REGULATIONS
on sustainable energy and energy management

CHAPTER 1 GENERAL PROVISIONS

1.1 Subject matter, purpose and areas of application of the regulation

(1) **The purpose** of this regulation is to establish the institutional framework, responsibilities and procedures regarding energy management in public infrastructure located on the territory of the city of Rîșcani and subordinated to the Rîșcani City Hall.

(2) The purpose of the regulation is:
a) optimizing energy consumption;
b) increasing energy resilience and security;
c) supporting the decision-making process of the city hall;
d) development of Local Integrated Energy and Climate Plans.

(3) Areas of application of energy management:
a) municipal buildings (electricity, heat and water);
b) street lighting (electricity);
c) public transport (electricity and fuel).

(4) Objectives of the regulation:
a) introducing an energy management system in the local public administration of the city of Rîșcani;
b) increasing the efficiency of energy use in the public sector;
c) creating a centralized system for collecting, processing and monitoring data on energy consumption;
d) facilitating the process of attracting investments in energy efficiency and sustainable energy;
e) promoting the generation and use of energy from renewable sources;
f) reducing greenhouse gas emissions and aligning with national and European best practices.

1.2 Narrative and legal substantiation

The City of Rîșcani , as a signatory to the Covenant of Mayors, undertakes the objective of reducing CO_2 emissions by 40% by 2030. This regulation represents one of the key instruments for fulfilling this commitment.

At the same time, the city manages an extensive portfolio of public buildings – schools, kindergartens and other institutions – most of which are in an advanced stage of obsolescence. These are characterized by:

- high energy consumption;
- used installations;
- lack of modern monitoring systems.

These deficiencies generate high operational costs and put significant pressure on the local budget.

In addition, the absence of a centralized database on energy consumption:

- it complicates the city hall's decision-making process;
- limits access to external sources of financing.

The development and implementation of the Local Regulation on Energy Management directly responds to these challenges, providing:

- a clear framework for conscious resource management;
- monitoring and energy efficiency mechanisms to reduce expenses;
- prioritizing investments in infrastructure rehabilitation.

The regulation will facilitate:

- making informed decisions based on real data;
- attracting investments in energy efficiency and modernization;
- integrating energy efficiency criteria into the operational activity of institutions, including public procurement procedures;
- practical instructions for optimal use of workspaces.

Thus, the regulation will contribute to:

- increasing local energy resilience and security;
- reducing dependence on expensive resources;
- strengthening the city's capacity to cope with energy crises.

Finally, the city of Rîşcani will have an integrated system that will strengthen the City Hall's competencies in the field of energy management.

This regulation is developed in accordance with the following normative acts:

- Law No. 282 on the energy performance of buildings, Art. 11, point 2), paragraph h);
- Law no. 139/2018 on energy efficiency, Chapter IV, Art. 14, point 16), paragraph b);
- Law No. 92 on thermal energy and the promotion of cogeneration;
- Law No. 174 on energy;
- Integrated National Energy and Climate Plan 2025-2030 (INCEAP);
- Nationally Determined Contribution 3.0 (NDC 3.0) towards the objectives of the Paris Agreement.
- Integrated National Energy and Climate Plan 2025–2030 (INCEAP);

- Energy Strategy of the Republic of Moldova until 2050 (SEM 2050);
- Nationally Determined Contribution (NDC) 3.0 to the objectives of the Paris Agreement.

1.3 Main concepts

For the purposes of this Regulation, the following terms have the following meanings:

- *energy data collector* – the person employed within the energy consumption units, designated by its manager to collect, record and transmit energy consumption data to the centralized data collection system;
- *energy efficiency* – the ratio between the result obtained (performance, services, goods or energy) and the amount of energy used to achieve that result;
- *energy management* – set of activities for conscious and planned use of energy, which ensures the optimal use of energy and resources to improve the quality of the living environment in an area, institution or building. Includes governance, data management and collection, monitoring, informed decision-making, reporting, development of energy efficiency plans and measures;
- *energy manager* – the person or entity within or outside the city hall, designated or contracted to implement energy management measures in the Rîșcani City Hall, in accordance with this regulation;
- *energy consumption monitoring* – the process of tracking the consumption of energy resources, carried out at least once a month;
- *energy resources* – electricity, thermal energy, gas, solid fuel, liquid fuel, water;
- *centralized data collection system* – electronic tool, made available by the energy manager or state institutions, created and maintained for the purpose of entering, monitoring and analyzing data on energy consumption;
- *energy management system* – set of interconnected or interdependent elements of an organization to establish energy policies and objectives and processes to achieve them;
- *energy consumption units* – public institutions, municipal enterprises, departments or other units subordinated to the Rîșcani City Hall, which have contracts with energy suppliers (electricity, water, heating agent, fuel).

CHAPTER 2
INSTITUTIONAL ROLES

2.1 The role of the energy manager

The main person responsible for energy management in the city is the Municipal Economy Directorate. Within the local administration structure, the energy manager is involved in all aspects and decisions related to the supply and consumption of energy resources.

Key responsibilities of the energy manager:

- **It proposes** proactive energy saving measures, without the need for a request from consumer units.
- **Monitors and verifies** the energy consumption of municipal properties through continuous monitoring systems.
- **Initiates** independent actions to optimize consumption and reduce costs.
- **It collaborates** closely with the departments responsible for urban planning and technical exploitation, given the transversal nature of its responsibilities.

In addition to energy consumption, the environmental impact must be taken into account when planning new buildings and renovations. The overall optimal solution with the lowest investment and operating costs, taking into account the entire life cycle costs, must be pursued. For this reason, the requirements of building physics, energy technologies and energy management must be taken into account already in the pre-planning phase and in architectural competitions.

In carrying out the duties under this regulation, the energy manager undertakes the following activities/has the following areas of intervention:

- **Develop and implement an energy efficiency improvement program** : Propose and monitor an annual improvement plan, including short, medium and long-term measures, based on energy audits. This program aims to reduce energy costs (which can represent 3-15% of the local budget, with an average of 7%) by optimizing consumption in public buildings, street lighting and other areas.
- **Identification and assessment of energy consumers** : Analyzes main consumers (e.g. schools, hospitals, city halls, public lighting) and assesses energy efficiency potential, including energy balances and consumption questionnaires.
- **Preparation of mandatory declarations and reports** : Prepares the annual total energy consumption declaration, the energy analysis questionnaire and periodic reports for ANRE (National Energy Regulatory Authority) and other institutions.
- **Proposing measures to reduce losses** : Recommends concrete actions to minimize energy losses, such as upgrading facilities, switching to renewable sources or efficient technologies, with monitoring of progress.
- **Collaborate with decision-makers and stakeholders** : Obtain support from local leadership for implementing measures, collaborate with energy suppliers, consultants and external organizations, and ensure compliance with standards such as ISO 50001 for energy management systems.
- **Continuous monitoring and reporting** : Track monthly and annual consumption, evaluate the impact of implemented measures (e.g.: up to 20% reduction in energy and water costs in public buildings) and propose adjustments for continuous improvement.
- **Promoting awareness and education** : Develops local energy policies, organizes information campaigns for citizens and city hall employees, and contributes to European objectives such as the European Green Deal (target: climate neutrality by 2050).

2.1.1 Energy supply contracts, consumption costs, billing of consumption costs

The energy manager actively participates in the process of purchasing energy resources. He checks, negotiates (if necessary) and initials individual contracts with energy suppliers, which are to be concluded or adapted for internal departments and operators, before they are sent for signature. At the same time, the centralized procurement of solid and liquid energy resources (wood, pellets, briquettes, coal, diesel, gasoline, etc.) is fully coordinated by the energy manager. He periodically informs consumer units about tariff changes and consumption billing, checks general contracts and tariffs and ensures the choice of the most advantageous option

The data from the energy suppliers' invoices are entered into the information system monthly by authorized persons. The head of household of each institution is responsible for collecting and transmitting this data. The information system is made available by the energy manager.

2.1.2 Structural and technical measures to reduce energy consumption

The energy manager is involved in the design process of new or modified municipal buildings and facilities, in aspects related to energy supply, the use of renewable sources, the application of new technologies, as well as in the analysis of energy needs and the development of energy concepts. He supports the departments and internal operators in preparing calculations and justifications for the systems analyzed or to be implemented.

In the case of new buildings, renovations and extensive conversion or repair measures, the project manager within the responsible office or company must inform the energy manager about the planned measures as early as possible, but no later than the start of the pre-planning phase, in order to allow for timely integration of energy proposals into the planning. The permanent involvement of the energy manager in the project team is only carried out in individual cases. The energy manager is involved in the approval process for all draft decisions concerning energy use, including development plans, architectural competitions, urban development contracts, etc. He also participates in budget planning in energy-related aspects. These regulations must be forwarded to architects and designers when contracts are awarded.

