarking on ways to attract clean energy developers and interested renewable Independent Power Producers (IPPs). At the time of the executive exchange to Indonesia, the Afghanistan Ministry of Energy and Water (MEW) and DABS were exploring options to utilize Afghanistan’s hydropower potential, as well as what governmental incentives could be deployed to attract investment in renewable energy deployment.

### PRIMARY EXCHANGE OBJECTIVES

As Afghanistan prepares for the future deployment of grid-scale renewable energy technology, with particular focus on the initial 5-10 MW solar plant, the primary objectives of this executive exchange were for DABS and MEW officials to:

- Utility best practices for integrating grid-connected clean energy;
- Government policies, initiatives and programs for clean energy deployment;
- The solar reverse auction; Power Purchase Agreements (PPAs) and Tenders;
- Clean energy project development and financing mechanisms;
- Technical, market and policy barriers to clean energy deployment; and
- Best practices in distributed generation.

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## CLEAN ENERGY DEPLOYMENT

The Afghanistan delegation began the executive exchange by meeting with the Directorate General of New Renewable Energy and Energy Conservation (DGNREEC), a separate agency within the Ministry of Energy and Mineral Resources that focuses on energy conservation and energy diversification throughout Indonesia. DGNREEC aims to spur the continued development and integration of renewable energies through various government incentive structures, including feed-in tariffs for solar and hydro power. The delegation was keen to learn how DGNREEC structured and implemented its feed-in tariff programs and DGNREEC shared their lessons learned in structuring and implementing the programs.



Delegate Mr. Amanullah Ghalib gives a presentation on the renewable energy sector in Afghanistan.

Following the meeting the DGNREEC, the delegation met with a USAID Indonesia Clean Energy Development (ICED Project) project partner to get an overview of renewable and energy efficiency projects in Indonesia and learn about the barriers to financing and deployment of these projects. The IECD Project aimed to develop Indonesia's clean energy sector through three approaches: policy and coordination, capacity building and outreach, and project development by working with a variety of stakeholders. Lessons learned and best practices were shared with the delegation, including better long term planning with clearer understanding of how policies and programs can help meet government targets, and how subsidized energy prices distorted the market for renewable energy and energy efficiency. Additionally, the delegation learned the importance of

integrated energy planning at the national and provincial level and the need for feasibility studies when selecting sites.

Following meetings with DGNREEC and the IECD Project, the delegates from DABS and MEW had the opportunity to meet with the ASEAN Centre for Energy to discuss initiatives and programs at the regional level and learn about ASEAN's regional renewable energy activities. With the upcoming implementation of the CASA 1000 hydroelectric project in Kyrgyzstan and Tajikistan, the Afghanistan delegation was particularly interested in regional integration of renewable energy projects, as Afghanistan is set to receive 300 MW of CASA 1000 exports.

ASEAN Executive Director, Dr. Sanjayan Velautham discussed the several of ASEAN's regional projects and also discussed some of the common challenges in implementing a regional program, including the involvement of many authorities and different levels of government with varying regulatory environments and markets. ASEAN recognizes the rapidly increasing need for electricity in the region, and how the current reliance on fossil fuel imports to meet this demand are both leading the region to turn to renewable energy development. Working with a variety of domestic and international stakeholders has helped ASEAN to successfully implement a number of renewable energy projects, including the development of large and small PV projects in the Philippines.



ASEAN Executive Director, Dr. Sanjayan Velautham answers a question on regional integration of renewable energy systems.

Meeting with the Indonesia Renewable Energy Society (METI) allowed the delegation to further explore the role of renewable energy in Indonesia and the various fiscal incentives the government employs. Indonesia was one of the earliest adopters of renewable energy and METI promotes renewable energy to meet national energy needs and

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contribute to efforts in greenhouse gas emission reduction. However, the country faces numerous obstacles in the development of a large scale renewable energy sector. Some of the challenges in meeting their renewable energy goals stem directly from the policy, regulatory, and infrastructure in place. The feed-in tariff system was set-up without inflation and exchange rate adjustment, which has affected development because investments have been partially in foreign currency with revenue in local currency. Financing has also been a significant challenge as many banks do not provide project financing, and some investors prefer to invest in lower cost technology. As an independent organization, METI has the ability to objectively look at policy, regulatory, and financial structures in Indonesia and advise the Ministry of Energy and Mineral Resources in how to meet renewable energy targets. METI advises that improvements in renewable energy project economics need be made to include feed-in tariff adjustments on inflation and exchange rates, as well as access to finance, including loan guarantees, and government support to access international climate funds.

## **SITE VISIT: HYDROELECTRIC PLANT**



(Left) The delegation learns about the Java-Bali interconnection system. (Right) DABS Director of the Takhar Region, Mr. Mohammad Momand inspects the control room at the Cirata Hydroelectric Power Project.

Delegates had the opportunity to visit a hydroelectric plant owned by PT PLN (Persero) located at the Cirata Dam in West Java. The Cirata Hydroelectric Power Project is the largest hydroelectric power station in Indonesia and serves mostly as a peaking power plant for customers in the Jakarta metro area. Constructed between 1984-1988, the plant has an installed capacity of 1,008 MW and generates 1,426 GWh annually.

## **UTILITY EXCHANGE PROGRAM PARTICIPANTS**

### **DABS**

1. Mr. Mohammad Niazy, Director, Paktia Region
2. Mr. Abdul Nasir, Deputy Director, Finance, Kandahar Region
3. Mr. Mohammad Yousef Anwari, Contracting Manager, Kabul Region
4. Mr. Emal Majidi, Deputy Director, Operations, Parwan Region
5. Mr. Mohammad Momand, Director Takhar Region

### **MEW**

6. Mr. Aman Ghalib, Renewable Energy Acting Director
7. Mr. Waliullah Khel, Director of Procurement
8. Mr. Rameen Kakar, Head of Finance Department
9. Mr. Maqbul Ahmad, Chief of Staff
10. Mr. Mohammad Raza, Assistant to the Supervision & Implementation of Electricity Department

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**USAID/Afghanistan**

Mr. Ahmad Jawid Tahiri, Office of Economic Growth & Infrastructure

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On the last day of the executive exchange, the delegation visited the Cirata Hydroelectric Project.