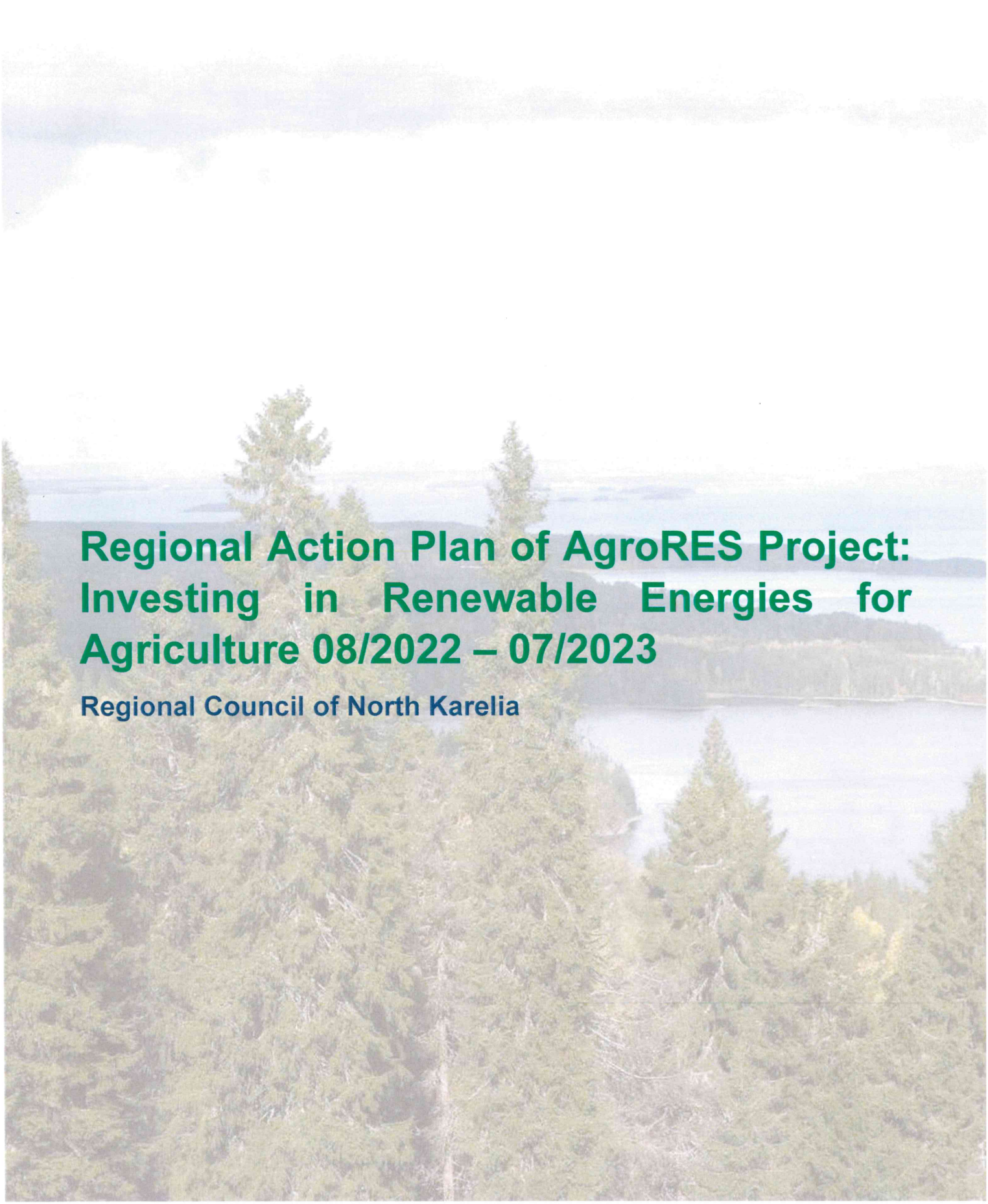

Regional Action Plan of AgroRES Project: Investing in Renewable Energies for Agriculture 08/2022 – 07/2023

Regional Council of North Karelia

AgroRES
Interreg Europe

European Union
European Regional
Development Fund

Regional Council of
North Karelia

Contents

Photo on the front page: Pixabay.

