

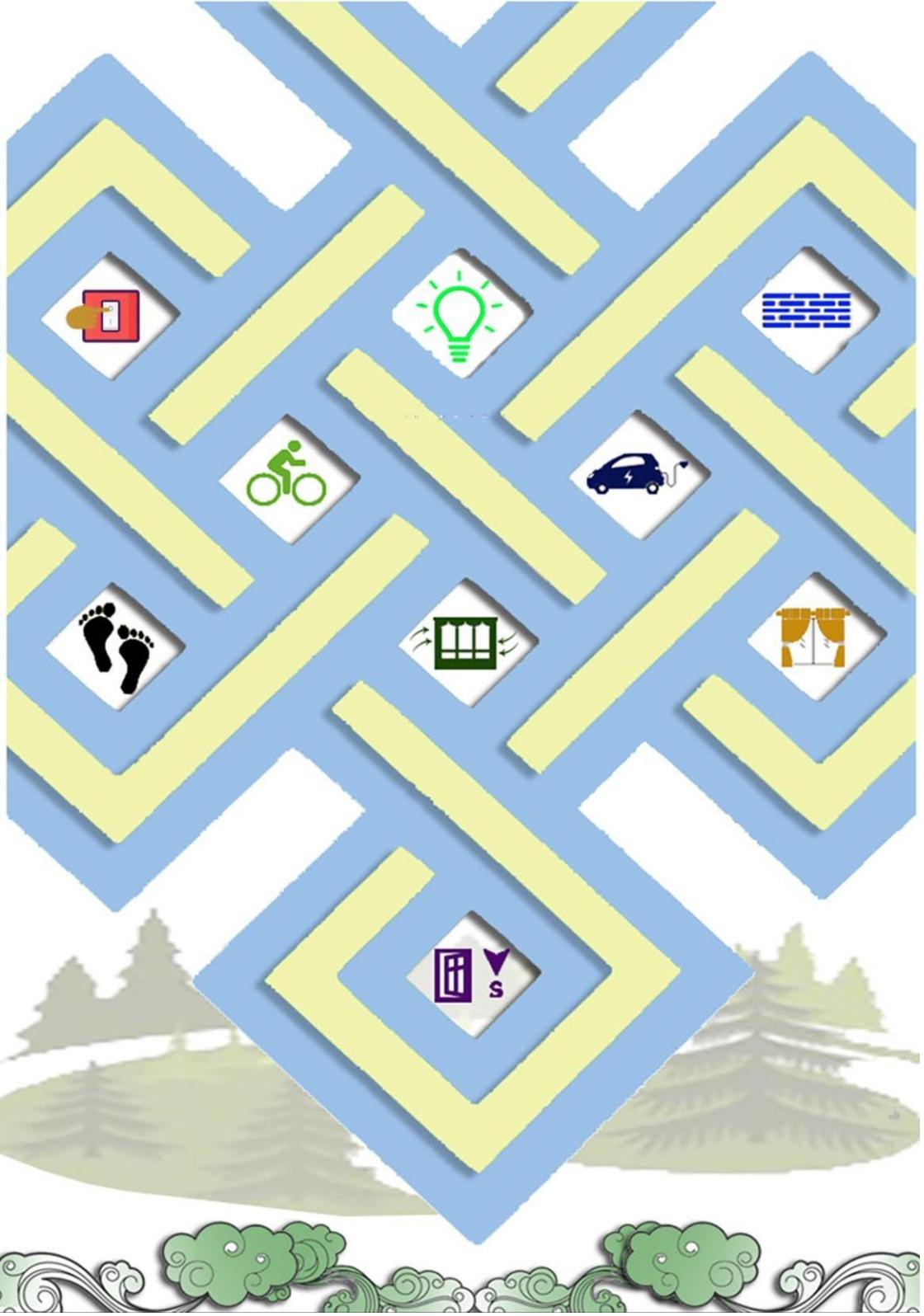


मन्त्रालय
नवीकरणीय
ऊर्जा विभाग

Ministry of Economic Affairs
Department of Renewable Energy

National Energy Efficiency and Conservation Policy

November 2019





དབལ་ཕྱན་འཛིན་གཞུང་ བཟུང་རྒྱལ་ལྗོངས་
MINISTRY OF ECONOMIC AFFAIRS
ROYAL GOVERNMENT OF BHUTAN
Tashichho Dzong
THIMPHU



