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Implementation of the pilot action by the Niemce Energy Cluster in the Lubelskie Voivodeship

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IMPLEMENTATION OF THE PILOT ACTION BY THE NIEMCE ENERGY CLUSTER IN THE LUBELSKIE VOIVODESHIP

22 October 2021
creation of the
„Niemce Energy Cluster„
and signing the
Letter of Intent
for implementation
of the pilot action

Meeting 1 in the pilot action
in Niemce
on 3.12.2021

Meeting 2 and 3
in Krasienin
on 10.12.2021

Topics
of the pilot action:
”Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune”

Summary
of the
pilot action,
conclusions
and next activities
of the Niemce
Energy Cluster

CREATION OF THE „NIEMCE ENERGY CLUSTER" IN THE MUNICIPALITY OF NIEMCE AND SIGNATURE OF THE LETTER OF INTENT FOR IMPLEMENTATION OF THE PILOT ACTION

- **Signature of the civil law agreement on the establishment of the Energy Cluster in the Municipality of Niemce, in the Lubelskie Voivodeship: "Niemce Energy Cluster„ and the cooperation of the Cluster Members 22 October 2021**

- **Signature of the Letter of Intent - on the decision, of the members of the energy cluster** in the Niemce Commune, in the Lubelskie Voivodeship: "Niemce Energy Cluster", **on the choice of the pilot action to be implemented in the timeframe of the ENES-CE project** in the Niemce Commune in the Lubelskie Voivodeship: **a pilot action of ecological education for the local community** as part of information and promotion meetings: "**Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the Commune".**

- The duration of the pilot action was set from 01.11.2021 to 15.12.2021.

The aim of the pilot action was:

- to sensitive all target groups to ecological issues, to raise awareness of the possibility of reducing low emissions in the commune and the possibility of choosing air quality notification systems in the future;

- promoting the idea of cooperation within the energy cluster and the possibility for potential new members to join the cluster and join the common bottom-up energy planning in the Niemce Commune.

In addition, the action was conducted to promote understanding of the need to take joint actions to reduce air pollutant emissions and improve the energy efficiency of the communal and residential buildings in the commune by investing in installations using renewable energy sources.

MEETINGS IN THE PILOT ACTION OF ECOLOGICAL EDUCATION FOR THE LOCAL COMMUNITY

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Assumptions of the pilot action was organisation minimum 2 information meetings (29 November, 8 December) in fact there were organised 3 meetings:

No.	Date	Time	Location	Address	Target group
1	03.12.2021 r.	16:00 - 18:00	Training Centre building in Niemce	6 Parkowa Street, 21-025 Niemce	Entrepreneurs in industry, business, agriculture and energy, village leaders/residents including senior citizens (31 participants in total)
2	10.12.2021 r.	14:00- 15:05	Folk House of Firemen	18A Krasienin Kolonia, 21-025 Niemce	Members of the Niemce Commune Council and residents, including senior citizens, families/ entrepreneurs.(17)
3	10.12.2021 r.	16:00 - 18:00	Folk House of Firemen	18A Krasienin Kolonia, 21-025 Niemce	Residents of Niemce commune, including seniors, families (20).

TOPICS OF THE PILOT ACTION

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Topics of the meetings in pilot action:

- **Niemce Energy Cluster - the idea of creation,** possibilities for the inhabitants to become engaged in energy planning in the commune **and the possibility of joining the cluster for new members**,
- **Investment activities** included in the draft document LCEP for the Niemce Commune for 2021 - 2030 with a vision of activities until 2050 (update);
- **Air pollution, low emission, smog - causes and effects, what influences the air pollution in the Niemce Commune, sources of pollution by sectors (**status as of 2020);
- Summary of boiler emission parameters: out-of-class, class 3, 4 and 5;
- What are the heat sources that not cause low-emissions and an explanation of what are "low-emission heat sources" (in the graphic);
- Overview of what are Renewable Energy Sources, Energy Efficiency and its improvement;
- Indication of the impact of RES investments on improving air quality in Niemce Commune;
- Possibility of using subsidies for investments in RES and EE for entrepreneurs from the **Agroenergy programme, RPO WL for 2014 - 2020 (**call for 2022: measure 15.1 Support for enterprises in the field of energy) and the programme described in the draft document **European Funds for Lubelskie 2021-2027 (meeting with entrepreneurs);**
- Possibility to use co-financing for RES and EE investments for inhabitants within the programmes: Agroenergy - farmers, RPO WL for 2014 - 2020 (call for 2022), **European Funds for Lubelskie 2021-2027, Clean Air, My Current, My Heat (meeting with inhabitants);**
- Possibilities of using subsidies for inhabitants from the above mentioned programs, while the **Stop Smog program** was discussed in detail (**meeting with inhabitants and members of the Niemce Commune Council);**
- **Influence of inhabitants and entrepreneurs on air quality in the Niemce Commune; List of possible actions for entrepreneurs and inhabitants to reduce emissions of pollutants to air. List of actions how to change your daily behaviours to reduce energy consumption and thus reduce CO_2 emissions to air (based on the translation of the graphic developed in the ENES-CE project);**
- **Possibilities of selecting an air quality notification system in the future;**
- Discussion panel in the Q&A formula (questions and answers), filling in the questionnaire of a evaluation and satisfaction from the meeting.

