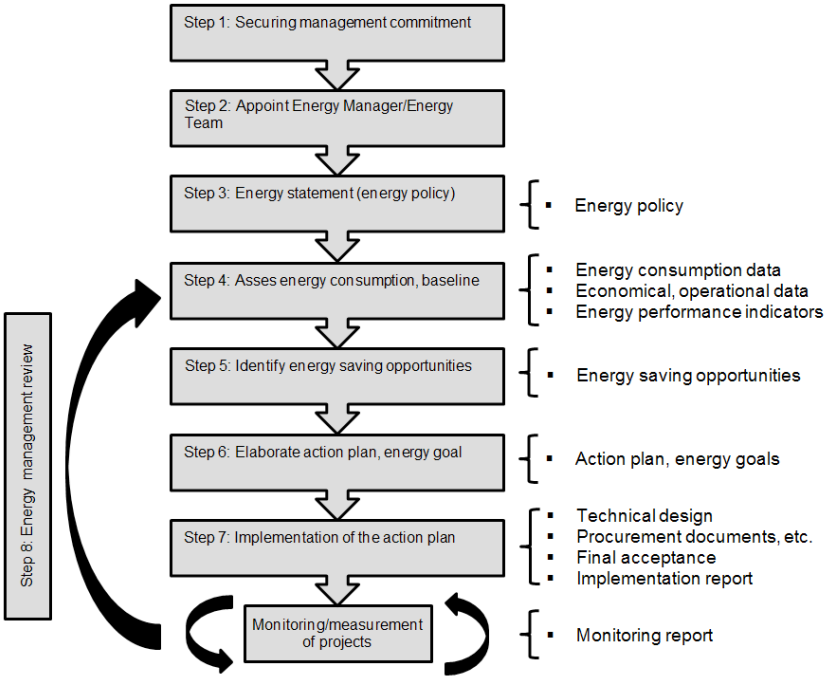
**Content**

# 1. WHAT IS AN ENERGY MANAGEMENT SYSTEM?

An Energy Management System (EMS) is a systematic process for continually improving the energy performance of an organisation. The main idea is the implementation of organisation-al, behavioural and technical actions in order to minimise the energy consumption of the or-ganisation.

An Energy Management System refers to a documented procedural system. Large organisations[1] can have their Energy Management System certified to a recognised standard, of which the main example is ISO 50001.

Key elements of an Energy Management System:

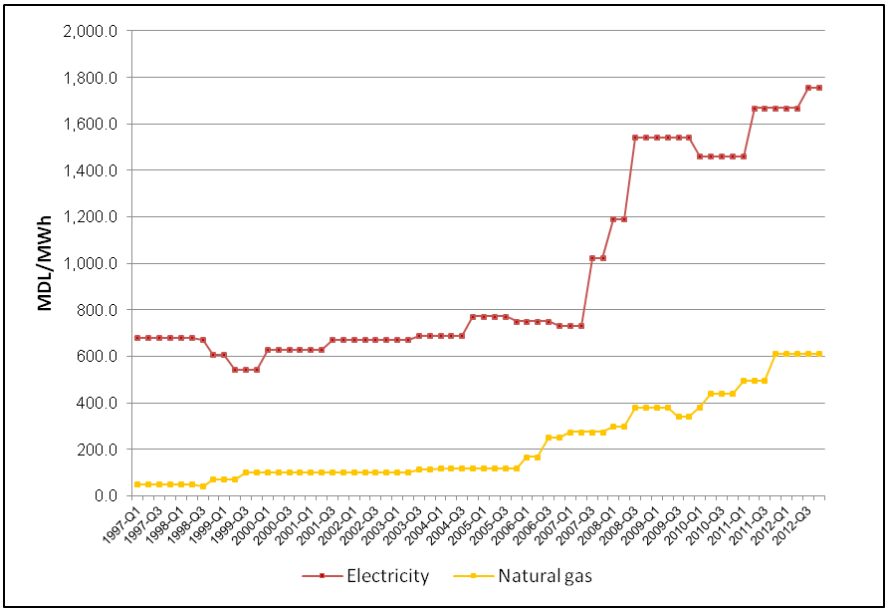



1 Not recommended for hospitals due to the considerable efforts

The success of an Energy Management System depends highly on the 'willingness' of the involved persons (Hospital Management, Energy Team, other relevant staff), but usually not on the availability of funds for investments.

