

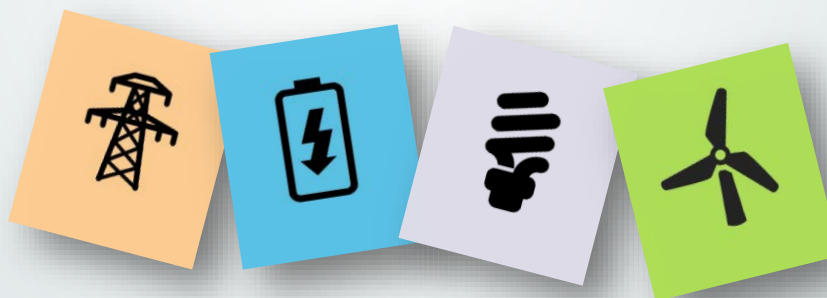


Ministerul Economiei
și Infrastructurii
al Republicii Moldova



25th ENERGY EFFICIENCY COORDINATION GROUP MEETING AND WORKSHOP

ENERGY EFFICIENCY DIRECTIVE MAIN ARTICLES STATUS



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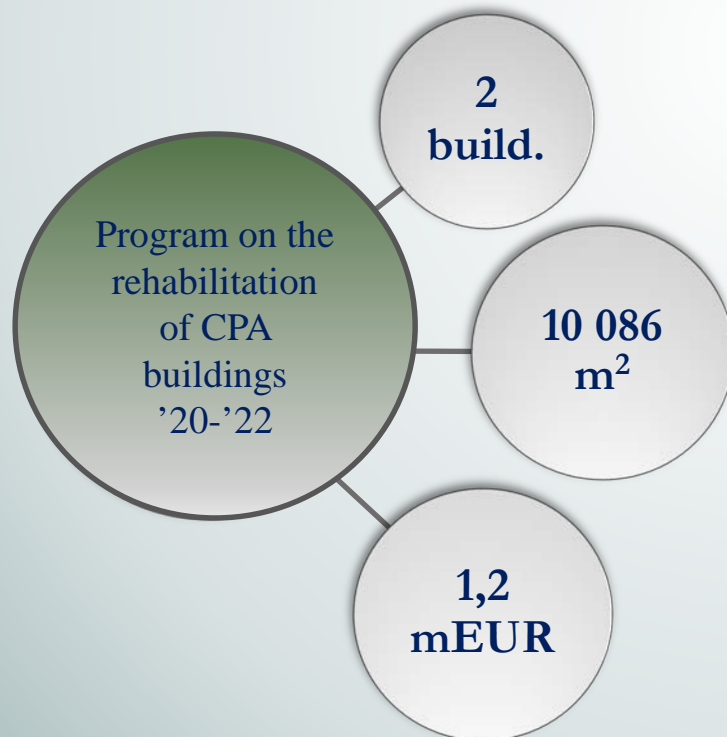
Deputy head of Energy Policies Department
Ministry of Economy and Infrastructure

STATUS OF IMPLEMENTATION OF EED

EXEMPLARY ROLE OF PUBLIC BUILDINGS (1)

GD No. 372/ 2020 on approving the Program for the renovation of the central government owned and occupied buildings 2020-2022

- Total number of buildings (inventory) 215 units
- Total floor area 426.056 m²
- 1% obligation /2019-2020/ 8.521 m²



STATUS OF IMPLEMENTATION OF EED

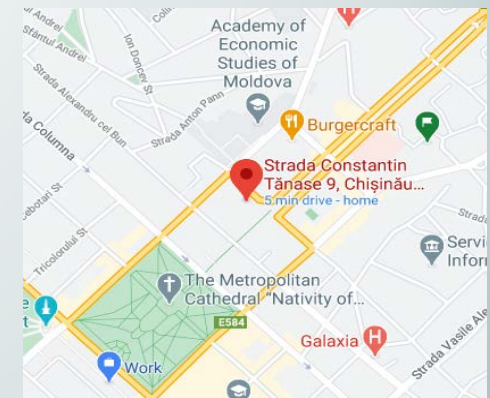
EXEMPLARY ROLE OF PUBLIC BUILDINGS (2)

Two buildings were identified:

Building no. 1 - Chisinau, str. Mitropolit Gavriil Bănulescu-Bodoni, 26

Building no. 2 - Chisinau, str. Constantin Tănase, 9.