MINISTER

FOREWORD

Over the past few years, Bhutan has seen a rapid growth of economic development with improved living standards leading to increased energy demand for productive activities, public services as well as for household use. This increase in energy demand has posed challenges and threats to energy security and environmental concerns of the Country. While the increase in energy supply will be able to meet the growing energy demand, utmost importance should also need to be given for demand side management for which energy efficiency and conservation measures play a vital role. Improving energy efficiency is therefore, a complementary proposition and a sustainable way of enhancing energy security, positive economic impacts and protection of the environment through reduced energy intensity, additional revenue from the export of additional electricity accrued from potential energy savings and reduced greenhouse gas emissions.

The National Energy Efficiency and Conservation (EE&C) Policy 2019 has been developed to address the energy demand side management focusing on energy intensive sectors. The policy aims at creating enabling environment for adoption of EE&C measures in buildings, appliances, industry and transport sectors since there exists huge potential to improve. The Policy will strive to realize the energy saving potential of 155 kWh annually through the use of energy efficient equipment, appliances and construction materials in the building, appliance and industry sector. In the transport sector, the policy will aim to reduce energy consumption from fossil fuels through alternative solutions and efficient utilization of resources in order to save the bill on the import of fossil fuel and reduce the harmful emissions. The policy also provides long term direction for a systematic approach to implementation of EE&C action plan by soliciting coordination among relevant stakeholders; and create enabling environment for the private sector participation in adopting EE&C measures in the Country.

In this regard, the Ministry solicits full cooperation from all the relevant stakeholders in the implementation of this Policy.

Tashi Delek


(Loknath Sharma)
Minister

LIST OF ACRONYMS

ABI	Association of Bhutanese Industries
BCCI	Bhutan Chamber of Commerce & Industry
BEA	Bhutan Electricity Authority
BSB	Bhutan Standards Bureau
COP	Conference of Parties
DES	Department of Engineering Services
DoI	Department of Industry
DoT	Department of Trade
DRC	Department of Revenue and Customs
DRE	Department of Renewable Energy
DCSI	Department of Cottage and Small Industries
EDP	Economic Development Policy
EE	Energy Efficiency
EE&C	Energy Efficiency and Conservation
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
HV	High Voltage
LEDS	Low Emission Development Strategy
LV	Low Voltage
MEPS	Minimum Energy Performance Standards
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MoIC	Ministry of Information and Communications
MoWHS	Ministry of Works and Human Settlements
MV	Medium Voltage
NDC	Nationally Determined Contributions

NEC	National Environment Commission
NA	Nodal Agency
PM	Particulate Matter
REDTF	Renewable Energy Development Trust Fund
RGoB	Royal Government of Bhutan
RSTA	Road Safety and Transport Authority
RTIO	Regional Trade & Industry Office
UNFCCC	United Nations Framework Convention for Climate Change

LIST OF ABBREVIATIONS

CO ₂	Carbon dioxide
NO _x	Nitrogen oxides
SO _x	Sulfur oxides

LIST OF UNITS

‘000	Thousand
GWh	Gigawatt hour
kW	Kilowatt
kWh	Kilowatt hour
MW	Megawatt
Nu	Ngultrum
TOE	Tonnes of Oil Equivalent

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
2.	RATIONALE.....	3
3.	TITLE, OPERATIVE PERIOD AND ENFORCEMENT.....	6
4.	OBJECTIVES.....	6
5.	BUILDING SECTOR.....	7
6.	APPLIANCE SECTOR.....	8
7.	INDUSTRY SECTOR.....	9
8.	TRANSPORT SECTOR.....	10
9.	INSTITUTIONAL ARRANGEMENT.....	11
10.	ENERGY EFFICIENCY & CONSERVATION ACTION PLAN.....	18
11.	MONITORING ANDEVALUATION.....	19
12.	AMENDMENTS.....	19
13.	INTERPRETATION OF THE POLICY.....	19
14.	DEFINITIONS.....	19