The energy manager examines existing buildings and installations in order to identify structural and technical measures to reduce energy consumption. His recommendations must be followed, except in cases where important aspects of the municipal administration or legal regulations require otherwise. Once the funds are allocated, the identified measures are implemented without delay.

The energy audit is prepared for energy consumption units by certified specialists, at the decision of the energy manager. Annually, the energy manager identifies priority consumption units and justifies the need to prepare energy audits for them. The energy audit is carried out before or during the design process of rehabilitation or consumption efficiency works.

For minor cases (equipment purchase or implementation of energy efficiency measures), the energy manager performs a cost-benefit analysis regarding the recovery of the investment.

Annually, the Municipal Council will allocate 2% of the total energy costs for energy management. At least 1% of this amount will be directed towards energy efficiency measures, prioritized by the energy manager and included in the Annual Action Plan. Approximately 1% of the energy costs will be allocated for energy management services (consumption monitoring, annual reporting, etc.).

Consumer units are required to reduce energy consumption by at least 2% annually.

2.1.3 Data recording and consumption monitoring

An essential condition for energy management is the existence of a database that provides an overview of the main consumption indicators of the consuming units. In addition to the consumption values for thermal energy, electricity and water, the database must also record, for each property, building-specific data, such as the heated surface area and the characteristics of the engineering systems (stoves, refrigerators, boilers and burners - according to Annex 7.1.1).

After replacing, converting or expanding the engineering systems, the consumer unit shall provide the energy manager with updated data. This data shall serve as a basis for decisions on investment measures in energy saving. If the data is missing, the consumer unit shall determine it under the guidance of the energy manager.

The energy manager is supported by the consumer units and energy data collectors in verifying the consumption of existing buildings, installations and systems, in order to confirm the energy savings achieved. The employees and authorized representatives of the energy manager have unrestricted access to all operational systems of the consumer units, in coordination with their representatives.

Consumer units are obliged to:
a) provide all the requested information;
b) provide the necessary support, including for the operation of technical systems.
Regular records of consumption must be kept. All relevant meters must be read regularly and the data recorded in special logs or in the IT system.

2.1.4 Instructions for saving energy in the operating process

The energy manager shall develop operational instructions for technical specialists responsible for energy saving in buildings. These instructions shall constitute an integral part of these regulations and shall be included as an annex.

The maintenance and updating of the annex is the exclusive responsibility of the energy manager.

The technical authority to issue instructions in all aspects related to the rational use of energy lies with the energy manager, in coordination with the consuming units. Compliance with this regulation is mandatory for all users and is carried out in collaboration with the energy manager.

2.1.5 Annual energy report

The energy manager prepares and presents the Energy Report annually, which includes consumption trends and costs for electricity, heat and water consumed in municipal properties.

The required data is mandatorily provided by energy data collectors. In addition to the annual update, the report provides an updated picture of:
a) energy distribution within the municipal administration;
b) percentage breakdown by energy types.
For this purpose, the data transmitted by collectors are integrated into specific consumption statistics.

The energy manager prepares a detailed annual assessment of energy consumption and costs, according to established indicators. The assessment is transmitted to the administrators of the consuming units in order to:

a) information;

b) reviewing the buildings and units under their responsibility.

2.1.6 New construction projects outside urban areas

The energy manager is responsible for developing energy concepts for the entire city or for individual urban areas. He evaluates energy aspects in the process of developing development plans and in architectural competitions.
In the spirit of preventive environmental protection, mandatory requirements are established for reducing future energy consumption to:
a) sale of municipal properties;
b) conclusion of urban development contracts or other similar arrangements.
The purpose is the contractual regulation of obligations regarding:
a) reducing future energy consumption;
b) expanding the use of renewable sources.

2.1.7 Training

The energy manager organizes, depending on the needs, training courses for:
a) operating personnel;
b) building users.
The topic of the courses is the rational use of energy.

2.2 The role of energy consumption unit managers

The managers of energy consuming units have the following obligations:
a) designates, through an internal order, the person who will fulfill the role of energy data collector;
b) ensures unhindered access of energy data collectors to invoices, meters and other energy monitoring sources under the unit's subordination;
c) collaborates with the energy manager and other persons/subdivisions involved in order to apply this regulation.

2.3 The role of energy data collectors

Energy data collectors have the following obligations:
a) completes the standard consumption forms on a monthly or weekly basis, according to the collection and reporting procedures provided by the energy manager;
b) transmit the data to the energy manager by the 10th of each month;
c) are responsible for the correctness and accuracy of the data transmitted.

2.4 The Role of the Public Procurement Directorate

The Public Procurement Directorate has the following obligations:

a) integrates into the procurement documentation, for energy-consuming equipment, energy performance criteria in accordance with national and European standards;
b) collaborates with the energy manager in the development of technical sheets and specifications that include these criteria;
c) prioritize products that have a higher energy efficiency class (minimum class A or equivalent);
d) include representatives of the energy manager in the working groups for public procurement.

CHAPTER 3
OPERATING REQUIREMENTS

3.1 Heating

In order to rationally use energy and prevent unnecessary losses in operation, the responsible technical personnel in municipally owned buildings are required to comply with the following instructions when operating heating and domestic hot water systems.

3.1.1 Starting and stopping heating operation

The heating season begins after recording, for 3 consecutive days, an average outdoor air temperature of +10°C or lower, between 18:00 and 06:00.

The heating season ends after 3 consecutive days in which the average outdoor air temperature, in the same time interval 18:00 – 06:00, exceeds +10°C.

At the written request of the consumer (head of the institution), the supplier is obliged to initiate the supply of thermal energy before the start of the official season or to extend the heating period after its end, provided that technical possibilities exist and additional costs are fully paid.

3.1.2 Preparing systems before the start of the heating season

Before starting the heating system, the responsible technical personnel must carry out the following operations:

1. Maintenance scheduling
   Preventive maintenance of boilers, heating points and other equipment is scheduled and performed, according to the contract with the authorized maintenance service.
2. Optimal boiler operation
   In multi-boiler systems, operation is carried out, as far as possible, with a single boiler. Backup boilers are not operated in parallel with the main one, being kept in standby mode.
3. Checking and adjusting control devices
   The correct operation and settings of the regulation, control and measurement devices (thermostats, programmers, sensors, etc.) are checked. If necessary, the equipment is readjusted or its repair is ordered by authorized personnel.
4. Venting the circuits
   After putting the heating system into operation and with the pumps turned off, all heating circuits, including radiators and pipes, are bled to eliminate air bubbles.

3.1.3 Shutting down systems after the end of the heating season

After the end of the heating period, the heat generators are completely taken out of operation, and the responsible technical personnel apply the following instructions:

1. Turning off the burner
   The gas burner is turned off (in the case of own heating plants).
2. Pipeline closure
   The supply pipes from the central heating system are sealed with dedicated valves.
3. Stopping the circulation pumps
   Circulation pumps are stopped manually if there is no automatic stop at the end of the season.
4. Maintaining control devices
   Control devices, programmers and monitoring systems remain in operation; the main switch is not set to the "0" position.
5. Disconnecting electrical appliances
   For electric heating appliances, the power supply is completely disconnected from the switchboard.

3.1.4 Heating systems with connected domestic hot water preparation

In the case of systems where domestic hot water preparation is connected to the heating circuit, the following requirements apply outside the heating season:

1. Reducing the number of boilers in operation
   All boilers stop, except the lowest power one, if the system configuration allows.
2. Shutting down idle boilers
   The flow and return valves of the stopped boilers close completely and tightly.
3. Adjusting the active boiler temperature
   The flow temperature of the boiler remaining in operation is set to the minimum allowed value, with mandatory compliance with sanitary requirements for the prevention of legionella (minimum 60°C in the boiler or at the outlet of the heat exchanger).
4. Insulation of heating circuits
   Heating circuits (radiators, convectors, etc.) are completely closed through dedicated isolation valves, to avoid unnecessary water recirculation.

3.1. 5 Support for heating systems

During the heating season, heating systems are checked periodically to ensure efficient and safe operation.

1.Frequency of checks

- All buildings with an annual thermal energy consumption of over 100,000 kWh/year are checked at least once a month.
- The other buildings are checked at least once every two months.

2. Transition between summer and winter time Time programmers and automatic control systems must adjust to the official time change (summer/winter time), within 24 hours of the change coming into force.

3.Setting and modifying operating parameters

- The technical manager (household manager), in mandatory consultation with the municipal energy manager, establishes and sets the equipment control parameters (temperatures, pressures, operating times).
- Any modification of these parameters is made exclusively with the written consent of the energy manager.

4. Recording of checks The results of each check are recorded in the building's operating register, mentioning the date, measured parameters and any identified defects.

