OPERATING CONCEPT

National Register of Places of Consumption (RNLC)[1]

[1] **NOTE: – Operating Concept of the National Register of Consumption Points (RNLC), provided as background documentation. The Concept is provided so that bidders understand the conceptual principles already validated with the institutions. It is not binding as to the institutional holder, the ownership model, the identifier scheme or the architecture, each of which is reopened by these Terms of Reference and is to be determined by the assessment, i.e. Pillar 1 under the ToR.**

1. INTRODUCTION

The digital transformation process of the Republic of Moldova is a strategic priority for the Government and public administration authorities, including in the critical infrastructure and essential services sectors.

The energy sector is a strategic area of the national economy, with a direct impact on state security, social stability, economic competitiveness and consumer protection. The modernization of this sector involves the development of digital mechanisms capable of supporting efficient operational processes, standardized data exchange, monitoring, analysis and interoperability between the actors involved.

A key element of the digital transformation is the unique and standardised identification of managed objects within information systems. At national level, the use of unique identifiers has proven to eliminate duplication, correlate data between systems, increase administrative efficiency and develop interoperable digital services.

In the energy sector, the reference object for multiple operational and commercial processes is the place of consumption. In the absence of a unique, persistent and non-reusable identifier across the entire energy ecosystem, records remain fragmented and data sharing between participants is difficult, costly and error-prone.

In this context, it is proposed to establish the National Register of Places of Consumption (RNLC), as a sectoral information system intended for the unitary record of places of consumption and the attribution of the Single Code of the Place of Consumption (CLC) for each registered place of consumption. The RNLC is designed as a reference digital infrastructure for the energy sector and as a building block for interoperability, data standardisation and the further development of related digital services.

This concept describes the general foundation of the RNLC, its role in the national digital ecosystem, the actors involved, the principles of data management, the mechanism for training and using the CLC, as well as the general functionalities of the associated services.

1.1 Legal basis

The National Register of Places of Consumption is established and operates in accordance with the regulatory framework applicable to the energy field, the administration of state information resources, interoperability, electronic public services, data protection and the use of common government infrastructure.

From the perspective of the basic regulation, Law no. 174/2017 on energy, which establishes the general framework for the organization and functioning of the energy sector, Law no. 71/2007 on registers, which regulates the establishment and administration of registers, as well as Law no. 142/2018 on data exchange and interoperability, which establishes the principles of integration and exchange of data between information systems. At the same time, the development of RNLC is part of the objectives of the Digital

Transformation Program of the Energy Sector of the Republic of Moldova for 2026–2030, approved by Government Decision no. 652/2025.

The implementation of the RNLC and the interaction between the participants in the process will take into account the following normative acts and public policies:

1. Law no. 174/2017 on energy;
2. Law no. 139/2018 on energy efficiency;
3. Law no. 234/2021 on public services;
4. Law no. 71/2007 of 22.03.2007 on registers;
5. Law No. 467/2003 on computerization and state information resources;
6. Law no. 142/2018 on data exchange and interoperability;
7. Law no. 148/2023 on access to information of public interest;
8. Law No. 133/2011 on the protection of personal data;
9. Law no. 124/2022 on electronic identification and trust services;
10. Government Decision no. 308/2025 on the approval of the Digital Transformation Strategy of the Republic of Moldova 2023–2030 and the 2025–2027 Implementation Program of the Digital Transformation Strategy;
11. Government Decision no. 260/2025 on the approval of the Reform Agenda related to the Growth Plan of the Republic of Moldova for 2025-2027;
12. Government Decision no. 306/2025 on the approval of the National Accession Program of the Republic of Moldova to the European Union for 2025-2029;
13. Government Decision no. 652/2025 on the approval of the Digital Transformation Program of the Energy Sector of the Republic of Moldova for 2026-2030;
14. Government Decision no. 102/2013 on the Energy Strategy of the Republic of Moldova until 2030;
15. Government Decision no. 141/2014 regarding the creation of the energy statistics system, published on: 07.03.2014 in the Official Gazette No. 53-59 art. 165;
16. Government Decision no. 409/2015 on the roadmaps in the energy field for the period 2015-2030;
17. Government Decision no. 1060/2023 on the organization and functioning of the Public Institution National Center for Sustainable Energy;
18. Government Decision no. 169/2021 on the State Register of Public Services;
19. Government Decision no. 677/2025 on strengthening access to electronic public services within the EVO Integrated Government Portal used for the provision of electronic public services and approving the necessary measures for the implementation of the unitary design model;
20. Government Decision No. 840/2004 on the creation of the Telecommunications System of the Public Administration Authorities;
21. Government Decision no. 211/2019 on the interoperability platform (MConnect);
22. Government Decision no. 128/2014 on the Common Government Technology Platform (MCloud);
23. Government Decision No. 1090/2013, "On the Government Electronic Service for Authentication and Access Control (MPass)";
24. Government Decision no. 405/2014. "On the Integrated Government Electronic Digital Signature Service (MSign)";

25. Government Decision no. 708/2014. "On the Government Electronic Journaling Service (MLog)";
26. Government Decision no. 376/2020 for the approval of the Concept of the Government Electronic Notification Service (MNotify) and the Regulation on the Functioning and Use of the Government Electronic Notification Service (MNotify);
27. Government Decision no. 305/2024 on the document hosting and sharing platform (MDocs);
28. Standard of the Republic of Moldova SMV ISO CEI 15288:2009, "Systems and Software Engineering. System Life Cycle Processes';

At the same time, international standards for the development of public computing applications are essential to ensure their quality, security, interoperability and accessibility.

1. ISO/IEC 15288:2008 (2009 update): The international standard that defines the life cycle processes of systems.
2. ISO/IEC 12207: International standard for software lifecycle processes. It defines the processes, activities and tasks involved in the acquisition, supply, development, operation and maintenance of software.
3. ISO/IEC 25010: This standard defines the software quality model, which includes features such as functionality, performance, compatibility, usability, reliability, security, maintainability, and portability.
4. ISO/IEC 27001: It is a standard for information security management. It ensures that sensitive information is protected from unauthorized access.
5. ITIL v4:2019 (Information Technology Infrastructure Library) is a set of best practices for IT service management that focuses on aligning IT services with business needs. ITIL is not a formal standard, but it is a widely used reference framework in IT service management.
6. WCAG (Web Content Accessibility Guidelines): Guidelines developed by the W3C to ensure the accessibility of web content for people with disabilities. These guides are essential for the development of public applications that must be accessible to all citizens.
7. GDPR (General Data Protection Regulation): Although it is not a technical standard, but a legal regulation, the GDPR imposes strict requirements for the protection of personal data, which must be complied with in the development of public applications.

1.2 Abbreviations

AGE – I.P. E-Government Agency
ANRE – National Agency for Energy Regulation
API – Application Programming Interface
CLC – Unique Code of the Place of Consumption
CNED – National Center for Sustainable Energy
EVO – EVO Integrated Government Portal
G2B – Government to Business
G2C – Government to Citizen

G2G – Government to Government
GDPR – General Data Protection Regulation
GIS – Geographic Information System
IEC – International Electrotechnical Commission
ISO – International Organization for Standardization
ITIL – Information Technology Infrastructure Library
MCloud – the common government technology platform
MConnect – the government interoperability platform
MDocs – the document hosting and sharing platform
MLog – the government journaling service
MNotify – the government's electronic notification service
MPass – government authentication and access control service
MSign – the government's integrated electronic signature service
RNLC – National Register of Places of Consumption
ICT – Information and Communication Technology
WCAG – Web Content Accessibility Guidelines

1.3 Name and nature of the system

The full name of the information system is "National Register of Places of Consumption", which is a centralized national system for the unique identification, registration and management of places of consumption in the Republic of Moldova.

RNLC is an inter-institutional information solution in the G2G, G2B, G2C category.

The RNLC is a component part of the state's single information space and is integrated through the Government Interoperability Platform (MConnect) with other relevant information systems.

The RNLC is a sectoral reference digital infrastructure in the energy sector, with high requirements for security, availability, integrity and traceability.

The establishment of the RNLC does not necessarily imply the development of an entirely new standalone technical infrastructure. In accordance with the principles of non-duplication, interoperability and efficient use of public digital infrastructure, the implementation of the RNLC may reuse, extend or integrate existing government and sectoral platforms, services and technical components, where these are suitable for the functional, security, availability and governance requirements of the Register. The final technical implementation model shall preserve the institutional and functional autonomy of the RNLC regardless of the infrastructure used for its operation.

1.4 Actors involved in the establishment and operation

The process of establishing, administering and using the RNLC involves institutional and operational actors who exercise distinct roles of public policy, regulation, administration, data provision, operational updating and data consumption. The actors involved in the establishment and functioning of the RNLC are:

a) Ministry of Energy

The Ministry of Energy is the central public authority responsible for developing and promoting public policies related to the RNLC, for the strategic coordination of the development of the system and for ensuring the regulatory framework necessary for its operation.

The Ministry of Energy exercises the role of public policy authority, strategic coordination and promotion of the regulatory framework related to the RNLC. The role of the Ministry of Energy is limited to establishing the public policy directions, initiating and promoting the necessary normative acts, designating the RNLC Operator under the law, strategically monitoring the implementation of the system and using aggregated information to substantiate public policy decisions in the energy field.

The Ministry of Energy does not exercise operational, technical or administrative duties within the RNLC. In this regard, the Ministry of Energy:

- does not individually validate consumption places;
- does not operate the RNLC database;
- does not enter, modify, rectify, activate, inactivate or archive records from the RNLC;
- does not generate, modify, cancel or reassign Unique Consumption Place Codes;
- does not grant, modify, suspend or revoke technical or functional access rights to the system;
- does not interfere with data validation, reconciliation, deduplication or cleansing processes;
- does not resolve individual operational incidents, technical complaints or specific requests for rectification of data;
- does not substitute the RNLC Operator, the Technical Administrator, the Network Operators, the energy suppliers or the authoritative data sources in the exercise of their responsibilities.

The Ministry of Energy receives from the RNLC Operator reports, indicators, aggregated information, strategic alerts and analyses necessary for the exercise of its public policy duties, strategic coordination and monitoring of the development of the RNLC. This information does not confer on the Ministry of Energy the right to intervene in the day-to-day administration of the register or in the individual management of the places of consumption.

The relationship between the Ministry of Energy and the RNLC is achieved through strategic reporting mechanisms, institutional coordination and normative promotion, without the involvement of the Ministry in the daily operation of the system, in the administration of access, in the modification of data or in the individual validation of records.

b) The RNLC Operator (institutional holder to be designated)

The RNLC is a State information resource. Its institutional holder has not yet been determined. Earlier versions of this Concept named the National Agency for Energy Regulation as institutional holder and operator of the Register, that designation reflected the state of the discussion at the time of drafting, was not supported by a substantiated legal,

institutional and financial analysis, and is accordingly reopened. The determination will be made on the basis of the feasibility assessment commissioned for that purpose, which is to compare, at a minimum, the National Agency for Energy Regulation, the National Centre for Sustainable Energy and the Ministry of Energy, together with distributed configurations in which the statutory roles are separated between institutions, and which is to identify for each candidate the normative amendments required and the obligations the designation would impose. Until that determination is made and given effect by the establishing normative act, references in this Concept to the RNLC Operator are to be read as references to the institution that will be so designated, and no provision of this Concept is to be understood as pre-empting the outcome.

The functions attributed below to the RNLC Operator describe what the operation of the Register requires, irrespective of which institution ultimately performs them. They are set out here so that each candidate institution can assess what the role would demand of it, and so that the feasibility assessment can cost those functions and allocate them.

Alignment with the statutory roles. The term “RNLC Operator” used throughout this Concept is a functional description and not a legal category. Under Law No. 467/2003 and Law No. 71/2007 the roles attaching to a State information resource and to a State register are those of owner (the State), holder (posesor), keeper (deținător), technical administrator (administrator tehnic), registrar (registrator) and, as the case may be, sub-registrar, together with data providers (furnizori de date) and data recipients (destinatari de date). The establishing normative act shall designate each of those roles expressly and shall delimit their attributions, the same entity shall not be designated in two capacities without that delimitation. The feasibility assessment shall propose the allocation, and the Regulation of the information resource shall give it effect. The functions described in this section map principally onto the roles of holder and keeper, the functions described under the Technical Administrator map onto the role of technical administrator, and the function of initiating and confirming registrations, described under the transmission and distribution operators, corresponds to the role of registrar, which Law No. 71/2007 permits to be delegated to a participant in data exchange.

Whichever institution is designated, the designation shall be consistent with the Programme for the Digital Transformation of the Energy Sector of the Republic of Moldova for 2026–2030, approved by Government Decision No. 652/2025, which provides for the establishment of the RNLC as a national mechanism for the unique identification of places of consumption and whose Action Plan designates the Ministry of Energy as the authority responsible for the regulation and implementation of the Register and the National Agency for Energy Regulation as the authority responsible for monitoring. The designation of the holder, keeper and technical administrator of the RNLC shall be established by the normative framework governing the establishment and operation of the Register, and shall be preceded by the amendments to the instruments governing the designated institution that the feasibility assessment identifies as necessary.

In its capacity as RNLC Operator, the designated institution shall ensure the operational administration of the Register, data governance, management of the lifecycle of the Unique Codes of Places of Consumption, application of validation, reconciliation and data quality

rules, access management, traceability of operations and the operational relationship with authorised participants.

Where the institution designated as RNLC Operator also exercises regulatory, supervisory or control functions in respect of the participants that supply data to the Register, the exercise of the RNLC Operator function shall be organisationally separated from those functions through differentiated institutional roles, access rights, reporting lines and internal procedures, in order to ensure the neutrality, transparency, accountability and auditability of the Register. The adequacy and auditability of that separation shall be assessed by the feasibility assessment and shall be a criterion in the comparison of the institutional options.

The technical administration and hosting of the RNLC shall be ensured in accordance with the framework governing the technical administration of State information systems and the common Government technology platform. Depending on the institution designated as holder, the technical administrator may be that institution itself or the entity designated by that framework. Where a separate Technical Administrator is designated, it shall act within the mandate established by the RNLC Operator and shall not exercise data governance, regulatory or decision-making functions reserved to the RNLC Operator. The applicable hosting arrangement, the associated service levels and the resulting recurrent cost shall be established by the feasibility assessment in consultation with the entity holding the common Government technology platform.

The RNLC shall operate as a distinct sectoral reference information resource and shall not substitute the functions of the National Information System in the field of Energy Efficiency (SINEE). Interoperability between the RNLC, SINEE and other relevant sectoral information systems shall be ensured through the Government Interoperability Platform (MConnect), in accordance with the applicable legal and technical framework.

The RNLC Operator shall perform at least the following duties:

- manages the RNLC database and ensures the operational administration of the Register;
- manages the assignment, activation, inactivation and archiving of the Unique Codes of Places of Consumption;
- applies the approved rules for validation, deduplication, reconciliation and data quality control;
- manages user roles and access rights within the RNLC;
- manages manual validation, data reconciliation and exceptional case resolution processes;
- provides operational and functional support to authorised users;
- manages functional incidents, complaints and requests for rectification related to the operation and data of the RNLC;
- ensures the logging of relevant operations and the traceability of changes;
- ensures the maintenance and application of the operational procedures, data governance rules and access policies applicable to the RNLC;
- publishes and maintains the documentation and specifications necessary for the integration of authorised participants with the RNLC;
- monitors compliance with the approved operational rules and procedures;

- establishes the functional, security, availability, business continuity, backup and recovery requirements applicable to the RNLC and monitors their implementation;
- coordinates the operational relationship with network operators, energy suppliers, public authorities and other authorised participants;
- ensures the continuous operation of the RNLC from an institutional and functional perspective and, where technical administration is delegated, monitors the fulfilment by the Technical Administrator of the applicable service, security and continuity requirements.

The RNLC Operator is responsible for the administration of the RNLC as a state information resource within the limits of the applicable regulatory framework and shall not modify the data governance rules, logical structure, access model or other fundamental operating rules of the system outside the approved normative and governance framework.

c) Technical Administrator

If the technical maintenance, development or operation of the infrastructure is outsourced, a separate technical administrator from the RNLC Operator may be appointed.

The technical administrator shall perform at least the following functions:

- ensures software and hardware maintenance;
- implement the approved technical updates;
- ensures infrastructure monitoring, backup, recovery and business continuity;
- implements technical security measures;
- does not decide on data policies;
- does not change the data model, validation rules or access rights without the approval of the RNLC Operator.

d) Transmission and/or distribution operators

Transmission operators, and in particular distribution system operators, are key operational participants of the RNLC, as they provide technical data on the connection of consumption sites to the energy infrastructure and update the related technical information.