TOPICS OF THE PILOT ACTION

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Possible measures/investments in RES after the adoption of a document of „LCEP for 2021-2030 with a vision of actions until 2050 (update)" by the Council of the Niemce Commune to reach by 2030 goals:

- **reduction of carbon dioxide emissions by 78.88%,**
- **increasing the share of energy from renewable sources to 56.84% of the total energy consumption in the commune,**
- **reduction of final energy consumption by 3.53%**

Number	Measure from the schedule until 2030
1.	Locating new construction investments within the reach of public transport.
2.	Conducting control of the application of environmental protection regulations within the scope of its competence.
3.	„Conducting an educational and information campaign in order to raise awareness of EE-energy efficiency and the related possibilities of financing investment activities". In addition, as a pilot action under the ENES-CE project, an ecological education action will be carried out to raise awareness of the possibility of reducing low emissions and about air quality notification systems.
4.	Controls of compliance with the ban on incineration of waste in heating devices and in open spaces.
5.	Organizing tenders for joint energy purchase for public utility buildings.
6.	Introducing ecological criteria to public procurement procedures and searching for solutions limiting the negative impact of products and services on the environment.
7.	Implementing online administrative procedures so that citizens will be able to get things done without having to move around.
8.	Introduction of changes to the Study of the conditions and directions of spatial development of a commune, enabling the location of larger fuel and energy production sources in its territory
9.	**Modernization and construction of street lighting with the use of renewable energy**
10.	Construction of a Selective Municipal Waste Collection Point (PSZOK) in the Niemce Commune in Zalesie
11.	Mobile LOF [partnership project under the ZIT instrument - in the area of the Nimece Commune of Niemce it is planned, inter alia, transfer junctions]
12.	Construction of bicycle paths in the commune (including in attractive tourist areas, e.g. along the Ciemięga river
13.	**Replacement of low-power combustion sources in the municipal and housing sector (for coal-fired boilers meeting the eco-design requirements in accordance with Directive 2009/125 / WE) of 150 residential buildings in all localities until 2030).**
14.	**Replacement of low-power combustion sources in the municipal and household sector (for gas boilers) of 250 residential buildings in all localities of the commune until 2030).**
15.	**Replacement of low-power combustion sources in the municipal and housing sector (for biomass boilers meeting the ecodesign requirements in accordance with Directive 2009/125 / WE), 40 residential buildings in all localities of the commune until 2030).**
16.	**Thermomodernization of buildings and supporting energy-saving construction in housing construction, 240 buildings in all localities of the commune.**

