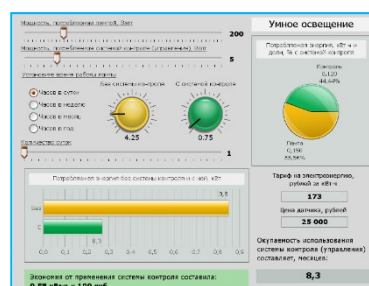
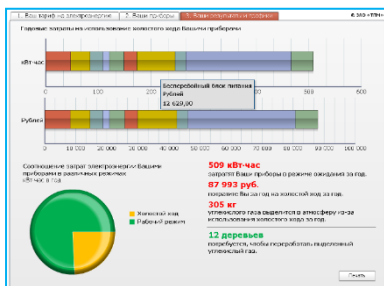
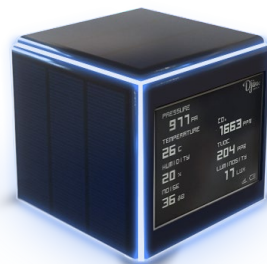
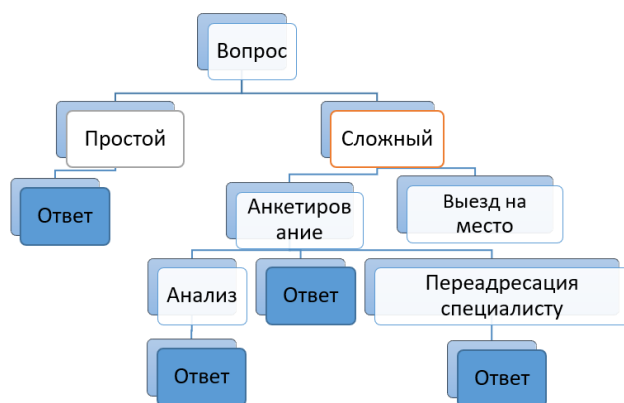


# The Concept of Energy Saving Advice for Municipalities in Belarus



# The Concept of Energy-saving Advice for Municipalities in Belarus

The report was prepared by Center for Environmental Solutions (CES), Minsk, Belarus, 24 pp. 2021. The preparation of this document was in the framework of the SELNEE Project.

The SELNEE Project: Civil Society for Sustainable Energy - Local to National in Eastern Europe” is in cooperation with INFORSE-Europe and Nordic Folkecenter for Renewable Energy in Denmark, Center for Environmental Solutions in Belarus, and NGO Renewable Energy Agency in Ukraine. The SELNEE Project is supported by CISU - Civil Society in Development in Denmark.

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## Description of the energy-saving advice system

Energy consulting (energy conservation advice) is a subsection of environmental consulting that focuses on energy efficiency, as well as on the sources from which energy actually comes out. Energy conservation advice is often aimed at reducing operating costs, although this is not always the main goal. As the importance of corporate social responsibility grows, businesses and local authorities can hire an energy-saving consultant to incorporate cleaner energy sources into their energy balance and reduce the CO<sub>2</sub> emissions of their buildings. Energy conservation advice is fast becoming a major component of business operations for businesses around the world. The energy-saving consultant's knowledge includes saving all types of resources (except for the resources used directly in the enterprise for products) and knowledge of renewable energy.

An experienced energy-saving consultant can achieve more savings on electricity, water, and gas bills than the company's internal efforts. In addition, the energy-saving consultant knows how to avoid the soft costs and unnecessary time spent on core staff.

The energy-saving consultant begins its review with an analysis of low-cost and free energy-saving measures. Effective consultation requires collecting data, identifying trends, and then budgeting and predicting your utilities. The consultant collects the data and converts it into the information necessary to make a decision. A good energy-saving consultant will determine which appliances are wasting excess energy and offer their recommendations to improve them. At a commercial, industrial or civil facility, this may include analysis of lighting, ventilation systems, boiler room, electrical systems and the building's shell itself. Once the areas of savings have been identified, the consultant should be able to perform an analysis of capital expenditures, maintenance costs, energy savings and return on investment. When you hire an energy-saving consultant, you need someone who is aware of the latest changes in new technologies, regulations, tariff laws and market opportunities. You need someone who knows when and where to look for additional support if necessary.

Energy-saving advice models can vary greatly from country to country. In Sweden, for example, advice to households, small and medium-sized enterprises, organizations since 1998, has been free of charge. The country has a wealth of experience working with different target groups on various energy issues. Special energy-saving agencies have been set up to cooperate with city authorities, private companies, associations and individuals. More than 10,000 participants are involved in the Agency's activities each year.

### **Your benefit from the introduction of energy-saving advice:**

- Lower costs for electricity, water, fuel, etc.
- Improving the conditions of people's stay in buildings
- Reducing the release of carbon dioxide by buildings
- Preventing the Negative Effects of Climate Change
- Improving environmental competence
- Reducing the risks of inefficient construction and conserving technologies

## Experience of advising on energy conservation in Belarus

There have been initiatives in Belarus for a long time, which are intended to teach people to save energy. Among them is the Mahilou Technopark, which created the Energy Conservation Information and Advisory Centre (ICE), the volma International Environmental Innovation Park, owned by A.D. Sakharov International State Environmental University, various energy-saving museums established in schools across the country. However, there were almost no such initiatives in Minsk and the establishment of the Center for Environmental Solutions on June 19, 2013, decided to open its own Public Advisory Center on Energy Conservation and Renewable Energy.

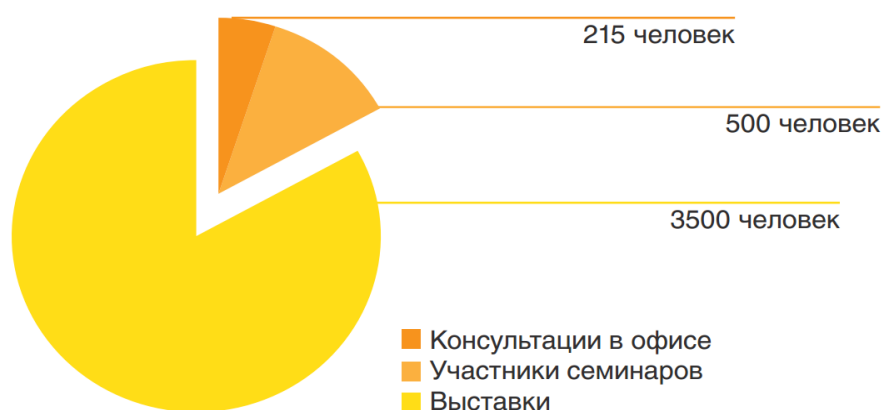
The aim of the Public Advisory Center on Energy Conservation and Renewable Energy is to raise awareness of energy conservation and climate change in Belarus, as well as to reduce the negative impact on the environment by promoting energy-efficient technologies and using renewable energy sources.