	Building no. 1	Building no.2
Area [m ²]	2306	7780
Energy performance before the Program [kWh/m ²]	194	180
Energy performance after the Program [kWh/m ²]	123	111
Energy savings [kWh/y]	162 172	532 694
Investments [EUR]	610 097	1 037 445
Implementation status	Implemented	Ammendments to the GD might be necessary



STATUS OF IMPLEMENTATION OF EED

ENERGY EFFICIENCY OBLIGATION SCHEMES

EE obligation:

12.227 ktoe (0,7%) - 2019

24.454 ktoe (0,7%) - 2020

27.51 ktoe (using exemptions)

The MoEI used the ex-ante approach for assessing and quantifying the impact of all the ongoing energy saving initiatives (i.e. projects and programs financing the implementation of energy efficiency projects in public buildings, residential, industry, energy sector, etc.) that are contributing to the EE obligation.



The conclusion was that alternative measures do provide/generate sufficient energy savings to reach the target for 2020.

STATUS OF IMPLEMENTATION OF EED ENERGY AUDITS

GD No. 676/2020 Regulation on energy auditors and energy audit

EEA initiated the qualification of the i) energy auditors who obtained the energy auditor authorisation/ certificate issued before the approval of the GD No. 676/2020 and of the ii) new energy auditors in accordance with the GD provisions.

Number of qualified energy auditors

Audit category	Auditors
buildings	32
industry	14
transport	12

Regulation on conducting energy audits by large enterprises (drafted)

The MoEI drafted the Regulation and initiated its public consultation, the adoption being foreseen for this year.

LONG-TERM BUILDINGS RENOVATION STRATEGY

MAIN CHALLENGES FACED BY THE AUTHOR

During the Long-term building renovation strategy drafting, the following problemes were encountered.

- Incomplete and inconsistent historic data on buildings stock and energy consumption (different classification of buildings, lack of basic historic data disaggregated per building category and region e.g. age, construction patterns, ownership, use, occupancy, energy consumption, types of fuels, etc.)
- Lack of a modeling environment (e.g. MARKAL/TIMES, Leap, etc.) for forecasting and assessment of scenarios
- Lack of “standardized” auditing methodologies to produce comparable results and of a mechanism to measure, verify and draw conclusions on costs/ benefits from buildings renovation.

LONG-TERM BUILDINGS RENOVATION STRATEGY

POTENTIAL IMPACT OF THE STRATEGY

Overall effects and indicative investments for simple, medium and deep renovation for the entire building stock.

Type of renovation	Expected Energy Savings [ktoe]	Expected Primary Energy Savings	Expected CO2 reduction	Indicative investment [Milion EUR]
Simple renovation	866	35,9%	32.3%	11.434
Medium renovation	1.048	43,9%	42.8%	12.879
Deep renovation	1.279	54,2%	57.2%	22.479



The vision set out in the Strategy is to be further correlated with the results obtained in the energy consumption modeling exercise of the Republic of Moldova for 2030 and 2050. The completion of this task is planned for the Q3, 2021.

LONG-TERM BUILDINGS RENOVATION STRATEGY

RENOVATION SCENARIOS

Three renovation scenarios are analysed (for all residential buildings excluding single family houses that use wood i.e. “targeted” residential buildings + all other buildings)

Subject to renovation as a % of the total (targeted) area

	Targeted residential	Other buildings
Scenario 1/2/3 – SIMPLE renovation	15.0 / 10 / 7%	15.0 / 10 / 7%
Scenario 1/2/3 – MEDIUM renovation	10 / 7 / 5%	15 / 10 / 10%
Scenario 1/2/3 – DEEP renovation	3 / 2 / 1%	5 / 4 / 3 %

	Scenario 1	Scenario 2	Scenario 3
Total cumulative investment [mil. Euro]	1.624	1.111	793
Primary energy savings [%]	6.8%	4.6%	3.3%
CO2 reduction [%]	11%	7.5%	5.3%
Simple payback period (from building owners' point of view) [years]	20	20	20

LONG-TERM BUILDINGS RENOVATION STRATEGY

QUANTIFICATION OF SOCIO-ECONOMIC BENEFITS

Estimated payback periods of the scenarios from socioeconomic (State's) point of view

	Scenario 1	Scenario 2	Scenario 3
Total renovation investment [mil. Euro]	1624	1111	793
<i>Total annual final energy cost savings [mil. Euros/year]</i>	81.6	55.9	39.7
<i>Simple payback period from building owners' point of view [years]</i>	20 years		
Total annual socioeconomic benefits [mil. Euros/year]	343	235	167
Payback period from socioeconomic point of view [years]	5 years		

Renovation investments appear to be attractive from socioeconomic point of view. This justifies State support programmes, even for buildings renovation investments that do not seem to be attractive for a building owner or a private investor.

THANK YOU