KINGDOM OF CAMBODIA

NATION RELIGION KING

Royal Government of Cambodia

National Energy Efficiency Policy

2022 – 2030

Prepared by the National Committee on Energy Efficiency

2022

KINGDOM OF CAMBODIA

NATION RELIGION KING

Royal Government of Cambodia

No. 78 SSR

DECISION

ON

PROMULGATION OF THE NATIONAL ENERGY EFFICIENCY POLICY 2022 - 2030

The Royal Government of Cambodia

- Having seen the Constitution of the Kingdom of Cambodia;
- Having seen the Royal Decree No. NS/RKT/0918/925 dated 6 September 2018 on the Appointment of the Royal Government of the Kingdom of Cambodia;
- Having seen the Royal Decree No. NS/RKT/0320/421 dated 30 March 2020 on the Appointment and Modification of the Composition of the Royal Government of the Kingdom of Cambodia;
- Having seen the Royal Kram No. NS/RKM/0618/012 dated 28 June 2018 promulgating the Law on the Organization and the Functioning of the Council of Ministers;
- Having seen the Royal Decree NS/RKT/0719/1024 dated 6 July 2019 on the Establishment of Economic and Financial Policy Committee;
- Pursuant to the necessary needs.

HEREBY DECIDED

Article 1.-

Promulgating of the “National Energy Efficiency Policy 2022 – 2023,” which is annexed in this Decision.

Article 2.-

Any provisions that are contrary to this decision shall be deemed abrogated.

Article 3.-

The Minister in charge of the Office of the Council of Ministers, the Minister of Economy and Finance, the Minister of Mines and Energy, Ministers of all Ministries, and Heads of Institutions concerned shall be responsible for the implementation of this Decision from the date of its signature.

Phnom Penh, 22 November 2022

Prime Minister

(Signature and Seal)

Samdech Akka Moha Sena Padei Techo Hun Sen

Recipients:

- Ministry of the Royal Palace
- General Secretariat of the Constitutional Council
- General Secretariat of the Senate
- General Secretariat of the National Assembly
- Cabinet of Samdech Akka Moha Sena Padei Techo Prime Minister
- Cabinet of Samdech, His Excellency, Lok Chumteav, Deputy Prime Minister
- As in Article 3
- Royal Gazette
- Documentation-archives

Preamble

Over the last two decades, the Royal Government of Cambodia has successfully implemented a rectangular strategy for growth, employment, equity, and efficiency. This strategy has become a policy tool that will transform Cambodia from a least developed country to one of the fastest-growing economies in the world, helping millions of Cambodians lift themselves out of poverty and improve several other social development indicators. The clear-sighted vision of the strategy and the ambitious efforts of the Royal Government of Cambodia will lead the nation to evolve from a low-income to an upper-middle-income country. However, one of the implications of this rapid economic transformation is that the demand for energy services, in particular electricity, has increased at an unprecedented scale in recent years. The per capita electricity consumption has grown at 18% year-on-year during 2010-2019, while electricity demand has increased more than four-fold over the same period.

As energy is a pillar and key enabler of economic growth, it is of key importance that the energy sector continues to be developed in a balanced, sustainable, and efficient manner. It is in this context that I am very delighted to announce, on behalf of the Royal Government of Cambodia, the launch of the 'National Energy Efficiency Policy 2022-2030', which adequately places energy efficiency as one of the key approaches underpinning the development of Cambodia's energy sector. The benefits of energy efficiency are multifold and across multiple sectors. By resulting in energy savings, energy efficiency reduces end-use energy costs, thereby enabling the average citizen to mobilise its financial resources to other economic activities and also businesses and industries to increase their competitiveness. Energy efficiency also strongly supports our ambition to lower Cambodia's dependency on energy imports and reduce the need for investments in new energy infrastructure, which will eventually result in a reduction of end-user energy prices.

I would also like to single out another benefit of energy efficiency, which is becoming increasingly relevant in a climate and environmentally-constrained world. As energy efficiency reduces energy demand, so does fossil fuel consumption, which in turn reduces greenhouse gas emissions, thereby supporting Cambodia in fulfilling its commitments under the Paris Agreement and helping reduce environmental pollution.

With this National Energy Efficiency Policy 2022-2030, the Royal Government of Cambodia makes a strong commitment to 'transform energy consumption in Cambodia by adopting energy efficiency, thereby contributing to a strong, vibrant and competitive economy while fostering sustainable development'. Turning the energy efficiency potential into a reality requires participation at all levels. On behalf of the Royal Government of Cambodia, I, therefore, urge all

line ministries, relevant institutions, development partners, the private sector, local and international NGOs, and all citizens of Cambodia to actively support this common effort of turning Cambodia into a more energy-efficient country.

Lastly, I would like to express my appreciation for the efforts made by the Ministry of Mines and Energy in the preparation of this comprehensive National Energy Efficiency Policy 2022-2030. I firmly hope that this Policy can make a strong contribution to achieving the vision of the Royal Government of Cambodia of an inclusive, sustainable, and high-income country by 2050.

Phnom Penh, 22 November 2022

Prime Minister

(Signature and Seal)

Samdech Akka Moha Sena Padei Techo HUN SEN

Preface

As our economy grows and develops, the Ministry of Mines and Energy (MME) not only have a duty to ensure a more accessible, reliable, and affordable energy supply, but it also has the responsibility of considering options to develop and use energy in a more sustainable way. It is in this context that MME has been keenly looking into opportunities to maximise the adoption of renewable energy technologies and energy efficiency, which could support our country's embarking on a clean energy transition pathway while at the same time enhancing energy security. These options are being thoroughly analysed in major planning documents that our ministry has been preparing, especially the Power Development Plan (2022-2040), in which energy efficiency is recognised as one of the central pillars of our energy policy as a means to achieve energy security and energy sustainability.

The concept of energy efficiency does not only mean saving energy by reducing economic activity and the overall productivity, comfort, and well-being of the end users. It also aims to provide the same – or an even better – energy service by using fewer energy inputs. In fact, energy efficiency could play an important role in achieving the sector's overarching objective of providing energy in a reliable, secure, stable, and affordable manner while contributing to the country's sustainable development at the same pace. We have now taken a step forward by laying out a policy framework to enable, support, and accelerate the uptake of energy efficiency in our country.

The Policy was prepared after a thorough review of international best practices and by taking into account the specific circumstances of our country, including past and future energy consumption trends, availability and affordability of energy efficiency technologies, and investment requirements.

The Policy sets out the vision of an energy sector to 'transform energy consumption in Cambodia by adopting energy efficiency, thereby contributing to a strong, vibrant and competitive economy while fostering sustainable development', enabling economic growth and social inclusiveness, ensuring the competitiveness of businesses, and improving human health, while also preserving the valuable natural capital of the country. The Policy also lays out an ambitious target for the reduction of energy consumption by 2030 through energy efficiency by at least 19% in relation to a scenario without such interventions. This target has been broken among major economic sectors, namely industry, commercial and public buildings, the residential sector, public services, and transport.

As Cambodia recovers from the unprecedented crisis originated by the Covid-19 pandemic, the launch of this policy could support our economic recovery, as it can lead to new business opportunities, stimulate innovation in certain sectors (e.g., in the form of new technologies, services, and designs) and result in the creation of new jobs, many of them in highly qualified technological areas. Energy efficiency will also enable end users to realise energy savings, thereby lowering their energy-related expenditures. The lower energy prices, which can be achieved in the long run through a wider adoption of energy efficiency, will also facilitate and accelerate access to modern energy services by the population not yet covered by such services.

This Policy only marks the beginning of a long journey to turn our country into a more energy-efficient society. Other policies, regulations, and guidelines will be required to create a more conducive environment for investments in energy efficiency to take place across different end-use sectors. The enforcement and monitoring of progress will also be a key determinant to the successful implementation of the Policy. That is why with this Policy, we have gone to great lengths in the definition of roles, mandates, and responsibilities of different government institutions. It will also place a strong emphasis on the need to develop the awareness, knowledge, and capacities of our human capital, which will be instrumental in sustaining the transition towards energy efficiency in our country.

I would like to take this opportunity to thank and congratulate my staff at the General Department of Energy for preparing this comprehensive and high-quality policy document. I would like to convey my deepest thanks to all contributors from line ministries, institutions, and development partners for their input in the formulation of this Policy. I look forward to continuing and strengthening our collaboration to successfully implement this Policy. I would also like to extend my sincere thanks to the Asian Development Bank for its valuable technical support in preparing this important document and its continuous support to Cambodia's power development sector. Finally, I would like to express my profound gratitude to **Samdech Akka Moha Sena Padei Techo Hun Sen** for entrusting the MME to take the lead in the development of the National Energy Efficiency Policy (2022 – 2030).

Phnom Penh, 12 October 2022

Minister of Mines and Energy

(Signature and Seal)

SUY SEM

Acronyms List

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BAU	Business as Usual
BEC	Building Energy Code
CAGR	Compound Annual Growth Rate
CDC	Council for the Development of Cambodia
CO_2	Carbon Dioxide
DEC	Designated Energy Consumer
EAC	Electricity Authority of Cambodia
EDC	Electricité du Cambodge
EE	Energy Efficiency
EFPC	Economic and Financial Policy Committee
ESCO	Energy Service Company
EV	Electric Vehicle
EUI	Energy Use Intensity
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWh	Gigawatt hour
ISC	Institute of Standards of Cambodia
KPI	Key Performance Indicator
ktoe	Kilo tonne of oil equivalent
LED	Light-emitting diode
LPG	Liquified Petroleum Gas
MEF	Ministry of Economy and Finance
MEPS	Minimum Energy Performance Standard

MISTI	Ministry of Industry, Science, Technology and Innovation
MLMUPC	Ministry of Land Management Urban Planning and Construction
MME	Ministry of Mines and Energy
MOE	Ministry of Environment
MoP	Ministry of Planning
MPWT	Ministry of Public Works and Transport
MRV	Monitoring, Reporting and Verification
M&E	Monitoring and Evaluation
Mtoe	Megaton of oil equivalent
NCSD	National Council for Sustainable Development
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NEEP	National Energy Efficiency Policy
NSDP	National Strategic Development Plan
O&M	Operations and Maintenance
PMF	Performance Measurement Framework
REE	Rural Energy Enterprise
RGC	Royal Government of Cambodia
RS	Rectangular Strategy
SEEAP	Sectoral Energy Efficiency Action Plan
SEZ	Special Economic Zone
SME	Small and Medium Sized Enterprise
S&L	Standards and Labelling
tCO_2e	tonne of carbon dioxide equivalent
TPES	Total Primary Energy Supply
UNFCCC	United Nations Framework Convention on Climate Change

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Executive Summary

To contribute to the goal of transforming Cambodia into a high middle-income country by 2030 and a high-income country by 2050, the Royal Government of Cambodia has adopted the 'National Policy on Energy Efficiency 2022-2030' (henceforth designated as the 'Policy'). The Policy is guided by the vision to 'transform energy consumption in Cambodia by adopting energy efficiency, thereby contributing to a strong, vibrant and competitive economy while fostering sustainable development.' The Policy is established as the umbrella framework and guiding reference for energy efficiency developments in Cambodia, and it fulfils six key objectives. First, it establishes the policy, regulatory and legal basis for sector-specific interventions and programmes on energy efficiency, which shall be defined in further detail in subsequent dedicated policies and regulations. Second, it defines the roles, mandates and responsibilities of relevant government institutions to enable implementation of the provisions of the Policy, including a mechanism to facilitate coordination. Third, it sets indicative measurable targets for the adoption of energy efficiency in Cambodia to be achieved by 2030. Fourth, it outlines measures, instruments, and mechanisms to support removing barriers to the adoption of energy efficiency. Fifth, it establishes a common framework of monitoring and evaluation (M&E) metrics to track progress in implementation. And sixth, it prioritises as key drivers of change, the development of human capital capacities and knowledge dissemination on energy efficiency.

This policy sets a national target for the reduction of total energy consumption (thermal and electrical) of at least 19% by the year 2030 vis-a-vis the 'Business-as-Usual' (BAU) [1] scenario, from 89,837 GWh to 72,470 GWh. For major energy-consuming sectors, the Policy lays out specific targets to reduce energy consumption in relation to a BAU trajectory by 2030, of at least:

1. 20% in the industrial sector, from 38,600 GWh to 30,800 GWh;
2. 34% in the residential sector, from 17,981 GWh to 11,826 GWh;
3. 25% in commercial buildings (including public buildings), from 8,552 GWh to 6,431 GWh;
4. 29% in public services, from 42 GWh to 30 GWh;
5. 5% in the transport sector, from 24,662 GWh to 23,383 GWh.

The Policy recognises that achieving these targets requires sector-specific measures and enabling instruments that, once adopted, could foster the adoption of energy efficiency by both public and private sectors. The Policy identifies measures and instruments to be prioritised in Cambodia, which includes (but are not restricted to) the following:

1. For **industries**, the introduction of energy performance standards for major energy-sector operations and equipment;

2. For **buildings** (including residential, commercial, and public buildings), the development of a building energy code, its implementation along with that of green building guidelines and necessary certifications in an integrated manner;

[1] This considers the growth of energy demand without the adoption of any energy efficiency interventions

3. For the **residential sector**, the development of Standards & Labelling (S&L) programmes for appliances and equipment, including the introduction of 'Minimum Energy Performance Standards' (MEPS) and incentives to accelerate the shift to cleaner and more efficient cookstoves;

4. For the **transport sector**, the electrification of transport, the introduction of fuel economy standards, and modal shift to public transport;

5. For **public services**, the retrofitting of conventional lamps with high efficiency LEDs for street light applications, and the replacement of inefficient diesel generators for wastewater pumping with more efficient systems;

6. **Cross-cutting** to industries and buildings, the establishment of energy management programmes based on the identification of 'designated energy consumers' and energy reporting requirements, as well as the establishment of a framework for the empanellment and rating of Energy Service Companies (ESCOs).

Realising the vision, targets and objectives of the Policy requires strong leadership of the RGC. To this end, the Policy establishes a governance framework assigning specific roles and responsibilities to different government institutions, including a mechanism to facilitate coordination. This framework determines that the Economic and Financial Policy Committee (EFPC) shall function as the apex body for overseeing, monitoring, coordinating, and providing policy orientation to the "National Energy Efficiency Committee**"**. The commitee is established as a coordinating unit for all energy efficiency work, under the leadership of MME with representation from concerned line ministries. This committee shall report to the EFPC, and follow its advice to resolve any important issues and improve the effectiveness of implementation.

