

Round table

EE in public buildings – from inventory to implementation of measures
Bishkek, 16 July 2024

Inventory of central government buildings in Moldova – legal basis, scope and achievements

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Moldova - key figures

- Area - 33.8 thou. km²
- Population - 2.513 mil.
- GDP- 16.54 bill. Euro
- Energy consumption - 2.77 mill. toe
- Approx. 80% of energy resources - imported

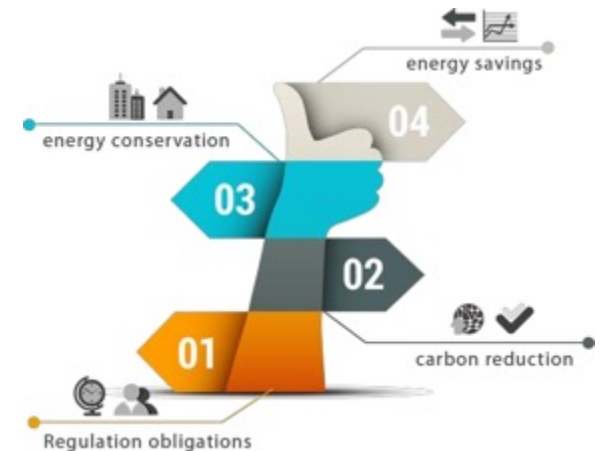


Importance of energy efficiency in Moldova

- Energy efficiency is a major focus for the Moldovan Gov.
- Moldova imports approximately 80% of its energy resources (both primary and final energy consumption) as per 2022 statistics
- **Adoption of Law No. 139/2018 on Energy Efficiency**
- Incorporates Directive 2012/27/EU on energy efficiency and Directive 2018/2002 amending Directive 2012/27/EU
- Commitment to sustainable development principles and efficient energy use in all economic sectors

Law on Energy Efficiency - main provisions and key elements

- Capacity building of the public authority responsible for implementing of EE & RES policy
- **The exemplary role of the buildings owned by public bodies**
- Compulsory energy audit for large enterprises
- Obligation scheme in field of energy efficiency
- Capacity building of the local energy managers
- Strengthening the local energy services market
- Energy efficiency in public procurements
- National Information System in the field of Energy Efficiency
- Public awareness on the energy efficiency importance

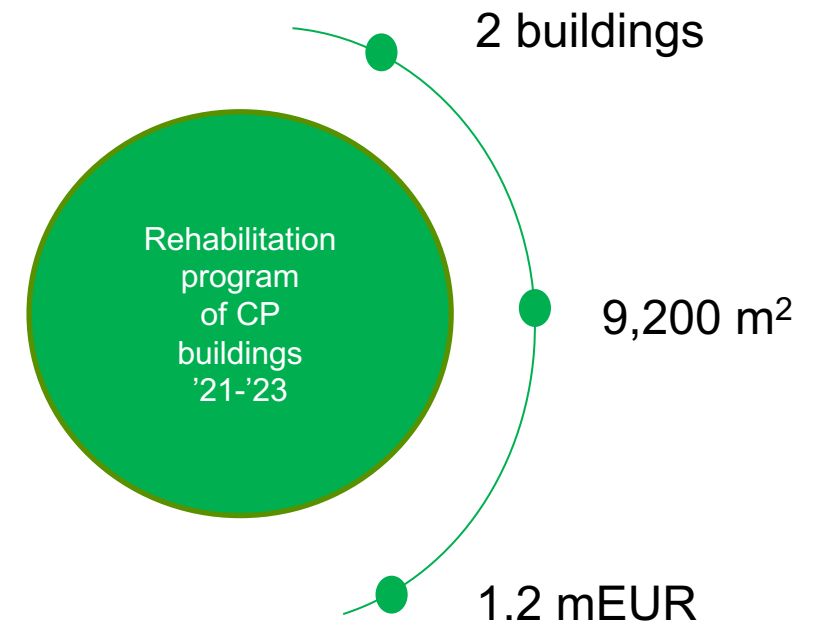


Exemplary role of public buildings 1st attempt (1/3)

