

Guidelines of energy performance indicators for the Local Administration

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OER

 Romania Final Conference

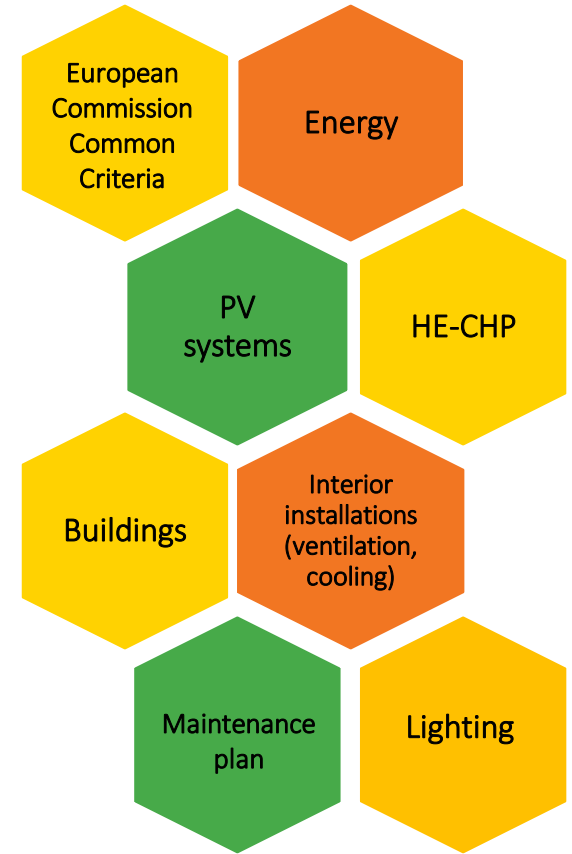
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Considerations

- *Energy Efficiency First* principle
- Reduced CO₂ emissions
- Optimization of resource consumption
- Green solutions (reduced environment impact)
- Improvement of air quality, health & comfort
- Legislative framework
- Feasibility of implementation
- Targeting energy performance



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- TOMORROW (TOWards Multi-stakehOldeRs transition ROadmaps With citizens at centre), Horizon 2020 Programme, implemented locally by the Agency of Brasov for Management of Energy and Environment (ABMEE)

Link RO: <https://oer.ro/ghidul-indicatorilor-de-performanta-energetica-pentru-administratia-locala/>

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European Commission Common Criteria (GPP)



Green Public Procurement criteria

- **Basic** - key fields of a product's environmental performance & keeping minimum administrative costs
- **Comprehensive** - aspects of environmental performance & extend the support given to environmental objectives and innovation by the local authority



Priority sectors for implementation

- Constructions (materials, construction products, equipment, exploitation & decommissioning, maintenance);
- Food and catering services;
- Transportations and transportation services;
- Energy (including RES);
- Office equipment and computers;
- Clothing, uniforms and other textiles;
- Paper and printing services;
- Furniture;
- Cleaning products and services;
- Equipment used in the healthcare sector.

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Energy

EEIP reporting process

- Energy recovery
- Own RES
- Energy efficiency measures
- Transport
- Buildings

Energy efficiency & sustainability

- Energy consumption
- Energy savings
- CO2 reduction
- Costs of investments
- Cost of lifecycle
- Green spaces area
- Pedestrian & bicycle infrastructure
- Use of public transportation

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RES – Photovoltaic systems



Installation & positioning

- Energy need based on actual consumption
- Maximum sun exposure, S-orientation preferable
- Maximum coverage of the roof surface
- Shadowing studies
- Technical report on the resistance of the roof
- Historical areas/buildings



Equipment

- PV panels
 - >20% yield monocrystalline
 - Min 420Wp
 - Temp : -40 ...+85°C
- Mounting structure
 - Light, for sloped roofs
 - 15y warranty
- 3-phase inverters
 - ANRE provisions
 - >97% yield
- Lightning rod installation



Contracting, execution, commissioning, commercial operation

- Technical solutions suppliers certified by ANRE
- Qualified staff
- Follow ANRE norms for prosumers & optimal sizing of the PV system
- Tests, commissioning & training sessions
- Usage documentation
- Obtain the technical connection approval – the agreement for energy produced & delivered to the grid with contracting authority

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HE-CHP

- Annual overall yield for electricity & thermal energy production
- Usage coefficient of installed capacity
- Specific consumption of electricity for the thermal energy supply
- Energy efficiency of equipment/ system
- Loading rate
- Utilization rate of renewable energy/ investments in CCUS
- Energy savings
- Efficiency of thermal insulation

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Buildings

Indicators

For each system (heating, lighting, hot water, cooling, ventilation):

- Non-renewable primary energy consumption
- Renewable primary energy consumption
- RER (renewable energy rate)

nZEB

- Mc001/2022 – energy performance requirements
- Equipment - comply with the national and/or European green design regulation
- Quality requirements & professional competences for nZEB Specialists and Energy Managers for municipalities

Indoor installations

- Equipment in compliance with EU regulations
- Energy efficient equipment
- Cost benefit analysis
- Performance certificate / declaration
- All conditions of function stated

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Buildings - maintenance plan



Actions

- Assessment of the current condition of equipment
- Establishment of the recurrence of inspections/repairs
- Establishment of the equipment's lifespan
- Budget management
- Monitoring equipment performance
- Risks evaluation
- Communication and cooperation



Essential activities:

- Maintenance of essential systems for a comfortable and safe environment
- Inspection and repair of the building structural elements
- Fire safety following current regulations
- Compliance checks to local and national building codes
- Cleaning and aesthetics

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Street lighting



Central Management System

Characteristics and requirements:

- Physical
- Logical
- Functional
- Interoperability



Communication network

- Backhaul specifications
- Characteristics and requirements for specification of communication network for field devices: physical, logical & functional
- Interoperability
- Nominal lifespan and reliability
- Power supply in standby mode for the network



Lighting point controller specification

- Information about lighting point controller
- Characteristics and requirements: physical, logical & functional
- Interoperability
- Nominal lifespan and reliability
- Power supply in standby mode for the network

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Street lighting

Installation & commissioning of the system

- Responsibility for the installation of the system
- Training requirements for:
 - system installation
 - system startup
 - system commissioning
- Requirements for system`s:
 - installation
 - startup
 - commissioning
 - maintenance

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Indoor lighting

- Standard SR EN 12464-1:2011 Light and lighting. Lighting of workplaces. Part 1: Indoor workplaces
- LED lighting fixtures:
 - >130lm/W
 - CRI <80
 - 2700k-4500k
 - DALI protocol
 - Lifecycle > 50000 h
- Demonstration of performance using software for lighting simulation (DIALux, Relux)
- Public lighting acceptance – measurements of lighting levels, uniformity and colour temperature by an independent company

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Thank you for your time!

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