They exercise the following attributions:

- initiates the registration of new places of consumption, under the established conditions;
- Confirm the existence of the physical connection to the network.
- update the technical status of the place of consumption;
- provide data on the type of connection, technical parameters and, where applicable, associated meters;
- uses CLC as a standard identifier in its own systems.

The network operators are responsible for the correctness and timeliness of the technical data provided to the RNLC.

e) Energy suppliers

Energy suppliers use RNLC and CLC in commercial and contractual processes related to the provision of energy services.

The suppliers exercise the following duties:

- uses CLC as a reference identifier in relation to the place of consumption;
- initiates, where appropriate, processes involving the use of CLCs, including those related to switching providers;
- update information in the field of commercial relations, insofar as this is required by the interoperability rules;
- does not alter the basic structural data of the place of consumption.

The providers are responsible for the lawfulness of the processing of personal data in their own systems and for the use of the CLC in accordance with the established rules.

f) Energy Market Operators

Energy market operators and, where applicable, operators of organised energy trading platforms may use the RNLC and the Unique Code of the Place of Consumption as reference data for the identification and correlation of places of consumption in market-related processes.

Through integration with the RNLC, these operators may use the CLC as a common reference identifier in processes requiring the reliable correlation of data between market participants, including, where applicable, supplier switching, market registration, balancing, settlement and other regulated market processes.

The RNLC shall act solely as a reference source for the identification and structural data of places of consumption and shall not replace the specialised information systems or trading platforms used for market operation, balancing, settlement or commercial transactions.

Energy market operators shall access RNLC data through authorised interoperability mechanisms and within the limits of their legal competences and approved access rights. They shall not modify the basic structural data of the place of consumption unless such a right is expressly established by the applicable regulatory framework and RNLC data governance rules.

g) Cadastral Service

The cadastral service is the authority or entity responsible for the real estate register and the official record of addresses. It provides, through interoperable mechanisms, the reference data necessary for the location and validation of consumption sites.

It is the primary source of validation of the location of the place of consumption and provides through the interoperability platform data, as appropriate, for:

- cadastral number;
- official address;
- identification of the immovable property;
- other reference attributes required for validation.

The RNLC shall not duplicate those registers, but shall use and reference that data under the applicable interoperability framework.

h) Ministry of Labor and Social Protection

The Ministry of Labour and Social Protection is a direct institutional user of the RNLC and may access CLC references and the structural attributes of places of consumption, within

the limits of its legal competences and approved access rights, for the administration of social protection mechanisms and programmes related to energy vulnerability, including those financed through the Energy Vulnerability Reduction Fund.

The interaction between the information systems managed by the Ministry of Labour and Social Protection and the RNLC shall be carried out through authorised interoperability mechanisms, including the Government Interoperability Platform (MConnect), in accordance with the applicable legal and technical framework.

The Ministry of Labour and Social Protection does not exercise operational, technical or administrative functions within the RNLC. In particular, the Ministry:

- does not operate or administer the RNLC database;
- does not create, modify, rectify, activate, inactivate or archive RNLC records;
- does not generate, modify, cancel or reassign Unique Codes of Places of Consumption;
- does not grant, modify, suspend or revoke functional or administrative access rights within the RNLC;
- does not exercise data governance, validation, reconciliation, deduplication or data quality management functions reserved to the RNLC Operator and the competent data providers.

Personal data relating to applicants or beneficiaries, data on contractual relationships, energy consumption, billing and other information that does not constitute structural data of the place of consumption shall not be maintained as basic data within the RNLC. Where such information is required for the administration of social protection mechanisms, it shall remain under the responsibility of the competent information systems and data providers and may be exchanged through authorised interoperability mechanisms in accordance with the applicable legal framework.

The use of the RNLC by the Ministry of Labour and Social Protection shall therefore be limited to the identification and validation of the place of consumption, the verification of the CLC and, where legally justified, the confirmation of the structural attributes necessary for the relevant social protection process, in accordance with the applicable personal data protection legislation and the legal framework on data exchange and interoperability.

i) I.P. E-Government Agency

The EGM ensures the integration of RNLC into the ecosystem of common government platforms and services and contributes to compliance with the architectural standards applicable to public information systems.

The EGM exercises the following attributions:

- ensures the interoperability framework through the MConnect platform;
- make available, where appropriate, the relevant shared government services, including MPass, MSign, MLog, MDocs, MNotify and other common services;
- ensures the architectural conformity of the solution to the applicable government requirements;
- can participate in the approval of the solution from the perspective of architecture and interoperability.

j) Direct institutional users

The RNLC may also be used, under the conditions of the law and in accordance with approved access policies, by other direct institutional users, including public authorities, financial institutions, entities involved in social programs, other public services or other authorized entities.

These users:

- does not alter the data of the RNLC;
- queries the system through dedicated interfaces or APIs.
- uses the data for the purpose of validating, verifying or correlating the information necessary for the performance of its duties.

k) End users

Individual or legal end-users may benefit from limited public verification services, such as CLC identification, under the conditions set by the controller and the applicable regulatory framework.

They do not have the right to modify the RNLC data and can only access the structural data exposed through the authorized public interfaces.

1.5 Interaction model between the actors and the RNLC

a. The preceding subsections identify the actors involved in the establishment and operation of the Register and describe the attributions of each. They do not, however, establish how each actor would interact with the Register in a given process. That omission has been a principal source of uncertainty for the institutions consulted, and it is addressed here in principle and will be resolved in detail by the feasibility assessment.
b. The interaction between an actor and the RNLC shall in every case be described by reference to a defined scenario, and each scenario shall establish: the triggering event, the initiating actor and the actor responsible for the outcome, the legal basis for the interaction and the instrument that establishes it, the channel and the specific service used, distinguishing interaction through the Government interoperability platform from interaction through a user interface, the data transmitted and the data returned, by attribute, the authoritative source of each attribute, the validation, reconciliation and error-handling rules applied, whether the exchange is unidirectional or bidirectional and at what frequency or on what event, what is logged and where, the response time or service level expected, the party responsible if the interaction fails, and what changes in the actor's own systems and internal processes in order to support the interaction.
c. Scenarios shall be established, at a minimum, for: the registration of a new place of consumption and the subsequent change of its lifecycle status, initiated by a network operator, the confirmation of the physical connection to the network, the correction of a disputed or erroneous record and the resolution of a conflict between sources, supplier switching, connection, disconnection and reconnection, the verification of a Unique Code of the Place of Consumption in a social-protection process and the pre-filling of an application under the once-only principle, including within the „Ajutor la Contor" programme, the correlation of a place of consumption with a building or building-unit record maintained in the national information system in the field of energy efficiency,

prosumer and collective self-consumption configurations, configurations in which a single metering arrangement serves several consumption units, the query of structural data by an authorised institutional user, and the public verification of a code through the public verification service.

d. Each scenario shall be validated with the actor concerned before it is carried into the Regulation of the information resource and into the technical specification. The set of scenarios, expressed as an actor × scenario matrix, is the instrument by which each institution and operator is expected to understand, and to accept or contest, what participation in the RNLC would require of it. Until that matrix is established and validated, the operational model of the Register is to be regarded as provisional.
e. The interaction model shall reuse the Government platforms and shared services wherever they provide the required function. In particular, authentication and access control shall use the Government authentication service, data exchange with other State information systems shall use the Government interoperability platform, and event-driven notification shall use its event service, journaling shall use the Government journaling service, notification of participants shall use the Government notification service, the delegation of powers of representation, including any consumer authorisation permitting a third party to act or to obtain data in respect of a place of consumption, shall use the Government service established for that purpose rather than a mechanism built within the Register, documents, where any are generated, shall use the Government document platform, and any citizen- or business-facing interface, including the public verification service, shall be delivered through the integrated Government portal and application and shall observe the Unitary Design Model.

1.6 Delineation of data responsibilities

The responsibility of the actors for the data managed by the RNLC is determined according to their institutional competences. Authoritative sources provide reference data, network operators provide and update technical and operational data, and the RNLC Operator ensures the administration of the register, the application of validation rules and the maintenance of data integrity and traceability. The detailed data governance regime is described in Chapter 3.

2 CONTEXT, PURPOSE, SCOPE

2.1 National context

The Digital Transformation Program of the Energy Sector of the Republic of Moldova for 2026–2030, approved by Government Decision no. 652/2025, establishes the direction for the development of digital infrastructures necessary to modernize the energy sector and strengthen interoperability between market participants. In this context, the development of the National Register of Places of Consumption is conceived as one of the basic components of the sectoral digital architecture.

The energy sector in the Republic of Moldova is in a continuous process of modernization, driven by the need to increase energy security, operational efficiency, market

transparency and alignment with good European practices. This process involves the digitization of operational flows, the standardization of data exchange, the automation of interactions between operators and suppliers, as well as the development of reliable data aggregation and analysis mechanisms at national level.

Currently, the record of places of consumption is managed in a fragmented manner by various participants in the sector, each using its own internal systems, references and identification rules. The lack of a unique and persistent identifier of the place of consumption generates difficulties in correlating data, increases the risk of inconsistencies between systems and limits the ability to automate processes involving several actors.

In the absence of a unitary identification mechanism, important processes such as changing the supplier, validating the place of consumption, aggregating data at territorial level, analyzing consumption indicators, developing smart metering solutions and integrating with other information systems are hampered by the need to permanently reconcile data from different sources. This affects both the operational efficiency of market participants and the ability of authorities to base decisions on standardised and correlated data.

Under these circumstances, the establishment of the RNLC responds to a structural need of national interest, that of creating a single mechanism for recording and identifying places of consumption, uniformly usable throughout the energy ecosystem. By assigning a Unique Place of Consumption Code to each registered place of consumption, the premise of a common reference for data exchange, interoperability and the further development of digital services related to the energy sector is created.

At the national level, the RNLC is intended to support the standardization of the record of consumption places, the increase of data quality, the reduction of duplications and inconsistencies, the automation of inter-institutional and commercial processes, as well as the development of a digital infrastructure capable of supporting current and future reforms in the energy sector. At the same time, the existence of such a reference infrastructure can also generate benefits for other related areas, insofar as structural data on consumption sites can be legally reused and controlled in other public or private processes.

The RNLC must therefore be understood as an element of sectoral digital infrastructure, with a reference role for the unique identification of places of consumption, and not as a register intended for the personal or contractual record of consumers. The demarcation between the structural data of the place of consumption and the data related to the holders or contractual relationships is to be dealt with separately in the chapters on the subject matter of the RNLC and the data management mechanism.

2.2 Purpose and object of the RNLC

The purpose of the National Register of Places of Consumption is to establish a single national mechanism for the identification, registration and management of places of consumption, which would ensure the use of a standardized and persistent identifier at the level of the entire energy ecosystem in the Republic of Moldova.

The establishment of the RNLC aims to:

- ensure the unique and non-reusable identification of each place of consumption;
- standardise the registration and identification of places of consumption at national level;

- provide a common reference identifier for network operators, energy suppliers, energy market operators, public authorities and other authorised users;
- support interoperability between information systems operating within the energy sector;
- reduce duplication and inconsistencies between records maintained by energy market participants;
- create the prerequisites for the automation of processes involving data exchange between multiple actors
- support the correlation, aggregation and analysis of data at national level, within the limits of the data managed by the RNLC;
- create the foundation for subsequent digitalisation initiatives, including integration with smart metering solutions, smart grids, market data-exchange mechanisms and other sectoral digital infrastructures.

The establishment and operation of the RNLC shall not be conditional upon the full deployment of Advanced Metering Infrastructure (AMI). The RNLC is conceived as the foundational reference layer for the unique identification of places of consumption and may therefore be implemented independently of the level of smart-meter deployment. During the initial stages of implementation, the RNLC shall primarily support the identification and validation of places of consumption, the use of the CLC as a common reference identifier and the interoperability of basic operational and market processes.

The RNLC shall not, at its initial stage, be considered a national energy data hub and shall not have as its primary object the management of detailed metering data, consumption profiles, market transactions or flexibility services. Its fundamental role is to establish and maintain a reliable national reference register of places of consumption and to provide the stable CLC identifier necessary for the subsequent development and integration of more advanced sectoral digital services.

As Advanced Metering Infrastructure and other digital energy infrastructures are progressively deployed, the CLC may serve as a common reference identifier for additional sectoral processes, including supplier switching, smart-meter data exchange, authorised access to energy data and aggregated market analysis. Such services may be implemented through specialised information systems and sectoral data-exchange mechanisms interoperable with the RNLC, without altering the fundamental role of the RNLC as the national reference register of places of consumption.

From an implementation perspective, the development of the digital ecosystem based on the RNLC may follow a phased approach:

Phase 1 – Establishment of the RNLC and CLC as the national reference mechanism, focused on the unique registration and identification of places of consumption, data validation, interoperability and integration of the CLC into the information systems of authorised participants;

Phase 2 – Integration of the CLC into relevant energy-market processes, including supplier switching and standardised data-exchange processes between network operators, suppliers, market operators and other authorised participants;

Phase 3 – Development of advanced sectoral data services, enabled by the progressive deployment of smart metering and other digital infrastructures, which may include controlled smart-meter data exchange, consent-based access mechanisms, aggregated analytics and other advanced energy-data services implemented through specialised systems.

This phased approach allows the initial implementation of the RNLC to remain proportionate to the current level of digital maturity of the energy sector, while ensuring that the CLC and the RNLC architecture remain compatible with the subsequent development of advanced energy-data exchange models and relevant European practices.

The object of the RNLC is the place of consumption, understood as an identifiable physical unit connected or intended to be connected to the energy infrastructure, within which an energy service is supplied and/or consumed.

A divergence exists between this Concept and the policy act on which the Register rests, and it is recorded here so that it may be resolved rather than carried forward. Measure 52 of the Programme approved by Government Decision No. 652/2025 describes the Register as associating each place of consumption with, among other elements, data about the consumer and a cadastral identifier. This Concept, by contrast, excludes personal and contractual data from the object of the Register and treats the cadastral reference as a descriptive attribute that does not determine the identity of the place of consumption. The divergence is not editorial: it determines the object of registration, the lawful basis for processing, the scope of the data protection impact assessment, the access model and the content of the future Regulation of the information resource. It also engages the prohibition, under the law on registers, of the repeated registration of an object already registered in another State register and of the repeated accumulation of data on that object, and the rule that natural and legal persons are identified exclusively by the State personal and legal-entity identifiers. The feasibility assessment shall determine which reading is legally sustainable and shall formulate the corresponding normative correction, whether by amendment of Government Decision No. 652/2025, by an interpretative provision in the establishing Government decision, or otherwise. Pending that determination, the position taken in this Concept is to be regarded as provisional in this respect.

For the purposes of this Concept, the place of consumption is the structural object of the Register and the reference unit for the assignment of the Unique Code of the Place of Consumption. The purpose of the RNLC is to record and uniquely identify places of consumption and not to maintain records of the natural or legal persons who own, use or contract energy services for those places. Information concerning owners, consumers or contractual relationships related to a place of consumption shall remain within the information systems of the competent participants or shall be accessed through separately regulated interoperability mechanisms.

Each place of consumption registered in the RNLC shall be assigned a Unique Code of the Place of Consumption, generated by the system, unique, persistent and non-reusable, which shall be used by authorised participants as a common reference identifier in operational, administrative and interoperability processes. The CLC shall not replace identifiers maintained in other primary registers, including cadastral identifiers or official address references, but shall complement the national data ecosystem by introducing a sector-specific identifier dedicated to the place of consumption.

The RNLC shall therefore function as a sectoral reference infrastructure for the unitary identification and registration of places of consumption and as a common reference mechanism supporting interoperability between relevant energy-sector actors. It shall not duplicate the functions of existing primary registers or substitute the technical, commercial, contractual, metering or billing systems of energy market participants.

2.1.1 Benefits for energy efficiency

The RNLC delivers concrete gains for the implementation of Law 139/2018 on energy efficiency, Law 282/2023 on the energy performance of buildings and the National Energy and Climate Plan for 2025-2030 approved by Government Decision No. 86/2025. The CLC provides a stable link between each physical place of consumption and the energy-efficiency records held in SINEE and other sectoral systems. This link fills three gaps in the current energy-efficiency workflow.

First, the CLC delivers a single reference for measured and estimated consumption values attached to a specific building or building unit. This reference removes the need for manual reconciliation between distribution meter numbers, official addresses and cadastral references. As a result, energy performance certificates, energy audits and monitoring reports required under Government Decision No. 144/2025 will be prepared with fewer data-quality corrections.

Second, the CLC anchors the tracking of energy savings from renovation programmes. Programmes covered include the Residential Energy Efficiency Fund (FEERM), the Casa Verde programme, the NZEB Plan approved by Government Decision No. 436/2025 and the Long-term Renovation Strategy approved by Government Decision No. 595/2025. Each place of consumption keeps its RNLC identifier before and after renovation. This preserves the historical link between the physical premises and the pre-renovation baseline used to calculate savings.