The governance framework set forth under the Policy provides full mandate to MME as the 'Nodal Agency' of the Policy. In this capacity, MME will take the leading role on energy efficiency developments in Cambodia, and will be responsible for the supervision, coordination, and implementation of the provisions of this Policy. The Policy also introduces the concept of 'Partner Agencies' to designate government institutions with a role in promoting energy efficiency in Cambodia along with the Nodal Agency. In order to fulfill its responsibilities, the National Energy Efficiency Committee has the participation of sector partners in charge of energy efficiency in their respective sectors. These Partner Agencies are the Ministry of Industry, Science, Technology and Innovation (MISTI) for the industrial sector, the Ministry of Land Management, Urban Planning and Construction (MLMUPC) for the building sector, and the Ministry of Public Works and Transport (MPWT) for the public service and transport sectors. Their main responsibility is to mainstream energy efficiency in their respective planning processes and to engage in their implementation. These Partner Agencies will be responsible for the formulation and implementation of Sectoral Energy Efficiency Action Plans (SEEAPs), which will be prepared in coordination and with the technical guidance of the Nodal Agency. At the sub-national level, provincial governments shall integrate energy efficiency considerations into their respective green/sustainable city plans. The detailed roles and responsibilities of the Partner Agencies are outlined in the Policy. The governance framework also creates the provision for Partner Agencies to nominate their Energy Efficiency Focal Points as dedicated resource persons to support them in fulfilling their mandate as per the Policy.

The Policy identifies a set of legal, administrative, and financial instruments that can be used by the RGC in pursuit of the objectives of the Policy. Among these instruments, the Policy recognises the role of innovative financing mechanisms such as the set up of dedicated funds to support private sector investments on energy efficiency through low-interest loans and guarantees.

1. Introduction

1.1. Rationale for developing the national energy efficiency policy 2022-2030

Energy Efficiency is defined as a reduction in the amount of energy consumed whilst maintaining the same or better level of output. By enabling a gain in the amount of 'output' delivered from a unit of energy used, energy efficiency is a major approach to reducing energy demand and realise energy cost savings, thereby improving energy security, the affordability of energy services, and the environmental sustainability of energy supply.

While the potential for energy efficiency remains largely untapped in Cambodia, leveraging these opportunities could result in multiple benefits, in particular, the following:

1. **Improvement in energy security** – Energy efficiency will result in a reduction of energy demand and, as such, could help improve energy service performance and delivery, which would then result in higher energy savings to meet growth in demand. Intrinsically, the introduction of energy efficiency in Cambodia would reduce the dependency on energy imports, thereby improving national energy security.

2. **Reduction of energy cost and higher overall economic competitiveness** – A sustained decrease in the demand for energy services would, in the mid to long-term, support a generalised reduction in energy costs through avoided investments in energy infrastructure and pricey energy imports. This would have a positive impact in the overall competitiveness of the national economy, especially to industries and commercial enterprises exposed to overseas competition.

3. **Reduction of living costs and poverty alleviation** – Energy savings from energy efficiency can reduce the burden of energy costs for energy consumers, making energy services more affordable and freeing up resources that can be mobilised for other economic activities, thereby raising the standard of living.

4. **Reduction of greenhouse gas emissions (GHG) and other environmental pollutants** – Energy efficiency results in lower levels of fossil fuel consumption, which would lead to a reduction in the emissions of GHG, thereby supporting Cambodia to meet its commitments under the Paris Agreement as specified in its Nationally Determined Contributions (NDCs). Lower consumption of fossil fuel leads to improved air quality resulting in improved human health and well-being.

5. **Creation of new markets for energy efficiency technologies and services** – Energy efficiency provides new business opportunities for both established and new players in Cambodia, which could support employment generation.

To foster the uptake of energy efficiency and realise its multiple benefits, it is necessary to create an enabling policy and regulatory framework. Additionally, the Policy also outlines a common framework for future policies and regulations related to energy efficiency in different sectors to be developed and approved in the future.

1.2. Energy Efficiency as a means to support national policies and strategies of Cambodia

The Royal Government of Cambodia has, in the past, recognised the role that energy efficiency could play in accomplishing Cambodia's economic development aspirations. The National Energy Policy of October 1994 states the need for reliable and affordable energy services as a means to support Cambodia to become a middle-income country by 2030. This policy can contribute to achieving the aims and goals of several national policies, strategies, and action plans. Like the following:

- **Rectangular Strategy Phase IV**, adopted in September 2018, identifies strategic goals and priority areas to support Cambodia in achieving its vision of an inclusive, sustainable, and high-income country by 2050. The Strategy broadly identifies 'efficiency' as one of its four core goals, alongside growth, employment, and equity. The strategy also highlights a set of priority areas that could be supported by the wider adoption of energy efficiency, which includes enhanced competitiveness of businesses, the promotion of industrial innovation and entrepreneurship, and the sustainable management of natural resources. The strategy makes references to the challenges of high energy prices and the need to ensure energy security in the long term, both of which could be addressed through the National Energy Efficiency Policy 2022-2030.

- **National Strategic Development Plan (2019-2023) (NSDP)**, adopted in September 2019, was formulated to support the implementation of Rectangular Strategy Phase IV and defines policy priorities for the Sixth Legislature of Cambodia's National Assembly. Among energy sector policies, the promotion and development of energy efficiency and energy savings is well identified as a priority of the NSDP, which could be further supported through this Policy.

- **Electricity Law**, adopted in 2001 with amendments in 2007 and 2015, establishes the regulatory and organisational basis for all activities related to the supply of electricity and associated services. The Policy further complements the provisions of the Electricity Law by laying out a framework specifically covering energy efficiency activities.

- **Cambodia's Updated Nationally Determined Contribution (NDC)** to the Paris Agreement on climate change, formally submitted to the UNFCCC on 31st December 2020, sets out the national plans, programmes and activities on climate change mitigation and adaptation, including scenarios and targets for 2030. Energy efficiency interventions feature prominently in the NDC, being highlighted as important sectoral and cross-sectoral GHG emission reduction activities. The NDC also recognises that these, along with other mitigation activities, could make strong contributions to sustainable development in Cambodia. Accordingly, a national policy on energy efficiency could lay out the enabling conditions to accelerate the implementation of energy efficiency projects featured in the NDC.

- **Cambodia's Climate Change Strategic Plan (2014–2023)** lays the strategic objective of promoting low carbon planning and technologies to support sustainable development. The strategy encourages all line ministries to share the responsibility of reducing GHG emissions by preparing their respective Climate Change Action Plans. It identifies energy efficiency as an important approach to reduce GHG emissions, highlights its positive

impact on health, well-being, and energy security. The strategy recommends the promotion of 'low-carbon planning and technologies' and accelerating the uptake of energy efficiency both on the supply and demand side, which could be supported by the Policy.

- **National Strategic Plan on Green Growth (2013-2030)**, approved by the Council of Ministers in March 2013, was introduced to mainstream sustainable development in Cambodia's policy and other strategic plans with the establishment of the National Council on Green Growth to advocate for stable economic growth, improve the quality of the environment, and reduce poverty. It provides an orientation to line ministries, the private sector, and civil society towards effective green growth. It provides strategies to strengthen green growth in the country, covering a wide range of subjects, including investments in clean energy and energy efficiency to boost economic development. The Policy shall thus take forward the agenda set out in the National Strategic Plan on Green Growth.

- **Industrial Development Policy (2015-2025)**, approved by the Council of Ministers in 2015, aims to instil a transformation of Cambodia's industrial sector from a labour-intensive to a skill-based industry, focusing on innovation, technology, and higher productivity. The policy stresses the need to enhance the competitiveness of Cambodian industries, especially at the global level. While energy efficiency does not feature in the policy as a specific approach to improve industrial competitiveness, it could support some of the strategies identified forth at the end, in particular, the reduction of electricity prices and the increased access to reliable electricity supply. The Policy here putting forth should be considered in alignment with, and as a complement to, the Industrial Development Policy.

- **The strategic framework and programmes for economic recovery in the context of living with Covid-19 in a new normal 2021-2023** is the Royal Government of Cambodia's plan focusing on the three R's approach to economic recovery after the Covid-19 global pandemic: (1) Recovery, (2) Reform, and (3) Resilience. Out of the three approaches, the resilience approach focuses on inclusive and sustainable development, setting out measures that support green economic recovery, especially improving energy efficiency and the use of renewable energy sources.

1.3. Structure of the national energy efficiency policy

This Policy is organised into nine sections. Following this introduction, the second section presents the current state of energy efficiency in Cambodia, casting light on the need for energy efficiency as well as the barriers hindering its broader uptake. The third section lays the long-term vision of the Policy, whereas the fourth section sets the policy objectives and defines targets for energy efficiency to be achieved by 2030. Section five lays out the strategic framework based on which the vision and objectives of the Policy shall be realised. Section six outlines specific measures and a road map for energy efficiency in different sectors, including buildings, industry, transport, and public services. Section seven provides the governance structure of the policy, which includes roles and responsibilities for different stakeholders as well as a set of instruments to support policy implementation. Section eight presents a monitoring and evaluation plan to track progress in implementation. And the ninth section concludes by presenting a summary of the intended outcomes of the policy.

2. Current status of energy consumption and energy efficiency in Cambodia

Cambodia has emerged as one of the fastest-growing nations in Southeast Asia, with an economy that has grown at an annual average rate of 7% during 2003-2019. However, this growth rate slowed down in 2020 as a result of the Covid-19 pandemic. This robust economic growth has had three major effects in the energy sector: a sustained increase in energy demand, especially for electricity; the increasing dependence on imported energy, especially oil and coal; and a higher proportion of fossil fuels in the energy mix.

Cambodia experienced an increase in total final energy consumption (TFEC) of 63% between 2010 and 2019. At the same time, electricity consumption increased by 353%. Biomass accounts for a major share, i.e., 47% of energy consumption in Cambodia in 2019, followed by fossil fuels (41%) and electricity (12%). Biomass is widely used in residential buildings for cooking and as a source of fuel for industry.

In 2019, the main economic sectors responsible for energy consumption were as follows:

1. Residential sector energy consumption as 27,333 GWh, with a share of 35% in TFEC.
2. Transport sector energy consumption as 22,108 GWh, with a share of 28% in TFEC.
3. Industrial sector energy consumption as 20,411 GWh, with a share of 26% in TFEC.
4. Commercial and public services energy consumption as 6,171 GWh, with a share of 8% in TFEC.

Cambodia's electricity demand has increased significantly in the last decade, with electricity consumption more than quadrupling from 2,515 GWh in 2010 to 11,816 GWh by the end of 2021, which corresponds to an average annual growth rate of approximately 18%. Annual electricity consumption per capita has also more than quadrupled, from 161 kWh per person in 2010 to 706 kWh per person per year in 2021.

Against a background of energy demand growth, high reliance on energy imports and relatively high energy prices as compared with neighbouring countries, the potential for energy efficiency in Cambodia remains largely untapped. The initiatives to support energy efficiency conducted in the past have mostly relied on technical assistance from development partners in the country and region. Such projects have been implemented in the garment, textile, and footwear sectors to cater to the needs of international buyers and/or brand owners as a result of increased awareness and participation, cost reduction opportunities, and environmental protection requirements of some consumers. Regional and global experience shows that the establishment of a comprehensive policy framework is the first step in the transition towards an energy-efficient economy. While Cambodia's national policy framework generally supports energy efficiency, there is a need for a dedicated energy efficiency policy to overcome obstacles to the development of energy efficiency projects.

Barriers to energy efficiency in Cambodia are found at the following levels:

1. **Policy and Institutional**:

- Undefined governance framework on energy efficiency, including institutional mandates, roles, and mechanisms for coordination among government agencies. Lack of sector-specific policies and regulations to foster investments in energy efficiency (e.g., in the form of codes, labels, and standards);
- Lack of market mechanisms and regulations to support the development of energy efficiency services and energy audits, in particular a building energy code, empanellment of ESCOs, and the accreditation of energy auditors;
- Lack of a framework and enforcement mechanism for the measurement, reporting, and verification of energy consumption in large consumer segments, including industries and buildings;
- Unavailability of sub-sectoral data and data sharing mechanisms on energy consumption across line ministries;
- Lack of an accreditation framework for energy auditors and managers;
- Low capacities of government agencies both at the national and sub-national level to identify, develop, and implement energy efficiency projects;
- Lack of fiscal and financial incentives to support and reward the adoption of energy efficiency.

2. **Technical:**

- Lack of technical regulations and guidelines, at the sectorial and cross-sectorial level, to encourage investments in more energy-efficient products and services;
- Lack of a framework for project-specific measurements, reporting, and verification of energy efficiency;
- Inadequate capacities of energy users and sector practitioners to identify, develop, and implement energy efficiency projects.

3. **Financial:**

- High upfront costs and risks associated with returns and investment payback;
- Lack of risk mitigation instruments for energy efficiency projects;
- Lack of access to affordable finance for investment in energy efficiency projects;
- Lack of public and private financial mechanisms to support investment in energy efficiency projects because such projects require large initial capital investments and small savings for subsequent years, which extends the payback period;
- Lack of expertise among financial institutions to appraise energy efficiency projects.

4. Information and Awareness:

- Lack of awareness among energy users about the benefits of energy efficiency, which influences consumer purchase decisions in favour of less energy-efficient options;
- Business models focused on 'energy-as-a-service' are still new and relatively unknown in the Cambodian context;
- Lack of educational and technical training programmes for building capacities on energy efficiency.

The Policy lays out a framework that will support overcoming these barriers, thereby creating an enabling environment for energy efficiency. Many of these barriers can be overcome with well-designed financing mechanisms, incentives, and business models, together with complementary policies, regulations, and awareness-raising activities. These initiatives are expected to lay the foundation for the enhanced adoption of energy efficiency measures.

3. Vision

This policy has the vision to 'transform energy consumption in Cambodia by adopting energy efficiency, thereby contributing to a strong, vibrant and competitive economy while fostering sustainable development.'

4. Objectives and targets

The Policy aims to unlock Cambodia's energy efficiency potential, which shall eventually lead to a reduction of energy consumption and the emissions of GHG. The Policy therefore intends to support the overarching goals of resource conservation, improved private sector competitiveness, and sustainable development.

