



Framework document for an ECOWAS Directive for Energy Efficient Buildings



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Energy efficiency in buildings legislation

- Energy efficiency requirements should become mandatory
- Integration into the building legislation

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Applicable building systems

- Building envelope
- Systems and equipment, including ventilation and air conditioning (VAC)
- Water heating
- Interior and exterior lighting
- Appliances
- Electric power and motors

Exemptions

- Historical buildings and monuments officially protected,
- Buildings used for military purposes,
- Buildings that do not use electricity and/or fossil fuels.

Common framework for the calculation of energy performance of buildings

- The energy performance of buildings should be calculated on the basis of a methodology, which may be differentiated at regional level, that includes, in addition to thermal insulation other factors such as air-conditioning installations, application of renewable energy sources and design of the building.
- A common approach to this process is needed

Common framework for the calculation of energy performance of buildings

- A common approach to this process, carried out by qualified and/or accredited experts, whose independence is to be guaranteed on the basis of objective criteria, will contribute to introduce transparency for prospective owners or users with regard to the energy performance in the property market

Exemplary role of public buildings

- for buildings with a total useful floor area over 500 m² occupied by public authorities:
 - Energy efficiency measures are incorporated into the planning and construction
 - An **energy performance certificate** is issued and is placed in a prominent place clearly visible to the public
 - The technical, environmental and economic feasibility of decentralised energy supply systems based on renewable energy is considered and is taken into account before construction starts.

Minimum requirements for the use of RES

- Rules and obligations for minimum requirements for the use of RES
- Solar thermal energy for demand of hot water
- Member States shall, in their building regulations and codes require the use of minimum levels of energy from renewable sources for service water heating in new buildings and in existing buildings that are subject to major renovation

Training and qualification of experts

- Only qualified professionals should be allowed to provide advice on how to improve the energy performance of buildings, and only qualified professionals should be allowed to produce the supporting documents according to the energy building code.
- ECOWAS Member States may take the necessary measures to train and qualify personnel
- Assistance from ECREEE

Solar thermal energy for demand of hot water -

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- Categories:
 - Hotels
 - Public buildings that have the need for hot water
 - Commercial buildings that have the need for hot water
 - Residential, domestic buildings: detached houses that have the need for hot water
 - District health centers, maternities, school kitchens
 - Industries (e.g. agro-food industries that have the need of hot water)
- The required solar thermal contribution for the new buildings and renovated ones should be of at least 60%.
- quality assurance measures must be foreseen.

Solar thermal energy for demand of hot water -

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- The required solar thermal contribution for the new buildings and renovated ones should be of at least 60%.
- quality assurance measures must be foreseen, including:
 - quality parameters for the products, installation and maintenance,
 - clear inspection and sanctioning regime

Monitoring and verification of energy efficiency in buildings

- M&V is to validate that energy efficiency measures in buildings provide the expected results in terms of energy efficiency improvements.
- Done by measuring (or estimating through the check-list given in annex) the savings generated from energy efficiency measures.
- With support of ECREEE, Member States shall undertake actions to build systems for Monitoring and Verification of the ECOWAS framework on energy efficiency in buildings.

Enforcement and incentive systems

- The building codes need to specify the responsibilities of the different professionals involved in the construction of the building in ensuring that energy efficiency measures are incorporated
- The energy efficiency of a new building must be declared by the architect (or the builder or the technical responsible) before construction based on estimates of the total energy consumption
- Or the building should apply the check-list given in the annex

Enforcement and incentive systems

- The relevant authority will make the permit of construction contingent on compliance with the minimum requirements of energy performance for the building.
- Penalties and fines for non-compliance must be defined by the responsible national authorities.
- For informal buildings sector, the responsible national authorities should define actions to increase awareness of inhabitants.

Inspection of buildings during and after construction

- The responsible national authorities should implement inspection of buildings, on samples
- Penalties and fines for non-compliance must be defined by the responsible national authorities

Review and update of requirements

- Requirements for energy efficiency in buildings shall be reviewed at regular intervals, which should not be longer than five years and, if necessary, updated in order to reflect technical progress in the building sector.

Information and awareness raising

- Member States may take the necessary measures to inform the constructors, owners and users of buildings as to the different methods and practices that serve to enhance energy performance.
- Assistance from ECREEE

Co-operation between national authorities

- Legal framework for energy efficiency in buildings requires a co-operation between authorities

Implementation – Next Steps

- Training and information workshops to educate and build capacity among stakeholders
- Stakeholder meetings to discuss proposed efficiency requirements, collect feedback, and encourage institutional buy-in
- support government activities to ensure enforcement of requirements
- Develop and introduce innovative instruments to finance energy efficiency in buildings



Thank You! Merci! Obrigado!

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