Third, the CLC aligns Moldova with NECP measure PM_EE3, which requires an integrated information system for the collection, management and analysis of energy-efficiency data. The RNLC delivers the consumption-side reference layer of this integrated system without duplicating SINEE functions and without expanding the RNLC beyond its role as a structural register.

2.1.2 CLC as a common reference across sectoral information systems

Places of consumption are currently referenced across different sectoral information systems using identifiers specific to the respective operational, technical, commercial or administrative processes. These may include network or metering references, contractual identifiers, cadastral references, official addresses and other identifiers maintained by competent participants or authoritative registers. The absence of a common reference identifier for the physical place of consumption increases the need for data reconciliation and correlation when information is exchanged between different systems.

The RNLC addresses this fragmentation by assigning a unique and persistent CLC to each registered place of consumption. The CLC is intended to serve as a common sectoral reference that enables different information systems to reliably identify and correlate information relating to the same physical place of consumption.

The introduction of the CLC does not replace the identifiers maintained by network operators, energy suppliers, market operators, cadastral systems, energy-efficiency systems or other competent participants. Meter identifiers, contractual references, cadastral numbers and other sector-specific identifiers shall remain within the information systems responsible for their management and may be associated with the CLC, where necessary, through authorised interoperability mechanisms.

Similarly, personal identifiers and information relating to consumers, beneficiaries, contractual holders or other natural or legal persons shall remain within the information systems of the competent authorities and market participants and shall not become basic data of the RNLC. The CLC shall therefore function as a shared reference key without absorbing or duplicating the datasets maintained by other registers and information systems.

This approach supports the once-only principle and the interoperability framework established by Law No. 142/2018 on data exchange and interoperability, while preserving the structural nature of the RNLC. Data already maintained by authoritative sources or competent sectoral systems shall be reused through interoperability mechanisms rather than duplicated within the RNLC.

By providing a stable common reference for the place of consumption, the CLC creates the basis for more reliable automated data exchange, reduces the need for address-based or manual reconciliation and supports the gradual integration of the RNLC into operational, administrative, social-protection, energy-efficiency and energy-market processes.

2.1.3 Place of consumption as the RNLC registration object

The object of the RNLC is the place of consumption, understood as an identifiable physical unit, connected or intended to be connected to the energy infrastructure, within which an energy service is supplied and/or consumed.

For the purposes of this concept, the place of consumption is the structural registration object of the RNLC and the reference unit for the assignment of the Unique Code of the Place of Consumption. The purpose of the RNLC is to record and identify the places of consumption, and not to record the natural or legal persons who own, use or contract services for these places. Any information on the owners, consumers or contractual relationships related to the place of consumption shall be managed in the information systems of the competent participants or through separately regulated interoperability mechanisms. That delimitation is necessary in order to maintain the structural character of the RNLC and to avoid its transformation into a primary register of personal data.

Each place of consumption registered in the RNLC is assigned a Unique Code of the Place of Consumption, generated by the system, unique, non-reusable and used by the authorized participants as a reference identifier in the operational, administrative and interoperability processes. The CLC does not replace existing identifiers from other registers, such as cadastral or address registers, but complements the data ecosystem by introducing a sectoral identifier dedicated to the place of consumption.

The role of the RNLC in the national digital ecosystem is that of a reference sectoral infrastructure for the unitary record of consumption places, a mechanism for standardizing their identification and support for interoperability between the relevant actors in the energy market. In this capacity, the RNLC contributes to data correlation, simplified information

exchange, increased record quality and the development of digital services based on standardised and verifiable data.

The RNLC shall not duplicate the functions of the existing primary registers and shall not substitute the technical or commercial records of market participants. The system is designed as a reference register that uses, correlates and capitalizes on structural data from authorised sources, under the conditions of the applicable regulatory framework and the established interoperability mechanisms.

The identity of a place of consumption shall not be determined exclusively by a metering device, metering point, customer, contractual relationship, official address or cadastral reference. Depending on the physical and operational configuration, one place of consumption may be associated with one or more metering devices or metering references, while a single metering arrangement may, in specific cases, support several consumption units or relevant structural relationships.

The detailed rules governing multiple metering points, sub-places of consumption, collective consumption arrangements, prosumers, generation and consumption at the same location and other complex configurations shall be established through the approved business rules, data model and operational documentation of the RNLC. Such rules shall preserve the fundamental principle that the CLC identifies the place of consumption and not the person, contract or metering device associated with it.

3. RNLC DATA AND ITS MANAGEMENT MECHANISM

3.1 Data collection methods

The establishment and updating of the National Register of Places of Consumption is carried out by collecting, correlating and validating data from relevant official and operational sources, under the conditions of the applicable regulatory framework and the established interoperability mechanisms.

Data collection in RNLC is based on the principle of using data from authorized sources, according to the institutional competences of data providers, as well as the principle of non-duplication of existing primary registers. The RNLC does not fully substitute or replicate the source registers, but uses their data for the identification, validation and recording of places of consumption as structural objects of the register.

3.1.1. Data sources used for RNLC

The data necessary for the formation and updating of the RNLC may come, where appropriate, from the following categories of sources:

(a) **reference sources**, which provide official data on the location and identification of relevant buildings or locations, including data on the official address, cadastral number and other reference identification attributes;

b) **operational sources**, represented by participants in the energy sector that hold data on the physical connection to the grid, the existence of the place of consumption, its status and other technical elements necessary to confirm its operational character;

+(c) **other interoperable official sources**, used to the extent that their data are necessary for the verification, completion or correlation of RNLC records and to the extent permitted by the regulatory and technical framework.

As a priority, data from the real estate register and official address records will be used for the establishment of the RNLC, as well as data provided by the network operators on the places connected or intended for connection to the energy infrastructure. Where appropriate, energy suppliers and other authorised participants may contribute data necessary to confirm the active use of the place of consumption or to identify situations requiring further verification.

3.1.2. Methods of data collection

Data collection in the RNLC is carried out in one or more of the following ways:

- initial retrieval of data from authorized official sources, for the purpose of establishing the basic database;
- data consumption through the interoperability platform, synchronously or asynchronously, depending on the nature of the source and process;
- periodic updating through scheduled synchronizations with the source registers or systems;
- sending notifications or update events from authorized participants;
- Assisted entry or manual validation in exceptional cases where automatic reconciliation is not sufficient.

The specific method of collection for each category of data is to be set out in the technical specifications and operational rules of the RNLC, depending on the status of the source, the frequency of updating and the level of reliability of the data provided.

3.1.3. Initial formation of the RNLC database

The initial establishment of the RNLC database involves the aggregation, profiling, cleaning, correlation and validation of data from reference sources and relevant operational sources, in order to identify the places of consumption to be recorded and encoded.

Before the initial migration of data to the RNLC, a mandatory step of profiling, quality assessment, cleansing and reconciliation of data from authorized sources will be carried out. This stage aims to prevent the mechanical takeover in the RNLC of errors, duplications and inconsistencies existing in the source systems.

The profiling of the data will include at least the analysis of the completeness, consistency, timeliness and uniqueness of the data related to the places of consumption. During this stage, the following will be identified, as the case may be:

- the same address associated with several places of consumption;
- the same place of consumption associated with different addresses;
- inconsistencies between cadastral data, official addresses and data of network operators;
- places of technically active consumption, but not confirmed by sufficient reference data;
- places of consumption that are archived or inactive in one system but active in other systems;

- incomplete, duplicated, contradictory or insufficiently documented records.
- Data cleansing and reconciliation will be carried out on the basis of approved rules, which will establish the priority of authoritative sources, correlation criteria, automatic acceptance thresholds, cases requiring manual validation and how to document reconciliation decisions.
- At the initial training stage:
- the reference data on addresses and, where applicable, cadastral identifiers are retrieved;
- this data shall be correlated with the network operators' records on the existence and connection of consumption sites;
- data deduplication, profiling, cleansing and reconciliation rules apply;
- unclear, incomplete or conflicting situations that require further validation are identified;
- records that do not meet the minimum validation conditions shall be marked separately;
- CLCs are assigned only to consumption sites validated for inclusion in the RNLC.

The initial migration to the RNLC and CLC assignment will only be performed for records that meet the minimum validation conditions. Incomplete, contradictory or at risk of duplication records will be marked separately and submitted in a clarification flow, without automatic assignment of the CLC until eligibility is confirmed.

The results of the profiling, cleansing and reconciliation phase will be documented in a data quality report. The report will include the main categories of inconsistencies identified, the measures applied, the volume of validated records, the volume of records submitted for clarification and the remaining risks for the migration phase.

3.1.4. Subsequent updating of data

After the initial establishment, the RNLC is updated continuously or periodically, depending on the nature of the data and the availability of sources.

The update may take place, as the case may be, in the following situations:

- the emergence of new places of consumption;
- Change location data or reference attributes;
- connecting, disconnecting, reconnecting or changing the technical status of the place of consumption;
- the appearance of new data in the source registers or systems;
- identification of errors, duplications or inconsistencies that require rectification.

The updating of the data is carried out with the preservation of the history of changes and without affecting the unique and persistent nature of the Unique Code of the Place of Consumption, except for exceptional situations regulated separately. The mechanisms for validating, reconciling and managing data conflicts are covered in the following subchapters.

3.1.5. Principle of non-duplication and use of data from authorised sources

The RNLC operates on the basis of the 'once-only' principle, according to which data already existing in other registers or official systems are not requested or stored redundantly except to the extent necessary for the functioning of the register.

In this regard, the RNLC shall use, where appropriate, reference data from authoritative sources and shall maintain only those structural data strictly necessary for the identification, validation and management of consumption sites. Data from other systems remain the responsibility of the competent sources and the RNLC references or consumes them through interoperability mechanisms, without substituting them.

3.2 Data Management

RNLC operates on the basis of a formal data governance model, which sets out the rules for collecting, recording, validating, updating, archiving, accessing and reusing data managed within the system.

The data governance model aims to ensure a unitary, coherent, traceable and interoperable record of places of consumption, by using data from authorized sources and applying uniform rules for their administration. Within the RNLC, the data are managed as structural data related to the place of consumption, and not as primary data on the natural or legal persons associated with it.

3.2.1. Data management principles

Data management in RNLC is based on the following principles:

Uniqueness – each eligible place of consumption corresponds to a single Unique Code of the Place of Consumption, and its registration in the RNLC is carried out in such a way as to avoid duplication and overlapping.

Integrity – the data recorded in the RNLC must be correlated, consistent and validated against the authorized sources and the applicable business rules.

Traceability – all relevant data operations are recorded so that the source of the change, when it was made and the related operational or procedural basis can be identified.

History and version – the data are not arbitrarily deleted, but are kept in a regime that allows the tracking of the evolution over time of the recordings and the maintenance of the history related to the place of consumption.

Minimization – RNLC retains only the structural and operational data strictly necessary for the identification, validation, management and interoperability of consumption sites.

Use of authorized sources – data are retrieved, updated or validated in relation to official sources or authorized participants, according to their institutional competences.

Neutrality and interoperability – the data model and management rules must allow the integration of the RNLC with other relevant information systems, without dependence on a specific technology provider.

3.2.2. Nature of data handled in RNLC

RNLC mainly manages structural and operational data relating to the place of consumption, necessary for its unique identification and record within the energy ecosystem.

Such data may include, where appropriate:

- the internal identifier of the registration;

- Unique Code of the Place of Consumption;
- location and georeferencing data;
- official address;
- cadastral number or other basic identification references;
- the type of place of consumption;
- the status of the registration;
- reference to the relevant network operator;
- change history and metadata related to the administration of the record.

To the extent that certain relationships with market participants need to be reflected in the RNLC for operational or interoperability needs, they will only be kept at the minimum necessary reference level, without transforming the RNLC into a commercial or contractual register. Data on the holder, consumer, contractual relationship, consumption, invoicing or other similar elements are not the main object of the RNLC and remain the responsibility of the information systems of the competent participants.

3.2.3. Delimitation with respect to personal data

RNLC does not constitute a primary register of personal data and does not have as its object the record of natural or legal persons associated with places of consumption. The register is designed as a structural data infrastructure on the place of consumption, used for unique identification, validation and interoperability.

As a result, the following will not be managed as basic data in the RNLC:

- The person's name and surname;
- IDNP, IDNO, or other personal or business identifiers of the cardholder;
- detailed contractual information;
- consumption data;
- Billing data
- other data that go beyond the structural object of the register.

Where appropriate, such data may be obtained through interoperability mechanisms from the national or departmental registers that legally hold them. In cases where certain operational processes require the association of the place of consumption with information managed in other systems, this association shall be achieved through interoperability mechanisms, under the conditions of the law and the approved access rules, without undue extension of the RNLC data model.

Although the RNLC does not have as its object the record of natural or legal persons and does not manage as basic data names, IDNP/IDNO, contact data, consumption, billing or contractual information, certain combinations of structural data, such as exact address, geolocation, cadastral reference, type of place of consumption, technical status and network operator, may generate risk of indirect identification.

Prior to the commissioning of the RNLC and the associated public services, the RNLC Operator shall carry out a data protection impact assessment, including the analysis of the risk of re-identification, the classification of the categories of data, the establishment of the legal basis for each category of data, the rules of minimization, differentiated access, logging,

retention and, where applicable, depersonalization or aggregation for statistical and analytical purposes.

For public services, including CLC Finder, the data displayed will be limited to the level strictly necessary for CLC verification. The publication of the exact address, geolocation, cadastral reference or detailed technical status will be carried out only if it is legally justified, proportionate to the purpose of the service and provided for in the approved access policies.

3.2.4. Minimum data structure

The RNLC data model shall include at least those attributes necessary for the unique identification and management of the place of consumption. At a minimum, the RNLC database will contain:

- Internal registration ID;
- Unique Code of the Place of Consumption;
- geolocation or geospatial reference;
- the official address, if any;
- cadastral number, if any;
- the category or type of place of consumption;
- the status of the registration;
- reference to the relevant network operator;
- Change history and admin metadata.

Other attributes may be added at a later date, to the extent that they are functionally justified, compatible with the nature of the register and are approved in accordance with the applicable regulatory framework and governance rules.

3.2.5. Data liability

Within the RNLC, responsibility for data is determined according to its nature and source.

The reference data on the official address, cadastral identifier and other similar elements are taken from authoritative sources and cannot be arbitrarily changed in the RNLC.

Network connection data, technical status and other operational attributes shall be provided and updated by authorised participants with functional competence over them, in particular network operators.

The RNLC operator is responsible for managing the data model, applying validation and reconciliation rules, logging changes, preserving history, and ensuring the quality and consistency of the data in the registry, without substituting primary authoritative sources.

3.2.6. Retention and archiving policy

The historical data related to the places of consumption are deleted only under the conditions expressly provided by the regulatory framework and the approved retention policies. Typically, relevant changes are kept in history, and archived CLCs remain associated with historical records to allow continuity of references, traceability of operations, and use of data in authorized statistical or operational analyses.

If a place of consumption becomes inactive or is archived, the related information remains available in a controlled regime, with limited access depending on the role of the user and the legitimate purpose of the processing.

3.2.7. General rules for access and re-use

The data in the RNLC is accessed and reused according to the assigned roles and institutional competences of each participant. Access to data must comply with the principles of necessity, proportionality and minimisation.

RNLC may provide data:

- for the administration and operation of the system;
- for the operational processes of authorised participants;
- for regulation, analysis and monitoring;
- for limited verification public services;
- interoperability with other information systems, within the limits of the applicable regulatory framework.

The level of access, the accessible datasets and the conditions for re-use are to be determined separately by the rules of operation of the system and the related access policies.

3.2.8. Building-level integration

Several use cases required by Law 282/2023 on the energy performance of buildings, Government Decision No. 144/2025 (SINEE Concept), Government Decision No. 436/2025 (NZEB Plan) and Government Decision No. 595/2025 (Long-term Renovation Strategy) operate at building level rather than at the level of a single meter. Multi-apartment blocks, mixed-use buildings and public buildings often host multiple electricity, gas and heat consumption points. Aggregation across these consumption points is necessary for energy performance certification, energy audits, energy-management reporting and monitoring of renovation results.

The RNLC data model will support a two-level structure. The primary object remains the place of consumption, uniquely identified by the CLC. Structural attributes will include a Building Reference field usable to group several places of consumption within the same physical building or building unit. The Building Reference will use a stable identifier derived from the cadastral reference and from the Building Register maintained under SINEE, in line with Government Decision No. 144/2025. The Building Reference is not a new register kept by the RNLC. It is a link to authoritative building data held by cadastral sources and by SINEE.

