



Centre for Climate
and Energy Analyses

LAYMAN'S REPORT

LIFE CLIMATE CAKE PL

LIFEClimateCAKEPL

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This document was prepared within the scope of the project: "The system of providing and disseminating information in order to support the strategic implementation of the climate policy (LIFE Climate CAKE PL)" - LIFE16 GIC/PL/000031 – LIFE Climate CAKE PL.

If you have any comments or questions regarding this document, please contact: cake@kobize.pl.

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1. PROJECT HISTORY

The main objective of the LIFE Climate CAKE PL project is to build a comprehensive and sustainable system for creating and delivery of information on the climate and energy policy impacts in order to improve the effectiveness and efficiency of its implementation. Project activities are focused predominantly on supporting the decision-making process and increasing the potential of the knowledge and competence of the national administration involved in climate and energy policy development and implementation.

As a result of the implementation of the Project launched in September 2017 the Centre for Climate and Energy Analysis (CAKE) was established - a team of experts developing and applying analytical tools, networks and communication channels, then in sustainable manner produce and deliver knowledge to support decision-making process.



The CAKE team consists of 19 people, including 13 modelling experts and staff responsible for the administration, promotion and settlement. Our team includes professionals permanently employed at IOŚ-PIB and KOBiZE, as well as experts and scholars from universities and research centres collaborating with us. The project implementation would not have been successful without the great engagement of all these people over the five years.

Due to the emergence of new legislative proposals from the European Commission as part of the European Green Deal and the recently announced "Fit for 55" Package, the European Commission has agreed to extend the LIFE Climate CAKE PL project by 1.5 years (until June 2022). This approach shows that the results of CAKE's work in the field of creating the necessary analyses to support the decision-making process are positively assessed by the European Commission itself, and the results of our work are noticed by the community of scientists and politicians dealing with this subject. The main research topics of CAKE in this period were related to the European Green Deal and issues such as the Market Stability Reserve, the role of energy storage, collective transport, and the possibility of emission absorption.

2. LIFE CLIMATE CAKE PL IN BRIEF

▶ **LIFE16 - Information and management**

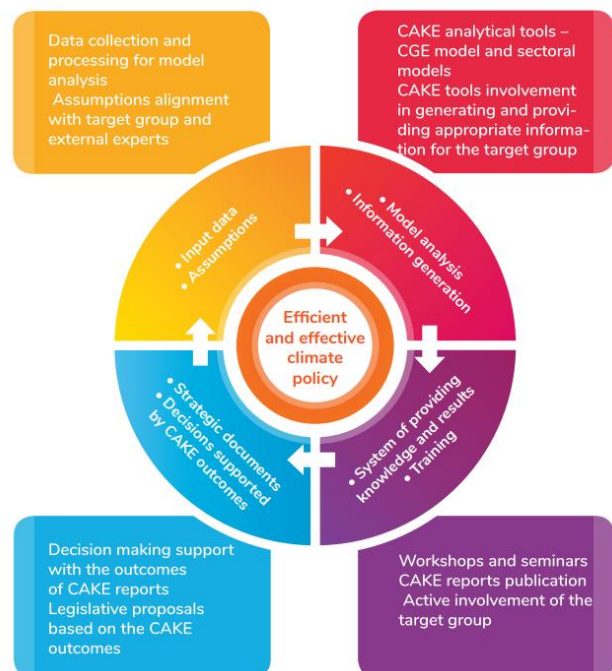
- ▶ **Duration:** Start: 01/09/17 - End: 30/11/20 extended to 30/06/2022
- ▶ **Responsible Party:** Instytut Ochrony Środowiska – Państwowy Instytut Badawczy (IOŚ-PIB)
- ▶ **Budget:**
 - ▶ Total: 2 372 948 euro
 - ▶ LIFE programme co-financing: 59,2%
 - ▶ NFOŚiGW co-financing: 20,1%
- ▶ **Permanent effects of the Project:** Center for Climate and Energy Analysis (CAKE) - a set of model tools and a team of specialists capable of carrying out analyses of climate and energy policy.

3. MAIN ACTIONS

The activities of the Project were and are focused primarily on supporting the decision-making process and increasing the knowledge potential and competences of the state administration dealing with climate and energy policy issues. One of the important aspects of the project is direct cooperation with representatives of the central state administration who are members of the Steering Committee, as well as groups of local representatives and local governments, business and non-governmental organizations.

