STRATEGIC PROGRAM TO PROMOTE RENEWABLE ENERGY AND ENERGY EFFICIENCY INVESTMENTS IN THE ELECTRICITY SECTOR OF SAO TOME AND PRINCIPE

COMPLIANCE FRAMEWORK FOR ENERGY EFFICIENT LIGHTING AND APPLIANCES IN SAO TOME AND PRINCIPE

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LIST OF ACRONYMS

AC	Air Conditioning
AFAP	Agência Fiduciária de Administração de Projectos em São Tomé e Príncipe
AfDB	African Development Bank
AGER	General Regulatory Authority
AENER	Santomean Association of Renewable Energies
ARP	Autonomous Region of Principe
ATEFER	Association of Cold Technicians and Renewable Energies
BSTPPTC	Brazil-São Tomé and Príncipe Professional Training Centre
CCIAS	Chamber of Commerce, Industry, Agriculture and Service
DGA	Directorate General of Environment
DGRNE	General Directorate of Natural Resources and Energy
DRCAE	Directorate for Regulation and Control of Economic Activities
ECCAS	Economic Community of Central African States
EDP	Energias de Portugal (EDP)
ECGCF	Green Climate Fund
ECOWAS	Economic Community of West African States
EE	Energy Efficiency
EELA	Energy Efficient Lighting and Appliances
EER	Energy Efficiency Rate
EMAE	Water and Electricity Company
IDDA	Industrial Development Decade for Africa
ISO	International Organization for Standardization
GEF	Global Environment Facility
INA	International Fund for Agriculture
LDCs	Least Developed Countries
LRACs	Lighting, refrigerators and air conditioners
LED	Light-Emitting Diode
MEPS	Minimum Energy Performance Standards
MIRN	Ministry of Infrastructure and Natural Resource
MNECC	Ministry of Foreign Affairs, Cooperation and Communities, São Tomé and Príncipe
NGO	Non-governmental organization
PANA	National Climate Change Adaptation Plan
PANEE	National Energy Efficiency Action Plan
PANER	National Renewable Energy Action Plan
PIQAC	Quality Infrastructure Programme for Central Africa
PNDS	National Sustainable Development Plan of the STP
RECs	Regional Economic Communities
RES	Renewable Energy Sources
RJSE	Legal Framework of the Electricity Sector
SENAPIQ	National Service of Intellectual Property and Quality
SIDS	Small Island Developing States
SMEs	Small and Medium Enterprises
STP	Sao Tome and Principe
TESE	Association for Development
UNDP	United Nations Development Program
UNEP	United Nation Environment Program
UNIDO	United Nations Industrial Development Organization

1 INTRODUCTION

São Tomé and Príncipe (STP) is a country consisting of two main islands situated in the Gulf of Guinea, that has an exclusive economic zone of 160,000 km^2 and is a member of the Economic Community of Central African States (ECCAS). With an area of 1001 km^2, STP is part of the Small Island Developing States (SIDS), which means that STP is facing different challenges, due its size, its remoteness, its low economic development level; and it is one of the least developed countries (LDCs).

The country has developed the following documents to guide its economic growth:

- *2030 Vision: "São Tomé e Principe 2030: the country we need to build"*, which aims to develop a climate-resilient and vibrant island hub for blue economy business, financial services and tourism;
- *National Development Plan (PNDs) 2020 – 2024*, which has the Government Program as the basis for its conception and elaboration and aligns with the United Nations 2030 Agenda for Sustainable Development, the accelerated implementation modalities of the Samoa Roadmap and the 2063 *Africa We Want* Agenda

The STP aims to develop a climate resistant archipelago, and therefore it is necessary to develop its energy sector, especially the electricity sector, to develop renewable energy sources (RES) and improve energy efficiency.

The success of these policy initiatives depends heavily on a reform of the energy sector and a transformational shift of the entire energy system from an almost complete reliance on imported fossil fuels to renewable energy and energy efficiency. Such a transition will lead to a significant reduction in fossil fuel import costs and free up scarce monetary resources for social and economic development (e.g., education, health, transport, export diversification, development of small and medium enterprises (SMEs) and adaptation to climate change). In addition, it will help the island's main industries and income generating activities (e.g., water supply, agriculture, food processing, tourism, fisheries and the blue economy in general) to become more productive and competitive.

To answer these challenges, several projects are also on the way, for instance the Global Environment Facility (GEF) project *"Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe"*. A Green Climate Fund (GCF) funded by the UNIDO project *"Building institutional capacity for a renewable energy and energy efficiency investment programme for Sao Tome and Principe"*, was already approved and started its implementation.

