Bhutan

Renewable Energy Policy

2011

ABBREVIATIONS

AD	Accelerated Depreciation
BEA	Bhutan Electricity Authority
BOO	Build-Own-Operate
BOOT	Build-Own-Operate-Transfer
BPC	Bhutan Power Corporation
CA	Concession Agreement
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COD	Commercial Operation Date
CSI	Cottage and Small Industries
DDG	Decentralised Distributed Generation
DGPC	Druk Green Power Corporation
DoE	Department of Energy
DPR	Detailed Project Report
EDP	Economic Development Policy
EIA	Environmental Impact Assessment
EMP	Environment Management Plan
EoI	Expression of Interest
FDI	Foreign Direct Investment
GBI	Generation Based Incentive
GHG	Green House Gas
ICS	Improved Cook Stoves
kW	Kilo Watt
LoI	Letter of Intent
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MoU	Memorandum of Understanding
MW	Mega Watt
PDA	Project Development Agreement
PPA	Power Purchase Agreement
RE	Renewable Energy
REDF	Renewable Energy Development Fund
REO	Renewable Energy Obligation
RfP	Request for Proposal
RGoB	Royal Government of Bhutan
RoC	Registrar of Companies
RPS	Renewable Portfolio Standard
SHP	Small Hydropower Projects
SPV	Special Purpose Vehicle
WTE	Waste to Energy

TABLE OF CONTENTS

1. INTRODUCTION

1.1 The unique concept of Gross National Happiness (GNH) is being pursued by the Royal Government of Bhutan as its development philosophy, reflecting its sensitivity towards preservation of its rich cultural heritage and pristine environment while ensuring economic growth and overall well-being of its people. The GNH is conceptually based on promotion of sustainable development, preservation of cultural values, conservation of the natural environment, and establishment of good governance as its main pillars.

1.2 The Sustainable Hydro Power Development Policy 2008 and the Economic Development Policy (EDP) 2010 recognise the need to have Renewable Energy (RE) Policy for promotion of RE sources in order to ensure national energy security. Promotion of RE in Bhutan presents a unique challenge as Bhutan enjoys availability of adequate low cost hydropower resource that is green and clean. RE generation cost is extremely high and would not be competitive with hydropower generation costs. To aggravate the situation, the domestic tariffs are subsidized which would make sale of RE non-viable. Export tariffs are determined independently according to entirely different principles and hence reforms in pricing structures and incentives would be needed to promote renewable energy projects. Moreover, domestic market for renewable energy development is limited. However, with increasing threats of climate change, energy security and related socio-environmental issues, prospects of energy supply constraints and increasing demand of quality power in the country, there is a need to take appropriate policy measures which would lead to the development of indigenous, local and dispersed clean energy sources in the future.

1.3 The promotion of RE sources in Bhutan therefore needs to be seen as a broad and long-term strategy. Nurturing and development of the RE would result in the diversification of the present and future energy-mix, enhance national energy security and more importantly, ensure sustainable development.

1.4 The Renewable Energy Policy intends to provide the necessary direction for the promotion and development of Renewable Energy that not only contribute in meeting the current requirements but also shape future energy security options for the nation. This RE Policy is aimed to contribute for the sustainable development and conservation of environment in the Kingdom.

1.5 The policy shall strive to ensure adequate provision and extensive use of modern energy services in rural areas, which have been largely dependent on firewood and kerosene for cooking, heating and lighting.

1.6 In the urban areas, the policy shall strive to optimise and conserve the usage of grid-based power through promotion of dispersed energy generation options such as solar heaters, solar rooftop and other stand-alone systems. In remote locations/rural areas, community-based initiatives in the form of Decentralised Distributed Generation (DDG) or any other initiative leading to promotion of RE sources, shall be dealt on a priority basis. RE applications such as solar PV, thermal or heating application in government buildings, institutions, hotels etc. shall also be promoted under this policy.

1.7 The policy shall include the following RE technologies – solar (both PV and concentrated solar power (CSP)), wind, bio-energy, geo-thermal, micro/mini/small hydro and waste to energy (WTE). The policy shall cover, inter alia, the following areas of RE interventions:

(i) Stand-alone systems based on clean and renewable energy sources,

(ii) Decentralized Distributed Generation (DDG) projects based on clean and renewable energy sources,

(iii) Grid-connected RE projects,

(iv) Fossil fuel substitution through green energy sources like bio-fuels, electric and hybrid vehicles etc.

2. OBJECTIVE OF THE POLICY

2.1 In view of the rising demand and increasing reliance on a particular energy source, it is critical to broaden the energy mix by means of harnessing other forms of clean renewable energy sources. Further, there is a significant need to supplement the electricity generation in the low river inflow months by other forms of renewable energy sources. Considering the import levels of the fossil fuels, there is a crucial need to minimize the use of fossil fuels by providing alternatives indigenously.

2.2 Recognizing the above premise, the long-term and short-term objectives of the Policy, has been stipulated as follows:

a) Long-term objectives:

(i) enhance energy security and broaden the energy portfolio;

(ii) conserve the environment and reduce GHG emissions;

(iii) enhance socio-economic development.

b) Short-term objectives:

(i) Support and promote R&D in RE technologies with long term objective of a viable energy resource,

(ii) harness the potential of RE resources and adoption of RE technologies in the country;

(iii) develop RE roadmap for each of the RE technologies by mapping capacity, generation potential and cost of generation by location across the Kingdom.

