



ENERGY EFFICIENCY IN LITHUANIA

LITHUANIAN ENERGY AGENCY
Energy efficiency competence center

2025-05-22



WHO WE ARE



FOUNDED
IN 1993



STATE-FUNDED



118 EMPLOYEES



ASISTS THE MINISTRY
OF ENERGY

WHAT WE DO:



DATA & INNOVATION

- Analysis & Monitoring
- Energy innovation



ENERGY MANAGEMENT

- Strategic oil reserves
- Energy security
- Administration of energy projects



GREEN TRANSITION

- Energy Efficiency
- Energy innovation
- Offshore wind project
- Promotion of renewables

EU energy efficiency requirements projected onto Lithuania's national framework

GREEN DEAL:
GHG EMISSIONS – 55 % by 2030



ENERGY EFFICIENCY
DIRECTIVE

ENERGY PERFORMANCE
OF BUILDINGS

RENEWABLE ENERGY
DIRECTIVE

Others

NATIONAL ENERGY AND CLIMATE ACTION PLAN

NATIONAL ENERGY INDEPENDENCE STRATEGY

Law of Energy

Law of Energy Efficiency

Others

Bylaw for **energy auditors' attestation and performing the energy audits**

Bylaw for **duties for large enterprises**

Bylaw on **Methodology of energy audits in technological processes**

Bylaw for **public building modernization program**

