

Annex C. Data collection tools and project selection

The implementation of LIOP energy (PA 6, PA 7 and PA 8) remains low at the stage of the present evaluation. Significant reallocations have been done across PAs and SOs in the LIOP by end-2020, to ensure contracts can be finalized by end-2023, most notably on SO 8.2 – extension of distribution grids, 235 mn EUR. Also, a large number of contracts are under evaluation on the existing allocations. The present evaluation focuses only on projects under implementation, i.e. projects for which a financing contract was signed. These are summarized in Table 1.3 of the main report, below:

	<i>Project title</i>	<i>Beneficiary</i>	<i>SMIS</i>
SO 6.1 – Increasing production of energy from renewable and less-exploited sources (biomass, biogas, geothermal)			
1.	Upgrading of the 20 kV overhead line (OHL) Moflești – Melinești and the 20 kV branch axis Fratostita and Pojaru, Dolj County to increase the distribution capacity for taking over the power delivered by the photovoltaic power plants	Distribuție Energie Oltenia S.A.	122825
2.	Upgrading of the 20kV OHL Axes Parangu – Sadu and 2B – Novaci and of the 20kV OHL Axis Carbonești – Novaci, in order to increase the distribution capacity for taking over the power delivered by the Low Power Hydroelectric Power Plants in the N-E area of Gorj County	Distribuție Energie Oltenia S.A.	127410
3.	Upgrading of transformer stations under the management of Delgaz Grid in order to take over the electricity produced from renewable sources in safe conditions of operation at SEN – Huși, Stănileşti, Vetrișoia, Fălcu, Murgeni stations	Delgaz Grid	127686
4.	Upgrading of transformer stations of E.ON Distribuție Romania S.A. – building additional capacity into the electrical network upstream of the connection point so it can handle the electricity produced from renewable resources in safe conditions of S.E.N. – Unit 110 / 20kV Hirlau, Unit 110 / 20kV Pascani, Unit 110 / 20kV Gorban	Delgaz Grid	105731
5.	Combining geothermal energy with heating pumps to produce thermal agent for heating and hot water for Nufarul I Area, Oradea	Oradea Municipality	115839
6.	Increasing the production of thermal energy based on geothermal water in Beiuș	Beiuș Municipality	127641
7.	Construction of the biomass thermal energy production unit and the thermal energy distribution network in Maieru	Maieru Village	119846
8.	Increasing the production of energy from less exploited renewable resources obtained in the Salonta geothermal perimeter	Salonta Municipality	125691
SO 6.2 – Reducing energy consumption at industrial consumers			
9.	Implementation of a system for monitoring energy consumption (electricity, heat, compressed air) at the level of SC Sortilemn SA	SORTILEMN SA	105740
10.	Intelligent energy consumption monitoring system within Yazaki Component Technology Romania	Yazaki Component Technology S.R.L.	106581
11.	Smart metering application for utility consumption and production	Vel Pitar S.A.	106965
12.	Intelligent energy consumption monitoring system within Antibiotice SA	Antibiotice S.A.	109717
13.	Reducing energy consumption at the level of SC Zoppas SRL by implementing a high-performance monitoring system	Zoppas S.R.L.	111829
14.	Implementation of an energy consumption monitoring system at AZUR S.A.	AZUR S.A.	116222
15.	Smart metering utility consumption application	COMELF S.A.	117803
16.	Intelligent energy consumption monitoring system within CIECH Soda Romania S.A.	CIECH Soda Romania S.A.	117977
17.	Development of the energy consumption monitoring system at Hammerer Aluminum Industries Santana S.R.L.	Hammerer Aluminum	118591