(iv) design appropriate tariff for various RE technologies to offer secure and stable market to investors and project developers with guaranteed incentives provided by the Government;

(v) enable, encourage and facilitate both public and private sector participation for the development RE;

(vi) enable to set realistic target for RE for the energy-mix in line with the principles of GNH;

(vii) institutionalize development of national and local capacities and capabilities for enhanced and optimum utilization of RE systems;

(viii) promote efficient and cost-effective RE systems by providing time-bound incentives; and

(ix) establish the necessary administrative, basic physical infrastructure and institutional mechanisms to implement the provisions of this Policy.

(x) Strengthen regulatory functions in RE sector

3. TARGET

3.1 The country shall strive to generate 20 MW by 2020 through a mix of RE technologies as follows:

a) Solar- 5 MW

b) Wind- 5 MW

c) Biomass- 5 MW

d) Others- 5 MW

3.2 The target under category 'Others' includes RE-based Decentralised Distributed Generation (DDG) projects, stand-alone systems, and modern energy technologies covering improved cook stoves, solar water heaters, biogas, hybrid system, etc. The kilowatt (kW)/megawatt (MW) equivalent of fuel replacement and/or reduction shall be calculated for the RE technologies that do not generate electricity, to assess the achievement of the target for the stand-alone applications and modern energy technologies.

4. TITLE, OPERATIVE PERIOD AND ENFORCEMENT

4.1 This Policy will be known as "Renewable Energy Policy, 2011".

4.2 The Policy will come into effect from (TBD) and will remain in force until superseded or modified by another policy.

4.3 All the projects awarded shall be governed by this policy.

5. INSTITUTIONAL ARRANGEMENT

5.1 The institutional arrangement prescribed comprises the roles and responsibilities of organizations to promote RE.

Department of New and Renewable Energy (DNRE)

5.2 The Department of New and Renewable Energy (DNRE) under the Ministry of Economic Affairs (MoEA) shall be the "Nodal Agency" for implementation of this RE Policy. The Nodal Agency shall be the focal point for sustainable energy development and promotion of RE sources.

5.3 The Nodal Agency shall undertake the following functions:

(i) Serve as the central coordination and implementation body for the development of RE Roadmap by means of mapping resource potential and cost of generation for different RE technologies and locations across the Kingdom in collaboration with relevant agencies;

(ii) Coordinate for sustainable energy planning, action plans and link together the activities of several agencies or organizations;

(iii) Develop a RE Master Plan for different RE technologies and prepare pre-feasibility reports for development;

(iv) Assess potential for stand-alone systems under appropriate technologies;

(v) Facilitate project developers in securing required clearances from various government agencies;

(vi) Facilitate PPA with the concerning distribution utilities including appointment of trader(s) as consolidator for purchases and sales of RE energies;

(vii) Issue policy directives for adoption of Renewable Portfolio Obligations;

(viii) Promote awareness of RE and other clean energy technologies and integrate their development within overall national energy policy and development;

(ix) Create market opportunities and appropriate start-up business models like energy services providers/companies to provide renewable energy services in a sustainable manner;

(x) Facilitate allotment of land, access to water and in seeking approval of power evacuation plan, etc.

(xi) Assist in obtaining various clearances related to energy plantation for use as supplementary fuel in case of biomass power plant

(xii) Renewable Purchase Obligation (RPO) target in consultation with Government utilities;

(xiii) Undertake R&D on different RETs

Bhutan Electricity Authority (BEA)

5.4 BEA shall create a regulatory framework for the RE Sector as per the provisions of the Electricity Act to encourage energy generation from RE sources.

5.5 Besides these functions, the BEA shall design and develop the following:

(i) Feed-in-tariff as per the principles contained in this policy;

(ii) Norms related to grid connectivity/interfacing and load dispatch etc and use of captive purpose/sale shall be covered under the "Captive Power Policy";

(iii) Guideline for third party contracts;

Bhutan Power Corporation Limited (BPCL)

5.6 BPC may promote, develop, and manage new RE projects and shall be responsible for providing the non-discriminatory access to its transmission infrastructure to RE projects which are technically approved by the Nodal Agency

5.7 BPCL shall also design and develop grid-connected and off-grid RE projects, either on its own or through joint ventures as per the directives of the Royal Government;

Druk Green Power Corporation Limited (DGPC)

5.8 DGPC may promote, develop, and manage new RE projects

5.9 DGPC shall develop RE projects on its own or through joint ventures or under any other mechanism as per the directives of the Royal Government.

Ministry of Agriculture & Forests

5.10 Ministry of Agriculture & Forests (MoAF) shall assess and provide the biomass/bio-fuels/biogas resources for energy generation in the country.

5.11 The MOAF shall collaborate with DNRE in R&D for development of sustainable bio-energy technologies

6. IMPLEMENTATION MECHANISM

The implementation mechanism will essentially include the mapping of RE resources, identification of potential project sites and preparation of techno-economic feasibility studies. Implementation mechanism for all Grid connected RE projects, shall be as follows:

6.1 Project Identification

6.1.1 RE Master Plan

6.1.1.1 The New and Renewable Energy Department (The Nodal Agency) will develop the Master Plan, which will include the potential project sites along with resource analysis and project capacities for different RETs.

6.1.1.2 The Nodal Agency will develop the RE master plan by (TBD)

6.1.2 RE Projects identified by Government Agencies

6.1.2.1 The Government agency shall use the Master Plan or identify potential and techno-economically viable sites for development. These agencies shall then develop these projects either by using their own resources or Public Private Partnership (PPP) through a Concessions Agreement (CA) with the Nodal Agency. These agencies, once completed the development of the pre-feasibility reports, shall submit these to the Nodal Agency for approval.