To achieve the above vision and overarching objective, this policy sets out the following goals:

- Establish the policy, regulatory, and legal basis for sector-specific interventions and programmes on energy efficiency to be further defined through dedicated policies and regulations;
- Define the roles, mandates, and responsibilities of relevant government institutions to enable implementation of the provisions of the Policy, including a mechanism to facilitate coordination among them;
- Set indicative measurable targets for the adoption of energy efficiency in Cambodia for 2022-2030;
- Lay out measures, instruments, and mechanisms to remove barriers to adoption of energy efficiency in Cambodia;

- Establish a common framework of Monitoring and Evaluation metrics on energy efficiency to track progress in implementation;
- Disseminate knowledge on energy efficiency, and develop the necessary human capital capacities to enable individuals and institutions to identify, develop, and implement energy efficiency projects.

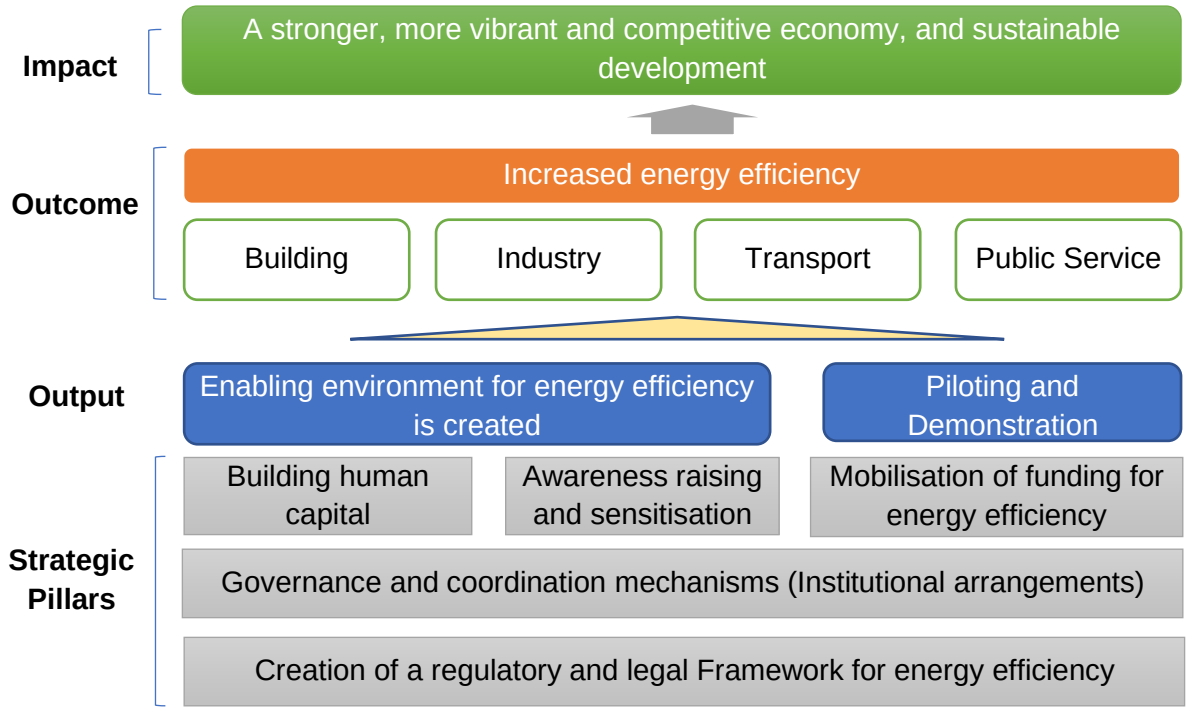
This Policy sets a national target for the reduction of total energy consumption (thermal and electrical) of at least **19%** by the year 2030 vis-a-vis the 'business-as-usual' (BAU) scenario, which assumes an energy consumption growth trajectory without any energy efficiency interventions to be from 89,837 GWh to 72,470 GWh. For major energy-consuming sectors, the Policy lays out specific targets to reduce energy consumption in relation to BAU by 2030, of at least:

- **20%** in the **industrial sector,** from 38,600 GWh to 30,880 GWh;
- **34%** in the **residential sector,** from 17,981 GWh to 11,826 GWh;
- **25%** in the **commercial buildings**, from 8,552 GWh to 6,431 GWh;
- **29%** in the **public services,** from 42 GWh to 30 GWh;
- **5%** in the **transport sector** from 24,662 GWh to 23,383 GWh.

The Policy focuses on **Demand-Side Energy Efficiency**, which encompasses the range of measures that can be applied in end-user sectors to reduce energy demand through a more efficient use of energy. The Policy does not cover supply-side energy efficiency, which applies to the generation, transmission, and distribution of energy. These aspects are covered in Cambodia's Power Development Masterplan (2022-2040). The relevant ministries and institutions shall promote and accelerate energy efficiency in the use of electricity and thermal energy through the policy measures and action plans set out in this policy. They shall also consider energy efficiency in the use of other types of energy through implementation of separated energy efficiency projects according to the feasibility of each sector as well.

5. Strategic Framework

To achieve the vision, direction, objectives, and targets of the Policy, the RGC develops a strategic framework for energy efficiency with five strategic pillars. Each pillar entails a coordinated, interconnected, and complementary function to ensure that the implementation of this policy is successful, efficient, and effective. The five strategic pillars of the Strategic Framework for Energy Efficiency are: 1) the establishment of legal and regulatory frameworks for energy efficiency; 2) governance and coordination mechanisms; 3) human resource development; 4) raising awareness and dissemination of information; and 5) mobilising funding for energy efficiency.



These strategic pillars are essential to create an enabling environment for energy efficiency, which will eventually lead to investments, both public and private, in more energy efficient technologies and approaches in energy consuming sectors such as building, industrial, transportation, and public service. At the same time, piloting and demonstration are required to establish investor confidence, build national capacities, and enable a transition towards larger projects. An overview of these strategic pillars is provided below, while sector-specific strategies are presented in section 6.

5.1. Creation of a regulatory and legal framework for energy efficiency

The Policy sets out strategies and policy measures at the sector level to establish and support the implementation of energy efficiency in each energy consumption sector. These are further supported with specific instruments i.e., of legal, administrative, and financial nature, as identified in point five of section 7. The Policy also lays out the basis for the issuance of subordinate legislation, as necessary, that can address the specific needs and circumstances of the different sectors.

5.2. Governance and coordination mechanisms

Energy efficiency governance is the combination of legislative frameworks and funding mechanisms, institutional arrangements, and coordination mechanisms, which work together to support the implementation of energy efficiency strategies, policies, and programmes. In the scope of the Policy, the energy efficiency governance and coordination mechanisms cover two main aspects. First, it introduces administrative instruments for the creation of an institutional structure for the overall governance of energy efficiency, both at the national and sub-national levels. Second, it defines roles, responsibilities, and arrangements to ensure seamless collaboration among government stakeholders for effective implementation.

5.3. Building human capital

Cambodia is still in the early stage of its transition towards an energy-efficient economy, and therefore there is a need to enhance the level of skills and capacities to identify, develop, and implement energy efficiency interventions. This can be achieved through a consultative and integrated approach. While the Policy presents sectoral specific strategies for capacity building (detailed in section 6), the following generic principles are to be followed for effective capacity building:

1. Identification of capacity gaps among focus groups (e.g., government agencies, civil society groups, companies, business associations);
2. Design training courses in line with focus groups' requirements and regional best practice;
3. Establish a certification system for energy managers and trainers;
4. Implementation of capacity building programmes with periodic reviews based on feedback and consultations.

5.4. Awareness raising and sensitisation

Cambodia's population at large is unaware of the benefits of energy efficiency. This can be observed from the presence of inefficient appliances and equipment in the market and the lack of consumer awareness on energy efficiency. Strategies put forward in the Policy (section 6) aim at making society more sensitive and aware of the need for energy efficiency. This shall take place through a variety of communication strategies such as public campaigns (e.g., advertisements in print and media), and should be tailor-made for specific groups (e.g., industrial maintenance and operation staff, building facility managers, street light operators, housing society residents, transport operators, etc.)

5.5. Mobilisation of funding for energy efficiency

Globally, public financing programmes have been at the forefront of options to meet the financing needs of end-use sectors. On similar lines, the strategy for energy efficiency financing in Cambodia shall, at an initial stage, primarily rely on public sources of finance. These will be instrumental in enabling the creation of a market for energy-efficiency products and services. Next, market mechanisms and other forms of innovative finance shall be introduced to expand the coverage of public programmes to newer sectors and leverage private sector finance for energy efficiency investments. These are detailed in point five of section 7.

6. Policy measures

6.1. Sectoral energy efficiency perspective

The energy efficiency improvements envisaged with this policy are outlined in four main sectors of energy consumption, i.e., industry, buildings, public services, and transportation. A brief overview of each sector is provided below.

6.1.1. Manufacturing Industry

The manufacturing industry sector is the mainstay of the Cambodian economy, which has witnessed an average growth of 7-8% in the past decade. With the total value of manufacturing products recorded at USD 4.07 billion (KHR 16,275 billion), the manufacturing industry sector of Cambodia contributed 32.6% to the country's GDP in 2018. The sector comprises 1,730 registered large industries, and 52,154 registered small and medium enterprises (SME), employing a total of 1.04 million workers. A significant number of industries are part of the informal economy, and 62% of industries are owned by women. The majority (67%) of the large industrial units are engaged in the manufacturing of textiles, apparel, leather shoes and bags, while around 80% of the SMEs are engaged in food and beverage production. Owing to its fast-paced growth, the industrial sector has witnessed a rising share in energy consumption. According to forecasts of the Power Development Masterplan (2022-2040), the average growth rate of industrial electricity consumption is projected to increase annually by 14.01% of total electricity consumption.

The industrial sector in Cambodia is dominated by the private sector, with very limited adoption of energy efficiency technologies. Unregistered enterprises and women-owned enterprises primarily serve the domestic market and are, therefore, particularly vulnerable to domestic demand cycles. Being unregistered also precludes the industrial units from availing of loans from the mainstream banking sector for energy efficiency implementation. Textiles, apparel, footwear, handbags, and rice are among the major export products of Cambodian industries, which have lately witnessed rising competition from other countries. In the case of export-oriented industries, while international buyers often require compliance with specific environmental standards, the greening of the manufacturing process, the planning, implementation capacity, and awareness of these industries on energy efficiency remain fairly limited. Their lack of capacity is further exacerbated by the incipient development of ESCOs.

To address the sectoral challenges mentioned above, the strategic pillars identified in section 5 have been used as the basis to formulate and prioritise the following energy efficiency strategies and interventions for the industry sector.

1. The establishment of an **energy management program** through subordinate legislation, which shall form the basis to identify opportunities for energy efficiency upgrades through retrofits, the adoption of new technologies and other approaches. More specifically:

    - The programme shall denominate all industrial units and buildings with the average annual energy consumption for the past three years, exceeding the threshold value, as determined by the Nodal Agency (see definition in section 7) from time to time, as 'Designated Energy Consumers' (DECs);

    - Guidelines on energy performance standards for major energy operations and equipment shall be established for DECs, which shall remain valid until further amendments;

    - DECs shall be required to compulsorily appoint an Energy Manager who shall hold a valid Energy Manager/Energy Auditor certification issued by the Nodal Agency or any other authorised agency;

- The Energy Manager shall be the responsible person for implementing, overseeing, and improving the energy management system of the facility, following globally recognised energy management standards;
- The DECs shall be required to engage energy auditor firms empanelled by the Nodal Agency to conduct energy audits on an annual basis to verify and report compliance against the performance standards and relevant institutions.
- The Nodal Agency shall set up an online portal for the DECs to periodically report their energy performance and submit the verification reports prepared by the empanelled energy auditor. In due course, the portal shall be developed further to serve as a tool to report on the consumption of energy as well as other parameters of relevance to concerned line ministries.

2. Regulations to set up a system for the empanelling and rating of ESCOs, as defined in the 'definitions of key terminologies':
   - ESCOs shall apply to the Nodal Agency for empanelment status;
   - The Nodal Agency shall appoint independent rating agencies to conduct an appraisal of the application submitted by ESCOs and assign them a rating, which shall be valid for a period of two years.
3. Develop regulations to enforce compliance of DECs[2] with mandatory provisions of the energy management program envisaged by the Policy;
4. Develop Measurement, Reporting and Verification (MRV) protocols for energy-efficient technologies of high energy/GHG emission savings potential;
5. Provide project preparation support to Partner Agencies (defined in section 7) and industrial facilities (e.g., market assessment and feasibility studies, guidelines for technical and commercial appraisal of energy efficiency projects, etc.);
6. Provide incentives to low energy-intensive industries and buildings (that are not DECs) to participate in energy management programmes on a voluntary basis;
7. Provide support for financing industrial energy efficiency through innovative forms of finance, investor matchmaking services, transaction advisory services, etc.);
8. Develop training and trainer programmes for energy managers, ESCOs, and staff of line ministries;
9. Develop awareness-raising programmes on energy efficiency for industries and their associations.

[2] DECs will be defined for both the industrial and buildings sectors.

6.1.2. Buildings

Eight building types have been identified as a priority for consideration in the scope of this policy, namely residential buildings, office buildings, hotel buildings, retail and wholesale buildings, schools, hospitals, warehouses, and public administration buildings.

6.1.2.1. Residential

In 2020, Cambodia had more than 3.6 million houses nationwide, with an average annual growth rate of about 1.67%. Urbanisation has been increasing rapidly, with an official estimation that about one-third of total Cambodia, the population will reside in urban areas by 2030.

As one of the leading energy-consuming sectors, the potential for energy efficiency is considerable and shall focus on energy-efficient household appliances, improved building design practices, and energy-efficient cookstoves. Due to the high urbanisation rates and the increase in income levels, more heavy electric-consuming appliances such as refrigerators or air conditioners shall be used in the future, and therefore the energy-efficient performance of these appliances will be significant. In addition, energy-efficient building design practices offer enhanced thermal comfort and lead to reduced energy demand in residential buildings. Up until now, appropriate policy actions to increase the uptake of energy-efficient appliances and the use of energy-efficient building design practices in the household sector have not been undertaken.

Biomass consumption is highest in the residential sector, representing 67.5 % of total biomass consumption in 2018. It is majorly consumed as a fuel for cooking. It is estimated that in 2018, among all households that use biomass for cooking, 66.7% of them used biomass stoves as their main stove, with 62% using firewood and 5% using charcoal. Of this 66.7%, about 35.1% use efficient stoves, while 31.6% use traditional biomass stoves. Past experience with clean stove distribution projects has led to an increase in the use of clean and energy-efficient cookstoves. In 2018, about 32.9% of households used clean and energy-efficient cookstoves, with 30.9% using LPG as its fuel and 1.8% using electricity. However, policy actions related to the standardisation of clean cookstoves and actions to curb the use of low-efficiency biomass stoves have not yet been developed.

