



DEVELOPING A NATIONAL OR REGIONAL EFFICIENT LIGHTING STRATEGY

A STEP-BY-STEP GUIDE FOR POLICYMAKERS
NOVEMBER 2015

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ABOUT THE UNEP-GEF EN.LIGHTEN INITIATIVE

The United Nations Environment Programme (UNEP)-Global Environment Facility (GEF) en.lighten initiative was established in 2010 to accelerate a global market transformation to environmentally sustainable, energy efficient lighting technologies, as well as to develop strategies to phase out inefficient incandescent lamps to reduce CO₂ emissions and the release of mercury from fossil fuel combustion.

The UNEP-GEF en.lighten initiative serves as a platform to build synergies among international stakeholders; identify global best practices and share this knowledge and information; create policy and regulatory frameworks; address technical and quality issues; and encourage countries to develop national and/or regional efficient lighting strategies.

The United Nations Secretary General's Sustainable Energy for All (SE4ALL) initiative selected the UNEP-GEF en.lighten initiative to lead its lighting 'Energy Efficiency Accelerator'.

The initiative is a public/private partnership between the United Nations Environment Programme, OSRAM and Philips Lighting, with the support of the Global Environment Facility. The National Lighting Test Centre of China became a partner in 2011, establishing the Global Efficient Lighting Centre. The Australian Government joined in 2013 to support developing countries in Southeast Asia and the Pacific.

In 2015, based on the lessons learned from the UNEP-GEF en.lighten initiative, UNEP launched the United for Efficiency (U4E) initiative to support countries in their transition to energy efficient appliances and equipment, including room air conditioners, residential refrigerators, electric motors, distribution transformers, and information and communication technologies.



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EXECUTIVE SUMMARY

This document is intended to guide countries and regions in the process of preparing, developing and completing national or regional efficient lighting strategies, taking into account the ‘integrated policy approach’ promoted by the United Nations Environment Programme (UNEP)-Global Environment Facility (GEF) en.lighten initiative.

Through an efficient lighting strategy, national governments and regional institutions which engage in the transition to efficient lighting develop a clear vision and goals (such as completing the phase out of inefficient incandescent lamps by a certain date); identify specific objectives; and determine the required processes (such as identifying resource requirements and responsibilities and tracking performance to ensure transparency). By establishing a systematic plan, regions and countries ensure that the approach adopted is coherent, and save time, effort and resources.

In addition, following an integrated policy approach ensures that all pertinent policy aspects related to energy efficient lighting are considered. This will significantly increase the likelihood of a successful transition to efficient lighting, leading to financial, energy and environmental benefits, and will also streamline the process for those involved in designing and implementing policies. Each country and region should determine how the elements of the integrated policy approach fit within their national or regional context and

ensure that all relevant authorities and stakeholders are involved to guarantee a consensus-based process in the development of a national efficient lighting strategy.

The development of an efficient national lighting strategy may also facilitate the adoption of efficient lighting Nationally Appropriate Mitigation Actions (NAMAs) which may lead to increased access to finance for implementing the actions identified in the strategy¹. Moreover, an efficient lighting strategy demonstrates the commitment of a country or region to transition to efficient lighting and may provoke the interest of external partners, donors and financial institutions to support implementation of the strategy.

The guidance outlined in this document is meant to be flexible, rather than prescriptive. Each country should consider, and make decisions on the basis of, its specific priorities and circumstances. While each section of a national efficient lighting strategy is outlined in detail, the actual components in the strategy may vary according to each country’s situation and needs.

It is also important to note that a national strategy for efficient lighting should not be cast in stone. Rather, the development of an efficient lighting strategy should be an ongoing and dynamic process; the strategy should be modified as lighting technologies develop and the energy and efficiency status of the country or region evolves.

¹ Specific guidance on how to shape national efficient lighting strategies into NAMAs can be found in the UNEP [Guidebook for the Development of a Nationally Appropriate Mitigation Action Strategy on Efficient Lighting](#)

1 | INTRODUCTION



Electricity for lighting accounts for approximately 15% of electricity consumption and 5% of CO₂ emissions worldwide. If not addressed immediately, global energy consumption for lighting will grow by 60% by the year 2030 (UNEP 2014), thus contributing to increasing climate change. The phase-out of inefficient incandescent lamps and their replacement with higher efficiency products, such as light emitting diode (LED) lamps or compact fluorescent lamps (CFLs), provides one of the most straightforward and cost effective ways to significantly reduce carbon emissions.

The UNEP Global Efficient Lighting Partnership Programme was launched in 2011 as part of the UNEP-GEF en.lighten initiative to support countries in the development of efficient lighting strategies. Establishing a regional or national efficient lighting strategy will ensure the long-term elimination of inefficient lamp technologies which will ultimately result in significant energy and financial savings.



2 PROJECT METHODOLOGY

To support regions and countries in their efforts, the UNEP-GEF en.lighten initiative's expert taskforce has identified best practice policies to be implemented to achieve the global phase-out of inefficient lighting technologies. In particular, the en.lighten expert taskforces have established the 'integrated policy approach', a methodology which ensures that all pertinent policy elements related to energy efficient lighting are taken into account into market transition strategies. The integrated policy approach includes four strategic components²:

⇒ MINIMUM ENERGY PERFORMANCE STANDARDS (MEPS)

⇒ SUPPORTING POLICIES AND OTHER MECHANISMS

⇒ MONITORING, VERIFICATION AND ENFORCEMENT (MVE)

⇒ ENVIRONMENTALLY SOUND MANAGEMENT

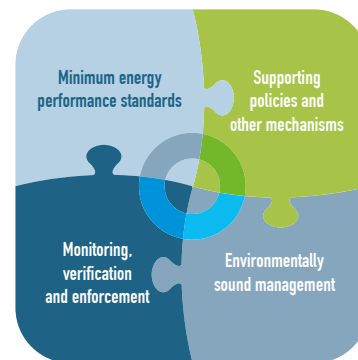


Figure 1

UNEP-GEF en.lighten initiative's integrated policy approach

Countries or regions should determine how each of these four components fit their specific local context. This process should involve all relevant authorities and stakeholders to jointly determine priorities and the most appropriate pathways to achieve them.

On the basis of this approach, the UNEP-GEF en.lighten initiative proposes a country- or region-led process to develop a efficient lighting strategy, as described in Figure 2. The process should be led by governments or regional institutions with the UNEP-GEF en.lighten initiative (and/or other) experts providing methodological support, guidance and technical advice.

PREPARATION

- Appointment of a national focal point and a national coordinating committee
- Definition of the strategy's scope and development plan
- Establishment of thematic working groups

STOCKTAKING AND ASSESSMENT

- Taking stock of the current energy and electricity use for lighting in the region
- Identifying the legal, policy and institutional framework
- Assessing gaps and opportunities

STRATEGY DEVELOPMENT

- Launch of an effective and inclusive process
- Definition of national objectives and priority actions
- Drafting of the national efficient lighting strategy document

FINALIZATION AND ADOPTION

- Technical validation of the draft efficient lighting strategy
- Obtaining high level political endorsement and commitment

Figure 2

Proposed steps for the development of a efficient lighting strategy

² Details on each element of this approach are presented in the [Achieving the Transition to Energy Efficient Lighting Toolkit](#), presently available on the en.lighten website in five languages: Arabic, English, French, Russian and Spanish.

2.1 PLANNING AND PREPARATION

A number of preparatory activities need to take place in order to ensure the successful development of a efficient lighting strategy. In particular, the establishment of a sustainable organisational mechanism, with responsibility and accountability for the activities, is a crucial step. Figure 3 provides an overview of a possible organizational mechanism.

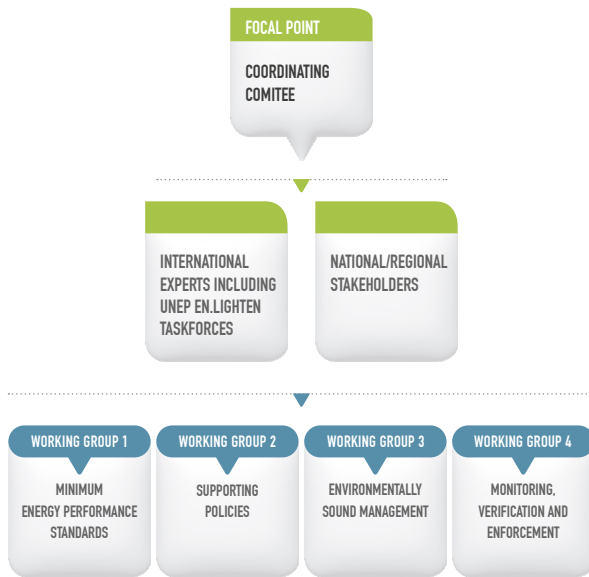


Figure 3
Proposed organisational mechanism

2.1.1 APPOINTMENT OF A FOCAL POINT AND ESTABLISHMENT OF A COORDINATING COMMITTEE

To facilitate the development of the efficient lighting strategy, a focal point should be designated, either within a regional entity (if applicable), a national government or through a designated third party. The focal point must have the appropriate authority to act as a champion and shepherd the integrated efficient lighting strategy development process from project conception to completion. The focal point will be responsible for ensuring the overall project coordination, coordinating stakeholders' contribution and meeting the project's timelines.