		Industries Santana S.R.L.	
18.	Technical solution study – energy consumption monitoring system	Infopress	118973
19.	Implementation of advanced metering system with on-line monitoring to reduce energy consumption at Takata Romania SRL	Takata Romania SRL	120195
20.	Intelligent energy consumption monitoring system within CEMACON SA	CEMACON SA	127985
21.	Advanced metering system for reducing energy consumption at CELCO SA – Lime Factory	CELCO S.A.	128259
22.	Implementation of energy consumption monitoring systems for industrial consumers	Heineken S.A.	128334
23.	Energy consumption monitoring system within S.C. Meat Industrialization KOSAROM S.A.	KOSAROM S.A.	130415
SO 6.3 – Reducing average power consumption of households			
24.	Implementation of intelligent measurement system in Craiova, central area (partially) and Sărari (approx. 10,000 consumers from Craiova)	Distribuție Oltenia	114790
25.	Implementation of an intelligent distribution monitoring system in a homogeneous area of predominantly household electricity consumers	DELGAZ	117855
SO 6.4 – Increasing savings of the consumption of primary energy produced by high-efficiency co-generation systems			
26.	Increasing the operational energy efficiency at SC AMBRO S.A. Suceava by implementing a high efficiency cogeneration installation	AMBRO S.A.	115900
27.	Optimization of primary energy consumption within CEMACON S.A. by installing a high efficiency cogeneration plant	CEMACON S.A.	119391
SO 7.1 – Increasing energy efficiency for DH systems in selected cities			
28.	Rehabilitation of the district heating system in Oradea for the period 2009-2028, to comply with environmental legislation and increase energy efficiency – Stage II	Oradea Municipality	108460
29.	Rehabilitation of the district heating system in Focșani Municipality for the period 2009–28 to comply with environmental legislation and increase energy efficiency – Stage II	Focșani Municipality	114845
30.	Rehabilitation of the district heating system in Iași Municipality to comply with environmental standards regarding the emissions in the atmosphere and to increase the energy efficiency in the urban heat supply – Stage II	Iași Municipality	115253
31.	Rehabilitation of the district heating system at the level of Râmnicu Vâlcea Municipality for the period 2009-28 to comply with environmental legislation and increase energy efficiency – Stage II	Râmnicu Vâlcea Municipality	118892
32.	Rehabilitation of the district heating system in Oradea for the period 2009–28 to comply with environmental legislation and increase energy efficiency – Stage III	Oradea Municipality	123600
33.	Re-engineering of the centralized district heating system in the Municipality of Timișoara to comply with environmental protection regulations on air pollutant emissions and to increase efficiency in urban heat supply – Stage II	Timișoara Municipality	127006
SO 7.2 – Increasing energy efficiency of district heating system in Bucharest			
34.	Rehabilitation of the heating system of Bucharest Municipality	Bucharest Municipality	138142
SO 8.1 – Increasing the capacity of the national energy system to use energy produced from renewable resources			
35.	LEA 400 KV d.c. Gutinas-Smardan	Transelectrica	129245
SO 8.2 – Increasing interconnection capacity of National Transmission System of natural gas (NTS) with other neighboring countries			
36.	Developments of NTS in the North-East area of Romania to improve the natural gas supply of the area as well as to ensure the transmission capacities to the Republic of Moldova	Transgaz	122972

Given the current level of implementation (with few projects finalized, recently, which means that outcomes and sustainability of the results cannot be assessed at this stage), the evaluation was mostly

qualitative. It focused on detailed case studies – projects in green highlight above; and a general overview of the projects on each SO, based on interviews and statistical project data from SMIS and internal AM reporting. The data collection methods are highlighted below.

Interviews and focus groups were based on the detailed interview and focus groups guidelines below.

- MA – planning and contracting interview (Jan 29, Feb 23)
- SO 6.1 – two group interviews, for distribution and production (Feb 24)
- SO 6.3 – interview project 114790 (Feb 26)
- SO 6.2 – focus group all projects (Mar 2)
- SO 7.1 – focus group all projects (Mar 2)
- SO 7.2 – interview project 138142 (Mar 3)
- SO 8.1 – interview project 129245 (Mar 3)
- SO 6.4 – interview project 115900 (Mar 5)

Focus groups were particularly relevant to collect information in a comparable form from a large number of respondents. Focus groups were chosen for projects on which there is a relatively large number of potential beneficiaries (SO 6.2 and 7.1); for SO7.2, SO8.1 and SO8.2., as well as SOs where only one project was in a more advanced implementation stage, in-depth interviews were more appropriate.

Interview guidelines:

Context and coherence	<p>1. What are the strengths, weaknesses, opportunities, threats in the energy sector in Romania? (gas, electricity, heating and industrial sector)</p> <p>2. To what extent are LIOP PAs 6, 7, 8 complementary to or coherent with other energy-sector interventions financed from national budgets, EU, or private sources? Are the proposed interventions consistent with other EU programs, in particular energy-efficiency measures in the Regional Operational Program, and national programs such as DH programs?</p> <p>3. Have there been changes in the socioeconomic environment or in policy (national; EU) which affected the relevance of the initially envisaged LIOP interventions? Are the planned objectives relevant to current needs, and initially identified needs still relevant?</p>
Effectiveness	<p>4. What have been the effects of LIOP interventions? Have they been carried out in line with expectations, and have they produced the expected changes?</p> <p>5. What is the difference between planned and actual performance (namely, in contracting, absorption, implementation, results)?</p> <p>6. Were there delays in achieving planned results and objectives? If yes, what was the cause? (internal vs external factors)</p> <p>7. Have PAs and key areas of interventions been implemented effectively, contributing to OP objectives?</p>
Efficiency	<p>8. Is the management system functional and operating efficiently, with internal procedures supporting efficient implementation of LIOP?</p> <p>9. How are the relationships with beneficiaries throughout the process?</p>