3.1.6 Operating instructions for thermal energy generators

The responsible technical personnel comply with the following requirements for the operation of thermal energy generators:

1. Managing multiple boilers In systems with multiple boilers, those that are not needed are automatically stopped and isolated on the water circuit, on the return, to reduce standby losses.
2. Adjusting the flow temperature Boiler thermostats are set correctly, depending on the outdoor temperature:
    a. Summer: approx. 65°C (if necessary for domestic hot water preparation);
    b. Winter: between 70°C and 90°C, depending on the system configuration. It is mandatory to comply with sanitary requirements for the prevention of legionella (minimum 60°C in the boiler) and to avoid limescale deposits by avoiding excessive temperatures.
3. Return temperature in centralized systems In buildings connected to the centralized heating system, the return water temperature on the secondary side (building) must be kept as low as possible, with a target value below 45°C.
4. Checking the thermal insulation The insulation of the heating pipes is inspected monthly. Damaged areas are repaired immediately by authorized personnel.
5. Automatic operation Building managers (or technical managers) ensure that systems do not operate permanently in manual mode, but are set and maintained automatically, according to the schedule established with the energy manager.

3.1.7 Maintenance and monitoring of thermal energy generators

1. Troubleshooting

Any defect found shall be remedied immediately. The authorized maintenance company shall prepare maintenance reports according to Annex 7.1.2, which it shall keep in full and transmit to the energy manager.

2.Mandatory documentation

Emission test measurement logs and maintenance forms (Annex 7.1.2) are completed in full and submitted to the energy manager for verification and updating of the municipal database.

3. Specific boiler and burner maintenance rules

a) In systems with multiple boilers, parallel operation is not allowed during maintenance or testing (to avoid exceeding the maximum power).

b) Maintenance of the boiler and burner is carried out simultaneously.

c) The partial load power of the fan burners is set as low as possible.

4.Monitoring the temperature difference

The operator constantly monitors the flow and return temperatures.

- Normal difference: 10–20°C, depending on the outside temperature.
- Smaller differences indicate improper adjustments; check the hydraulics, pumps, and adjustments immediately.
- The energy manager is required to be informed in case of deviations.

3.1.8 Indoor temperature control

The amount of energy consumed for heating depends directly on the temperature in the rooms. A 1°C increase in the indoor temperature causes an increase of approximately 6% in thermal energy consumption.

The indoor temperatures provided for in Annex 7.1.3 must be maintained throughout the entire duration of use of the building and during the operation of the heating system.

The responsible technical staff checks compliance with these values daily and adjusts the thermostats or thermostatic valves accordingly. Any deviation is reported to the energy manager within a maximum of 24 hours.

Additional rules for controlling indoor temperature:
(1) For buildings, areas of use or rooms not expressly listed in Annex 7.1.3, the temperatures provided for spaces with comparable use shall apply.
(2) Outside the actual building use periods, setback reference values are set (according to Annex 7.1.3).

(3) The temperatures specified in Annex 7.1.3 shall be checked periodically, at least weekly. The measurement shall be made at the height of the work table (approx. 0.75–1.1 m).
(4) All rooms must be equipped with functional thermostatic valves. These are limited mechanically or electronically to the maximum temperature specified in Annex 7.1.3, to compensate for external influences (solar radiation, heat released by people, equipment, etc.).

3.1.9 Managing temperature deviations

If deviations from the intended interior temperatures (too hot or too cold) are detected during the operation of the heating system, the responsible technical personnel acts as follows:

1. Identifying the causes Check and eliminate, in order, the following possible causes:
   (1) Windows and/or doors left permanently open;
   (2) Radiators covered by furniture, curtains or other objects;
   (3) Presence of air in the heating circuit or radiators;
   (4) Inaccurate or modified setting of thermostatic valves;
   (5) Incorrect operation of regulation and control devices (thermostats, programmers);
   (6) Hydraulic imbalance of the system (lack of presetting of the valves upon commissioning);
   (7) Constructional defects (poor insulation, poor window tightness) or technical defects (defective pumps, expansion tank, boiler, blocked taps);
   (8) Insufficiently sized radiator surfaces;
   (9) Incorrect positioning of the thermostatic head (it must be horizontal, not vertical);
   (10) Individual needs of employees (e.g. medical reasons), which are resolved only with the approval of the energy manager.
2. Corrective measures Immediate measures are taken to correct the identified cause (ventilation, adjustment, radiator release, closing windows, etc.).
3. Call the energy manager If the deviation persists beyond 2 hours or is recurrent, the municipal energy manager is notified in writing, with a description of the cause, measures taken and remedial proposals.

4. Recording deviations All cases are recorded in the building's operating register, with the date, time, measured value, identified cause and applied solution.

3.1.10 Reduced operating mode

In the reduced operating mode (periods of no activity, holidays, weekends), the heating system is adjusted to maintain low temperatures in the rooms, according to the values in Annex 7.1.3.

1. Exceptional heating during holidays Upon written request from the management of the institution (e.g. school), certain classrooms or training rooms may be heated on specific days. These days are grouped, as far as possible, at the beginning or end of the holiday period.
2. responsibility
    a. The technical manager (household manager) records the exceptional heating intervals in the energy consumption register, with the date, times, targeted spaces and set temperature.
    b. Inform the energy manager at least 48 hours in advance and submit the final report no later than 24 hours after the end of the period.
3. System adjustment During the rest of the time, the system automatically operates in reduced mode, with the complete shutdown of unused circuits and the maintenance of an anti-freeze regime (minimum 5°C) in the technical spaces.

3.1.11 Reducing the temperature during non-use periods

The internal temperature must be reduced during the following operating intervals, by switching the system to reduced mode or complete disconnection:

- at night;
- on weekends;
- during holidays and periods of no activity (system completely disconnected, if possible);
- for the holidays.

The responsible technical staff automatically programs or manually adjusts the system at least 2 hours before entering the reduced regime, according to the values in Annex 7.1.3. Any exception is approved in writing by the energy manager and recorded in the operating register.

3.1.12. Reduced mode and anti-freeze protection during non-use periods

(1) Outside the established usage periods, the heating system is immediately switched to reduced mode. The indoor temperature is lowered to a maximum of 10°C, without allowing condensation or mold to form.
(2) Due to the thermal inertia of the building, the reduced regime is initiated 1–2 hours before the end of the usage schedule.

(3) For cleaning, maintenance or minor repairs, the reduced mode is sufficient; the normal mode is not activated.
(4) Heating is started in time to reach the temperatures in Annex 7.1.3 exactly at the start of the program.
No more boilers are started than those used in previous periods of normal operation.
In multi-boiler systems, cascade switching is used to keep the maximum power as low as possible.
(5) The temperature reduction may be omitted only if:
The outside temperature does not exceed –8°C for 24 consecutive hours;
The installed power is insufficient for quick restart. The exception must be approved in writing by the energy manager.
(6) Anti-freeze protection Frost protection is permanently ensured at all exposed points (pipes, radiators, registers).
At outdoor temperatures below 0°C, a minimum flow of the heating agent is maintained in the vulnerable circuits.
The operation of automatic anti-freeze protection systems is checked.

3.1.14 Special holiday regime

*(Definition: absence of use for **3 or more consecutive days**)*

1. Switching off the generator during holidays During the autumn, winter and spring holidays, the heat generator stops completely outside of use periods if the outside temperature measured at 10:00 is above +5°C. Condensation and mould are avoided by controlled ventilation, if necessary.
2. Restart at the end of the holiday The heating is reactivated at least 12–24 hours before the resumption of activity, in order to reach the temperatures in Annex 7.1.3 at the start of the program. The technical manager records the start time and parameters in the operating log and informs the energy manager.

3.1.15 Tips and rules regarding the use of spaces

(1) For all areas of the building used non-permanently, the head of the institution shall draw up and update at least quarterly an occupancy plan structured by groups of spaces.
(2) The plan must indicate at least the start and end of use, as well as interruptions of more than 2 hours.
(3) The plan shall be submitted to the technical manager at least 5 days before its entry into force and shall be used for automatic programming of the heating system.
(4) When organizing events (parent meetings, courses, trainings, etc.) outside of the regular schedule:

- Spaces on the same heating circuit are prioritized.
- Thermal energy is supplied only to occupied areas; unused circuits are completely insulated.
- If there is individual room control, this is used as a priority.

- Objective: grouping events in a single building or on a single day of the week.

(5) In buildings with areas used at different times (e.g. office spaces), the heating system shall be adapted to heating groups. If division into groups is not technically possible, the technical manager shall immediately inform the energy manager in writing, with proposals for solutions.
(6) The use of private electric heating devices (radiators, convectors, personal fan heaters) is strictly prohibited. Any additional electric heating device (including institutional ones) shall be used only with the written approval of the energy manager and shall be reported monthly, with the recorded consumption.

3.1.1 6 Instructions for ventilating rooms during the heating season

(1) Ventilation is carried out exclusively by fully opening the windows for short periods (maximum 3–5 minutes), as necessary, followed by immediate closure ("shock" ventilation).
(2) During the venting process, the thermostatic radiator valves shall be closed completely, as far as possible.
(3) Throughout the entire operation of the heating system:

- Access doors, vestibules, hallway doors and all windows remain closed.
- It is strictly forbidden to leave windows permanently open, half-open or in continuous ventilation mode.