This UNIDO project aims to decrease electricity demand-side losses, through the introduction of a well-proof mechanism, **the MEPS (Minimum Energy Performance Standards) and energy labels, for three main electric appliances: lighting, refrigerators and air conditioners (LRACs).**

The promotion of energy efficiency measures can offer great opportunities early on, to reduce overall electricity demand and peak electricity demand. It will also enable electricity to reach out to a greater proportion of the population and improve the economic activities in the country.

It is expected that the successful implementation of minimum energy performance standards (MEPS) and a corresponding labeling scheme will:

- Reduce electricity peak demand and thereby reduce the pressure on the electricity network. Also, the new electrification plans being developed will reach a higher percentage of the population, and consequently reduce government future public expenditures;
- Reduce overall electricity consumption and bills for consumers, who will spend a smaller fraction of their incomes on energy. This is especially important for low-income households, for which the high price of electricity is a barrier to meeting their basic needs;
- MEPS and labeling of household appliances can serve as a powerful tool to inform consumers about differences in energy performance. This will direct consumers towards purchase of more efficient appliances.

The overall objective of the project is to contribute to increasing national capacity to uptake energy efficient appliances in compliance with quality standards.

2 EXECUTIVE SUMMARY

The project aims to decrease electricity demand-side losses in São Tomé and Príncipe, through the introduction of a well-proof mechanism, the Minimum Energy Performance Standards (MEPS) and energy labels, for three main electric appliances: lighting, air conditioning and refrigeration (LRACs).

This objective of this report is to give details of the Compliance Framework for the implementation of standards and labels on LRACs in STP. The Compliance Framework for the MEPS and labels in STP includes the institutional structure, conformity assessment, market surveillance, enforcement, actions in the event of non-compliance, as well as the challenges in the implementation of the MEPS and labels of appliances.

The assessment of conformity of LRACs to MEPS and labels will be led by SENAPIQ, supported by DGRNE (later ENCE), Customs Directorate, AENER and APERAS. The Conformity Assessment will include: i) Pre-testing of LRACs prior to import to STP; ii) Verification of LRACs MEPS and label; and iii) Registration of LRACs on a Product Registration System. The surveillance of the LRACs market will be led by SENAPIQ, supported by Customs and DGRNE (ENCE). The enforcement of MEPS and labels of LRACs will be led by Customs Directorate supported by DGRNE (later ENCE) supported by AGER and SENAPIQ.

The implementation of the Compliance Framework will support the implementation of MEPS of LRACs through increased compliance of the standards, and protect the STP market from appliances that fail to meet the MEPS requirement. This will help to guarantee that appliance consumer satisfaction is in line with their expectations. This will also ensure that MIRN (policy makers), DGRNE/EE Department (government energy agency), AGER (energy regulator), ENCE (certification body), SENAPIQ (standards authority) and Customs Directorate achieve the objectives of the project to promote EE LRACs in STP.

The major institutions of the energy sector are:

- Ministry of Infrastructures and Natural Resources (MIRN);
- Directorate General of Natural Resources and Energy (DGRNE);
- Autonomous Region of Príncipe (RAP);
- General Regulatory Authority (AGER);
- National Intellectual Property and Quality Service (SENAPIQ);
- National Energy Certification Body (ENCE);
- National Energy and Water Company (EMAE);
- National Petroleum Agency (ANP);
- Directorate General for Environment (DGA);
- Importers, distributors and retailers of EE appliances

It is recommended that:

- until appliance testing facilities become available in STP, the country should have access to an accredited laboratory with sufficient capacity preferably in sub-Saharan Africa.
- Sanctions for non-compliant appliance importers, distributors and retailers should be available to allow the enforcement agencies to respond quickly and in a cost-effective manner.
- Capacity building and awareness creation should be implemented for the diverse actors in the public and private sectors.

The above measures and sanctions should be sufficient as an effective deterrent to outweigh the benefits of non-compliance. The appeal process for sanctioned EE LRAC importers, distributors and retailers should be clearly defined, to allow parties the opportunity to defend the compliance of their products.

3 OBJECTIVES OF THE REPORT

A compliance framework for EE LRACs is critical to support the implementation and monitoring of national initiatives on energy efficiency in STP, and to drive the STP market transformation through the promotion of efficient use of energy in LRACs. Moreover, the new efficient energy appliance market in STP, as in many African countries, will face the inclusion of a large proportion of low-quality, low-cost products, thus causing market spoiling. If the quality of efficient appliances is not monitored, verified and enforced in STP, the intended market transformation will suffer, and end-user confidence will slip rapidly. Households and enterprises who have tried efficient products may revert back to the inefficient one, and consumer outreach will become more difficult and costly. This threat calls for the Appliance MEPS and Labels Compliance Framework.