6.1.3 Self-identified RE Projects

6.1.3.1 Projects identified by any private agency or individuals shall submit to the Nodal Agency for review and further directives.

6.1.3.2 The private sector project developer undertaking pre-feasibility study /DPR and permit to survey shall comply with the provisions of Electricity Act.

6.1.3.3 To optimize the power generation potential of any project site in entirety, the self identified sites in small/mini/micro hydro will not be permitted.

6.2 RE Project Preparatory Studies

6.2.1 The RE Roadmap shall identify a number of potential RE projects and the Nodal Agency shall undertake preparatory studies for these projects up to at least the pre-feasibility stage to ensure its viability.

6.2.2 Pre-feasibility study shall cover the technical, financial, economic feasibility and environmental aspects of RE projects.

6.2.3 The Nodal Agency shall undertake pre-feasibility reports and will make available to the potential bidders. The report shall be in accordance with internationally accepted practices. The bidder will have the right, at its own cost, to examine, evaluate and to carry out additional studies to make its own assessment about the pre-feasibility and viability of the project, as part of its due diligence process.

6.2.4 In case of self identified sites, pre-feasibility studies undertaken by various actors/stakeholders shall conform to internationally accepted practices and approved by the Nodal Agency

7. ALLOTMENT PROCEDURE

7.1 Grid-Connected RE Projects identified by Nodal Agency

7.1.1 The Nodal Agency may develop on its own or directly award projects to government electricity utility (ies) or any other government agencies with the means to develop these projects.

7.1.2 In case the Nodal Agency decides not to allot the proposed RE project to either the government electricity utility (ies) or other government agency, the allotment shall be based on the competitive bidding.

7.1.3 The Nodal Agency shall release a Request for Proposal (RfP) made available in public domain for inviting prospective developers to submit their proposals. These documents shall comprise the requisite details about the proposed project to facilitate informed decisions by the project developers. The RfP shall at least include the following: i) details of the project, ii) scope of work, iii) bid document with instructions to bidders, iv) minimum technical specification, schedule and performance requirement, v) evaluation procedure, vi) requisite templates and forms**.**

7.1.4 This RfP will have pre-qualification criteria to evaluate the technical and financial capacities of the prospective developers in line with the requirements of the project. Weightages and scores of technical and financial criteria shall be specified in the selection guideline. The Nodal Agency shall establish minimum qualifying score for developers at the pre-qualification stage. The applicants shall be short-listed based on the evaluation, subject to scoring the minimum qualifying marks at the pre-qualification stage. At the end of this stage, the Nodal Agency shall have identified a set of project developers, who would then be called to participate in price bidding process.

7.1.5 All technically qualified developers will submit the price bid which will contain the proposed royalty energy. The developer quoting the highest royalty shall be allocated the project in case of small hydro projects.

7.1.6 The Mini/Micro hydropower plants constructed through the Government shall remain as the property of the Government and management of the plant shall be transferred to communities.

7.1.7 The concerned community managing the plant shall be empowered to fix their own tariff and meet the operational costs on their own.

7.1.8 The Government shall provide back up support if there is a major breakdown and requires substantial funds for restoring the plant.

7.1.9 For the mini/micro/ small hydropower plants to be connected to grid, BEA shall develop feed-in-tariff to enable the injection of power to the grid with guaranteed incentive.

7.1.10 In case of other RE technologies, the price bid will contain the offered price of electricity to the grid. The developer with least cost bid within the range acceptable to the Nodal Agency defined in the bidding document will be invited to negotiate for the allocation of the project.

7.1.11 In case of Biomass Power, developer shall be allowed to use fossil fuel (such as coal/lignite/natural gas) up to 15% during the lean period in a year. The Nodal Agency shall facilitate the process of clearance for procurement of such fuels on a priority basis for the Biomass Power Producers.

7.1.12 If there are two or more identical bids with same scores at this stage, allotment shall be made on the basis of the higher score obtained in valuation of the pre-qualification of the bidders. If the scores are same even at this stage, the two bidders shall be requested to bid again based on additional criteria as specified by the Nodal Agency, till one emerges as the winning bidder.

7.1.13 The selected developer shall reimburse the expenditure incurred, if any by the RGoB, for infrastructure work of the project at the time of signing the Project Development Agreement (PDA). This amount shall be specified in the Request for Proposal (RfP) document of the Project.

7.1.14 The selected developer shall sign a Project Development Agreement (PDA) with the Nodal Agency. The PDA shall outline the commitments and obligations of the parties and will provide a timeline for the selected Developer to prepare a Detailed Project Report (DPR).

7.2 Award of Self-identified Projects

7.2.1 It will be the discretion of the Nodal Agency to consider self-identified projects by the project developers. Proposals submitted by project identifier have to be in line with the future RE development plan of RGoB.

7.2.2 On receipt of a proposal in the form of a pre-feasibility report/detailed project report from a developer for a self-identified site, the Nodal Agency shall ascertain whether the developer meets the requisite pre-qualification benchmark laid down in the Selection Guidelines. The pre-qualification benchmark shall be detailed under the Project Implementation Guidelines, to be issued by the Nodal Agency.

7.2.3 The Nodal Agency shall also assess the identified project on parameters such as social, cultural, and national interest. The projects not found feasible against these parameters shall not be taken forward beyond this stage.

7.2.4 If the project is found feasible and the developer meets all the qualification criteria (financial and technical), the project shall be directly allocated to the project developer that has identified the project site and submitted report to the Nodal Agency.