Bylaw on **Methodology of energy audits in buildings**

Bylaw on **Methodology of energy audits in Transport**

Bylaw for **efficient energy consumption monitoring**

Bylaw for **energy saving calculations**

Bylaw for **EU structural funds implementation**

Bylaw of **saved energy monitoring**

1 EU DIRECTIVE

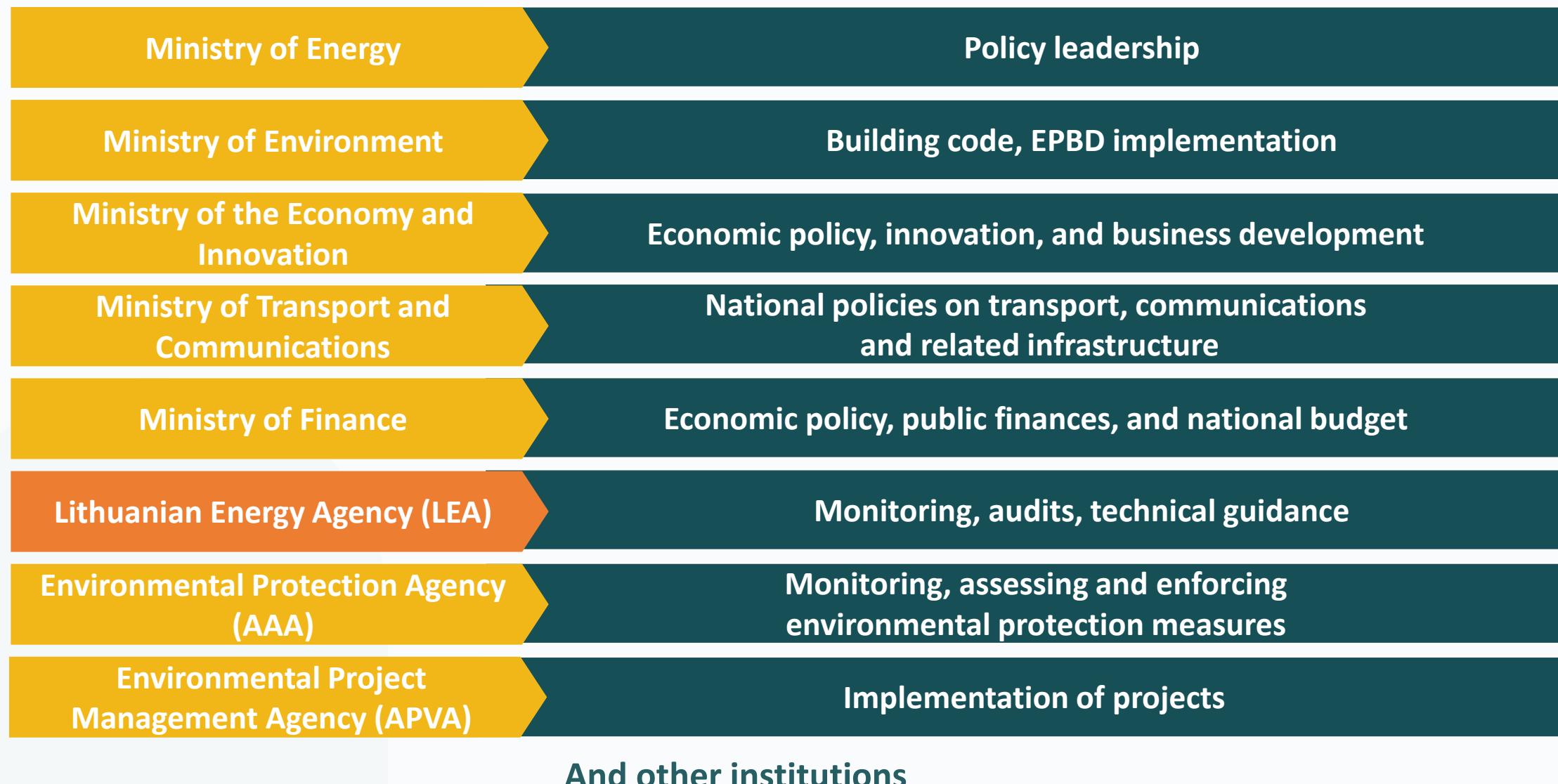
2 STRATEGIES

2 LAWS

10 BYLAWS

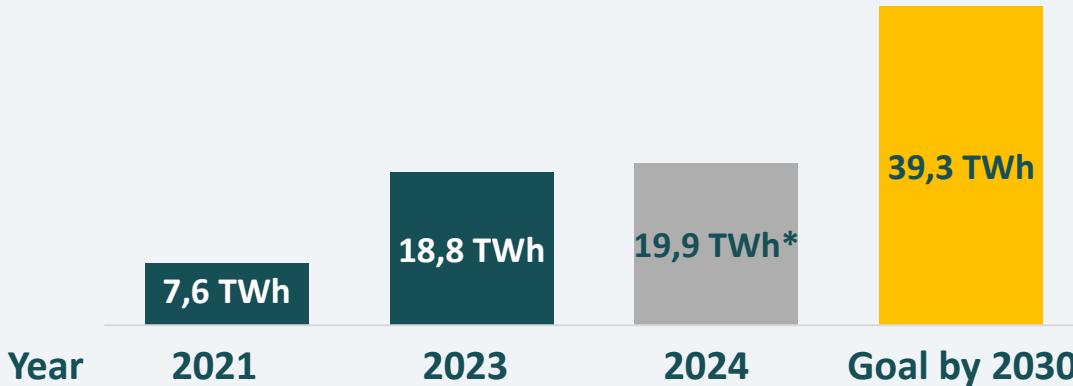


EU energy efficiency requirement Implementation Bodies in Lithuania



LITHUANIA'S ENERGY CONSUMPTION EFFICIENCY IMPROVEMENT GOALS

The amount of final energy saved between 2021 and 2030 must be no less than 39.3 TWh. 52% of this target still needs to be achieved



Lithuania's annual primary energy consumption by 2030 must not exceed 63.3 TWh. Primary energy consumption still needs to be reduced by 25%



* Data is not final and may be revised

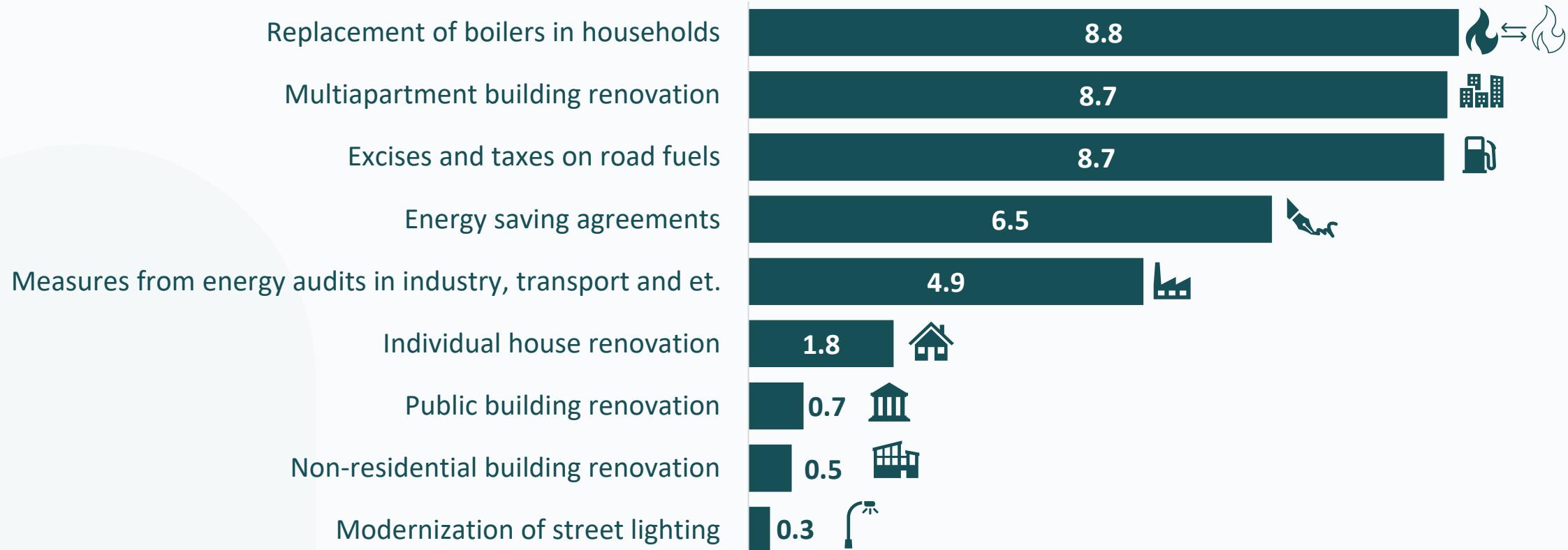
In 2030, Lithuania's annual final energy consumption must not exceed 51.0 TWh. Final energy consumption still needs to be reduced by a further 19%