	<ul style="list-style-type: none"> • guidelines for applicants: duration, quality of documents • calls for projects; quality of applications • evaluation process: selection of evaluators, duration, reasons for rejections • contracting and implementation: approvals, processing contracts, amendments, reimbursement; quality of project design; permits; public procurement etc. • monitoring: consistency of indicators with overarching program objectives, compliance etc. • Disclosure: are allocations publicly disclosed, and does feedback and opinions from citizen and relevant stakeholders inform the process? <p>10. Are LIOP interventions cost-efficient compared to similar actions financed from different sources?</p> <p>11. Are available resources sufficient (institutional capacity, personnel, budgets)?</p>
Results and spillover effects of interventions	<p>12. What are the higher-level causes of different results across PAs?</p> <p>13. Have the foreseen network effects of LIOP interventions been realized? (e.g., scale-up of interventions with other sources of funding)</p> <p>14. Were there unforeseen impacts of LIOP interventions, positive or negative? (e.g., positive would include growth of investments in connected sectors, etc.; negative would include crowding out of private-sector investments, etc.)</p> <p>15. What amendments were needed to the original LIOP interventions and why?</p> <p>16. Which effects can be attributed directly and exclusively to LIOP interventions (as opposed to other actions, policies, market evolution, etc.)?</p>
Sustainability	<p>17. Are the LIOP interventions sustainable? Will beneficiaries have enough capacity and resources to maintain or even to scale up, etc.?</p> <p>18. Are the results and actions of the LIOP transferable to other similar programs; future EU funding; private sector financing; local and national budgets?</p>

Focus group guidelines:

Context and coherence	<p>1. What are the strengths, weaknesses, opportunities, threats in the energy sector in Romania?</p> <p>2. To what extent are LIOP PAs 6, 7, 8 complementary to or coherent and consistent with other energy-sector interventions financed from national budgets, EU, or private sources?</p> <p>3. Have there been changes in the socioeconomic environment or in policies at national and EU level which affected the relevance of the initially envisaged LIOP interventions? Are the planned objectives relevant to current needs, and initially identified needs still relevant?</p>
Effectiveness	<p>4. What have been the effects of LIOP interventions? Have they been carried out in line with expectations, and have they produced the expected changes?</p> <p>5. What is the difference between planned and actual performance (namely, in contracting, absorption, implementation, results)?</p>

	<p>6. Were there delays in achieving planned results and objectives? If yes, what was the cause? (internal vs external factors)</p> <p>7. Have PAs and key areas of interventions been implemented effectively, contributing to OP objectives?</p>
Efficiency	<p>8. Is the management system functional and operating efficiently, with existing procedures supporting efficient implementation of LIOP?</p> <p>9. How are the relationships with beneficiaries throughout the process?</p> <p>10. Are LIOP interventions cost-efficient compared to similar actions financed from different sources?</p> <p>11. Are available resources sufficient (institutional capacity, personnel, budgets)?</p>
Results and spillover effects of interventions	<p>12. What are the higher-level causes of different results across PAs?</p> <p>13. Have the foreseen network and scaling-up effects of LIOP interventions been realized?</p> <p>14. Were there unforeseen impacts of LIOP interventions, positive or negative?</p> <p>15. What amendments were needed to the original LIOP interventions and why?</p> <p>16. Which effects can be attributed directly and exclusively to LIOP interventions (as opposed to other actions, policies, market evolution, etc.)? Have similar effects been observed without LIOP support?</p>
Sustainability	<p>17. Are the LIOP interventions sustainable, with long-term impact?</p> <p>18. Are the results and actions of the LIOP transferable to other public policy interventions, including EU funding?</p>

Data used for case studies:

- Project data (beneficiary's application for financing, CBA analysis, latest progress report)
- Project details from LIOP databases (SMIS, internal AM reporting)
- Data collected from beneficiary on the project – e.g. maps, list of procurement / financed equipment
- Previous internal World Bank research on specific topics (e.g. renewables; district heating)
- Context data (e.g. policy and strategic documents relevant for each subsector of intervention)