7.2.5 The BEA shall establish the ceiling level for the feed-in-tariff based on declared annual subsidy by the Government. However, developers can seek a formal clearance from NA and BEA for project tariff which is lower than the preset FIT level for the applicable technology.

7.2.6 Self identified project will only be permitted based the availability of subsidy declared by Nodal agency. Developers, who wish to develop projects without Government support, shall be allowed to develop the projects.

7.3 Project Development

7.3.1 The quality of DPR, Construction and Operation & Maintenance shall conform to International Standards and Specifications, and BEA norms and shall be enforced by the RGoB.

7.3.2 After the DPR is approved by the Nodal Agency, the selected developer shall sign a Concession Agreement (CA) with the Nodal Agency. The CA shall be the key legal instrument granting the concession to the developer, specifying the rights and obligations of the parties. The CA shall also include time schedules for getting necessary legal/administrative/technical approvals, financial closure, construction, commissioning, operation, maintenance and transfer of the project.

8 SOLAR HEATERS

8.1 The key objective of promoting solar heating system is to accelerate widespread use of solar thermal systems for air heating, water heating and steam generating applications, as well as use of solar passive techniques in building design, through a combination of financial and promotional incentives.

8.2 Adoption of solar water heating system shall reduce/conserve the consumption of conventional energy through saving of electricity and fossil fuels in buildings, industrial and commercial establishments.

8.3 The Nodal Agency shall launch a programme to promote adoption of solar heating application. The development and use of solar heaters shall be encouraged at the residential, commercial, industrial and government office levels. New office, public, commercial buildings would be encouraged to install solar heaters.

8.4 The programme shall provide financial support in terms of subsidies or grants for installation of the systems as well as support for organizing publicity and awareness campaign, seminars, workshops, symposia, business meets, training programmes and for technology up gradation, studies, survey etc. The Nodal Agency, in consultation with MoF and BEA, shall develop the financial provisions and guidelines for promotion of RE system.

8.5 Financial incentive shall be obtainable by means of the interest/capital subsidy and soft loans, to the users of solar heaters to the limit defined by the Nodal Agency. This is subject to any revisions carried out in the provisions from time to time depending upon progress, feedback and market conditions.

8.6 Disbursement of this subsidy scheme shall be routed through the Nodal Agency and available either to the equipment provider (in case of capital subsidy) or the bank (in case of interest subsidy). These subsidised solar heaters will not be allowed to be re-sold or transferred by the beneficiaries unless approved by the NA.

8.7 The Nodal Agency shall prepare a detailed list of solar heating system available in the market, their costs, energy saving potential as well as the projected payback period. Based on the above mentioned data, the Nodal Agency shall design a subsidy scheme for the promotion of solar heating solutions. The basic guiding principles for the solar heating solutions would be the type and capacity of application, broad costs, and location of end user.

8.8 Subsidy shall be available only for Bhutanese nationals, Government, private institutions, NGOs, and commercial establishments. In case of installations having foreign equity participation, the subsidy shall be given in proportion of equity held by Bhutanese nationals.

9 SOLAR BUILDING PROGRAMME

9.1 To promote the adoption of solar passive architectural technology in large buildings in Bhutan, the Nodal Agency shall launch a Solar Building Programme in consultation with relevant agency (ies). Initially, the intent of the programme will be to convince people of the technology. Once the credibility of the technology is established, this programme shall make it mandatory to construct all future public buildings using passive design features.

9.2 The programme shall provide technical support for preparation of Detailed Project Reports (DPRs) and construction of solar buildings. Financial support can be extended for organizing workshops and seminars for engineers, planners, builders, architects, consultants, housing finance organizations and potential users. Support will also be extended for compilation and publishing of documents related to solar buildings.

10 DDG PROJECTS INITIATED BY NODAL AGENCY

10.1 DDG projects shall be developed for provision of energy based services to remote and dispersed villages which are un-electrified and not connected to the grid.

10.2 DDG projects based on RE technologies or a hybrid of RE technologies for the provision of decentralised shall be allotted on the basis of techno-financial capability (pre-qualifying criteria) of the developer and the quantum of subsidy for supplying energy.

10.3 The pre-qualification criteria shall be based on technical and financial capabilities of the potential project developers as per the requirements of the project. The Nodal Agency shall establish minimum qualifying criteria for pre-qualification for developers at the pre-qualification stage. This shall be followed by a bid for amount of subsidy required

10.4 The DDG project developer shall then undertake consultations with the beneficiaries and arrive at a tariff for the energy to be supplied. The difference between the cost of generation determined by BEA and per unit revenue from beneficiaries shall be financed through subsidy

10.5 The subsidy shall be available to the developer from the government (from the REDF) for the duration of economic life of the project.

11 STAND-ALONE PROJECTS INITIATED BY COMMUNITIES / NGOS/INDIVIDUALS

11.1 Standalone RE systems scheme/programme based on RE technologies (solar PV, small wind, solar home lighting system, solar lanterns, biogas plants, Biomass, cook-stoves etc. for processing appliances) or a hybrid of RE technologies for the provision of decentralised energy for households/communities shall be undertaken by the Nodal Agency.

11.2 Communities/NGOs/Individuals can initiate and undertake the standalone projects based on the renewable energy technologies or combination of such technologies depending upon the available resources and demand of the particular location.

11.3 Process of allotment shall follow an application along with pre-feasibility study by the project developing organization to Nodal Agency for the permission to build the project.

11.4 Nodal agency shall grant the permission and allocate the site provided project developing organization meets the eligibility criteria and the project is techno-commercially feasible.