The objective of this report is therefore to develop and present a suitable compliance framework for the implementation of MEPS and Labels of LRACs in STP, and identify suitable monitoring and verification mechanisms for the successful introduction and implementation of the MEPS and labels. Specific objectives for the compliance framework are to:

- support and guide the implementation of harmonized MEPS and the labeling program, as well as the establishment of national compliance programs, through a Monitoring, Verification and Enforcement (MV&E) Framework. The MV&E Framework includes a compliance certification reporting for importers, distributors and retailers of LRACs as well as market surveillance and enforcement procedures for regulators, customs agency and standards agency;
- evaluate and adapt global best practice MV&E structures and mechanisms for application in STP; and
- be developed in consultation with the stakeholders as well with the approval of the Technical Committee (TC), for LRACs.

4 INSTITUTIONAL STRUCTURE FOR THE COMPLIANCE FRAMEWORK

The major institutions of the energy sector are:

- Ministry of Infrastructures and Natural Resources (MIRN);
- Directorate General of Natural Resources and Energy (DGRNE);
- Autonomous Region of Príncipe (RAP);
- General Regulatory Authority (AGER);
- National Intellectual Property and Quality Service (SENAPIQ);
- National Energy Certification Body (ENCE);
- National Energy and Water Company (EMAE);
- National Petroleum Agency (ANP);
- Directorate General for Environment (DGA);
- Importers, distributors and retailers of EE appliances.

Ministry of Infrastructure and Natural Resources (MIRN) - The MIRN is responsible for defining government policy on energy efficiency, as well as proposing a legislative framework for implementing EE regulations. Within the MIRN, the DGRNE works closely with other public institutions on policy issues on energy efficiency, defining the government's strategic orientations in this sector. As such, DGRNE coordinates the necessary government support and insight. The DGRNE will also preside over the Project Steering Committee (PSC). Through the DGRNE, the Government exercises its policy for the natural resources and energy sectors and is composed of three directorates: Water Directorate, Directorate of Energy and Directorate of Geology and Mining. The MIRN also exercises its responsibility in the **Autonomous Region of Príncipe (RAP)** through the Regional Secretariat for the Environment and Sustainable Development (SRADS). At the local level, the districts only have regulatory powers in the field of energy, but they informally play a very interventional and participatory role in the design of public policies and in the regulation of the sector.

Ministry of Planning, Finance, and Blue Economy (MPFEA) - The MPFEA is responsible for providing financial support to energy sector institutions and programs in STP, together with other sectors of the STP economy. The MPFEA is expected to collaborate with MIRN to develop the financial incentive policies to importers/distributors of EE LRACs to change their import habits. The **Project Fiduciary and Administrative Agency (AFAP**) is an autonomous body created in 2004 for the Judicial Management of Projects. AFAP is under the responsibility of the Ministry of Planning, Finance and Blue Economy (MPFEA). For the energy sector, AFAP manages the STP electricity sector rehabilitation project.

General Regulatory Authority (AGER) – AGER, created by Legislative Decree No. 14/2005, is a multi-sector entity responsible for the regulation and supervision of the sectors of electricity and water as well as telecommunications and postal services in STP. The DGRNE will work closely with AGER in the development of regulations to promote EE LRACs.

National Industrial Property and Quality Service (SENAPIQ) - SENAPIQ is responsible for quality assurance and the registration and granting of trademarks, patents, industrial drawing, technology transfer and geographical indication.

National Energy Certification Body (ENCE) – The ENCE, which is proposed in the National Energy Efficiency Action Plan (PANEE), will be involved in the legal and regulatory framework for EE appliances, and the DGRNE will collaborate with it together with AGER to regulate the EE appliance market. The ENCE will also drive conformity to MEPS and labels of EE appliances and quality of systems.

General Directorate of Environment (DGA) - The DGA is the key governmental body responsible for the formulation and implementation of national environmental and climate change policies. The DGA is linked to MIRN, and it has a broad and transversal competence which necessarily affects the energy sector.

Water and Electricity Company (EMAE) – EMAE is an autonomous public entity responsible for the water and electricity sector of STP. EMAE provides public services for the production, transmission and distribution of electricity, as well as the capture, supply, conservation and distribution of water. EMAE

will be involved in the project monitoring and evaluation (M&E) by collecting and reporting electricity consumption data of end-users in a Management Information System (MIS) to be hosted by DGGRNE and shared with EMAE. EMAE, following capacity building under the EE project, will establish standard formats and guidelines for the data collection and reporting, and will organize training sessions, for project partners, for the utilization of the data. EMAE demonstrated its interest in the promotion of energy efficiency when its female staff engaged in a “Light Bulb Replacement Campaign” on the International Women's Day on 8 March 2021 to replace incandescent lamps in households with energy-efficient lamps in the rural community of Ribeira Afonso. The main objective of the campaign was to make women aware of the importance of saving energy.