The focal point should mobilise support from key interested stakeholders to form a small core group, the coordinating committee. The composition and shape of this group may differ between countries or regions, but should include relevant regional institutions, country representatives including ministries of energy

and environment and competent environmental and/or energy efficiency agencies, utility companies, other ministries (industry, trade, finance, and health), private sector stakeholders, supporting experts, the civil society, bilateral and multilateral donors. The coordinating committee should meet regularly throughout the strategy development process to contribute to decision-making on national or regional priorities, activities, timelines and budgets. The committee members should also familiarise themselves with UNEP-GEF en.lighten initiative's integrated approach, its documents and tools.

For more details, please consult the suggested terms of reference for the coordinating committee provided in [Annex I](#).

2.1.2 DEFINITION OF THE STRATEGY'S SCOPE AND DEVELOPMENT PROCESS

The general scope and focus of the strategy are matters to be decided upon early, by the coordinating committee. In particular, decisions about the scope of the strategy have to be made even before stakeholders are involved. To this end, the following guidance questions may be explored:

- What lighting technologies and applications will be considered in the strategy?
- What sectors will be covered?
- What is the specific geographic scope of the strategy?

It might be decided by the committee that a number of specific technologies and issues will be excluded from the scope of the strategy; if so, the justification should be clearly articulated. Specific research, assessment and best practice study may be required at this stage to assist with the scoping.

The development of an efficient lighting strategy is a process that requires significant resources, so available financial, human, technical and other resources and external support opportunities should be clearly identified at an early stage in the process. For example, one or more bilateral aid donors or international funding organisations may agree to provide a grant to support the process.

If the strategy development is supported by bilateral or international donors, the focal point and members of the coordinating committee may benefit from meeting in person or via teleconference with these supporters. Grant or contract requirements should be reviewed, and the timeline discussed, so that donor participation can be coordinated and expectations met. This is also an opportunity for the focal point and coordinating committee to discuss specific requirements for expert advice from outside the region or country.

The development process for the strategy should include a clear timeline for its completion and adoption. Based on the experience of the UNEP-GEF en.lighten initiative with pilot regions and countries³, the development of an efficient lighting strategy from planning and preparation to finalisation usually takes 9 to 15 months, as shown in Figure 4.



Figure 4
Sample timeline for the development of an efficient lighting strategy

2.1.3 ESTABLISHMENT OF THEMATIC WORKING GROUPS

The establishment of thematic working groups is particularly relevant when developing an efficient lighting strategy at a regional level. They offer an opportunity to bring to the same table similar stakeholders from various countries, in order to develop regional perspectives on specific topics. The groups may be constituted from scratch, following the elements of the integrated approach; or existing working groups may be identified and enlisted. The working groups should include representatives from several countries of the region.

The specific numbers of working groups and members per group are to be determined based on the regions' and countries' specific priorities and expertise. The composition of the working groups should be determined by the coordinating committee; and selected working group members should be advised of their appointment, either by email or in-person at the inception workshop, and required to formally confirm or decline their appointment. The involvement of the selected experts in the working groups should be voluntary and no remuneration should be attached to a member's duties. Figure 5 provides a suggested list of working group members.



⇒ MINIMUM ENERGY PERFORMANCE STANDARDS:



Necessary: ministers of energy; standardization agencies; rural electrification agencies
Optional: regional experts; private sector

⇒ SUPPORTING POLICIES AND OTHER MECHANISMS:



Necessary: ministers of energy; utilities; ministry of finance; rural electrification agencies
Optional: NGOs; regional and international banks; lighting manufacturers; Global Off-Grid Lighting Association; UNDP

⇒ ENVIRONMENTALLY SOUND MANAGEMENT:



Necessary: ministers of environment; ministers of health; waste management agencies
Optional: regional experts; lighting manufacturers, NGOs

⇒ MONITORING, VERIFICATION AND ENFORCEMENT:



Necessary: testing laboratories; customs controls, ministry of Industry; ministry of trade; rural electrification agencies
Optional: consumers protection agency; lighting manufacturers; Global Efficient Lighting Center

Figure 5
Suggested list of working group members

³ Further details on the activities of the UNEP-GEF en.lighten initiative in pilot countries and regions can be found on the [UNEP-GEF en.lighten website](#).

2.2 STOCKTAKING AND ASSESSMENT

A necessary step to enable the development of a realistic efficient lighting strategy is the assessment of the current national or regional efficient lighting market and policy status. To this end, a national or regional efficient lighting status report should be prepared to provide a general overview of the country or region's lighting situation, including past and current efforts for increased lighting efficiency, status of activities and identification of stakeholders related to energy efficient lighting. The report will serve to inform stakeholders about the baseline situation and will constitute a key resource to help identify the opportunities and gaps related to the transition to energy efficient and sustainable lighting.

2.2.1 TAKING STOCK OF THE CURRENT ENERGY AND ELECTRICITY USE FOR LIGHTING

The first step in developing a status report is to identify and gather all available data to assess the current national or regional energy situation in relation to lighting. Different lighting aspects should be explored thoroughly, such as current energy consumption, greenhouse gas emissions, number of inefficient and efficient lamps in place on the national market, and projections on future consumption and emissions. For countries or regions with populations lacking access to an electrical grid, the assessment should include data, or estimates, on off-grid lighting needs, issues and plans.

The stock taking exercise can rely upon a wide range of information including: the results of the UNEP-GEF en.lighten initiative [Country Lighting Assessments](#) (on-grid and off-grid), official data, previous international, regional or national studies on the lighting sector, private sector figures, data from qualitative interviews with key national or regional stakeholders where they exist. Projections on future consumption and emissions can be estimated with local resources, or with the UNEP-GEF en.lighten initiative [efficient lighting savings forecasting model](#).



2.2.2 IDENTIFYING THE EXISTING LEGAL, POLICY AND INSTITUTIONAL FRAMEWORKS

The existing legal, policy and institutional framework governing energy efficient lighting at the regional and country levels should be described, and the level of success and critical success factors for past efficient lighting programmes and activities should be identified. This can be treated by theme following the four elements of the integrated policy approach. Optionally, this may also include regulations or activities in other regions or at a global level, which may represent best practice models for adaptation to the region's situation.

2.2.3 ASSESSING THE GAPS AND OPPORTUNITIES

The main obstacles and key problems that need to be addressed in order to achieve a successful transition towards efficient lighting should be identified. These can include education, capacity, governance, legal issues and more. In parallel, the key aspects that need to be taken into account in order to achieve sustainable efficient lighting in the country or region should be identified. The specific policies, frameworks and regulations that may be implemented to guarantee the effectiveness of the transition process should be suggested.

Collaboration and support expected from the UNEP-GEF en.lighten initiative and/or other international development agencies to assist the country or region in the transition process should also be specified as part of the status report. In addition, potential regional or bilateral cooperation opportunities and public-private partnership initiatives may be identified.

A suggested table of contents of the national/regional efficient lighting status report is included in [Annex II](#).



2.3 STRATEGY DEVELOPMENT

Once the status of the country or region with regards to efficient lighting has been defined precisely, the main elements of the efficient lighting strategy should be determined in a transparent manner, based on consultations with a broad range of national or regional stakeholders. Then, the coordinating committee should formulate the strategy on the basis of the current efficient lighting situation and the conclusions of the stakeholder consultations.

2.3.1 LAUNCH OF AN EFFECTIVE AND INCLUSIVE PROCESS

A multi-stakeholder efficient lighting workshop should be organised in order to raise awareness and increase knowledge of policymakers and other relevant stakeholders on:

- The relevance of energy efficient lighting to reducing national energy consumption and greenhouse gases emissions;
- The reason for the development of an efficient lighting strategy, its expected content, aim, objectives and added value;
- How a national strategy can meet the country or region's needs, and the process to be followed to implement appropriate actions.

Participants should include representatives from all relevant institutions and organisations such as ministries, utilities, private sector companies, non-governmental organisations, potential donors, financiers, international and/or regional lighting experts and other interested parties as appropriate.

Participants should review results from the efficient lighting status report and proposed work plan for the efficient lighting strategy development process, receive expert support on specific technical issues, and discuss priority areas that could be addressed by the efficient lighting strategy.

A suggested agenda for the inception workshop is included in [Annex III](#).

2.3.2 DEFINITION OF OBJECTIVES AND PRIORITY ACTIONS

Based on priorities and the work plan agreed upon at the inception workshop, this phase will define the main components of the efficient lighting strategy. Research, fact finding and analysis may take place at this stage. The coordinating committee members should meet regularly to discuss issues pertaining to the development of the draft strategy, considering the four components of the integrated policy approach, as appropriate.

A list of expected results and activities is included in [Annex IV](#).

2.3.3 DRAFTING OF THE NATIONAL/REGIONAL EFFICIENT LIGHTING STRATEGY DOCUMENT

The efficient lighting strategy document should be drafted through a close collaboration between the leading national or regional institution and the sponsoring institutions, as appropriate. The responsibility for putting together the draft document should be clearly defined. This work could be undertaken by either the project's focal point, a member of the coordinating committee, or an external consultant. The selected expert may conduct interviews and convene meetings with relevant stakeholders when needed. Additional experts could be hired to provide technical and/or strategic advice on specific components of the strategy. The draft strategy should be as succinct as possible, to ensure it is widely read and internalised.