11.5 If the organisation does not meet the eligibility criteria, same project shall be allotted through bidding process.

12 PROJECT CLEARANCE

12.1 All RE project clearance shall be facilitated by the Nodal Agency.

13 INVESTMENT MODEL

13.1 Life of the Project

13.1.1 All RE projects except mini/micro/small hydro

13.1.1.1 All RE projects for electricity generation (except for mini, micro and small hydro) shall be developed under BOO (Build, Own, Operate) model. The projects shall be allocated for the following period for the purpose of determining the economic life: wind - 20 years, biomass - 20 years and solar power project (PV and thermal) - 25 years, excluding the construction period.

13.1.1.2 The Nodal Agency shall recommend for renewal of license for operation of the plant beyond the economic life of the project on the request of project developer, subject to the condition that such projects shall not require any fiscal benefits from the RGoB.

13.1.2 Mini/Micro/Small Hydro Projects

13.1.2.1 The micro, mini, and small hydro projects shall be developed under Build-Own-Operate-Transfer (BOOT) model. The project shall be allotted to a developer for a concession period of thirty (30) years, excluding the construction period.

13.1.2.2 Based on the performance of the incumbent operator and the terms and conditions to be agreed upon, the concession period can be extended for a maximum of fifteen (15) years. At the end of the concession period, the ownership of the project including all existing installations, property and rights needed for power generation shall be transferred to the RGoB without any compensation to the developer.

14 PROJECT OWNERSHIP

14.1 Grid connected, DDG, and Stand-alone RE projects

14.1.1 Investments in RE projects are open for investments from private sector. FDI shall be limited to 51 % for all RE projects except mini/micro hydro power where FDI is not permitted.

15 LOCK-IN-PERIOD

15.1 The Company developing the project shall provide the information about the promoters and their shareholding in the company to the Nodal Agency indicating the controlling shareholding before signing of the PDA with the Nodal Agency.

15.2 The “Developer” identified as the "Principal Developer" in the application for allotment of RE projects, having a lead role and possessing sufficient financial strength, is required to hold the controlling shareholding (controlling shareholding shall mean at least 26% of the voting rights) in the Special Purpose Vehicle (SPV) developing the project.

15.3 The “lock-in-period” shall be applicable for the first “Five Years” of the project life from the COD. No change in the shareholding in the SPV Company developing the project shall be permitted from the date of signing the PDA till the end of fifth year from the date of commissioning of commercial operation.

15.4 After successful completion of five years of plant operation, the project developer can divest the equity share.

16 TREATMENT OF ROYALTY ENERGY

16.1 Royalty energy shall be provided to RGoB free of cost as per the provisions of this Policy and as specified in the PDA/CA

16.2 The RGoB shall have the option to avail the Royalty Energy either as energy or as cash in lieu thereof based on the weighted average off-take rate at which the power/energy from the plant is sold by the developer to its buyers. The conditions of supply of the royalty energy or cash in lieu thereof shall be stipulated in the PDA/CA.

16.3 As per the guidelines of the EDP, the revenues from royalty energy shall be ploughed back through the budgetary mechanism to support RE initiatives.

17 WATER USE CHARGES

17.1 Any additional charges associated with water usage related to any of the RE projects shall be applicable as per the provisions under the Water Act and Electricity Act.

18 FORIEGN DIRECT INVESTMENT (FDI)

18.1 RE Projects eligible for FDI would be dealt as per the prevailing FDI rules and regulations of the country and provisions of this policy.

19 REPATRIATION

19.1 Repatriation of capital and remittance of dividends shall be governed by the Income Tax Act of the Kingdom of Bhutan, the Foreign Exchange Regulations of Bhutan, the Foreign Direct Investment Policy, and Foreign Direct Investment Rules and Regulations.

20 EXPATRIATE EMPLOYMENT AND WORK PERMIT

20.1 Foreign companies can be allowed to bring in expatriate personnel in areas where there are shortages of Bhutanese with requisite skills and in accordance with the prevailing laws of the Kingdom of Bhutan.

21 LAND ACQUISITION AND COMPENSATION

21.1 For all RE Projects, the land acquisition and compensation shall be as per the Land Act.

21.2 For projects that are to be transferred to RGoB after the concession period, all land required for the project shall be acquired by Nodal Agency and the cost will be charged to the project through an annual lease rent during the concession period. For all other projects, the Nodal Agency shall facilitate the project developer in acquiring the identified government land and the private land will be procured by the project developers directly from the private parties.

22 RESOURCE MANAGEMENT

22.1 To render the services required to promote the RE sector, the Nodal Agency shall be utilising funds from two sources – budgetary support from the RGoB and the Renewable Energy Development Fund (REDF), stipulated under the Sustainable Hydro Development Policy.

22.2 For the activities mandated by the RGoB as per Five Year Plans, the Nodal Agency shall utilise the budgetary support from the RGoB.

23 RENEWABLE ENERGY DEVELOPMENT FUND – SOURCES OF FUND TO REDF

23.1 The primary objective of the REDF shall be to provide financial assistance for creating a favorable investment climate for RE in Bhutan.

23.1 The sources of funds for REDF shall be availed from the following sources in a descending order till the requisite quantum of fund has been met:

a) A part of up-front premiums received from the large hydro project developers;

b) A part of the revenue earned from sale of royalty energy from the generating companies as per the provisions of the Economic Development Policy and RE Policy as may be applicable;

c) Grants from International Development Agencies;

d) CDM revenue earned from RE projects promoted by the Nodal Agency;

e) Any voluntary contribution from individuals or corporate agencies;

f) Any cess on import of fossil fuel;

g) Other sources of fund that RGoB may propose through additional mechanism/arrangement as deemed appropriate.