As part of the work of the Public Advisory Centre, free of charge consultations were provided to individuals, educational institutions, public organizations and small companies on energy conservation and renewable energy.

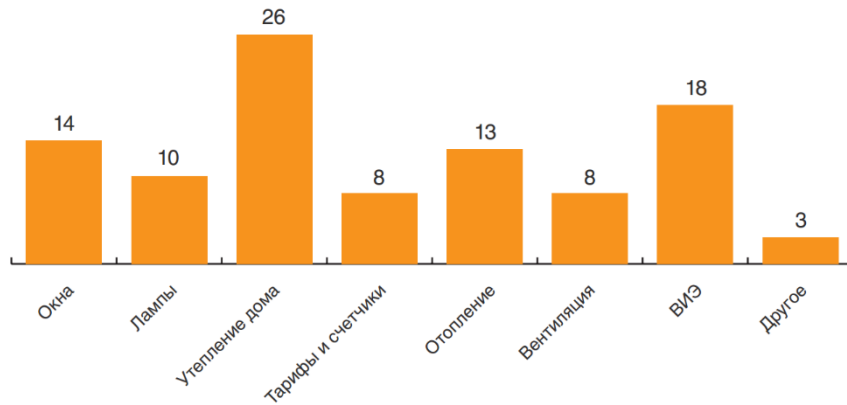
The Center employs a specialist who individually answers questions on resource and energy conservation, helps to navigate the market of modern energy-efficient technologies and assess the payback of any, even quite small, energy-saving activities. The advisory center has established a library on energy efficiency and ecology topics, as well as the contacts of organizations that are recommended for cooperation and implementation of energy efficiency projects.

The Consultant of the Center answers incoming calls, emails, at a personal reception, when going to the customer's facility, advises during public events. To improve the quality of consultations, devices were purchased to measure light (luxmeter), air pollution (gas analyzer) with a thermometer and hygrometer, as well as a thermal imaging camera. With these devices, the Advisory Centre was able to determine the microclimate data in the premises (apartments, houses, office buildings and premises) on the degree of heat loss through the exterior elements of the buildings. Such measurements are made at the individual needs of consumers. According to the results of the survey, the consultant together with a team of experts develops a set of recommendations that enable people to improve the energy efficiency of their homes, businesses or office space, reduce monthly utility costs, and how to save natural resources and improve people's health. However, the Purpose of the Consultant is not to replace narrow and professionally trained professionals.

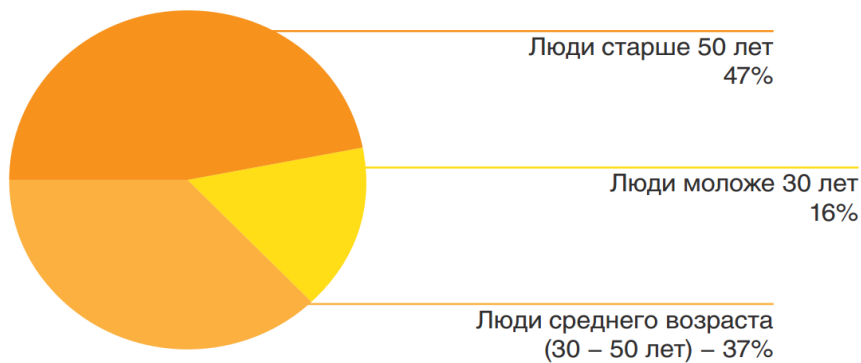
During the two years of work (from 2013 to 2015) more than 4.2 thousand people applied for consultations, and the number of people who have received answers to questions to the moment is constantly growing. The following chart shows how many consultations have been conducted in the year and a half of the Advisory Centre's existence.



The following chart shows which topics are most interesting to customers.



Below you can see the age distribution of those who applied for the help of a consultant.



Older people were most often interested in cheap but effective methods of saving water and heat. Middle-aged people are more interested in home insulation methods and renewable energy issues. Young people are most interested in renewable energy plants, as well as new developments in the field of resource and energy conservation in the Belarusian market. The findings suggest that people of all ages are willing to learn to live economically and provide less negative impact on nature.

To assess the impact of the project, a study was conducted, during which a sample telephone survey of 68 citizens and organizations seeking advice was conducted, which accounted for almost 30% of the total number of people who received advice during the Center's work from 2013 to 2015. The aim of the study was to determine the degree of usefulness of consultations for the Centre's clients.

The survey showed that 94% of people are ready to seek advice again, and 79% of clients surveyed will be happy to have more organizations or consultants providing advice in the field of resource and energy conservation and renewable energy. People's answers confirm that it is necessary to expand the network of consultants in cities and districts of Belarus.

## What are the topics included in the energy-saving advice system?

The energy-saving consultant must have extensive knowledge (but not academic knowledge) in many construction, engineering and household fields:

### 1. Use of different types of lighting fixtures

- types of lamps
- lifetime
- payback
- pros and cons, harm, environmental friendliness
- Disposal and Recycling of lamps

### 2. Repairing old windows or replacing them with new energy efficient double-glazed windows

- maintenance and repair for old windows
- selection of a new energy-efficient double-glazed window
- different profile materials
- double-glazed formula

### 3. Methods to save heat in the building

- options for insulating different elements of the building
- types and compatibility of insulation and wall materials
- simplified dew point calculation
- calculation of thermal resistance
- regulatory requirements
- types and options for the roof
- thermal screens on radiators
- maintenance of radiators and boilers in the building
- work with thermal imaging equipment
- options for heating equipment and fuel
- preparations of building survey reports

### 4. Electricity savings methods

- Replacement of lighting devices
- Analysis and replacement of inefficient devices
- Energy efficiency scale
- Accounting and energy storage devices
- Methods for saving electricity by people

### 5. Water saving methods

- Replacing or repairing old water-pressure equipment
- installing economical nozzles on cranes
- Water-saving appliances
- Methods for saving water by humans

### 6. Different renewable energy installations

- wind power plants
- biogas plants
- solar collector
- solar stations
- heat recovery
- geothermal installations
- hydroelectric power plant

#### The ventilation and air conditioning

- standards for ventilation and maximum permissible concentration of pollutants
- ventilation quality control devices
- the impact of pollutants on human health
- types of ventilation equipment
- proper airing (natural and forced)
- methods to combat moisture and mold