ENERGY EFFICIENCY POLICY MEASURES: GREATEST IMPACT FROM BUILDING RENOVATION AND BOILER REPLACEMENT

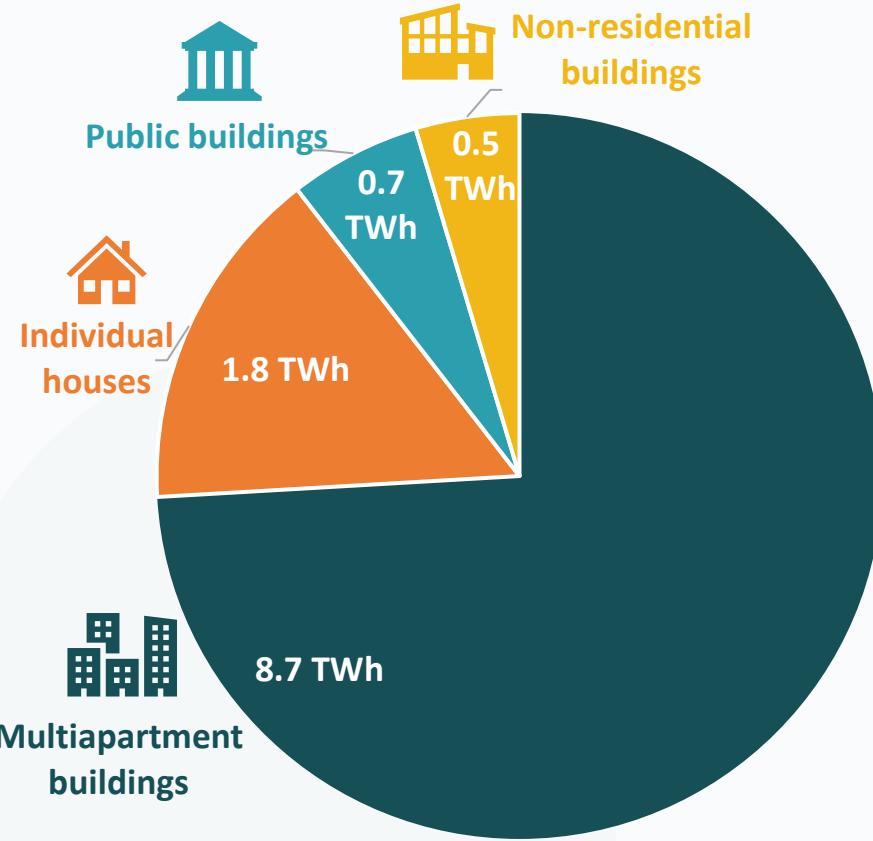
Year	Energy Saving Target, TWh	Energy Saving Achieved, TWh
2021–2030	39.3	18.80

Policy Measures and Savings Projections, TWh



BUILDING RENOVATION EXPECTED TO DELIVER 11.7 TWH IN ENERGY SAVINGS BY 2030

Projected Energy Savings in 2021–2030
by Building Renovation:
11.7 TWh



Multi-apartment building renovation

Annual target: Renovate **>1 000** buildings.



Individual house renovation

Annual target: Renovate **>3 000** individual houses.



Public building renovation

Annual target: Renovate about **80 000 m²** of public buildings area.



Non-residential building renovation

Annual target: Renovate about **100 000 m²** of buildings area.

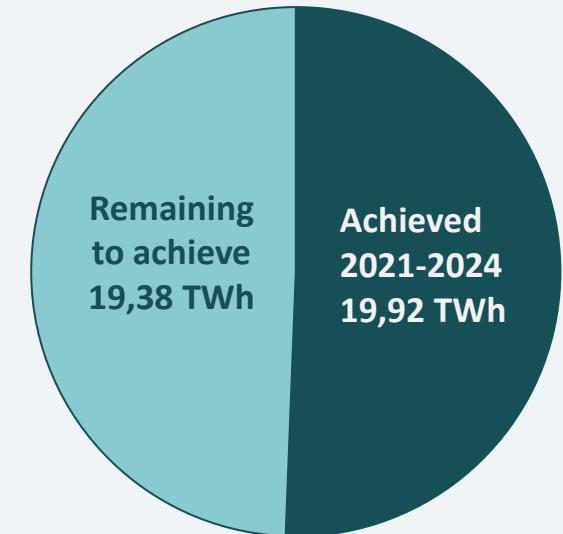
Good practice:

1. During renovation, the building **envelope** is insulated, **engineering systems** are automated or replaced, other **efficiency** and **renewable energy measures** (solar panels, heat pumps) are installed. As a result, **expenses for energy** decrease, **CO₂ emissions** are reduced, and **comfort** is increased.
2. Renovation rates in Lithuania have increased due to the financial support of the structural funds of the European Union.
3. Lower-income households were encouraged to agree with Multiapartment building renovation by connecting the renovations to heating bill support.

2021–2024 THE GREATEST PROGRESS IN IMPROVING ENERGY EFFICIENCY WAS ACHIEVED IN THE SERVICES SECTOR AND HOUSEHOLDS

SECTOR*	Mandatory amount of energy to be saved according to Article 5, Part 4 of the Draft Energy Efficiency Law, TWh	Savings achieved 2021–2024, TWh	Achieved savings in %
Service and Households	14,9	10,63	71 proc.
Transport	15,7	6,99	45 proc.
Industry	7,9	2,30	29 proc.
Agriculture	0,8	0,00	0 proc.
Total:	39,3	19,92	51 proc.