Failure to comply with these instructions shall be recorded in the operating register and reported to the energy manager.

3.2 Domestic hot water heating systems

The responsible technical specialists in the buildings follow the following instructions:

1. Outside consumption periods, the circulation pumps and the charging pumps of the storage tanks stop completely for a minimum of 8 hours out of 24. The shutdown schedule is established with the energy manager and recorded in the operating register.
2. Any consumption point with leaks (faucets, showers, pipes) must be repaired immediately, within a maximum of 24 hours of detection.
3. The insulation of the hot water recirculation circuit should be inspected at least once a year (before the cold season). Damaged areas should be replaced immediately by authorized personnel.
4. Storage tanks and consumption points that are not permanently used shall be taken out of service. Unused pipes and connections shall be disconnected at the nearest T-branch. If disconnection is not possible, a flushing device shall be installed and either:
   - daily automatic washing, either
   - manual washing plan included in the maintenance program.
5. It is prohibited to use hot water for unjustified purposes (e.g. defrosting, industrial cleaning). Trained personnel monitor daily consumption; deviations over 10% from the monthly average are reported to the energy manager within 48 hours.

3.3 Ventilation and air conditioning systems (RLT systems)

The requirements for **indoor air hygiene** and **thermal comfort** are ensured, **as a priority** , by **natural ventilation through windows** . Indoor areas with stagnant air are avoided.

Responsible technical specialists in buildings **must comply with** the following operating requirements:

1. Air conditioning systems (RLT) are activated only if required by the usage regime (e.g. computer rooms, special archives). Otherwise, natural ventilation is used.
2. When the RLT system is active, the windows and doors remain completely closed.
3. Windows and doors should be kept closed when air conditioning systems are in operation.
4. When the air handling unit is switched off, the fresh and exhaust air dampers close tightly.
5. The air flow rate is strictly regulated to the actual need. The possibility of intermittent operation (automatic start/stop depending on occupancy) is checked.
6. Air handling units that are only needed temporarily are completely taken out of service to reduce hydraulic resistance and energy consumption.
7. Rooms with air heating operate in recirculation mode, but with minimal fresh air exchange according to hygiene standards. Static systems (radiators, convectors) for heating are prioritized.
8. Cooling equipment is only activated at indoor temperatures above 26°C, except for special requirements (e.g. servers). Reference temperature: maximum 6°C below outdoor temperature. If outdoor temperature < supply air temperature, cooling stops (does not apply to recirculation systems). Cooling is only allowed with active sun protection (blinds, shutters) and closed windows. If sun protection is inadequate, the RLT operates until structural remediation according to section 1.2.
9. Humidifiers and dehumidifiers are prohibited in principle, except for special requirements (e.g. museums, laboratories) or written instructions from the occupational health and safety service. Exceptions must be justified in writing and approved by the energy manager.
10. The use of air conditioning units (split, mobile) is justified in writing to the energy manager, only for demonstrated technical cases (e.g. IT cooling, assessed risk). Privately purchased devices – strictly prohibited.
11. Adjusting the external flow rate at external temperatures:
    - above 26°C (cooling): the fresh air flow is reduced to the minimum allowed;
    - below 15°C (heating): the fresh air flow is reduced to a hygienic minimum.

12. Cooling equipment is activated exclusively at indoor temperatures above 26°C, except for special requirements (e.g. server rooms, medical laboratories), approved in writing by

the energy manager. In cooling mode, the target indoor temperature is adjusted to a maximum of 6°C below the outdoor temperature measured in the shade. If the outdoor temperature < supply air temperature, the cooling system stops immediately. Cooling is only allowed with active sun protection (blinds, shutters, reflective foils) and completely closed windows. If the sun protection is inadequate, the RLT system operates until structural remediation according to section 1.2 (e.g. installation of outdoor blinds, improved thermal insulation). The start/stop of cooling is recorded in the operating log, with the measured temperatures and justification for use. Monthly report to the energy manager.

13. Humidifiers and dehumidifiers are prohibited in principle. Exceptions are only allowed in cases with:

- special requirements (e.g. museums, archives, medical laboratories);
- legal regulations or
- written instructions from the Occupational Safety and Health Service.

Any exception is justified in writing, approved by the energy manager and recorded in the building's operating register.

14. The use of air conditioning units is only allowed in individual cases, with written justification sent to the energy manager. The justification must demonstrate the technical necessity (e.g. cooling IT servers, spaces with sensitive equipment, OH&S risk assessment). The operation of privately purchased air conditioning units (regardless of type) is strictly prohibited.
15. At outdoor temperatures above 26 °C (cooling mode) and below 15 °C (heating mode), outdoor air flows must be reduced within the permitted limits.

3.4 Electricity

Electrical energy, being the final product of a complex chain of conversions, is used with utmost care. Electrical installations are turned on only for the duration strictly necessary for use.
The responsible technical specialists must apply the following requirements:

1. Only appliances from higher efficiency classes are allowed (minimum A according to the EU label, or equivalent), except in cases technically/economically justified and approved in writing by the energy manager.
2. When leaving the workstation, the PC and monitor must be completely switched off. In the event of a short interruption, the computer goes into "sleep" mode and the monitor switches off. Unnecessary IT equipment must be completely switched off outside of working hours (at night, on weekends and holidays) and disconnected from the mains, e.g. via an extension cord with a switch.
3. Electric humidifiers and dehumidifiers Operate only with written approval from the Occupational Health Service, accompanied by technical documentation. In renovations (according to section 3.1.2), the installation of a centralized system instead of individual devices is considered.
4. Private heaters and cooling appliances (radiators, space heaters, fans) are strictly prohibited. The installation of other private appliances (refrigerator, espresso machine, etc.) requires written approval from the institution's management and the energy

manager. Only appliances in the highest efficiency class are approved (e.g. refrigerators in the best efficiency class).

5. Particular attention will be paid to the temperature settings of refrigerators and freezers, as well as hot and cold drinks machines. These appliances will be emptied, cleaned and unplugged before school holidays and closure periods. The freezer compartment will not be used.

3.5 Lighting

Buildings and common spaces (especially workplaces) shall be designed with priority for natural light. Permanent shading of glass surfaces shall be prohibited. All common spaces shall benefit from sufficient natural lighting.

Responsible personnel and users must comply with the following requirements:

1. Saving behavior

- When leaving the room, the lighting turns off immediately.
- The necessary light sources are maintained only in the areas used.
- Unnecessary lighting fixtures are dismantled.
- Artificial lighting is turned off when natural light is sufficient (illumination > 300 lx at table level).

2. Switching and automation systems

- Separate circuits are provided for:
  – areas near windows;
  – interior areas.
- The switches are mounted vertically, one below the other (not in series).
- Mandatory automatic control:
  – Presence detectors + daylight sensor in: hallways, bathrooms (excluding WC cabins), gyms.
  – Priority motion detectors in: warehouses, technical rooms, basements.
- In traffic areas with variable lighting, lighting fixtures are grouped on separate daylight sensors.
- It is mandatory to display in each room: "TURN OFF THE LIGHTS WHEN YOU LEAVE".

3. Checking and reducing lighting levels.
   Lighting levels for current uses (administrative, schools, sports halls, kindergartens, hospitals, swimming pools) are checked annually and reduced to the minimum normative values (SR EN 12464-1). Cleaning of lighting fixtures: once every 2 years, with report to the energy manager.
4. Lighting during cleaning
   It is activated only in the work area. The general lighting remains off.
5. Effect/accent lighting
   Decorative lighting (spotlights, LED strips) is critically analyzed and limited to:
   - maximum 2 hours/day;

- only in representative spaces (reception halls, meeting rooms). Use must be justified in writing and approved by the energy manager.

3. 6 Water

Drinking water is an essential food and is used with maximum economy. Rainwater and grey water are prioritized for technical purposes.
Rainwater and greywater are NOT used for human consumption (body washing, food preparation, drinking).
The responsible technical personnel must comply with the following instructions:

The instructions below must be followed:

1. Water fittings are inspected monthly for leaks. Faults are fixed within a maximum of 48 hours (repair or replacement).
2. Automatic urinal systems stop completely during holidays and periods of inactivity, in compliance with hygiene standards (weekly manual washing if necessary).
3. Drinking water is NOT used for direct cooling (e.g. equipment cooling, condensers). Closed loop systems or technical water are used.
4. During the cold season (October–April), all external sampling points are closed, emptied and protected against frost. The taps are equipped with lockable handles (key or padlock).
5. Irrigation is limited to the strictly necessary (maximum 2 times/week, only in the evening). Rainwater collected from roofs (dedicated tanks) is prioritized.
6. Fountains and water features should be operated in recirculation mode as a priority. Operation should always be controlled by a timer and limited as much as possible.
7. The cleaning of wastewater collectors and rainwater retention basins is carried out, if possible, with wastewater.