- optimal temperatures and humidity
- 7. Construction of energy efficient buildings**
  - Regulatory requirements
  - Innovation in construction
  - Necessary engineering systems
  - Building energy classification system
  - Energy-efficient buildings, passive buildings, buildings
- 8. Water and wastewater systems (excluding central systems)**
  - Options for water supply to buildings
  - Options for autonomous sewer systems
- 9. Analysis of tariffs and consumption**
- 10. Calculations and justifications for energy-saving measures**
  - Working with calculators
  - Calculating the payback of the project
  - Development of investment and tender documentation
  - Search for sources of funding (grants, grants, funds, government funding etc.)
- 11. Climate change information**
  - A general view of climate change
  - Climate change in the area and its consequences
    - PDUER
    - Adaptation plans
    - The Mayors' Pact and Other Support Programs
    - Activities reducing CO2 emissions
    - The impact of resource consumption on human health and nature.
- 12. Dealing with waste**
  - Separate garbage collection
  - Types of materials and their processing
  - Dumping and disposing of waste
  - Zero waste/zero waste
  - Dangerous waste
  - Consumerism
- 13. Transport and logistics**
  - Choice of vehicle
  - The impact of transport on climate and human beings
  - CO2 emissions from transport
- 14. Public events on these topics**

## Conditions for the creation of an energy-saving advice system. 4 scenarios for districts

### Option 1: Employing an energy saving consultant based on local authorities (executive committee)

#### Conditions

- You need a workplace in the office to accommodate the information center, equipped with a phone, modem (Internet).
- The room is used to place information stands, store materials on various topics (books, brochures, etc.), provide advice
- The availability of a space for public events

#### Terms to the consultant

- adding these features to a part-time employee (half or a quarter of the rate)
- technical, environmental, specialized education
- work experience in construction, operation or energy conservation

#### Consultant and counselling centre funding

- funds of targeted budget innovative funds of the republican government, other state organizations subordinate to the Government of the Republic of Belarus;
- The national budget funds allocated to the financing of republican and regional energy-saving programs;
- the funds of the national budget provided to organizations for technical retooling;
- Local budgets;
- other investments (through various projects implemented in conjunction with other international organizations)

#### Advantages

- Employee already has a trained workplace
- have the trust of organizations and residents to consult
- the employee may be involved in the creation, implementation and control of district development plans, energy efficiency plans, PDUER and other documents.
- there is the possibility of prompt implementation of energy efficiency measures and impact on the situation.
- excellent opportunities for international and cross-sectoral cooperation
- ease of popularization of this service (including in a directive way)
- there are opportunities to receive state and international funding
- Good support from other government agencies and ministries

#### Disadvantages

- on the basis of the executive committee, as a rule, there are no specialists with the required level of knowledge/specialization
- No technical equipment (devices)
- difficulties with the commercialization of services
- difficulties with bureaucratic procedures
- The staff member often has no experience of public speaking and organizing events



## Option 2: Hiring a consultant at a public district school

### Conditions

- You need a workplace in the office to accommodate the information center, equipped with a phone, modem (Internet). (Possibly in the library)
- The room is used to place information stands, store materials on various topics (books, brochures, etc.), provide advice
- The availability of a space for public events
- It is possible to create on the basis of school museums on energy conservation/ecology, on the basis of physics offices.

### Terms to the consultant

- adding these features to a part-time employee (half or a quarter of the rate) or adding these features to a volunteer employee.
- technical, environmental, specialized (physics, computer science, writings) education
- Teaching experience

### Consultant and counselling centre funding

- The national budget funds allocated to the financing of republican and regional energy-saving programs;
- Local budgets;
- Grants

### advantages

- Employee already has a trained workplace
- the employee may be involved in the creation, implementation and control of district development plans, energy efficiency plans, PDUER and other documents.
- excellent opportunities for international cooperation
- easy to popularize this service among students and their parents
- there are opportunities to receive international funding
- good support (except financial) from other government agencies and ministries.

### Disadvantages

- school staff have no technical education and engineering experience
- No technical equipment (devices)
- difficulties with the commercialization of services
- funding difficulties
- difficulties in promoting services among organizations and part of the population not related to the school
- weak level of trust and interest among organizations and residents
- weak state funding

## Option 3: Hiring a consultant in the district housing and utilities structure

### Conditions

- You need a workplace in the office to accommodate the information center, equipped with a phone, modem (Internet).
- The room is used to place information stands, store materials on various topics (books, brochures, etc.), provide advice
- The presence of a space for public events (in the housing and utilities building, executive committee, school)

### Terms to the consultant

- adding these features to a part-time employee (half or a quarter of the rate) may create a full-time job
- technical, specialized education
- work experience in construction, operation or energy conservation

### Consultant and counselling centre funding

- funds of targeted budget innovative funds of the republican government, other state organizations subordinate to the Government of the Republic of Belarus;
- The national budget funds allocated to the financing of republican and regional energy-saving programs;
- the funds of the national budget provided to organizations for technical retooling;
- Local budgets;
- Services

### Advantages

- have the trust of organizations and residents to consult
- the employee may be involved in the creation, implementation and control of district development plans, energy efficiency plans, PDUER and other documents.
- there is the possibility of prompt implementation of energy efficiency measures and impact on the situation.
- easy to popularize this service
- there are opportunities to get government funding
- good support from other government agencies and ministries
- most likely there is technical equipment (devices)
- easy to commercialize services
- small bureaucracy
- you can put the services of a consultant in the utility bill

### Disadvantages

- it is more difficult to find a suitable room and organize it both for the reception of visitors and for mass events
- The staff member often has no experience of public speaking and organizing events
- worst compared to other options for participating in international projects

## Option 4: Creation of an energy-saving consultant based on district NGOs

### Conditions

- You need a workplace in the office to accommodate the information center, equipped with a phone, modem (Internet).
- The room is used to place information stands, store materials on various topics (books, brochures, etc.), provide advice
- The availability of a space for public events
- It is possible to rent premises on the basis of other organizations

### Terms to the consultant

- Create a new workplace or add these functions to an employee on volunteer grounds.
- technical, environmental education
- experience in engineering or environmental