The main goal of the project was to be achieved through the implementation of specific objectives:

- ▶ Building a comprehensive and consistent analytical toolkit for assessing the measures proposed at the levels of Member States and the EU, including their sectoral dimension.
- ▶ Developing a high-quality information about the impacts of measures implemented and planned under the EU energy and climate policies.
- ▶ Providing high-quality information about the impacts of measures under EU energy and climate policies to public administration, private entities and the public.
- ▶ Centre for Climate and Energy Analyses (CAKE) is established to guarantee the sustainability of the Project. CAKE is a comprehensive and sustainable team, which, using and developing the analytical toolkit created in the Project, the stakeholder network and distribution channels, will continuously generate and provide to its addressees knowledge in order to assist them in decision-making.

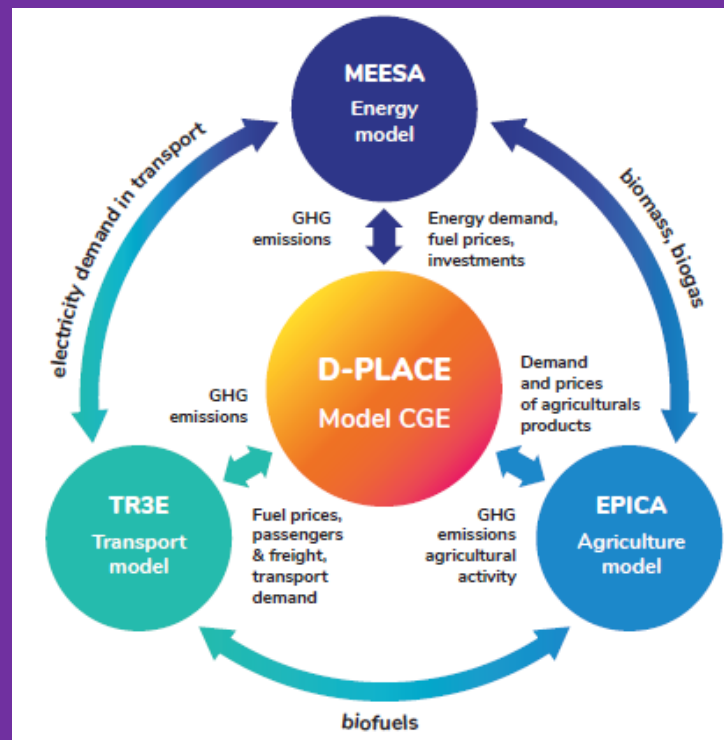


STAGE 1: PREPARATION OF THE MODELS

An important part of the Project is the construction and continuous improvement of the analytical tools necessary to create knowledge about the effects of climate and energy policy. The main element of the CAKE analytical toolkit is the CGE general equilibrium model (d-PLACE), which, through the interconnecting module, interacts with three sectoral models: energy (MEESA), transport (TR3E) and agriculture (EPICA). The integration of models consisting in the exchange of information and results between models, and then using them for subsequent calculations, is one of the activities that few research centers can be proud of. This comprehensive and coherent set of tools allows for the correct assessment of the effects of implemented and planned measures, in particular the objectives of air and climate protection as well as energy and climate policy and sectoral policies, providing the necessary knowledge to decision-makers and all interested parties, and consequently leads to an improvement in the effectiveness and efficiency of achieving objectives climate and environmental issues at national and Community level.

The model tools developed as part of the LIFE Climate CAKE PL project are still used and developed in subsequent projects carried out by CAKE / KOBiZE / IOŚ-PIB. The implementation of further development of CAKE is possible thanks to obtaining new grants both from EU funds from the LIFE program for the implementation of the LIFE VIEW 2050 project ("The impact assessment of the EU Emission Trading System with the long-term vision for a climate neutral economy by 2050" LIFE 19GIC / PL / 001205) and by participating in the consortium within the ECEMF project ("European Climate and Energy Modelling Forum"). financed by the Horizon 2020 Program, where IOŚ-PIB / KOBiZE / CAKE is one of the beneficiaries.