A detailed, annotated outline for the efficient lighting strategy document is included in [Annex V](#).



2.4 FINALISATION AND ADOPTION

The draft efficient lighting strategy should be circulated to national stakeholders for comments and inputs ahead of a final consultation workshop, aimed at achieving a consensus for its adoption.

2.4.1 TECHNICAL VALIDATION OF THE DRAFT EFFICIENT LIGHTING STRATEGY

A final workshop should be organised with national or regional stakeholders for the coordinating committee to present and discuss the components of the final draft efficient lighting strategy.

Participants may include ministers or vice ministers (energy, environment, finance, economy or others); politicians (depending on governance system); funders (such as development banks); private sector; civil society representatives; media; and any project sponsors. Regional stakeholders also include intergovernmental organisations for trade and harmonisation, regional commissions and regional energy centres.

Participants should be given the opportunity to discuss the strategy components, submit constructive remarks, and suggest changes. Funding opportunities for the implementation of the strategy may be explored. The workshop may include a session on finance for regional and international sponsors to present funding opportunities, scopes and guidelines. This session can also include a

presentation on Nationally Appropriate Mitigation Actions (NAMAs) as a potential implementation tool.

If necessary, the consultative process can be extended for a specific time after the workshop, for example, by posting the draft strategy document on governmental web platform and calling for public comments. Once the consultative process has officially ended, the strategy document should be finalised considering, as much as possible, the comments and remarks received during the consultative process.

A suggested agenda for the validation workshop is included in [Annex VI](#).

2.4.2 OBTAINING HIGH LEVEL POLITICAL ENDORSEMENT AND COMMITMENT

The final step in strategy development is the high level political endorsement, which should be obtained after the public consultation process is completed. This should be carried out at the appropriate political level, depending upon the governmental process and political context. A high level meeting might be organised to formalise this step and demonstrate that the country or region is politically committed to implement the strategy; including promulgating necessary legislation or establishing the legal framework and authority for setting binding requirements, and coordinate the efficient lighting strategy with other high level regional and international strategies and agreements or conventions ([Basel Convention](#), [Minamata Convention](#), and others).

3 RESOURCES

To support countries and regions in the development of efficient lighting activities and strategies, the UNEP-GEF en.lighten initiative has prepared a wide array of practical tools. The most relevant ones are listed and described below.

3.1 PUBLICATIONS

- *Achieving the Transition to Energy Efficient Lighting Toolkit* – delivers best practice guidance for policy development and provides technical and practical tools for those directly involved in national phase-out activities. This toolkit is available online in five languages: Arabic, English, French, Russian and Spanish.
- *Guidebook for the Development of a Nationally Appropriate Mitigation Action Strategy on Efficient Lighting* – provides step-by-step guidance on how to transform a National Efficient Lighting Strategy into a proposal for a Nationally Appropriate Mitigation Action.
- *Developing Minimum Energy Performance Standards for Lighting Products: Guidance Note for Policymakers* – illustrates how to develop MEPS for lighting products. It is a practical resource for governments on the processes to follow when establishing MEPS in a national or regional market.
- *Product Selection and Procurement for Lamp Performance Testing: Guidance note* – provides guidance on the steps required when selecting and procuring residential lamps to undergo performance testing, including defining the product scope, selection methodology, and the procurement and tracking protocol.
- *Performance Testing of Lighting Products: Guidance note* – outlines the process for carrying out energy efficiency performance testing for lamps, and how to interpret and use the data. It is a practical resource for energy efficiency policymakers and programme administrators.
- *Good Practices for Photometric Laboratories: Guidance note* – provides guidance on the operation of photometric laboratories to ensure that testing results are fully supported by evidence of the legitimacy of the measurement values obtained and to give confidence in the accuracy of these results and conformance with test procedures/conditions.
- *Enforcing Efficient Lighting Regulations: Guidance note* – presents best practices for enforcing energy efficiency regulations for lighting products. It can be used as a practical resource by policymakers and enforcement bodies when developing or revising their enforcement regime.
- *Developing Lighting Product Registration Systems: Guidance note* – provides practical guidance and examples to energy efficiency programme administrators on how to develop, operate and maintain a registration system for lighting products.
- *Efficient Lighting Market Baselines and Assessment: Guidance note* – provides practical guidance to policymakers and energy efficiency programme administrators on how to determine national baselines, use this data for market monitoring purposes, and how to monitor the market to continuously update the baselines.



3.2 ONLINE TOOLS

- *Country Lighting Assessments* – analyse the potential benefits gained through the global adoption of efficient lighting. The on-grid reports provide country-specific estimates of potential energy savings, CO₂ reductions and financial gains. Off-grid reports model a transition from fuel-based lighting to one based on solar-powered light emitting diodes. Regional results can either be compiled from the assessments of the constituent countries, or, in cases where the UNEP-GEF en.lighten initiative does not offer an assessment for each country, the initiative can work with the region to develop estimates based on best available data.
- *Online Support Centre, 'en.lightened learning'* – includes targeted technical advice, webinars and training videos to improve the understanding of the practical elements when executing a transition to efficient lighting.

3.3 EXPERTISE AND COLLABORATING CENTRES

- *UNEP-GEF en.lighten initiative Centre of Excellence* – comprised of a network of over 50 lighting experts representing over 30 countries – offers recommendations, technical guidance and efficient lighting expertise to assist countries in the shift to energy efficient lighting. The Centre is based in Paris, France.
- *UNEP Collaborating Centre for Energy Efficient Lighting, China* – the Global Efficient Lighting Centre offers a wide range of technical services to developing countries including laboratory and establishing systems for lamp quality control.
- *AMBILAMP Academy, Spain* – the AMBILAMP International Academy for the Recycling of Light has been created to provide expertise for establishing environmentally sound management systems for spent lamps in developing and emerging countries.

ANNEX I – SUGGESTED TERMS OF REFERENCE FOR THE COORDINATING COMMITTEE

1 INTRODUCTION TO THE EFFICIENT LIGHTING STRATEGY DEVELOPMENT PROCESS

The efficient lighting strategy's coordinating committee is composed of key ministries (e.g. energy, electricity, environment, industry, finance, etc.), agencies (e.g. Energy Efficiency Agency) and relevant stakeholders from the private and civil sectors that are concerned with energy efficient lighting and related sustainability issues within a country or region. When a regional process is adopted, the committee can also include intergovernmental organisations for trade and harmonisation, regional commissions and regional energy centres. The overall responsibility of the coordinating committee is to prepare and complete the development of the efficient lighting strategy a timely manner.

The coordinating committee should meet regularly during the national efficient lighting strategy's development processes. It should also report directly to the focal point and to the relevant national or regional authority (or authorities).

The first task of the national coordinating committee is to organise a national efficient lighting strategy planning meeting, where the overall strategy development process is shared among committee members and a work plan agreed upon.

The planning meeting will be the launch for a broader multi-stakeholder project inception workshop, which would include a wide range of relevant national or regional actors and international expert participation invited by the UNEP-GEF en.lighten initiative.

2 OBJECTIVES OF THE COORDINATING COMMITTEE

- Development of the efficient lighting strategy;
- Identifying further steps to assist with the implementation of the strategy development process (including regular updates, revisions, etc.).

3 COMMITTEE STRUCTURE

Name, position, institution and contact details for each of the following:

- Focal point;
- Committee Chair;
- Committee Secretariat;
- Committee members, stakeholders representatives;
- Additional resource persons and/or institutions.

4

RESPONSIBILITIES OF COMMITTEE MEMBERS**4.1 COMMITTEE CHAIR RESPONSIBILITIES**

- Facilitating meetings;
- Monitoring and reporting on progress and outcomes regarding the work plan;
- Ensuring that all committee members have fair access to participate.

4.2 FOCAL POINT RESPONSIBILITIES

This position is assigned by the Minister or other senior person and is defined as the operational focal point of the UNEP-GEF en.lighten initiative for the development project of the National Strategy for Efficient Lighting.

Responsibilities include:

- Overall coordinator for the strategy development process under the supervision of the coordinating committee;
- Ensuring project activities, budget, calendar and responsibilities are delivered as agreed;
- Ensuring adequate and fair participation and input of national or regional stakeholders through the strategy development process;
- Reporting to national or regional authorities and decision-makers, as appropriate;
- Acting as focal point through which information flows from all parties;
- Serve as regular liaison with the UNEP-GEF en.lighten initiative.

4.3 COMMITTEE SECRETARIAT RESPONSIBILITIES

- Coordinating the committee;
- Arranging and preparing committee meetings;
- Providing facilities and materials for the committee meetings;
- Preparing and distributing reports for committee meetings;
- Recording minutes of the committee meetings and submitting them to the Chair in a timely manner.

4.4 COMMITTEE MEMBERS' RESPONSIBILITIES

- Participating in the committee meetings;
- Reporting to the committee Secretariat in a timely manner;
- Reporting to respective constituencies;
- Providing expertise and relevant information;
- Contributing to the preparation of national efficient lighting strategy document;
- Implementing tasks as agreed by the committee;
- Preparing data concerning specific topics, as agreed by the committee;
- Hosting/chairing meetings as indicated by the Chair.