1. INTRODUCTION

- 1.1. The Royal Government of Bhutan (hereinafter, “the Government”) has implemented national development plans with consideration not only for economic or physical prosperity, but also for preservation of cultural heritage and environment, guided by the development philosophy of Gross National Happiness (GNH). At institutional level, the government broadly follows two national policies viz. Bhutan 2020-A Vision for Peace, Prosperity and Happiness and the Economic Development Policy (EDP) 2016.
- 1.2. The Country’s GDP growth has been impressive over the last ten years. Despite the landlocked and mountainous terrain, the GDP growth rate in constant (2000) price has averaged around 7.36% between 2005 and 2017 and the annual growth of GDP per capita has averaged around 9.043% from 2006 to 2017¹. Economic development has brought increased urbanization in Bhutan and poverty rate has also dropped significantly with the national poverty rate at 8.2% in 2017² as compared to 23% in 2007.
- 1.3. The EDP 2016 emphasizes that the Energy Efficiency and Conservation (EE&C) measures shall be promoted for sustainable use of energy across all sections of the consumers through the adoption of a National Energy Efficiency and Conservation Policy by 2017. The Royal Government shall encourage general improvements in the energy performance standards of four major sectors namely building, appliance, industry and transport.
- 1.4. The EDP 2016 also emphasizes a green and self-reliant economy of Bhutan by 2020 through promotion of

¹ National Accounts Statistics 2017, National Statistics Bureau

² Bhutan Poverty Analysis 2017, National Statistics Bureau

optimized usage of ecological and natural resource richness of the Country and pursuit of energy efficient productive activities. The sustained pursuit of green growth entails a systematic focus on energy efficient productive activities across different sectors of the economy such as building, appliance, industry and transport. The overall economy of the country will be improved by EE&C measures through reduced energy intensity, avoided GHG emissions and higher revenue earning due to additional export of electricity.

- 1.5. In the 15th Conference of Parties (COP), UNFCCC (2009), the Country committed to remain carbon neutral where emissions of GHG will not exceed carbon sequestration capacity of the Country's forests, which is estimated at 6.3 million tons of CO₂. In the COP21 (2015), the Country re-emphasized this commitment.
- 1.6. The Country's Nationally Determined Contributions (NDC) further pledges to promote energy demand side management through efficiency in buildings, appliances and industrial processes and technologies³.
- 1.7. The potential of EE&C measures in the Country is based on the findings of technical studies and energy audits conducted across the economy in energy consuming sectors such as building, appliance, industry and transport. These studies have revealed realizable and implementable interventions that may be pursued in a systematic way to achieve not only the EE&C goals but also further the economic development of the Country.

³ Nationally Determined Contribution of the Kingdom, 2015, National Environment Commission

2. RATIONALE

- 2.1. EE&C measures also contribute to the country's global commitment on the climate change front to UNFCCC, LEDS and other international forums. Increasing economic prosperity is expected to drive up the country's demand for energy, including fossil fuels like petroleum products. EE&C measures are likely to lower the intensity of energy use through improved efficiency in the usage of all forms of energy, thereby decoupling economic growth from consumption of energy resources and carbon emissions.
- 2.2. In addition, the pursuit of EE&C measures will also align the Country with United Nations' Sustainable Development Goals. Reduced energy intensity will contribute to climate action through reduction in GHG emissions, while promoting sustainable environment through lesser environmental pollution. Poverty will also be positively affected; as reduced energy intensity will increase the economic security.
- 2.3. In 2017, the Country exported around 5,700.994 million kWh of surplus electricity; the contribution was around Nu 12,371.15 million at Nu 2.17 per kWh of average electricity tariff. In the same year, the Country imported Nu 8,974.835 million worth of petroleum products. Clearly, EE&C measures can directly benefit the economy by freeing up energy resources, generating additional revenue through export of saved electricity and reduced imports of petroleum products. This can also relieve government's fiscal burden on energy subsidies and reallocate resources

⁴ National Accounts Statistics 2017, National Statistics Bureau

⁵ POL Section, DoT, MoEA

for other developmental activities.