### Consultant and counselling centre funding

- Grants
- Donations
- Services

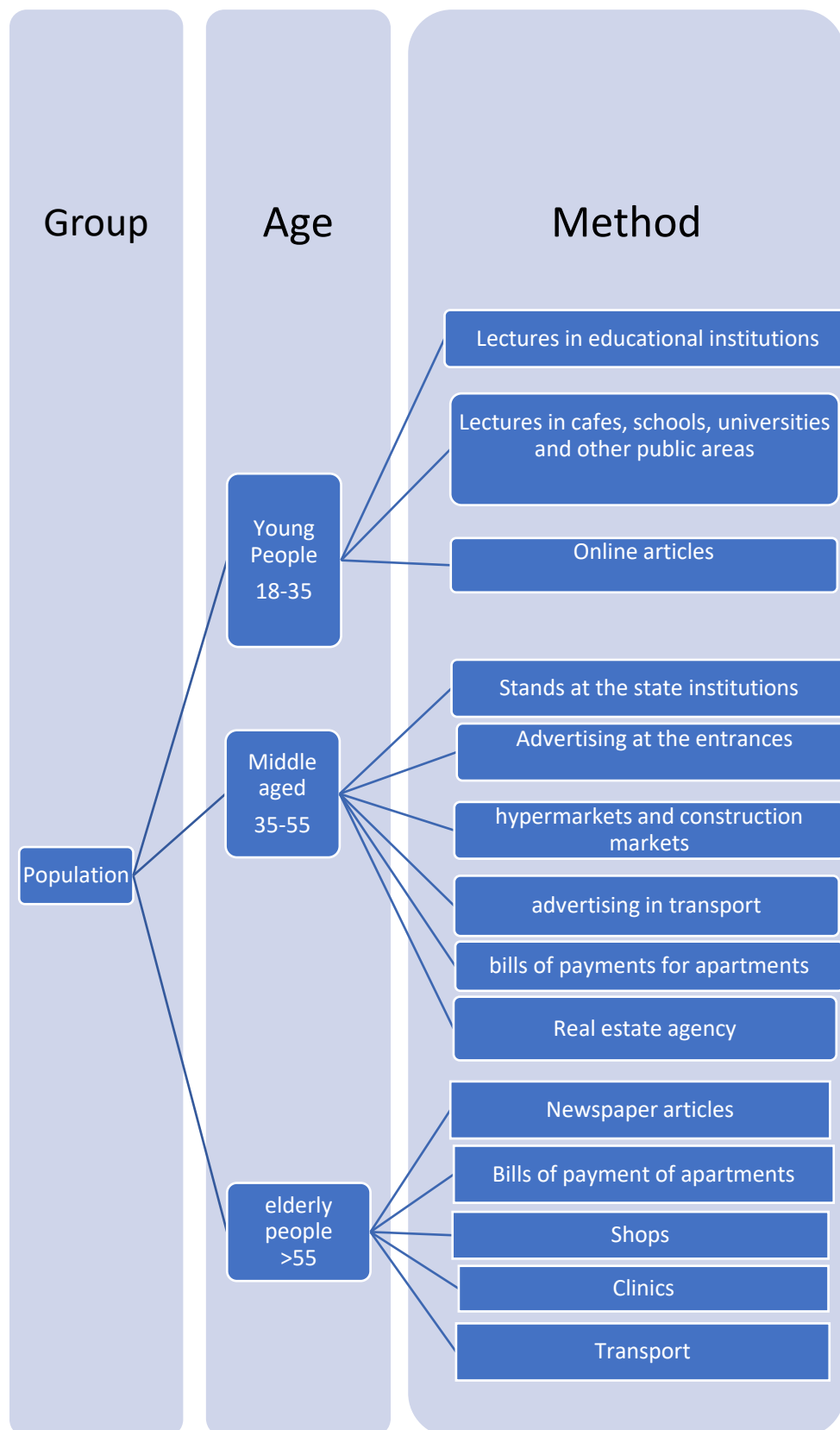
### Advantages

- excellent opportunities for international cooperation
- ease of popularization of this service among residents
- there are opportunities to receive international funding
- ease of organizing a consultation centre
- flexibility and lack of bureaucracy
- great international and local support from other NGOs
- has experience with people and public speaking
- excellent development for NGO

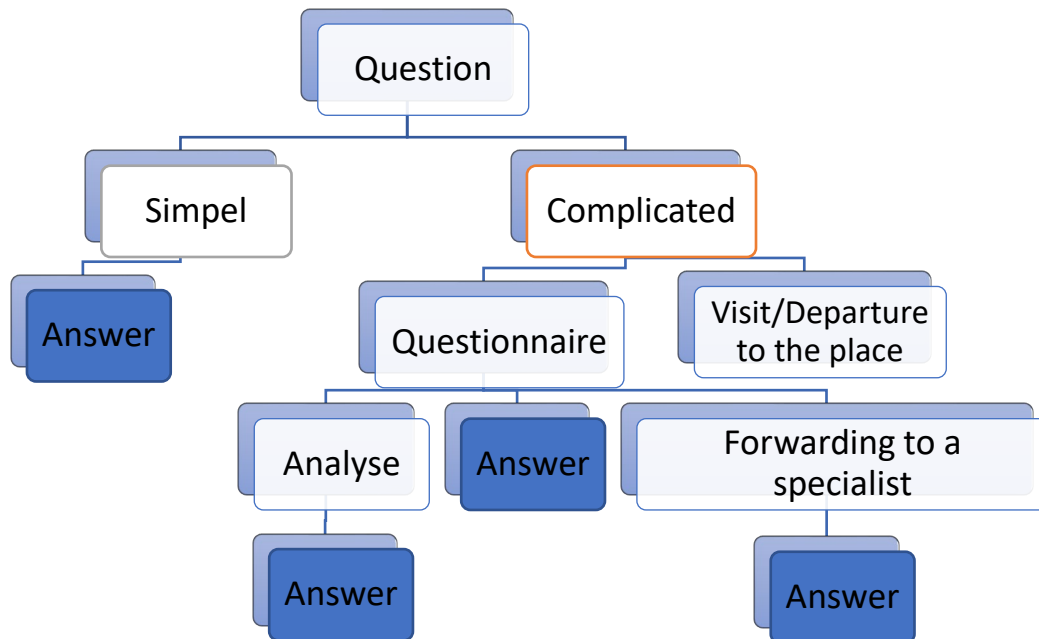
### Disadvantages

- NGO employees are less likely to have technical education and engineering experience
- No technical equipment (devices)
- difficulties with the commercialization of services (requires a legal form with the ability to extract profit)
- funding difficulties
- difficulties in promoting services among organizations
- weak level of trust and interest among organizations
- poor support from government agencies and ministries.
- the difficulty of popularizing this service

When setting up an advisory centre, you can consider the following methods of disseminating information on energy conservation:



For the convenience of organizing a consulting center, a simple algorithm was developed to work out questions:



Pros of the system of advice on energy conservation in the regions, its potential in the context of reducing energy consumption and saving money from the population and business.

Often, businesses and households do not implement all possible savings methods because they lack the knowledge and experience to change the situation on their own, so the system of energy conservation advice is widely developed in many countries around the world. This type of activity has brought popularity because the consultant can quickly increase the level of energy saving both in households and in enterprises.

The energy-saving consultant takes a holistic approach to auditing, allowing him to make recommendations on how to save all the resources spent by buildings.