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

Total number of identified buildings 215 units

- Total floor area 426,056 m²
- 1% obligation /2019-2020/ 8.521 m²

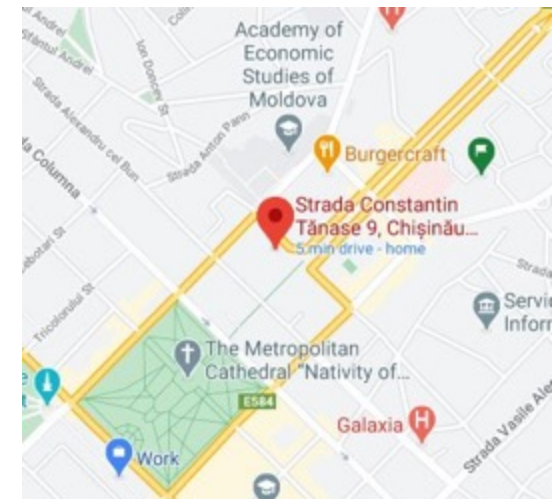


Exemplary role of public buildings 1st attempt (2/3)

Two buildings were selected:

- Building no. 1 - Chisinau, str. Mitropolit Gavriil Banulescu-Bodoni, 26
- Building no. 2 - Chisinau, str. Constantin Tanase, 9

	Build. 1	Build. 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	SUSPENDED



Exemplary role of public buildings 1st attempt (3/3)

- Rehabilitation of a building with a total area of 2,306 m²
- Investment of approximately 12 million MDL
- Average annual thermal energy savings of about 25,600 kWh (12%)



Picture. The premises of the National Integrity Authority /ANI/ and the Office for Prevention and Fight against Money Laundering /SPSCB/



THE RENOVATION PROGRAM 2024 -2026



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Update of the buildings' inventory

The result of the inventory exercises carried out by the National Center for Sustainable Development (former Energy Efficiency Agency)

Name of activity	Inventory 2019	Inventory 2023
# of eligible identified buildings	215	163
Total area	426,056 m ²	967,758 m ²

The following type of buildings were excluded from the 2019 Inventory:

- penitentiaries and auxiliary buildings
- buildings of the Intelligence and Security Service
- buildings of the General Prosecutor's Office
- buildings of the Ministry of Defence
- buildings of State Enterprises (e.g. Teleradio Moldova)

The image shows a screenshot of a complex data table, likely an Excel spreadsheet, with multiple columns and rows. The table contains numerical data and text labels, organized into sections. The columns include various identifiers and numerical values. The rows are grouped into sections, with some rows highlighted in blue. The table appears to be a detailed inventory or financial statement.

Update the buildings' selection criteria

#	Evaluation criteria	Comment	Criterion magnitude
1.	Specific energy consumption /delivered energy/	kWh/m ²	Up to +30 points /compared to all analyzed buildings/
2.	Total energy consumption /primary energy consumption/	kWh	Up to +10 points /compared to all analyzed buildings/
3.	Not subject to reconstruction and/or renovation (total or of some blocks, under the conditions of such specifics of the institution) in the last 5 years	If YES +10 p. If NO -10 p.	+10 p. for YES -10 p. for NO
4.	Occupancy rate Utilization – 100% Lease/Occupy - no more than 21%		+10 p. for YES -50 p. for NO
5.	Possible changes in property ownership rights	If YES 0 p. If NOT -100 p	-100 p. for YES 0 p. for NO
6.	Building/institution of major social importance and open/accessible to visitors		+10 p. for YES -10 p. for NO
7.	Availability of financing for major renovation (according to Law no. 128/2014)		+30 p. for YES 0 p. for NO
TOTAL			Max 100 points

Building's selection. The short list

#	Institution name	Central public authority - founder	Score achieved	Total area, m ²
1.	IMSP "Republican Clinical Hospital"	Ministry of Health	86 points	52,560
2.	IMSP Balti Clinical Hospital	Ministry of Health	81 points	19,791
3.	IMSP Institute of Emergency Medicine	Ministry of Health	76 points	47,561
4.	IMSP "Oncological Institute"	Ministry of Health	71 points	38,411
5.	IMSP "Mother and Child Institute"	Ministry of Health	70 points	23,656
6.	IMSP "Cardiology Institute"	Ministry of Health	70 points	21,070
7.	IMPS "Republican Center for Medical Diagnostics"	Ministry of Health	68 points	21,289
8.	Government House	DGACG	67 points	20,902
9.	IMSP "Institute of Neurology and Neurosurgery"	Ministry of Health	66 points	2,191
10.	IMSP "Clinical Hospital of Psychiatry"	Ministry of Health	65 points	15,042