3.7 Recording energy consumption

The consumption of energy resources (thermal energy, electricity, drinking water, gas) in municipally owned buildings is recorded, documented and monitored at least once a month.

For this purpose, the building staff must keep an energy consumption log (Annex 7.1.4). The recorded data is necessary for energy consumption assessments. If the annual energy costs exceed 200,000 MDL, meter readings must be recorded weekly. The recorded data is necessary for energy consumption assessments. The meter readings must be transmitted regularly to the energy manager.

In new buildings, the conditions for installing an automatic meter reading system connected to the centralized data collection system must be provided. With the involvement of the authorities, the energy manager can install a standardized modem station for automatic recording of energy

consumption. This will function as a data logger, display current consumption levels and transmit the stored data daily to the database managed by the energy manager.

In the design (renovation) phase, a metering concept must be developed in consultation with the energy manager and the choice of metering technology defined. Standard stations currently support the following technologies: energy meters with pulse output, M-Bus smart metering or OPC data coupling to the building management system (BMS). A network connection and a data modem are required for operation and data transmission to the energy manager.

If the complex operation of the building requires a building management system (BMS), online access for the energy manager must be configured. The costs for configuring and operating an energy consumption data acquisition system are borne by the building operator.

CHAPTER 4
USER GUIDE

In order to raise awareness among users of municipal buildings, practical energy-saving tips are periodically published on the internet. Saving behaviors are promoted through training courses and information materials. The provisions of this regulation and the recommendations below are directly addressed to all persons working in municipal buildings.

4.1 Measures to maintain thermal comfort in the cold season

The thermostatic valve usually regulates the temperature in the room. Setting "3" usually corresponds to a temperature of around 20 °C. The mechanism in the thermostatic head can cause temperature fluctuations of up to 2 °C during the day. This can sometimes be perceived as unpleasant, but is determined by the technology. The valve should not be closed at the end of the working day or at the beginning of the weekend. The room temperature is reduced by the central heating control system, which ensures that the workplace is heated up in time at the start of the workday.

Pay attention to the following:

1. If a room is not used due to absence (e.g. vacation), the thermostatic valve should be set to frost protection. Colleagues can return the setting to normal the evening before returning.
2. The thermostatic head has an integrated temperature measurement, which is used for regulation. If heat builds up around the thermostatic head (e.g. due to a curtain), the valve closes, although the room may still be too cold. Conversely, when the window is opened and cold air enters, the valve opens, although the room may already be too warm. The warm air from the heating is lost directly through the open window.

4.2 Rules for effective ventilation of municipal buildings

(1) As a rule, municipal buildings are not equipped with mechanical ventilation systems, which is why ventilation through windows is carried out with increased care.

(2) Ventilation shall be carried out with all available openings, for as short a period as possible ("rapid shock ventilation"), ensuring efficient air exchange without excessive cooling of the room in winter or unintentional heating in summer.
(3) If it is possible to open opposite windows, more effective cross ventilation is achieved.
(4) During the heating season:
a) the thermostatic valve must be closed before venting;
b) it is prohibited to leave windows open in a tilt or ventilation position.
(5) In the height of summer, windows are kept closed and ventilation is intermittent, to maintain the indoor temperature below the outdoor temperature.

4.3 Measures to maintain thermal comfort in the hot season

To maintain comfortable temperatures even in the middle of summer, the following mandatory recommendations apply:

1. Cross ventilation of rooms is carried out at night or in the cool morning hours. If the outside temperature exceeds the inside temperature, the windows are closed immediately.
2. For indoor air quality, during the summer, only rapid ventilation (by shock) is applied.
3. Solar protection (blinds, shutters, blinds, etc.) is activated early to prevent rooms from overheating.
4. Sun protection is adjusted so that artificial lighting is not necessary.
5. Lighting and other equipment that emits heat are turned off as much as possible.

4.4 Use of computers and office equipment

Workplace equipment (computers, monitors, printers, etc.) must be connected to an extension cord with a switch. (

They are completely disconnected from the mains via the switch when not in use.

CHAPTER 5
DESIGN REQUIREMENTS

Energy efficiency design specifications are mandatory for new construction projects, repair and renovation projects, as well as replacement purchases of energy-consuming equipment and systems.

5.1 Building

(1) Improving thermal insulation is one of the main measures to reduce energy consumption for heating and increase thermal comfort through higher temperatures of interior surfaces.
(2) At all planning stages, the total energy requirement shall be minimized through constructive measures.

(3) Thermal bridges shall be minimised and, where possible, avoided completely. These occur at interruptions in the insulation layer, for example at: corners and joints; window sills and sills; – balconies/cantilevered slabs; roof-wall connections.
(4) Only windows with thermally optimized sealing at the edge of the glass shall be installed.

For all municipal buildings, regardless of the estimated annual duration of operation, the following mandatory requirements are met:

1. The development and expansion of the use of renewable energies through solar thermal or photovoltaic systems are mandatory in:
   – new buildings;
   – roof renovation works;
   except in cases justified by technical or economic reasons.
   In principle, the roof surfaces of new buildings are designed statically and constructively to allow the installation and operation of a solar thermal system. The same requirement applies to roof renovations, as far as it is constructively possible.
2. Natural light is maximized in all rooms. Work spaces are planned with natural lighting in mind.
   The daylight coefficient (ratio of interior to exterior illuminance) must be: – at least 5% in areas requiring 300 lux or more;
   – at least 3% in corridors and stairwells.

5.1.1 Renovation of existing buildings

(1) The physical and structural weaknesses of buildings (windows, doors, external walls, floors, radiator niches, vestibules, etc.) are eliminated as a priority during renovations. (2) Energy saving measures are mandatory during renovations. In order to exploit synergy effects, a typical example is the rehabilitation of the uninsulated external facade at the same time as the replacement of windows.

(3) For initial installations, replacements, renovations or conversion/renovation works with energy impact on external elements (walls, windows, roof), the requirements regarding thermal transfer coefficients (U-values) for the building envelope shall be complied with. (4) Exceptions are only allowed for: a) renovations covering less than 10% of the surface area of the building element; b) extensions (annexes) with additional useful area less than 15 m².

(5) The building must be checked for tightness, especially in the area of windows and entrance doors. Any defects must be repaired immediately. (6) The joint permeability class, according to EN 12207, must be at least 3.

5.1.2 New construction projects

(1) The basic principle of design and execution is maximum energy efficiency. The current specifications and requirements adopted by the Rîşcani Municipal Council , which exceed the minimum legal provisions, are respected.
(2) When choosing energy sources, renewable sources have absolute priority.
(3) Taking into account long-term economic efficiency, only components of the highest energy efficiency classes shall be installed. Deviations to reduce investment costs are prohibited.
(4) New municipal buildings shall be designed and constructed as energy-plus buildings.
(5) The air tightness of the building receives increased attention. Proof of air tightness is confirmed by the "blower door" test. (6) Large and complex buildings are divided into sensitive sectors, where the "blower door" test is carried out randomly.
(7) For small extensions and additions to existing buildings, specific regulations regarding the necessary specifications may be agreed with the energy manager.

The design of municipal buildings **must comply with** the following **energy efficiency principles** :

1. Compactness: the ratio of the heat transfer envelope surface area to the building volume (A/V ratio) is kept as low as possible.
2. Zoning: rooms with identical or similar temperature requirements are grouped within the same building.
3. Passive use of solar energy and natural light: increased attention is paid in new buildings. Shading caused by buildings or vegetation is minimized.
4. Preventing overheating in the hot season: the performance of the thermal insulation in summer must be checked.
5. Glazed area: the area of windows does not exceed 35% of the envelope surface (external wall and roof). Floor-to-ceiling glazing is avoided as much as possible.
6. Solar energy surfaces: roofs and, where applicable, facades are used for solar thermal or photovoltaic systems.

The analysis of compliance with the above principles within urban planning competitions is carried out by the energy manager through the energy assessment of the projects. The integration of the assessment results into the jury deliberations is ensured by the mandatory participation of the energy manager.

5.1.3 Summer thermal protection

(1) Active cooling shall be avoided in principle. To this end, constructive measures shall be taken to ensure thermal comfort in summer, especially when planning new buildings.
(2) In existing buildings, solar protection shall be installed. If this is insufficient, cooling and humidification systems may be used.
(3) Dynamic simulation of the thermal behavior of the building can be used for optimization.
(4) Legal requirements regarding occupational health and safety (workplace regulations) have priority.

(5) New buildings shall be equipped with effective external solar protection on all sunny glazed surfaces, with a reduction factor Fc ≤ 0.25 according to EN ISO 52022-1:2017.
(6) Sun protection system:
a) it works automatically, controlled according to time and season, with a wind sensor;
b) allows manual overwriting;
c) adapts to the orientation of the facade.
(7) When the system is activated (lowered/closed), artificial lighting is not required. This is achieved, for example, by perforated or open slats in the upper area.
(8) At the planning stage, the following shall be taken into account: a) the thermal storage capacity of the building; b) the possibility of natural night ventilation (e.g. cross ventilation) to reduce the indoor temperature.