In international practice, it is believed that an energy-saving consultant can save 20 to 30% of bills, we will take for the calculation of 10%. The average household consumes 200 kWh of electricity and 10m<sup>3</sup> water, of which 10% the consultant will be able to help save. Total one household will be able to have savings of 20 kWh and 1m water per month (4p and 1.5p in tariff savings as of May 2021). On average, there are 80,000 residents or about 20,000 families living in any area of RB. The consultant is able to bypass 2-3 families in one working day, which will give 500-750 families received consultations for the year. At the end of the **year, the total households that received and applied consultations will save from 33,000 to 49,500 rubles (500-750).**

The above is a very rough assessment, but even it shows a high efficiency in the implementation of an energy saving consultant in the regions.


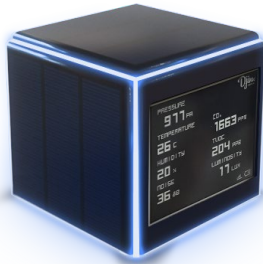

The energy-saving advice system has the following advantages:

- low-cost, in implementing and operating a method of reducing resource consumption in the area
- Consultant reduces resource consumption based on real-world data
- implemented measures most often have a quick payback period (2-3 years)
- the counselling system accumulates and broadcasts advanced knowledge and technology
- Energy-saving advice system is one of the few tools available to work with households
- The consultant helps customers analyze the prospects of saving resources even at the stage of designing new buildings.
- the advice system enhances the image of the area and the organization where it operates
- consultant's work quickly pays for itself at the state level

- You don't have to know everything at once - the consultant always has the opportunity to request support from other consultants, experts, officials and businesses.
- Energy-saving advice system makes it easier to implement mandatory energy-saving plans in areas
- The energy-saving advice system is designed to save resources and simultaneously improve the quality of life and work of people
- in schools where the consultant has established control over the quality of the microclimate of student performance, and in enterprises productivity can be 15-20% higher

## Necessary material resources for energy conservation advice

The measurement devices are a serious help for the consultant:

<p>A luxemeter to measure light. Average price 125 rubles</p>	
<p>Combined air quality sensor (CO2, temperature, humidity, dust, noises, ozone, formaldehyde). The best models ship the data to the cloud for later analysis. Average price 700p</p>	
<p>A thermal imaging device. There are options that work as a nozzle on a mobile phone or a separate device.  Average price 1300p  If there is a lack of funding, it can be replaced with a laser pyrometer, but it has limited functionality and complicates the analysis of the room.  Average price 130p</p>	

With these devices, the consultant is able to determine the data on the microclimate in the premises (apartments, houses, office buildings and premises), the degree of heat loss through the exterior elements of the buildings, the compliance of the premises with hygiene standards. To improve the quality of customer service, it is advisable for a consultant to have a working computer (laptop) and a projector.

## The human resources needed, what skills an EE consultant should have

Most energy consultants work in engineering disciplines and have the operational and engineering expertise needed to make and implement informed decisions. The learning process never ends, and a solid energy consultant has the experience necessary to put theory into practice. The Republic of Belarus has many refresher courses on energy conservation or partnership programmes (e.g. UNDP). The ideal candidate as an energy consultant is someone who can identify problems in the boiler room and explain the decisions in the boardroom.

In addition, active participation in industry networks, such as the Association of Energy Engineers and access to government programs, provides energy consultants with data and resources to analyze them.

### Mandatory requirements for an energy-saving consultant

- Engineering/technical/environmental education
- The ability to speak publicly
- The desire to constantly learn new information in the field of energy efficiency
- Communication
- The ability to work in MS Office (Excel, Word, PowerPoint)

### Desirable skills and experience

- Experience in housing, engineering, design and construction, ecology
- English language proficiency
- Category B driver's license
- Knowledge of drawing programs(AutoCAD)

## How to improve the competence of an energy-saving consultant in RB

The main task of the consultant in addition to counseling is to constantly improve their competences. There are many different options for this in the Republic of Belarus:

- 1) Taking various refresher courses. Such courses can be held on the basis of a number of universities (Industry personnel, BELLIS, Belarusian-Russian University, BNTU, BSU)
- 2) Participation in the activities and programs of the Department of Energy Efficiency, the Ministry of Natural Resources, the Ministry of Social Services.
- 3) Participation in programmes implemented by international partners (e.g. UNDP) and local NGS
- 4) Visits to construction exhibitions (e.g. EnergyExpo, Build a House, etc.) organized both in THE REPUBLIC and abroad.
- 5) Subscribe to print or online editions of Energy Efficiency, Build a House
- 6) View blogs and videos on Youtube and other portals (however, it is worth being careful, because often blogs and videos are conducted by non-professionals)
- 7) Create a database of experts on various topics, which can be contacted for additional advice
- 8) Engage in active dialogue with other energy-saving consultants around the world
- 9) To conduct internships in other energy-saving centers

## Description of typical energy-efficiency scenarios.

Ten model scenarios and calculators have been developed to simplify the work of an energy-saving consultant.

The Internet network cannot provide a complete set of unbiased knowledge, so experts of the Center for Environmental Solutions in conjunction with Belinvestenergo Saving have developed model scenarios. These documents contain comprehensive information on the chosen topic. The information collected and prepared in the scenarios will help to quickly and better master different types of information for both the energy saving consultant and ordinary citizens.

"Calculators" - boilerplate settlement programs, The calculators implemented in MS Excel. Calculators allow in practice to calculate the effectiveness of the energy conservation measures implemented.

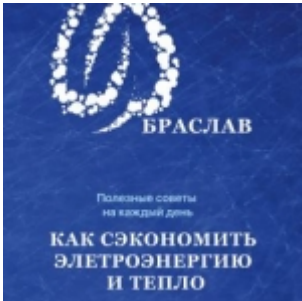
Scenarios and calculators are made on the following topics:

1. Window
2. Insulation of buildings
3. Water
4. Photovoltaics
5. Thermoregulators on radiators
6. Choosing transport
7. Heat recovery
8. Lights
9. Solar collector
10. Replacing devices with effective ones



## Links to graphic materials and calculators

- 1) Establishment of the Center for Environmental Solutions  
<https://ecoidea.by/ru/media>



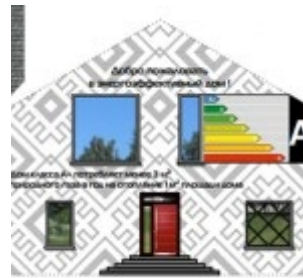
How to save electricity and heat



"House of the Future" leaflets (cycle)



Infographic "Which lamp to choose?"