5

OPERATING PROCEDURES

- List of location(s) and schedule for committee meetings;
- Recording minutes of the committee meetings;
- Details regarding process for committee Chair;
- Decision-making procedures (e.g. manner of ensuring fair participation and reaching consensus).

II

ANNEX II – SUGGESTED CONTENTS OF THE EFFICIENT LIGHTING STATUS REPORT

1 BACKGROUND

The Efficient Lighting Status Report provides an overview of the efficient lighting's situation in the country, or region, including past and present efforts, activities and actors related to efficient lighting. The report serves to update members of the Coordinating Committee and other actors on the starting situation in the country. The report is a key to help identify opportunities and barriers related to the country's integrated transition to resource efficient and sustainable lighting. The development of a comprehensive and accurate status report is an essential exercise before the launch workshop, as it establishes a basis for identifying priorities which will lead the development of the strategy for efficient lighting and its objectives.

2 KEY INFORMATION THAT MUST BE ADDRESSED IN THE EFFICIENT LIGHTING STATUS REPORT

- The present situation of efficient lighting in the country, describing deeper aspects relating to lighting, such as the current energy consumption, emissions of greenhouse gases, number of installed inefficient lamps, projections of consumption and future emissions.
- Identification of the main obstacles, detailing all problems related to education, skills, governance and legal framework that must be addressed to ensure a successful transition to efficient lighting.
- Description of the key aspects that must be taken into account to achieve efficient and sustainable lighting in the country, including proposed policies, frameworks and specific rules that can be applied to guarantee the effectiveness of the transition process.
- Description of any activities, and the legal framework, that have previously been applied in the country, including the degree of success and critical success factors. Optionally, regulations or activities in other countries in the region or globally can be included, which could represent a model of best practice that could be adapted to national circumstances.
- Collaboration and expected UNEP-GEF en.lighten initiative support in helping the country throughout the transition process.
- Identification of bilateral or regional cooperation opportunities.
- Identification of potential public-private associations.

1. Executive summary
2. Introduction
3. Country background information
4. Climate change and the influence of lighting globally and in the country/region
5. Relevant initiatives for the promotion of efficient lighting (global, regional and in selected countries)
6. Key obstacles in the promotion of efficient lighting in the country/region
 - 6.1 The global level
 - 6.2 The regional level
 - 6.3 The national level (optional)
7. Main obstacles which impede the promotion of efficient lighting in the country
8. Status of national initiatives for the transition to efficient lighting, including implementation dates, name and number of legal instruments, and any other pertinent information
 - 8.1 Regulatory and control mechanisms (minimum energy performance standards, mandatory labelling and certification, technology prohibition, energy codes for buildings, energy efficiency obligations and quotas)
 - 8.2 Supporting policies and mechanisms
 - 8.2.1 Economic/market-based instruments (cooperative procurement, energy service performance contracting, bank loans, instalment payments, financial leasing)
 - 8.2.2 Fiscal instruments and incentives (taxation, subsidies, grants and rebates)
 - 8.2.3 Support, information and voluntary action (awareness raising and education, detailed billing and disclosure, voluntary certification and labelling, public leadership and demonstration, voluntary and negotiated agreements)
 - 8.2.4 Previous successful efficient lighting programmes and initiatives in the country/region, including critical success factors and recurrence opportunities
 - 8.3 Monitoring verification and enforcement activities
 - 8.3.1 Legal and institutional framework for monitoring, verification and enforcement activities
 - 8.3.2 Product quality testing capacities (national or accredited)
 - 8.3.3 Production/manufacturing of lamps
 - 8.4 Environmentally sound management initiatives (collection, recycling and disposal)
9. National stakeholders: introduction to their responsibilities, capacities and initiatives
 - 9.1 Government
 - 9.2 Private sector
 - 9.3 Civil society
 - 9.4 Others
10. General conclusions and recommendations
 - 10.1 Aspects to take into consideration in order to achieve transition to efficient lighting in an effective and sustainable way
 - 10.2 Suggestions for the identification of national priorities in the development of the national/regional efficient lighting strategy
 - 10.3 Strengths of the country/region in order to develop the process of transition towards efficient lighting, and opportunities for regional scale solutions
 - 10.4 Gaps or needs for which the country/region requires technical advice or assistance
 - 10.5 Identification of potential bilateral or regional partnership initiatives
11. Bibliography
12. Annexes

ANNEX III – SUGGESTED AGENDA FOR THE EFFICIENT LIGHTING STRATEGY INCEPTION WORKSHOP

Session	Description	Responsibility
Welcome	<p>Opening remarks by the hosts and facilitators</p> <ul style="list-style-type: none"> • Participant introductions • Review of workshop objectives and methodology 	<ul style="list-style-type: none"> • Minister of Environment • Minister of Energy • Other national/regional authorities • Focal point • UNEP representative • UNDP representative
Session 1	<p>Introduction to the UNEP-GEF en.lighten initiative</p> <ul style="list-style-type: none"> • Introduction to the global transition to efficient lighting • Benefits of the global transition • Introduction to the integrated policy approach • Process for developing an efficient lighting strategy • Resources and support available through the UNEP-GEF en.lighten initiative 	<ul style="list-style-type: none"> • UNEP-GEF en.lighten initiative representative
Session 2	<p>Current efficient lighting status</p> <ul style="list-style-type: none"> • Summary of the national/regional efficient lighting status report • Identification of current situation concerning the four elements of the integrated policy approach • Past, current and future efficient lighting initiatives in the country/region: what works and what does not? • Options for regional or bilateral cooperation • Discussion of strengths, weaknesses and opportunities • Priority targets and the desired benefits 	<ul style="list-style-type: none"> • Focal point or member of the coordinating committee • Stakeholders
Session 3	<p>Developing the efficient lighting strategy</p> <ul style="list-style-type: none"> • Goals, components and processes • Organisational structure • Stakeholder involvement and participation • Discussion of responsibilities for key deliverables: research; regional interaction; drafting the plan; drafting proposed policies; other tasks • Suggested work plan with outputs and outcomes 	<ul style="list-style-type: none"> • Focal point or member of the coordinating committee • Stakeholders
Session 4 ⁴	<p>Detailed presentations on the UNEP-GEF en.lighten initiative integrated approach [on the basis of national priorities] and suggested action areas for the development of the Strategy</p> <ul style="list-style-type: none"> • Rationale for each element and summary of international best practices • Adapting these experiences to the country/region's conditions • Suggested outcomes • Open discussion on each element and how it will form part of the efficient lighting strategy 	<ul style="list-style-type: none"> • UNEP-GEF en.lighten initiative representative and experts • National experts • Stakeholders
Session 5	<p>Breakout discussion and identification of priority actions to develop the national strategy</p> <ul style="list-style-type: none"> • Identification of priorities • Identification of capacity gaps • Definition of responsibilities • Budget and manpower considerations • Presentation of conclusions from break out sessions 	<ul style="list-style-type: none"> • Focal point • UNEP-GEF en.lighten initiative experts • National experts • Stakeholders
Session 6 and Closing	<p>Discussion of main conclusions</p> <ul style="list-style-type: none"> • Reality check – Is this plan achievable? • Action items, responsibilities and proposed timeline for delivery of the efficient lighting strategy • Closing remarks and stakeholder commitments 	<ul style="list-style-type: none"> • Focal point • National experts • National authorities • Stakeholders • UNEP-GEF en.lighten initiative

⁴ If two days are available, Session 4 could be expanded so that experts and participants can go into depth about the topics, resources, and tasks that are of the highest priority for a country/region's efficient lighting strategy

ANNEX IV – LIST OF EXPECTED RESULTS AND ACTIVITIES

	Expected Results	Activities	Status
1	Preparation and Planning Activities		
1.1	Establishment of the Coordinating Committee	1.1.1 Notification letters to ministers and authorities	
		1.1.2 Nomination of members, Secretary and Chair of the Coordinating Committee	
		1.1.3 Meeting of the Coordinating Committee	
		1.1.4 Distribution of authorship and responsibilities for activities	
2	Inception Workshop		
2.1	Review and approval of the work plan for developing the efficient lighting strategy document	2.1.1 Drafting the work plan for the development of the efficient lighting strategy and associated schedule of activities	
		2.1.2 Identification of participants and workshop launch's presenters and sending of invitations	
		2.1.3 Planning of the inception workshop logistics (booking of venue and meeting rooms, technical equipment for conference rooms, lunch, snacks, airline tickets, hotel reservations, translation and interpretation, etc.)	
		2.1.4 Hosting of the inception workshop	
		2.1.5 Drafting and delivery of a report on the inception workshop	
3	Development of the Efficient lighting Strategy		
3.1	Development of the national activities	3.1.1 Identification of experts according to national priorities	
		3.1.2 Organisation of sectorial workshops in response to national priorities	
		3.1.3 Consultation of best practices and technical assistance through 'en.lighten learning'	
3.2	Drafting of the efficient lighting strategy document	3.2.1 Drafting of the efficient lighting strategy outline	
		3.2.2 Delivery and review the first draft	
		3.2.3 Delivery and review of the second draft	
		3.2.4 Delivery and review of the third draft	
4	Finalisation and Adoption of the Efficient Lighting Strategy		
4.1	Approval of the efficient lighting strategy document	4.1.1 Circulation of the draft strategy document to key stakeholders	
		4.1.2 Sending invitations to participants and presenters of the final workshop	
		4.1.3 Organisation of the final workshop	
		4.1.4 Hosting the final workshop	
		4.1.5 Review and approval of the efficient lighting strategy	
		4.1.6 Finalisation of the efficient lighting strategy document	
		4.1.7 Preparation and delivery of the report on the final workshop	
5	Implementation of the Efficient Lighting Strategy		