1 Executive summary

Regional Council of North Karelia, a regional authority from North Karelia NUTS3 region in Finland, has been involved in AgroRES project since 2019 in order to increase renewable energy in agriculture and rural areas in North Karelia. The AgroRES action plan aims at increasing renewable energy in agriculture and rural areas in North Karelia. Interregional learning particularly from community energy actions in Devon County Council region in England, United Kingdom, and biogas development in Biocore Roscommon AD plant in Ireland have acted as learning points for actions in North Karelia.

The AgroRES action plan for North Karelia is composed of one action: improved governance of funding renewable energy projects in the field of renewable energy in agriculture and rural areas in line with the revised and updated Climate and Energy Programme and its Implementation Plan. This action will be monitored during phase 2 for quantifiable measures in increasing use of renewable energy and reducing greenhouse gas emissions through new projects in the subject area starting in North Karelia. These projects will also act as examples of renewable energy advancement for different agricultural and rural actors and individuals in the region.

This publication reflects the author's views only and the programme authorities are not liable for any use that may be made of the information contained therein.

2 General information

AgroRES (Investing in Renewable Energies for Agriculture) project aims to develop measures that encourage the production and use of renewable energy in the agricultural and rural sector in a sustainable, economic viable and socially responsible way. The project partners are regional authorities from seven countries across Europe: Finland, Ireland, Italy, Poland, Romania, Spain and the United Kingdom representing different agricultural and rural production lines and renewable energy realities.

The AgroRES project has a total budget of 1540286 euros. The project duration is from 1 August 2019 to 31 July 2023. The first three years of the project (the first phase), AgroRES project partners have identified good practices in renewable energy and agriculture in their own regions, shared knowledge interregionally and discussed renewable energy in agriculture with local stakeholders. Based on this interregional learning, each region has also made a regional action plan in order to implement renewable energy related actions in their region. The implementation and effects of these actions will be monitored by each partner in their own region during the last year (the second phase) of the AgroRES project in 2022–2023.

This action plan has been made by the Regional Council of North Karelia in collaboration with the local AgroRES stakeholder group. The experts in the stakeholder group represent Centre for Economic Development, Transport and the Environment (ELY Centre North Karelia), the Central Union of Agricultural Producers and Forest Owners (MTK), ProAgria Rural Advisory Services, Finnish Forest Centre, Finnish Environment Institute SYKE, Karelia University of Applied Sciences, BioKymppi Biogas Plant, and Regional Council of North Karelia.

1 Extremadura Energy Agency (AGENEX), Spain

2 Lubelskie Voivodeship, Poland

3 Devon County Council United Kingdom

4 Regional Council of North Karelia, Finland

5 Bucharest-Ilfov Regional Development Agency, Romania

6 ARSIAL, Italy

7 Institute of Technology (IT Sligo), Ireland

8 Northern & Western Regional Assembly, Ireland

Project: Investing in Renewable Energies for Agriculture (AgroRES)
Partner organisation concerned: Regional Council of North Karelia (RCNK)
Country: Finland
NUTS2 region: North and East Finland
Contact persons: Tanja Kähkönen & Sari Koivula
Email address: tanja.kahkonen@pohjois-karjala.fi, sari.koivula@pohjois-karjala.fi
Phone number: +358 50 534 3418, +358 40 518 6326

3 Policy context

The Action Plan aims to impact:	☐ Investment for Growth and Jobs programme ☐ European Territorial Cooperation programme x Other regional development policy instrument

Name of the policy instrument(s) addressed:
"Climate and Energy Programme of North Karelia 2020" and its implementation plan "Roadmap Towards Oil-Free and Low- Carbon North Karelia 2040"

Climate and Energy Programme of North Karelia 2020 was a sub-programme of the Regional Strategic Programme (POKAT). Climate and Energy Programme of North Karelia 2020 was published in 2012 and its Implementation plan "Roadmap Towards Oil-Free and Low-Carbon North Karelia" in year 2017. The main stakeholder in charge of these policy instruments has been the Regional Council of North Karelia in collaboration with widescale of regional stakeholders.