Importers, distributors and retailers of EE appliances - Under the Project the companies engaged in EE appliance trade will receive support to change their import habits from inefficient LRACs to good quality EE appliances. It will also contribute to awareness raising about the benefits of EE appliances.

There is also the **Coordinating Committee of the Electricity Sector Transformation Program (CC-PTSE)** and the **Technical Group supporting the Electricity Sector Transformation Program (GT-PTSE),** which support the government in the implementation of the Electricity Sector Transformation Program. In addition, the Decree on the Creation of these coordination platforms designated:

- *The Steering Committee*, as the steering body of the Electricity Sector Transformation Program (CP-PTSE). This committee comprises the Minister of Planning, Finance, and Blue Economy (MPFEA) and Minister of Infrastructures and Natural Resources (MIRN), RAP, EMAE, AGER, Coordinators and Counselors CT-PTSE and AFAP secretariat, and it is expected to have two regular meetings per year.
- *Technical coordination* with regular monthly meetings as a technical committee to support the Power Sector Transformation Program (CT-PTSE).

As part of the UNIDO / GEF project, the **National Platform for Sustainable Energy (PNES)** was created. PNES comprises representatives of public and private institutions operating / participating directly and indirectly in the STP energy sector. The PNES, coordinated by MIRN / DGRNE, is expected to meet regularly and bring together the following institutions: MIRN / DGNE, MIRN / DGA, AGER, EMAE, AFAP, D. Indústria, APCI, UNDP, AfDB, European Investment Bank (EIB) and National Institute for the Promotion of Equality and Equity between Women and Men (INPIEG).

The EE strategy detailed in the PANEE is based on creating an adequate market for EE appliances in STP. The PANEE aims at the creation, structuring and strengthening of the institutional framework necessary for the surveillance, monitoring, regulation and monitoring of the market of EE appliances in STP. The creation of the facilitating institutional mechanism, which is complete and transparent, is proposed through the following two measures:

- The creation and integration of the EE department within the DGRNE (PANEE, measure n°2),
- The creation of a national energy certification body or entity (ENCE) (PANEE, measure n°3).

5 COMPLIANCE FRAMEWORK FOR APPLIANCE MEPS AND LABELS IN STP

The compliance framework for the MEPS and label LRACs in STP is based on three main pillars: i) Conformity assessment; and ii) Market surveillance; and iii) Enforcement, as is presented Figure 1.