Graph 1. Diagram of integration of models created in LIFE Climate CAKE PL



STAGE 2: PREPARING ANALYSIS

As part of the project, we have published 14 analyses and technical documentation of the models:

- ▶ „The risk of Carbon Leakage in the context of increasing the EU greenhouse gas emission reduction target” (June 2019)
- ▶ “CO2 emissions reduction potential on transport sector in Poland and the UE until 2050” (October 2019)
- ▶ “Scenarios of low-emission energy sector for Poland and the EU until 2050” (October 2019)
- ▶ “The European Green Deal impact on the GHG’s emission reduction target for 2030 and on the EUA prices” (March 2020)
- ▶ “Assessing climate policy impacts in Poland’s agriculture. Options overview” (July 2020)
- ▶ “The effects of the implementation of the Border Tax Adjustment in the context of more stringent EU climate policy until 2030” (September 2020)
- ▶ “CO2 emission reduction paths in the transport sector in Poland in the context of the European Green Deal” (October 2020)
- ▶ „Poland net-zero 2050: The roadmap toward achievement of the EU climate policy goals in Poland by 2050“ (July 2021)
- ▶ „Poland net-zero 2050. Guidebook of energy transition for local governments.” [in Polish] (October 2021).
- ▶ „Reform of the market stability reserve (MSR) in the “Fit for 55” package“ (January 2022)
- ▶ “How to compute the cost for workers within the “Just Transition” to a low-carbon future?” (April 2022)
- ▶ “Poland net-zero 2050. Selected instruments for climate policy implementation in Agricultural Sector in the 2050 perspective”. (June 2022)
- ▶ “Poland net-zero 2050. The role of Public Transport in the context of the “Fit for 55” package to 2050. (June 2022)
- ▶ “Poland net-zero 2050. Transformation of the Polish and EU Energy Sector until 2050”. (June 2022)



The most important result of the work carried out so far under the LIFE Climate CAKE PL project was the analysis prepared and published by CAKE in June 2021: **“Poland net-zero 2050: The roadmap toward achievement of the EU climate policy goals in Poland by 2050”**.

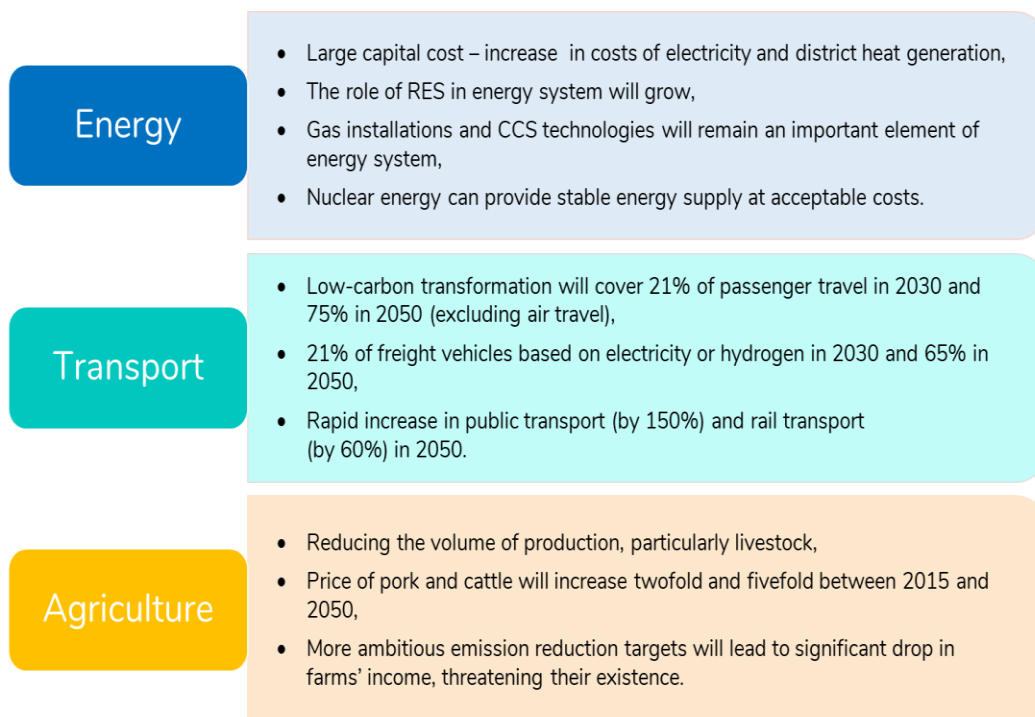
In this report, we analysed options of transition towards climate neutral economy in Poland in accordance with the climate policy goals declared in the European Green Deal. We attempted to assess necessary transformation of all sectors of the economy paying particular attention to energy, transport and agriculture thus giving the broader situational view necessary to prepare a national long term low carbon strategy.