At district-heating premises where one physical meter serves several consumption units, the RNLC will distinguish the physical metering point from the individual consumption units linked to the same building. Measured and calculated values remain in the systems of the network operator and, where applicable, in SINEE. The RNLC retains only the reference relationships needed to link physical meters, consumption units and buildings.

3.3 Data processing and validation

The processing and validation of data within the RNLC aims to ensure the accuracy, consistency, completeness and traceability of records on places of consumption. These

processes apply both to the initial constitution of the database and during the current operation of the system, in connection with the emergence of new places of consumption, the modification of existing attributes, the identification of data conflicts or the updating of information from authorized sources.

The data processing in the RNLC is carried out in stages, by retrieving the data from authorized sources, verifying them in relation to the business rules and reference sources, identifying any inconsistencies, applying the reconciliation mechanisms and, as the case may be, confirming or rejecting the proposed update. The system shall allow for both automatic validation and controlled operator intervention in situations where the available data is incomplete, conflicting or insufficient for an automated decision.

Initial validation

Initial validation applies to the registration of a new place of consumption or to the retrieval of a registration to be included for the first time in the RNLC.

At this stage, the following shall be checked, as the case may be:

the existence and consistency of the reference identifiers;

the correlation between the address, geolocation and the cadastral identifier, if any;

the probable uniqueness of the place of consumption in relation to the already existing records;

the lack of duplication based on the approved deduplication rules;

the existence or confirmation of physical connection to the network, to the extent that such verification is necessary for inclusion in the register;

eligibility of the place for CLC assignment, in accordance with the rules for inclusion in the RNLC.

If the initial checks confirm the consistency and eligibility of the data, the system allows the place of consumption to be recorded and the CLC award process to be initiated. If inconsistencies, shortcomings or suspicions of duplication are identified, the record shall be submitted to an additional validation flow, including for manual examination by the authorised operator.

Continuous validation

Continuous validation is the set of mechanisms by which the RNLC periodically or at the event verifies the consistency of the data already recorded.

This validation is carried out by:

- automatic detection of possible duplications;
- checking the consistency between structural attributes;
- comparison of RNLC data with updated data from authorised sources;
- regular reconciliation with participants providing operational data;
- regular audit of data integrity and quality of existing records.

Continuous validation has the role of identifying situations in which the data in the register no longer correspond to the operational reality or are no longer consistent with the reference sources. In such cases, the system must be able to mark the affected records, generate alerts to the operator and initiate the necessary clarification and rectification flows.

Reconciliation and handling of data conflicts

Conflicts between data from different sources may arise in the process of administering the RNLC, including situations where the address, coordinates, cadastral identifier or operational status of a place of consumption do not fully correspond to each other.

In such cases, the RNLC must apply pre-established reconciliation rules, based on:

- priority of authoritative sources for certain categories of data;
- semantic and geospatial correlation rules;
- thresholds and conditions for automatic acceptance or rejection;
- identification of situations that require manual verification;
- preservation of the history and justification of the decision taken.

The system must be able to differentiate between:

- minor conflicts, which can be resolved automatically based on approved rules;
- significant conflicts, requiring the intervention of the RNLC operator;
- exceptional cases, where it is necessary to consult the authoritative source or participant who initiated the update.

The rectification of data must not lead to the loss of history and must not affect the stability of the CLC, except in separately regulated exceptional situations.

Update processing flow

Any relevant update submitted to the RNLC must go through a processing flow that includes, where appropriate: Receipt of the update request or event, identification of the registration concerned, verifying the right of the source to transmit that update, syntactic and semantic validation of the received data, checking for conflicts with existing data, automatic application or submission for manual validation, recording the result and history of the change, notification of the systems concerned, where applicable.

This flow must be implemented in such a way as to ensure a balance between automation and control, avoiding both unnecessary rejection of legitimate updates and the introduction of unvalidated data into the registry.

System-managed events

The RNLC shall manage events relevant to the lifecycle of the recording of the place of consumption and to maintain the consistency of the data. These events may include, as appropriate: registration of a new place of consumption, modification of the structural attributes of the place of consumption, updating location data or identification references, changing the technical or operational status of the place of consumption, reconnect or disconnect, archiving or deactivating the recording, generation of a new CLC for a new place of consumption.

To the extent that external processes, such as the change of supplier or the change of the contractual holder, require the updating of operational references associated with the place of consumption, the RNLC may record or transmit such events only within the limits of its role as a structural and interoperability register, without becoming the primary system for the record of contractual relationships.

All relevant events must be recorded with timestamping, source, type of operation and result of processing, so as to ensure full auditability and traceability of operations.

Logging and auditing

The RNLC shall ensure the logging of all relevant data operations, including data creation, update, validation, rejection, reconciliation, archiving and access operations, to the extent provided for by the security and auditing rules.

The logging shall allow at least the identification: the user or system that initiated the operation, the time of performance, affected data, the type of change, the result of the validation, justification or operational basis for the intervention.

Audit mechanisms should allow for ex-post verification of the history of a record and how conflicts have been resolved or relevant changes applied.

3.4 Interoperability and data exchange services

RNLC is designed as an interoperable system, integrated into the single information space of the state and capable of ensuring standardized data exchange with authorized participants in the energy sector and other relevant information systems. Interoperability is one of the fundamental mechanisms for the functioning of the RNLC, with the role of ensuring the use of a common reference on the place of consumption, reducing duplication of data and automating the exchange of information between the actors involved.

The exchange of data carried out through the RNLC must comply with the principles of organisational, semantic, technical and legal interoperability, as well as the 'once-only' principle, according to which data already available in other authorised registers or systems are not collected redundantly, but are used through interoperability mechanisms, to the extent necessary for the functioning of the register.

3.4.1. Categories of services provided by RNLC

In order to support operational and interoperability processes, the RNLC will provide, as appropriate, the following categories of services:

a) querying and verification services, intended to validate the existence and status of an RNLC registration;
b) reference and validation services, intended to verify the correlation between CLC and other structural attributes of the place of consumption;
c) updating and notification services, intended to transmit or receive updates on places of consumption, under the conditions of the competences assigned to the authorized participants;
d) interoperability services for relevant events, used for the propagation of changes affecting the status, identification or operational use of the place of consumption.

3.4.2. Query services

RNLC may provide query and verification services that allow, where appropriate:

- verifying the existence of a Unique Code of the Place of Consumption;
- validation of the correctness of the relationship between the CLC and the official address;

- querying by cadastral identifier or other basic references;
- checking the status of a registration;
- identification of the minimum structural attributes of the place of consumption, within the limits of the access rights granted.

Query services serve as a reference and validation and do not replace primary source registers or market participants' trading systems.

3.4.3. Update services

RNLC may provide update services used by authorized participants for:

- initiation of the registration of a new place of consumption;
- transmission of changes regarding the technical or operational status of the place of consumption;
- submitting updates on certain structural attributes;
- initiation of data verification or rectification flows;
- notification of events relevant to maintaining the consistency of records in the RNLC.

The right to submit updates is limited to those participants who have functional competence over the respective category of data. Updating data via API does not mean free modification of records, but the transmission of information subject to the validation, reconciliation and authorization rules provided by the system.

3.4.4. Interoperable events and notifications

For processes where timely communication of relevant changes is required, the RNLC may use notification mechanisms and, where appropriate, interoperable event-based mechanisms. They may concern, for example:

- registration of a new place of consumption;
- modification of relevant structural attributes;
- changing the technical status of the place of consumption;
- Archiving or deactivating a recording.
- updating a relevant operational reference for authorised participants.

To the extent that processes such as switching providers give rise to the need to update references or notify participants, the RNLC may participate in those flows only within the limits of its role as a reference and interoperability register, without becoming the primary contractual or commercial management system.

3.4.5. Integration with participants' systems

Energy market participants and other authorised users will integrate the RNLC into their systems through standardised interfaces so that the CLC can be used as a common identifier of the place of consumption in the relevant operational processes. To this end, the RNLC Operator shall provide the necessary documentation for the integration, including technical specifications, description of the services available, authentication and authorisation rules, as well as, where applicable, a test environment for validating the integrations.

3.4.6. General technical standards and requirements

The data exchange services provided by RNLC will use open and generally accepted technical standards, appropriate for integration with public and sectoral information systems, including RESTful API interfaces, data exchange in JSON format and, where applicable, XML, as well as appropriate mechanisms for securing communication and access control.

RNLC services must be secured by modern mechanisms for authentication, authorisation and protection of communications, established by the technical specifications of the system. All RNLC services must operate under differentiated authentication and authorisation, depending on the role of the actor, the type of service consumed and the category of data accessed.

The RNLC interoperability architecture shall be designed to support the progressive evolution of sectoral data-exchange processes without disrupting existing integrations. APIs, data exchange schemas and related technical specifications shall therefore be subject to controlled versioning and backward-compatibility rules, where technically feasible. Changes affecting integrated participants shall be documented, communicated in advance and validated through an appropriate test or sandbox environment before deployment in the production environment.

The CLC shall be used as the common reference identifier of the place of consumption in relevant RNLC data-exchange services and messages. This common reference shall enable subsequent integration with more advanced energy-market and sectoral data-exchange infrastructures, without extending the RNLC into a primary system for metering data, billing, contractual relationships or market transactions.

3.4.7. Functional delimitation of RNLC interoperability

The RNLC shall provide interoperable reference, validation, controlled updating and notification services on consumption sites and their associated structural attributes. RNLC does not replace:

- primary registers providing reference data;
- suppliers' commercial systems;
- the internal technical systems of the network operators;
- specialized platforms for billing, consumption, metering or contractual relationships.

The role of the RNLC is to provide a common reference and a standardised mechanism for the exchange of data on the place of consumption, which can be reused in the relevant processes of the authorised participants.

3.4.8. Interoperability with SINEE, SIME and related energy-efficiency systems

The National Information System in the field of Energy Efficiency (SINEE), established by Government Decision No. 144/2025, comprises specialised subsystems supporting energy-efficiency and building-performance processes, including the information subsystem “Energy Management in Buildings” (SIME) and the information subsystem “Energy Efficiency of Buildings” (SIEEC).

The existing Energy Management Information System (EMIS) is currently used for the collection and monitoring of energy and water consumption data relating to public buildings. SIME is intended to be developed on the basis of the existing EMIS solution, with the relevant database on public buildings and their energy and water consumption subsequently transferred to SIME as an integrated component of SINEE.

The RNLC shall provide SINEE and its relevant subsystems with a stable reference mechanism for the identification and correlation of places of consumption. Through authorised interoperability services, SINEE may use the CLC and the structural attributes associated with a place of consumption in order to correlate energy-efficiency, building-performance and energy-management information with the corresponding physical place of consumption.

Where several places of consumption are associated with the same building or building unit, RNLC interoperability services may enable SINEE to identify the relevant CLCs on the basis of the Building Reference or other authoritative structural references maintained in accordance with the RNLC data model. This mechanism may support energy-management, energy-performance certification, energy-audit, renovation-monitoring and other processes implemented within SINEE, without requiring SINEE to establish a parallel reference register of places of consumption.

The RNLC shall not replicate data managed within SINEE, SIME, SIEEC or other specialised energy-efficiency systems and shall not store energy-consumption profiles, energy-performance certificates, audit results, energy-efficiency indicators or other specialised data falling within the functional scope of SINEE. Such data shall remain under the responsibility of SINEE and the competent data holders.

Data exchange between the RNLC and SINEE may be bidirectional where required by the relevant business process and where supported by an appropriate legal and technical basis. The RNLC shall provide CLC references and the structural attributes necessary for the identification of places of consumption. SINEE may provide or confirm only those structural references or status changes that are relevant to the correlation and accuracy of RNLC records and for which SINEE constitutes an authorised source or participant.

All data exchange between the RNLC and SINEE shall be carried out through the Government Interoperability Platform (MConnect), where applicable, in accordance with the established interoperability framework, access rights and data-governance rules.

3.4.9. Interoperability with energy-vulnerability and social-protection systems

The RNLC may provide a reference mechanism for information systems used for the administration of energy-vulnerability and other social-protection measures associated with a place of consumption. In particular, the Information System “Energy Vulnerability” (SIVE), managed within the institutional framework of the Ministry of Labour and Social Protection, may use the CLC as a stable reference for identifying and validating the place of consumption declared or associated with a household benefiting from energy-related social-protection measures.

Through authorised interoperability services, including the Government Interoperability Platform (MConnect), social-protection information systems may verify the existence and validity of a CLC and access those structural attributes of the corresponding

place of consumption that are necessary for the respective legally established process. Such attributes may include, where appropriate, the status of the place of consumption, the relevant network operator reference and other structural information available under the approved access model.

The use of the CLC as a common reference may reduce the need to correlate information exclusively on the basis of addresses, metering references or other identifiers maintained independently by different participants. In this manner, the RNLC may support more reliable correlation between the place of consumption declared within a social-protection process and the corresponding records maintained by authorised energy-sector participants.

Where legally and functionally justified, the use of the CLC may also support the application of the once-only principle in energy-vulnerability and related social-protection processes. Information concerning the place of consumption that is already available from authoritative sources may be validated or pre-filled through interoperability mechanisms, thereby reducing the need for applicants or beneficiaries to repeatedly provide the same structural information. Such mechanisms shall be implemented without transferring beneficiary, income, eligibility or compensation data to the RNLC and shall remain subject to the applicable legal basis, access rights and data-protection requirements.

The RNLC shall not determine eligibility for social benefits or calculate the amount of compensation. Such functions shall remain within SIVE and other competent social-protection information systems, in accordance with the applicable regulatory framework. Likewise, the RNLC shall not store information concerning household income, social status, composition of the household, compensation amounts or other data used for determining social-protection entitlements.

Personal data relating to applicants and beneficiaries shall remain under the responsibility of the competent social-protection information systems and other authorised data holders. Energy-consumption and billing data shall remain within the information systems of the competent energy-market participants. The RNLC shall maintain only the structural data and reference relationships necessary for the identification and validation of the place of consumption.

The same interoperability model may subsequently support other social-protection mechanisms addressed to vulnerable or energy-poor consumers, where the reliable identification of the place of consumption is required. Such use shall be implemented within the limits of the applicable social-protection, energy-market, interoperability and personal-data-protection framework.

3.5 Phased development of interoperability services

The development of RNLC interoperability services shall follow a phased and proportionate approach. During the initial implementation phase, interoperability shall focus primarily on the validation and use of the CLC as the common reference identifier of the place of consumption, the exchange of structural data, lifecycle-related notifications and other services necessary for the reliable identification and maintenance of places of consumption.

The initial interoperability layer shall therefore support functions such as CLC validation, confirmation of relevant structural attributes, registration and status-change

notifications, controlled updating of authorised data and correlation of the CLC with references maintained by competent participants.

More advanced energy-data services, including access to granular or near-real-time metering data, consumption-history services, consumer-authorised data sharing, flexibility-related datasets and other advanced market-data services, shall not form part of the core RNLC functionality. Such services may be developed subsequently through specialised information systems and sectoral data-exchange infrastructures, particularly as Advanced Metering Infrastructure (AMI), Head-End Systems (HES), Meter Data Management Systems (MDMS) and other relevant digital infrastructures are progressively implemented.

The CLC may be used as the common reference identifier linking such specialised services to the corresponding place of consumption. This approach ensures that the identification and reference layer is established and stabilised before more complex data-exchange services are introduced, while preserving the possibility of subsequent integration with advanced energy-market and smart-metering infrastructures.

The gradual development of such services shall not alter the fundamental role of the RNLC as the national reference register of places of consumption. Metering data, consumption histories, consumer consent records, flexibility data and other specialised operational or commercial datasets shall remain under the responsibility of the competent information systems and data holders.

3.6 Access management and system administration

Access to the RNLC and the administration of the system is based on the principles of legality, necessity, proportionality, security and traceability. The access model must ensure the differentiated use of the data and functionalities of the system, depending on the institutional role of the actor, its functional competences and the legitimate purpose of the use. At the same time, the management of the RNLC must ensure the continuous operation, data integrity, infrastructure security and audit capacity over the operations carried out in the system.

3.6.1. General principles on access

Access to the RNLC is granted in a differentiated manner, based on the roles and rights associated with each category of users. The granting of access must comply with at least the following principles:

- access shall be granted only to the extent necessary for the exercise of legal or functional duties;
- Users can only access those data and functionalities that correspond to their role;
- access rights must be reviewable, limited and revocable;
- any access and any relevant operation must be logged;
- Access to sensitive data or critical functionalities must be subject to additional control and security measures.