V

ANNEX V – ANNOTATED OUTLINE FOR AN EFFICIENT LIGHTING STRATEGY

[The cover page of the strategy document should state the official name of the strategy (ex: National/Regional Efficient Lighting Strategy of “country/region name”), the expected duration of the strategy with clearly defined dates (ex: 2013-2016) and the strategy’s coordinating entity]

SUGGESTED TABLE OF CONTENTS

- Acronyms and Abbreviations
- Executive Summary
- 1 - Introduction
- 2 - Making the case
 - 2.1 - Benefits of the transition to efficient lighting in the country or region
 - 2.2 - Current situation and gap analysis
 - 2.3 - Goals of the Efficient Lighting Strategy
 - 2.4 - Methodology used for development of the strategy
 - 2.4.1 - *The integrated policy approach*
 - 2.4.2 - *Participatory process for strategy development*
- 3 - Implementing the Strategy
 - 3.1 - Minimum energy performance standards
 - 3.1.1 - *Existing legal framework*
 - 3.1.2 - *Matrix of strategy implementation for minimum energy performance standards*
 - 3.1.3 - *Indicators for evaluation of progress*
 - 3.2 - Supporting policies and mechanisms
 - 3.2.1 - *Existing legal framework*
 - 3.2.2 - *Matrix of strategy implementation for supporting policies and mechanisms*
 - 3.2.3 - *Indicators for evaluation of progress*
 - 3.3 - Environmentally sound management
 - 3.3.1 - *Existing legal framework*
 - 3.3.2 - *Matrix of strategy implementation for environmentally sound management*
 - 3.3.3 - *Indicators for evaluation of progress*
 - 3.4 - Monitoring, verification and enforcement
 - 3.4.1 - *Existing legal framework*
 - 3.4.2 - *Matrix of strategy implementation for monitoring, verification and enforcement*
 - 3.4.3 - *Indicators for evaluation of progress*
- 4 - Financial Schemes
 - 4.1 - National contribution
 - 4.2 - Potential funders
 - 4.3 - Nationally Appropriate Mitigation Action (NAMA) development
- 5 - Next Steps
- 6 - Conclusion and Future Plans for Efficient Lighting
- Annexes

ACRONYMS AND ABBREVIATIONS

In this section, list and define all of the acronyms and abbreviations used in the efficient lighting strategy and related documents. When preparing the document, try to minimise the use of acronyms and abbreviations in order to keep the text comprehensible and easy to read.

EXECUTIVE SUMMARY

The executive summary should provide a short overview of the efficient lighting strategy, the rationale for its development and the key objectives. A well written executive summary should allow a non-technical reader or a high level decision maker to quickly grasp the strategy's most important elements and make a decision without having to read through the whole document. The executive summary may include an overview table of the main components of the strategy, listing key objectives, related expected outcomes and parties responsible for implementation:

Key Objectives (in order of priority)	Expected Outcomes	Responsible Parties
Objective 1

Objective 2

Objective 3

Objective 4, etc.

1 INTRODUCTION

The introduction will provide the context for the development of the efficient lighting strategy. It should position it into the perspective of existing national, regional or global mandates and commitments to the energy, efficiency and climate change mitigation sectors. The introduction should provide a brief overview of the methodology used and specify the process used to engage national, regional or international stakeholders in the development of the strategy.

2 MAKING THE CASE

This section will outline the rationale for fostering the transition to energy efficient lighting in the country or region. It should summarise the current efficient lighting situation and highlight the potential economic, financial and environmental benefits of the transition to energy efficient lighting.

2.1 BENEFITS OF THE TRANSITION TO EFFICIENT LIGHTING IN THE COUNTRY OR REGION

This section will summarise the environmental, social, economic and financial benefits of a transition to efficient lighting in the country or region. The UNEP-GEF en.lighten initiative [Country Lighting Assessments](#) may be used for this purpose, or other data that has been generated by the country, region or other relevant stakeholders.

2.2 CURRENT SITUATION AND GAP ANALYSIS

This section will summarise the overall national or regional energy situation and the existing initiatives and programmes implemented or under development in the country or region with regards to energy efficiency and particularly, energy efficient lighting. This analysis will also include the main gaps, needs or challenges in terms of governance, legislation, supporting policies, enforcement, technical capacities, resources, awareness, and other relevant issues, such as cooperation with other countries or regions. The efficient lighting status report provides an excellent basis from which to develop the content for this section.

2.3 GOALS OF THE EFFICIENT LIGHTING STRATEGY

This portion will highlight the main goals that the country or region expects to achieve through the implementation of the efficient lighting strategy. A goal is a concise statement that describes the strategy's purpose – what it will achieve. Goals must be realistic and achievable. If they are too ambitious, there could be a risk that the strategy will not succeed. The goals should be in line with the UNEP-GEF en.lighten initiative's objective of achieving the phase-out of inefficient lighting globally. It can also include a more regional or international perspective such as:

1. Harmonising lighting-related legislation with regional standards;
2. Fulfilling national, regional and international climate change and environmental agreements and conventions;
3. Improving air quality; providing sustainable lighting for all, or for a specific subsector of the population;
4. Reducing electricity consumption or peak demand;
5. Reducing the country/region's dependence on oil or imported fuels ;
6. Decreasing electricity costs for end users;

The goals determined in this section will help shape the strategy's objectives and recommended actions.

2.4 METHODOLOGY USED FOR DEVELOPMENT OF THE STRATEGY

The objective of this section is to describe, in detail, the integrated, transparent, consensus-driven approach that has been followed, from the initial steps in the development of the efficient lighting strategy to its political endorsement and implementation.

2.4.1 THE INTEGRATED POLICY APPROACH

This section will describe the integrated policy approach as the foundation for development of the efficient lighting strategy, providing summary information on the four key components: minimum energy performance standards; supporting policies and mechanisms; monitoring, verification and enforcement; and environmentally sustainable management. This paragraph will highlight the importance of the integrated policy approach for a smooth, sustainable market transition to efficient lighting.

2.4.2 PARTICIPATORY PROCESS FOR STRATEGY DEVELOPMENT

This section will summarise the efficient lighting strategy development process and describe the methods followed to engage stakeholders. The establishment, composition and role of the coordinating committee created to develop the strategy will be explained here, as well as the methods used to engage the private sector, civil society and other relevant stakeholders within the country or region. A timeframe may be useful to indicate key milestones from inception to the final phase, including primary working meetings, workshops and national consultations. The role played by the UNEP-GEF en.lighten initiative and other international cooperation agencies and partners in the development of the efficient lighting strategy should also be detailed.

3 IMPLEMENTING THE STRATEGY

In order to reflect the integrated policy approach, the efficient lighting strategy would best be structured into four main components. The components should appear in the order shown below or alternatively, in order of priority for the country or region.

The situation and gap analysis will have identified what it is necessary to achieve in order to meet specified goals. This chapter will present a series of tables and information containing the specific objectives of the efficient lighting strategy, along with expected outcomes, priority activities, supporting actions, start and end dates, and responsible parties. As such, these tables will clearly present who will make what change, *how*, and by *when*.

3.1 MINIMUM ENERGY PERFORMANCE STANDARDS

Minimum energy performance standards for lighting products stipulate minimum performance requirements (for example, luminous efficacy of lamps) or the maximum energy consumption associated with specific performance levels. Since minimum energy performance standards are mandatory and apply to all products sold in a market, they should be developed in consultation with all stakeholders involved in the manufacture and sale of the relevant products. For more details about minimum energy performance standards, please refer to Section 2, *Selecting and Implementing Energy Efficient Lighting Policies*, of the UNEP-GEF en.lighten initiative toolkit, *Achieving the Transition to Energy Efficient Lighting*, and guidance note, *Developing Minimum Energy Performance Standards for Lighting Products: Guidance Note for Policymakers*.



Guidance questions

The following questions cover the necessary elements required for the adoption of the minimum energy performance standards component of the strategy. The strategy need not provide answers to all these questions, however, careful consideration of the answers will allow for accuracy and clarity of the strategy document.

Will the minimum energy performance standards developed/adopted be (1) technology-specific – covering incandescent, compact fluorescent, light emitting diode and other lamp types or (2) technology neutral – stating a minimum luminous efficacy for all lamp types?

Will the minimum energy performance standards follow an existing national, regional or international model? For example, the European Union's Ecodesign requirements, United States, regulations, etc.

Where a regional approach to efficient lighting is chosen, will harmonised minimum energy performance standards be adopted at the regional level? If not, how will the adoption of national minimum energy performance standards be coordinated?