The decision on renewing Climate and Energy Programme in North Karelia was done by the Regional Council of North Karelia in October 2019. Renewing the Climate and Energy Programme in North Karelia took place between October 2019 and February 2021. Creating the Implementation Plan for the Climate and Energy Programme in North Karelia was done between February 2021 and February 2022. Funding renewable energy activities in the region guided by the new Climate and Energy Programme have been effective since February 2021 and its Implementation Plan since February 2022. Climate and Energy Programme 2020 was updated in 2021 resulting in the Climate and Energy Programme 2030. The Implementation Plan of Climate and Energy Programme, the document guiding implementation, was created in 2022. In the new Climate and Energy Programme in North Karelia, carbon balance calculation in agriculture is mentioned due to AgroRES project and a study done in North Karelia within the AgroRES project (annex 1). As a result, carbon balance calculation guides to funding projects addressing low carbon activities, for instance funding advisors will take this into consideration when guiding applicants in ERDF applications. As Climate and Energy Programme defines and guides specific actions of its field, i.e. climate and energy, of the Regional Strategic Programme, it has a strong linkage to projects funded in North Karelia, particularly to projects funded from the main structural funding programmes.

Climate and Energy Programme of North Karelia implements regionally European Union's and Finland's climate and energy targets. It focuses on climate change adaptation and mitigation aims important to North Karelia. The aims combine securing business activities, wellbeing and biodiversity by bringing together the aims of other programmes and strategies in the region. The main aim of the programme is to be as a region a forerunner in climate sustainability in Finland by 2030.

The chosen action and other impacts of AgroRES project described in this action plan contribute to improvement of these policies by supporting new projects in agriculture and rural areas that focus on supporting renewable energy in agriculture and rural areas in North Karelia. This is also one focal point in the new Climate and Energy Programme as it contains specific aims for increasing renewable energy. The type of change is, thus, structural as changes take place in the strategic focus of the policy instrument. As a result of this structural change new types of projects will be implemented as Climate and Energy

Programme and its Implementation Plan guide project funding activities in the region.

The results of the study on renewable energy use and future potential in North Karelia (annex 1) have been taken into account when drawing up a road map for the regional Climate and Energy programme 2030 and was also utilised while drafting this Action Plan.

4 Action 1: Improved governance of funding renewable energy projects in the field of renewable energy in agriculture and rural areas in line with the revised and updated Climate and Energy Programme and its Implementation Plan

4.1 Background and relevance to the project

First Climate and Energy Programme of North Karelia 2020 was published in 2012. As the political, economic, social, technological, legal and environmental operating environment has changed significantly since its publication, due to this there was a need to update the Climate and Energy Programme in North Karelia in 2019.

Inspiration for this action has been drawn from learning from all the AgroRES partners' policy instruments addressed in the AgroRES project, particularly from the Irish policy instrument and the British policy instrument. Learning from good practices for instance on community energy from Devon County council and on biogas from for instance Biocore Roscommon AD plant in Ireland have given inspiration in North Karelia. The lessons of the AgroRES project have assisted in for instance brainstorming and developing activities for the action bank of the Implementation Plan of Climate and Energy Programme.

4.2 Action description

After this intensive collaboration with stakeholder groups started. AgroRES project cooperated with Regional Council staff active in renewing process of the Climate and Energy Programme in North Karelia and sought collaboration opportunities in information sharing. Continuous discussion between people active in renewing process of the Climate and Energy Programme in the focus of renewable energy and AgroRES project in North Karelia took place. The AgroRES study on the state of renewable energy and future use potential in North Karelia (annex 1) has been shared with the Regional Council staff and stakeholders active in the renewal process of the Climate and Energy Programme in North Karelia.

This action supports achieving the first goal and the third goal of the renewed Climate and Energy Programme of North Karelia by the region, namely by the managing authority Regional Council of North Karelia until the next renewal of the programme. The first goal is "North Karelia is a vital region where population is full of well-being" and the third goal is "Energy is low-emission and is based on the region's own energy production from local energy sources". This action will support in reaching the first goal's action on advancing production of decentralised and renewable energy and business opportunities related to them. In the third goal this action will advance for instance supporting decentralised energy units with hybrid energy solutions (for instance solar power, wind power, bioenergy, new energy sources), and supporting biogas investments and processing of biogas to transportation fuels.