Goal of Lithuania 2021–2030 is 39,3 TWh



Institutional leadership for the implementation of energy efficiency goals:

The overall savings target of 39.3 TWh has been allocated among various ministries responsible for policy development in their respective areas of governance—namely the industrial, agricultural, service, transport sectors, and households—in proportion to each sector's final energy consumption.

IMPLEMENTED AND ONGOING MEASURES INCREASING THE SHARE OF RES IN TOTAL FINAL ENERGY CONSUMPTION

Cogeneration plants in Lithuania

Kaunas Cogeneration Plant
completed in 2020

Vilnius Cogeneration Plant
completed in 2024

2030 m. the planned measure's impact on the share of RES in total final energy consumption: **2,81 percent**.

Promotion of Small-Scale Biomass Cogeneration

UAB „Visagino energija“

UAB „Biovatas“

2030 m. the projected impact of the measure on the share of RES in total final energy consumption: **0,27 percent**.

DESCRIPTION OF ENERGY SAVINGS AGREEMENTS

Energy Efficiency Obligations

MANDATORY – State owned energy Transmission and Distribution operators (Litgrid, ESO, Ambergid)

VOLUNTARY – Other energy suppliers, state and municipal enterprises

INPUT of member: technical and financial contribution in energy efficiency measures



HARD measures to improve energy efficiency

All
Verify ≥ 20 % of measures
Implementation costs
Calculation methods
Energy savings achieved

Education and Consulting Agreements

MANDATORY – All energy suppliers (electricity, heat, gas)

INPUT of member: educational and consulting activities to implement energy efficiency measures



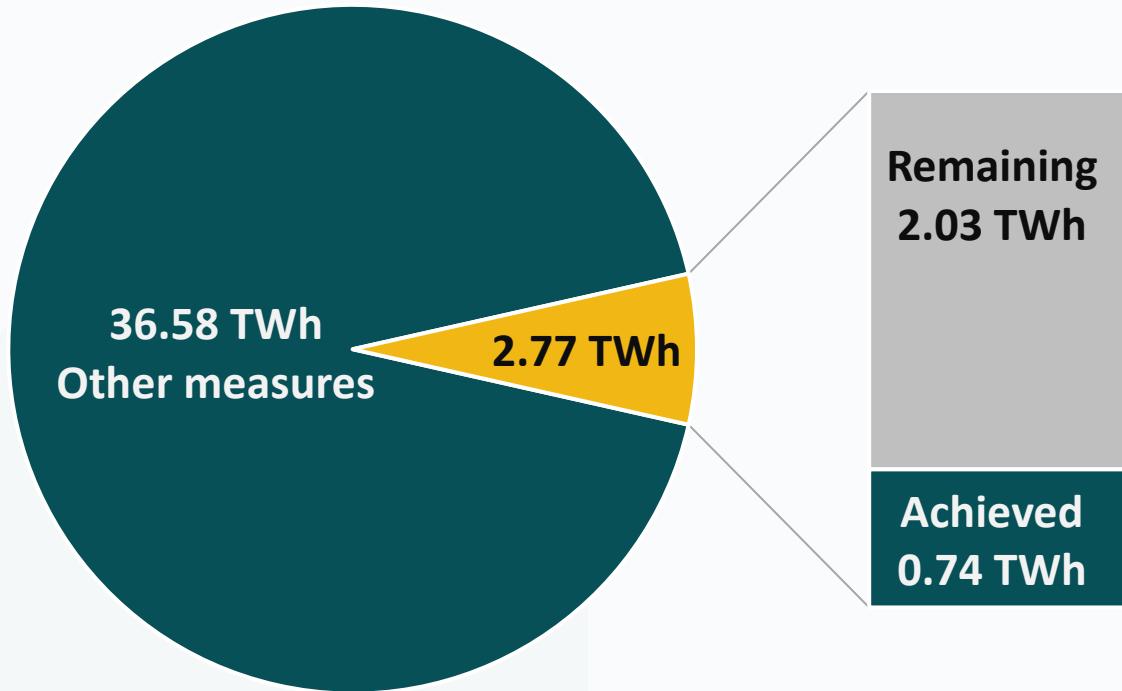
SOFT measures to improve energy efficiency

◀ Evaluation of calculations ▶
◀ Verification of documents ▶
◀ Analysis and reporting to Ministry of Energy of the Republic of Lithuania ▶

All
Verify ≥ 20 % of measures
Types of measures
Number of affected consumers (by groups)
Resulting energy savings