Which specific performance requirements should be included in the minimum energy performance standards? For example:

- Luminous efficacy of lamps (expressed in lumens per watt);
- Lifetime (rated lamp life minimum or a declaration of rated lamp life);
- Voltage fluctuation tolerance;
- Power quality: power factor; total harmonic distortion;
- Light quality: correlated colour temperature; colour rendering index or colour quality scale; colour consistency;
- Maximum allowable levels of hazardous materials: limit or ban the use of elements such as arsenic, cadmium, lead or mercury, in line with existing and widely used regional regulations or directives, or, international conventions such as the Basel Convention or the Minamata Convention on Mercury;
- Safety: International Electrotechnical Commission (IEC) standards for electrical, fire, health, and other concerns.

What test methods should be used when measuring the performance requirements in the regulation? (For example, lamp testing methods described in IEC standards)

What is the institutional process for the minimum energy performance standards adoption and implementation?

What is the planned schedule and timeline for the minimum energy performance standards implementation?

Will the minimum energy performance standards be implemented all at once or following a gradual approach/in stages?

3.1.1 EXISTING LEGAL FRAMEWORK

This section will state whether minimum energy performance standards for non-directional household lamps are (1) currently in place, (2) in preparation or (3) planned. The cases where minimum energy performance standards are being prepared or are planned should be specified. Draft legislation or minimum energy performance standards developed as a result of the strategy should be added as an Annex to the efficient lighting strategy, as along with any other relevant documents.

3.1.2 MATRIX OF STRATEGY IMPLEMENTATION FOR MINIMUM ENERGY PERFORMANCE STANDARDS

The proposed matrix for minimum energy performance standards implementation, as part of the overall strategy, will: identify national or regional objectives; detail the path to achieve the objectives; and link the implementation schedule and responsibilities.

	End Date ⁵	Implementing Parties	Progress Evaluation (0-2) ⁶
Objective 1 – Phase-out Inefficient Incandescent Lamps by 2016 [example]			
Expected Outcome 1.1	[example] Adoption of regionally harmonised mandatory minimum energy performance standards in residential lighting applications		1
Priority Activity 1.1.1	[example] Develop minimum energy performance standards in residential lighting applications		1
Tasks	1. [example] Technical assessment of minimum energy performance standard levels and specifications for key trading partners and other relevant countries	15/10/2012 Ministry of Energy (co-lead), National Bureau of Standards (co-lead)	2
	2. [example] Development of draft minimum energy performance standards for internal discussion by the coordinating committee – the draft should form part of the Annex	10/2/2013 National Bureau of Standards (lead), Ministry of Energy, Ministry of Industry and Trade	2
	3. [example] Publication of the draft minimum energy performance standards in the Government Gazette for public consultation	10/4/2013 National Bureau of Standards	2
	4. [example] Adoption of the minimum energy performance standards through national/regional regulation	10/7/2013 Ministry of Energy	2
Priority Activity 1.1.2			
Tasks			
Expected Outcome 1.2			
Priority Activity 1.2.2.			
Tasks			
Objective 2			
...			

3.1.3 INDICATORS FOR EVALUATION OF PROGRESS

In this subsection, the country or region will list key success factors for tracking the implementation of the minimum energy performance standards component of the strategy. Indicators are clearly distinguishable events which will provide information about whether the strategy is on track as planned or not.

⁵ A detailed timeline is provided in Annex 2

⁶ 0-No progress; 1-In progress; 2-Completed

3.2 SUPPORTING POLICIES AND MECHANISMS

Supporting policies and mechanisms are programmes and instruments which facilitate the sustainable and smooth transition of the national or regional market to energy efficient lighting by promoting efficient lighting demand. These include communications and awareness raising activities, financing schemes, supply chain support and direct outreach activities. Various policy options can be implemented to support the minimum energy performance standards by promoting the demand for minimum energy performance standard-compliant products. For more details please refer to Section 2, *Selecting and Implementing Energy Efficient Lighting Policies*, and Section 6, *Communication and Engagement*, of the UNEP-GEF en.lighten initiative toolkit, [Achieving the Transition to Energy Efficient Lighting](#).



Guidance questions

The following questions provide guidance for the supporting policies and mechanisms component of the strategy. It is not necessary that the strategy document provide answers to all these questions however, careful consideration of the responses will allow for precision and clarity of the strategy.

Are you planning to develop a mandatory or a voluntary labelling programme for lamps? If so, what will be the key components (design, content) of the labelling and certification for efficient, non-directional lamps? Where a regional approach is being followed, will the planned labelling system be regionally harmonised?

What financial incentives could be developed and applied to promote the import, distribution and use of efficient lighting products? Examples include: bulk procurement specifications; on-bill financing; subsidies; consumer or business rebates; and, tariffs.

Will there be disincentives or penalties planned to discourage import, distribution and use of inefficient lighting products?

What communication strategies will be developed for education and awareness campaigns to promote the national or regional phase out, as well as the benefits of efficient lighting products to 1) consumers; 2) distributors/retailers; 3) manufacturers of efficient lighting products and 4) policymakers?

What actions/projects are planned to for the demonstration of efficient lighting technologies?

What will be the role of public or private utilities to increase the use of efficient lighting products?

Will low income populations be targeted to receive information and eventually efficient lighting products? What specific mechanisms will be used?

Are there regional initiatives that can be linked to the planned national or regional programmes to ensure harmonisation and increase the number of efficient products available in the market e.g. joint procurement processes?

3.2.1 EXISTING LEGAL FRAMEWORK

All existing incentives for a national or regional transition to efficient lighting will be listed in this section, including market-based instruments such as bulk procurement, instalment payments, bank loans, fiscal incentives and awareness raising activities. Should draft legislation or other supporting policies and mechanisms be developed as a result of the strategy, they should be attached to the efficient lighting strategy as an Annex, along with any other relevant documentation.

3.2.2 MATRIX OF STRATEGY IMPLEMENTATION FOR SUPPORTING POLICIES AND MECHANISMS

The proposed implementation for the supporting policies and mechanisms component of the strategy will specify national or regional objectives; detail the means to achieve the objectives, and include an implementation schedule and responsibilities.

	End Date ⁷	Implementing Parties	Progress Evaluation (0-2) ⁸
Objective 3			
Expected Outcome 3.1			
Priority Activity 3.1.1			
Supporting Actions			
Priority Activity 3.1.2			
Supporting Actions			
Expected Outcome 3.2			
Priority Activity 3.2.2			
Supporting Actions			
Objective 4			
...			

3.2.3 INDICATORS FOR EVALUATION OF PROGRESS

In this subsection, the country or region will list key success factors for tracking the implementation of supporting policies and mechanisms. Indicators are clearly distinguishable events which will provide information about whether the strategy is on track as planned, or not.

3.3 ENVIRONMENTALLY SOUND MANAGEMENT

Given that some efficient lighting technologies may contain hazardous substances, such as mercury in compact fluorescent lamps, it is important that the transition approach follows environmentally sound management principles. This includes minimising the toxicity of lamps at the design and manufacturing stages and instituting proper management practices for spent lamps. This will be developed in line with global international policies for the reduction and safe management of hazardous waste, such as the *Basel Convention on the Control of Trans-boundary Movement of Hazardous Waste and their Disposal* and the *Minamata Convention on Mercury*. For more details please refer to Section 5, *Safeguarding the Environment and Health*, of the UNEP-GEF en.lighten initiative toolkit, *Achieving the Transition to Energy Efficient Lighting*.

3.3.1 EXISTING LEGAL FRAMEWORK

This subsection will summarise and describe the current status of environmentally sound management legislation and initiatives in the country or region. This may include existing legal frameworks for electronic waste and hazardous waste management, as well as maximum mercury levels for electrical appliances. The status of implementation in the country or region for relevant international conventions (such as the *Basel Convention on the Control of Trans-boundary Movements of Hazardous Waste and their Disposal*, or the *Minamata Convention on Mercury*) should also be addressed. Existing draft legislation or that which is developed as a result of the strategy should be added as an efficient lighting strategy's Annex.

⁷ A detailed timeline is provided in Annex 2

⁸ 0-No progress; 1-In progress; 2-Completed



Guidance questions

The following questions provide guidance for the environmentally sound management component of the strategy. It is not necessary that the strategy document provide answers to all of these questions however, careful consideration of the responses will allow for precision and clarity of strategy.

Policy and legislation development

Which specific lighting products should fall under existing or future electronic waste and hazardous waste management regulations?

Which stakeholders should be involved in the process of developing or implementing legislation?

Will there be a limit on the amount of hazardous materials in lighting products? If so, for what material and at what levels?

Are you willing to establish an extended producer responsibility programme?

What entity will coordinate the collection, storage and recycling process: government or a non-profit Collection and Recycling Service Organization (CRSO), following the European Union model?

What is the institutional process for adopting the updated and new legislation and regulation?

Which are the responsible institutions?

What would be a realistic schedule for adoption and implementation?

Establishment of a spent lamp collection system

How will the spent lighting products be collected: waste collection stations, collection at public places or shops or collection at households by consumers?

How will the separation of lighting products from other waste streams be ensured?

How are you planning to integrate the informal sector in the collection activities?

What incentives will be established to encourage the proper disposal of lighting products?