There are already few examples existing of how the above aims of the Climate and Energy Programme are implemented by stakeholders. Piloting of funding renewable energy activities has started for instance with following projects as examples of activities:

- BlackGreen – North Karelia Biochar Programme implemented by Natural Resources Institute Finland, University of Eastern Finland, Karelia University of Applied Sciences and Business Joensuu, 01/2020-02/2023 (ERDF)

- Communicating Energy – New Energy Transition and Low-Carbon Digital Services in North Karelia implemented by Karelia University of Applied, Sciences, 01/2021-08/2023 (ERDF)

- CBG Kitee – Processing and Pressurisation of Biogas implemented by BioKymppi Ltd. 04/2021-08/2022 (REACT-EU)

These projects have been still funded with the previous programming period 2014-2020. New projects guided by the new Climate and Energy Programme 2030 and its Implementation Plan will be funded from the programming period 2021-2027.

First steps of implementation of the renewed Climate and Energy Programme.

1) Setting baseline statistical indicators for monitoring in the Climate and Energy Programme

Some of the follow-up indicators chosen for Climate and Energy Programme 2020 have been chosen for the follow-up of Climate and Energy Programme 2030. The indicators were chosen based on the expected availability of data in future.

2) Preparing Implementation Plan of the Climate and Energy Programme 02/2021-02/2022

The Implementation Plan of the Climate and Energy Programme will show the actions needed to achieve the different goals of the Programme. It includes first tier actions that are planned to be implemented first. The Implementation Plan was confirmed by the Regional Council on 22 February 2022.

3) Implementing the first-tier actions defined in the Implementation Plan

Besides the first-tier actions, there is an action bank from where the next actions will be drawn once the first-tier action is reached. There are already few project examples existing of how the aims of the Climate and Energy Programme are implemented by stakeholders: BlackGreen – North Karelia Biochar Programme, Communicating Energy – New Energy Transition and Low-Carbon Digital Services in North Karelia, and CBG Kitee – Processing and Pressurisation of Biogas.

The milestones for the implementation of this action include launching the first call of the new ERDF programme, evaluation of project proposals, decisions of the first projects to be funded, analysis stage, and the second application round and its follow-up:

Step 1. First call of the new ERDF programme

The first call of the new ERDF programme is opened in May 2022 by the managing authority, Regional Council of North Karelia. The projects to be funded fall under the line of action Carbon Neutral Finland which includes particularly goals one and three of the Climate and Energy Programme of North Karelia. The estimated funding for the renewable energy projects to be funded is about 1 to 2 million euros at first application round.

Step 2. Evaluation of project proposals.

The project proposals will be evaluated within two to three months after the call has closed. The proposals will be evaluated based on their quality.

Step 3. Decisions of the first projects to be funded.

Regional Council of North Karelia will inform the applicants of the approved projects after their evaluation.

Step 4. Analysis stage.

In the analysis stage approved projects will be analysed in order to make recommendations for the next application round. It will be analysed and quantified how many and what kind of projects related to renewable energy in agriculture and rural areas were funded during the first application round. Recommendations will be given for the next application round.

Key stakeholders are involved in analysis stage.

Step 5. The second application round and its follow-up.

The recommendations from the previous application round will be taken into consideration when designing the second call of the new ERDF programme. It will be analysed and quantified how many and what kind of projects related to renewable energy in agriculture and rural areas were funded during this application round and recommendations will be given for the upcoming application rounds.

4.3 Players and stakeholders involved

Stakeholders in North Karelia have been widely included in the implementation of this action. The main actors in the renewal process of the Climate and Energy Programme in North Karelia have been Regional Council of North Karelia and the Centre for Economic Development, Transport and Environment. Steering group consisted of actors from municipalities and other regional actors. Stakeholders were included in the formulation of the programme through workshops held to different regional groups. AgroRES stakeholder group has been active in communicating their visions, needs and goals in relation to renewable energy in the region and this information has been passed to people active in formulating the renewed Climate and Energy Programme in North Karelia. Besides sharing information, several stakeholder group members are active in the projects described above and are directly implementing renewed Climate and Energy Programme of North Karelia in practice through their projects.

4.4 Timeframe

The timeframe for implementation of renewable energy projects as described in this action plan is 1 August 2022 to 31 July 2023.

Step 1. First call of the new ERDF programme closes in August 2022

Step 2. Evaluation of project proposals, August to October 2022

Step 3. Decisions of the first projects to be funded, October to December 2022

Step 4. Analysis stage, January to March 2023

Step 5. The second application round and its follow-up, April to July 2023

4.5 Costs

Renewing Climate and Energy Programme and its Implementation Plan was done with Regional Council´s own resources. The evaluation of ERDF funding applications will be done with Regional Council's own resources.