3.6.2. Access levels

The RNLC will implement a role-based access model, which may include, where appropriate, the following levels:

- strategic level, intended for the policy authority, for visualizing aggregate indicators, monitoring implementation and consulting the information necessary for strategic coordination;
- regulatory and analysis level, intended for the regulatory authority and other authorized entities, for access to data and reports necessary for monitoring, surveillance, analysis and control activities, within the limits of legal competences;
- operational level of administration, intended for the RNLC Operator, for the complete administration of the register, records management, manual validation, data reconciliation, role management and the exercise of operational support and control functions;
- sectoral operational level, intended for network operators and other authorised participants, for the transmission and consultation of data related to their competences;
- functional usage level, intended for providers and other direct institutional users, for querying, validating and initiating the flows allowed by the system;
- limited public end-user level for restricted verification of structural data that can be exposed through public services such as CLC Finder.

The detailed model of roles and rights will be set out in the RNLC's operating rules and technical specifications of the system.

3.6.3. Authentication and authorisation

Authorized users' access to the RNLC will be through authentication mechanisms that comply with the government architecture and applicable security requirements. In this regard, for access by internal and institutional users, it is recommended to use the Government Authentication and Access Control Service (MPass), and for roles with a critical impact on data or system operation, additional measures will be applied, including multi-factor authentication, where necessary.

The authorization in the system will be carried out based on the assigned roles, the user profile and the access rules established by the RNLC Operator, in compliance with the institutional competences and approved policies.

3.6.4. Access and operations logging

All relevant accesses and operations carried out in the RNLC must be logged in such a way as to ensure traceability, auditability and the possibility of ex-post verification of the activities carried out in the system.

Logging must allow the identification of:

- the user or system that performed the operation;
- the date and time of access;
- the type of operation performed;
- the record or dataset concerned;
- the outcome of the operation;
- the possible operational or procedural basis of the intervention.

To the extent of the applicability of the government architecture, the logging of operations will correlate with the use of the government service MLog or other compatible audit and monitoring mechanisms.

3.6.5. Operational administration of the system

The operational administration of the RNLC is the responsibility of the RNLC Operator and includes the activities necessary to maintain the correct functioning of the register from the perspective of data, users and operational flows.

This includes, where appropriate:

- records management and data quality oversight;
- management of manual validations and exceptional cases;
- solving functional incidents and user requests;
- Managing access roles and rights;
- management of rectification, reconciliation and archiving flows;
- maintaining operational documentation and rules of use;
- monitoring compliance with operating procedures and rules.

3.6.6. Technical administration of the system

The technical administration of the RNLC includes the totality of the activities necessary to maintain the operation of the software and hardware infrastructure on which the system operates.

It may be provided by the RNLC Operator or, as the case may be, by a designated technical administrator, under the conditions established by the applicable acts and arrangements, and includes:

- monitoring system performance and availability;
- maintenance of the application and infrastructure;
- implementation of approved technical updates;
- managing data backup and recovery;
- application of infrastructure and application security measures;
- management of vulnerabilities and technical incidents;
- ensuring operational continuity and restoration of services in the event of a major incident.

The Technical Administrator may not modify the data model, governance rules or access rights outside the limits approved by the RNLC Operator and the applicable regulatory framework.

3.6.7. Delineation of operational, technical and legal responsibilities

The functioning of the RNLC is based on the clear delineation of responsibilities between the RNLC Operator, the Technical Administrator, the data providers, authorised users and the authorities with a strategic coordination or regulatory role. This delimitation is necessary to avoid overlapping attributions, prevent unauthorized data interventions, and ensure clear accountability in the event of incidents, errors, or non-compliances.

The RNLC operator is the entity institutionally and operationally responsible for the administration of the RNLC as a state information resource, within the limits of the applicable regulatory framework. The RNLC operator is responsible for the governance of the data in the registry, the application of validation and reconciliation rules, the administration of access rights, the logging of operations, the maintenance of traceability, the management of functional incidents, the operational relationship with authorized users and ensuring the continuity of the operation of the system.

The technical administrator, if appointed by the beneficiary or contracted, exercises technical responsibilities limited to the maintenance, operation, monitoring, technical security, backup, restoration and technical support of the RNLC infrastructure and system. The Technical Administrator shall act within the limits of the mandate granted by the RNLC Operator and the applicable contract or designation order. The Technical Administrator shall not decide on the data policies, validate the content of the records, establish access rights, modify the data model, validation rules, business rules or structural data of the RNLC without the express approval of the RNLC Operator.

Responsibility for the correctness, timeliness and legality of the data transmitted to the RNLC lies with the data provider in accordance with its legal and functional competences. Network operators are responsible for the technical data related to the consumption sites they provide or update.

Responsibility for the security of the RNLC is exercised at levels. The RNLC operator is responsible for establishing, enforcing and monitoring organisational and functional security requirements, for managing access and for managing incidents at registry level. The technical administrator is responsible for implementing technical security measures, monitoring the infrastructure, fixing technical vulnerabilities, making backups and restoring services, within the limits of the mandate granted. Authorized users and integrated systems are responsible for the security of their own systems, accounts, interfaces and internal processes for the use of RNLC data.

In the event of cyber incidents, major technical incidents, unauthorized access, loss of service availability or compromise of data integrity, the Technical Administrator has the obligation to immediately inform the RNLC Operator and to take the urgent technical measures necessary to limit the impact. The RNLC operator coordinates the management of the incident, decides on the necessary operational measures, ensures the notification of the affected actors and informs the competent authorities, under the conditions of the law and approved procedures.

Integration errors are handled according to their source. The RNLC operator is responsible for the correctness of the functioning of the services, interfaces and validation rules made available by the RNLC. The integrated participant is responsible for the correct implementation of the integration in its own system, for the quality of the transmitted data and for the use of the RNLC services in accordance with the approved technical specifications and operational rules. The identified errors are documented, analyzed and corrected through controlled procedures, with the preservation of the history and traceability of the interventions.

The continuity of the RNLC service is ensured by the RNLC Operator, with the support of the Technical Administrator, as the case may be. The RNLC Operator establishes the requirements for availability, continuity, backup, restoration and recovery in the event of a

disaster, and the Technical Administrator implements and operates the technical measures necessary to comply with these requirements.

The operational relationship with authorities, network operators, energy suppliers, institutional users and end-users is managed by the RNLC Operator. The Technical Administrator may provide technical support only under the conditions established by the RNLC Operator and without substituting its role in the institutional, operational or legal relationship with the RNLC users.

The Ministry of Energy exercises the role of public policy and strategic coordination authority and is not responsible for the day-to-day operation of the RNLC, the individual validation of consumption sites, the technical administration, the granting of access, the modification of records or the resolution of individual operational incidents. The Ministry of Energy receives reports, indicators, strategic alerts and aggregated information necessary for the exercise of its public policy and strategic monitoring duties.

3.6.8. Security and business continuity

The RNLC will be managed as a sectoral digital infrastructure with high requirements for security, availability, integrity and traceability, commensurate with its role in the energy ecosystem.

Security measures will include at least:

- encryption of communications between RNLC and integrated systems;
- encryption of sensitive data or data at risk of re-identification, at rest;
- controlled management of cryptographic keys;
- Differentiated authentication and authorization by roles;
- Multi-factor authentication for privileged roles;
- complete logging of access and operations;
- segregation of development, testing and production environments;
- Periodic vulnerability scans and pre-release security testing;
- monitoring of security events;
- incident response procedures;
- periodic backup and restore testing;
- disaster continuity and recovery plan.

The legal status of critical infrastructure, if applicable, is to be established by the relevant regulatory framework. Until such a formal classification, the RNLC will be technically treated as a sectoral system with a high level of protection.

Mandatory minimum security levels, including minimum supported versions of cryptographic protocols, encryption algorithms, cryptographic key management and rotation rules, backup encryption, frequency and retention of backups, use of backup mechanisms protected against unauthorized modification, monitoring and alerting scenarios, security testing requirements, pre-release security audit, and periodic subsequent auditing shall be established through the RNLC's Technical Documentation, Security Policies and Operational Procedures.

3.6.9. User access management

The creation, modification, suspension and revocation of access rights must be carried out on the basis of controlled, documented and audited procedures. The RNLC operator shall ensure that access is granted only to authorised users and only for as long as such access is functionally or institutionally justified.

Mechanisms for regular review of access rights should also be provided, in particular for privileged, administrative roles or roles with an impact on critical data.

3.6.10. Demarcation between access and the right to change

Access to the RNLC does not equate to the right to modify the data. The right to submit or confirm changes to the data in the register is limited to those participants who have functional competence over the respective category of data and operate under the conditions of the validation and reconciliation rules established by the system.

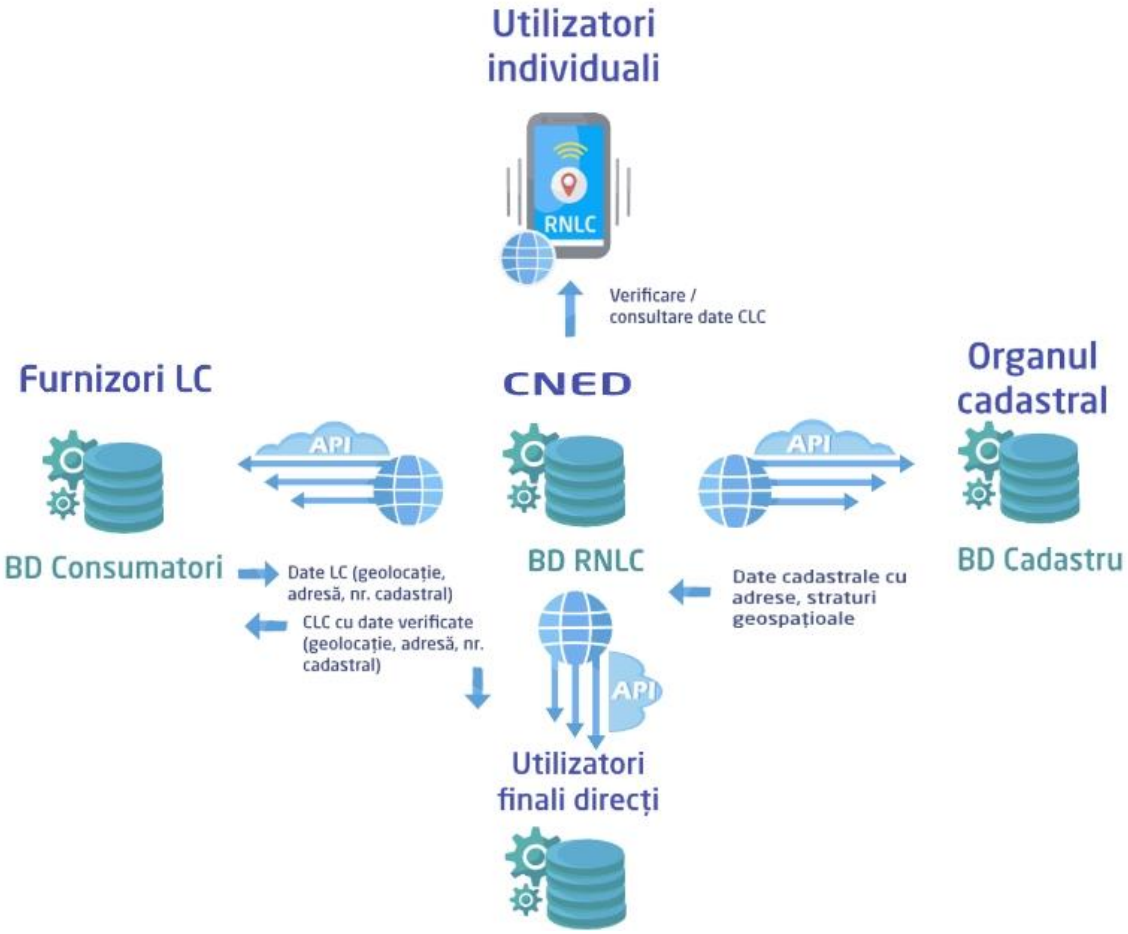


Figure 1. RNLC data flow diagram.

4 FORMATION OF THE UNIQUE CODE OF THE PLACE OF CONSUMPTION

4.1 Unique Code of the Place of Consumption

The Unique Place of Consumption Code (CLC) is the unique, non-reusable and permanent national identifier of each place of consumption registered in the RNLC.

The role of the CLC is to ensure the unique identification of the place of consumption within the energy ecosystem and to allow the use of a common reference by authorised participants in the processes of record-keeping, validation, interoperability and data exchange.

CLC has the following essential features:

- is unique at national level;
- it is non-reusable;
- it is non-transferable from one place of consumption to another;
- remains associated with the history of the place of consumption throughout the life of the registration;
- is used as a reference identifier in the information systems of the authorized participants.

The CLC does not replace other existing identifiers in the national registers, including cadastral identifiers or address data, but is a sectoral identifier dedicated to the place of consumption, used for unitary evidence and interoperability.

The assignment of the CLC is carried out exclusively through the RNLC, under the conditions of validation of the registration of the place of consumption and according to the training and administration rules established for the system.

By its nature, the CLC identifies the place of consumption as the structural object of the register and not the natural or legal person associated with it. The use of CLC in the operational processes of market participants does not alter its nature as an identifier of the place of consumption.

4.2 Structural model and argumentation of the codification of the Single Code of the Place of Consumption

The model for the formation of the Single Code of the Place of Consumption is designed to ensure a simple, stable, scalable and interoperable identification mechanism of places of consumption at national level.

CLC consists of 10 numeric characters, according to the model:

PPPPCCCCCV

where:

- **PPPP** is the regional code, based on the postal code or other official administrative identifier used in the approved model;
- **CCCCC** is the unique sequential number automatically generated by the system;
- **V** represents the control digit calculated by a validation algorithm.

Example of CLC: 4706010527

- 4706 – regional code;
- 01052 – unique sequential number;
- 7 – control digit.

The fixed numerical structure of the CLC is chosen to allow for easy integration into the existing IT systems of network operators, energy suppliers and other authorised

participants. Using a fixed-length numeric code simplifies the storage, validation, automated data exchange, and use of CLC in databases, APIs, operating systems, and front-office applications.

The regional component of the code has the role of classification and territorial analysis and allows the logical grouping of consumption places according to location. It facilitates the aggregation of data at the territorial level, statistical analysis and the use of CLC in processes that require regional segmentation. At the same time, the regional component does not affect the persistence of the identifier. The stability of the CLC takes precedence over any subsequent administrative, postal or territorial changes, so that a change of address, street renaming or other changes in context does not, as a rule, entail a change of the code already assigned.

The sequential component of the code is automatically generated by the system and has the role of ensuring the uniqueness of the identifier within the approved coding model. Automatic generation eliminates manual intervention in the attribution process and reduces the risk of errors, duplications, and mishandling of records.

The checkpoint is an additional validation mechanism designed to prevent input errors and quickly verify the correctness of code in systems using CLC. The exact algorithm for calculating the control digit is to be set out in the technical specifications of the system and cannot be changed without the formal approval of the change in the coding model.

The CLC is generated exclusively by the system, automatically, after the validation of the registration of the place of consumption. The generation process includes identifying the regional component, assigning the available sequential value, calculating the control digit, verifying the uniqueness and permanently registering the code in the RNLC. Manual CLC generation is not allowed.

The proposed model aims to strike a balance between simplicity of use, operational robustness, stability over time and compatibility with existing and future IT systems. Through this structure, the CLC becomes a standardised sectoral identifier, suitable for national use, interoperability and the further development of digital services in the energy field.

4.3 Legal regime of CLC

The Unique Code of the Place of Consumption has the legal regime of a unique, permanent and non-reusable sectoral identifier, assigned exclusively to a single place of consumption registered in the RNLC. Once assigned, the CLC remains permanently associated with the respective place of consumption and its history, under the conditions of this concept and the applicable regulatory framework.

4.3.1. Principle of stability

CLC does not ordinarily change as a result of changing circumstances outside the place of consumption, including:

- change of administrative address;
- street renaming;
- change of postcode or other territorial reference;
- change of the owner or user of the place of consumption;
- change of energy supplier;
- administrative-territorial reorganization;

– other changes in context that do not affect the identity of the place of consumption as the object of the record.

The stability of the CLC is necessary to ensure continuity of record, traceability of historical data, interoperability of information systems and the use of a persistent reference in operational and analytical processes related to the energy sector.

4.3.2. Principle of non-transferability and non-reuse

CLC is non-transferable and cannot be reallocated to another place of consumption. The code assigned to a place of consumption cannot be used for another location, even if the original place of consumption becomes inactive, is demolished, decommissioned or ceases to be operational use.

The archived or inactive CLC remains permanently reserved for the history of the record for which it was generated and cannot be reused to generate a new record. This principle is essential to preserve the integrity of the register and to avoid confusion between historical and new records.

If a place of consumption ceases to exist or loses its character as an active object of the record, the related registration may be rendered inactive and, where appropriate, archived.