## 2. BACKGROUND INFORMATION

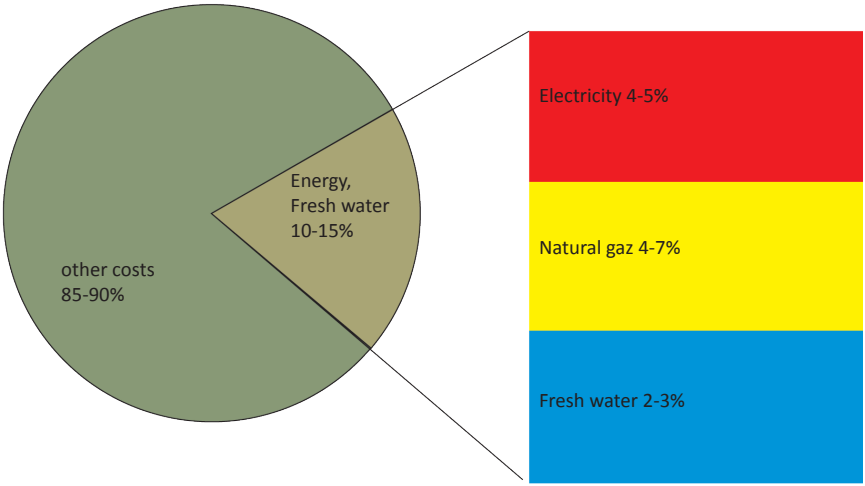
Hospitals have high energy consumption due to the operation of many heated buildings, high comfort requirements (high indoor temperatures, long heating season, demand for ventilation and cooling) and 24h operation. The energy prices substantially increased in the recent years, the electricity price increased by +134% and the natural gas price increased by +265% since 2006.




*Source: National Agency for Energy Regulation, 2012*

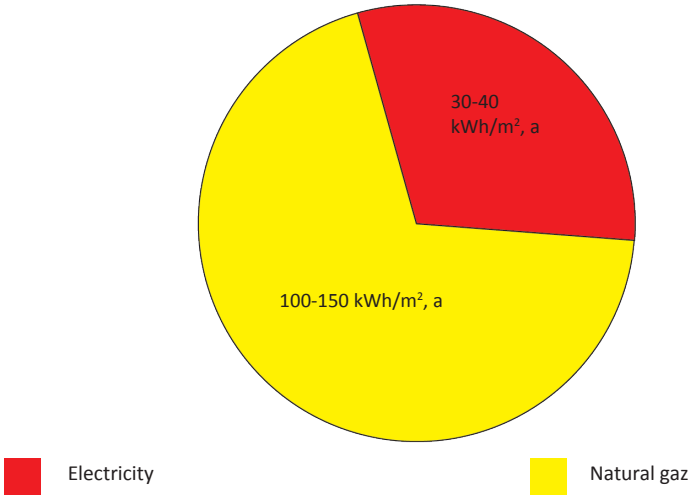
An average hospital in the Republic of Moldova spends approx. 10-15%, of their total budget on energy including costs for fresh water and sewage. The average hospital consumes around 30 – 40 kWh per m² on electricity (→ share of around 4-5% of the total energy costs) and around 100 – 150 kWh per m² on natural gas (→ share of 4-7% of the total energy costs). The fresh water consumption (incl. sewage cost) amounts to around 2-3% of the total hospital budget.

Hospitals in the Republic of Moldova still show in average a significant lower energy demand compared to western European hospitals[2] due to restricted usage of heat-ing/cooling/ventilation and the lack of some technical equipment.




*Share of Energy and fresh water (incl. sewage) costs*

2 Electricity consumption in western European hospitals: 80 – 120 kWh/m², andnatural gas consumption in western European hospitals: 200 - 300 kWh/m², a




*Energy consumption in kWh/m², a*

The increasing energy consumption due to improved and demanded services for patients (heating, cooling, ventilation, domestic hot water, medical equipment, etc.) combined with in-creasing energy prices will lead to an even greater financial burden on hospitals in the near future. Therefore energy efficiency is a key instrument to improve the financial situation of hospitals.

## 3. WHY SHOULD HOSPITALS IMPLEMENT AN ENERGY MANAGEMENT SYSTEM

Hospitals should establish an Energy Management System for the following reasons:

- to reduce the overall energy consumption and energy costs for the hospital
- to redirect savings from reduced utility bills to medical needs or improved comfort for patients
- to understand better the energy consumption, and opportunities for improving the technical standard of hospital's facilities, buildings and processes
- to provide predictive maintenance indicators (reducing frequent equipment downtime)
- to prioritise the no cost and low cost energy saving opportunities in day to day opera-tions
- to increase the comfort e.g. in buildings (proper heated rooms, no overheated or un-dersupplied rooms)
- to ensure a continual process of improving the hospital's energy system
- to increase the energy awareness among staff and greater participation
- to ensure that senior managers commit to energy efficiency and that all staff play a role in the process
- an improved supply security for energy.