Key conclusion from „Poland net-zero 2050”:

- ▶ Reducing the consumption of fossil fuels and the use of renewable energy sources will not be enough to achieve climate neutrality by 2050 in the EU and Poland
- ▶ The need for large-scale adoption of BECCS, CCS/CCU, industrial electrification, hydrogen technology, electromobility and the reduction of livestock production in agriculture.
- ▶ There is a need for coordinated action across multiple sectors and for a sufficient financial framework.
- ▶ The EU's decarbonisation targets are ambitious but can only be achieved with rapid technological advances (i.e. in transport, agriculture and industry) and adequate access to financial resources (public and private).
- ▶ Most of the emission reductions in Poland take place in the energy sector, but the sector's role in the overall decarbonisation effort will diminish over time.

The graph below presents the most important results of the analysis in terms of the division into individual sectors. The electricity and heat generation sector as well as other energy-intensive sectors belonging to the EU ETS will play a key role in the transformation.

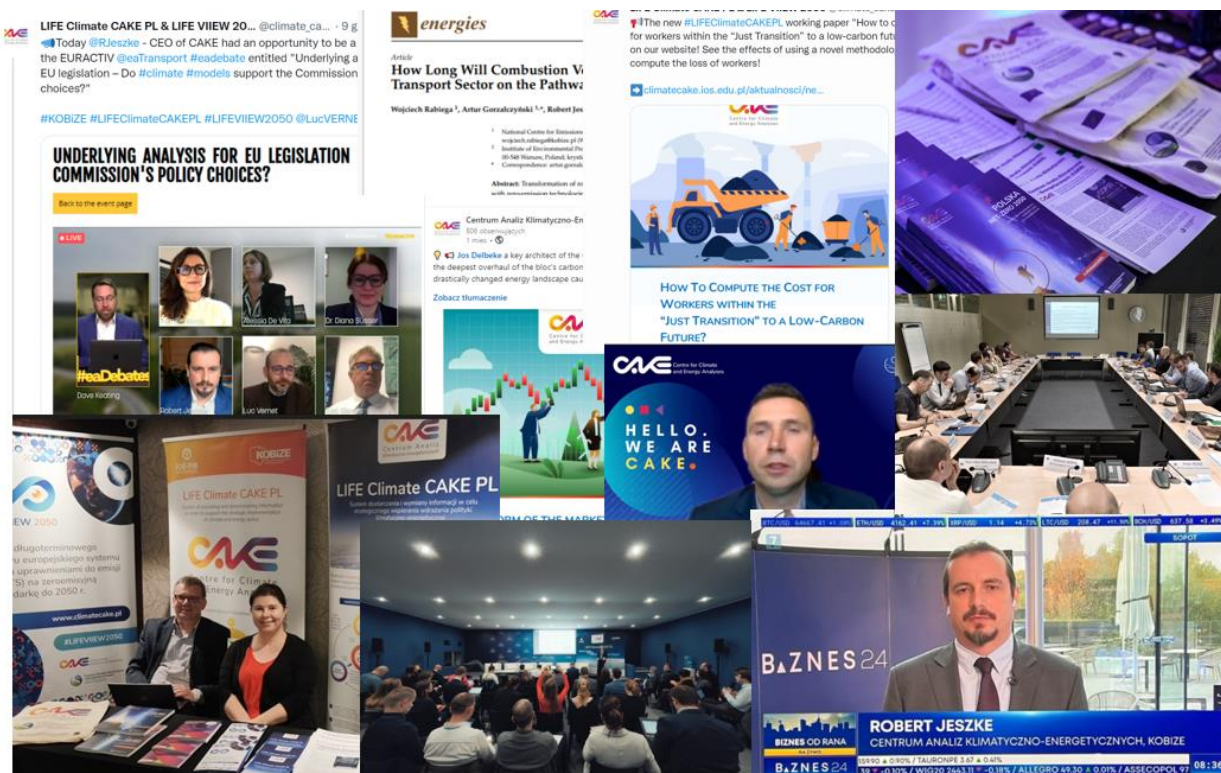
Graph 1. The most important results of the analysis related to particular sectors.



