

Researchers widely disseminate research results in scientific papers and also giving presentations to stakeholders and society at large.

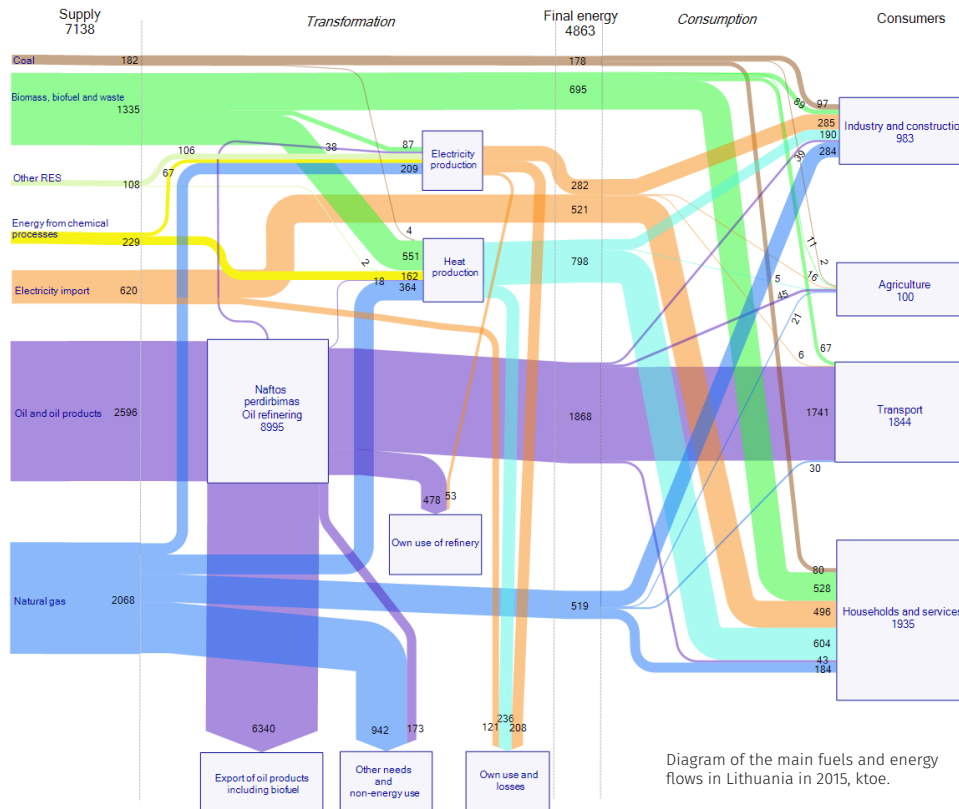


Diagram of the main fuels and energy flows in Lithuania in 2015, ktoe.



Areas of research

- ANALYSIS OF MACROECONOMIC DEVELOPMENT SCENARIOS, MODELLING AND FORECASTING OF ENERGY DEMAND;
- ANALYSIS OF MEDIUM- AND LONG-TERM ENERGY SUPPLY SCENARIOS USING WIDELY APPROVED OPTIMIZATION MODELS;
- EVALUATION OF ENVIRONMENTAL IMPACT OF THE ENERGY SECTOR, ANALYSIS OF POLLUTION REDUCTION TECHNOLOGIES AND IMPLEMENTATION OF ENVIRONMENT PROTECTION POLICIES;
- DEVELOPMENT OF ENERGY INFORMATION SYSTEM, COLLECTION OF STATISTICAL DATA ON THE ENERGY SECTOR DEVELOPMENT IN LITHUANIA AND WORLDWIDE;
- GENERALIZATION OF THE ENERGY SECTOR RESTRUCTURING AND LIBERALIZATION EXPERIENCE IN THE EUROPEAN UNION AND CENTRAL AND EAST EUROPEAN COUNTRIES AND ITS APPLICATION IMPLEMENTATION OF REFORMS IN THE LITHUANIAN ENERGY SECTOR;
- CONSULTANCY ON APPLICATION OF ENERGY SECTOR REFORMS IN ACCESSION AND OTHER EUROPEAN COUNTRIES, ON BEHALF OF THE EXPERIENCE GAINED THROUGHOUT THE LITHUANIAN PRACTICE;
- RESEARCH OF EFFICIENCY OF SUPPORT MEANS FOR RENEWABLE ENERGY SOURCES;
- ENERGY MANAGEMENT AND MARKETING RESEARCH.



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The core value provided by the Laboratory of energy system research is **solving scientific and practical problems** performing modeling and evaluation of development of energy sector, different regulatory regimes, and the **environmental impact** of development of energy sector and its politics.

For many years, The Laboratory is a forstanding actor in **preparation of** the Project of **National Energy Strategy**. Researchers of the Laboratory are preparing **development strategies for** Lithuanian **energy companies** as well.

High level qualification of the staff of the Laboratory is highly appreciable and proven in numerous important international and national level projects.

The Laboratory of Energy Systems Research was established in 1948. Almost 70 years of research activity demonstrates ability to provide continuously high quality scientific results. Moreover, many of research results were successfully applied in practice solving important problems on both national and international levels.

MAIN INTERNATIONAL PROJECTS



The project “Policy Dialogue on the assessment and convergence of RES policy in EU Member States”, started in April 2013 and carried out under the Intelligent Energy – Europe programme. DIA-CORE intends to ensure a continuous assessment of the existing policy mechanisms and to establish a fruitful stakeholder dialogue on future policy needs for renewable electricity (RES-E), heating & cooling (RES-H), and transport (RES-T).



Horizon 2020 project of the Role of technologies in an energy efficient economy – model-based analysis of policy measures and transformation pathways to a sustainable energy system (REEEM). Researchers of the Laboratory are conducting case studies of district heating in cities and energy security in Baltic region, analysing energy-economy relationships in computable general equilibrium framework.



Project Resource Efficient cities implementing ADvanced smart ciTY solutions (READY) is funded by the EU Seventh Framework Program for research; it aims to determine perspective of innovative technologies in Lithuania.



Horizon 2020 project of the Baltic Region Initiative for Long Lasting InnovAtive Nuclear Technologies (BRILLIANT). In this Project researchers of the Laboratory lead energy modelling work package and perform macroeconomic impact assessment of a regional nuclear power programme.



Horizon 2020 project of the Research and Innovation action program Energy Keeper. The overall aim of the EnergyKeeper project is to design, develop and test a novel, scalable, sustainable and cost competitive flow battery based on organic redox active materials.



MAIN NATIONAL PROJECTS

- The External economic effects of development of energy sector: quantitative assessment launched in 2014 according to the task of the Projects by groups of scientists of the Research Council of Lithuania.
- Assessment of perspectives for broader use of renewable energy sources in Lithuania taking into account interdependencies among energy water and climate change.
- Analysis and assessment of the energy sector legal framework and recommendations for improvement of legal regulation.
- Assessment of the statistical possibilities for transfer of the amount of renewable energy sources from Lithuania to other member states.
- Methodical guidelines for preparation of national GHG emissions projections.
- Assessment of social and macro-economic impact of energy development scenarios.
- District heating development strategy and District heating Grid code.

Projects are prepared developing different kind of methodologies (MESSAGE, CGE model, multicriteria evaluation etc.) and following the agreements with the Office of the Lithuanian Government, the Ministry of Energy, the Ministry of Environment, the National Lithuanian Electricity Association, JSC Kaunas energy, municipalities, etc.