4.6 Funding sources

The main structural funding programmes, especially ERDF for pilot projects. As Climate and Energy Programme has just been accepted, no exact figures can be defined for future funding shares. However, in previous Regional Strategic Programme (POKAT2021 for years 2018-2021) funding for renewable energy projects in North Karelia was 5 million euros in total of which 4.7 million euros were ERDF funding.

4.7 Project outputs, results, deliverables

Climate and Energy Programme 2030 document and its Implementation Plan. Renewable energy projects funded from the main structural funding programmes.

4.8 Monitoring/indicators

The number and scope of funded renewable energy related projects related to agricultural and rural development will be monitored. The exact number of projects to be funded cannot be specified beforehand as no fixed part of the funding has been allocated to renewable energy projects. However, based on the climate neutrality aim in regional and structural policy, it can be estimated that 10-20% of the projects to be funded will be in the subject areas of renewable energy in agriculture and rural areas. Distribution of funding will be based on the quality of the projects, not on fixed quantity of them. The number and scope

of funded projects can also be compared to figures from previous years as the evidence of success of the action.

5 Other impacts of AgroRES

Interregional learning and sharing knowledge on renewable energy has led to new connections between individuals and organisations between AgroRES regions. Some stakeholders in North Karelia have expressed interest in discussing, planning and advancing possible joint international projects in the topic of renewable energy with stakeholders in other AgroRES regions. As also intraregional connections have been enhanced through AgroRES activities, some stakeholders in North Karelia have expressed interest in advancing new projects in the renewable energy in agriculture and rural areas. These interpersonal connections built during AgroRES project may materialise as new projects in renewable energy advancement in future fulfilling the goals of the Climate and Energy Programme of North Karelia and its Implementation Plan. The importance of new connections created between the regions during AgroRES project is particularly important when fast response is needed in further developing renewable energy activities for instance for energy security.

Annexes

Annex 1: The state of renewable energy and future use potential in North Karelia

A study was carried out in North Karelia, Finland, on the energy use, greenhouse gas emissions and carbon sinks of agriculture and on the most potential renewable energy sources in the region to get a clear picture of agriculture's carbon balance in North Karelia and to map realistic measures that would increase the use and production of decentralised renewable energy in the region in a profitable and sustainable way.

The study shows that the use of renewable energy in agriculture will increase, to some extent, without any additional measures, for instance, many electricity companies operating in the country have already replaced fossil fuels and provide green electricity. However, measures are needed to increase farm-scale biogas production and to phase out the use of fossil fuels in heating and farm equipment and vehicles.

Farm machines play an important role both in agricultural energy consumption and greenhouse gas emissions. More than a half of the energy used in agriculture in North Karelia is consumed by farm machines and around one third by heating. Over 70 percent of the greenhouse gas emissions caused by agricultural energy consumption are due to farm equipment and vehicles. However, if we look at the total emissions from agriculture and not just emissions caused by energy consumption, arable farming and livestock farms cause more greenhouse gas emissions than machinery.

Replacing the use of diesel in farm vehicles would require significant technological development and cost reduction in biofuel-powered and electric vehicles. On the other hand, hydrogen, methane and synthetic diesel may be potential energy sources for farm machines in the future.

There is significant potential in biogas. Biogas produced from agricultural by-products, such as manure and field biomass, can be utilised in farm machines, heating, electricity generation and as vehicle fuel. However, poor profitability of farm-scale biogas plants and low demand for biogas have hindered the production in the region. Production of biogas could increase if more significant support, such as investment, energy or production aid were granted for biogas plants. In addition, obtaining a permit for a biogas plant is a complicated and time-consuming process. Simplifying this process could boost development. Also, the use of biogas in public transportation could lead to a wider use of biogas in all sectors.

It is important to maintain and develop investment subsidies also for non-biomass renewable energy, such as solar energy, wind power and geothermal energy. These solutions are easier to implement, and they have shorter payback periods.

The study was commissioned by the Regional Council of North Karelia and carried out by Gaia Consulting Ltd.

Date: 13 July 2022

Name of the organisation: Regional Council of North Karelia

Signatures of the relevant organisation:

Markus Hirvonen, Region Mayor

Stamp :

REGIONAL COUNCIL OF
North Karelia