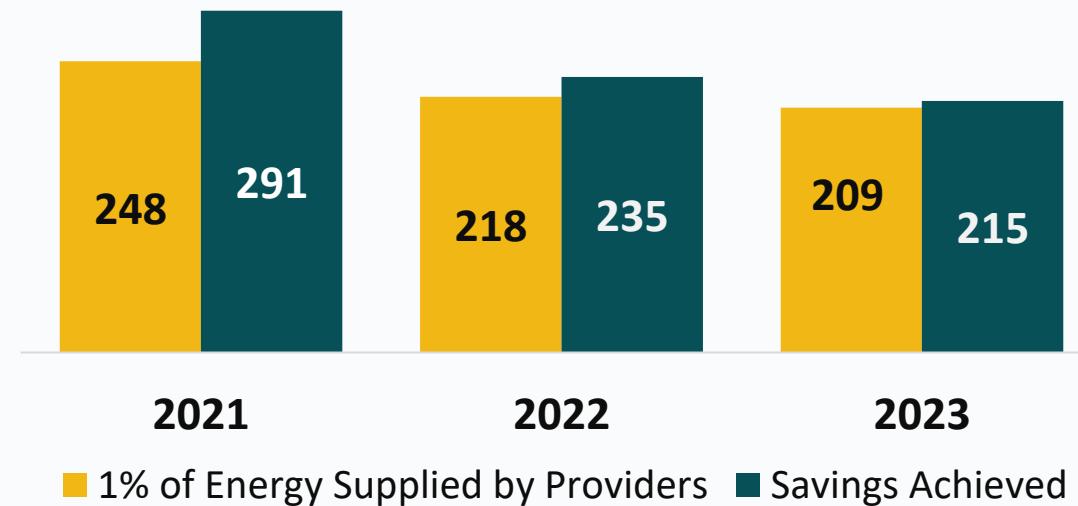
THE IMPLEMENTATION OF EDUCATION AND CONSULTATION MEASURES CONTRIBUTES TO ACHIEVING LITHUANIA'S ENERGY SAVINGS TARGET

**Lithuania's 2021–2030 Target: 39.35 TWh Savings,
Including 2.77 TWh from Education and
Consultation Agreements**

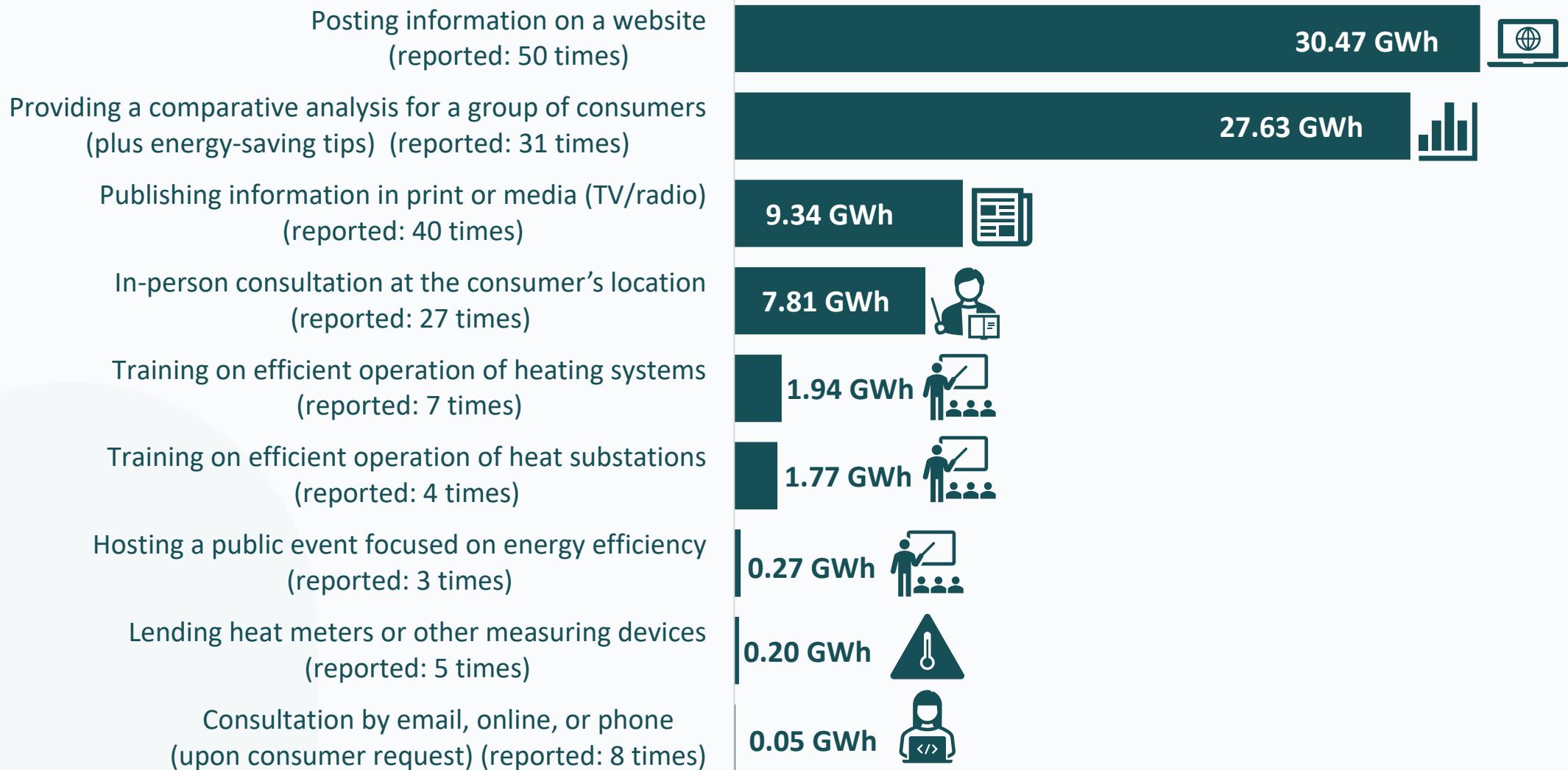


- Greater savings are achieved through the implementation of a **wider variety of education and consultation measures**, as well as **improvements in the quality of submitted reports** and supporting documents.