5.2Heating systems - general requirements

The heating of municipal buildings must comply with the following technical and energy efficiency requirements:

1. Thermal energy needs are covered primarily from renewable sources (biomass/wood heating, solar thermal systems, ambient heat pumps - air, geothermal wells, sewage networks, etc.).
2. In outdoor swimming pools, the water in the pool and the water for showers are necessarily heated with solar thermal systems.
3. Solar thermal systems are mandatory planned where they are technically and economically justified (e.g. kindergartens, swimming pools, school kitchens, etc.).
4. The heat is produced with condensing boilers. In multi-boiler systems, a low-temperature boiler with a share of approx. 30% is provided to cover peak loads.
5. The use of cogeneration (combined production of heat and electricity) is mandatory for all relevant projects.
6. Electric heat pumps are designed with an annual coefficient of performance (COP) of at least 4.
7. The heating network is designed with:
   – maximum flow temperature 60 °C;
   – maximum return temperature 40 °C.
8. Constant flow circuits (e.g. injection circuits) are avoided or modified during renovations. Measures are taken to maintain low return temperatures; mixing of the return flow is prohibited.
9. For unused boilers, an automatic hydraulic shut-off device is provided.
10. Circulation pumps must be high-efficiency, with high output and electronic speed control.
11. Hydraulic balancing is mandatory. The preset values are entered in the execution plans and checked upon receipt.
12. Thermostatic valves/taps are installed as a priority instead of mixers.
13. The feed pumps are only started when requested by the individual heating circuits or the hot water heater.
14. For different usage or orientation requirements (e.g. administration, banquet halls, offices, northeast/southwest orientation), separate heating circuits are created.

15. In rooms heated outside of normal hours (e.g. backup services, porter), local heating surfaces are sized accordingly larger.
16. Control devices must include:
    – heating optimization function;
    – automatic temperature reduction;
    – heating curve adaptation;
    – annual timer.
17. Thermostatic valves:
    – in spaces accessible to the public: authorized anti-tampering models;
    – in other rooms: limited to the maximum established temperature (according to Annex 7.1.3).
18. Interior vestibules are not usually equipped with radiators.
19. Components and pipes are designed so that electrical trace heating is not required.
20. Heating surfaces in front of transparent surfaces are avoided. In justified cases, a non-removable panel/mask with minimum 50 mm insulation, thermal conductivity ≤ 0.035 W/(m·K) is installed.
21. The use of gas or electric patio heaters is prohibited.
22. Electricity is not used, in principle, for heating purposes.

5.3 Domestic hot water system

Domestic hot water systems must comply with the following technical and hygienic requirements:

1. The sizing is done according to the actual use of the building. For hygiene reasons, a fresh water station and minimizing the system volume are recommended.
2. Electric heating of hot water is only permitted for decentralized consumption points with low usage, in the form of instantaneous electric heaters.
3. Install programmers that allow weekly programs to be set to stop hot water recirculation, ensuring a cumulative stop of at least 8 hours/24 h, divided into short intervals, to prevent the water from cooling below 55 °C and the occurrence of non-compliant hygienic conditions.
4. Appropriate technical solutions are used to prevent the proliferation of germs, especially legionella:
   – dead pipes (non-circulated branches) are avoided;
   – consumption points are connected in a loop;
   –install, as far as possible, fresh water stations or systems that do not require thermal disinfection.
5. At outdoor swimming pools, as part of renovation works and new projects, additional solar collectors are installed for water heating, if there are available surfaces.

5.4 Ventilation and air conditioning (HVAC) systems

Indoor air hygiene and thermal comfort requirements are primarily met through natural ventilation through windows. Indoor areas without access to windows are avoided as much as possible.

The design and execution of HVAC systems must comply with the following technical principles:

1. HVAC systems are always equipped with heat recovery units.
   – Below 500 h/year: recovery coefficient ≥ 0.5;
   – Over 500 h/year: ≥ 0.7;
   – Over 3,000 m³/h and 3,000 h/year: ≥ 0.8.
   For units without cooling, a bypass of the heat exchanger is provided for summer operation.
2. Ventilation ducts are insulated with thermal conductivity ≤ 0.035 W/(m K), including anti-condensation protection, as follows:
   a) Inside the thermal envelope:
   – fresh air: 100 mm;
   – exhaust air: 100 mm;
   – blown air: 30 mm;
   – stale air: 30 mm;
   b) Outside the thermal envelope:
   – fresh/exhaust air: 25 mm;
   – blown/stale air: 80 mm or equivalent.
3. New installations: efficiency class SFP 1 (if technically feasible), otherwise SFP 2.
4. Fans:
   – direct drive (preferable);
   – if not possible: flat belt;
   – high-efficiency motors (IEC IE2 or higher) or EC;
   – control by frequency converters;
   – no belt guards/grilles in inaccessible areas; protection is provided by other means.
5. Daily, weekly and annual timed programs are provided.
6. For systems > 10,000 m³/h: electricity meter with remote data transmission or connection to BMS.
7. At reception: air flow rates and electrical consumption in different operating modes are measured and recorded.
8. Groups of rooms for temporary use (meeting rooms, auditoriums):
   – request button for temporary start (e.g. 1 hour);
   – buttons accessible to users: max. 3 hours;
   – in specialized rooms: min. 45 minutes.
9. Air flow control according to actual needs (programs, humidity, air quality - CO_2/presence).
10. In buildings with mechanical ventilation, opening windows are provided - natural ventilation is preferred outside the heating season.
11. The air flow and fresh air proportion are kept to the minimum required

5.5 Cooling

Cooling of buildings and rooms must comply with the following requirements:

1. Air conditioning/cooling is allowed in public buildings in Rîșcani only if all options for reducing the thermal load have been exhausted. Exceptions: rooms with medical or technical needs (consultation/treatment rooms, operating rooms, hospital wards).
2. Devices/equipment that require cooling are arranged and designed constructively and technically for optimal energy exploitation:
   – location in areas with low thermal loads;
   – spot cooling instead of cooling the entire room.
   The temperature in the server rooms is constantly monitored. Up to approx. 30 °C does not affect the electronic components. If cooling is unavoidable, the devices are encapsulated.
3. If room cooling is required:
   – internal load reduction and natural night ventilation are exhausted;
   – the need for cooling is verified by a qualified procedure (e.g. dynamic simulation), which indicates the cooling work and comfort restrictions.
   If the need persists, direct ground cooling is being considered.
4. If a cooling system is required:
   – ground cooling and air pretreatment in the ground exchanger are examined;

– cooling networks: 14 °C/18 °C (flow/return);
– in special areas, the concept is agreed with the energy manager.

5.6 Electricity

(1) Electrical energy, being the final product of a large number of conversion processes, is used with great care.

(2) Electrical systems shall be planned and executed exclusively with high efficiency.

5.6.1 Electrical systems and devices

When planning and purchasing electrical systems and equipment, the following criteria must be observed:

1. Oversizing of electrical installations and drives is avoided.
2. Only appliances from the highest energy efficiency classes are used, except in economically justified cases.
   – For equipment without an energy label: the most efficient products available are chosen.
   – IT equipment: permissible operating temperature ≥ 30 °C permanently. Cooling is done directly on the device.
   – Copiers, fax machines, computers: mandatory with energy saving function.
3. Elevators with intensive use are designed with energy regeneration in the network (mains feedback).
4. Electric water heaters for periodic use are equipped with weekly/annual programmers.
5. In the training rooms:
   – PCs and IT peripherals: centralized shutdown outside of hours (night, weekend, holidays);
   – individual devices: disconnected from the network through extension cords with a switch.
6. Electric humidifiers/dehumidifiers: purchase permitted only with written approval from the occupational health service, attached to the technical documentation.

7. Refrigerators: without freezer compartment, except in justified cases.
8. Reactive power compensation systems: mandatory if cos φ < 0.9.

5.6.2 Lighting

Buildings and common spaces (especially workplaces) are designed and furnished with priority for the use of natural light. Permanent shading of glazed surfaces is avoided. The lighting installation is configured for lighting adapted to the usage requirements of each area/room. All common spaces benefit, whenever possible, from natural lighting.