This situation may occur, by way of example, in the case of:

– the definitive demolition of the building;
– physical disappearance of the place of consumption;
– the deletion or permanent cessation of the use of the location as an eligible place of consumption;
– other cases provided for by the RNLC's operating rules.
– In such cases:
– CLC does not erase;
– CLC is not reused;
– the record remains kept for historical record, audit, analysis and traceability purposes;
– access to archived data is carried out in a controlled regime, according to the applicable access rules.

If, subsequently, in the same location or in connection with the same administrative address, a new place of consumption appears separately, a new CLC is assigned to it, without automatically reactivating the previous code.

4.3.4. Rectification and exceptional amendment of the CLC

The amendment, replacement or cancellation of an already assigned CLC is permitted only in exceptional, justified and documented situations where maintaining the existing code would seriously affect the integrity of the register or the accuracy of the record.

Such situations may include, as appropriate:

– major systemic error demonstrated in the generation or attribution process;
– confirmed duplication of a CLC under conditions that cannot be remedied by other means;
– serious erroneous association between the code and the place of consumption, demonstrated on the basis of official verifications;

- the execution of a court decision or a binding administrative act;
- other exceptional situations provided for by the regulatory framework or by the approved rules of operation of the RNLC.

The decision on the exceptional amendment of a CLC cannot be taken automatically and cannot result from the mere updating of the current registration data. Such a decision shall be taken by the RNLC Operator, on the basis of a documented procedure, with full preservation of the history of the operation and, where applicable, with the notification of the competent authority or the participants concerned.

4.3.5. Legal-functional effects of CLC

The CLC produces effects within the RNLC and the participating systems exclusively as a reference identifier of the place of consumption. The existence, modification of the statutes, archiving or rectification of a CLC does not, in itself, produce effects on property relations, on rights in rem, on contractual relationships or on other legal situations regulated by other systems or registers.

The CLC does not confer or substitute legal rights over the asset, location or provision of the energy service, but serves exclusively as a tool for unique identification, evidence and interoperability.

4.3.6. Use

The CLC can be used by authorised participants and, within the limits set by access policies and available public services, can also be verified by end-users against structural data associated with the place of consumption.

The regime for the use of the CLC must comply with the rules established by the RNLC, without allowing the code to be altered, unauthorised to be reassigned or used outside of the purposes compatible with the nature and function of the register.

4.3.7. CLC integrity check

The CLC is generated exclusively automatically by the RNLC, based on the rules approved by the formation and only after the validation of the eligibility of the place of consumption. Manual CLC generation is not allowed.

The CLC field is unchangeable manually in the admin interface and cannot be overridden via API services. Any exceptional cancellation, replacement or rectification of a CLC is carried out only by controlled procedure, with documented justification, approval by the RNLC Operator and complete preservation of the history of the operation.

Prior to the transmission of the CLC to the participants' systems, the RNLC will automatically validate at least:

- uniqueness of the code;
- the correctness of the control figure;
- association of the code with a single place of consumption;
- the status of the registration;
- the absence of active conflicts or suspicions of duplication.

The CLC for an unvalidated, blocked, duplicate or clarifying record may not be used in the operational exchange of data, except for clearly delineated technical test flows.

All operations regarding the generation, activation, inactivation, archiving, cancellation or rectification of the CLC shall be fully recorded, indicating the time, source, initiating user or system, the operational basis and the result of the operation.

4.4 Optimization and development of the CLC system

The Single Code System of the Place of Consumption is designed as a stable and persistent identification mechanism, but also as a mechanism capable of evolving over time, depending on the operational needs of the energy sector, the development of the national digital infrastructure, the extension of interoperability and the lessons learned in the process of operating the RNLC.

The optimization and development of the CLC system must aim to improve the functioning of the registry, the quality of the data, the integration with the participants' systems and the efficiency of the administration processes, without compromising the fundamental principles of the CLC, namely uniqueness, non-reusability, stability and traceability.

4.4.1. Areas of optimisation

Within the operation of the RNLC, the RNLC Operator may initiate and implement optimization measures aimed at, as the case may be:

- improving validation and deduplication rules;
- improving the mechanisms for reconciling data from different sources;
- optimization of processing and updating workflows of records;
- the development of querying, notification and interoperability services;
- improving management and monitoring tools;
- extension of technical documentation and integration guides for participants;
- improvement of public verification tools, including CLC Finder services;
- increasing the performance, scalability and security of the mechanisms associated with the CLC system.

These optimisations can be made to the extent that they do not alter the legal-functional nature of the CLC and do not affect the compatibility of the use of the codes already assigned.

4.4.2. Principle of compatibility and continuity

Any development of the CLC system must comply with the principle of compatibility with existing registrations and systems that already use the codes generated by the RNLC.

In this regard:

- Codes that have already been assigned remain valid and usable.
- procedural or technical changes must not affect the stability of existing references;
- interoperability with participants' systems must be maintained throughout the evolution of the system;
- Implemented changes must be managed in such a way as to avoid unnecessary disruption to operational processes.

The development of the CLC system must follow the principle of functional continuity, so that extensions and optimizations are carried out incrementally and controlled, without generating uncertainty regarding the validity of the codes already used.

4.4.3. Limits of optimization

The RNLC operator may adjust operational rules, technical procedures and management mechanisms to the extent that they relate to the day-to-day operation of the system and to the improvement of the quality of services.

The essential elements of the CLC system, including:

- the nature of the CLC as a unique, permanent and non-reusable identifier;
- the fundamental rules regarding the association of a CLC with a single place of consumption;
- the principles of stability, non-transferability and non-reuse;
- the structural coding model, to the extent that its modification affects the overall logic of the code or the compatibility of the system;
- the rules on the effects of exceptional inactivation, archiving and rectification.

4.4.4. Amendments requiring formal approval

Any structural changes to the CLC model, its basic rules or essential operating principles require formal approval, in accordance with the regulatory and governance framework applicable to the RNLC.

This category includes, as the case may be:

- changing the structure of the code;
- modifying the rules for forming code components;
- changing the control algorithm if it affects compatibility;
- the modification of the legal regime of the CLC;
- extending the model beyond its function as an identifier of the place of consumption;
- other changes that have significant effects on system participants or on the use of CLC in operational processes.

Such changes must be preceded by an impact assessment, consultation of relevant participants, updating of the technical documentation and, where appropriate, adjustment of the regulatory framework.

4.4.5. Further development of the CLC ecosystem

In the medium and long term, the CLC system can be the basis for the expansion of digital services and processes associated with the place of consumption, including for:

- more advanced integration with smart metering systems;
- developing automated data exchange flows between market participants;
- validation and verification services used by other authorised actors;
- territorial and operational analyses based on standardised data;
- controlled reuse of the CLC reference in other public or private services compatible with the nature of the system.

However, that development must be carried out without altering the basic purpose of the CLC and without transforming the RNLC into a register which goes beyond its main purpose of recording and identifying the places of consumption.

4.5 Integration of CLC into participant systems

In order to take full advantage of the RNLC mechanism, the authorized participants in the energy ecosystem are to integrate the CLC into their own information systems, as a reference identifier of the place of consumption.

The integration of CLCs into participants' systems aims to use a common reference in operational, administrative and data exchange processes, reduce inconsistencies between records managed by different actors and create the conditions for interoperability and automation.

To this end, relevant participants shall ensure, where appropriate:

- the inclusion of the CLC field in its own record systems;
- the use of CLC in processes involving the identification of the place of consumption;
- adapting the data exchange interfaces to the approved integration model;
- correlation of existing references with CLC, under the conditions of the established migration and validation rules.

The RNLC operator will provide participants with the integration documentation, operational rules, technical specifications and, where applicable, the environments necessary for testing the integration.

The integration of CLC into participants' systems does not change their responsibility for their own internal records and systems, but introduces a common reference that facilitates interoperability and data consistency at sectoral level.

4.6 The role of CLC in the digital ecosystem

The CLC is the central reference element for the unique identification of the place of consumption within the digital ecosystem of the energy sector.

Through its uniform use by authorized participants, CLC allows:

- matching data from different systems;
- use of a common reference in interoperability processes;
- reducing duplication and identification inconsistencies;
- supporting the development of digital services based on standardised data;
- creating the premises for the expansion of digital functionalities in the energy sector.

In this respect, the CLC is not just a technical code of record, but a structural element of the sectoral digital infrastructure, which allows the standardization of the identification of the place of consumption and supports the coherent development of the digital services and processes associated with it.

The CLC shall also provide a common cross-sector reference for digital processes that require the reliable identification of the same place of consumption across different information systems. In this capacity, the CLC may serve as the reference key linking energy-

market processes, building and energy-efficiency information, and social-protection mechanisms associated with a place of consumption.

In energy-market processes, the CLC may be used as a stable reference for supplier switching, correlation with metering references, authorised access to consumption-related services and other regulated data-exchange processes. The CLC itself shall not replace metering-point identifiers, contractual identifiers or other operational references maintained by market participants.

In the field of energy efficiency and building performance, the CLC may be used by SINEE, SIME, SIEEC and other specialised systems to associate energy-related information with the corresponding place of consumption and, where applicable, with the relevant building or building unit.

In social-protection processes, the CLC may provide a stable reference for validating the place of consumption associated with a beneficiary or household, including within energy-vulnerability and other energy-related social-protection mechanisms, without transferring personal, income, consumption or benefit-related data into the RNLC.

Through this common reference model, the RNLC may support interoperability between market, energy-efficiency and social-protection systems while maintaining a clear separation of responsibilities and datasets. Metering data, consumption histories, contractual information, building-performance data and personal or social-protection data shall remain within the competent information systems and under the responsibility of the respective data holders.

The development of these uses shall not alter the fundamental nature of the CLC as the unique identifier of the place of consumption or transform the RNLC into a central repository of market, metering, building-performance or personal data.

4.7 RNLC role in the future PNME architecture

The National Energy Management Platform (PNME) and the National Register of Places of Consumption form complementary components of the future digital energy ecosystem of the Republic of Moldova. While the RNLC provides the national reference mechanism for the unique identification of places of consumption through the CLC, the PNME is envisaged as a specialised platform supporting the collection, correlation, analysis, monitoring and reporting of energy-sector data.

Within this architecture, the CLC may serve as the common reference identifier enabling energy data processed by the PNME to be reliably associated with the corresponding place of consumption. The use of the CLC as a common reference shall support consistency between the PNME and other sectoral information systems and reduce the risk of parallel or incompatible mechanisms for identifying places of consumption.

The PNME shall not duplicate the RNLC database or assume the functions related to the generation, administration, validation or lifecycle management of the CLC. Where information concerning places of consumption is required by the PNME, the relevant CLC references and structural attributes shall be obtained from the RNLC through authorised interoperability mechanisms, including the Government Interoperability Platform (MConnect), in accordance with the applicable legal, technical and data-governance framework.

Conversely, energy production, consumption, metering, analytical, forecasting or other specialised datasets managed or processed within the PNME shall not become basic data of the RNLC. The RNLC shall remain responsible for the structural identification of places of consumption, while the PNME and other specialised systems shall remain responsible for the datasets and analytical functions falling within their respective mandates.

As smart metering and other digital energy infrastructures are progressively deployed, the CLC may provide the stable reference necessary to correlate granular energy data and analytical services with the corresponding place of consumption. The detailed architecture, data flows, analytical functions and technical integration model of the PNME shall be established separately within the regulatory, conceptual and technical documentation governing that platform.

This separation of functions allows the RNLC to act as the stable identity and reference layer of the consumption-side energy data ecosystem, while the PNME may develop as a specialised analytical and monitoring layer, without unnecessary duplication of data or institutional responsibilities.

5 PUBLIC VERIFICATION SERVICE – CLC FINDER

5.1 General provisions and objectives

CLC Finder is the public electronic service for the verification and limited consultation of structural data related to consumption places registered in the RNLC. The service is established in order to ensure transparency, accessibility and correct use of the Unique Code of the Place of Consumption by users, authorized participants and other interested persons, within the limits of the applicable regulatory framework.

CLC Finder is informative and validating in nature and does not replace primary registers, official documents, extracts or confirmations issued according to the law by the competent authorities or entities.

The main objectives of CLC Finder are:

- verification of the existence of a CLC;
- validation of the correctness of a CLC;
- identification of the CLC related to a location, within the limits of publishable data;
- facilitating the uniform use of CLC in administrative and operational processes;
- increasing transparency and trust in the RNLC mechanism;
- reduction of code usage errors and repetitive administrative requests to the RNLC Operator.

5.2 Main functionalities

CLC Finder will provide users with public functionalities for verification and limited identification of structural data related to consumption places, under the conditions established by the RNLC Operator.

The service may include, as appropriate, the following functionalities:

- verification of the existence of a CLC entered by the user;
- automatic validation of the code structure and control digit;

- display of a limited public result on the existence and validity of the CLC;
- displaying a general location, at the level of an approximate locality or area, to the extent that this is legally and proportionately justified;
- Access to detailed data only for authorized users, based on authentication, assigned role, and legitimate purpose of the query.

In the case of the CLC search, the system may display, as appropriate, data such as the status of the registration, the official address and other structural data that can be legally and proportionately published. When searching by address or selecting on the map, the system can identify the associated CLC and display a limited set of location reference data. The display of the position on the map must be carried out in a manner appropriate to the purpose of the service, without exceeding the level of accuracy justified by its public nature.

5.3 Display data regime

CLC Finder displays only structural data related to the place of consumption, insofar as these data are necessary for the validation and identification of the code and can be made public under the law, in compliance with the principles of minimization, proportionality and prevention of unjustified indirect identification.

For public users, the data displayed through CLC Finder is typically limited to:

- confirmation of the existence or non-existence of CLC;
- confirmation of the structural validity of the code;
- the approximate locality or area related to the place of consumption, if its display is legally and proportionately justified;
- partial, masked or generalized address, to the extent strictly necessary to confirm the correctness of the CLC.

CLC Finder will not display publicly:

- personal data;
- name of the owner or user of the place of consumption;
- contractual information;
- consumption data;
- billing information;
- the exact full address;
- precise geolocation;
- complete cadastral reference;
- detailed technical status;
- detailed data about the network operator;
- other data which, individually or by correlation, may allow for unjustified indirect identification of the person or location profiling

The data displayed through the CLC Finder will be limited to the information strictly necessary to verify the existence and validity of the CLC. The service must not allow the

unjustified indirect identification of the person associated with a place of consumption, nor the massive extraction of data on places of consumption.

The detailed data can only be accessed by authorized users, including network operators, suppliers, ANRE or other authorized institutions, based on a differentiated access level, established according to the role, legal competence and legitimate purpose of the query. Access to this data is achieved through authenticated and authorized services, with the logging of queries and the application of the measures of full reproduction subchapter 5/protection against misuse.

Access to detailed data through CLC Finder or associated APIs will only be allowed to authorized users, based on a legitimate purpose, with authentication, query throttling, logging, and anti-abuse measures.

5.4 Legal regime and data protection

CLC Finder operates in accordance with data protection legislation, access to information of public interest, legal reuse of data and security of information systems.

The service is based on the principle of data minimization, according to which only that information strictly necessary for the verification and structural identification of the place of consumption is displayed. The use of the service must not allow the unjustified deduction or extraction of information on persons, contractual relationships or the consumption profile of the location.

In this regard, the RNLC Operator will implement appropriate measures, including:

- Limiting public queries;
- anti-abuse and anti-robot measures;
- logging public access, to the extent necessary;
- restricting or limiting automated access to data;
- policies to protect against unauthorized mass data mining.

CLC Finder is informative in nature and does not produce, by itself, constitutive, translational or evidentiary legal effects equivalent to official documents issued by the competent authorities.

5.5 Method of access

CLC Finder will be available as an electronic public service accessible in one or more of the following ways:

- on the official website of the RNLC Operator;
- through a dedicated field;
- through integration with the public services portal;
- through a public API strictly limited to the validation of the CLC structure and the control digit, without confirming the actual existence of the place of consumption and without returning the location data or other attributes of the record.

Queries that confirm the actual existence of a CLC in the RNLC or that return data about the place of consumption will not be available via the anonymous public API. They will only be accessible through authenticated and authorised services, with the application of

measures to protect against abuse, including limiting the frequency of queries, usage quotas, logging, anti-automation mechanisms, detection of abnormal behaviour and blocking suspicious queries.

The service is free for users, in its basic public form. The RNLC operator may establish additional rules regarding the frequency of queries, the method of automated access, the registration of institutional users or other technical measures necessary for the correct and safe functioning of the service.

Concrete technical measures regarding API protection, query limiting, logging, abuse detection and access control will be detailed in the RNLC's Tender Specifications, technical documentation and operational policies.

5.6 Strategic role

CLC Finder contributes to strengthening the use of CLC as an official reference identifier of the place of consumption and supports its uniform adoption in the digital energy ecosystem.