24 UTILIZATION OF REDF

24.1 The REDF shall support all activities which are considered appropriate by the Nodal Agency for the development of RE sector and creation of a facilitating investment climate.

24.2 The REDF shall provide support to sustain RE programmes and projects where deemed necessary.

24.3 The Nodal Agency shall administer and manage the funds in the REDF.

24.4 Any voluntary donation to the REDF by Bhutanese nationals or companies shall be qualified as tax deductable expenses. Income derived from investment of REDF funds shall also be tax exempted.

24.5 The Nodal Agency shall prepare REDF management guidelines within six months from the issuance of the RE policy in consultation with identified financial institution.

25 PROMOTIONAL MEASURES

25.1 The investor in RE shall be exempted from payment of corporate or business income tax for a period of ten years from the date of commercial operation of the RE project applicable till the year 2025.

25.2 An additional five years tax holiday shall be given to RE projects established in the remote areas of the Kingdom as notified by the Royal Government from time to time based on poverty levels.

25.3 The Project Developer, manufacturers and system integrators of RE shall be exempted from payment of all import duties and Bhutan sales tax on import of plants and equipment as direct inputs to the project during the construction period, applicable till such time as determined by the RGoB.

25.4 Investors in manufacturing and integration of RE products in Bhutan shall be exempted from income tax for a period of ten years and shall be applicable for investments till the year 2019.

25.5 Sales tax and customs duty exemption shall be granted for purchase of spare parts for all RE projects including mini-grid, off-grid and standalone-based RE systems.

25.6 Reinvestment allowance shall be given to all RE companies, registered under the Companies Act as tax deductable expenses up to a maximum of 25% of the total reinvestment. Reinvestment allowance shall be given only once for every new investment undertaken within a time span of ten years from the issuance of the policy.

25.7 Expenditure incurred in RE-based R&D including those by patrons shall be allowed as tax-deductible expenditure in whole.

25.8 RE projects/schemes/investment getting incentive or other forms of benefits as per this policy shall not be eligible for further incentives under the Cottage and Small Industries (CSI).

26 CLEAN DEVELOPMENT MECHANISM (CDM)

26.1 All RE Projects shall be encouraged to avail benefits from CDM and any future international mechanisms to reduce GHG emissions. The Nodal Agency shall facilitate requisite approvals from various RGoB agencies to enable the developers to register as CDM projects.

26.2 The Nodal Agency shall facilitate bundling of smaller RE projects for CDM benefits.

26.3 All CDM benefits shall be accrued to the project developers.

27 DELIVERY MECHANISM

27.1 DDG projects

27.1.1 Tariff determination

27.1.1.1 BEA shall formulate and determine the tariff for various RE technologies.

27.1.1.2 The existing DDG projects, owned by the Nodal Agency (including ones that are handed over to community for O&M) or community or private developers shall have the option to sell electricity to the distribution utility once the national grid reaches the area. The distribution utility shall be obligated to purchase power from such plants.

27.1.1.3 Once the national grid reaches to the area, for the project developed by the Nodal Agency, BPC shall be directed to takeover such projects for O&M against a fee to be paid by the Nodal Agency.

27.1.1.4 The subsidy shall be determined for such projects taking into consideration the project cost at the beginning of the project, subsidy availed by the projects, returns accrued by the project so far, remaining life term of the project, and a normative return as per the tariff determination guidelines.

27.1.1.5 Payments against the sale of electricity from the projects, owned by Nodal Agency, shall be deposited into REDF.

27.1.2 Licensing requirement

27.1.2.1 BEA shall issue license, as per the provision under the Electricity Act.

27.1.2.1 The RGoB shall facilitate provision of Composite License (electricity, water, trade, bulk supply etc.)

27.2 Grid-connected RE projects

27.2.1 Off-take of electricity

27.2.1.1 After adjusting for the Royalty Power/Energy (if applicable), the Project Developer can contract the electricity generated after complying with licensing regulations, fulfillment of technical and safety parameters in accordance with the existing grid code and applicable regulations as amended from time to time.

27.2.1.2 In the case of an Independent Power Producer (IPP), the entire power can be sold to any consumer or willing distribution company. However, the distribution utility, in whose jurisdiction the domestic off-take power plant is located, shall have the first right of refusal for purchase of power.

27.2.1.3 If feasible, change in option from sale to third party to licensee or switching from one third party consumer to other third party shall also be permitted by the Nodal Agency, subject to approval of BEA.

27.2.2 Tariff determination

27.2.2.1 BEA shall determine tariffs for grid-connected projects adopting a cost-plus approach as per the provision the Electricity Act. The BEA shall also specify measures for connectivity to grid and sale of RE power to eligible party.

27.2.2.2 If, through a regulatory provision, a utility company is mandated to procure power from RE plants, the loss to the utility company, i.e. the difference of feed-in-tariff and the average power purchase price, if applicable, shall be compensated with the equal amount, utilizing funds from REDF.

27.2.2.3 For tariff determination purpose, the capital subsidy and subsidy on tariff provided to RE projects shall be factored into the capital cost.

27.2.2.4 Other forms of electricity purchase from RE projects such as export of power or third party sale shall be based on mutually agreed rates between the buyer and the seller.