The following technical recommendations must be followed:

1. Switching as needed:
   – several switching circuits;
   – window zones and interior zones are switched separately;
   – the switches are mounted one below the other (not in series);
   – in traffic areas, sanitary rooms (excl. WC cabins), gyms: time-dependent control + presence detectors;
   – in traffic areas with variable lighting: fixtures influenced by natural light are switched separately by light sensors;
   – in rarely used rooms (kitchenette, copy room, warehouse, basement, etc.): priority motion detectors; in the absence of these: “Turn off the lights” sign;
   – in suitable interior rooms: control via presence detectors.
2. Lighting levels for common uses (administration, schools, sports halls, offices, kindergartens, hospitals, swimming pools) are checked according to the NCM and reduced if necessary.
3. Surface reflectance (minimum values on new surface):
   – ceiling: 0.8–0.9;
   – wall: 0.6–0.8;
   – worktop/floor: 0.3–0.4;
   – working area: 0.4–0.7.
   For acoustic ceilings: color reflectance 0.8–0.9.
4. Installed power:
   – target value: 2.0 W/m² / 100 lx;
   – maximum value: 3.0 W/m² / 100 lx;
   – maintenance factor: max. 15%.
   Deviations in special areas (e.g. hospital beds, laboratories): to be agreed with the energy manager. General lighting: direct, with indirect component allowed only for the ceiling. After renovations/new buildings: illuminance is measured and recorded at reception. When replacing: energy-efficient options are preferred.
5. Lighting fixtures:
   – high overall efficiency in space conditions;
   – for variable use (classrooms, offices, etc.): multi- or dimmable ballast/driver;
   – a single light source per body;

– cleaning: once every 2 years.

6. Artificial light sources:
   – only gas discharge lamps or LEDs;
   – energy label class A or higher;
   – decorative: compact fluorescent lamps, LEDs, metal halides;
   – incandescent lamps (including halogen filament) – PROHIBITED.
7. Effect lighting (floodlighting):
   – the need is analyzed in detail;
   – interior: compact fluorescent lamps/LEDs + appropriate fixtures;
   – outdoor: HP sodium vapor or LEDs.
8. Escape route indicators: LEDs or fluorescent panels.

5.6.3 Mains power supply

Electrical power systems must comply with the following requirements:

1. Only low-loss transformers are used.
2. Transformers are installed close to energy-intensive consumers to reduce line losses and avoid large voltage drops.
3. The sizing of transformers adapts to actual consumption requirements.
4. To avoid load peaks, appropriate measures are provided (e.g. interlocks, maximum power monitoring systems, time schedules).
5. The voltage drop between the building connection point (meter) and the socket/equipment terminals does not exceed 3%.

5.7 Water

Drinking water is used in moderation, respecting drinking water hygiene.

When using drinking water, the following instructions must be followed:

1. The flow rate in showers and sinks is checked and set:
   – shower head: ≈ 9 l/min (full jet);
   – washbasin: ≈ 3.5 l/min.
   Collective showers: timed taps (≈ 20 seconds).
   Toilets: dual-flush mechanisms (economy button). Automatic urinals: turned off during non-operational periods.
2. Equipping rooms with water points:
   – Without tap: offices, group rooms, etc.;
   – Cold water: WC entrances, cleaning rooms, classrooms with blackboards, etc.;
   – Cold + hot water: kitchenettes, kitchens, disabled toilets, laundries, showers, medical offices, etc.
3. For toilets and urinals, if the estimated annual consumption is > 100 m^3, it is mandatory to check the use of rainwater or grey water for washing/cleaning.
4. Individual urinals: hybrid type, with programmable hygienic flushing and water saving.
5. Drinking water is not used for direct cooling.

6. Exterior faucets: lockable/secured handle.
7. Irrigation of green spaces: rainwater from the roof is analyzed; an intermediate meter is installed on the pipe.
8. Hard-to-reach meters (e.g. dormitories): remote reading system.
9. Fountains/aquatic features: recirculation with timed control.
10. Washing wastewater collectors and rainwater retention basins: with wastewater, as much as possible.

5.8 Measurement, control and regulation technology

(1) For all municipal properties, the metering concept must be agreed with the energy manager. (2) The additional costs for implementing the concept are clearly highlighted in the project.

The metering concept must comply with the following criteria:

1. The measurement of generating components (cogeneration, heat pumps, absorption chillers, etc.) is configured to verify the efficiency of each component by recording the amounts of energy supplied and delivered.
2. Documentation of the use of renewable energies receives special attention.
   – The energy manager maintains an updated central register.
   – All renewable energy installations (photovoltaic, solar collectors, biomass, ambient heat, etc.) are equipped with dedicated meters.
3. A clear distinction is made between energy for heating and energy for processes (e.g. steam).
4. If the size of the building allows, a distinction is made between heat for ventilation and static heat for heating.
5. The electricity consumption of relevant consumers (e.g. air conditioning systems) is measured separately.
6. Buildings with different uses (gym, school building, etc.) and different years of construction are equipped with intermediate meters.
7. If possible, different organizational units benefit from separate meters.

(2) The meters shall be read and recorded periodically or connected to an automatic data transmission system, as agreed with the energy manager.

(3) For all specialties (trades) in the properties, a coordinated control and regulation technology is developed, in order to achieve the following mandatory objectives:

- defined operating mode when using several generating components (e.g. sequential or cascade control);
- simple and intuitive operation;
- centralized control of all essential functions in the areas of:
  – heat production and storage;
  – heating;
  – ventilation;

– cooling;
– hot water preparation;
– water treatment;
– lighting.

The design and implementation of measurement, control and regulation systems must comply with the following criteria:

1. Only digital control devices compatible with interconnection/networking are used.
2. In the preliminary design phase:
   – a preliminary control and regulation concept (topology + functional program) is developed, in consultation with the HVAC and electrical designers. In the design for execution phase:
   – specialized designers draw up the detailed functional description, including the regulation/control concept, adapted to the requirements of use and operating time;
   – this is harmonized with the administration manager, users and energy manager.
   From this process results the technical components and software programming.
3. Absolute priority: ease of use. The operator must be able to independently create/modify schedules.
4. Consumers and systems that allow interruption of operation are equipped with maximum power control (peak load limitation) to reduce the total supply power.
5. System documentation is created and constantly updated, including at least:
   – control scheme;
   – description understandable to the general public;
   – setting values and operating programs/intervals.
6. The architect, in consultation with the energy manager, develops a user guide, which includes: – the particularities of the construction;
   – information for achieving thermal comfort limit conditions.
7. If BMS (Building Management System) is provided, it guarantees:
   – site plans for locating installations;
   – entering current values and reference values (setpoint) into schemes;
   – archiving the main parameters in a database (with trend curves), electronically exportable.

CHAPTER 6
ECONOMIC EFFICIENCY

(1) An energy-impact investment is considered cost-effective if the energy and operating cost savings over the calculated lifetime exceed the investment costs.

(2) The calculation of profitability is carried out by the energy manager, in consultation with the architect.

(3) Operating costs are determined by the energy manager and included in the calculation.

(4) As a rule, the static capital recovery method (investment costs / annual energy savings) is used.

(5) If, during the implementation, the framework conditions change significantly, the profitability analysis shall be updated by the energy manager.

(6) For dynamic analyses, the Net Present Value (NPV) method is applied:

– the net present value of the surplus generated at the beginning of the period;

– interest rate: current municipal rate;

– energy price growth rate: average established by the energy manager.

(7) If a measure is cost-effective, it is implemented in the short term.

CHAPTER 7
FINAL PROVISIONS

7.1 Annexes

The annexes are an integral part of this regulation and include:
7.1.1 Data on boilers and burners
7.1.2 Maintenance log
7.1.3 Room temperature requirements
7.1.4 Energy consumption log
7.1.5 Energy consumption log form

7.2 Entry into force

7.2.1 The Regulation enters into force immediately after its adoption by the Rîşcani municipal council.
7.2.2 The amendment and completion of this regulation shall be carried out by decision of the Rîşcani Municipal Council , at the proposal of the mayor of the city of Rîşcani , the Municipal and Housing Management Department, other competent public authorities or as a result of the amendment of the legislation in force.

Annex 7.1.1 Boiler and burner data

<table>
<tr><td colspan="4">Institution/Objective</td></tr>
<tr><td colspan="4">BOILER AND BURNER DATA
(completed once for each boiler)</td></tr>
<tr><td colspan="2">Goal address
_____</td><td>Inventory number
_____</td><td>GZ code:/
_____</td></tr>
<tr><td>Combustible:</td><td>● Natural gas
● tar
● Liquefied gas
● Fuel oil/natural gas
● Wood
● _____</td><td>Installation type:</td><td>● Heating
● Domestic hot water heating
● Domestic hot water
● aero
● Kitchen
● _____</td></tr>
<tr><td>Flue gas recirculation:</td><td>● Yes
● Not</td><td>Draught regulator:</td><td>● Yes
● Not</td></tr>
<tr><td>BOILER (no.)</td><td>(numbered from the left)</td><td></td><td></td></tr>
<tr><td rowspan="2">Thermal energy generator</td><td>● Special boiler with fuel oil/gas burner
● Boiler with switching and alternating operation
● Atmospheric gas boiler</td><td>● Combined boiler
● Low temperature boiler
● Condensing boiler</td><td>● Steam boiler
● Converted solid fuel boiler
● _____</td></tr>
<tr><td>Manufacturer:
_____
Type:
_____
Year of manufacture:</td><td>Serial No. (boiler):
___ _____
Nominal boiler power [kW]:
_____
Yield:
_____</td><td>Boiler load [kW]:
_____
Remarks:
_____
_____</td></tr>
<tr><td>BURNER</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Burner type:</td><td>● Without fan
● With fan
● Evaporative burner
● _____ __</td><td>Control type:</td><td>● One step
● Two steps
● Two x two steps
● Modulating
● _____</td></tr>
<tr><td>Brand:</td><td>Serial No. (burner):</td><td>Set to [kW]:</td></tr>
</table>

	_____ Type: _____ Year of manufacture: _____	_____ ___ Power range [kW]: _____	_____ Date of last periodic inspection:_____ Remarks: _____
Responsible for completing_____ Date_____			

Annex 7.1.2 Boiler and thermal installation maintenance and repair register

Date	Operation performed	Executor (name, signature)	Observations / parts changed
	Ex.: Burner cleaning, gas filter replacement, expansion vessel pressure check, etc.		