By its nature, the service:

- reinforces the official and recognisable character of the CLC;
- Reduces code entry and usage errors.
- Makes it easy to quickly check the correspondence between the code and the location.
- supports the integration of CLCs into compatible administrative and business processes;
- increases the transparency of the RNLC mechanism;
- reduces the administrative pressure on the RNLC Operator by providing a public self-service tool.

CLC Finder also serves as the RNLC's trusted public interface, contributing to the acceptance and practical use of the unique identification mechanism of consumption locations.

5.7 Possible extensions (next step)

In the later stages of development, CLC Finder may be extended with additional functionalities, insofar as they are functionally justified, compatible with the nature of the service and permitted by the applicable regulatory framework.

Such extensions may include, as appropriate:

- generating an electronic confirmation of the existence and validity of the CLC;
- integration with other relevant public registers and services;
- notifications of changes in the status of a registration for authorized users;
- automatic verification mechanisms for financial institutions, notaries or other authorised entities;
- additional services for institutional users, in differentiated access regime.

Any extension must comply with the same principles of data minimisation, proportionality, security and clear demarcation with respect to personal and contractual data.

6. INTERNATIONAL EXPERIENCE ON THE UNIQUE IDENTIFICATION OF PLACES OF CONSUMPTION

The concept of centralized register or national mechanism for the unique identification of energy consumption points is not specific only to the Republic of Moldova. In most developed energy markets, similar institutional or technical mechanisms exist that allow for the unique identification of consumption points or measurement points and underpin the interoperability of energy systems.

These mechanisms are essential for the functioning of liberalised energy markets, for the automation of data exchange between market participants and for the development of smart metering infrastructures and smart grids.

In different jurisdictions, these systems are implemented under different names and institutional architectures, but they pursue the same fundamental objectives of single identification of the place of consumption or the measurement point, interoperability of market participants' information systems, facilitation of supplier switching, aggregation of energy data at national level, support for public policies and energy analysis.

6.1 European Union – interoperability, unique identification and national energy-data exchange models

The European Union energy-market framework increasingly relies on the consistent identification of energy-sector objects and market participants, together with standardised and interoperable mechanisms for the exchange of energy data. Stable identifiers constitute an important prerequisite for the reliable correlation of information exchanged between network operators, suppliers, market operators, metering systems, public authorities and other authorised participants.

Directive (EU) 2019/944 and Commission Implementing Regulation (EU) 2023/1162 establish requirements concerning interoperability and transparent and non-discriminatory access to electricity metering and consumption data. The reference model established by Regulation (EU) 2023/1162 distinguishes several layers of interoperability, including the business, function, information, communication and component layers, while allowing Member States to implement the communication and technical components in accordance with their national architectures and practices.

At the information-model level, European energy-sector interoperability relies extensively on standardised semantic models, including the Common Information Model (CIM) developed within the IEC 61968 and IEC 61970 families of standards. CIM provides a common representation of energy-system objects and their relationships and facilitates information exchange and integration between independently developed information systems. In particular, IEC 61968-9 addresses information exchanges involving metering systems and Meter Data Management systems and supports processes such as meter reading, meter events, customer-data synchronisation and customer switching.

European energy-data architectures therefore distinguish and consistently identify different categories of objects and actors which may include, depending on the respective national and technical implementation:

- metering points and connection references;
- places or premises associated with energy consumption;
- metering devices;

- network assets and infrastructure;
- market participants and their respective roles;
- other technical or market objects necessary for automated data exchange.

At European market level, the Energy Identification Coding (EIC) scheme maintained within ENTSO-E provides a harmonised mechanism for the identification of parties and objects relevant to the Internal Energy Market and supports standardised electronic data interchange. The EIC does not constitute a uniform identifier of retail places of consumption, but illustrates the broader European principle of using stable and commonly understood identifiers for interoperable market processes.

The European framework does not prescribe a single uniform identifier or a single central technical architecture for all retail places of consumption. Member States have adopted different national arrangements, including connection registers, metering-point registers, energy data hubs, central market systems and standardised data-exchange infrastructures. Regulation (EU) 2023/1162 itself recognises the existence of different national practices and allows national implementation choices at the communication and component layers.

The following national examples illustrate several approaches that are particularly relevant for the future development of the RNLC and the wider energy-data ecosystem of the Republic of Moldova.

The Netherlands – EDSN

In the Netherlands, Energie Data Services Nederland (EDSN) develops and operates common digital services supporting the electricity and gas markets. One of the central components is the Central Connections Register (Centraal Aansluitingenregister – C-AR), which contains data relating to electricity and gas connections throughout the Netherlands. The connection register provides the common administrative basis for relevant market processes, including supplier-switching and relocation processes.

The Dutch architecture extends beyond the connection register. EDSN also provides central services for allocation, reconciliation and metering data through C-ARM, as well as metering-data services through which authorised parties may obtain meter readings and consumption information. This demonstrates how a stable connection-reference layer can operate together with specialised metering and market-data services without requiring all functions to be contained within the same logical register.

From the perspective of the RNLC, the Dutch model is particularly relevant because it illustrates the importance of maintaining a reliable common reference for the energy connection while allowing metering data, consumption information and specialised market processes to be handled through dedicated components and services.

Belgium – Atrias

In Belgium, Atrias is a joint initiative of the Belgian distribution system operators for electricity and natural gas and supports the operation of the liberalised energy market at distribution level. Atrias manages market-facilitation documentation and centrally operated digital infrastructure used by market participants for standardised information exchange.

The Atrias Central Market System (CMS) facilitates the exchange of standardised market messages between suppliers, balance responsible parties, distribution system operators and other relevant market actors. Market processes and their accompanying messages are defined through common sectoral specifications, including the UMIG framework.

An important feature of the Belgian model is that centralised information exchange does not necessarily entail centralisation of responsibility for the underlying source data. For several categories of sector data, the relevant distribution grid operators remain the owners and final responsible entities for the data.

This approach is relevant for the RNLC because it demonstrates that common digital infrastructure and standardised interoperability can coexist with distributed data responsibility. Similarly, the RNLC may provide the CLC and common reference services while network operators, suppliers and other competent participants remain responsible for the technical, metering, commercial and other specialised data falling within their respective competences.

Austria – EDA

Austria has developed the Energy Data Exchange (EDA) infrastructure as a standardised mechanism for electronic communication and energy-sector data exchange. The EDA initiative has provided a common communication technology for energy-market participants since 2012 and supports standardised processes for different categories of actors, including network operators, suppliers, energy service providers and energy communities.

Unlike a conventional central register, the Austrian model is primarily focused on standardised communication and process execution between participants. The infrastructure enables market actors to exchange information through agreed communication mechanisms without requiring all underlying information to be consolidated into a single central database.

EDA also supports controlled data-sharing processes. Energy service providers may, on the basis of the final customer's authorisation, receive energy data or master data held by the relevant network operator. This model combines standardised market roles, participant identifiers, access rules and interoperable processes with consent-based access to energy data.

For the RNLC, the Austrian model is particularly relevant to the subsequent development of interoperability services. The CLC may provide the stable reference identifier of the place of consumption, while specialised energy-data exchange, permission-management and other market processes may be implemented through separate interoperable systems and infrastructures.

Slovenia – national energy-data exchange and single-entry services

Slovenia has developed common mechanisms for electricity-sector information exchange and access to metering data. For suppliers, data exchange is supported through the CEEPS portal and through the single entry point of the national data hub (EVT-NPV), through which the distribution operator and the participating electricity distribution companies facilitate the exchange of information necessary for electricity-supply activities.

Slovenia also provides the Moj Elektro service as a unified access point for metering information. Final users can access their metering data irrespective of the electricity distribution area or supplier, and the service brings together the user's relevant metering points

within a common interface. It also supports access to detailed 15-minute metering data and enables users to grant access rights to authorised third parties.

The Slovenian architecture therefore demonstrates how a national data-exchange entry point, common management of metering-point references and specialised access to granular metering information can operate together. It also illustrates how the same digital ecosystem can support both market-participant data exchange and controlled access to data by final users or authorised third parties.

From the perspective of the Republic of Moldova, this model is relevant to the potential future interaction between the CLC reference layer, smart-metering infrastructure and specialised services for authorised access to energy data.

Relevance for the RNLC

The European examples demonstrate that there is no single institutional or technical model for the organisation of energy-data infrastructures. Some jurisdictions rely on central connection or metering-point registers combined with specialised market-data services, others operate central market platforms, national data hubs or standardised data-exchange infrastructures.

Despite these differences, a common architectural principle can be identified: reliable interoperability depends on stable identifiers and clearly governed reference data that enable information relating to the same energy-sector object to be correlated across different systems and processes. More advanced infrastructures may subsequently combine or interconnect these reference mechanisms with metering data, supplier-switching processes, allocation and reconciliation, consumer-authorised data access and other market functions. This conclusion is consistent with the layered interoperability approach established by Regulation (EU) 2023/1162.

For the Republic of Moldova, the CLC is intended to fulfil this national reference function for the place of consumption. The CLC shall provide a unique, stable and persistent reference that can be reused across interoperable sectoral information systems while remaining distinct from metering-device identifiers, contractual references, cadastral identifiers, market-participant identifiers and other specialised identifiers.

The RNLC should therefore establish the national reference layer for the identification of places of consumption without attempting to reproduce, during its initial implementation, all the functionalities of mature European energy-data hubs or central market systems. Metering data, consumption histories, contractual information, allocation and settlement data, consumer permissions and other specialised datasets shall remain within the information systems and infrastructures responsible for their management.

As the Moldovan energy sector progressively develops Advanced Metering Infrastructure, market-data services, the National Energy Management Platform, SINEE and other specialised digital solutions, the CLC may serve as the common reference enabling these systems to reliably associate their information with the corresponding place of consumption.

The European experience therefore supports a phased and modular approach in which the RNLC constitutes a foundational reference component of the wider national energy-data

ecosystem, while specialised systems remain responsible for metering, market, analytical, energy-efficiency, commercial and other domain-specific data and processes.

6.2 United Kingdom – MPAN and MPRN identifiers

A consolidated example of single point-of-consumption identification is being implemented in the United Kingdom.

Two main types of identifiers are used in the UK energy market:

1. MPAN – Meter Point Administration Number (for electricity);
2. MPRN – Meter Point Reference Number (for natural gas).

These codes uniquely identify each point of consumption and:

- are used in billing and switching processes;
- are integrated into the systems of distribution system operators and suppliers;
- allow interoperability between commercial and technical systems.

At the same time, the communication infrastructure for smart meters is managed by the Data Communications Company *(the company responsible for operating the national smart meter communication infrastructure in the United Kingdom. It has been appointed by the UK government to manage the network that enables the secure transmission of data between smart meters and energy market players.),* which manages the secure exchange of data between market participants.

The British model demonstrates the critical role of a unique point-of-consumption identifier for the efficient functioning of the energy market.

6.3 Nordic and Baltic countries – central registers of measuring points

The Nordic and Baltic countries have implemented advanced centralized systems for managing energy data and consumption points.

In these states there are unique national identifiers of measurement points, centralised registers of consumption places, national energy data hubs (Energy Data Hubs).

Relevant examples include:

- Denmark – DataHub, operated by Energinet;
- Finland – Datahub, operated by Fingrid;
- Norway – Elhub;
- Estonia – Estfeed Data Hub.
- These platforms centralise information on consumption points, suppliers and network operators and facilitate:
- automatic switching of provider;
- standardised data exchange;
- integration of smart meters;
- monitoring of the energy market.

The Nordic and Baltic examples also demonstrate that a stable and persistent identifier of the metering point or place of consumption provides the foundation for the development of broader digital energy-market services. In mature data-hub models, the common identifier is

used in conjunction with metering data, market-participant information, supplier-switching processes, access rights and other market-related data exchanges.

These models are functionally broader than the RNLC proposed for the Republic of Moldova. The RNLC is intended primarily to establish the national reference layer for the unique identification of places of consumption through the CLC and shall not, in its initial architecture, centralise granular metering data, contractual information or the full set of market processes implemented by mature European data hubs.

The development of the RNLC shall therefore not be regarded as a substitute for Advanced Metering Infrastructure or for specialised infrastructures used for the collection, management and exchange of metering data. Instead, the RNLC and the CLC shall provide the stable reference foundation on which such infrastructures and services may subsequently rely.

As smart metering and other sectoral digital infrastructures are progressively deployed, the CLC may be used to correlate places of consumption with metering-data services, supplier-switching processes, authorised energy-data access, analytical services and other advanced market functionalities implemented through specialised information systems.

In this sense, the RNLC represents a foundational component of the future energy-data ecosystem of the Republic of Moldova, while preserving a clear functional separation between the national reference register of places of consumption and specialised systems responsible for metering, market processes, commercial data and advanced energy-data services.

6.4 Australia – identifiers of consumption points in the energy market

In Australia, the Australian Energy Market *(the independent operator responsible for the administration and operation of the electricity and natural gas markets in Australia. The operator coordinates the operation of the national energy system and manages the National Electricity Market, one of the largest interconnected electricity markets in the world)* uses unique identifiers for consumption points and generation points.

These identifiers are used within the National Energy Market and allow:

- management of market transactions;
- energy billing;
- operational reporting;
- simulation and analysis of the energy system.

The unique identification of consumption points is a fundamental element of the digital infrastructure of the Australian energy market.

6.5 North America – Energy Location Identification Systems

In the United States and Canada there is no formal centralized administrative "register of places of consumption" similar to the RNLC, but there are robust systems for identifying energy locations used for reporting and analysis.

For example:

a. U.S. Energy Information Administration *(the United States federal agency for energy statistics, responsible for collecting, analyzing, and publishing data on energy production, consumption, distribution, and prices. The institution operates within the*

United States Department of Energy and provides official information to inform public policy, economic analysis, and decisions in the energy sector) uses unique codes for energy facilities, infrastructure, and industrial sites;

b. Canadian Centre for Energy Information *(Canada's national energy information platform, developed collaboratively by the federal government, Canadian provinces and territories to centralize and publish official data on the energy sector. The platform provides public access to information on production, consumption, energy infrastructure, prices and environmental impact)* integrates energy data from multiple sources using standardised identifiers of energy locations and assets.

These systems allow for the aggregation and analysis of energy data at national level and facilitate interoperability between different sectoral databases.

In conclusion, the analysis of international experience highlights the fact that the unique identification of consumption points or measurement points is standard practice in modern energy markets.

Although the names and institutional models differ, all these systems pursue the same objectives of single and persistent identification of consumption sites, interoperability of market participants' IT systems, automation of data exchange, support for business processes and regulators, basing strategic decisions on aggregated data.

6.6 Conclusions on the relevance of international experience for the RNLC

The analysis of international experience reveals that the use of unique identifiers for consumption points or metering points is a constant practice in modern energy markets and an essential element for the functioning of sectoral digital infrastructures. Although institutional models, names and technical architectures differ from jurisdiction to jurisdiction, they essentially pursue the same objectives: single and persistent identification of the place of consumption, interoperability between market participants, standardisation of data exchange, facilitation of business and operational processes, and strengthening analysis and regulatory capacity at system level.

The examples analysed demonstrate that the success of these mechanisms is consistently based on several common elements:

- the existence of a unique and stable identifier of the place of consumption or measuring point;
- the clear demarcation between the reference register and the commercial or contractual systems of the participants;
- the existence of an entity responsible for the administration of the registry or data exchange mechanism;
- the use of interoperable standards and services for the automated exchange of information;
- integration of the identifier into key sectoral processes, including switching suppliers, point-of-consumption validation and data aggregation.

For the Republic of Moldova, the international experience should not be interpreted as a model of full copying of a certain institutional or technical solution, but as a source of principles and good practices that must be adapted to the national context. Moldova's

specificity lies in the size of the market, the level of digital maturity of the energy sector, the institutional structure of the actors involved, the degree of availability of reference data and the existing framework of joint government platforms. Under these conditions, the RNLC model must be proportionate, phased and compatible both with the current needs of the energy market and with the real capacity to implement and manage the system.

The main lesson drawn from the experience of other States is that the unique identifier must primarily concern the place of consumption, as a structural object of record, and not transform the register into a primary system for the administration of contractual relations or personal data. Accordingly, the proposed model for the RNLC is appropriate insofar as it maintains this delineation and treats the CLC as a common sectoral reference for interoperability, recording and validation.

At the same time, international experience confirms that the effectiveness of such a mechanism depends not only on the existence of the single code, but also on its effective integration into the participants' systems, on the clarity of data governance rules, on the existence of standardized data exchange services and on the clear definition of institutional roles. From this perspective, the RNLC must be developed not as a simple code register, but as a reference digital infrastructure for the unique identification of places of consumption in the energy sector.