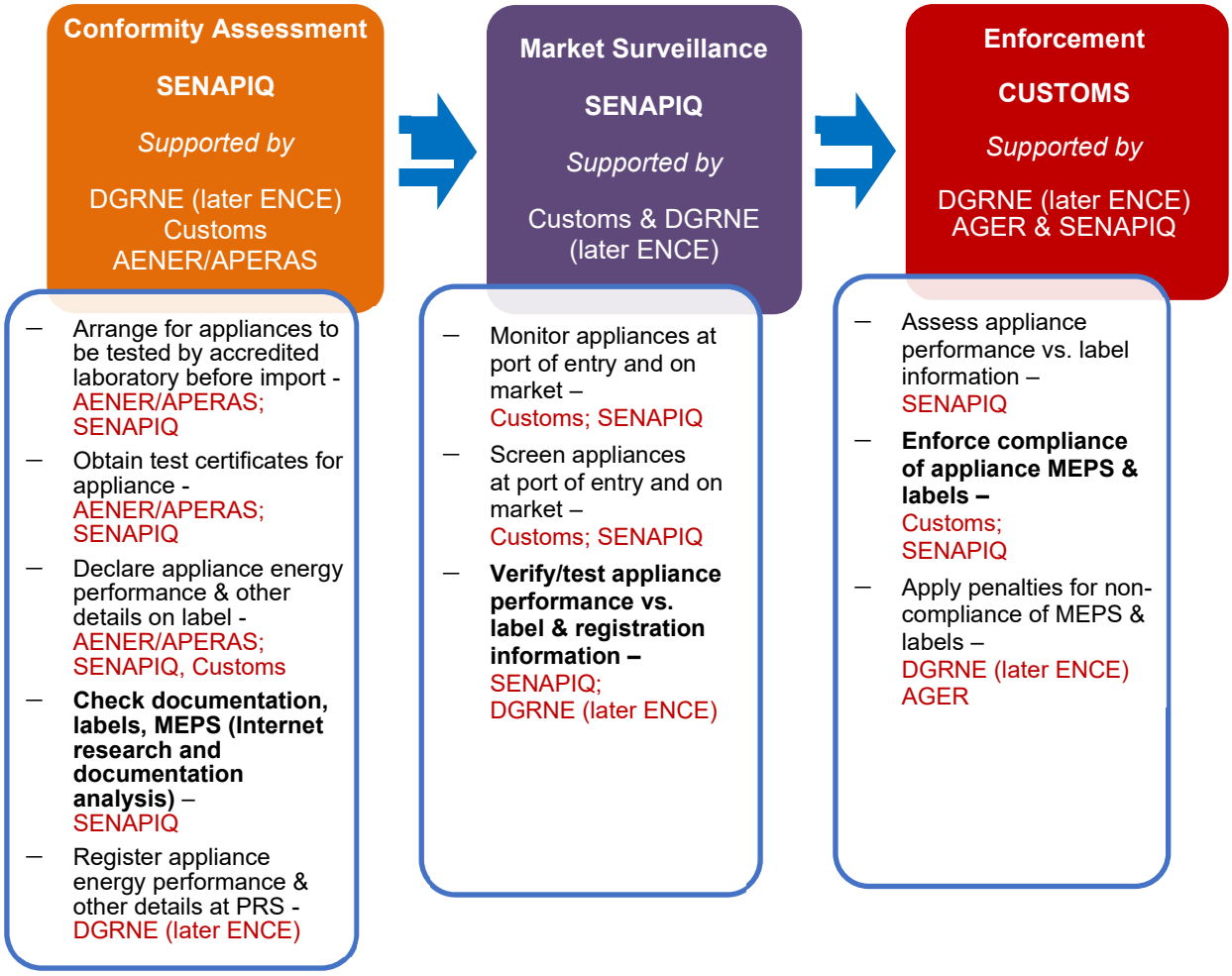

Figure 1: The three pillars of the Compliance Framework for appliance MEPS and label in STP

5.1 Conformity Assessment

SENAPIQ will play the leading role in the assessment of the conformity of LRACs to the MEPS and labels adopted by STP, in collaboration with DGRNE and the private sector associations of LRAC importers, distributors and retailers – AENER and APERAS. The role of DGRNE in supporting SENAPIQ in conformity assessment will be transferred to ENCE when it is established. The conformity assessment will involve the following major activities:

5.1.1 Pre-testing of LRACs prior to import to STP

Importers of LRACs into STP (AENER/ APERAS) will be required to have their appliances tested at the country of origin (with accompanying test certificates) and get the appropriate STP-approved label fixed to them, prior to import into STP. Requiring test results from an accredited third-party laboratory before entry into the STP market reduces non-compliance and makes it possible to limit fraud. Subsequent market checks help then ensure that, at a minimum, products are properly labelled. A dedicated official of SENAPIQ will embedded with the Customs Directorate to support this work. The importers will declare the appliance energy performance and other details on the label to officials of SENAPIQ and Customs at the STP port of entry for checking.

5.1.2 Verification of LRACs MEPS and label

SENAPIQ will check documentation, labels, and the declared MEPS of the imported LRACs, supported by analysis of the documentation (test certificate, etc) and research on the Internet. In the event of doubts about the conformity of the appliances, or frauds, SENAPIQ may request controls and testing in an accredited laboratory. There is currently no testing facilities available for testing LRACs in STP. It is recommended that SENAPIQ, supported by the Office of the Secretary of State Trade and Industry, engages MPFEA and International Development Partners to mobilise funding to establish testing facilities for LRACs in STP. Initially, the testing equipment may be housed and operated at an appropriate university or other tertiary technical institution, until a LRACs testing laboratory is established in STP. The training of laboratory technicians will accompany this initiative. In the interim testing of LRACs will be done at an accredited laboratory in a neigbouring country (e.g. Nigeria, Ghana).

SENAPIQ will also conduct random checks on LRACs, where its inspectors will acquire LRAC samples from the port of entry or retail shops according to a random selection methodology, send them to the accredited test laboratory in a neigbouring country. SENAPIQ will then process the test results, and pursue any enforcement measures in the event of non-compliance. It is recommended the importer/distributor covers the cost of the verification test when the appliance fails on compliance, while the SENAPIQ – supported by an approved budget from MPFEA - covers the cost if the appliance passes the requirements. If the appliance does not meet the MEPS or bear a wrong approved label, all the appliances of the same shipment will be disqualified and returned back to the source of import. It is recommended the importer/distributor covers the cost of the verification test when the appliance fails on compliance, while the SENAPIQ – supported by an approved budget from MPFEA - covers the cost if the appliance passes the requirements.