What strategies do you suggest for education and awareness campaigns for consumers, waste collectors, retailers and manufacturer and policymakers about 1) the importance of separating lamps from other waste; 2) how to handle lamps in case of breakage and 3) where to dispose of the lamps?

Recycling scheme

Is it economically and technically feasible to establish recycling facilities? Is there private sector interest to do so?

Do you consider exporting waste to other countries or regions for processing? If yes, have you checked which neighbouring countries have recycling facilities? Have you checked the legal feasibility to do so with regards to the Basel Convention?

Financing mechanisms

What types of financial mechanisms are most relevant for establishing a sustainable collection and recycling system? Would you consider establishing a visible fee on efficient lamps to finance their collection and recycling?

3.3.2 MATRIX OF STRATEGY IMPLEMENTATION FOR ENVIRONMENTALLY SOUND MANAGEMENT

The proposed implementation for the environmentally sound management component of the strategy will specify the strategy's objectives, detail the way to achieve the objectives and include an implementation schedule and responsibilities. The following elements should be taken into account: policy and legislation development; lamp collection schemes and related awareness raising activities; transportation, storage and recycling programmes; and the necessary financial mechanism required to cover the ongoing operational costs.

	End Date ⁹	Implementing Parties	Progress Evaluation (0-2) ¹⁰
Objective 5			
Expected Outcome 5.1			
Priority Activity 5.1.1			
Supporting Actions			
Priority Activity 5.1.2			
Supporting Actions			
Expected Outcome 5.2			
Priority Activity 5.2.2			
Supporting Actions			
Objective 6			
...			

3.3.3 INDICATORS FOR EVALUATION OF PROGRESS

In this subsection, the country or region will list key success factors for tracking the implementation of the environmentally sound management component of the strategy. Indicators are clearly distinguishable events which will provide information about whether the strategy is on track as planned, or not.

3.4 MONITORING, VERIFICATION AND ENFORCEMENT

The goal of a monitoring, verification and enforcement system is to ensure the integrity of an efficient lighting policy by guaranteeing compliance with minimum energy performance standards and other requirements, as appropriate (e.g. mandatory or voluntary labels). Monitoring, verification and enforcement measures encompass a wide range of activities:

- Monitoring - involves measuring performance claims of products in the market against a nominated standard using accurate instrumentation and qualified testing staff;
- Verification - to confirm the declaration of regulatory conformance provided by lighting manufacturers and importers; and
- Enforcement - through which action is taken against suppliers of non-compliant products.

For more details about monitoring, verification and enforcement please refer to Section 4, *Ensuring Product Availability and Conformance* of the UNEP-GEF en.lighten initiative toolkit, *Achieving the Transition to Energy Efficient Lighting*.

⁹ A detailed timeline is provided in Annex 2

¹⁰ 0-No progress; 1-In progress; 2-Completed



Guidance questions

The following questions provide guidance for the monitoring, verification and enforcement element of the strategy. It is not necessary that the strategy document provide answers to all of these questions, however, careful consideration of the responses will allow for precision and clarity of the strategy.

What will the national legislative or administrative framework for monitoring, verification and enforcement look like?

Which entities – (governmental or independent) will be responsible for market surveillance?

Monitoring

How will nationally/regionally produced goods be monitored? What about imported lighting products?

If there is no labelling programme in place, will a self-certification scheme be implemented? If so, what will the key elements be?

Is a complaint-based market surveillance scheme considered?

What form will the sampling methodology take?

Will a national product registry be established?

Verification

What key verification tests do you suggest for checking whether or not the lighting products perform as claimed (for example, as indicated on the product label)?

Which types of verification would be appropriate for the country, such as registration verification, screening or check testing, third party certification, full procedure verification tests and benchmark testing?

Should the country/region adopt existing testing standards (For example, IEC)? If yes, identify the existing standards.

Is there sufficient national/regional capacity for lighting testing? If not, how will national/regional testing capacities be strengthened?

How many laboratories will be operating to control the market?

How can the sustainability of lighting laboratories be ensured?

Will training be provided for laboratory? For customs authorities?

Enforcement

What type of sanctions will be established for non-compliant products? Will financial penalties for non-compliant products be considered? For example, private notification, correction periods for minor transgressions, delisting of products from the qualified products list, public notification, legal actions and sanctions, suspension, and fines and others?

What governmental body will be responsible for ensuring the enforcement of sanctions?

Are there trained government staff available to handle enforcement measures for lighting? If not, what training should be provided to increase their capacities?

3.4.1 EXISTING LEGAL FRAMEWORK

This subsection will describe the existing legal framework for market surveillance, verification and enforcement for lighting, or for electrical appliances, should no specific legislation exist for lighting products. The number, nature and capacities of national or regional testing laboratories should be described, including indication as to whether or not they have international testing accreditation for lighting test standards. The country's or region's current enforcement penalties will be described and quantified. Any draft legislation or documents relating to monitoring, verification and enforcement developed as a result of the strategy should be attached to the efficient lighting strategy as an Annex, along with any other relevant documents.

3.4.2 MATRIX OF STRATEGY IMPLEMENTATION FOR MONITORING, VERIFICATION AND ENFORCEMENT

The proposed implementation for the monitoring, verification and enforcement component of the strategy will specify the national or regional objectives for each one of its components; detail the means to achieve the objectives, along with the implementation schedule and responsibilities.

	End Date ¹¹	Implementing Parties	Progress Evaluation (0-2) ¹²
Objective 7			
Expected Outcome 7.1			
Priority Activity 7.1.1			
Supporting Actions			
Priority Activity 7.1.2			
Supporting Actions			
Expected Outcome 7.2			
Priority Activity 7.2.2			
Supporting Actions			
Objective 8			
...			

3.4.3 INDICATORS FOR EVALUATION OF PROGRESS

In this subsection, the country or region will list key success factors for tracking the implementation of the monitoring, verification and enforcement component of the strategy. Indicators are clearly distinguishable events which will provide information about whether the strategy is on track as planned, or not.

¹¹ A detailed timeline is provided in Annex 2

¹² 0-No progress; 1-In progress; 2-Completed

4 FINANCIAL SCHEMES

A detailed cost assessment for the efficient lighting strategy's implementation will be developed and added as an Annex to the document (see recommended outline in Annex 1). The total investment required, as a result of the cost assessment, will be mentioned in this chapter. The financial scheme will cover the available financial mechanisms that could support the implementation of the efficient lighting strategy. For more details, please refer to Section 3, *Financing the Transition to Energy Efficient Lighting*, of the UNEP-GEF en.lighten initiative toolkit, *Achieving the Transition to Energy Efficient Lighting*.

4.1 NATIONAL CONTRIBUTION

This section will describe available co-funding for the efficient lighting strategy's implementation. Planned contributions for specific activities, such as bulk distribution programmes or efficient lighting product demonstrations, should be specified.

If there is any existing energy efficiency fund in the country or region, it will be described in this section and its operational guidelines will be outlined. It should also identify whether or not some obligations can be placed on other stakeholders, such as the private sector or non-governmental organisations, to remove the burden from the government.

4.2 POTENTIAL FUNDERS

This section will provide an overview of the country or region's main usual supporters including: development agencies, development banks, multilateral and bilateral funders, United Nations implementing agencies and potential private sector supporters. An analysis of the scope of funding for each organisation will be provided in order to assess the likelihood of support for efficient lighting national strategy's implementation. Estimates of the funding necessary will be provided when possible.

4.3 NATIONALLY APPROPRIATE MITIGATION ACTION (NAMA) DEVELOPMENT

This section will indicate whether the country or region is interested in adapting the efficient lighting strategy into energy efficient lighting Nationally Appropriate Mitigation Actions (NAMAs). If so, the text should specify whether a legal entity already exists to foster the development of NAMAs in the country. Also, it should establish what governmental entities will lead the process and development of NAMAs, as well as what the next steps will be. The UNEP-GEF en.lighten initiative *Guidebook for the Development of a Nationally Appropriate Mitigation Action on Efficient Lighting* offers detailed guidance to countries.

5 NEXT STEPS

This chapter will focus on the necessary steps to ensure the high level adoption of the national efficient lighting strategy by relevant national authorities. It will also propose a risk analysis for the efficient lighting strategy's implementation. A detailed timeline for priority activities and supporting actions should be included as an Annex (see recommended outline in Annex 2).

5.1 INSTITUTIONAL PROCESS FOR ADOPTING THE STRATEGY

The objective of this section is to indicate the institutional process to be followed for the high level endorsement and implementation of the efficient lighting strategy. A flow chart might be necessary.



Guidance questions

The description of the institutional framework for the adoption of national/regional efficient lighting strategy should address some or all of the following guidance questions:

What is the normal institutional process for adopting a national strategy in your country?

What governmental bodies (Prime Minister, Cabinet, Ministers, Parliament, etc.) will be involved? Which specific administrative or legal process should be followed?

At what specific stages of the process should they be mobilised?

What will the specific milestones for adoption of the national efficient lighting strategy be?

How will the various parties responsible be mobilised?