The implementation of an Energy Management System does not automatically lead to a re-duced energy bill, but it is a first step and key requirement for the identification and imple-mentation of energy saving opportunities. Once saving opportunities have been identified targeted measures must be implemented to unlock this saving potential.

Very often the consumption can be reduced by no-investment or low-investment measures such as sealing leaks, insulation of pipes in buildings and the boiler house, maintenance of technical facilities, adoption of working processes, training of staff, etc.

## 4. HOW TO IMPLEMENT AN ENERGY MANAGEMENT SYSTEM (STEP BY STEP APPROACH)

### 4.1 STEP 1: SECURING TOP MANAGEMENT COMMITMENT

It is crucial that the Energy Management System has the full commitment from the top man-agement of the hospital. This commitment can be demonstrated by signing and communi-cating an official decision, but in general continuous engagement from the top management is needed to make successful energy management possible.

The commitment is more than a statement of support – it should establish accountability among managers involved in the implementation of the system, and should require regular reporting on progress.

Having the full commitment of the top management does not mean that other organizational priorities are compromised. It means that energy performance issues are correctly prioritised and fit within overall objectives and challenges.

Who: Hospital Management

Result: Official decision on implementation of the Energy Management System

### 4.2 STEP 2: APPOINT AN ENERGY MANAGER AND AN ENERGY TEAM

The Hospital Management has to appoint an Energy Manager and the members of the Ener-gy Team (by order). The Energy Manager is responsible for the establishment, implementa-tion and improvement of the Energy

Management System and must have the required authority and necessary resources to accomplish the tasks. The Energy Team comprises of 3 to 5 hospital employees and will be led by the Energy Manager.

Typically the following persons should be part of the Energy Team:

- Energy Manager (team leader of the Energy Team)
- Responsible person for the hospital buildings
- Responsible person for the boiler house and heat supply
- Responsible person for the electrical system and other hospital facilities
- On demand: accounting department
- On demand: external experts such as Energy Manager of the Rayon and external Con-sultants

The Energy Manager, who fulfils a key role in the process, should meet the following re-quirements:

- Permanent employee of the hospital
- Higher technical education (e.g. technical school or university degree in engineering fields, facility management or similar)
- One to three year's work experience in technical and commercial fields (project man-agement, project implementation)
- Knowledge/experienced with energy management system, a broad range of energy effi-ciency technologies, project management
- Computer literate, in particular in the use of Excel and Word
- Self-motivated to deepen knowledge in technical and economic issues
- Familiar with the hospital facilities.

The Energy Team should be officially introduced to the hospital employees. The Energy Manager reports regularly the progress directly to the Hospital Management. The Hospital Management has to ensure an effective support of the Energy Team and allocates sufficient time resources.

The roles and responsibilities of the members of the Energy Team should be developed and agreed on by the Hospital Management and the Energy Team.

Who: Hospital Management, Energy Team

Result: Appointment of the Energy Team, matrix of roles and responsibilities.

### 4.3 STEP 3: ELABORATION OF ENERGY STATEMENT (ENERGY POLICY)

An energy policy establishes and validates Hospital Management's commitment to energy performance improvement. It formalizes the Hospital Management's support and articulates the hospital's commitment to energy efficiency for employees, Rayon Council, Municipality, the responsible Ministry and other stakeholders.

In a very general sense, the policy addresses what is important to the organization in terms of energy.

The energy policy should be concise (maximum 1 page) and comprise at least the following key elements:

- commitment for the implementation of an Energy Management System
- continual improvement of the energy performance
- State an objective — have a clear, realistic objective
- commitment to provide information and resources to meet the objectives
- commitment to support purchasing energy efficient products and services

- nomination of the responsible person for the implementation

The energy policy should be communicated to all employees and stakeholders (e.g. published in the entrance hall of the hospital, on the hospital web page, etc.).

Practical example: Energy statement (energy policy)

**ENERGY POLICY**

As one of the largest hospitals in the Republic of Moldova with considerable energy con-sumption, ABC hospital administration adopted a firm position on reducing the energy consumption and costs while not diminishing the quality of medical services or the comfort for patients.
Furthermore, we are promoting environmental protection in the context of a sustainable development of the hospital.

To achieve this we intend to:

- continuously improve energy efficiency of the hospital by establishing and imple-menting an effective Energy Management System;
- reduce the annual energy consumption of the hospital by developing and imple-menting annual action plans with appropriate energy efficiency goals;
- purchasing goods and services considering energy efficiency's criteria;
- ensure compliance with all legal requirements for the use of energy;
- train and improve the qualification of employees in efficient use of energy;

We promote the idea of energy efficiency in all subdivisions of ABC hospital in order to be acknowledged by all employees, increasing their responsibility in the exercise of profes-sional duties.
The administration of the hospital nominates xx (Energy Manager) as responsible for the implementation and continuous improvement of the Energy Management System.