TOPICS OF THE PILOT ACTION

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Number	Measure from the schedule until 2030
17.	Equipping residential buildings with renewable energy micro-installations, 150 solar installations with an average area of 4 m2 each).
18.	**Equipping residential buildings with renewable energy micro-installations 5,000 photovoltaic installations with an average capacity of 3kWe. (including 354 photovoltaic installations under the project: Installation of photovoltaics and solar collectors in households and public buildings under Measure 5.2 of the ROP LV 2014-2020)**
19.	Equipping residential buildings with renewable energy micro-installations, 60 heat pumps
20.	Measure in the field of renewable energy in the enterprise sector: installation of a heat pump and a photovoltaic installation with a capacity of 12 kW to cover the energy demand in social rooms.
21.	GPZ - Main Supply Point up to 50 MWe.
22.	Electricity distribution network for the DSO of the KEN Cluster, power evacuation from the photovoltaic installation, wind farm, cogeneration systems, electricity storage and cooperation with PSE and PGE.
23.	Gas distribution network, supplement to gas fuel supply from a separate OGP Gaz System supply station for cogeneration units - a generating entity.
24.	Telecommunications network - construction of a fiber within the framework of a smart grid.
25.	Installation of gas absorption heat pumps in single-family and public buildings - on active gas connections, after expanding the gas network, it is best ultimately for every household.
26.	Electrolysers station with a capacity of up to 20 MWe.
27.	**Wind farm up to 50 MWe (e.g. 5 * 10 MWe) and the related action No. 8: Introduction of changes to the study of conditions and directions of spatial development of the commune, enabling the location of larger fuel and energy production sources on its territory.**
28.	CHP- cogeneration system with a total capacity of approx. 50 MWe with a complete heat collection installation
29.	Electricity storage with a capacity of up to 50 MWh.
30.	Hydrogen storage (H2) (2 tons).
31.	Hydrogen refueling station.
32.	Electric vehicle charging stations (min. 270 kW)
33.	LNG refueling station for motor vehicles (alternative fuel until 2030)
34.	Photovoltaics up to 35 MWe.
35.	Hydrogen network in a separate area as part of R&D.
36.	Geothermal boreholes (approx. 3500 m depth, approx. 172 °C) Expected thermal power area 50 MWt.

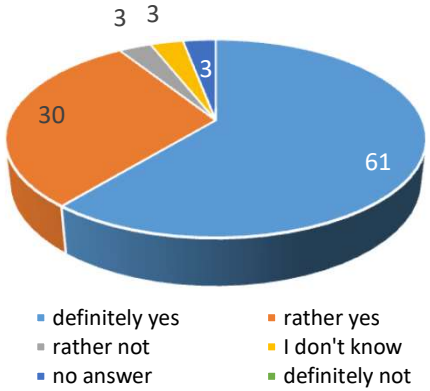
"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Summary of the meeting evaluation and satisfaction questionnaire - closed questions.

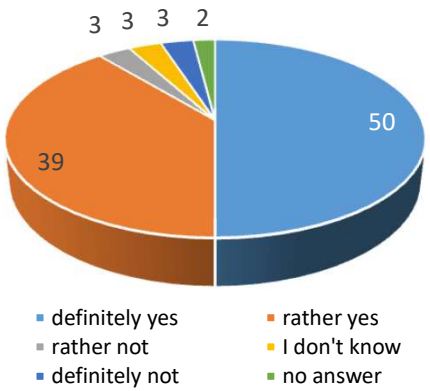
Answer	point (a) of the questionnaire Did you gain knowledge of what low emission is and what causes low emission?		point (b) of the questionnaire Did you get to know what are the sources of energy and heat that do not cause low emissions?		point (c) of the questionnaire Did you learn which programmes you can use to obtain funds for investments using RES and for improving the energy efficiency of buildings?		point (d) of the questionnaire Have you increased your knowledge about the possibilities of reducing low emissions in the Commune?		point (g) of the questionnaire Should the Commune or the energy cluster make information available to the inhabitants about air pollution in the commune by installing an air quality board or sensors to measure air pollution?		point (i) of the questionnaire Would you like to become a member of the Niemce Energy Cluster in order to plan together a sustainable energy development of the commune and implement investments in RES?		point (j) of the questionnaire Are the implementation of ENES-CE project, creation of Energy Cluster and meetings with inhabitants/stakeholders beneficial for the inhabitants of Niemce Commune, because they involve them in common activities for the reduction of air pollution emissions (including CO2) and energy planning in the Commune with the use of RES?	
	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons	Number of responses/ persons	% share of responses/ persons
definitely not	0	0	1	3	0	0	0	0	0	0	2	6	1	3
rather not	0	0	1	3	1	3	1	3	1	3	7	19	0	0
I don't know	1	3	1	3	1	3	1	3	3	8	6	17	6	17
rather yes	19	53	14	39	16	44	11	30	12	34	8	22	16	44
definitely yes	16	44	18	50	17	47	22	61	17	47	8	22	9	25
no answer	0	0	1	2	1	3	1	3	3	8	5	14	4	11
SUMMARY:	36	100	36	100	36	100	36	100	36	100	36	100	36	100

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune". Summary of survey – closed questions, % share of persons/responses.