Annex 7.1.3 Requirements for room temperatures

1. Common rooms in all types of buildings

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Offices, classrooms, living rooms, bedrooms (during use)	20	20–22	24
Locker rooms	18	20–22	24
Laundry and shower rooms	22	22–24	26
KITCHENS	18	18–21	24
TOILETS	18	18–21	24
Corridors and stairwells (usually)	16	16–18	20
Corridors and stairwells (for temporary residence)	12	12–15	18
Storage of materials and equipment (if the goods have a prescribed temperature)	5	5–12	15

2. Administrative buildings, libraries

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Archive rooms/bookshelves	12	15	18
Auxiliary rooms	10	10–12	15
First aid and recovery rooms	20	21	24
Meeting rooms (during use)	18	20	24

3. Schools and educational institutions

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Classrooms	18	20–22	24
Auditoriums, workshops (depending on use)	17	17–20	22

4. Sports facilities, gyms and sports halls

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Halls/gyms	15	17	20

5.Indoor swimming pools, training pools

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Water temperature (max.)	26	28–30	32
Water temperature in the swimming pool and training pool	24	26	28

6. Youth hostels, day care centers, social housing

Room purpose	Minimum	Recommended	Maximum permissible

	temperature (°C)	temperature (°C)	temperature (°C)
BEDROOM	16	18–20	22
Area for young children	20	22	25

7. Children's homes, day care centers

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Rest rooms and bedrooms	18	20–22	24

8. Nursing homes/day centers for the elderly, nursing homes

Room purpose	8. Minimum temperature (°C)	9. Recommended temperature (°C)	10. Maximum permissible temperature (°C)
Common rooms and living spaces	20	22	25
BEDROOM	18	20	24

9. Hospitals / family doctor centers

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Operating rooms and other rooms with specific function (functional unit of the operating room)	21	21–24	26
– For children	22	24–26	28
– For infants	25	28	30
– For newborns	27	30	32
Other rooms and corridors of the operating block	20	22–24	26
Intensive care (surgical and internal)	22	24–26	28
Delivery room, premature and neonatal ward	22	24–26	28
Infant ward	22	24–26	28
Bedrooms and living rooms	20	22–26	28
Corridors and stairwells	18	22	24
Common rooms, service rooms	18	20	24
laboratory	18	20	24
Treatment and research rooms	20	24	26

1 0. Museums, public libraries

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Exhibition halls	17	19	22
Stores / warehouse	12	15	18

11. Theaters, banquet halls

Room purpose	Minimum temperature (°C)	Recommended temperature (°C)	Maximum permissible temperature (°C)
Spectator spaces, rehearsal rooms	18	20	24
Artists' booth	20	22	25
lobby	16	18	22

* NCM A.07.02-2012" Thermal protection of buildings

**CP N 2.04.05-97" Sanitary norms for the design of residential and public buildings

***HG 833/2014 / Law no. 128/2014 on the energy performance of buildings.

Annex 7.1.4 Energy consumption log

Institution / Objective: _____
Address: _____
Period: _____ (quarter I, II, III or IV / year _____) **Energy responsible:** _____
Heated area: _____ m² **Total usable area:** _____ m²

No. of documents.	Date and time of reading	Heat energy / fuel meter index (Gcal / m³ / kg)	Boiler operating hours 1	Boiler 2 operating hours	HAT electricity index (day)	Electricity index NT (night)	Maximum power (kW)	Total cold water index (m³)	Boiler cold water index (m³)	Average daily outdoor temperature (°C)	Observations (malfunctions, holidays, heating on/off, etc.)
0	1	2	3	4	5	6	7	8	9	10	11
carry											
1											
2											
3											
...											
...											
last											
Total quarterly consumption		Δ = last – report			Δ × counter const.	Δ × counter const.		Δ	Δ		

Instructions for completing the energy consumption log.

a) Chronological order of records

(1) The form is completed **weekly** , preferably on the same day of the week and at the same time (e.g. Friday at 2:00 p.m.). The municipal energy manager may approve, in writing, other reading intervals (daily, every two weeks, etc.) depending on the specifics of the objective.

(2) All events that influence consumption must be recorded in the "Observations" column:

- fuel delivery (gas, fuel oil, wood, pellets, etc.);
- starting/stopping the heating season;
- turning on/off individual boilers;
- the beginning and end of school holidays or other periods of non-operation;
- repair work, boiler cleaning, filter change, etc.;
- faults and their duration.

(3) When changing any meter, the following shall be recorded on two separate lines:

- last reading of the old meter (final index);
- first reading of the new meter (initial index).

The form covers exactly one calendar quarter and closes on March 31, June 30, September 30 and December 31.

b) Consumption records

(1) Column 2 – the index of the main heat or fuel meter is recorded (Gcal, m³ natural gas, kg fuel oil, etc.).

(2) Columns 3 and 4 – shall be completed only if there are operating hour meters for the boilers. If such meters are missing, the situation shall be reported immediately to the municipal energy manager.

(3)Columns 5 and 6 – main electricity meter index:

- column 5: HAT tariff (high voltage/day);
- column 6: NT tariff (night/low). Column 7 – maximum power recorded in the month (kW) – is taken from the supplier's invoice or from the electronic meter.

(4)Column 8 – index of the main cold water meter (total institution consumption).

(5) Column 9 – the index of the cold water meter supplying the domestic hot water boiler/preparer (if any). The quarterly difference represents the hot water consumption.

(6) If the form does not contain all the necessary data (e.g. multiple boilers, gas/oil convertible systems, separate circulation pumps, mechanical ventilation, cooling, etc.), an identical additional form shall be used. All forms (main + additional) shall be completed in the same chronological order and archived together.

c) Determination of consumption

When calculating quarterly consumption, the difference between the first line (report) and the last record is determined, and the result is transferred to the "Total consumption" line.

– For electricity, the index difference is multiplied, if applicable, by the meter constant.

d) General information

Annex 7.1.6 contains a completed example of an energy consumption log. The example demonstrates the need for additional readings (in addition to the usual weekly readings) in the following situations:

- the end or start of the heating season;
- turning on or off individual boilers;
- the beginning and end of school holidays or other periods of non-operation;
- final/initial reading when changing the meter;
- any other situation that may significantly influence consumption (fuel delivery, repair work, etc.).

If abnormal increases in consumption caused by faults are found, these are remedied urgently, and the event and the measures taken are recorded both in the "Observations" column and in the Maintenance and Faults Register. Rigorous recording helps to quickly identify weak points and to substantiate corrective and investment measures. Additional explanations, additional form templates or electronic versions of the log are requested from the municipal energy manager or the Communal and Housing Management Department.

Annex 7.1.5 Energy consumption log form

Information about the energy data collector

Energy consumption institution/unit: _____

Name of the energy data collector: _____

Address: _____

	Heating			**Electricity**			**Water**			**Observations**
Counter, no.:										
Factor:										
Transfer:										
Dates:										

Please keep the originals on site.
Please record meter readings weekly/bimonthly.
Please submit the completed data entry form, quarterly, to the energy manager:

Contact details of the energy manager:

Annex 7.1.6 Completed example Energy consumption log form

Information about the energy data collector

Energy consumption institution/unit: **Heated area:** **4,850** m² **Address:** Balti municipality, 120 Stefan cel Mare street

"M. Eminescu" Theoretical High School

No.	indicator	MU	November 2025	October 2025	Cumulative season 2025–2026
1	Billed thermal energy	Gcal	285.4	112.6	397.9
2	Natural gas consumed	m³	32 180	12,700	44 880
3	Total electrical energy	kWh	9 850	8 900	18,750

Please keep the originals on site.
Please record meter readings weekly/bimonthly.
Please submit the completed data entry form, quarterly,
to the energy manager:

Energy manager contact details: Popescu Ion