Date_____ Approved_____

Who: Hospital Management, Energy Team

Result: Energy policy

## 4.4 STEP 4: ASSESS THE ENERGY CONSUMPTION AND IDENTIFY A BASELINE

### STEP 4.1 COLLECTION OF DATA AND INFORMATION

The Energy Team has to collect the following data:

- Register of the main energy consuming equipment (electricity, natural gas, fuel oil, coal, etc.)
- Data to be collected: Type of equipment (usage), location, nominal capacity, operation hours per year (estimated), load factor (estimated) etc.
- Register of the main consumers of fresh water
- Data to be collected: Type of usage, location
- Register of building data
- Data to be collected: Name and usage of buildings, location, total floor area, total heated area, technical condition, etc.
- Energy consumption and fresh water consumption for the last 3 – 5 years
- Data to be collected: Energy consumption data by fuel type (at least on a monthly basis), fresh water consumption (at least on a monthly basis).
- Users (employees) with significant impact on energy/water consumption
- Data to be collected: List of users and their working place, responsibilities, etc.
- Economical and operational data of the hospital for the last 3 – 5 years
- Data to be collected: number of hospital beds, number of patients, number of overnight stays of patients (patient days), total expenditures, energy costs, operational costs, costs for maintenance, energy prices, fresh water/sewage prices, etc.
- Other data and information
- Technical schemes (hydraulic scheme of the boiler house, scheme of the district heating system, etc) building passports, climatic conditions (heating degree days, breakdowns, etc.

The implementation of an Energy Monitoring System in order to collect consumption data from main consumers is highly recommended. Further information on the implementation of an Energy Monitoring System can be found in the practical guideline for implementing an Energy Monitoring System.

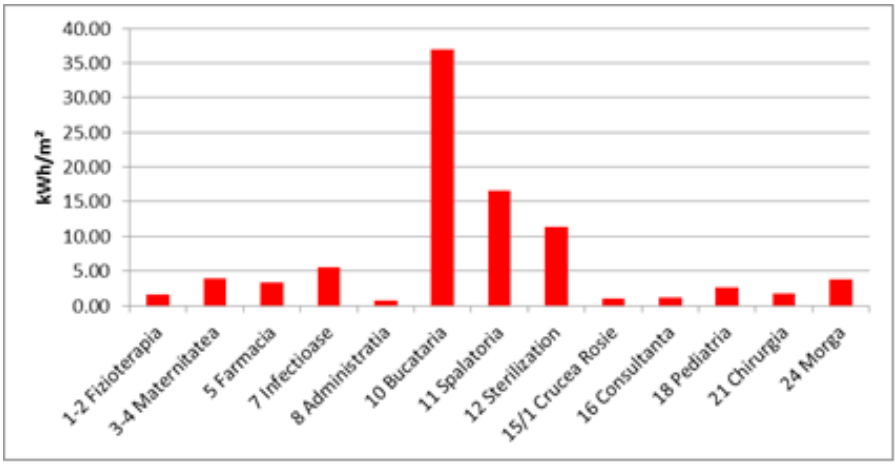
**STEP 4.2 ANALYSIS OF DATA**

The Energy Team has to assess the collected data and information in order to identify:

- Energy and fresh water consumption trends and cost trends
- Key consumers with high energy consumption
- Users who have a significant impact on the hospital's energy performance
- Unusual consumption patterns of individual consumers
- Malfunctions which lead to high energy consumption
- Suboptimal organised processes, avoidable consumption, etc.
- Data gaps, areas where more information is needed (e.g. additional meters)

In order to facilitate the assessment of the collected data, several tools such as excel tables, diagrams or Sankey diagrams, etc. should be used.

Practical example: Specific consumption of electricity in kWh/m² in February for different hospital buildings




## STEP 4.3 ESTABLISH THE BASELINE[3] AND ENERGY PERFORMANCE INDICATORS

Measuring/calculating the energy performance at a specific time establishes a baseline and provides the starting point for setting goals and evaluating future efforts and the overall per-formance of the hospital. The reference year for calculation of the baseline should be a rep-resentative year for the hospital's operation (e.g. 3 to 5 years in the past) with complete and relevant sets of data available.

The consumption of fuel for the production of heat energy (usually natural gas) should be weather-normalized against the reference year (e.g. usage of heating degree days) in order to avoid misinterpretation due to variation of the climate conditions.

3 Baseline: a baseline is a clearly defined starting point (reference year) on which basis the energy performance of the hospital is assessed, or comparisons are made.

The energy performance indicators have to be calculated and monitored for each year, month, week or even day depending on their relevance for the Energy Management System.