- 2.4. The annual savings potential in electricity consumption, averaged over the 15 years projected period, in the building, appliances and industry sectors is about 155 million kWh annually, which at the present average export tariff of electricity of Nu 2.17 per kWh, amounts to an additional government revenue of about Nu. 336.00 million per annum. Moreover, it also has potential to reduce cross-border GHG emission.
- 2.5. In the transport sector, there is a significant increase in vehicular traffic due to economic development in the Country. Consequently, the import of petroleum products has increased from Nu 1.1 billion in 2002 to Nu 8.97 billion in 2017⁶ and is projected to rise further. Sustainable transportation that focuses on efficient fuel usage and promotion of public modes of travel presents significant energy saving potential for the Country. Energy efficient transportation systems, like fuel efficient vehicles, electric/hybrid vehicles and non-motorized transportation mechanisms, can lead to savings in fuel consumption in the transport sector. This can significantly reduce the petroleum import bill, reduce traffic congestion and mitigate vehicular pollution (SO_x, NO_x, total hydrocarbon and PM emissions). It is estimated that use of clean and fuel-efficient transportation can lead to an annual savings of import bill to the tune of Nu. 467.00 million.
- 2.6. Additionally, as significant fuelwood is being used for space heating and cooking purposes in the building sector, the EE&C measures in the building sector will reduce fuelwood consumption, which will reduce the pressure on forest resources and the use of cleaner and efficient

6 POL Section, DoT, MoEA

cooking technologies will contribute to better human health. Lower dependence on fuel wood will contribute to carbon sequestration. Adherence to climate change commitments will also help the Country to access international/multilateral/bilateral funds and technical assistances from development partners in the future.

- 2.7. Energy savings in any form will also enhance disposable income for households. This will in turn positively affect gender equity, as most households are operated by women. The increased disposable income will contribute to employment creation in energy and other sectors, making the EE&C measures as an important contribution to the Government's green growth strategy.
- 2.8. Adopting energy efficient production processes and technologies will improve productivity, profitability and competitiveness of industries by lowering operating costs, and disseminating knowledge and best practices. EE&C measures in industries will help in enhancing national economy, transferring technologies from abroad and establishing value chains for energy-efficient goods and services.

3. TITLE, OPERATIVE PERIOD AND ENFORCEMENT

- 3.1. This Policy shall be known as “National Energy Efficiency & Conservation Policy of Bhutan 2019”.
- 3.2. This Policy shall come into effect from November 2019 and will remain in force until superseded or modified. All EE&C measures in the Country shall be governed by this Policy.

4. OBJECTIVES

The objectives of the Policy are to:

- 4.1. Improve energy security by reducing energy intensity in the country through adoption of EE&C measures.
- 4.2. Create enabling environment for adoption of EE&C measures by various actors in the economy for building, appliance, industry and transport sectors.
- 4.3. Reduce energy consumption from fossil fuels through efficient utilization and contribute towards achieving the Country’s global commitment to remain carbon neutral.
- 4.4. Provide long-term direction for a systematic approach to implementation of EE&C action plan by soliciting coordination among relevant stakeholders.
- 4.5. Create enabling environment for the private sector participation in adopting EE&C measures in the Country.

5. BUILDING SECTOR

The building sector in the Country contributed to 42% of the total energy consumption in 2014. Energy performance of buildings can be improved through a systematic effort focusing on retrofits of existing buildings and promoting/mandating energy efficient design for new building construction. To improve the energy performance of the building sectors, among others, the following actions shall be pursued:

- 5.1. The MoWHS shall develop and implement energy efficiency building codes of practice for both new building constructions and retrofits in existing buildings. These codes shall be aligned with the existing legal framework of building construction sector in Bhutan. The MoWHS shall develop the codes of practice in coordination with the NA and carry out research on the applicability in the Country, specify energy efficient construction materials, facilitate market mechanism, and explore fiscal incentives in consultation with MoF.
- 5.2. The Energy Audit and Reporting Guidelines shall mandate periodic energy audits and reporting of energy performance of energy intensive buildings, as defined in the energy efficiency building codes of practice.
- 5.3. The Government shall actively encourage hotel industry to adopt EE&C measures and retrofits through sensitization, awareness creation and recognizing good performers. The NA shall assist the MoWHS to explore options for identifying and publicly recognizing the good performers.