A mock-up of an energy-efficient home



Materials of the project "Promoting energy-efficient technologies at the local level"

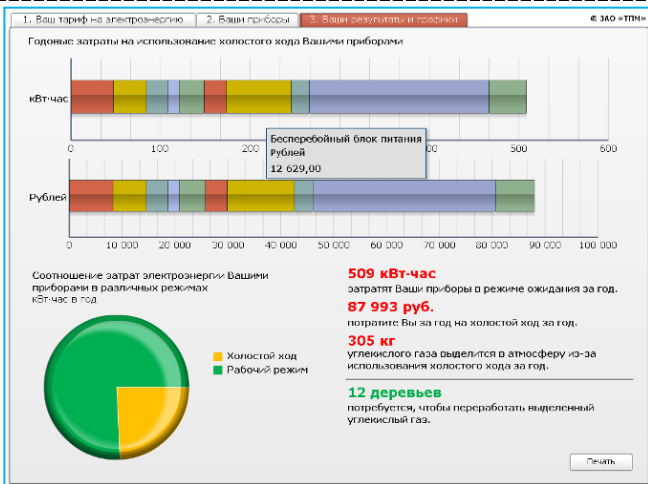


Energy Conservation Advisory Centre Report

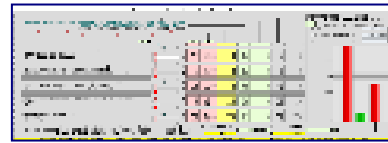
## 2) Company "Mogilev Technological Park" "RIGHT ENERGY AND ALTERNATIVE ENERGY"

<http://technopark.by/iccee/calculator>

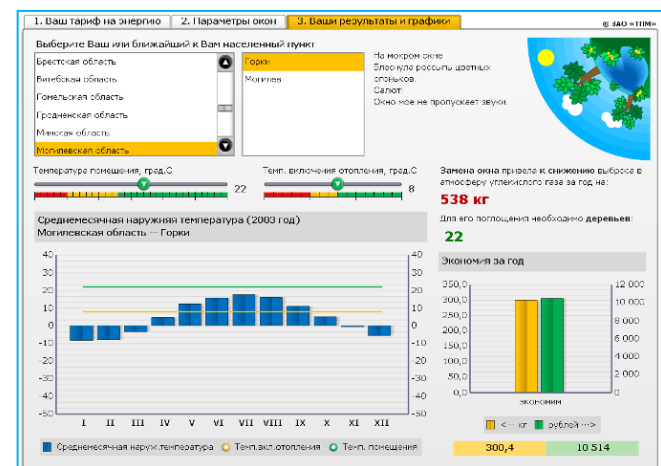
### Energy calculators (interactive software) - "savings calculations"



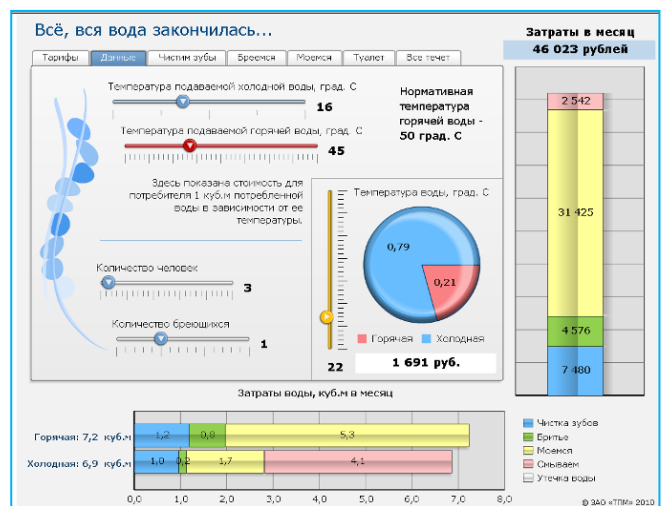
Electronic calculator "Stand-by" to calculate energy loss by devices on standby (three tabs)



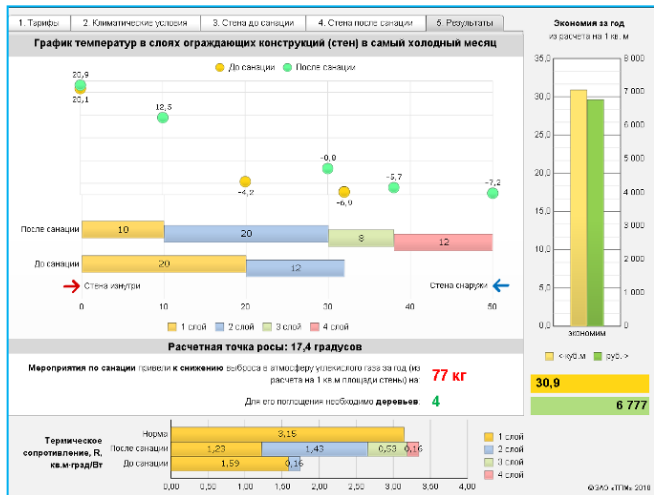
Electronic calculator "Stand-by" to calculate energy loss by devices on standby (one tab)



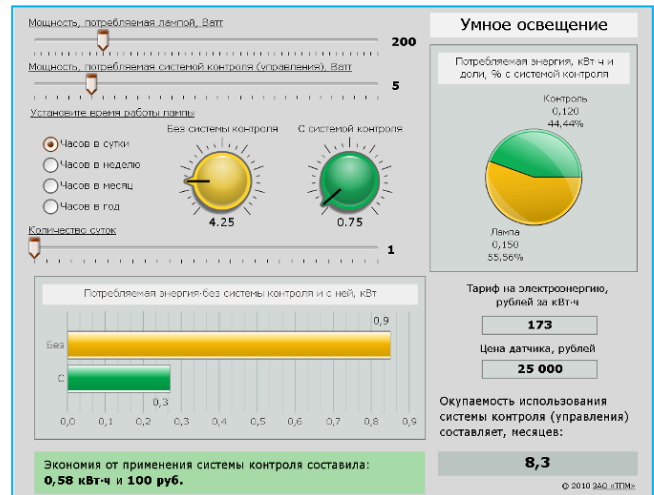
Electronic calculator "Windows" to calculate the efficiency of installation of energy-saving windows (three tabs)



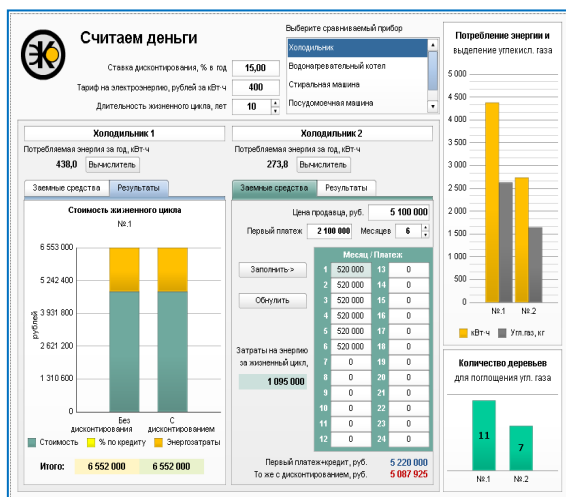
Electronic calculator "Water" to calculate water saving opportunities (seven tabs)