Typical energy performance indicators for hospitals are:

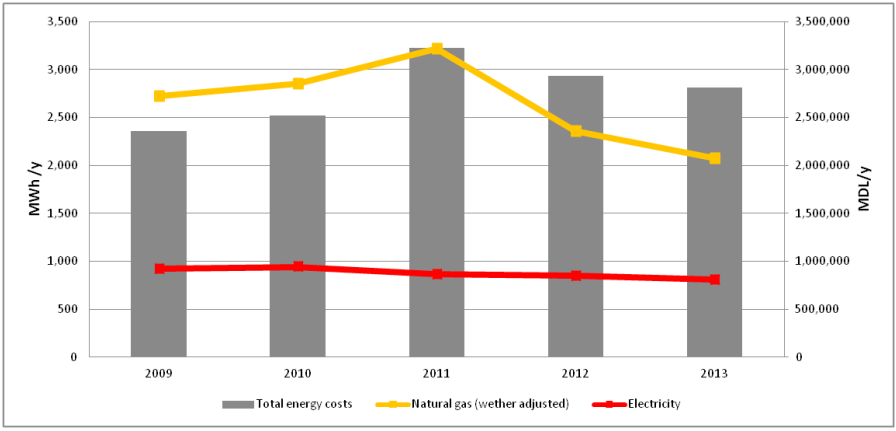
- Electricity: kWh per m², kWh per patient day, kWh per bed
- Natural gas: kWh (or m³) per m², kWh (or m³) per patient day, kWh (or m³) per bed, kWh (or m³) compared to heating degree days (HDD).
- Fresh water: m³ per m², l per patient day, m³ per bed
- Share of energy costs on the total expenses
- Others

The Energy Team has to calculate energy performance indicators to compare the energy performance of the hospital between years or months, between buildings, between different equipment, etc. according to the requirements of the hospital.

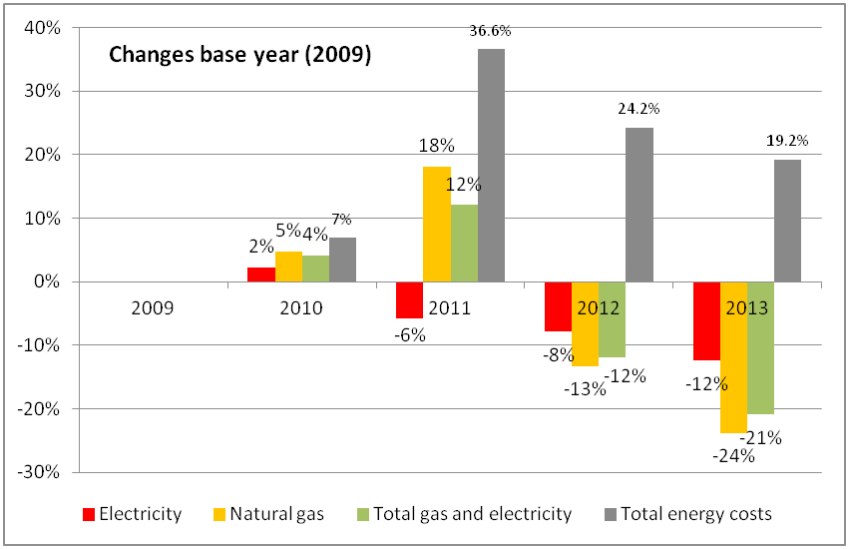
*Practical example: Energy consumption for electricity, energy performance indicators kWh/bed, kWh/patient day, kWh per m² between 2009 (reference year) and 2013*

| Summary production and energy data | | | | | | |
|---|---|---|---|---|---|---|
| | | 2009 | 2010 | 2011 | 2012 | 2013 |
| Expenses | MDL | 32,238,792 | 34,309,918 | 37,802,286 | 44,005,180 | 47,329,107 |
| Number of patient | # | 14,236 | 15,231 | 15,659 | 15,004 | 14,933 |
| Average stay | | 8.4 | 7.7 | 7.9 | 7.8 | 7.6 |
| Patientdays | days | 119,582 | 117,279 | 123,706 | 117,031 | 113,491 |
| Number of beds | # | 430 | 430 | 430 | 430 | 430 |
| Conditioned area | m² | 21,606 | 21,606 | 21,606 | 21,606 | 21,606 |
| Electricity consumption | MWh | 921 | 942 | 868 | 848 | 807 |
| *Changes to base year* | % | - | 2% | -6% | -8% | -12% |
| Electricity price | MDL/kWh | 1.320 | 1.573 | 1.604 | 1.652 | 1.680 |
| Electricity costs per year | MDL | 1,215,953 | 1,481,832 | 1,391,581 | 1,401,755 | 1,355,022 |
| Electricity per bed | kWh/bed | 2,142 | 2,191 | 2,018 | 1,973 | 1,876 |
| Electricity per patient | kWh/patient | 65 | 62 | 55 | 57 | 54 |
| Electricity per m² | kWh/m² | 43 | 44 | 40 | 39 | 37 |
| Share electricity costs | % | 3.8% | 4.3% | 3.7% | 3.2% | 2.9% |
| *Benchmark [1]: Electricity per m²* | *kWh/m²* | *80 - 120* | *80 - 120* | *80 - 120* | *80 - 120* | *80 - 120* |