Planned and Achieved Energy Savings from Education and Consultation Agreements, GWh

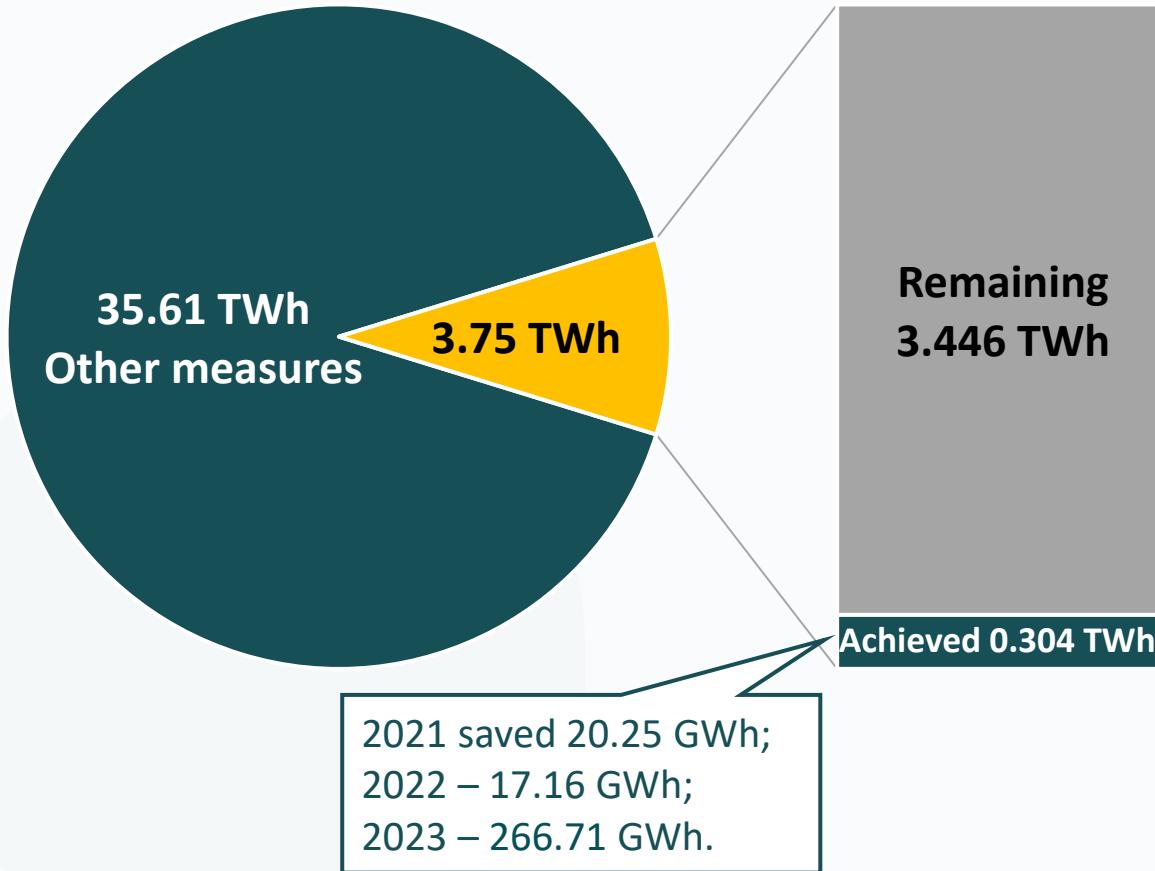


CONSULTATION AND EDUCATION MEASURES IN THE HEAT SECTOR: WEBSITE INFORMATION AND PUBLISHING IN PRINT OR MEDIA ARE THE MOST POPULAR



THE IMPLEMENTATION OF ENERGY EFFICIENCY OBLIGATIONS MEASURES CONTRIBUTES TO ACHIEVING LITHUANIA'S ENERGY SAVINGS TARGET

Lithuania's 2021–2030 Target: 39.35 TWh Savings,
including 3.75 TWh from Energy Efficiency
Obligations