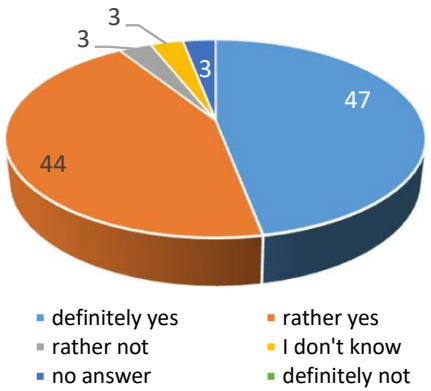
Have you increased your knowledge about the possibilities of reducing low emissions in the Commune? [% share of responses/persons]



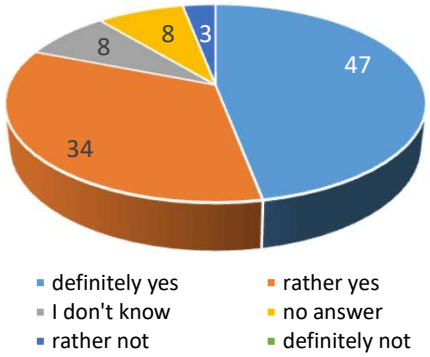
Did you get to know what are the sources of energy and heat that do not cause low emissions? [% share of responses/persons]



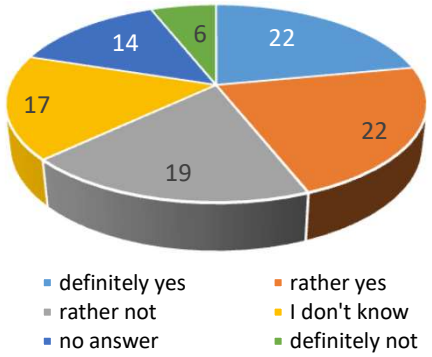
Did you learn which programmes you can use to obtain funds for investments using RES and for improving the energy efficiency of buildings? [% share of responses/persons]



Should the Commune or the energy cluster make information available to the inhabitants about air pollution in the commune by installing an air quality board or sensors to measure air pollution? [% share of responses/persons]



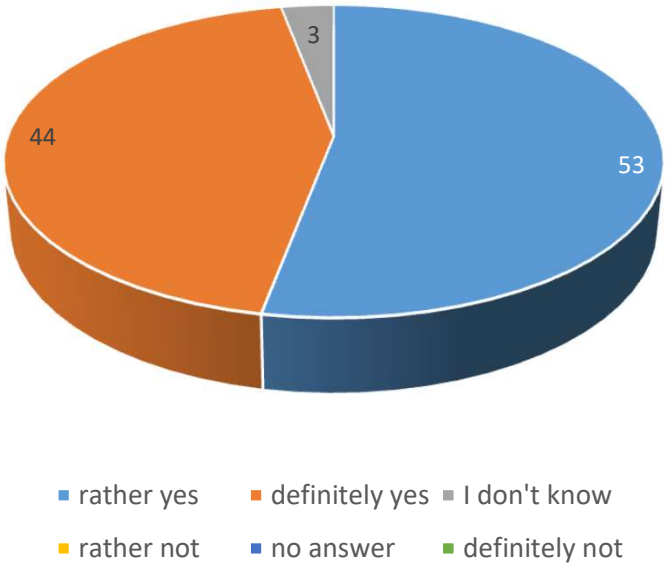
Would you like to become a member of the „Niemce Energy Cluster" in order to plan together a sustainable energy development of the commune and implement investments in RES? [% share of responses/persons]