By establishing the RNLC, the Republic of Moldova aligns itself with the trends and good practices applied in modern energy markets, but the proposed solution remains one adapted to national realities. Its value lies not in the mechanical reproduction of external models, but in taking over those elements that can realistically support the development of a digital, interoperable, transparent and data-driven energy market.

7. SWOT ANALYSIS

The SWOT analysis highlights the internal and external factors relevant to the establishment and implementation of the National Register of Places of Consumption, with a focus on its role in the digitalization process of the energy sector in the Republic of Moldova.

7.1 Strengths

The establishment of the RNLC benefits from a favourable sectoral and institutional context, characterised by the existence of a general regulatory framework for the energy market, the gradual development of the government's digital infrastructure and the growing interest in data standardisation and interoperability in the energy sector.

Among the main strengths are:

- the existence of a general framework for the organisation of the energy market compatible with European models;
- the presence of government digital infrastructures and common platforms that can support the integration of the RNLC;
- the existence of an institutional and public policy basis for the digital transformation of the energy sector;
- the possibility of using a standardised unique identifier to eliminate inconsistencies between the records of market players;

- the potential of RNLC to increase interoperability, traceability and consistency of data related to places of consumption;
- the fact that the main investment in the common infrastructure can be assumed at public level, reducing the initial pressure on market participants.

7.2 Weaknesses

The main weaknesses associated with RNLC are less related to the concept of the system and more to the institutional and operational capacity required for its implementation and administration.

In this regard, it is noted:

- limited institutional capacity for the development and operation of complex information systems with multiple actors and data flows;
- the need to strengthen the organisational and technical competences of the entity that will exercise the function of RNLC Operator;
- possible quality mismatches in the data from the sources used in the formation and updating of the register;
- the need to adapt the participants' information systems to the new identification mechanism;
- the dependence of the effective functioning of the RNLC on the existence of clear data governance, validation and maintenance procedures.

7.3 Opportunities

The RNLC creates important opportunities both for the energy sector and for the wider development of digital services based on standardised and interoperable data.

Relevant opportunities include:

- capitalizing on the support of international partners for digitalization and increasing energy resilience;
- the use of RNLC as a reference infrastructure for the automation of processes between energy market actors;
- creating the premises for subsequent integration with smart metering, analytics and operational monitoring solutions;
- developing simpler and more reliable processes for identifying and validating consumption sites;
- the possibility of controlled re-use of CLC and related structural data in other compatible public or private services;
- better substantiation of public policies and intervention measures based on aggregated and correlated data.

The RNLC may also contribute to the development of a more competitive retail electricity market by providing a stable and commonly recognised identifier of the place of consumption. The consistent use of the CLC across market participants can facilitate supplier-switching processes, improve the consistency of information exchanged between operators and suppliers and support non-discriminatory access by authorised market participants to validated structural data concerning places of consumption.

By reducing the need for repeated reconciliation of addresses, metering references and other participant-specific identifiers, the CLC may support more efficient and standardised market processes while preserving the responsibility of each market participant for its own commercial, contractual and metering data.

7.4 Threats and vulnerabilities

The main threats and vulnerabilities do not result from the lack of relevance of the RNLC, but from the difficulty of coherent and sustained implementation of a multi-actor reform, regulatory adjustments and the integration of heterogeneous systems.

This category includes:

- delays in adopting the regulatory framework necessary for the full functioning of the RNLC;
- insufficient pace of implementation of related reforms in the energy sector and digitalisation;
- resistance to change or insufficient adherence on the part of some market participants;
- difficulties in inter-institutional coordination;
- complex procedures for recognising integration costs at the level of regulated participants;
- cyber and operational risks specific to a critical data infrastructure;
- delays in accessing and capitalizing on the financial resources necessary for implementation.

7.5 Strategic conclusion of the analysis

The SWOT analysis confirms that the premises for the establishment of the RNLC are solid, and the need for such a mechanism is justified both by the objectives of digitization of the energy sector and by the need for standardization and interoperability of data on places of consumption.

The strengths and opportunities identified show that the RNLC can become a reference digital infrastructure for the energy sector and an important element of administrative and operational modernisation. At the same time, the weaknesses and vulnerabilities highlight that the success of the implementation depends crucially on the clarity of the regulatory framework, the strengthening of the capacity of the RNLC Operator, the quality of the data governance mechanisms and the effective cooperation between the relevant participants.

Consequently, the challenges associated with RNLC must be treated primarily as implementation and governance challenges, not as boundaries of the concept itself. With a phased approach, clear institutional ownership and appropriate technical and regulatory support, the RNLC has the potential to become an essential tool for the development of a digital, interoperable and data-driven energy market.

8. GENERAL CONCLUSION

The establishment of the National Register of Places of Consumption (RNLC) represents a necessary structural measure for the modernisation and digitalisation of the energy sector of the Republic of Moldova. The RNLC is conceived as a national sectoral reference information resource for the unique identification, registration and management of

places of consumption through the assignment and use of the Unique Code of the Place of Consumption (CLC).

The need for the RNLC results from the fragmented nature of the existing records, the use of different identifiers and reference mechanisms by energy-sector participants and the absence of a common and persistent reference that can be consistently used across information systems. By establishing a unique, stable and non-reusable CLC for each registered place of consumption, the RNLC creates the structural foundation for reliable data correlation, reduction of inconsistencies, standardisation of information exchange and progressive automation of processes involving several authorised participants.

The fundamental object of the RNLC remains the place of consumption. The RNLC is not intended to become a register of consumers, beneficiaries, owners or contractual holders and shall not substitute the technical, metering, commercial, contractual or billing systems maintained by energy-market participants. Personal data, detailed contractual information, consumption histories, billing data and other specialised datasets shall remain under the responsibility of the competent information systems and data holders.

The value of the RNLC therefore lies not only in the generation of a unique code but in the establishment of a governed national reference mechanism around the CLC. This mechanism shall include clear institutional responsibilities, data-governance rules, validation and reconciliation procedures, lifecycle management, controlled access, traceability, interoperability services and technical specifications enabling the consistent use of the CLC across the energy ecosystem.

The implementation of the RNLC is expected to generate important structural benefits, including:

- standardisation of the national identification and registration of places of consumption;
- reduction of duplication and inconsistencies between records maintained by different participants;
- establishment of a stable common reference for interoperability between network operators, suppliers, energy market operators, public authorities and other authorised users;
- facilitation of supplier-switching and other processes requiring reliable identification of the place of consumption;
- creation of the conditions for automated and standardised data exchange between sectoral information systems;
- improved correlation between places of consumption and relevant building, cadastral, energy-efficiency and social-protection information;
- creation of a stable reference foundation for subsequent integration with smart-metering, analytical and other advanced digital energy infrastructures;
- support for the progressive development of a more transparent, interoperable and competitive energy market based on standardised and verifiable information.

The RNLC shall form part of the wider national digital and energy-data ecosystem and shall interoperate with common government platforms and relevant sectoral information systems, including through the Government Interoperability Platform (MConnect). Its architecture shall be scalable and technology-neutral and shall enable the CLC to be reused as

a common reference identifier without requiring the duplication or centralisation within the RNLC of datasets already maintained by authoritative or specialised systems.

The relationship between the RNLC and other sectoral digital infrastructures shall be based on clear functional separation. SINEE and its specialised subsystems shall remain responsible for energy-efficiency, building-performance and related information. Social-protection information systems shall remain responsible for beneficiary, household, eligibility and compensation information. Network operators, suppliers and market operators shall remain responsible for their respective technical, metering, contractual, commercial and market data. Advanced Metering Infrastructure and related HES and MDMS solutions shall remain responsible for the acquisition and management of granular metering data. The National Energy Management Platform (PNME) and other analytical systems shall remain responsible for the specialised aggregation, monitoring, analysis and reporting functions assigned to them.

Within this architecture, the CLC may serve as the common reference enabling these otherwise distinct information systems to reliably associate information with the corresponding place of consumption. The RNLC shall therefore constitute the foundational reference layer of the national energy-data ecosystem, rather than a comprehensive energy data hub intended to centralise all energy-market, metering, analytical or personal data.

The analysis of European energy-data infrastructures confirms the relevance of such a proportionate and modular approach. Mature European models demonstrate that stable identifiers and well-governed reference data form an essential basis for supplier switching, market-data exchange, metering-data services, consumer-authorised access and other advanced digital processes. At the same time, European practice also demonstrates that these functions may be organised through different combinations of reference registers, market platforms, data hubs and specialised data-exchange infrastructures.

The Republic of Moldova should therefore not mechanically reproduce any single foreign institutional or technical model. Instead, the RNLC should establish the stable national identification and reference foundation required for the gradual development of more advanced sectoral digital services according to national needs, regulatory developments, institutional capacity and the level of deployment of smart-metering and other digital infrastructure.

In this context, implementation of the RNLC and its integration into the wider energy-data ecosystem should follow a phased and modular roadmap.

Phase 1 – Establishment of the national reference layer

The first phase shall focus on the establishment and operationalisation of the RNLC and the CLC as the national reference mechanism for the unique identification of places of consumption.

This phase shall include the formation and validation of the initial register, assignment and lifecycle management of CLCs, implementation of data-governance and reconciliation mechanisms, establishment of user roles and access rights, deployment of basic interoperability services and integration with the authoritative data sources and common government platforms necessary for the reliable operation of the RNLC.

Initial interoperability shall primarily concern CLC validation, structural data exchange, lifecycle-related events and other services directly related to the identification and maintenance of places of consumption.

Priority interoperability use cases may include the use of the CLC by SINEE and its relevant subsystems for the correlation of energy-efficiency or building-related information with the corresponding place of consumption and the use of the CLC by energy-vulnerability and other social-protection information systems for the identification or validation of the place of consumption relevant to the respective legally established process.

Such interoperability shall not result in the transfer to the RNLC of energy-performance data, household or beneficiary information, social-protection data, consumption histories, billing information or other datasets that do not constitute structural data of the place of consumption.

Phase 2 – Sectoral adoption and integration into market and administrative processes

The second phase shall focus on the progressive adoption of the CLC by network operators, suppliers, energy market operators, public authorities and other authorised participants.

Participants shall progressively integrate the CLC into their information systems as the common reference identifier of the place of consumption. Where justified by the relevant sectoral process, the applicable regulatory framework may establish the mandatory use of the CLC in data exchanges and operational processes requiring the unambiguous identification of a place of consumption.

This phase may include the integration of the CLC into supplier-switching processes, standardised information exchanges between market participants, correlation with metering and network references and interoperability with SINEE, cadastral information systems, social-protection systems and other authorised sectoral or government information resources.

The introduction of the CLC shall not eliminate identifiers already required for specialised purposes. Meter identifiers, cadastral references, contractual numbers and other sector-specific identifiers may continue to be maintained by the competent systems and correlated with the CLC where necessary.

Phase 3 – Integration with advanced metering and analytical infrastructures

As Advanced Metering Infrastructure (AMI), Head-End Systems (HES), Meter Data Management Systems (MDMS) and other digital energy infrastructures are progressively deployed, the CLC may be used as the stable reference linking the corresponding place of consumption with granular metering information and specialised energy-data services.

The RNLC shall not collect or manage detailed smart-meter measurements as part of its core functionality. Metering values and consumption profiles shall remain within the systems responsible for their collection, validation and management.

At this stage, interoperability with the National Energy Management Platform (PNME) and other analytical or monitoring infrastructures may also be progressively developed. The CLC may serve as the common reference identifier allowing data processed within the PNME to be reliably correlated with the corresponding place of consumption.

The PNME shall not duplicate the RNLC database or assume responsibility for CLC generation, validation or lifecycle management. Likewise, the RNLC shall not assume the analytical, monitoring, forecasting or reporting functions assigned to the PNME.

Phase 4 – Development of advanced energy-data services

At a later stage, and subject to the development of the relevant regulatory, institutional and technical framework, the national energy-data ecosystem may be expanded through advanced services associated with the place of consumption.

Such services may include consumer-authorised access to energy data, granular consumption-history services, advanced analytical services, flexibility-related data exchange, digital services supporting dynamic or innovative market products and other functionalities required by the progressive development of a competitive and data-driven energy market.

These services may be implemented through specialised platforms, market systems or interoperable sectoral infrastructures. Their development shall not require the transformation of the RNLC into a central repository for metering data, contractual information, consumer permissions, market transactions, flexibility data or analytical datasets.

The role of the RNLC throughout these developments shall remain the provision and governance of the CLC as the stable national reference identifier of the place of consumption.

The phases described above represent an architectural and functional sequencing framework rather than a rigid chronological dependency. Activities belonging to different phases may be developed in parallel where the necessary legal, institutional and technical conditions are available. In particular, the development of smart-metering infrastructure, SINEE, PNME, market-process digitalisation and other sectoral initiatives may proceed in parallel with the implementation and progressive adoption of the RNLC.

This phased approach allows the Republic of Moldova to establish first the reliable identification and reference foundation necessary for interoperability while avoiding the premature centralisation of data and functions that belong to specialised systems. It also enables subsequent digital services to be developed around a stable CLC without altering the fundamental legal and functional nature of the RNLC.

The successful implementation of the RNLC will depend primarily on the clarity of the regulatory framework, the effectiveness of the institutional governance model, the capacity of the RNLC Operator, the quality and availability of source data, the cooperation of participating institutions and market actors and the consistent application of interoperability, security, traceability and data-governance requirements.

The RNLC should therefore be treated as a long-term sectoral digital infrastructure reform with an impact extending beyond the creation of a new register. Its establishment will provide the Republic of Moldova with a common structural reference for places of consumption and create the foundation for the coherent development of interoperable market processes, energy-efficiency services, social-protection mechanisms, smart-metering solutions, analytical platforms and other components of the national energy-data ecosystem.

Following approval of this Concept, the next step shall include the preparation of the RNLC feasibility study, which shall substantiate the detailed implementation model and the investment required for the establishment and operation of the Register. The feasibility study shall assess, inter alia, the cost-benefit case, CAPEX and OPEX implications, participant

integration costs, opportunities for reuse of existing government and sectoral infrastructures, the detailed business and data model, priority use cases, interoperability with SINEE and participants' systems, legal and data-protection implications, and the modular implementation roadmap.

The feasibility study shall determine the institutional holder of the Register and the allocation of the statutory roles of holder, keeper, technical administrator and registrar, comparing at a minimum the National Agency for Energy Regulation, the National Centre for Sustainable Energy and the Ministry of Energy, together with distributed configurations, and identifying for each candidate the legislative and normative amendments required, the operational, organisational, technical and resource arrangements necessary for it to exercise the role, the recurrent budgetary obligation the role would create, and any inconsistency that would preclude the role. It shall also determine the model for technical administration and hosting, having regard to the framework governing the technical administration of State information systems and the common Government technology platform, and shall establish the resulting recurrent cost.

The feasibility study shall further establish, and validate individually with each actor, the interaction scenarios described in subchapter 1.5, and shall examine the interdependence of the Register with the National Energy Management Platform and with the national information system in the field of energy efficiency on the basis of the technical documentation of the latter, so that the creation of capacity that must be maintained but whose use is marginal is excluded. It shall assess the reuse of the Government platforms and shared services for each function of the Register, and shall model the coordination and approval steps that condition implementation – the registration of the intention to create the resource in the Register of State Information Resources and Systems, the prior coordination of the Concept and of the Regulation with the e-Governance Agency, the coordination of information and communication technology budget proposals and procurement, and the conformity assessment of the information system, as dated gates with realistic lead times. It shall also establish the procurement route for the development of the Register. Because that procurement cannot realistically be initiated before 1 January 2027, it will be governed by Law No. 325/2025 on public procurement, which enters into force on that date and repeals Law No. 131/2015, the choice of procedure, the qualification, selection and award criteria, the division into lots and the acceptance and payment structure shall be constructed on that law, and the total cost of ownership model shall be structured so that it can be reused as the life-cycle costing method in the award. The study shall in addition establish the application of the framework governing the planning of public procurement and the coordination of information and communication technology procurement, including the prior coordination of the opportunity of the procurement and of the entire procurement documentation with the e-Governance Agency, the participation of that Agency in the procurement working group, and the obligations concerning the recording of the source code, the complete technical documentation and the user and administration guides. This Concept is annexed to the Terms of Reference of that assignment as Annex 1, as background documentation, it is not binding as to the institutional holder, the ownership model, the identifier scheme or the architecture, each of which is to be determined by the assessment.

Following the feasibility assessment, this Concept shall be updated in the light of its conclusions before it is carried into the normative package, so that the Concept of the information system submitted for approval reflects a validated institutional model, a validated object of registration and a validated interaction model.

On this basis, the necessary regulatory and operational framework shall be finalised, together with the detailed functional and technical specifications, data-governance and interoperability rules and the implementation and procurement documentation required for the establishment of the RNLC.