*Practical example: Diagramm showing the consumption for electrcity and natural gas and the total costs for energy between 2009 (reference year) and 2013.*




*Practical example: Increase in % of electricity, natural gas and total costs compared to the reference year (baseline) 2009*



Who: Energy Team

Result: Table with technical specification of key consumers, table of energy consump-tion data, table with building data, table with economical and operational data, energy performance indicators, other relevant data.

## 4.5 STEP 5: IDENTIFICATION OF ENERGY SAVING OPPORTUNITIES

The Energy Team will identify potential energy saving projects/measures by using the follow-ing methods:

- Findings from analysing the energy consumption data (see step 4.2)
- Experiences/findings from employees (e.g. head of boiler house, etc.)
- Reviewing international best practice examples
- Internal energy audits conducted by the Energy Team
- External energy audits conducted by external experts

The identified energy saving opportunities have to be documented in a register with key in-formation such as: short description of the project and the measures, investment class (e.g. no, low, medium, high), responsible person for the implementation, implementation's date, etc. This register will help the Hospital Management to prioritise saving opportunities for the implementation.

*Practical example: General layout of a list of energy saving opportunities.*

| ID | Description of Opportunity | Probleme | Proposed measures | Investment Class | Person Responsible | Completion Date | External support needed | Status | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Heat insulation of heated pipes in boiler houses, heat substations, unheated rooms. | Heat losses of the pipe system (inside the buildings e.g. basement). | Thermal insulation of heated pipes inside the buildings<br>Minimum Insulation thickness of heated pipes:<br>DN 32: min 20 mm; DN 40 - 50: min 30 mm; DN 65: min 50 mm; DN 80: min 60 mm | Low | Head of technical service | 01.09.2014 | low | Progress | Calculation of the lengths |
| 2 | Optimisation of organisation of the sterilisation process | Because of the low quality of the water the new sterilisation equipment goes out of operation | Utilysing the new equipment as much as possible | Low | Administration | 01.04.2015 | low | Progress | - |
| 3 | Replacement of old lamps in buildings. | The existing old lamps have a high energy consumption | Replacing old tube lamps with conventional balasts by new lamps efficiency > 75lm/W (T5, reflector, electronic balast). | Low | Head of technical service | 01.04.2015 | low | Idea | - |
| 4 | External refurbishment of building 21. | High heat losses | Insulation of external walls, installation of windows/doors, rain gutter system (incl. Drainage), insulation of top level/(partly)basement, concrete sidewalks around the building, etc. | High | Head of technical service | 04.09.2015 | asistenta necesara | Idea | - |

Who: Energy Team

Result: Table with energy saving opportunities

## 4.6 STEP 6: SETTING THE ENERGY GOAL, ELABORATION OF AN ACTION PLAN

The purpose of the action plan is to transpose the energy policy into a set of specific actions to be implemented over the coming period.

**Setting a clear and realistic goal**

Energy goals drive energy management activities and promote continuous improvement. Setting clear and measurable goals is crucial for understanding intended results, developing effective strategies, and obtaining financial gains. Communicating goals motivates the staff to support energy management efforts. The Energy Team and the Hospital's Management should set an energy saving goal based on the energy saving potential identified in step 5.

*Practical Example: Energy goal for the action plan*

Reduction of the heat energy consumption of all hospital buildings by 10% during the next 2 years compared with the energy consumption in the reference year 2009. The specific heat energy consumption should be reduced from 126 kWh/m²,a in 2009 to < 113 kWh/m²,a during the next 2 years. The comfort in the buildings should be kept or should be even increased.

Based on the list of identified energy saving opportunities (see step 5), the Energy Team and the Hospital's Management will select measures/projects which should be implemented to improve the energy performance of the hospital and meet the energy goal → action plan. The action plan should consider measures/projects for the next 1 to 2 years (short-term), but also measures for the next 2 to 4 years (mid-term)

The selected measures/projects should be prioritised according to the hospital's needs. Pos-sible prioritization criteria for measures of the action plan:

1. Investment costs (no and low investment measures come first)
2. Complexity of the project (simple to implement measures come first)

3. Highest savings (measures with the highest savings come first)

It is recommended to start with measures which requires only no or low investments (very of-ten those measures can be implemented by the Energy Team without external support). If the decision making process of the Hospital's Management requires more details of each project, the Energy Team should describe each measure/project in more details (e.g. 1 page summary with key information for each project).

