

## Sustainable Framework for Hydropower Development

### Overall Project Data

Client:	Ministry of Electricity & Energy (MOEE) and involving Ministry of Natural Resources and Environmental Conservation, the Ministry of Transport and the Ministry of Agriculture, Lands and Irrigation.
NVE Mandate:	Provide Technical Assistance to MOEE through a program of institutional cooperation in the areas of clean energy development and the functioning of the energy system in order to promote a sustainable framework for hydropower development in Myanmar.
Contract Value/ Duration:	124 million NOK / 2014-2019
Ingress:	Advisory services, incl. coordination and management of consultants; feasibility and prefeasibility studies; in-house consulting engineering services; institutional development and capacity building.

### **Background:**

The electricity sector in Myanmar had until a few years ago not taken part in international developments to improve hydropower standards and practices due to sanctions, and has a strong wish to catch up with the international community in these areas. The Technical assistance programme between MOEE and NVE is a result of the energy dialogue between the Norwegian Ministry of Foreign Affairs and the Union Government of Myanmar. The Union Government of Myanmar requested Norwegian assistance in 2013 to help develop their electricity sector and NVE carried out a fact-finding mission to Myanmar in June 2013 together with Norad. A Memorandum of Understanding between MOEE and NVE was signed in March 2014, followed by the approval of the Program Document and signing of the Agreement between the Royal Norwegian Embassy/Ministry of Foreign Affairs and NVE in December 2014.

### **Activities:**

Advisory services, incl. coordination and management of consultants; feasibility and prefeasibility studies; in-house consulting engineering services; institutional development and capacity building, incl. staff training and education programmes for institutions.

### **Project Components:**

#### CA 1: Hydropower Development.

Goal: "MOEP has increased its know-how and capacity in developing hydropower projects according to international standards."

- Design and Engineering Services for specific MOEE projects
- Construction Management for specific MOEE projects
- Establishment and capacity building of the Environmental and Social Management Working Group in MOEE.
- Other hydropower studies (prefeasibility study of Bawgata hydropower project)

#### CA2: Technical Transfer

Goal: "MOEE and collaborating agencies' staff develop their skills in technical aspects related to management of electricity and water resources sectors."

- Short-term Technical Transfer (courses, workshops, seminars, upgrading of training facilities)
- Long-term Technical Transfer (scholarships for MSc-studies etc.)
- International Centre for Hydropower Courses and Seminars

CA3: Implementation Support - Electricity Law and Regulation

Goal: “MOEE are enabled to implement the electricity law and regulations.”

- The new Electricity Law was passed in late 2014.
- NVE’s legal experts has assisted MOEE on the implementation of the Electricity Law through discussions and dialogue and through technical transfer on specific issues as they arise.
- Support to Grid Code and Distribution Code development and Frequency Control etc.

CA4: Hydropower Standards

Goal: “MOEE and collaborating agencies' have adopted modern standards established for best-practice planning, implementation and operation of hydropower projects.”

- Technical Standards for Hydropower Standards

CA5: Strengthening of hydrological database for hydropower development

Goal: “MOEE and the Department of Meteorology & Hydrology (Ministry of Transport) have more complete and reliable river flow and discharge data.”

- Upgrading and modernization of selected stations of the river gauging network.
- Modernization and integration of hydrological and meteorological databases
- Improvements to Hydrological Analysis Methods and Skills across involved Ministries



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