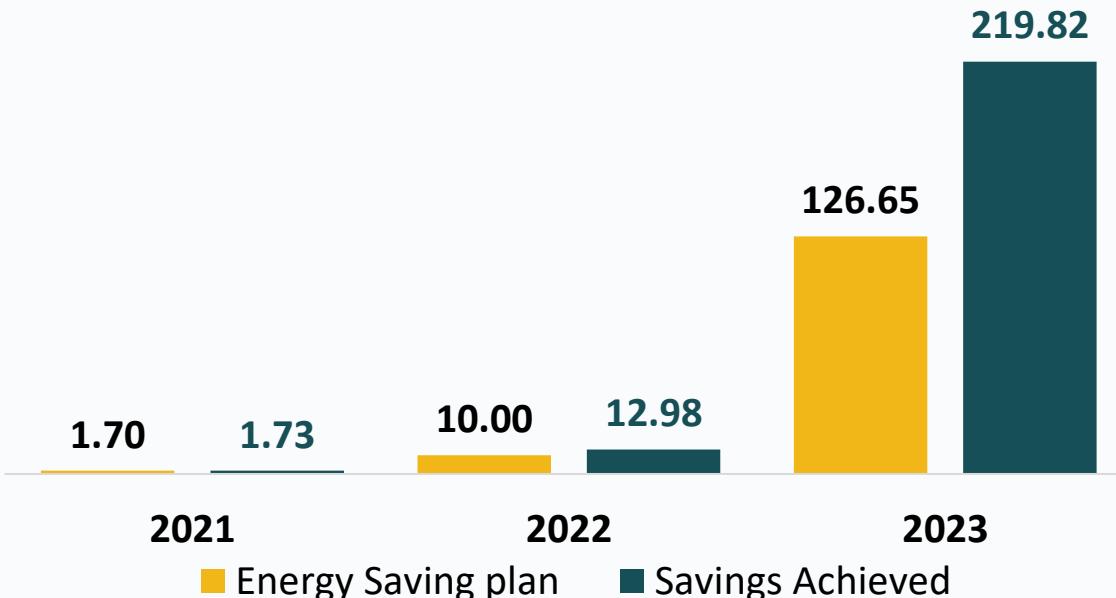


Source: Results from 2023 Energy Efficiency Obligations Reports Submitted by Companies

In 2023, Energy Savings increased 13 times, which resulted in:

- Electricity distributor saving measure "Installation of smart metering systems" increasing in volume every year, savings of 145 GWh;
- The number of companies having concluded agreements with the Ministry of Energy increased 5 times in 2023 (from 5 to 29 companies).

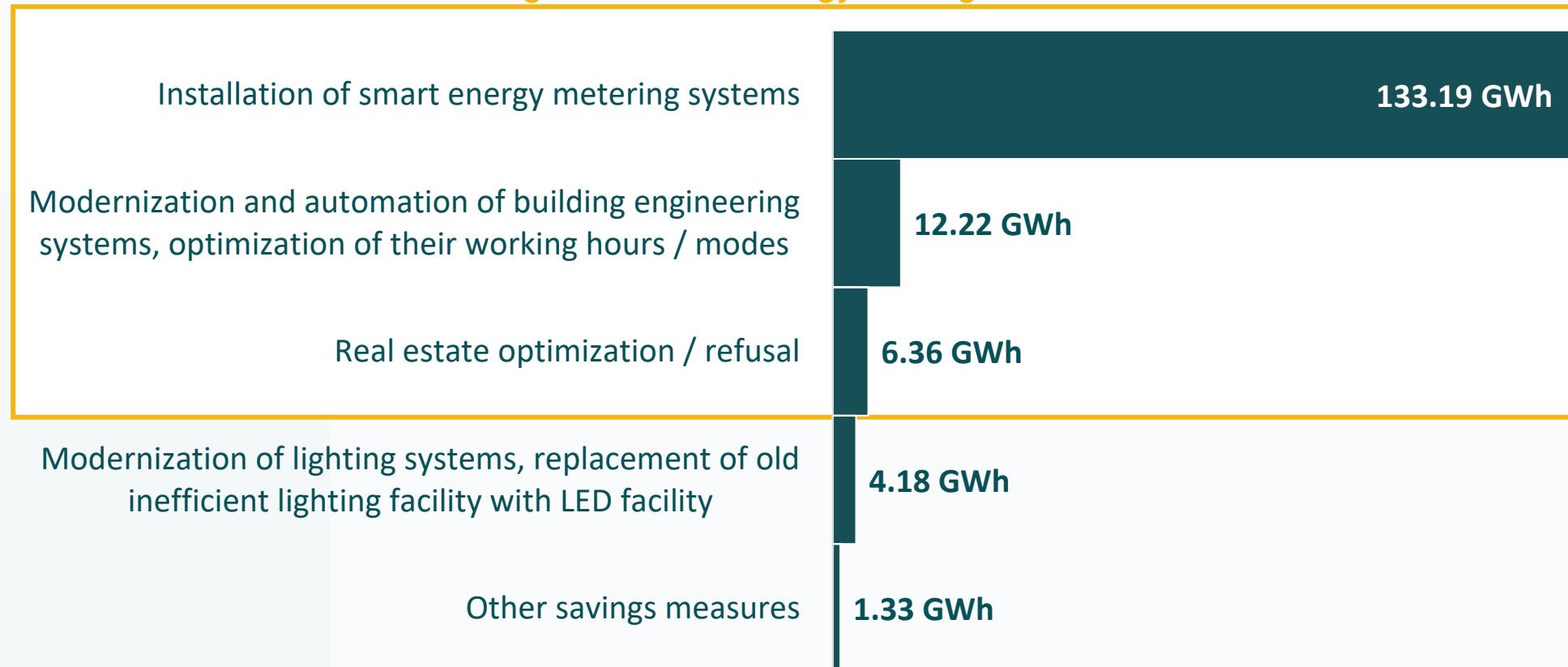
Planned and Achieved Energy Savings from Energy Efficiency Obligations, GWh



The chart presents **most popular measures for Energy Efficiency Obligations companies**.

In 2023, companies implemented not only technical (physical) but also organizational measures and measures that had an impact on employee behavior.