Selected buildings and main related indicators

#	Institution name	Total area, m ²	Rehabilitated, m ²	Heated area, m ²	Estimated total investment	Energy savings, kWh	Monetary savings, EUR
1.	IMSP "Institute of Neurology and Neurosurgery" /block no. 2/	9,930	2,191	2,011	1,128,953	81,936	14,098
2.	IMPS "Republican Center for Medical Diagnostics"	20,058	21,289	20,058	9,485,224	4,698,952	85,251
3.	IMSP "Institutul de Cardiology" /central block and dispensary/	23,057	21,070	16,926	7,448,175	1,187,142	198,901
4.	IMSP "Clinical Hospital of Psychiatry" /central block and children's unit/	72,569	15,042	14,221	5,925,262	44,883	79,235
5.	IMSP "Oncological Institute"	53,109	38,411	36,228	12,278,375	2,319,967	347,914
6.	IMSP "Republican Clinical Hospital"	72,569	52,560	50,383	19,261,736	5,848,761	919,278
7.	IMSP "Mother and Child Institute" /maternity block and polyclinic/	97,697	23,656	22,418	8,291,580	1,621,834	255,098
8.	IMSP Institute of Emergency Medicine /blocks no. 1, 2 and 3/	47,561	24,247	22,600	9,865,484	1,870,012	310,124
9.	IMSP "Balti Clinical Hospital" /central block and pediatric block/	79,710	19,791	18,568	7,645,680	3,084,512	574,963
10.	Government Building	20,902	20,902	17,116	6,846,400	1,685,011	269,602

Translating the EE Law provision into a material obligation

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2019	1% (4,261)											
2020		1% (4,261)										
2021			1% (4,261)									
2022				1% (4,261)								
2023					1% (4,261)							
2024						3% (29,033)						
2025							3% (29,033)					
2026								3% (29,033)				
2027									3% (29,033)			
2028										3% (29,033)		
2029											3% (29,033)	
2030												3% (29,033)
Annually	4,261	4,261	4,261	4,261	4,261	29,033	29,033	29,033	29,033	29,033	29,033	29,033
Cumulative	4,261	8,521	12,782	17,042	21,303	50,336	79,368	108,401	137,434	166,466	195,499	224,532

Covered by the
Rehabilitation Program
2024-2026

Economic and financial results

	Indicator name	Financial analysis		Economic analysis	
		<i>Current conditions</i>	<i>Standard conditions</i>	<i>Current conditions</i>	<i>Standard conditions</i>
1.	Total energy savings, kWh	143,261,275	201,274,032	143,261,275	201,274,032
2.	Energy savings, %	41.4%			
3.	Financial rate of return	0.1%	3.2%	-	-
4.	Economic rate of return	-	-	0.8%	4.1%
5.	Reductions in CO ₂ emissions	11,067,547	15,073,273	11,067,547	15,200,319
6.	The total rehabilitated area	Approx. 239,159 m ²			
7.	Budget	Approx. 89.1 million EUR			
8.	Simple payback period	26 years			

Implementation timeline and main milestones

	Activity	2024	2025	2026
		[EUR]	[EUR]	[EUR]
Package 1	Elaboration of energy audits	Accomplished		
	Elaboration of technical design	EUR 1.5 million		
	Procurement of supervision services	EUR 1.1 million		
	Procurement of construction works	EUR 21.4 million		
Subtotal		EUR 24 million		
Package 2	Elaboration of energy audits	Partially done		
	Elaboration of technical design	EUR 4.1 million		
	Procurement of supervision services	EUR 3.0 million		
	Procurement of construction works	EUR 58 million		
Subtotal		EUR 65.1 million		
TOTAL		EUR 89.1 million		



THANK YOU!



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