Previous attempts to develop energy efficiency projects in the residential sector have not been successful, mostly due to the limited awareness of operational cost savings among residential end users. In addition, most appliances in Cambodia are imported with no inspection of their energy performance. Thus, there is a need for a mechanism to ensure compliance with minimum energy performance standards, which can be made possible with the development of a Standards & Labelling (S&L) programme. In the absence of a Building Energy Code in the residential sector, the building practices in Cambodia do not consider energy-efficient design measures, thereby leading to inefficient energy use. There is also a need to take appropriate policy actions involving the standardisation of clean cookstoves as well as measures to disincentivise the use of less efficient biomass cookstoves.

6.1.2.2. Commercial buildings and other buildings

The energy consumption has been growing rapidly in recent years. The built-up area of commercial buildings is estimated to increase from 20 million square meters in 2019 to 100 million square meters by 2040.

It is estimated that the total area of commercial buildings has reached 21.56 million square meters in 2021 and is expected to increase further to reach 43.79 million square meters by 2030. The demand for commercial buildings is estimated to increase from 4,891 GWh in 2021 to 9,802 GWh by 2030 in the absence of energy efficiency policies for commercial buildings. With no energy efficiency regulations, energy management systems, and energy rules for buildings, data on the energy performance of buildings is mostly unavailable. On the other hand, a building walkthrough energy audit-based survey carried out in 2021 enabled the estimation of energy use intensities (EUI) for different building types, as follows:

Building type	EUI (Annual kWh / square meters of built-up area)
Office	217
Retail	312
Hotel	126
Healthcare	153
Education	84
Warehouse	115
Public institutions	217

Energy efficiency opportunities in this subsector are centred around major energy-consuming applications in commercial buildings, which involve, but are not limited to, comfort cooling, lighting, water supply systems, elevators and escalators, and other receptacle loads depending on the building type.

To address the sectoral challenges of the building sector, for both residential and commercial buildings, the strategic pillars identified in section 5 have been used as the basis to formulate and prioritise the following energy efficiency strategies and interventions:

1. Develop **Standards & Labelling (S&L) programmes** with the introduction of regulation for '**Minimum Energy Performance Standards** (MEPS) for appliances and equipment, in particular for refrigerators, air conditioning, fans, lighting, washing machines, televisions, chillers, motors, air compressors, electric stoves, kettles, etc. and more specifically:

    - The development of S&L should be guided by a generic sub-decree that will define general procedures for regulating S&L in appliances. This should be followed by technical regulations, in the form of 'Prakas', that should define minimum energy performance standards, testing guidelines, etc., for each appliance/equipment category. Their implementation shall be supported, as necessary, with specific guidelines and procedures defined in operation manuals;

- The selection of appropriate international test standards on energy-consuming equipment and appliances based on test standards used in ASEAN countries and/or major countries of import, as required.

2. Develop a '**Building Energy Code**' (BEC) for residential and commercial buildings, including an MRV protocol for the consumption of energy. The BEC shall entail the following:

   - The Building Energy Code (BEC) should regulate the design and operational aspects of buildings[3] with the aim of enhancing building energy performance through prescriptive and/or mandatory requirements applicable to new and existing buildings. It shall incorporate the following elements:
     - Prescribe energy-efficient design features such as resource-efficient building materials and energy-efficient building envelopes with recommendations on thermal and other relevant design parameters by taking into account ongoing building construction practices and the availability of building materials and technologies in Cambodia;
     - Establish limits for maximum permissible thermal transmittance for the building envelope and maximum building energy use intensity for different types of commercial and residential buildings;
     - Establish energy labelling threshold levels below the established maximum building energy use intensities for different building types in a way that categorises buildings in different levels of energy performance. The BEC should also be aligned with any relevant ASEAN standards and guidelines.

   - Develop programmes to promote and strengthen the local production base and value chain for efficient construction materials suitable for energy-efficient building envelope design, as identified in the BEC;

   - The development of a BEC shall be guided by a generic sub-decree that will define general procedures for regulating the code for residential and commercial buildings.

3. Guidelines for green buildings, including a certification and rating mechanism, shall be considered for development and implementation. The integration of these guidelines into the BEC shall be considered appropriate.

4. Introduce fiscal and financial incentives, in consultation with MEF, to encourage the uptake of energy-efficient appliances/equipment and the adoption of measures to enhance building energy efficiency, such as: a) passive cooling and heating technologies; b) resource-efficient building materials for energy-efficient building envelope design. The RGC will further explore the possibility of public procurement of energy-efficient appliances

[3] Specific thresholds for envelope thermal performance shall be defined for residential and commercial buildings.

and equipment, resource-efficient building materials and passive cooling and heating technologies.

5. Provide training to architects, builders, ESCO service providers, staff of line ministries (building energy regulators) as well as other relevant stakeholders on energy efficiency practices in buildings.

6. The strategies mentioned in section 6.1.1 under points 1, 2, 3 and 6 for the industrial sector are also applicable to the buildings sector.

6.1.3. Public Services

As a country urbanises, the provision of public services plays an increasingly important role in meeting the needs of its citizens. In 2020, out of the total electricity demand in Cambodia, it was estimated that approximately 2.2% was consumed by the government sector, which includes energy consumption by street lights and municipal wastewater pumping. To minimise energy demand growth in this sector, energy efficiency interventions in street lighting and wastewater pumping will play an important role. For street lighting, key barriers to clear away for improved energy performance include the use of conventional lamps, limited use of smart controls, and frequent use of manual procedures for operations and maintenance. Further, for wastewater pumping, the use of diesel generators to operate wastewater pumps was found to lead to inefficient operations.

To address the sectoral challenges mentioned above, the strategic pillars identified in section 5 have been used as the basis to formulate and prioritise the following energy efficiency strategies and interventions for the public services sector:

1. Street lighting:

- Establishment of a National Lighting Code and harmonisation of national standards with international standards, including those of ASEAN;
- Integration of energy efficiency street lighting projects in smart city plans;
- Establishment of MRV protocols for energy efficiency street lighting;
- Retrofitting of conventional lamps with high-efficiency LED lamps, expansion of coverage of street lighting to new areas, and modernisation of control systems for public lighting using smart controls;
- Development of guidelines for the O&M of smart and energy-efficient public lighting;
- Training of provincial government staff and operation and maintenance companies to manage smart lighting systems.

2. Wastewater pumping:

- Substitution of diesel generator-operated municipal wastewater pumping systems with more efficient systems.
- Establishing guidelines for operation and maintenance.

- Training of staff on O&M of wastewater pumping systems.

6.1.4. Transport

With a robust growth of the economy and a steady increase in the per capita income in the last decade, the number of vehicles for road transport has been growing rapidly in Cambodia, with the year-on-year growth rate recorded at 7-8%. As of 2020, 5,850,427 vehicles were registered in Cambodia, with motorcycles accounting for 4,974,486 of these, or 85% of the total registered. There were 615,113 light vehicles and 260,808 heavy vehicles. The number of vehicles with more than ten years of usage is up to 44.3% of the total number of vehicles. The majority of the vehicles used for road transport are second-hand and have poor fuel efficiency and emission efficiency, leading to urban areas experiencing higher emissions and air pollutants during peak traffic hours.

Cambodia fully relies on imports to meet the fuel demand. In 2019, the transport sector represented over 28% of the final energy consumption in Cambodia. Considering that much of the petroleum products are consumed in transportation, there is a high potential for GHG emission reductions by switching conventional vehicles to greener alternatives. Encouraging a modal shift to public transport, and transitioning away from Internal Combustion Engines (ICEs) into EVs, will lead to a reduction in GHG emissions in congested urban areas. It will also bring significant co-benefits such as air quality improvements and noise reduction.

To address the sectoral challenges mentioned above, the strategic pillars identified in section 5 have been used as the basis to formulate and prioritise the following energy efficiency strategies and interventions for the transport sector:

- Implement regulations for introducing fuel efficiency norms for vehicles in road transport with the objective of minimising vehicular pollution and reducing demand for imported petroleum products;
- Training programmes for the staff of concerned line ministries on sustainable transport;
- Promote clean technologies such as electric vehicles in specific vehicle segments through awareness campaigns.

6.2. Sectoral targets

Sectoral targets have been defined based on analytical models developed to estimate energy savings from energy efficiency interventions for end-use energy sectors between 2021 and 2030. The models have considered the following scenarios:

1. Business as Usual scenario – with no consideration of increased energy efficiency;
2. Energy efficiency reference scenario – with moderately ambitious adoption of energy efficiency measures;
3. Optimistic scenario – with highly ambitious adoption of energy efficiency measures.

The sectoral targets set in the Policy are based on the potential reduction of energy consumption under the ‘Energy efficiency reference scenario’ as a result of energy efficiency interventions that would not occur under a ‘Business as Usual scenario’. These targets were

determined with the support of analytical models whose preparation was based on primary and secondary sources of data, regional benchmarks, international best practices on energy efficiency interventions, expert inputs, and consultations with government institutions. Sectoral targets are indicated below.

6.2.1. Manufacturing industry

The industrial sector target incorporates energy savings to be achieved in the following sub-sectors: garments, rice milling, beverages, brick production, footwear production, cement, rubber production, and others. These sub-sectorsare identified based on their contribution to GDP, energy consumption, and share of exports and priority sector for development. A set of both sector-specific and cross-sectoral energy-efficient technologies have been considered vis-à-vis their energy savings potential, scalability, and investment requirements to set the proposed target.

In this context, a sectoral target of 20% energy consumption reduction by 2030 from 38,600 GWh in the 'Business as Usual scenario' to 30,800 GWh in the 'Energy efficiency reference scenario' is hereby set for the industrial sector.

6.2.2. Residential sector

The residential sector target of the policy considers the adoption of interventions to reduce energy consumption in appliances and equipment for end-use applications related to lighting, air conditioning, refrigeration, laundry washing, mechanical ventilation (including use of fans), water pumping, and cooking.

A sectoral target of 34% energy consumption reduction by 2030 from 17,981 GWh in the 'Business as Usual scenario' to 11,826 GWh in the 'Energy efficiency reference scenario' is hereby set for the residential sector.

6.2.3. Commercial Buildings

The target for commercial buildings considers energy efficiency interventions in air conditioning and lighting systems, which are the single largest contributors to total energy demand in these buildings.

A sectoral target of 25% energy consumption reduction by 2030 from 8,552 GWh in the 'Business as Usual Scenario' to 6,431 GWh in the 'Energy efficiency reference scenario' is hereby set for commercial buildings.

6.2.4. Public services

While setting a policy target for energy efficiency in public services, interventions have been considered on street lighting and wastewater pumping applications. Regarding street lighting applications, the target takes into account energy savings from the adoption of energy-efficient LED-based street lighting technologies to replace existing conventional lamps. On wastewater pumping services, the target has considered the replacement of inefficient diesel generators for wastewater pumping with more efficient systems.

A sectoral target of 29% energy consumption reduction by 2030 from 42 GWh in the 'Business as Usual scenario' to 30 GWh in the 'Energy efficiency reference scenario' is hereby set for the public services sector.

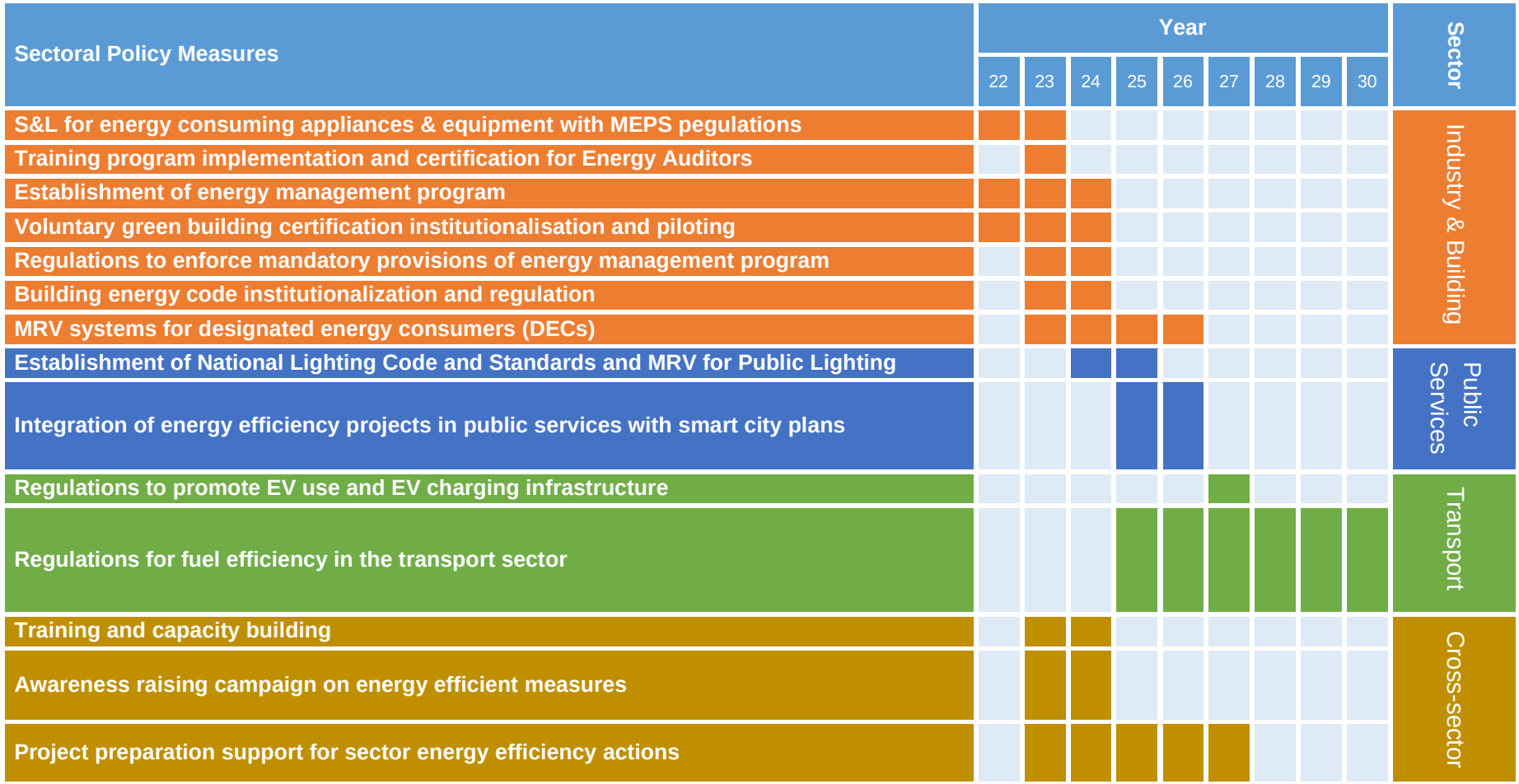
6.2.5. Transport

The transport sector target of the Policy has considered two types of interventions: a gradual shift from ICE vehicles to EVs and gradual adoption of more stringent fuel efficiency standards for ICE vehicles. These interventions were applied to the following vehicle typologies: *two-wheelers, three-wheelers, micro-mobility vehicles (e-bikes), passenger cars, public cabs, taxis, and buses.*

A sectoral target of 5% energy consumption reduction by 2030 from 24,662 GWh in the 'Business As Usual Scenario' to 23,383 GWh in the 'Energy Efficiency Reference Scenario' is hereby set for the transport sector.