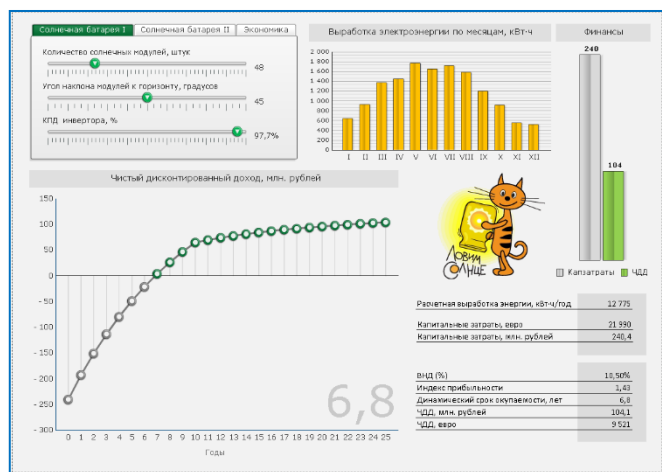
Electronic calculator "Insulating walls" to calculate the possibilities of energy savings when performing wall sanitization measures (five tabs)



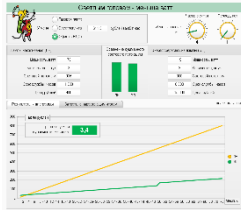
Smart Lighting Electronic Calculator to calculate energy-saving capabilities when controlling lighting (one tab)



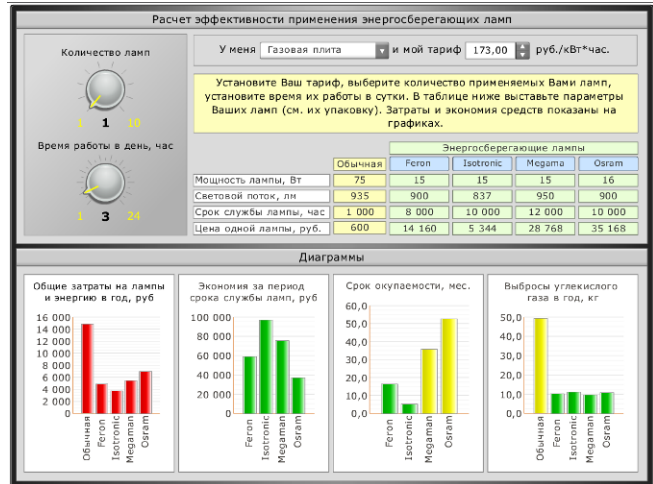
Electronic calculator "Counting money" to calculate the effect when comparing two options for energy-saving measures (two tabs)



Electronic calculator "Photovoltaik" for calculating the generation of electricity by solar plants and calculating their economic efficiency (three tabs) for the conditions of Belarus



Electronic calculator "Light heads - less watts" to calculate the effectiveness of energy-saving lamps (two tabs)

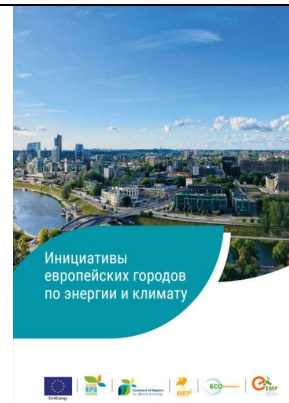


Electronic calculator "Lamps" to calculate the effectiveness of the use of compact energy-saving fluorescent lamps (one tab)

3) EcoPartnership <https://ecopartnerstvo.by/ru/publications/>



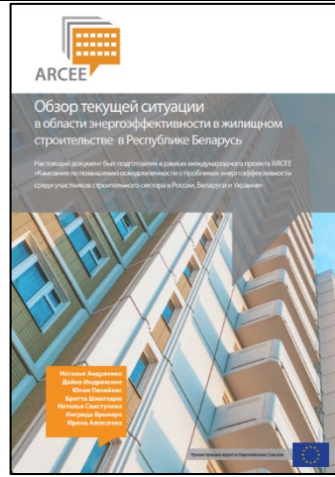
Posters on water



European cities' energy and climate initiatives



Homeowner's guide



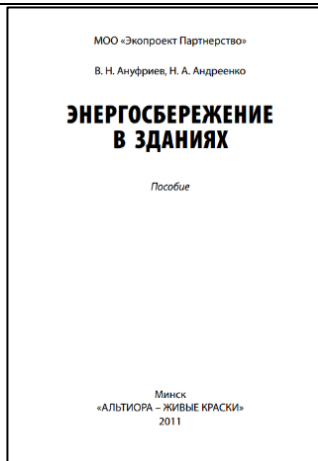
Overview of the current energy efficiency situation in housing construction in Belarus



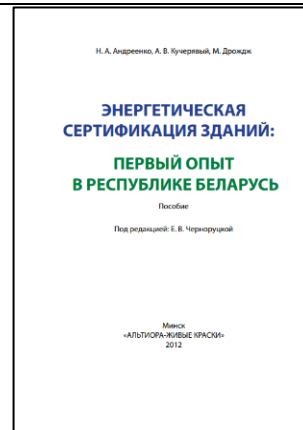
The apartment owner's table book



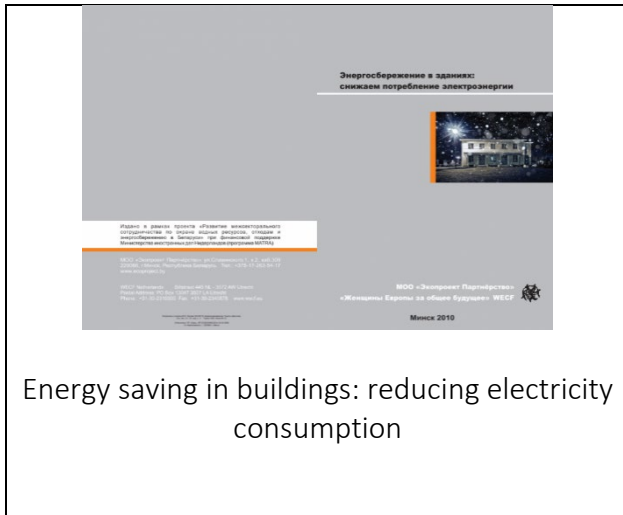
Energy efficiency in housing construction: criteria for quality reconstruction and new construction