27.2.2.5 The NA may consider the appointment of a consolidated off-taker for export or domestic purposes.

27.2.3 Power Purchase Agreement (PPA)

27.2.3.1 The BEA shall come out with guidelines on PPA arrangement for sale of electricity by grid-connected RE projects to electricity utilities in Bhutan. The PPA period shall be a minimum of the loan repayment period.

27.2.3.2 The Nodal Agency shall also develop model PPAs for different RE technologies which will facilitate signing of the PPA at lower transaction cost.

27.2.4 Load dispatch

27.2.4.1 RE projects in Bhutan shall be considered as “must dispatch” power projects and shall enjoy the benefit of priority dispatch. The priority dispatch status to the RE projects shall be subject to system reliability, safety and grid capacity

27.2.4.2 RE projects shall not be subject to scheduling and dispatch except for 10 MW and above biomass and RE-based cogeneration projects.

27.2.5 Transmission

27.2.5.1 The transmission utility shall provide transmission access to the Project Developer.

27.2.5.2 The developer shall be responsible for laying transmission lines and connect to the nearest grid sub-station of the utility beyond which the utility company will provide the transmission facilities for wheeling the electricity within Bhutan.

27.2.5.3 The developer shall enter into an agreement with utility company for the transmission service and shall also be required to pay transmission and wheeling charges as determined by the BEA from time to time for usage of the utility's transmission system.

27.2.5.4 The BEA shall issue guidelines for connectivity of RE plants to the grid. The developer shall be provided compensation in the form of deemed generation in case of unavailability of transmission network to evacuate power to the buyer.

27.2.5.5 The Developer shall be liable for penalty, if the developer does not utilize the allocated transmission network capacity as s prescribed by the regulation in force

27.2.6 Other Regulatory Provisions

27.2.6.1 Apart from licensing provisions, the project shall be required to comply with all regulations, codes and standards pertaining to construction, operation and maintenance of the plant as per the Electricity Act and other applicable laws.

27.2.6.2 The Nodal Agency shall determine the Renewable Energy Obligation (REO) and Renewable Portfolio Standard (RPS) for the obligated agencies in order to ascertain a long-term and real market for grid-interactive RE projects.

28 MONITORING AND EVALUATION

28.1 The Nodal Agency shall devise a comprehensive monitoring & evaluation framework for RE programmes. It shall also undertake impact studies at regular intervals and make arrangement to monitor and evaluate the RE programmes.

29 EXCLUSIONS

29.1 The RGoB may implement RE projects outside of this policy through any other models as deemed necessary in order to promote RE.

30 AMENDMENTS

30.1 The RGoB may amend this policy as and when required. However, the terms and conditions of agreements, which are in effect for the existing projects, shall not be subjected to these amendments.

31 DEVIATION FROM THE POLICY PROVISIONS

31.1 Deviation from the policy guidelines shall be treated as default and in such cases the projects shall be taken over by the RGoB following appropriate legal procedures applicable in Bhutan.

32 INTERPRETATION OF THE POLICY

32.1 In the event of conflict of interpretation, the Ministry of Economic Affairs shall, on behalf of the RGoB, be the authority to interpret various provisions of this policy which shall be final and binding.

33 DEFINITION

1. "Agreement" outlines the implementation agreement signed between the Royal Government of Bhutan and the Developer and broadly consists of the following:

    - Project Commissioning Schedule and Construction Period Requirements from the parties as per the approved DPR and/or relevant document,

    - Terms and Conditions for the project during the operation period, i.e. from the Commercial Operation Date of the Project;

2. "Bhutan Electricity Authority (BEA)" or "Authority" means the authority of that name established pursuant to Part 2 of the Electricity Act, 2001;"Bid" means an offer to participate in the project, made in accordance with the terms and conditions set out in a document inviting such offers;

3. "Bid Security" means the deposit of an unconditional bank guarantee; or an irrevocable letter of credit; or a cashier's or certified check, submitted with a bid and serving as guarantee to the RGoB that the bidder, if awarded the project, will execute the project in accordance with the bidding requirements and the contract documents;

4. "Bio-fuel transesterification" means the process used to convert extracted oil to bio diesel;

5. "Certified Emission Reductions (CER)" is the technical term for the output of Clean Development Mechanism (CDM) projects, as defined by the Kyoto Protocol. One CER unit represents one tonne of carbon-dioxide (CO_2) equivalent reduced;

6. “Clean Development Mechanism (CDM)” is an arrangement under the Kyoto Protocol allowing industrialised countries (called Annex 1 countries) with a greenhouse gas reduction commitment to invest in projects that reduce emissions in developing countries as an alternative to more expensive emission reductions in their own countries;

7. “Command Area” shall mean the area allocated to a biomass project developer for procurement of biomass. The nodal agency shall allow only one biomass project developer to set up project in the assigned command area to avoid fuel risks. The size of the command area shall depend on the size of the biomass plant.

8. “Composite License” means a license to be obtained by developers under this policy, which covers the distinct areas of electricity, water, trade, bulk supply etc. Under such a license, developers no longer will have to obtain the licenses in the above-mentioned categories separately;

9. “Commercial Operation Date (COD)” means the commercial operation date reckoned as the date on which the each unit of generating plant and equipment is jointly declared as commissioned by the RGoB and the Project Developer.