6.3. Sector-wise implementation road map

This policy lays out a sector-wise implementation roadmap for energy efficiency, focusing on the sector-priority policy measures that are indicated in the table below:



These Sectoral Policy Measures are defined and detailed in annexure II.

7. Mechanism for policy leadership, coordination, and implementation

7.1. Governance structure of the policy

The implementation of the Policy requires strong leadership of the Royal Government of Cambodia, which will be supported by a 'fit for purpose' coordination mechanism, with specific roles assigned to relevant stakeholders. In this context, the Policy lays out the following governance mechanism:

1. Define roles and responsibilities for national and sub-national stakeholders;
2. Institutional arrangements to ensure coordination among these stakeholders; and
3. Establish legal, administrative, and financial instruments to support the implementation of the Policy.

The salient features of the governance framework are illustrated in the figure below:

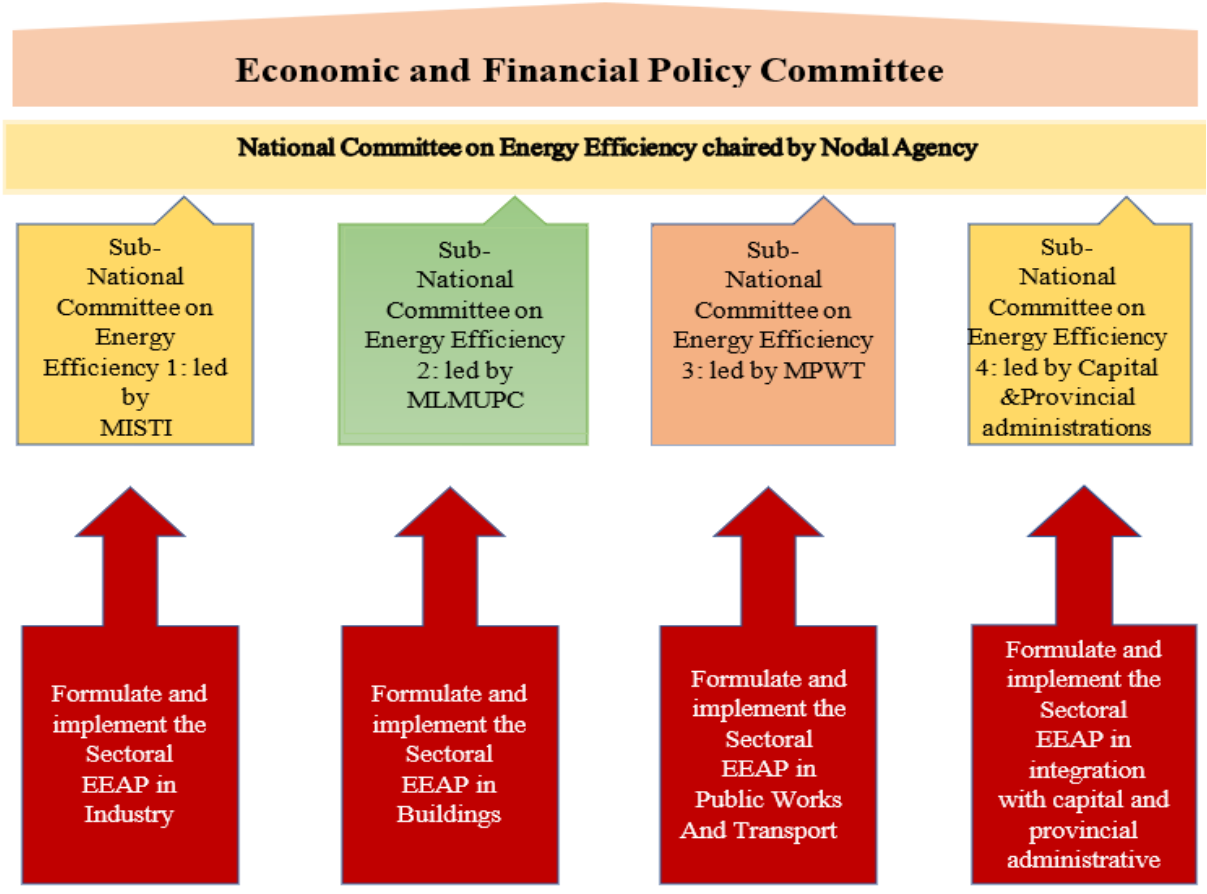


Figure 1: Governance Structure, National Policy on Energy Efficiency 2022-2030

The Economic and Financial Policy Committee (EFPC) will be responsible for leading, monitoring, coordinating, and providing policy orientation to the National Energy Efficiency Committee regarding the implementation of policies and action plans.

The governance framework requires the RGC to establish a national committee which is called the 'National Energy Efficiency Committee (NEEC)', under the leadership of MME with representation from all concerned line ministries. This committee acts as a governing body to coordinate the implementation of energy efficiency activities in all sectors and has a secretariat. This committee shall report to the EFPC and follow its advice to resolve important issues and improve the effectiveness of implementation. To fulfil its mandate, the NEEC shall be supported by sectoral sub-committees to be established by the line ministries in charge of the respective sectors: MISTI (Industry), MLMUPC (Buildings), and MPWT (Public Works and Transport).

The governance framework provides a full mandate to the MME to function and fulfil its responsibilities as a 'Nodal Agency' of the Policy. In this capacity, MME will take the leading role in energy efficiency developments in Cambodia and will be responsible for the supervision, coordination, and implementation of the provision established in this Policy.

The governance framework of the Policy also introduces the concept of 'Partner Agencies' to designate government institutions with a role in promoting energy efficiency in Cambodia. At the national level, Partner Agencies include MISTI, MLMUPC, MPWT, NCSD, EDC, EAC, CDC, and MOE. The main responsibility of Partner Agencies is to mainstream energy efficiency in their respective planning processes and participate in its implementation.

Among the Partner Agencies, MISTI, MLMUPC, and MPWT are assigned enhanced responsibilities, as they will assume leadership roles in energy efficiency at the sectoral level. MISTI will lead developments in the industry, MLMUPC in buildings, and MPWT in public services and transport. These Partner Agencies will be responsible for the formulation and implementation of 'Sectoral Energy Efficiency Action Plans' (SEEAPs), which will be prepared in coordination and with the technical guidance of the Nodal Agency. The SEEAPs shall include sector-specific energy efficiency measures in alignment with the provisions put forth in section 6, feasibility assessments, investment plans on energy efficiency, and a detailed implementation road map for the sector. SEEAPs shall be formulated every five years, with the start and end dates consisting of those of the National Strategic Development Plans. Guidelines for the preparation of SEEAPs shall be developed by the Nodal Agency.

At the sub-national level, provincial governments shall integrate energy efficiency considerations into their respective green/sustainable city plans. The governance framework laid out in this Policy will empower provincial governments to take up additional responsibilities for energy efficiency implementation, which are detailed in section 7.3.

The governance framework also creates the provision for Partner Agencies responsible for energy efficiency implementation, such as MLMUPC, MPWT, MISTI and provincial governments, to nominate their Energy Efficiency Focal Office as dedicated resource persons to support them in fulfiling their mandate as per the Policy. Their roles include, but are not restricted to:

1. Support the Partner Agencies in preparing their respective SEEAPs (for MLMUPC, MPWT and MISTI);

2. Liaise on behalf of the Partner Agencies with Nodal Agency and other government and private sector entities for coordinating the implementation of energy efficiency-related activities, including project origination, project appraisal, financing, execution, measurement, reporting and verification, and policy/plan evaluation;

3. Facilitate capacity building of Partner Agencies staff on planning, coordinating, and evaluating energy efficiency projects, as well as any other stakeholder groups as identified by the respective Partner Agencies.

7.2. Roles and responsibilities of the nodal agency

As the Nodal Agency, MME is vested with the responsibilities of planning, coordinating, promoting, and facilitating energy efficiency-related interventions in Cambodia. The Nodal Agency shall take all such measures as it deems necessary or expedient for realising the vision and objectives of the Policy, including standard-setting and technical regulations, innovation and knowledge dissemination, and monitoring and evaluation. The General Department of Energy shall act as MME's focal point for all activities on energy efficiency under the framework of the policy, except otherwise noted. MME shall be responsible for, but not limited to, the following activities:

1. Coordination and guidance

- Set the national goals and targets for energy efficiency implementation and update them, as required, through amendments to the Policy;
- Provide technical guidance to Partner Agencies, as needed, on all aspects related to the origination, development, and implementation of energy efficiency projects;
- Implement the monitoring and evaluation framework of the Policy, as laid out in section 8;
- Act as the coordinating point, at the national level, for all technical assistance work supported by International Development Agencies related to energy efficiency.

2. Setting standards and technical regulations

- Work with Partner Agencies to identify 'designated energy consumers' based on thresholds for energy consumption in the end-use sectors, as outlined in section 6;
- Establish standards for energy performance of end-use sectors, sub-sectors, equipment, and appliances through a consultative process, as outlined in section 6, including the setup of testing facilities, and a process for monitoring compliance against these standards

3. Development and dissemination of knowledge

- Carry out nationwide public awareness campaigns on the benefits of energy efficiency through multiple communication instruments in collaboration with Partner Agencies, the Ministry of Interior, the Ministry of Information and the Ministry of Education Youth and Sport;
- Promote R&D and set up pilot demonstration projects for new and emerging energy efficiency technologies in collaboration with the private sector, NGOs, international development agencies and academia;
- Develop an energy efficiency knowledge hub in the form of an open-source web-based platform. The web platform shall serve as a knowledge repository with various types of information, such as policy and regulatory documents on energy efficiency, SEEAPs, energy statistics, case studies, etc.;
- Support and facilitate the transfer of energy-efficient technologies in the industrial sector;
- Coordinate with focal institutions to develop technical standards for energy efficiency in the industrial sector.

4. Monitoring and evaluation

MME shall develop a 'Performance Measurement Framework' (PMF) to review the effectiveness and impact of the Policy and the SEEAPs on an annual basis in collaboration with respective Partner Agencies. This shall be based on the National Reporting Framework for Monitoring and Evaluation detailed in section 8. The outcomes of the review will be published as part of the annual report of MME to improve transparency and increase awareness of energy efficiency.

7.3. Roles and responsibilities of partner agencies

The overarching responsibility of Partner Agencies in the scope of the Policy is to facilitate in creating the enabling conditions for energy efficiency developments in Cambodia. Roles and responsibilities common to all partner agencies include, but are not limited to:

1. Provide due consideration to energy efficiency when designing policies, strategies, and investment programmes in the areas of their respective mandates;
2. Collect data on energy efficiency for indicators specific to their areas of responsibility, and report them to the Nodal Agency for monitoring and evaluation purposes;
3. Integrate 'Green Procurement' principles in their public procurement processes.

Monitoring and evaluation functions of selected Partner Agencies (MISTI, MLMUPC, MPWT) should include the following:

1. Support implementation of the Policy PMF, as detailed in section 8, by providing data relevant to the identified key performance indicators (KPIs) ;

2. Support the monitoring and evaluation components of the Policy, as detailed in section 8, by providing annual reports to MME on the performance of programmes and activities relevant to the Policy implementation.

Specific roles and responsibilities of each Partner Agency are provided next.

7.3.1. Ministry of Economy and Finance (MEF)

The roles and responsibilities of MEF in the scope of this Policy are as follows:

1. Advise the Nodal Agency on matters related to planning and budgeting of energy efficiency programmes;

2. In consultation with the Nodal Agency and Partner Agencies, design financial and fiscal instruments to encourage the uptake of energy efficiency;

3. Advise and work with the National Bank of Cambodia to determine appropriate mechanisms for implementation in the banking sector and promote green credit schemes to support energy efficiency projects and activities. In addition, MEF may also work with the Small and Medium Enterprises Bank of Cambodia and the Credit Guarantee Corporation of Cambodia Plc. to promote and provide green loans for energy efficiency projects;

4. Take a leading role in the formulation of guidelines and procedures for 'greening' the public procurement system with the inclusion of provisions for more energy-efficient equipment;

5. Collaborate to provide statistical data on the import of electrical equipment to the Nodal Agency to monitor and evaluate energy efficiency. The format and data of import statistics should be set out in separate regulations.

Specific monitoring and evaluation functions of MEF shall include the following:

1. Use findings and recommendations from the Policy's monitoring and evaluation outputs (indicators and targets) for result-based budgeting.

2. Consider annual results from the Policy's monitoring plan and evaluation plan while assessing budgetary provisions.

7.3.2. Ministry of Industry, Science, Technology and Innovations (MISTI)

As the Partner Agency responsible for achieving the industry sector objectives of the Policy, the roles and responsibilities of MISTI are as follows:

1. Provide guidance, data, and the necessary resources to the Focal Point staff to prepare the Sectoral Energy Efficiency Action Plan for the industrial sector in line with the provisions of the Policy;

2. In coordination with the Nodal Agency, set energy thresholds and identify 'designated energy consumers' for industries;

3. Establish a mechanism, in coordination with the Nodal Agency, to conduct regular energy audits for the designated energy consumers in the industrial sector;

4. Originate energy efficiency project proposals in the industrial sector;

5. Through the Institute of Standards of Cambodia (ISC), identify appliances and equipment used in the industrial sector to develop standards and labelling regulations.