Energy saving in buildings



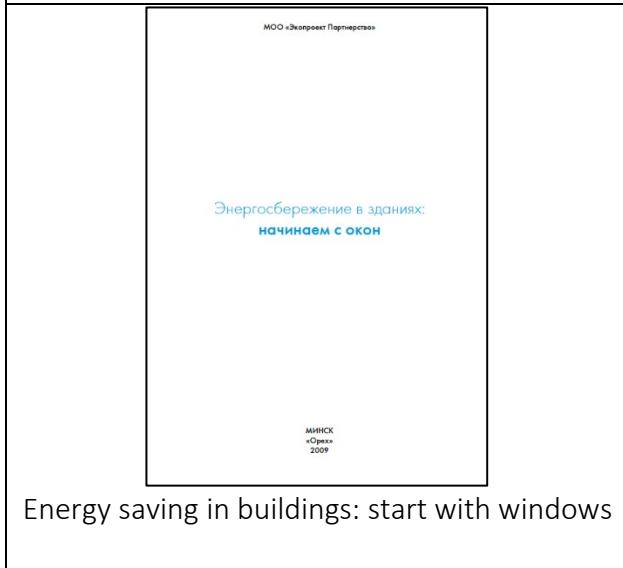
Energy Certification of Buildings: First Experience in Belarus



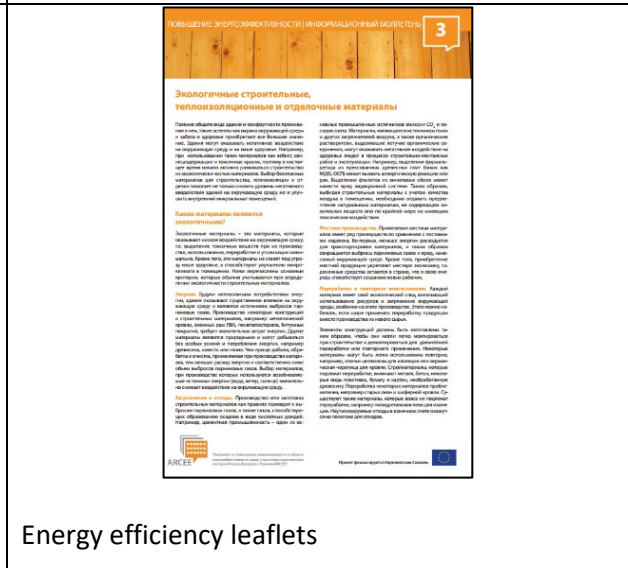
Energy saving in buildings: reducing electricity consumption



Energy-saving posters



Energy saving in buildings: start with windows



Energy efficiency leaflets

## Questions & Answers

### What is energy counseling?

- It is a system of advising the population and enterprises in the areas of energy conservation, renewable energy and climate.

### Why energy advice in our area?

- In your area, it is much easier to implement energy efficiency plans and help businesses and the public save resources and money. Energy advice is one of the few available methods of interaction in the field of energy conservation of local authorities and residents

***What does it take to set up an energy efficiency advisory centre?***

- In order to set up an energy efficiency advisory centre, it is necessary to hire an energy-saving consultant and provide him with a workplace where he can receive visitors and store the materials he needs.

***How expensive is the creation of an energy efficiency advisory centre?***

- The Energy Efficiency Advisory Centre is usually established on the basis of an existing organization, which already has a working office in which a consultant can work. The main costs therefore fall on the salary of the consultant and instrumentation. Wages can be 700-1000r (\$280-400), the cost of equipping appliances 2000-3000 rubles (800-1200\$).

***Which cities in Belarus have energy efficiency advisory centers?***

- So far, the Energy Efficiency Advisory Center has been opened only in Minsk in the establishment of the Center for Environmental Solutions.

***Who can become an energy efficiency consultant?***

- Anyone with a technical, environmental or construction background can become a consultant. The future consultant should have a good sociability skill and understand the technical features of various energy-saving systems.

***How will I contact the Energy Efficiency Advisory Centre?***

- A resident or authorized employee of the enterprise can call on the phone, write an email or come to a personal reception. It is also possible to attend public events organized by an energy-saving consultant.

***What appliances does an energy efficiency consultant need?***

- The consultant needs to have a laptop, a projector (preferably), a thermal imaging (or pyrometer), a gas analyzer.

***How difficult is it to get a consultant with so much information?***

- The consultant's task is to know the topic of energy saving at the middle level. The consultant must transform and transfer the knowledge of narrow specialists to a more accessible community. Model scenarios have been developed to help the energy-saving consultant, the Centre for Environmental Solutions, where it can find comprehensive information on a variety of topics.

***Who are the main visitors to the Energy Efficiency Advisory Center?***

- Visitors can be any citizen or company that has energy efficiency issues. People who are building houses or having issues with the cost of resources in housing are most often contacted.

***What are typical scenarios and what are they for?***

Model scenarios and calculators have been developed to simplify the work of an energy-saving consultant. These documents contain comprehensive information on energy conservation and renewable energy topics. The information collected and prepared in the scenarios will help to quickly and better master different types of information for both the energy saving consultant and ordinary citizens.

***Is it possible to consult for a fee?***

"Yes." The organization setting up the advisory centre has the right to decide whether to impose payment for the services of an energy-saving consultant. In some countries, counselling is done free of charge, at public expense.

## Center for Environmental Solutions (CES)

CES is a non-profit non-governmental institution established in 2009 to promote environmentally friendly lifestyles and sustainable development principles and develop international cooperation to preserve the environment.

Key activities:

- Energy efficiency and energy efficiency.  
*Promoting the principles of energy conservation and renewable energy at both the local and national levels. Education in energy conservation and energy efficiency in schools.*
- Chemical security and resource reuse.  
*Problems with the presence of chemicals in products and products. Problems of e-waste disposal. Recycling and sustainable use of resources. The concept of zero waste.*
- An environmentally friendly lifestyle.  
*Promoting environmentally friendly everyday habits and lifestyles. Problems of over-consumption of resources. The development of cycling.*
- Water management and organic agriculture.  
*Water pollution problems. Promoting sustainable farming practices without pesticides and chemical fertilizers.*

The Activities of the Center for Environmental Solutions are financed through partnership projects with various international environmental organizations, financial support from charitable foundations and voluntary donations from citizens.

**For more information on the environmental solutions centre and current environmental news, visit ECOIDEA's website. [Ecoidea.by](http://Ecoidea.by)**

Public Advisory Centre on Energy Conservation and Renewable Energy

Minsk, Masherova Ave., 9/1, office 111.

**Opening times: Mon-Fri 10 a.m. to 6 p.m.**

**Tel.** q375 17 243 40 70, q375 17 342 39 63

You can ask your question to a specialist by email: [infoecoidea.by](mailto:infoecoidea.by).