- 5.4. The MoWHS, in coordination with the NA and other relevant agencies, shall develop the capacity of relevant stakeholders of the building sector (architects, engineers, planners, developers, artisans, masons, retailers, manufacturers, etc.) on the implementation of the energy efficiency building codes of practice through trainings, workshops and seminars.

6. APPLIANCE SECTOR

Energy performance of appliances can be improved through a systematic effort of lowering the average wattage of appliances by replacing the current stock of appliances with more energy efficient products. To optimize the energy performance of the appliances, among others, the following actions shall be pursued:

- 6.1. The NA shall develop the Technical Specifications (MEPS) for select set of appliances and the BSB shall develop and adopt the Standards and Certification Scheme to promote consumer access to energy efficient appliances. The NA shall conduct periodic review of such standards where appropriate.
- 6.2. Under the Standards and Certification Scheme, the Bhutan Trade Classifications will include the protocol for monitoring of appliances, which will be carried out by Regional Trade and Industry Office (RTIO), or any successor designated under the MoEA.
- 6.3. The Ministry of Finance (MoF) shall incorporate the EE&C aspects into the Public Procurement system.

- 6.4. The Government shall provide fiscal incentives, based on viability, shall be explored to offset the higher prices of the labeled appliances and accelerate penetration of energy-efficient appliances in the market. The NA in consultation with MoF shall explore such incentives and seek approval from the Parliament.

7. INDUSTRY SECTOR

The Industry sector of Bhutan contributed to 37% of the total energy consumption in 2014. Various studies revealed that majority of the EE&C interventions in the industry sector have a negative abatement cost and can be achieved in short term. At the unit level, around 10% of an industry's energy consumption may be avoided. To optimize the productivity in the industry sector, among others, the following actions shall be pursued:

- 7.1. Energy efficiency up-gradation measures shall be promoted in industrial processes through retrofit, refurbishment, technology transfer and/or process modifications. The NA shall coordinate and work with the relevant stakeholder agencies (DoI, DCSI, ABI, BCCI, etc.) to implement the Policy through public-private partnerships, knowledge sharing through energy efficiency quality circle and development of energy efficiency codes of practice for industry.
- 7.2. The NA shall develop and implement the Energy Audit and Reporting Guidelines within three to five years from the date of adoption of this Policy. The Energy Audit and Reporting Guidelines shall encourage periodic energy

audits to identify energy conservation potential in industries. The template for reporting of such energy performance shall be developed by the NA.

- 7.3. The NA will carry out capacity building activities to promote the uptake of EE&C measures in the Industry sector, which will include trainings; pilot/demonstration projects/ programs; workshops or campaigns to improve energy efficiency and conserve energy in industries. The NA shall build/ facilitate appropriate institutional linkages to achieve this.

8. TRANSPORT SECTOR

The Transport sector of Bhutan contributed to 19% of the total energy consumption in 2014. Energy performance of the transport sector can be improved through systematic adoption of sustainable transportation modalities including use of electric vehicles, use of public transportation, promotion of non-motorized transportation, efficient urban planning, etc. To improve energy performance of the transport sector, among others, the following actions shall be pursued:

- 8.1. The MoIC in collaboration with relevant agencies shall be responsible for promotion of energy efficient transport systems in the Country. Promotion of energy efficient transportation shall include mass transportation systems, electric and hybrid vehicles and non-motorized transportation like walking and cycling.

- 8.2. The NA in collaboration with relevant agencies shall periodically commission technical studies and research activities for applicability of alternative fuels in vehicles, including hybrid and electric, and other emerging energy efficient vehicle technologies in the Country.
- 8.3. The Government in collaboration with MoF and relevant agencies shall adopt appropriate measures to promote the penetration of fuel-efficient vehicles in the Country based on the proposals submitted by NA.
- 8.4. The MoWHS in collaboration with the Thromdes, and in consultation with MoIC shall give due consideration to EE&C aspects in city/town planning to enable user-friendly non-motorized transportation such as cycling and walking, shorten travel distances and avoid traffic congestion. The NA shall provide technical assistance, where necessary.