7.3.3. Ministry of Land Management, Urban Planning and Construction (MLMUPC)

As the Partner Agency responsible for achieving the buildings sector objectives of the Policy, the roles and responsibilities of MLMUPC are as follows:

1. In coordination with the Nodal Agency, set energy thresholds and identify 'designated energy consumers' for the buildings sector;

2. Establish a mechanism, in coordination with the Nodal Agency, to conduct regular energy audits for the designated energy consumers in the buildings sector;

3. In coordination with the Nodal Agency, NCSD and ISC, develop a Building Energy Code for Cambodia for both new building construction and retrofits in existing buildings and institute a system to monitor and enforce compliance. The BEC shall be harmonised with the National Building Code;

4. Identify and develop project opportunities centred on the potential of realising energy efficiency gains as part of building construction, building retrofits, and urban planning.

7.3.4. Ministry of Public Works and Transport (MPWT)

As the Partner Agency responsible for achieving sector-specific objectives in transport and public services, the roles and responsibilities of MPWT are as follows:

1. In coordination with the Nodal Agency, establish a mechanism to conduct regular energy audits for consumers in the public services;

2. Identify and develop energy efficiency projects in the public services and transport sectors;

3. Cooperate with the Nodal Agency to determine locations for installation of e-vehicle public charging stations.

7.3.5. Ministry of Environment (MOE)

As the Partner Agency responsible for achieving the objectives of the Policy, MOE shall have the following functions and duties:

1. To work with the Nodal Agency and the Partner Agencies to ensure alignment between SEEAPs and their corresponding climate change action plans;
2. Work with the Nodal Agency and other Partner Agencies to develop a monitoring, reporting, and verification system for greenhouse gas emissions that are aligned with the monitoring and evaluation system to track progress on energy efficiency as outlined in section 8;
3. Duly reflect the accounting of emission savings from energy efficiency projects in the National Greenhouse Gas Inventory;
4. Raise awareness on energy efficiency as part of environmental education programmes in Cambodia;
5. Report progress made on energy efficiency in Cambodia to the UNFCCC as part of commitments made in the NDC;
6. Support access to funding from international climate funds and environmental funds for energy efficiency projects.

7.3.6. National Council for Sustainable Development (NCSD)

As the Partner Agency responsible for achieving the objectives of the Policy, the NCSD shall provide support to the Nodal Agency in achieving cross-sectoral objectives of the Policy relating to sustainable development. NCSD will also be responsible for ensuring alignment between the goals of the Policy and the energy efficiency activities of the updated NDC of Cambodia. The NCSD shall have the following functions and duties:

1. Work with the Nodal Agency and the Partner Agencies to ensure alignment between SEEAPs and their corresponding climate change action plans;
2. Work with the Nodal Agency and other Partner Agencies to develop a monitoring, reporting, and verification system for greenhouse gas emissions that are aligned with the monitoring and evaluation of energy efficiency as outlined in section 8.
3. Raise awareness on energy efficiency as part of environmental education programmes in Cambodia;
4. Report progress made on energy efficiency in Cambodia to the UNFCCC as part of commitments made in the NDC;
5. Support access to funding from international climate funds and environmental funds for energy efficiency projects.

7.3.7. Electricité du Cambodge (EDC)

As the Partner Agency responsible for achieving the objectives of the Policy, the roles and responsibilities of EDC are as follows:

1. Explore and facilitate opportunities for new business models centred on the potential of energy efficiency through demand-side management;
2. Support the Nodal Agency and Partner Agencies in identifying designated energy consumers (DECs) by tracking and reporting electricity consumption data of consumers on a sector and sub-sector basis;
3. Explore the introduction of mechanisms and approaches to encourage electricity users to switch to more energy-efficient appliances;
4. Work with Rural Electricity Enterprises (REEs) to develop mechanisms and approaches to encourage rural households to switch from inefficient to efficient appliances.

7.3.8. Electricity Authority of Cambodia (EAC)

As the Partner Agency responsible for achieving the objectives of the Policy, the EAC shall be responsible for working with the Nodal Agency and other Partner Agencies to improve the enabling environment for energy efficiency interventions in Cambodia through supportive regulatory measures and in the facilitation of consultative processes.

7.3.9. Council for the Development of Cambodia (CDC)

As a Partner Agency on energy efficiency in the framework of this Policy, the roles and responsibilities of CDC are to:

1. Encourage investments in energy efficiency projects through the 'qualified investment project' route;
2. Promote and identify opportunities for energy efficiency as part of a strategy to attract and stimulate investment to transform into a model for Industry 4.0;
3. Promote competition in the performance of energy efficiency for export-oriented industries in the ASEAN region.

7.3.10. Ministry of Planning (MoP)

MoP will support the Partner Agency in monitoring and evaluating the results of the Policy and will have the following roles and responsibilities:

1. Support the Nodal Agency in ensuring that the monitoring and evaluation of the Policy is made in alignment with MoP guidelines;
2. Support the Nodal Agency and Partner Agencies in the preparation of the supporting documents and framework related to the PMF, as well as the monitoring and evaluation components of the Policy, as detailed in section 8;
3. Support the Nodal Agency and Partner Agencies on the monitoring and evaluation functions of the Policy related to training, capacity building, and technical support.

7.4. Roles and responsibilities of provincial governments

At present, the provincial departments of line ministries fulfil several crucial functions, which are also of relevance in advancing the energy efficiency agenda in Cambodia. Provincial departments are already vested with certain responsibilities that are of relevance to this Policy, like on data collection and reporting, in the implementation of policies and plans at the provincial level, and in the issuing of certain licenses and regulatory approvals.

In line with the envisaged decentralisation of responsibilities under the Rectangular Strategy Phase IV, the Policy stipulates the following additional responsibilities at the provincial level on energy efficiency, which may be formalised through appropriate legislation:

1. Nominate at least one Focal Office to coordinate energy efficiency activities at the provincial level;
2. Originate and develop energy efficiency projects;
3. Approve investment projects on energy efficiency up to a certain budgetary limit as specified by MEF.

At the provincial level, Energy Efficiency Focal Office shall be established to support achieving the vision and objectives of the Policy. Their roles and responsibilities are as follows:

1. To build the capacities of the sub-national departments of Partner Agencies in areas related to energy efficiency, including residential and commercial buildings, industries, public services, and transport;
2. Liaising on behalf of the provincial government with other government institutions and private sector organisations on matters related to the origination, development, and implementation of energy efficiency projects.

Considering the role played by MME as the Nodal Agency of the Policy, specific roles and responsibilities are also set forth for the provincial department of MME:

1. Conduct due diligence on energy efficiency projects taking place in the respective province;
2. Collaborate with provincial departments of Partner Agencies to track sub-sector energy consumption data in the respective province;
3. Collaborate with Partner Agencies at the provincial level and EDC to identify designated energy consumers;
4. Annually monitor energy consumption of designated energy consumers to ensure compliance with established energy performance standards;
5. In collaboration with provincial departments, collect relevant data for national energy statistics to be reported to the Nodal Agency;

6. Support provincial departments of Partner Agencies in delivering training on energy efficiency;

7. Encourage energy users to save energy by organising campaigns and awareness workshops at the provincial level.

7.5. Legal, administrative, and financial instruments

The pursuit of the objectives set forth by the Policy may require the Royal Government of Cambodia to pursue several non-energy objectives as well, such as addressing market failures, optimisation of government expenditure, equitable and just development, and provisions to support vulnerable groups. For this purpose, the Nodal Agency shall have the power to employ the following instruments in the exercise of its responsibilities.

7.5.1. Strengthening the legal framework

The Nodal Agency is granted the power to issue the following legislations, as appropriate, in the exercise of its responsibilities under the National Energy Efficiency Policy:

1. Declaration (Prakas);

2. Ministerial Order (BotBanchea & Decision (SachKdey Samrach/Deika);

3. Circular (Sarachor).

7.5.2. Administrative instruments

The administrative instruments may be used by the Nodal Agency to establish the governance structures required to implement the Policy. These instruments may be enabled through an executive order or the use of appropriate legal instruments.

1. **Creating expert committees for matters of high importance on energy efficiency:** The Nodal Agency may, through subordinate legislation, delegate its powers under the Policy to an expert committee or committees. The tenure, composition of this committee, qualifications of members and chairperson, manner of conducting proceedings, and frequency of meetings should be detailed in the respective subordinate legislation. Through this, the Nodal Agency shall have the power to determine matters of high importance on energy efficiency. The authority, membership, qualifications of the members and chairpersons, the procedure of the committee and of the committee meeting shall be further detailed.

2. **Instituting a reward/penalty mechanism:** The Nodal Agency may, through a declaration or decision, set up mechanisms to reward or penalise individuals or organisations in end-use sectors for compliance or non-compliance in relation to the provisions of the Policy. The procedure for administering the award or penalty, the quantum of the award/penalty, and the process of appealing against the penalty shall be detailed in the respective declaration or decision.

3. **Regulatory sandbox:** The Nodal Agency may launch regulatory sandbox windows to enable innovators to try new products, services, and business models without applying a few of the regulations. For this purpose, the Nodal Agency may invite ideas related to energy efficiency in the form of proposals from innovators. The trials could run for a pre-defined time duration at a small scale with explicit learning objectives to test the viability of the models or solutions proposed.

4. **Public procurement:** The Nodal Agency may, with due approval of MEF, pass an executive order to set up specific mandates for green public procurement with selective or comprehensive coverage of end-use sectors. The effect of such mandates on competition, transaction costs of the government, and innovation shall be duly considered for determining the sectoral coverage of the mandate.

5. **Mandatory appointment of agencies for independent verification of energy savings for Energy Service Performance Contracts (ESPCs):** For Energy Service Performance Contracts above a threshold monetary value (to be determined by the Nodal Agency from time to time), the Nodal Agency may direct the parties to the contract to mandatorily appoint an agency for independent verification of energy or cost savings. The Nodal Agency shall create a roster of empanelled third-party verification agencies, out of which such an appointment may be made. The costs of appointing such an agency shall be borne by the parties to the contract but may be partly financed by the Nodal Agency on a case-by-case basis.

7.5.3. Financial instruments

The Nodal Agency and Partner Agencies are conferred with the power to use the following financial instruments to mobilize finance for energy efficiency:

1. **Fiscal and non-fiscal incentives:** The Nodal Agency and Partner Agencies may request the establishment of fiscal incentives to the General Department of Taxation of MEF to study and provide just advice related to energy efficiency activities. According to articles 24 to 28 of the Law on Investment of the Kingdom of Cambodia, No. NS/RKM/1021/014, dated October 15, 2021, the investment in green energy and green technologies that contribute to climate change adaptation and mitigation shall be considered eligible for tax incentives. These can include three-to-nine-year income tax exemptions, import value-added tax incentives, and special depreciation rates. In addition to this, the Nodal Agency and Partner Agencies may set up fiscal or tax incentives, in due consultation with MEF, through subordinate legislation to support the implementation of energy efficiency projects. Fiscal and non-fiscal incentives for further consideration of the RGC include, but are not restricted to:

    - Loan guarantee schemes are provided through dedicated financial institutions;

    - Tax deductions/exemptions for more energy-efficient equipment and appliances or sustainable businesses;

- Introduction of carbon pricing instruments (e.g., carbon tax or emissions permit trading);
- Fees or levies to finance additional governmental action for environmental protection; and
- The provision of green credit as part of energy efficiency schemes is provided by a financial institution.

2. **Dedicated fund for energy efficiency:** The Nodal Agency may establish a dedicated fund to pool financial resources from various sources for government-led investments in energy efficiency. The structure of the fund (e.g., Public Revolving Fund), the financing modalities (e.g., debt, equity, sovereign guarantee, etc.), eligible recipients of funding (e.g., public agencies, private agencies, ESCOs, etc.) shall be determined by the Nodal Agency in consultation with MEF as part of a separate legislation. According to the revenue-raising strategy, the Royal Government of Cambodia has no plans to introduce new taxes, including the imposition of taxes on pollution and the introduction of carbon offsets (e.g., carbon offsets or trade licenses for emissions or additional tax burden on enterprises that have negative environmental footprint).

3. **Other innovative financing instruments:** The Nodal Agency and Partner Agencies may consider using or accessing a wide range of innovative financing instruments for energy efficiency projects. These include, but are not restricted to, the following:

   - **Carbon finance instruments**: These enable the mobilisation of financial resources to finance a project or a programme that results in a measurable reduction of GHG emissions. Energy efficiency projects could be eligible for carbon finance opportunities, both through existing instruments (e.g. the Joint Crediting Mechanism or voluntary standards) and new modalities emerging in the context of article 6 of the Paris Agreement.
   - **Green bonds**: These are a category of bonds that are used to finance projects with positive environmental benefits, which could include energy efficiency projects. The issuance of green bonds has grown significantly in recent years in several ASEAN Member States, with two-thirds of issuances in the region used to finance renewable energy and energy efficiency projects. This is, therefore, an instrument that the RGC could consider in the future to finance energy efficiency projects.
   - **International climate and clean energy funds**: Finance for energy efficiency projects could be leveraged from international climate and clean energy funds (e.g., the Green Climate Fund), including in the form of equity, loans, grants or a combination of these.
   - **Blended finance**: Blended finance designates a combination of financing approaches, which usually start with an investment from a public or philanthropic entity at concessional rates, followed by a private or commercial investment at market rates. Energy investments are one of the most common areas for blended finance

transactions, and therefore opportunities for financing energy efficiency through these instruments could be explored in the future.

- **Fund to promote energy efficiency activities for the private sector:** In addition to the above financial sources, the Nodal Agency and Partner Agencies can mobilise other available funds for implementing energy efficiency activities to promote and encourage the private sectors to disclose or report their energy efficiency activities as part of their annual report.

8. Establishment of a Monitoring and Evaluation System and Data Management System

8.1. Introduction to the monitoring and evaluation framework for the policy

The Monitoring and Evaluation framework for the Policy has been developed in accordance with the guidelines of the Royal Government of Cambodia and the Ministry of Planning (MoP) to make the design and delivery of policy measures effective and efficient. While monitoring is the process of collecting and tracking data to assess whether the implementation is on the right track, evaluation refers to the analysis of the data to determine the extent to which the measures have been able to achieve their objectives. Periodic monitoring and evaluation are expected to help identify shortcomings of implemented energy efficiency measures and provide guidance on potential design changes for improving them.