If the appliance does not meet the MEPS or bear a wrong approved label, all the appliances of the same shipment will be disqualified and returned back to the source of import.

The following checklist will be applied on LRAC labels: i) Is the energy label present?; ii) Is it found in the correct place?; iii) Is it immediately possible to link the energy label to the LRAC?; iv) Is the label content correct?; v) Are the colours of the label correct?; vi) Is the size of the label correct?

5.1.3 Registration of LRACs

DGRNE will develop a web-based Product Registration System (PRS) which will be linked to the Management Information System (MIS) which it will share with EMAE. Importers/distributors of LRACs will have to register their enterprise and the LRACs they intend to import with DGRNE (later ENCE) by entering information on their appliances into the PRS. DGRNE (later ENCE) will check declarations and supporting documentation on the LRACs. If all required information has been provided and automatic consistency checks are satisfactory, DGRNE (later ENCE) then grant permission for the LRACs to be placed on the market by providing a mandatory registration number or withholds approval until identified issues have been resolved. Additional manual assessment may be necessary to verify that all the details have been properly provided and that there are no contradictions or other remaining non-compliance concerns.

The information to be provided by the LRAC importer/distributor for each product to be registered in the PRS at DGRNE (later ENCE) are: i) information on the importer/distributor; ii) the model name/serial number of the LRAC; iii) the country where the product was manufactured; iv) the date the product registration was made and when it was approved by DGRNE; v) a declaration of conformity signed by the importer/distributor or the legal representative; vi) supporting technical documentation and test reports on the LRACs; and vii) any relevant information on the compliance status of the product.

The PRS on LRACs will help DGRNE to know if appliances being imported or offered for sale meet the MEPS and labels, and are approved for import and sale in STP. Examples of Product Registration Systems in other countries are presented in the Appendix.

5.2 Market surveillance

Market surveillance of LRACs will be undertaken by SENAPIQ, supported by Custom Directorate and DGRNE (later ENCE), and it will entail gathering information on LRACs in the STP market and associated importers, distributors and retailers. The first action of market surveillance will be to gather intelligence on who is importing and distributing LRACs to the market by gathering information through the PRS at DGRNE as well as records and surveys of the CCIAS, AENER, APERAS, SENAPIQ and Customs Directorate.

LRAC importers will also notify the Customs Directorate each time a shipment of appliances enters the STP. The Directorate will then conduct assessments to gather requisite customs information, including: i) harmonised customs code the LRACs are classified under; ii) weight and value of the shipments; and iii) details on the importer. The Customs officers will verify that the necessary documentation is available, and that the LRACs are properly registered at the PRS at DGNRE (later ENCE), with the presentation of the LRAC registration documents.

Conformity verification on the LRACs will be mainly performed by officials of SENAPIQ, supported by DGNRE (later ENCE) and the Customs Directorate. The Customs Directorate is responsible for the inspection of the appliances to ensure they are approved for entry into STP when they record customs data. This emphasizes the importance of training Customs officers on the MEPS and labelling of the appliances and the application of the PRS, where they can access the database of compliant registered products to be able to verify that the imports are in the database and permitted to enter STP.

5.3 Enforcement

The Customs Directorate, supported by the DGRNE, AGER and SENAPIQ will lead the enforcement of the LRAC MEPS and labels in STP, to deter non-compliance and to protect the integrity of the MEPS and labelling scheme of LRACs. The structure for the appliance MEPS and labelling surveillance and enforcement STP is presented in Figure 2.