9. INSTITUTIONAL ARRANGEMENT

The institutional arrangement outlines the roles and responsibilities of relevant agencies in the promotion of EE&C measures and emphasizes the need for organizational strengthening in implementing the EE&C and related activities.

Department of Renewable Energy (DRE) MoEA

- 9.1. The Department of Renewable Energy (DRE) under the Ministry of Economic Affairs (MoEA) shall be the “Nodal Agency” (NA) for implementation of this Policy. The NA shall promote, facilitate and coordinate EE&C measures in

the Country.

- 9.2. Review and update the Policy at least once every five years, if deemed appropriate.
- 9.3. Draw up a comprehensive time bound Policy Action Plan for every five years to realize the objectives of the Policy.
- 9.4. Restructure the Research and Development Division within the Department to spearhead implementation of EE&C measures in the Country.
- 9.5. Take lead role in developing/updating national targets/goals/action plans and implementing/ facilitating the EE&C measures in collaboration with relevant stakeholders.
- 9.6. Advise the Ministry of Finance to develop appropriate fiscal and non-fiscal instruments for implementation of EE&C measures.
- 9.7. Advise relevant agencies to develop appropriate guidelines and standards related for implementation of the Policy.
- 9.8. Carry out nation-wide public awareness campaigns to propagate the benefits of EE&C measures through multiple communication instruments including television, mass media and schools.
- 9.9. Develop an interactive web-based platform, a knowledge hub, which shall act as a one-stop shop regarding EE&C measures. The NA shall disseminate best practices and other information. The webpage shall further provide

readily accessible materials on latest EE&C measures, best practices, findings of the latest research and projects, case-studies, ready-to-use tools for energy management, list of approved vendors/suppliers of EE technologies/equipment and information on pilot projects implemented, among others.

- 9.10. Advise the relevant institutions to incorporate EE&C measures in academic curricula to equip the students with state-of-the-art, industry ready concepts, tools and techniques related to practical application of EE&C measures.
- 9.11. Develop technical specifications for energy efficiency standards for appliances and equipment in collaboration with relevant institutes and/or agencies.
- 9.12. Facilitate and encourage private sector participation in implementation of EE&C measures.

Department of Trade (DoT), MoEA

- 9.13. The DoT in collaboration with the Department of Revenue & Customs (DRC), MoF and other relevant agencies, shall monitor the import and sale of energy efficient appliances and equipment including sub-standard energy efficient appliances and equipment in the Country.

Ministry of Finance (MoF)

- 9.14. The MoF shall give due consideration to the proposals for EE&C financing instruments recommended by the NA and seek approvals for fiscal incentives from the Parliament.

- 9.15. The MoF shall incorporate EE&C aspects in the Public Procurement system.
- 9.16. The DRC in collaboration with the DoT, MoEA and other relevant agencies, shall strive to monitor the import and sale of energy efficient appliances and equipment including sub-standard energy efficient appliances and equipment in the Country.

Gross National Happiness Commission (GNHC)

- 9.17. The GNHC shall periodically review the implementation status and effectiveness of this policy at a national level to ensure its alignment with the overall national development objectives based on the progress report of action plan submitted by NA.

Ministry of Information and Communication (MoIC)

- 9.18. As the lead agency for sustainable transport systems in the Country, the MoIC shall design and/or facilitate implementation of EE&C measures in transport systems in coordination with the NA.
- 9.19. The RSTA shall collaborate with the NA to organize nation-wide eco-driving awareness and education campaigns to positively influence the adoption of energy efficiency measures in the road transport sector.

Ministry of Works and Human Settlement (MoWHS)

- 9.20. The DES under the MoWHS shall develop the energy

efficiency building codes of practice in close coordination with NA for both new building constructions and retrofits in existing buildings.

- 9.21. The DES, under the MoWHS, shall coordinate with the NA to conduct targeted outreach and awareness on EE&C measures for building sectors to promote uptake of energy efficient construction technologies and practices.
- 9.22. The DoHS, under the MoWHS, shall use the provision of this Policy as an input for integrated and green urban planning.
- 9.23. The DES along with Thromdes and Dzongkhag Administrations shall implement and enforce the energy efficiency building codes of practice developed under the Policy.

