

## DEVELOPMENT COORDINATION

### A. Major Development Partners: Strategic Focus and Key Activities

1. Several international development partners have been providing assistance to Bhutan for power development. The major sources of bilateral funding have been Austria, India, Japan, the Netherlands, and Norway. The Asian Development Bank (ADB) has been a leading multilateral financing institution providing support for the energy sector through assistance for reforms, policy formation, institutional capacity development, rural electrification, and the development of hydropower and renewable energy.

2. India, Bhutan's largest bilateral development partner, has supported most of the country's existing large hydropower plants. Based on an umbrella agreement signed between Bhutan and India in 2006, hydropower projects with 10,000 megawatts (MW) of total capacity are to be built by 2020. Three of the large projects (Punatsangchhu I and II, and Mangdechhu) are already under construction. Austria has supported two hydropower projects, including the Dagachhu hydropower project (126 MW), which was cofinanced by ADB as a public-private partnership (PPP) and a clean power export development registered under the Clean Development Mechanism (CDM).<sup>1</sup>

#### Large Hydropower Projects Supported by Major Development Partners

Development Partner	Project Name	Duration	Amount (million)
Asian Development Bank	Green Power Development Project (Dagachhu component, 126 MW)	2009–2014	\$119 <sup>a</sup>
Government of Austria <sup>b</sup>	Dagachhu Hydroelectric Project, 126 MW	2009–2013	€41
	Basochhu Hydroelectric Project, 64 MW		
	24 MW upper stage	1997–2002	€60
	40 MW lower stage	2001–2005	
Government of India	Chhukha Hydroelectric Project, 336 MW	1974–1988	Rs2,465
	Kurichhu Hydroelectric Project, 60 MW	1995–2002	Rs5,600
	Tala Hydroelectric Project, 1,020 MW	1997–2007	Rs41,258
	Punatsangchhu I Hydroelectric Project, 1,200 MW	2008–2017	Rs94,000
	Punatsangchhu II Hydroelectric Project, 1,020 MW	2009–2018	Rs54,000
	Mangeduechhu Hydroelectric Project, 720 MW	2010–2017	Rs38,007

MW = megawatt.

<sup>a</sup> Excludes the grant component of \$26.28 million for rural electrification development.

<sup>b</sup> Financed through the Austrian export credit agency, OeKB.

Source: Druk Green Power Corporation.

<sup>1</sup> ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loans, Asian Development Fund Grant, Technical Assistance Grant, and Administration of Grant to the Kingdom of Bhutan for the Green Power Development Project*. Manila; and ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan for Additional Financing for the Green Power Development Project*. Manila. ADB provided \$80 million in 2008 and \$39 million in 2013. The Dagachhu hydropower development is a joint enterprise of the state-owned Druk Green Power Corporation and India's private developer, Tata Power Company. The Dagachhu project was the first cross-border undertaking registered under the Clean Development Mechanism of the United Nations Framework Convention on Climate Change.

## **B. Institutional Arrangements and Processes for Development Coordination**

3. As a post Dagachhu hydropower development (126 MW), the Nikachhu hydropower development (118 MW) is designed under the Second Green Power Development Project. It is a run-of-river project for power export to be promoted through PPP and CDM. The state-owned Druk Green Power Corporation (DGPC) incorporated Tangsibji Hydro Energy (THyE) as the project special purpose company. DGPC plans to dilute THyE's minority share to a private joint venture partner early during project implementation through a bid selection process. THyE will thus be a joint venture between Bhutan's public utility and a foreign private partner through a share purchase and shareholders agreement.

4. To support debt financing of THyE, the project is proposed to be cofinanced by Indian commercial banks to be led by the State Bank of India (SBI), the largest Indian commercial banks as well as the world premier bank in project finance loans. The cofinancing will be denominated in Indian rupees, as the first foreign commercial borrowing without government credit support for the power sector. This arrangement will help mitigate the currency risk exposure.<sup>2</sup> It will also open a gateway to mix public sector finance with commercial project finance, which can be applied to any subsequent hydropower project with high capital investment.<sup>3</sup>

5. The next phase of hydropower development in Bhutan is expected to involve more collaborative efforts by development and financial partners. A major obstacle is the lack of domestic capital for large investments in hydropower projects. To avoid weakening the government's debt sustainability position, greater cooperation by development partners and more participation by the private sector and commercial banks must be explored. The Dagachhu and subsequent Nikachhu PPP development is expected to open the avenue for this approach. ADB intends to support further hydropower development through PPP. Because the government also plans to involve independent power producers (IPP) in hydropower development, it will need to set up appropriate frameworks to select and license these undertakings. Domestic and cross-border transmission networks will also have to be expanded to deliver newly developed hydropower output to where it is needed.

## **C. Achievements and Issues**

6. ADB and SBI (representing the Indian commercial banks) will enter into a separate collaborative cofinancing arrangement in the form of a memorandum of understanding (MOU) to ensure that ADB policies and guidelines on safeguards, procurement, and anticorruption and their related requirements are applied. The MOU will also ensure that security arrangements between ADB and the commercial banks to THyE will equally and ratably secure the payments of the loan principal, interest, and other charges of the loan agreements.<sup>4</sup> ADB disbursement will be conditional upon MOU signing and cross-effectiveness between the loans of ADB and Indian commercial banks.

7. In 2013, ADB signed an MOU with the governments of Bhutan and Norway to collaborate in expanding the development of renewable energy in Bhutan, including hydropower

---

<sup>2</sup> The Bhutanese currency, the ngultrum, is pegged with the Indian rupee in the exchange rates.

<sup>3</sup> This will be the first foreign commercial term loan without credit support from the government; it will help DGPC gain experience with more commercial forms of funding. The Dagachhu project was financed in parallel by the Austrian export credit agency with the sovereign guarantee and a local financial institution.

<sup>4</sup> The guarantee agreements between ADB and the government of Bhutan in relation to ADB loans will be for the exclusive benefits of ADB.

under the Framework for Energy+ Cooperation with Bhutan.<sup>5</sup> As the first phase approach under this partnership, technical assistance (TA) was provided in 2014 for Promoting Clean Energy Development in Bhutan, financed by the Government of Norway and administered by ADB.<sup>6</sup> The TA is conducting prefeasibility studies for selective hydropower project candidates for PPP and/or IPP.

#### **D. Summary and Recommendations**

8. ADB will continue to play a leading role among the development partners active in Bhutan's energy sector. Development of its hydropower is strategically important for both the country and the region. Bhutan can become a regional supplier of clean energy to neighboring countries and thereby further regional cooperation and integration. ADB will also continue to support regional dialogue through such frameworks as the South Asia Subregional Economic Cooperation program.

---

<sup>5</sup> The International Energy and Climate Initiative (Energy+) supports transformational change to achieve universal access to sustainable energy and avoid greenhouse gas emissions in developing countries by scaling-up access to renewable energy sources and increased energy efficiency. The Framework for Energy+ Cooperation with Bhutan formalizes an earlier commitment by the Government of Norway made on 14 October 2012 to provide Nkr100 million to Bhutan under the Energy+ Cooperation Partnership.

<sup>6</sup> ADB. 2014. *Technical Assistance Report to the Kingdom of Bhutan for Promoting Clean Energy Development in Bhutan* (Financed by the Government of Norway). Manila.