The action plan should be officially approved by the Hospital's Management.

*Practical example: General layout of an action plan*

| No | Objective<br>Measures/Energy Saving Oportunity | Investment class | Infestments, EURO | Responsible | 2014 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII |
| | ***O1: Continuous improvement of energy management systems and increasing the capacity of hospital staff in Energy Efficiency*** | | | | | | | | | | | | | | | |
| 1.1 | **Training the Energy Team in a program to enhance skills in energy management** | Low | 900.00 | Director | | | | | | | | | | | | |
| 1.2 | **Training of hospital employees by energy team** | N/A | N/A | Energy Manager | | | | | | | | | | | | |
| 1.3 | **Energy Day at hospital** | Low | | Energy Manager | | | | | | | | | | | | |
| 1.4 | **Energy Management Review** | N/A | N/A | Director | | | | | | | | | | | | |
| | ***O2:Increasing the energy efficiency with 10 % by end of 2015 comparing to base year 2009*** | | | | | | | | | | | | | | | |
| 2.1 | **Heat insulation of heated pipes in boiler houses, heat substations, unheated rooms.** | Low | 2778 | The chief of technical service and Household | | | | | | | | | | | | |
| 2.2 | **Optimisation of hydraulik system of DHS (increasing the temperature difference).** | Low | N/A | The chief of technical service and Household | | | | | | | | | | | | |
| 2.3 | **Replacement of old lamps in buildings.** | Low | 833 | Şef serviciu tehnic şi gospodăresc | | | | | | | | | | | | |
| 2.4 | **Assessment of technical and economic efficiency of laundry service** | Medium | N/A | Director | | | | | | | | | | | | |
| 2.5 | **others...** | High | 15000 | Director | | | | | | | | | | | | |

Who: Hospital Management, Energy Team

Result: Energy goal and action plan approved by the Hospital's Management

## 4.7 STEP 7: IMPLEMENTATION OF THE ACTION PLAN

Implementation of the action plan is part of the day to day operation of the Energy Manage-ment System to ensure that the items scheduled for completion in the action plan are being addressed, completed and verified as expected. The Energy Manager should regularly check the progress of the various measures/projects and report to the Hospital's Management during regularly meetings.

**STEP 7.1: PREPARATION OF DOCUMENTS FOR PROJECT'S IMPLEMENTATION**

The Energy Team will prepare project documents which are required for the further devel-opment of the measures/projects. Type and size of those documents depend on the invest-ment size and the complexity of the measure/project.

| Low investment projects & simple to implement | Medium/high investment projects (external funding required) & complex projects |
|---|---|
| • Detailed description of the project/measure<br>• Estimation of investment costs<br>• Estimation of the internal resources needed (e.g. time resources of the Ener-gy Team)<br>• Demand for external support (e.g. Con-sultant for project preparation and imple-mentation)<br>• Estimation of energy savings<br>• Implementation plan<br>• Monitoring Plan | • Detailed description of the project/measure<br>• Estimation of investment costs, identifi-cation of financial sources<br>• Estimation of the internal resources needed (e.g. time resources of the En-ergy Team)<br>• Demand for external support (e.g. Con-sultant for project preparation and im-plementation)<br>• Estimation of energy savings<br>• Financial analysis<br>• Implementation plan<br>• Monitoring Plan<br>• Risk assessment |

It is recommended to address all the above mentioned issues in a project report. Based on the results of the project report the Hospital's Management and other relevant Stakeholders have to approve the implementation of the project.

In case external funding is required for the preparation and implementation of the project, additional documents might be required by the funding

institution. Those documents should be prepared by the Energy Manager.

Who: Energy Team, Hospital's Management, other relevant Stakeholders

Results: Project report

**STEP 7.2: IMPLEMENTATION OF THE ACTION PLAN'S PROJECTS**

Once the projects are approved by the Hospital's Management and the relevant Stakeholders (incl. funding, if required) the technical design of the project should be elaborated/finalised and the procurement process must be established.

**Technical design:**
Depending on the complexity of the project, experienced external Consultants might have to be involved in the technical design of the project. The technical design must consider equip-ment for monitoring performance indicators and energy consumption of the project.

**Procurement process:**
Depending on the type of project, the national legislation on public procurement must be considered. Clear and measurable performance criteria for the project should be introduced into the procurement documents.

**Implementation, final acceptance:**
During the implementation of the project the Energy Team has to supervise closely the im-plementation process. Depending on the complexity of the project, experienced external Consultants might have to be involved for supervision of the implementation. The implement-ing contractor has to prove that the project fulfils all criteria outlined in the technical design (e.g. performance indicators) during a test operation. In case all criteria are fulfilled the final acceptance can be issued. After the project implementation the Energy Manager has to pre-pare an internal implementation report for the Hospital's Management.