The **Nodal Agency** shall be responsible for the monitoring and evaluation of the Policy and shall guide the 'inter-ministerial committee and technical working group on Policy' and work towards achieving the Policy's objectives. The Monitoring and Evaluation framework includes three components, which are established based on the guidelines of the Ministry of Planning:

1. Performance Measurement Framework;
2. Monitoring Component;
3. Evaluation Component.

The **Performance Measurement Framework (PMF)** provides the Nodal Agency with clear measures of performance. It comprises a list of key performance indicators (KPIs) at the programmatic level to assess progress in the implementation of the Policy, the details of which are provided below.

The **Monitoring Component** includes three specific functions:

1. The preparation of a monitoring handbook that specifies target indicators and stakeholders involved in data collection and reporting;

2. A monitoring plan and budget to specify the Policy's actions, responsible Partner Agencies, capacity-building requirements, and the financial resources needed for the monitoring activities;

3. Performance indicator reference sheets to document the KPIs established under the PMF.

The Economic and Financial Policy Committee will be responsible for coordinating and providing policy orientation. It will also ensure that the results of the monitoring and evaluation process achieve the Policy's objectives in compliance with the performance indicators laid out in this Policy and with the principles of the monitoring and evaluation framework for national policies. Monitoring of the Policy will be based on the following types of indicators**,** which have been designed based on the 'Theory of Change' result chain concept, as per the guidelines of MoP.

Those indicators are:

Indicator Framework For the National Energy Efficiency Policy 2022-2030		
Indicator types	**Purpose**	**Frequency**
NEEP Delivery & Mainstreaming	Tracking the progress of implementation of regulatory actions and fund mobilization	Annual
Institutional Readiness	Tracking the progress of improving capacities of concerned agencies related to energy efficiency implementation	Annual
Outcome	Assessing results of energy efficiency interventions - projects, market mechanisms, etc.	Annual
Impacts	Assessing the progress towards achieving a more competitive, resilient, and sustainable economy	Annual

Indicators for monitoring the implementation of the Policy are detailed in annexure 3**.** The evaluation component of the Policy includes two elements:

1. The preparation of an evaluation handbook to specify the evaluation methodology and the stakeholders responsible for evaluation;

2. An evaluation plan and budget to specify the Policy's actions, responsible Partner Agencies, capacity-building requirements, and the financial resources needed for the evaluation activities.

These elements shall be further detailed as supporting documents to the Policy.

Monitoring and evaluation will be based on a combination of two approaches, i.e., top-down and bottom-up, and will depend on the availability and ease of data collection from national and international institutions.

The top-down approach will measure and consolidate energy savings in a sector or in an economic activity using integrated national statistics. The impact of energy efficiency can be estimated by considering key energy consumption factors such as sectoral economic activity and climate conditions (e.g., dry season when the temperature drop can lead to lower energy consumption in the building and such a decline could not be counted as a result of energy efficiency), etc. In the bottom-up approach, data from the implementation of specific project activities will be considered to estimate the contribution to energy efficiency from the adoption of policy measures. The top-down and bottom-up approaches are not completely separate and will be used in combination.

Based on this system, the National Energy Efficiency Committee shall prepare a report and submit it to EFPC as the following:

1. An evaluation report comparing the results achieved by the indicators set out in the Policy targets to be done twice during the Policy period. First, to prepare a mid-term report for evaluation and raise recommendations for policy revision if necessary and, second, to prepare a report in the last year of the Policy period;

2. An annual progress report to address the challenges in the near future and continue to implement this Policy successfully; and

3. An evaluation report on the implementation of each priority activity laid out in the Policy.

8.2. Principles

The following principles underpin the monitoring and evaluation framework:

1. **Using national systems and procedures:** Indicators and monitoring procedures will rely, to the greatest degree, on data monitored by relevant line ministries. They will also be compatible with the guidelines of MoP for the National monitoring and evaluation system. The framework will systematise and build on ongoing initiatives for monitoring and reporting energy efficiency improvements and emission reductions. The monitoring and evaluation system will also generate data needed for the reporting of greenhouse gas emissions in the National Monitoring System, which is administered by the Ministry of Environment, and therefore, the two systems shall be integrated to the extent possible.

2. **Mainstreaming monitoring and evaluation of energy efficiency in national, sectoral, and sub-national development planning:** Energy efficiency improvements can contribute to the achievement of national development targets and international environmental commitments. Procedures and indicators for tracking the effects of energy efficiency improvements are designed to conform with the National Monitoring System. They will constitute the reference for tracking the effectiveness of national and sectoral

energy efficiency strategies and policy interventions at the national and sub-national levels.

3. **Use of digital reporting systems:** With the advent of the digital economy and open data architecture, technology has a crucial role in shaping monitoring and evaluation systems. Use of digital technologies for monitoring and evaluation both at the operational level and at the strategic level shall be encouraged, specifically for all Partner Agencies.

9. Conclusion

Energy efficiency is a major approach in support of Cambodia's ambitions to develop a more sustainable, resilient, and modern energy sector. More efficient use of energy will lead to a reduction in the demand for energy services, which can lessen the reliance on energy imports and reduce investments in infrastructure for the supply and transmission of energy, thereby supporting Cambodia's priority of a sustained reduction in end-use energy tariffs. Energy efficiency will also play a key role in fulfilling Cambodia's commitments to reduce greenhouse gas emissions under the Paris Agreement, as stated in the updated National Determined Contribution.

The Royal Government of Cambodia has, therefore, decided to adopt the Policy as the guiding framework to support and accelerate the roll-out of energy efficiency in Cambodia. The Policy sets a vision, objectives, and targets for energy efficiency for 2022-2030. Additionally, in order to foster implementation, it lays out specific policy measures, including at the sectoral level, and a framework to facilitate coordination among stakeholders and the monitoring of progress. This Policy is the first step towards a journey of a more energy-efficient society where all will benefit through higher energy availability, better energy security, and more affordable energy services.

MME, together with MISTI, MLMUPC and MPWT, will define priority interventions that will be funded in the respective sectors so that funds can be allocated efficiently. The funding will be leveraged from different sources (such as government budget, development partners, private sector, market mechanisms, etc.) to support and implement existing and planned programmes on energy efficiency.

Annexure I: Definitions of Key Terminologies

Key terminologies	Description
Building Energy Code	Building energy codes are regulatory instruments that specify minimum energy efficiency standards for residential and commercial buildings (all other non-residential buildings). Building energy codes commonly mandate certain energy efficiency characteristics for building technologies and other design elements. Building technologies and design elements that can be included in a building energy code are the building envelope, heating, ventilation, air conditioning (HVAC) systems, lighting, and service water heating systems.
Building Envelope	A building envelope is commonly defined as the separation of the interior and exterior of a building. It helps facilitate climate control and protect the indoor environment. It includes windows, roof, external walls and all the components such as structural masonry and insulation.
Building sector	The building sector includes all residential and commercial (non-residential) buildings. A commercial building usually includes an enclosed built-up area where the activities performed resemble those performed in offices, educational facilities, healthcare facilities, hotels, retail stores, and warehouse/storage space.
Designated Energy Consumers	These are energy-intensive buildings and industries, which shall be identified by the respective Partner Agencies in collaboration with the Nodal Agency by setting energy consumption thresholds.
Designated Electrical Appliances and Equipment	The appliances and/or equipment that shall be included as part of the Standards & Labelling Programme by the Nodal Agency from time to time through the relevant amendments to the sub-decree.
Energy-as-a-service	Energy-as-a-service is a business model whereby a service provider (e.g., a power utility or other new players) offers various energy-related services rather than only supplying electricity. These services can include, for example, the provision of energy advisory, asset installation, financing, and energy management solutions to the end consumers.

Key terminologies	Description
Energy Efficiency Focal Points	Dedicated resource persons comprising of generalists and specialists are to be established at the offices of MISTI, MLMUPC, MPWT, and provincial governments.
Energy efficiency measures	These are measures that reduce energy consumption whilst maintaining the same or better level of output. The Policy only covers demand-side energy efficiency measures pertaining to energy use.
Energy Service Company (ESCO)	A commercial or not-for-profit organisation that provides a broad range of energy solutions, including the development, design, and implementation of energy savings projects, retrofitting, energy conservation, and other energy services.
Energy Service Performance Contracts	Energy Service Performance Contracting is a form of financing which allows the funding of energy efficiency upgrades from energy cost reductions. Under this arrangement, an ESCO implements a project to deliver energy efficiency and uses the stream of income from the cost savings to repay the costs of the project, including the costs of the investment. Essentially the ESCO will not receive its payment unless the project delivers energy savings as expected.
Energy Use Intensity (EUI):	It is the annual energy consumption of a building, expressed in units of energy (e.g., kilowatt-hours) in relation to the total built-up area (e.g., in square meters).
Investor matchmaking services	The investor matchmaking service shall connect and match qualified investors across various asset classes with a pipeline of energy-efficiency investment opportunities. This service could be provided through a digital platform. The platform would serve as a database to provide some specific information about energy efficiency projects, such as investment requirements, the creditworthiness of the project, expected impact (environmental and social), financial analysis, barriers and risks, and the policy framework pertaining to the project. Using this data, investors are expected to identify the right investment proposition from the energy efficiency project pipeline according to their risk and return objectives.
Minimum Energy Performance Standards (MEPS):	A minimum energy performance standard is a specification for an energy-consuming appliance or equipment that effectively limits the maximum amount of energy that may be consumed in performing a specified task. It is generally associated with a Standards & Labelling (S&L) programme and is introduced through a mandatory regulation.

Key terminologies	Description
National Lighting Code	This is a legal document that sets out the requirements for responsible social, commercial and engineering conduct as designers, manufacturers, and suppliers of lighting. It provides guidance on good engineering practices for the design, selection, installation, and maintenance of lighting systems for indoor and outdoor areas, aspects relating to energy management and energy efficiency in lighting installations, and coordination aspects to be considered while designing the lighting systems.
Nodal Agency	National body responsible for coordination, implementation, and supervision of energy efficiency in Cambodia. MME shall be the Nodal Agency for energy efficiency and shall work towards the primary objective of reducing the energy intensity of the Cambodian economy within the overall framework of the National Energy Efficiency Policy.
Partner Agencies	Designated government institutions, technical bodies, and provincial governments with a role in energy efficiency. These include MEF, MISTI, MLMUPC, MPWT, NCSD, MoE, EDC, EAC, CDC, and provincial governments.
Passive cooling techniques or passive building design strategies	These are techniques to limit heat gain or heat loss in buildings with no or low energy consumption. Some of the passive cooling techniques include but are not limited to: the use of natural ventilation for cooling, solar shading, wind towers, courtyard effect, earth air tunnels, evaporative cooling, insulated walls, heat reflective paints, use of windows with low solar heat gain, radiant cooling, etc.
Sectoral Energy Efficiency Action Plans	The sectoral energy efficiency action plans shall comprise sectoral energy efficiency measures, feasibility assessments, investment requirements, implementation process and their expected benefits. The sectoral energy efficiency action plans shall be developed for the following sectors in coordination with the Nodal Agency and the energy efficiency Focal Points selected by Partner Agencies: a) Buildings and households (MLMUPC), b) public services (MPWT), c) industries (MISTI), d) transport (MPWT).
Standards & Labelling (S&L)	It is a programme to promote energy efficiency procedures and regulations that prescribe the energy performance of manufactured products (energy-consuming appliances or equipment), with the use of energy efficiency labels to describe a product's (appliance or equipment) energy performance (usually in the form of energy use, efficiency or energy cost) to provide consumers with the information necessary to make informed purchases.
Transaction Advisory Services	These services involve undertaking techno commercial assessments/investment grade energy audits to prepare feasibility studies, technical and financial due diligence of a project, project structuring, bid process management, and selection of bidder to execute an energy efficiency project.

Annexure II: The Policy Measures and Action Plans

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
Industry & Buildings	1. Establishment of energy management programme for industries and buildings	1.1 Prepare and roll out a sub-decree on the energy management programme	2022 – 2023	MME	MISTI MLMUPC CDC
		1.2 Programme administrative structure (responsibilities of key stakeholders, resource allocation plan and programme monitoring and review mechanism) established	2023		
		1.3 Selection of appropriate international energy management standards to serve as a reference for a programme	2023		
		1.4 Energy consumption threshold levels for selecting participating industries and building units determined	2023		
		1.5 Consultations conducted between Nodal Agency and selected industries and buildings	2023		
		1.6 List of participating industries and building units finalised	2024		
		1.7 Data reporting mechanisms established	2024		
		1.8 Energy Audit firms empanelled	2024		
		1.9 Capacity building of concerned staff of industry and buildings on reporting of energy performance	2024		
Industry & Buildings	2. Develop Regulations to enforce compliance of industries and buildings with mandatory provisions of the energy	2.1 Preparation and appraisal of draft legal documents completed	2023	MME	MISTI MLMUPC
		2.2 Promulgation and publication of legal documents	2023		

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
	management program				
	3. Establishment of a system for the empanelment and rating of ESCOs	3.1 Preparation and appraisal of legal documents for empanelment of ESCOs completed	2023	MME	
		3.2 Promulgation and publication of legal documents	2024		
		3.3 Criteria established for empanelment and rating of ESCOs defined and agreed upon among concerned agencies	2023		
		3.4 Submission of applications, their assessment and empanelment of ESCOs by concerned bodies as per established criteria	2024		
		3.5 Database of ESCOs operating at the national and regional levels created	2024		
		3.6 List of empanelled ESCOs finalised	2024		
		3.7 Completed assessment of empanelled ESCOs for assigning ratings	2024		
		3.8 Published rating of ESCOs based on an independent assessment of capabilities	2024		
Industry & Buildings	4. MRV systems for industrial and Building energy efficiency technologies of high energy saving potential	4.1 List of energy efficiency technologies identified	(2023-2024)	MME	MME MISTI MLMUPC
		4.2 Process for setting up technology-specific MRV systems established for Designated Energy Consumers	2025		
		4.3 MRV systems for energy consumption established and integrated with emission reporting for national GHG inventory	2026		
	5. S&L for household appliances and cookstoves, building and industrial	5.1 Sub-decree will establish the administrative structure for S&L and layout generic procedures for regulating S&L in appliances. Appliances and equipment for S&L will also be identified in the sub-decree.	2022 - 2023	MME	ISC, Customs
		5.2 Technical and market assessments conducted for S&L development for appliances and equipment	2023		