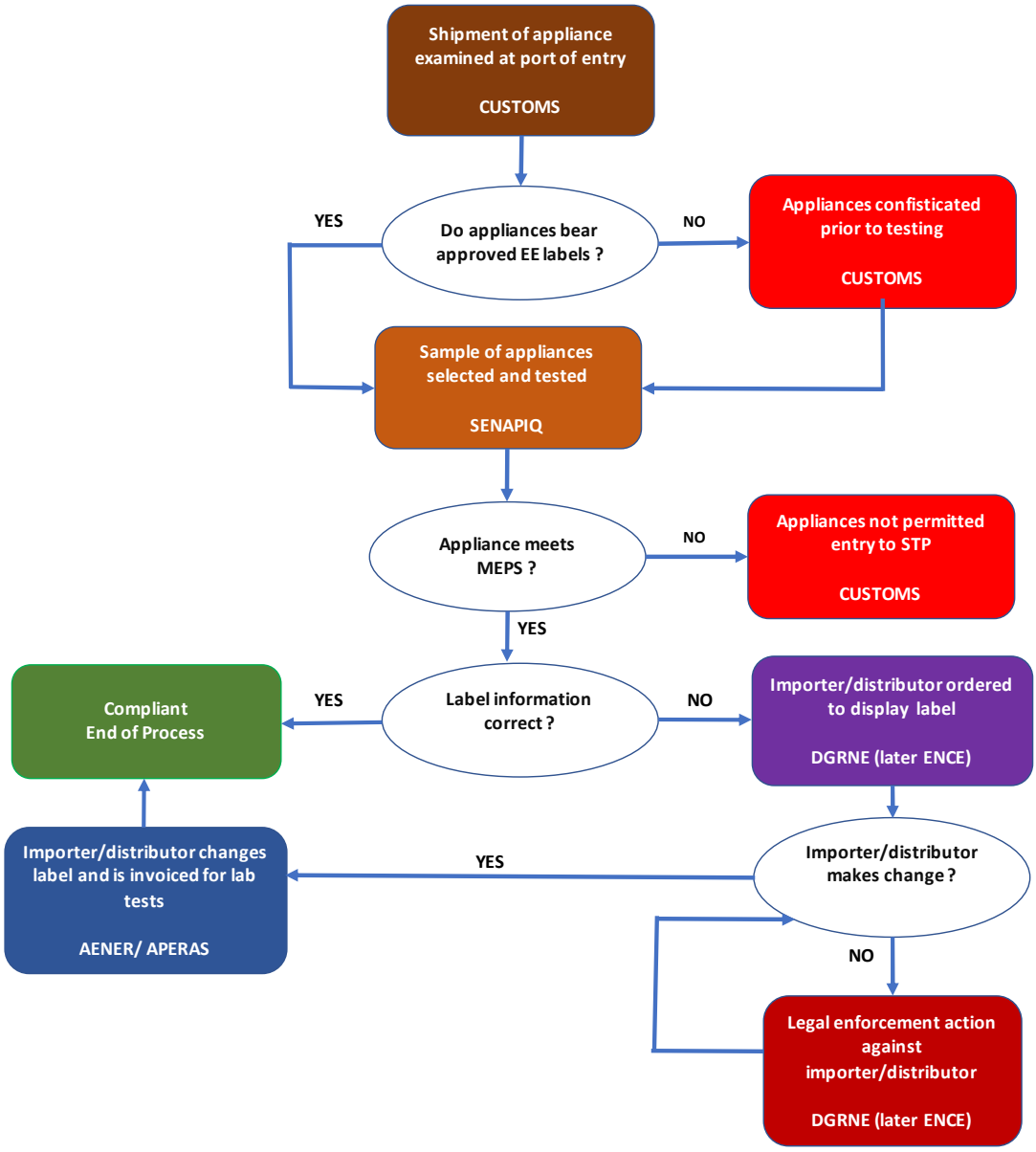

Figure 2: Flow chart for appliance MEPS and labelling surveillance and enforcement STP

5.3.1 Degrees of non-compliance

In the enforcement of MEPS and labels on LRACs in STP, there may be considerable differences in the degree of non-compliance. Potential forms of non-conformity in STP are listed in Table 1.

Table 1: Potential forms of non-conformity

Where	Potential forms of non-compliance
At point of import / placing on the market	● Contravention of product registration procedures ● Failure to provide conformity assessment report on LRACs ● Failure to provide requisite technical documentation on LRACs ● Failure to provide proof of testing of LRACs ● Failure to submit product for testing of LRACs ● Failure to cooperate with authorities – DGNRE (later ENCE) etc. ● Falsification of test reports ● Failure of LRACs to conform with MEPS requirements ● Missing energy label or energy performance rating information ● Inaccurate energy performance information or energy label ● Smuggling LRACs with intent to contravene regulations
At point of testing	● Failure to provide proof of testing of LRACs ● Failure to submit LRACs for testing ● Failure to meet performance claims or comply with MEPS of LRACs ● Failure to supply information to assist with testing (e.g. indicate where the LRACs has been sold, where samples should be taken) ● Falsification of test reports on LRACs
At point of sale	● Missing energy label or energy performance rating information on LRACs ● Inaccurate energy performance information or energy label of LRACs ● Failure to provide required energy performance or labelling class of LRACs in websites or other promotional media ● Failure to meet performance claims or comply with MEPS of LRACs
Following initial enforcement action	● Failure to take corrective action following initial identification of non-conformity ● Failure to follow a requisite procedure ● Failure to pay testing fees ● Failure to pay fines ● Falsely arguing that the model was already discontinued ● Any, or all, of the above as a repeat offence after ample notice of the infraction