10. “Decentralised Distributed Generation (DDG)” means generation of electricity from various RE energy sources for local consumption, largely used for meeting electricity requirement in remote areas using its own dedicated distribution system;

11. “Distribution" means the conveyance of electricity through a distribution network system at voltages below 66 kilovolt or as is deemed by the Authority to be a part of the distribution network;

12. "Distribution system" means a network, together with the connection assets association with the network, which is connected to another transmission or distribution system;

13. “Domestic off-take projects” means the projects wherein the power generated is consumed within the country;

14. “Detailed Project Report (DPR)” is further step in firming up a developer’s bid for the techno-economic costs as well as the various other project facilities. The DPR shall include, inter alia, details of location, site description, plant design/layout, integration with grid (for grid-interactive plant), local distribution network layout (for DDG), annual output of the plant/scheme, estimates of cost, phasing of expenditure, cost of generation and tariff (for grid-interactive and DDG plants), implementation of work, bill of material, construction schedule etc;

15. “Detailed Project Proposal” shall be applicable to stand-alone projects under the policy. The project proposal shall include, inter alia, the following: site description, annual output of the project, estimates of

cost, phasing of expenditure, cost of implementation of the project, implementation of work, bill of material, installation schedule, arrangement for after-sales services, availability of spare parts etc;

16. "Developer" means a person or body of persons, company, firm and such other private or government undertaking, who/that finances, designs, processes, constructs, commissions, operates and maintains the project facilities and, at the end of the concession term, transfers them to the RGoB as and where applicable;

17. "Export off-take projects" means the projects wherein power generated by the projects is fully exported and thus the power is not consumed within the country;

18. "Feed-in-tariff" means a minimum guaranteed price per unit of electricity paid to the generator. It is a premium paid in excess of the market price to enable investors to obtain a reasonable return on renewable energy investments;

19. "Government" means the Royal Government of Bhutan;

20. "Green Energy based technology substitution" refers to the greener technologies that replace the existing polluting technologies or sources of energy and includes bio fuel, electric/hybrid vehicles, and future substitution technologies as recognized or approved by the Nodal Agency;

21. "Grid-Connected RE projects" means the projects connected to 33 kV and above grid network of the utilities to sell electricity to the grid;

22. "Hybrid system" refers to the solution of combining two or more RE technologies with the aim to decrease the intermittent nature of generation of such technologies;

23. "Local" means a person who is a citizen of Bhutan or an entity which is incorporated/registered within Bhutan;

24. "Nodal Agency" means the agency responsible for promotion and development of renewable energy in the country;

25. "Pre-feasibility Report (PFR)" is the report that is prepared by project developer and delineates the project location specifics, generation potential, access and power evacuation arrangement (in case of grid-interactive plants), and details of site investigation programmes;

26. "Principal Developer" is the "Developer" identified as the "Principal Developer" in the application for pre-qualification and holding at least fifty one percent (51%) of the Developer's share of the equity in the investment;

27. "Project Development Agreement (PDA)" means a legal document expressing a convergence of will between the parties, outlining the terms

and details of the agreement between the RGoB and the Project Company till signing of the Concession Agreement, including each party's requirements and responsibilities. The PDA serves as a basis for a future formal contract in the form of the Concession Agreement (CA), and lays out the time periods in which crucial milestones must be reached prior to further progression with the deal;

28. "Promoter" means the person who undertakes stand-alone RE projects;

29. "Private participant" means any person from the private sector in energy business either for bulk supply or retail sale under certain conditions;

30. "Renewable Energy technologies (RETs)" means different renewable energy technologies like solar, wind, biomass, small hydro etc

31. "Renewable Energy Development Fund (REDF)" means a Fund proposed under the Sustainable Hydropower Development Policy, 2008. The Fund will be created allocating a part of the up-front premium received from larger hydro developers and other sources prescribed under this policy;

32. "Renewable Energy Obligation (REO)" is an obligation on licensed suppliers to supply a specified proportion of their electricity supplies to their customers from renewable sources of energy;

33. "Renewable Portfolio Standard (RPS)" is a market driven policy ensuring the benefits of all potential renewable energy technologies to the public, as electricity markets become more competitive. RPS requires the utility to include some portion of renewable energy based generation in its power portfolio. Percentage can vary from one technology to another;

34. "Renewable energy sources" means renewable sources such as small hydro, wind, solar including its integration with combined cycle, biomass, bio-fuel cogeneration, urban or municipal waste and such other sources as recognized or approved by the Nodal Agency;

35. "Repatriation" means capital flow from Bhutan to the country of origin. This refers to returning returns on a foreign investment in Bhutan in the case of a corporation, or transferring foreign earnings to investor's home in the case of an individual;

36. "Request for Proposal (RfP)" means the document an organisation posts to elicit proposals from potential developers of a project. Ideally, RfPs stipulate the requesting organization's requirements and delineates the deliverables associated with the project and establishes a framework for project execution so as to minimize the possibility of misunderstandings and errors;

37. “Royalty Energy” means the free Energy that would be made available to the RGoB under a project during the concession period i.e. the period starting from the commercial operation date of the project;

38. "Sale" means the sale of electricity to a customer or for resale to third parties;

39. “Special Purpose Vehicle (SPV)” means a body corporate created to fulfil narrow, specific or temporary objectives, primarily to isolate financial risk;

40. “Stand-alone renewable energy systems” means the systems installed at an individual’s household, community, institutions, and commercial entities for self-consumption. These systems do not have their dedicated distribution network unlike DDG, nor are they connected to grid, except for rooftop-based Solar PV systems or other technologies developed under net-metering arrangement;

41. "Transmission" means activities pertaining to a transmission system including the conveyance of electricity at voltages above 66 kilovolt or as is deemed by the Authority to be a part of the transmission network;

42. “Waste to Energy (WTE)” means energy generated out of waste that includes municipal solid waste or any other form of organic or inorganic wastes.