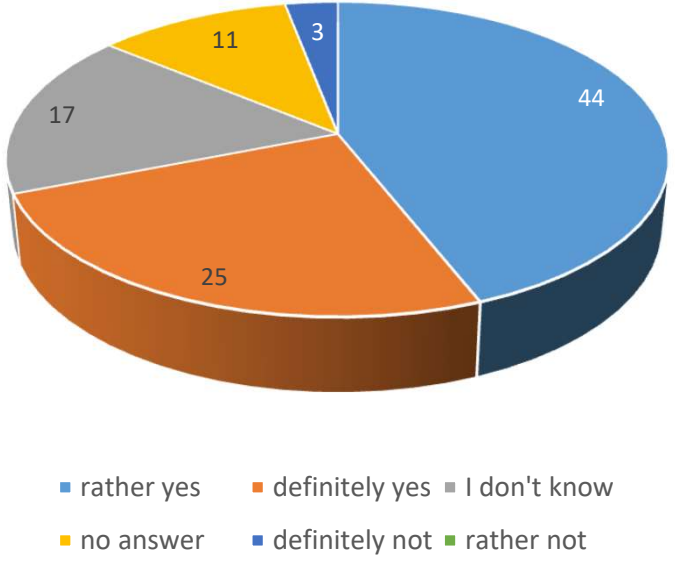
"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Summary of survey – closed questions, % share of responses/persons

Did you gain knowledge of what low emission is and what causes low emission?
[% share of responses/persons]



Are the implementation of ENES-CE project, creation of Energy Cluster and meetings with inhabitants/stakeholders beneficial for the inhabitants of Niemce Commune, because they involve them in common activities for the reduction of air pollution emissions (including CO2) and energy planning in the Commune with the use of RES?
[% share of responses/persons]



"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Summary of the meeting evaluation and satisfaction questionnaire - open questions.

Answer	What investments in RES installations would you like to implement in your own home/business to contribute to the reduction of air pollution in the Niemce commune?	What daily behaviours/ habits do you want to change to reduce your energy consumption and thus your CO_2 emissions and affect the air quality in your commune?	Where do you think such a board/sensor should be installed in Niemce commune?
Installation of the heat pump	12	-	-
Purchase and installation of photovoltaics	10	-	-
Replacement of central heating boiler	6	-	-
Thermomodernisation	1	-	-
House insulation	1	-	-
No needs	1	-	-
Commune office or its surroundings	-	-	8
Krasienin	-	-	2
Jakubowice Konińskie	-	-	1
Jakubowice Konińskie - kolonia	-	-	1
Installation of the heat pump	-	3	-
Restriction on car use	-	2	-
Replacement of central heating boiler	-	3	-
No change	-	2	-
Energy saving	-	1	-
Saving hot water	-	1	-
Not leaving devices in standby mode	-	1	-
Using appropriate fuel and wood with the right moisture content	-	1	-
Use of electric heating	-	1	-
Photovoltaics	-	1	-

SUMMARY OF THE PILOT ACTION

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune".

Summary of the meeting evaluation and satisfaction questionnaire satisfaction with the quality and form of the information provided to them and the organisation of the meeting.

Evaluation of the event	Content of the speeches		Presentations		Information provided		Organisation		Overall assessment	
	Number of responses/ persons	Percentage of responses/ persons	Number of responses/persons	Percentage of responses/ persons	Number of responses/ persons	Percentage of responses/ persons	Number of responses/ persons	Percentage of responses/ persons	Number of responses/ persons	Percentage of responses/ persons
1:Unsatisfactory	1	3	1	3	1	3	1	3	2	6
2:Satisfactory	0	0	0	0	0	0	0	0	0	0
3:Good	7	19	3	8	5	14	2	6	3	8
4:Very good	11	31	16	45	11	31	13	36	13	36
5:Excellent	15	42	13	36	17	47	18	50	17	47
no answer	2	5	3	8	2	5	2	5	1	3
SUMMARY:	36	100	36	100	36	100	36	100	36	100

"Every resident and entrepreneur from the Niemce Commune can contribute to clean air in the commune."

Conclusions from the pilot of the „Niemce Energy Cluster":