5.3.2 Actions in event of non-compliance

A hierarchy of corrective actions to be applied in the enforcement of LRACs MEPS and labels in STP is presented in Figure 4. Prosecution of non-compliant LRAC importers, distributors or retailers by DGRNE (later ENCE), supported by AGER, is the ultimate potential action, but softer measures are initially recommended. These measures begin with DGRNE (later ENCE) notifying a non-compliant LRACs importer, distributor or retailer of LRACs that it is in contravention of the regulations and warning it to remedy the situation. Additional corrective actions may be mandated within a certain time period. Thereafter, the LRACs may be removed from the market. If non-compliance is deemed to be intentional rather than a misunderstanding, further sanctions can be applied, including publicity of failure to comply, fines, suspension of operating license, and prosecution.

Figure 4: Pyramid of escalating enforcement[1]

5.4 Challenges in implementing MEPS & Labels Compliance

The major challenges that may arise in implementing appliance MEPS and Labels Compliance LRACs in STP are:

- Resource-intensive activities involved;
- Lack of well-designed market sampling protocols for LRACs;
- Need for access to test laboratories with adequate experience and capacity to implement a credible testing schedule;
- Low motivation of importers, distributors and retailers of EE LRACs to comply if non-compliance is not promptly discovered and the associated penalty is low, or if corruption by enforcement officials is not addressed;
- Enforcement actions may create an adversarial relationship with non-compliant importers, distributors or retailers of LRACs, if they do not accept responsibility and see the overall benefits to the industry.

[1] UNEP U4E (2016) Enforcing Efficient Lighting Regulations: https://united4efficiency.org/resources/enforcing-efficient-lighting-regulations/, see Implementing a National Enforcement Regime on page 27

6 CONCLUSION - RECOMMENDATIONS

6.1. Conclusion

The success of the project to promote EE LRACs in STP is dependent on the establishment and implementation of effective and sustainable structures and mechanisms that assure compliance to the LRACs MEPS and labels, as presented in the Compliance Framework.

The implementation of the Compliance Framework will support the implementation of MEPS of the LRACs through increased compliance of the standards and protect the STP market from appliances that fail to meet the MEPS requirement. This will help to guarantee that appliance consumer satisfaction is in line with their expectations. It will also protect the EE LRACs importers, distributors and retailers by ensuring that they are all subject to the same market entry conditions. Finally, it will ensure that MIRN (policy makers), DGRNE/ (government energy agency), ENCE (certification body), SENAPIQ (standards authority) and Customs Directorate meet the objectives of the project to promote EE appliances in STP.

In particular the proposed Product Registration System (PRS) to be hosted by DGRNE (later ENCE) will support the market transformation for LRACs in STP, with benefits and opportunities, including: i) minimizing compliance costs to LRACs importers and distributors due to a streamlined nature approval process where all transactions take place seamlessly on-line; ii) facilitating comparison of market offerings of EE LRACs, allowing consumers to make informed choices concerning the energy efficiency of products they wish to purchase; and iii) facilitating government monitoring, verification and enforcement programs by helping to ensure compliance with national energy efficiency policies at the time of registration.

6.2. Recommendations

In the light of these issues, it is critical that until appliance testing facilities become available in STP, there should be ready access to an experienced, accredited laboratory with sufficient capacity and the ability to turn around test results quickly, preferably in sub-Saharan Africa. Sanctions for non-compliant appliance importers, distributors and retailers should be available to allow the enforcement agencies to respond quickly and in a cost-effective manner. These sanctions may include: i) giving notification of non-compliance and identifying a correction period for minor transgressions; ii) de-listing products from the qualified products registry; and iii) public notice of violations; and legal actions and sanctions (including suspension and fines). Importantly, the sanctions should be sufficient to outweigh the benefits of non-compliance to be an effective deterrent. The appeal process for sanctioned EE LRACs importers, distributors and retailers should be clearly defined, to allow parties the opportunity to defend the compliance of their products.

The above-mentioned actions should be coupled with capacity building and awareness creation for both the public and the diverse actors in the private sector.

7 APPENDIX: EXAMPLES OF PRODUCT REGISTRATION SYSTEMS IN OTHER COUNTRIES

Australia: http://reg.energyrating.gov.au/comparator/product_types/

Canada: http://www.appliances.energy.ca.gov/QuickSearch1024.aspx

China: http://oee.nrcan.gc.ca/pml-lmp/

India: http://220.156.189.29/Home/Searchcompare

Sweden: http://www.energimyndigheten.se/Hushall/Din-ovriga-energianvandning-i-hemmet/Hembelysning/Mobilappen-Lampguiden

US DOE: http://www.regulations.doe.gov/certification-data/