Bhutan Standards Bureau

- 9.24. The BSB shall certify the energy performance of energy efficient appliances as well as other sectors included in this policy wherever appropriate as per relevant national standards or such other directives issued by a competent authority.

Thromdes

- 9.25. The Thromdes, in collaboration with MoWHS and other relevant agencies, shall implement and enforce the energy efficiency building codes of practice developed under the Policy.

Dzongkhag Administration

- 9.26. The Dzongkhag Engineering sector in collaboration with MoWHS and other relevant agencies shall implement and enforce the energy efficiency building codes of practice developed under the Policy.

Bhutan Electricity Authority (BEA)

- 9.27. The BEA shall explore to re-categorize HV, MV and LV industries, from time to time, based on actual power consumption/connected load. BEA in consultation with NA may design a price signal, as appropriate, for facilitating EE&C measures in industries.
- 9.28. The BEA will study in consultation with the NA and other stakeholders, applicable tariff instruments, which can incentivize EE&C, demand response or demand side management, as and when appropriate. This policy shall be used as an input for design and/or amendment of the Domestic Electricity Tariff Policy.
- 9.29. The BEA, in collaboration with the Bhutan Power Corporation Limited, shall ensure that the transformer sizing and distribution system design is optimum for consumers for energy efficient operation.

National Environment Commission (NEC)

- 9.30. The NEC shall collaborate with NA for consolidating all relevant information to prepare the Country's position on climate change mitigation related to EE&C measures and facilitate the flow of climate finance through NAMA,

NDCs, and emerging international mechanisms.

Department of Industry (DoI), MoEA

9.31. The DoI shall work in close coordination with the NA, Bhutan Chamber of Commerce and Industries (BCCI) and Association of Bhutanese Industries (ABI) to promote and implement EE&C measures in the industry sector.

Department of Cottage and Small Industries (DCSI), MoEA

9.32. The DCSI shall work in close coordination with the NA, BCCI and ABI to promote and implement EE&C measures in the small and cottage industries.

Bhutan Chamber of Commerce and Industries (BCCI) and Association of Bhutanese Industries (ABI)

9.33. The BCCI and ABI will provide periodic inputs and industry insights to the Government on industrial EE&C measures.

Private Sector

9.34. The private sector will adopt EE&C measures as prescribed by the competent authority.

10. ENERGY EFFICIENCY & CONSERVATION ACTION PLAN

- 10.1. The major energy consuming sectors in the country are building and appliances sector with 270,356 TOE, industry sector with 241,972 TOE and transport sector with 121,218 TOE of energy consumption reported in the year 2014. The detailed energy audits and technical studies carried out in 2014 by the NA showed substantial techno- commercially achievable energy savings potential that will be carried out through implementation of EE&C action plan.
- 10.2. For the promotion of EE&C measures, the NA shall utilize the Renewable Energy Development Trust Fund (REDTF) established under the Alternative Renewable Energy Policy (AREP) 2013 and amendment thereof or any other innovative funding mechanism established by the Government.
- 10.3. The RMA shall classify bank lending for EE&C projects, which lead to increased energy efficiency in production processes or in technologies, as “Priority Sector Lending”. Concessional interest rates shall be applicable for priority sector lending. The NA shall collaborate with RMA in identifying the category of EE&C projects eligible for priority sector lending.
- 10.4. The GNHC and the MoF shall explore access to international funds, in the form of climate finance and/or other development finance assistance. Based on the proposal submitted by the NA, the MoF and GNHC shall review EE&C proposals and provide funding support to EE&C measures wherever deemed necessary.

- 10.5. The NA shall coordinate with relevant agencies for identification of funding options from international development partners to support EE&C projects.

11. MONITORING AND EVALUATION

- 11.1. The NA shall develop a monitoring, reporting and verification mechanism to periodically assess the effectiveness and relevance of EE&C programs. The NA will update concerned stakeholders regarding policy formulation and implementation status.

12. AMENDMENTS

- 12.1. The Government may amend this Policy, as and when required, with at least one update in every five years. However, the terms and conditions of agreements, which are in effect for the existing projects, shall not be subjected to these amendments.