STAGE 3: DISSEMINATION ACTIVITIES

The main channels used to promote and disseminate the project's results were:

- ▶ **Website:** www.climatecake.pl
- ▶ **Social media:** Twitter, Facebook, LinkedIn
- ▶ **Articles** in popular publications, specialist journals & scientific
- ▶ Explanatory **leaflets** and promotion **brochures**
- ▶ **Presence in the media:** Interviews & comments to newspapers & TV and participation in podcasts
- ▶ **Participation in conferences,** seminars & webinars
- ▶ **Organisation of many workshops,** events & meetings with other LIFE projects



As a result of the LIFE Climate CAKE PL project, we participated in a number of meetings with other representatives of LIFE projects. One of our most important partners in this area is the cooperation with the **Florence School of Regulation (FSR Climate)**, which runs the **LIFE DICET** and **LIFE SIDE** projects. Another project we had the opportunity to cooperate with and exchange experiences in project management is **LIFE Clivut**.

During the 5 years of the project's implementation, we had the opportunity to participate at the conference of the **LIFE Unify project** (2021), **INE-ISD** and **WWF** (February 2018) as well as **UNEP/GRID-Warsaw** and the **LIFE Green-Go! Carpathians** project (May 2018), where we were able to present the results of our work and share experiences from the implementation of LIFE projects. We also participated in workshops and information days promoting knowledge about LIFE projects.

During the 5 years of the CAKE/KOBiZE/OŚ-PIB project was also the organizer of several international and domestic conferences, including:

- ▶ „The challenges of economic transformation in the perspective of achieving the climate neutrality goal of Poland and the European Union by 2050” in Warsaw (November 2019 r.);
- ▶ „European Green Deal 2050 – Challenges of transformation” (May 2020 r.) - on-line conference co-organised with Permanent Representation of the Republic of Poland to the European Union;
- ▶ „What climate policy in the agricultural sector in Poland?” (July 2020 r.);

- ❶ “Development of the heating sector in Poland” co-organised with Stowarzyszenie Gmin Polska Sieć „Energie Cités” (January 2022 r.);
- ❷ “The Reform of the MSR and its impact on the EU ETS & EUA prices” (March 2022 r.);
- ❸ „The challenges of transformation in the perspective of achieving the climate neutrality goal of Poland and the European Union by 2050” in Warsaw (June 2022 r.)

In previous years, we also participated in the world's largest modeling events, as well as the **COP 24 Conferences in Katowice (2018)**, **COP 25 in Madrid (2019)** and **COP26 in Glasgow (2021)** as well as in conferences organized by foreign portals, such as **Euractiv**, other research centers of **PIK Potsdam**, and other on-line webinars related to the subject of climate and energy policy.



STAGE 4: PROJECT EFFECTS

- ▶ Building and maintaining advanced analytical tools and a team of high-class specialists to assess the effects of climate and energy policy, primarily in the dimensions important for Poland.
- ▶ Filling the information gap by providing decision-makers and other stakeholders dealing with climate and energy policy issues, in particular the transformation of the Polish economy towards low-emission, high-quality knowledge, which is a significant support in decision-making and negotiation processes within the EU. Thus, the project permanently contributes to the improvement of the effectiveness and efficiency of achieving the reduction goals.
- ▶ Increasing the potential of knowledge and skills in the private sector through conscious involvement of entities and civil society in the process of implementing the EU climate policy and influencing its detailed solutions.
- ▶ Improving the ecological and climate awareness of the society, with particular emphasis on the climate and energy policy.
- ▶ Active sharing and dissemination of analysis results through available communication channels.
- ▶ Recognition of the Polish analytical potential in the European Union and also around the world.
- ▶ Permanent support for public administration in the field of information support for the decision-making process.
- ▶ Creation of opportunities for further development and use of the created potential of knowledge and skills to take up new challenges.





**National Centre for
Emissions Management**
Institute of Environmental Protection
National Research Institute

CAKE Centre for Climate
and Energy Analyses



Project entitled „System of providing and disseminating information in order to support the strategic implementation of climate policy” LIFE Climate CAKE PL (LIFE16 GIC/PL/000031) is co-financed from the EU funds from the LIFE Programme and from the National Fund for Environmental Protection and Water Management.