- While carrying out the pilot education action it was noticed that some inhabitants see the benefits of creating an energy cluster in order to cooperate in energy planning and implementation of RES investments, but there is a need for more knowledge transfer into the details of the idea of transforming an energy cluster and further plans for creating a special purpose company/economic entity for the realization of RES investments. This, in turn, leads to the conclusion that the promotion of cooperation within the cluster should be continued in order to manage all gaps in knowledge and possible uncertainties, and to inspire the confidence of new groups of inhabitants, which is necessary to implement joint RES and EE investments.
- Involving citizens in energy planning is a long process, requiring the transfer of knowledge, the demonstration of goals and opportunities, as well as the explanation of economic, technical and environmental dependencies related to the implementation of jointly planned energy investments and the creation of perspectives for cooperation.
- Building the trust and confidence in the success of the created visions and plans which in the initial lack of knowledge of residents seems to be unrealistic, has been and will continue to be a major challenge for local authorities and leaders and NEC members. At the same time, by showing the first effects of joint work and education, it is possible to inspire public confidence in a wider group of inhabitants and stakeholders and encourage them to cooperate in the preparation of projects and obtaining financial support for the implementation of investments included in the updated Low Carbon Economy Plan for the Niemce Commune.
- It is also recommended to organize similar information and education actions in the future by NEC and the Niemce Commune as its coordinator. Niemce Energy Cluster can use the available plan prepared by an external expert within the ENES-CE project: "Plan of consultation and advisory system regarding possible RES and EE investments in Niemce Commune with the Communal Engineer or an external expert". This plan defines the consultation system, which can include:
    1. Annual meetings for more stakeholders,
    2. Monthly meetings as part of stakeholder meetings individually.

Next steps planned and implemented by Niemce Energy Cluster after the pilot action:

- Once the epidemic situation has stabilized, NEC has planned and organized a meeting with children, who then reach out to parents, and also play an important role in the education chain.
- In the future, a follow-up meeting of the pilot action will be organized by NEC, in order to maintain continuity in the information activities and to show further results of NEC's work. The closing meeting of the pilot action for epidemic reasons has also been postponed in time and was conducted in May 2022.

NEXT STEPS OF THE NIEMCE ENERGY CLUSTER AFTER THE PILOT ACTION

Energy cluster activities implemented in 2022 after the pilot action:

- Once the epidemic situation stabilized, Niemce Energy Cluster organized an educational meeting with children, which convey the information provided to parents and thus play an important role in the educational chain, aim to involve citizens in energy planning and investments in renewable energy, energy saving and joint activities for environmental protection.

- Energy cluster organized also on 12.05.2022 the summarising/closing meeting for presentation of the results of the pilot action and activities of the energy cluster after the pilot action and next steps in the futhure.

NEXT STEPS OF THE NIEMCE ENERGY CLUSTER AFTER THE PILOT ACTION

Energy cluster activities implemented in 2022 after the pilot action, which will be continued also after the end of the ENES-CE project:

- After the implementation of the pilot action, the Niemce Energy Cluster in 2022, based on the available information, conducted an inventory of lands covering approx. 80 ha - plots suitable for investments in photovoltaic or wind farm installations, planned in the updated PGN for the Niemce Commune until 2030 with a vision of actions by 2050. At the same time, for formal reasons, the energy cluster cannot reach all plot owners, therefore it will organize meetings for bottom-up reporting of plot owners interested in establishing a cluster special purpose company in order to plan and implement investments in RES.
- The Niemce Energy Cluster also conducted talks and activities about the possibility of obtaining funding from the National Fund for Environmental Protection and Water Management for documentation regarding the planning of geothermal boreholes in the future. Also in this topic, there are still many legal issues to be solved, which the cluster will deal with in the near future
- In addition, the Niemce Energy Cluster asked for a valuation and sending an offer for the development of technical and formal documentation necessary for the implementation of the cogeneration project. The cluster is interested in the supply of a cogeneration unit with a unit capacity of 520 kWe.
- The Niemce Commune has already announced for the third time a tender for the implementation of the project – investment in PV under the project "Eco Effective Niemce Commune". This project is currently one of the priority projects in the commune. But after the announcement of the tender results by the commune on April 13, 2022, the Contractor is delaying with signing of the contract, which may delay the implementation of the investment.
- The Energy Cluster in Niemce is waiting for the announcement of the call for applications and will consider the preparation and submission of an application for co-financing investments in renewable energy from the Funds for the Lubelskie region 2021-2027 program, addressed to local energy groups such as energy clusters. Energy clusters, such as citizen energy groups, can receive additional points at the stage of project proposal rating.
- One of the aims for the Niemce Energy Cluster is to help local authorities develop the local energy policy. Energy clusters and cooperatives such as citizen energy groups will obtain funds for investments in RES and EE more easily. They will be a very good support tool in the bottom-up energy planning process, in building the understanding, trust and cooperation of the local community in the implementation of investments in RES and EE, and for saving Energy.

Thank you for your attention!

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