5.2 RISK ANALYSIS

A risk analysis will help identify any existing gaps and conflicts within the strategy including: financing, market awareness, political commitment, infrastructure, stakeholder involvement and other aspects, as relevant. In parallel, the actions that could be taken to resolve these conflicts will be listed. The analysis should appear as the following table:

Identified risks	Rating	Suggested Actions
	[Low; Medium or High]	

6

CONCLUSION AND FUTURE PLANS FOR EFFICIENT LIGHTING

This chapter will draw the main conclusions from the strategy and address the national or regional commitment to include other lighting sectors (commercial, industrial, outdoor) in future versions of the strategy. It should also include a timeline for these activities.

ANNEXES

The annexes to the efficient lighting strategy document should include:

- All relevant documents;
- Detailed cost evaluation of the implementation of the efficient lighting strategy;
- Timeline for the implementation of the efficient lighting strategy;
- New/planned/projected administrative and legal instruments within the scope of the national strategies for efficient lighting, including: documents related to: MEPS; policies and support mechanisms; monitoring, verification and enforcement; and sustainable environmental management;
- List of members of the Coordinating Committee.

ANNEX 1. COST ASSESSMENT FOR IMPLEMENTATION OF THE STRATEGY

A range of resources are generally required in order to implement a strategy. These may include human resources, facilities, equipment, materials and technical resources. The related costs need to be evaluated in order to assess the feasibility of implementing the strategy implementation and to identify any additional funding requirements.



Guidance questions

To determine the resource requirements, the following questions can be used as a guide:

How many staff or professionals will be required?

What type of skills/expertise should they possess?

Will training activities be necessary?

Are particular facilities, equipment, services or materials necessary?

What will be the respective costs?

Once priority activities have been established, the cost assessment provides a basis from which to reconsider or prioritise planned activities. The following should be considered:

What is a top priority?

What are important additional activities?

What will be affected by funding availability?

If it takes longer than expected to mobilise resources, will the activity still be desirable once resources have been obtained?

Activities and Actions	Required Resources				Total Resource Cost
	Human Resources	Facilities/Equipment	Service/Materials	Other Resources	
Priority Activity 1					
Supporting Action					
Supporting Action					
Priority Activity 2					
Supporting Action					
Supporting Action					
TOTAL IMPLEMENTATION COST					



ANNEX 2. STRATEGY IMPLEMENTATION TIMELINE

Estimating the time required for each activity/task is key to developing an efficient lighting strategy. At this stage, the duration of each activity will only be an estimate that can be adjusted during implementation of the strategy. However, care should be taken to ensure as much accuracy as possible. For each activity, extra time should be allowed for unforeseen events.

	Start Date	End Date	Duration (month)	Year 1	Year 2
Minimum Energy Performance Standards					
Priority Activity 1				● ● ● ●	
Supporting Action A				■ ■ ■ ■	
Supporting Action B				■ ■	
Priority Activity 2					● ● ● ●
Supporting Action C					■ ■
Supporting Action D					■ ■
Monitoring, verification and enforcement					
Priority Activity 3				● ● ● ● ● ●	
Supporting Action E				■ ■ ■ ■ ■ ■	
Priority Activity 4				● ● ● ●	
TO BE CONTINUED...					

ANNEX 3. LEGISLATIVE INSTRUMENTS

New/draft/planned legislative and administrative instruments included with the scope of the efficient lighting strategy including documents relating to: minimum energy performance standards; supporting policies and mechanisms; monitoring, verification and enforcement; and environmentally sound management.

ANNEX 4. LIST OF COORDINATING COMMITTEE MEMBERS

ANNEX VI – SUGGESTED AGENDA FOR THE FINALISATION AND/OR VALIDATION WORKSHOP

Session	Description	Responsibility
Welcome	Opening speech by high level governmental representative, covering: <ul style="list-style-type: none"> • Energy situation in country/region • Commitment to energy efficiency • Specific national/regional objectives Opening remarks by the hosts and UNEP-GEF en.lighten initiative	<ul style="list-style-type: none"> • Minister of Environment • Minister of Energy • Other authorities • Focal Point • UNEP-GEF en.lighten initiative representative (and / or other supporter as applicable)
Introduction	Contextualisation <ul style="list-style-type: none"> • Review of workshop objectives and methodology • Summary of strategy development process 	<ul style="list-style-type: none"> • Focal point
Session 1	Presentation of the development of the strategy <ul style="list-style-type: none"> • Background and justification, links to other national or regional or international strategies and commitments (ministers, vice ministers or directors; political representatives) • Short summary/reminder of the efficient lighting status report • Expected results of the strategy • Description of consultative process with national/regional stakeholders • Definition of priorities and approach 	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee
Session 2	Strategy's priorities and key components <ul style="list-style-type: none"> • Minimum energy performance standards: responsible parties, policies and legal framework, activities to be implemented, barriers and opportunities • Supporting policies: as for minimum energy performance standards • Monitoring, verification and enforcement: as for minimum energy performance standards • Environmentally sound management: as for minimum energy performance standards 	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee • Stakeholders
Session 3	Communications strategy <ul style="list-style-type: none"> • Objectives • Activities to be implemented • Responsible parties, timeframe and budget 	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee • Stakeholders
Session 4 ¹³	Financing schemes <ul style="list-style-type: none"> • National financing options • Regional and international financing options • Nationally Appropriate Mitigation Actions • GEF STAR funds (if applicable) • International Banking Institutions and Regional Cooperation Agencies 	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee • International development bank/fund representative • Bilateral development agency representative • NAMA expert
Session 5	Next steps <ul style="list-style-type: none"> • How to follow-up on the strategy, including institutional process for high level endorsement and implementation • Transition in other sectors/appliances using the integrated approach 	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee • Stakeholders
Strategy's Adoption	Workshop participants' agreement upon the efficient lighting strategy document.	<ul style="list-style-type: none"> • Focal Point • Coordinating Committee • Stakeholders
Closing	Closing remarks by high level regional/governmental representative Closing remarks by the hosts and the UNEP-GEF en.lighten initiative Celebration	<ul style="list-style-type: none"> • Minister of Environment • Minister of Energy • Other authorities • Focal Point • Coordinating Committee • UNEP-GEF en.lighten initiative representative (and/or other supporter as applicable)

¹³ This session could be in the format of a panel with donor agencies' representatives



ABOUT THE UNEP DIVISION OF TECHNOLOGY, INDUSTRY AND ECONOMICS

Set up in 1975, three years after UNEP was created, the Division of Technology, Industry and Economics (DTIE) provides solutions to policy-makers and helps change the business environment by offering platforms for dialogue and co-operation, innovative policy options, pilot projects and creative market mechanisms.

DTIE plays a leading role in three of the seven UNEP strategic priorities: **climate change, chemicals and waste, resource efficiency**.

DTIE is also actively contributing to the **Green Economy Initiative** launched by UNEP in 2008. This aims to shift national and world economies on to a new path, in which jobs and output growth are driven by increased investment in green sectors, and by a switch of consumers' preferences towards environmentally friendly goods and services.

Moreover, DTIE is responsible for **fulfilling UNEP's mandate as an implementing agency for the Montreal Protocol Multilateral Fund** and plays an executing role for a number of UNEP projects financed by the Global Environment Facility.

The Office of the Director, located in Paris, coordinates activities through:

- **The International Environmental Technology Centre** - IETC (Osaka), which promotes the collection and dissemination of knowledge on Environmentally Sound Technologies with a focus on waste management. The broad objective is to enhance the understanding of converting waste into a resource and thus reduce impacts on human health and the environment (land, water and air).
- **Sustainable Lifestyles, Cities and Industry** (Paris), which delivers support to the shift to sustainable consumption and production patterns as a core contribution to sustainable development.
- **Chemicals** (Geneva), which catalyses global actions to bring about the sound management of chemicals and the improvement of chemical safety worldwide.
- **Energy** (Paris and Nairobi), which fosters energy and transport policies for sustainable development and encourages investment in renewable energy and energy efficiency.
- **OzonAction** (Paris), which supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition to ensure implementation of the Montreal Protocol.
- **Economics and Trade** (Geneva), which helps countries to integrate environmental considerations into economic and trade policies, and works with the finance sector to incorporate sustainable development policies. This branch is also charged with producing green economy reports.

DTIE works with many partners (other UN agencies and programmes, international organizations, governments, non-governmental organizations, business, industry, the media and the public) to raise awareness, improve the transfer of knowledge and information, foster technological cooperation and implement international conventions and agreements.

For more information,
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This step-by-step guide has been developed to assist national or regional governments or institutions develop a national or regional efficient lighting strategy in a consultative manner, and following an integrated policy approach. It encompasses the entire efficient lighting strategy development process, from conducting the initial assessment of the lighting market and policy framework, to having the final strategy documents endorsed by policymakers. It also addresses other critical elements required to develop a comprehensive strategy, and provides up-to-date information and examples and support tools.

The United Nations Environment Programme (UNEP)-Global Environment Facility (GEF) en.lighten initiative was established to accelerate a global market transformation to environmentally sustainable lighting technologies by developing a coordinated global strategy and providing technical support for the phase-out of inefficient lighting. It was created in 2009 as a partnership between UNEP, OSRAM, Philips Lighting and the National Lighting Test Centre of China with the support of the GEF. It is additionally supported by the Australian government.

For more information about the UNEP-GEF en.lighten initiative, please visit:
www.enlighten-initiative.org



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