13. INTERPRETATION OF THE POLICY

- 13.1. In the event of conflict of interpretation, the Ministry of Economic Affairs shall on behalf of the Government, be the authority to interpret various provisions of this Policy, which shall be final and binding.

14. DEFINITIONS

- 14.1. Abatement cost: It is defined as the difference between the cost of implementing the measure and the savings generated from it over the lifetime of the project over per

unit of savings.

- 14.2. ‘Appliance’ is an electrical/mechanical machine that consumes energy. Major appliances include: air conditioners, refrigerators, printer, water heaters, washing machines, scanners, copier machines, projectors, microwave ovens, convection heaters, mobile phone, motor, laptops, tube-lights, bulbs, television, fans, room heaters, halogen heaters, vacuum cleaner, electric cookers, boilers, juicers, electric mixers, etc.
- 14.3. Bhutan Schedule of Rates: It is published by the Department of Engineering Services under the Ministry of Works and Human Settlement and prescribes rates for works by individual component, quality and quantity. Its scope is governed by the Specifications for Building and Road Works (SBRW). It is designed primarily as a tool for estimation of construction project costs.
- 14.4. Bhutan Trade Classification: It is a national government publication which classifies types of goods. It is used to assess the annual exports and imports of the Country with other Countries overtime.
- 14.5. Energy Audit means verification, monitoring and analysis of machinery, appliances and the processes of utilization of energy entity and determination of its efficiency.
- 14.6. Energy Audit and Reporting Guidelines: It refers to the guidelines to carry out energy audits for Buildings and Industries in Bhutan.
- 14.7. Energy Conservation means reducing energy consumption through using less energy services. Energy conservation

differs from efficient energy use, which refers to using less energy for a constant service.

- 14.8. Energy Efficiency is a way of managing and restraining the growth in energy consumption such that less energy can be used to provide the same service /output.
- 14.9. Energy Efficiency Building Code of Practice is minimum criteria and minimum standards for Energy Efficiency in design and/or retrofits in energy intensive buildings. It provides criteria for determining compliance.
- 14.10. Energy Intensive Buildings are buildings or industries that consume huge amount of energy, the magnitude of which will be determined by the Energy Efficiency Codes of Practice.
- 14.11. Equipment: The set of articles or physical resources that consume energy to serve or equip a person or thing.
- 14.12. Hybrid Vehicle: A hybrid vehicle uses two or more distinct types of power, such as internal combustion engine and electric motor.
- 14.13. HV and MV Industries: Industries that are connected to high voltage and medium voltage power supply respectively.
- 14.14. Industry: Industry is the production of goods or services within an economy. The major source of revenue of a group or company is the indicator of its relevant industry.
- 14.15. Minimum Energy Performance Standards (MEPS): MEPS is a specification containing levels of performance requirements for an energy-using device, and that

effectively limits the maximum amount of energy that be consumed by a product in performing a specified task.

- 14.16. Nationally Appropriate Mitigation Action NAMA: NAMA refers to a set of policies and actions that Countries undertake as part of a commitment to reduce greenhouse gas emissions.
- 14.17. Nodal Agency (NA): Nodal Agency has the overall responsibility for implementation in the State/project. The Nodal agency coordinates the overall execution of the project.
- 14.18. Priority Sector Lending: Priority Sector Lending is an important role given by the RMA to the national banks for providing a specified portion of the bank lending to few specific sectors with some incentive.
- 14.19. Public transport: Public transport is a shared passenger transport service which is available for use by the general public. Public transport modes include buses, trolleybuses, trams (or light rail, rapid transit (metro/subways/underground etc) and taxis.
- 14.20. REDTF: Renewable Energy Development Trust Fund is a funding mechanism established under AREP 2013 to support RE and Energy Efficiency initiatives.
- 14.21. Thromde: A thromde means a large urban area or a municipality with a minimum population of 5,000 people in which more than 50% of the population is dependent on non - primary activities and having the potential to sustain its services through its revenue such as taxes and fees.

14.22. Tonnes of Oil Equivalent: It is a unit of energy defined as the amount of energy released by burning one tonnes of crude oil.



Website: www.moea.gov.bt

P.O. Box No. 266

Tel.: +975-2-334826/339501

Fax: +975-2-324676/321688