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
	equipment and regulations to enforce 'Minimum Energy Performance Standards (MEPS)	5.3 Testing protocol established	2022 -2023		
		5.4 Established administrative structure for accreditation of test laboratories in Cambodia	2022 - 2026		
		5.5 Accreditation protocol defined for laboratories to undertake energy performance testing as per S&L testing protocol	2026		
		5.6 Minimum Energy Performance Standards established for identified appliances and equipment are defined through dedicated technical regulations (Prakas)	2023		
		5.7 Accredited laboratories established for energy performance testing of energy-consuming appliances /equipment under S&L	2024		
Industry & Buildings	6. Training programme implementation with certification for energy auditors	6.1 Legal basis established for certification through appropriate regulation Prakas and guidelines	2023	MME	MLMUPC MISTI
		6.2 The administrative structure established for the certification of professionals	2023		
		6.3 Training course curriculum developed, and training institutes identified	2023		
		6.4 Training of trainers module established, and training schedule established	2023		
	7. Building Energy Codes (BEC) for Residential and Commercial Buildings (applicable for only buildings and not industries)	7.1 Established administrative structure for BEC for all types of buildings in Cambodia	2023	MME and MLMUPC	MLMUPC
		7.2 Procedures laid out for regulating building energy efficiency and consideration criteria for BECs, including the MRV system	2023		
		7.3 Building Energy Codes integrated with the building code of Cambodia	2023	MLMUPC	MME
		7.4 Subsequent regulation for BEC compliance	2023	MME and MLMUPC	MLMUPC

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
	8. Regulation for Building Energy Code (applicable for only buildings)	8.1 Legal basis established for mandatory Building Energy Code Compliance through appropriate regulation (Sub-decree / Prakas)	2024	MME	MLMUPC
	9. Green Building guidelines and certification (Applies to buildings only)	9.1. Develop and test green building guidelines and certifications	2022-2023	MOE and NCSD	MLMPC
		9.2. Establish an institution responsible for the management and operation of the green building certification system	2022-2023	MOE and NCSD	MLMPC
Public Services	1. Establishment of a National Lighting Code, harmonisation of standards for public lighting and setting up MRV systems for public lighting	1.1 An assessment study was conducted to prepare and consult on the National Lighting Code of Cambodia	2024	MOE And City and Provincial Administrations	MME MPWT
		1.2 Harmonise the standards for public lighting with international standards	2024		
		1.3 Prepare and issue the National Lighting Code for public lighting	2025		
		1.4 Prepare and set up technology/project-specific MRV systems for public lighting	2025		
		1.5 MRV systems for energy consumption established and integrated with emission reporting for national GHG inventory	2025		
	2. Integration of energy-efficient street lighting, smart traffic management systems, and solar-based wastewater pumping projects in Smart City Plans	2.1 A smart city vision for Cambodia was established, and cities were designated as ‘Smart Cities.’	2025	Provincial Government	MME MPWT
		2.2 Studies conducted to draft smart city plans for designated cities	2025		
		2.3 Integration of projects on smart street lighting, traffic management systems, and ‘solarisation’ of municipal wastewater pumping systems in existing smart city plans	2026		

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
Transport	1. Regulations for fuel efficiency	1.1 Enact regulations for introducing fuel efficiency standards for Internal Combustion Engine vehicles in road transport	2025	MPWT	MME MOE
		1.2 Introduce vehicle scrapping schemes for Internal Combustion Engine vehicles with incentives to promote early retirement of old vehicles	2030		
	2. Regulations to promote EV use and EV charging infrastructure;	2.1. Prepare proposals to amend the relevant provisions to encourage the use of EV in the RGC	2027 - 2030	MPWT	MME MOE
		2.2. Conduct assessment studies to prepare recommendations for amendments to the regulations on the designation of places and parking lots, and buildings to establish regulations governing the charging infrastructure for EV	2027	MPWT and MME	
		2.3. Conduct assessment studies to prepare recommendations on electricity tariff structure for public charging infrastructure and licensing requirements for the electric vehicle charging business.	2027	MME	
All Sectors	1. Project preparation support for Sectoral Energy Efficiency Actions	1.1 Administrative structure for project preparation facility established	2023	MME	MISTI (Industries) MLMUPC (Buildings) MPWT (Public Services & Transport) and city/provincial administration
		1.2 Establishment of energy efficiency Focal Points at line ministries, i.e., MISTI, MLMUPC, MPWT, and provincial governments	2023	MME & Concerning bodies	
		1.3 Feasibility studies conducted for project preparation	2024	MME & Concerning bodies	
		1.4 Projects originated for respective government agencies	2024	MME & Concerning bodies	
		1.5 Budget allocated for project implementation/secured through innovative financing instruments	2025	MME & Concerning bodies	
		1.6 Project implementation and coordination	2026	MME & Concerning bodies	
		1.7 Project review and evaluation	2027	MME & Concerning bodies	

Sector	Policy Measures	Action Plan	Timelines	Implementing Agency(ies)	Partner Agency(ies)
All Sectors	2. Awareness raising campaign on energy-efficient Measures	2.1 Target audience for awareness campaigns identified such as a) O&M staff of industrial units, buildings and public services, b) Household users, c) Users of public/private vehicles for road transport, d) Industrial associations	2025	MME	Ministry of Interior MEF Ministry of Education, Youth and Sport MLMUPC MISTIMPWT MOE city/provincial administration
		2.2 Approaches for awareness campaigns identified such as: a) Traditional Outreach (including energy efficiency advertisements and awareness campaigns through FM/Radio, newspaper, television, billboards/banners etc. in public areas, etc.) b) Digital Outreach (online awareness campaigns, digital marketing using search engines, websites, social media, email, and mobile apps publishing press releases etc.) and c) Dissemination through meetings, workshops, seminars and forums.	2025		
		2.3 Strategies designed for outreach/dissemination activities	2024		
		2.4 Budget allocation for energy efficiency awareness campaigns	2024		
		2.5 Awareness strategies rolled out for energy efficiency measures	2024		
All Sectors	3. Training and capacity building	3.1 Training needs assessment of government and private sector on energy efficiency completed	2025	MME	Partner Agencies
		3.2 Training strategy formulated for government agencies and private sector	2024		
		3.3 Capacity Building Programme set up for O&M companies/facility management firms, independent technicians, industrial maintenance staff on compliance requirements, planning and implementation of energy efficiency projects, O&M of energy efficiency technologies, data reporting and MRV of energy efficiency projects in the industry and public services sector.	2025		
		3.4 Capacity building programme for architects, builders, developers and real estate firms on building energy efficiency practices, including design and operation.	2024		
		3.5 Training budget allocated	2024		

Annexure III: Key Performance Indicators for the NEEP

1	NEEP Delivery & Mainstreaming						
	Actions	***Indicators***	***Baseline***	***Target***	***Indicative Year***	***Sources of Verification***	***Responsibility for Tracking & Reporting***
1.1	Enactment of Policy Documents identified in the Policy	Number of regulations enacted	No specific policies and regulations on energy efficiency at the time of the Policy enactment	Regulation for energy management programme (for industry and buildings)	2023 – 2024	Royal Gazette of Cambodia	MME to report as part of its annual report
				Promulgation and publication of legal documents for empanelment of ESCOs	2022 – 2024		
				S&L for household appliances, buildings and industrial equipment, and regulations to enforce MEPS	2022 – 2030[4]		
				The regulation established for the certification of energy auditors	2022 – 2024		
				Regulation for establishing Building Energy Code	2023 – 2024		
				National Lighting Code established	2023 – 2024		

[4] S&L Sub-decree for appliances and energy consuming equipment to be introduced in 2022-2023. S&L Prakas for specific energy consuming appliances and equipment shall be developed and introduced on a rolling basis between 2022 – 2030. The appliances and equipment shall be identified by Nodal Agency as per their priority for promulgation of S&L Prakas.

				Regulations to promote EV charging infrastructure	2023 – 2025		
				Subordinate legislation for creating expert committees on energy efficiency	2023 – 2025		
				Subordinate legislation for instituting reward/penalty mechanisms by Nodal Agency	2023 – 2025		
				Subordinate legislation for mandatory appointment of agency for independent verification of energy savings for Energy Service Performance Contracts	2023 – 2025		
				Subordinate legislation for establishing fiscal/tax incentives for energy efficiency projects	2023 – 2025		
1.2	Development /Revision of SEEAPs	Number of SEEAPs formulated/revised	No sectoral energy efficiency action plans established	SEEAPs were established for industry, buildings, transport, and public services	2022 – 2023	Annual Report of respective line ministries	The respective line ministries to report to MME: industry (MISTI), buildings (MLMUPC), transport (MPWT), public services (MPWT)
1.3	Budgeting of Funds for the Policy	Funds budgeted for energy efficiency in the Budget Strategic Plan by MME, MISTI, MPWT and MLMUPC	No funds were budgeted for energy efficiency in Budget Strategic Plan (BSP)	Funds budgeted for energy efficiency in BSP	Yearly	Public expenditure review using Budget Strategic Plan document of respective line ministries	Respective ministries to report the budgeted fund for energy efficiency to MME

1.4	Disbursement of funds for the Policy	Quantum of funds disbursed against funds budgeted by MME, MISTI, MPWT and MLMUPC	No funds disbursed for energy efficiency	Funds disbursed for energy efficiency in BSP	Yearly	Annual report of respective line ministries	Respective ministries to report the disbursed fund for energy efficiency to MME
2	**Institutional Readiness**						
	Actions	***Indicators***	***Baseline***	***Target***	***Indicative Year***	***Sources of Verification***	***Responsibility for Tracking & Reporting***
2.1	Training and capacity building of Partner Agencies on energy efficiency.	Number of training workshops conducted; Number of stakeholders trained; Number of training courses designed on energy efficiency themes	Workshops conducted on a project-wise basis (not as a part of a dedicated training strategy). Stakeholders trained on a project-wise basis No training courses designed for energy efficiency	Workshops conducted on energy efficiency; Trained government and private sector stakeholders on energy efficiency; Availability of training courses designed for energy efficiency	Yearly	Program Monitoring Reports	The respective line ministries to report to MME: industry (MISTI), buildings (MLMUPC), transport (MPWT), public services (MPWT)
2.2	Operationalisation of an online platform for reporting energy performance by DECs	Number of DECs reporting their energy performance	No online platform established	Online platform established and reporting by DECs commenced	2023-2025	Data from Online Platform	MME to report as part of its annual report
2.3	Operationalisation of energy efficiency knowledge hub	Count of visitors on the online portal and number of downloads	No energy efficiency knowledge hub established	Energy efficiency knowledge hub established	2023-2025	Record of number of visitors	MME to report as part of its annual report

3	Outcome						
	Results in the medium term	***Indicators***	***Baseline***	***Target***	***Indicative Year***	***Sources of Verification***	***Responsibility for Tracking & Reporting***
3.1	Innovative ESCO business models established	Number of ESCOs empanelled and rated in Cambodia Prevalence of Model Energy Service Performance Contract (ESPC)	No ESCOs empanelled and rated No specific model contract for ESPC	All ESCOs (operating in Cambodia) empanelled and rated Model contract for ESPC drafted and disseminated	2024-2026	Energy Management Program Monitoring Report	MME to report as part of its annual report
3.2	Enhanced capacities at the national level to undertake energy audits	Number of energy auditors certified	No energy auditors certified	Targets to be determined in due course based on the prescription of parent legislation (regulation for certification of energy auditors)	2024-2026	Record of certified energy auditors	MME to report as part of its annual report
3.3	New and emerging energy efficiency technologies demonstrated	Number of new and energy efficiency technologies covered through pilot demonstrations	No pilot projects implemented under the 'regulatory sandbox' model	Pilot projects implemented under the 'regulatory sandbox' model (as per the cycle of Public Investment Programmed)	Starting from 2022 onwards	Approved list of projects by Nodal Agency	The respective line ministries to report to MME: Industry (MISTI), Buildings (MLMUPC), Transport (MPWT), Public Services (MPWT)
3.4	Energy efficiency Project Pipeline developed	Number of energy efficiency projects originated	No energy efficiency projects originated	All energy efficiency projects planned as per SEEAP originated	Starting 2023, as per respective SEEAPs	Programme monitoring reports of SEEAP, annual reports of respective line ministries	The respective line ministries to report to MME: Industry (MISTI), buildings (MLMUPC), transport (MPWT), public services (MPWT)

3.5	Energy efficiency considerations integrated into planning (at national/sub-national/sectoral level)	Energy consumption by sectors and sub-sectors (for industries, buildings and public services) reported	No energy data was reported at the sector and sub-sector level	Energy data reported as per template at sector/sub-sector level	Starting in 2023 on an annual basis	Database maintained by Nodal Agency	The respective line ministries to report to MME: industry (MISTI), buildings (MLMUPC), transport (MPWT), public services (MPWT)
3.6	Energy efficiency financing mobilised through Official Development Assistance/ODAs	1. Quantum of funds allocated 2. Quantum of funds disbursed	No funds allocated or disbursed	The signing of financing agreements between the Royal Government and development partners and the withdrawal of cash and/or other forms of grant financing for project financing public investment in the power sector. Public-private partnership (PPP) mobilisation is also a potential source of funding that the government can consider for energy efficiency projects.	Starting in 2023 on an annual basis	Cambodia ODA Database MEF	MEF to report respective data to MME
3.7	Investment in energy efficiency projects in SEZs promoted	Number of energy efficiency project proposals approved under the Qualified Investment Project (QIP) route	No energy efficiency projects planned under the QIP route	Energy efficiency project plan defined by the CDC	NA	Records of the CDC	CDC to report respective data to MME
3.8	Awareness raised on energy efficient measures	Number of public awareness-raising campaigns on energy efficiency	No public awareness-raising campaigns were conducted under the Policy	Public awareness-raising campaigns conducted under the Policy	As per programmes of the Nodal Agency and	Program monitoring reports	MME to report as part of its annual report

					the Partner Agencies		
4	**Impact/Effect**						
	Results in long term	***Indicators***	***Baseline***	***Target***	***Target Completion Year***	***Sources of Verification***	***Responsibility for Tracking & Reporting***
4.1	Improved energy efficiency performance at the national and sectoral levels	1. National Level energy intensity with respect to (w.r.t) targets 2. Emission intensity w.r.t. targets 3. Sectoral energy intensity (industrial, buildings, transport, public services) 4. Sectoral emission intensity w.r.t targets	As defined in the Policy models	As defined by the Policy on an annual basis from 2020 to 2030	NA	Database of MME	MME to report as part of its annual report

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