Who: Energy Team (external Consultants on demand)
Result: Technical design, documents for procurement (tender book), final acceptance, im-plementation report

**STEP 7.3: MONITORING OF THE ACTION PLAN'S PROJECTS**

The Energy Team should monitor/measure the results of the implemented projects for a longer period of time (e.g. several months up to one year) to ensure that the project delivers the expected results. In case the expected savings can be achieved → celebrate.

In case the savings do not meet the expectations, the project must be analysed in order to find the weak point. Improvements must be considered and implemented. The adopted pro-ject must be monitored/measured again as to check if the improvements will work.

The Energy Manager should provide a concise monitoring report at the end of the monitoring period. The results and gained experiences during the project implementation and monitoring period should be used for other projects of the action plan.

*Practical example: Implementation of 2 new dryers for the laundry*

Monitoring parameters: Electricity consumption (one electricity meter for both dryers)
Measurement of the amount of laundry in kg before and after the drying process.
Monitoring period: 2 months

*Who: Energy Team*

*Result: Monitoring report*

### 4.8 STEP 8: ENERGY MANAGEMENT REVIEW

The Energy Team should evaluate on an annual basis whether the goals indicated in the ac-tion plan were achieved or not. Furthermore, the energy management process itself should be evaluated and improved, if necessary.

Key questions that must be addressed:

- Were all planned measures/projects in the action plan implemented? If not, what was the reason?
- Did the implemented measures/projects deliver the expected results? If not, what was the reason?
- Could the improvements and the goals indicated in the action plan be achieved? If not, what was the reason? Is it necessary to adopt the expected improvements and goals? If all improvements and goals were achieved → set a new goal.
- Does the energy management structure facilitate the achievement of the goals? What should be improved?

Who: Energy Manager

Result: Report on the performance of the Energy Management System

## 5 TIME SCHEDULE AND RESOURCES REQUIRED

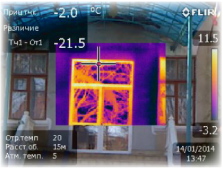
The implementation period of an Energy Management System in a hospital depends on many factors such as size of the hospital, type, scope of the Energy Management System, etc. In general the implementation requires 6 – 7 month for the initial establishment. The im-plementation of measures/projects and the continuing improvements are an ongoing process.

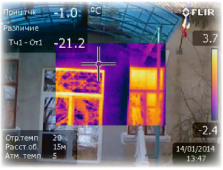
The table below presents a typical time schedule of implementation of an Energy Manage-ment System in a hospital.

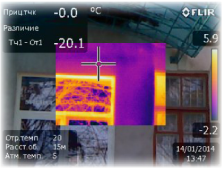
Implementation schedule

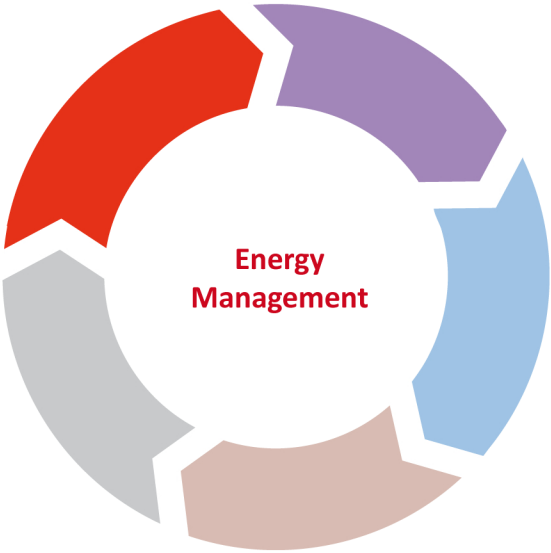
| Implementation steps | | Months | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Step 1 | Securing top management commitment | | | | | | | | | | | |
| Step 2 | Appoint an Energy Manager and Energy Team | | | | | | | | | | | |
| Step 3 | Elaboration of an energy statement (energy policy) | | | | | | | | | | | |
| Step 4 | Asses the energy consumption and identify a baseline | | | | | | | | | | | |
| Step 5 | Identify energy saving opportunities | | | | | | | | | | | |
| Step 6 | Establishement of the energy goal anfd elaboration of an action plan | | | | | | | | | | | |
| Step 7 | Implementation of the action plan | | | | | | | | ongoing..... | | | |
| Step 8 | Energy management review | | | | | | | | ongoing..... | | | |

# Modernization of local public services in the Republic of Moldova




## Practical guideline for implementing an Energy Management System in hospitals

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