Defined measures contributing to thermal energy savings



SIMPLIFIED ENERGY SAVING CALCULATION TOOLS



Reassessment of actual energy consumption for space heating to the standard heating season calculator



Indoor and/or outdoor lighting equipment replacement calculator



Building renovation impact on energy consumption calculator



Electric motor replacement calculator



Building automation and control systems installation calculator



Heat generation unit / boiler replacement calculator



Electric vehicle acquisition calculator

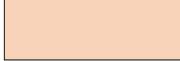
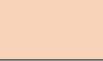
CALCULATION TOOL WINDOW VIEW:

 Brown colored cells require data entry

Modernization of buildings

The calculator is used when an existing building or part of a building is renovated, then the energy savings are calculated by comparing the building's energy performance certificate data before and after the renovation. This simplified standardized calculator is designed to calculate energy savings from Energy Saving Agreements.

Data of the implemented energy saving measure

Name the energy used for heating in the building  Building unique number 

Data from building energy performance certificates before and after building renovation

Actual input data	Measuring units
$E_{\text{til},\text{ap},\text{iki}}$	kWh/m ² ·year
$E_{\text{til},\text{ap},\text{po}}$	kWh/m ² ·year
$E_{\text{el},\text{ap},\text{iki}}$	kWh/m ² ·year
$E_{\text{el},\text{ap},\text{po}}$	kWh/m ² ·year
$S_{\text{til},\text{ki}}$	m ²
$S_{\text{til},\text{po}}$	m ²

Value explanation

Energy consumption for heating before building renovation
Energy consumption for heating after building renovation
Electricity consumption for lighting before building renovation
Electricity consumption for lighting after building renovation
Building heated area before renovation
Building heated area after renovation

Calculation formula

Total Final Energy Savings (TFES)

$$TFES = (E_{\text{til},\text{ap},\text{iki}} \times S_{\text{til},\text{ki}}) - (E_{\text{til},\text{ap},\text{po}} \times S_{\text{til},\text{po}})$$

Results

Saved energy (output data)	Measuring units
0,00	kWh/year
0,00	kWh/year

Value explanation

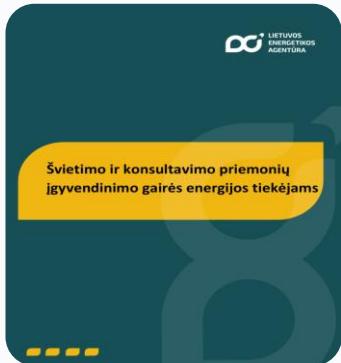
Total final energy savings
Total final energy savings



<https://www.ena.lt/eve-vertinimo-irankiai/>

TWO ENERGY SAVING AGREEMENT ONLINE GUIDELINES DEVELOPED BY LEA

For Energy Suppliers signed Education and Consultation Agreement



Education and Consultation Agreement Guidelines Include:

- Guidance on implementing education and consultation activities
- Recommendations for planning and developing effective measures
- Instructions for executing the activities
- Criteria for reporting and justifying the actions undertaken



[Access the Guidelines on the ena.lt website \(only in Lithuanian language\)](#)

For Companies signed Energy Efficiency Obligations



The Annual Report Preparation Guidelines include:

- A list of information that must be provided in the annual reports
- Two completed examples of commonly used energy-saving measures
- Step-by-step instructions for completing the report, with references to relevant supporting documents



[Access the Guidelines on the ena.lt website \(only in Lithuanian language\)](#)

ENERGY SAVING GUIDELINES: SIMPLE STEPS TO LOWER ENERGY USE

Guidelines for different sectors:



Households



Energijos taupymo gairės namų ūkiams
Parengė VšĮ Lietuvos energetikos agentūros
Energijos vartojimo efektyvumo didinimo kompetencijų centras



Public sector



Industrial sector



Service sector

Energijos taupymo gairės
viešajam, paslaugų ir pramonės
sektoriams

Parengė VšĮ Lietuvos energetikos agentūros
Energijos vartojimo efektyvumo didinimo kompetencijų
centras



Implementation timeline – short-term, low-effort tasks for immediate cost savings, and long-term actions for sustained improvements



Energy-saving potential – estimated range of energy savings, from lowest to highest percentage



Investment requirements – estimated cost range, from no investment to high-capital actions.



Effort level – estimated workload, ranging from low-effort tasks to actions requiring significant time and resources.

Improving Energy Consumption for Security, Sustainability, and Growth:

-  **Energy Efficiency equals National Security.** Reducing energy consumption lowers dependency on imported energy.
-  Having **timely and accurate energy data** is essential for institutions to develop effective policies. It allows authorities to identify priority areas, tailor interventions, and monitor the impact of measures across sectors.
-  **Public Awareness** is Essential, without societal engagement, technical measures fall short. Behavioral change is crucial for energy-saving success.
-  **Data-Driven Policy Making.** Energy audits and Energy Management systems support better decisions.
-  **Focus on Buildings.** Buildings are among the largest energy consumers. Insulation, window replacement, heating and ventilation system upgrades offer high returns.
-  Change the **attitude towards energy efficiency**: Energy efficiency is not about limiting energy use, but about maximizing the value and comfort from every unit of energy consumed.
-  **Private Sector as a Key Partner.** Businesses adopt energy efficiency for economic benefits, not just compliance. Efficiency becomes a competitive advantage, especially in manufacturing.
-  **Embracing Smart Technologies.** Digitalization and energy monitoring enables real-time energy optimization.

Thank you!



**LITHUANIAN
ENERGY
AGENCY**



<http://www.ena.lt>



<https://www.linkedin.com/company/ltena/>