

Carbon Neutral Päijät-Häme 2030: Climate Action Roadmap

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The Regional Council
of Päijät-Häme



Carbon Neutral Päijät-Häme 2030: Climate Action Roadmap

Päijät-Häme region is committed to mitigating climate change with an aim of reaching carbon neutrality by the year 2030. This requires significant reductions of greenhouse gas emissions at all sectors as well as increasing carbon sinks.

Päijät-Häme region achieved a Hinku (Towards Carbon Neutral Municipalities) region status in 2019. The national Hinku network brings together forerunner municipalities and regions, which are committed to an 80% reduction in greenhouse gas emissions from 2007 levels by

2030. The network is coordinated by the Finnish Environment Institute.

The Climate Action Roadmap presents actions towards carbon neutrality. The Roadmap is updated annually, and future development targets include climate change adaptation, actions on increasing carbon sinks and indicators to follow the progress. The Roadmap is a part of national [Canemure](#) project supported by EU Life program.

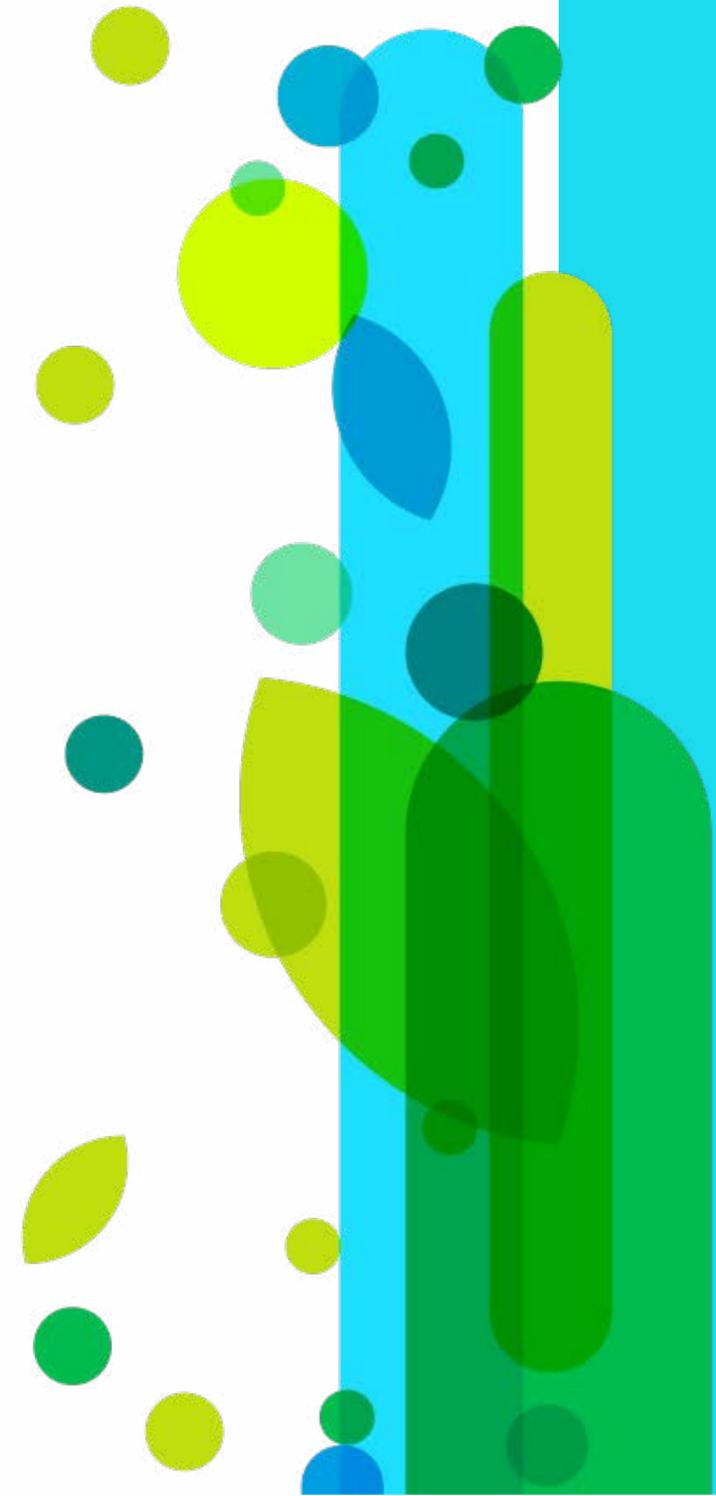
ROADMAP

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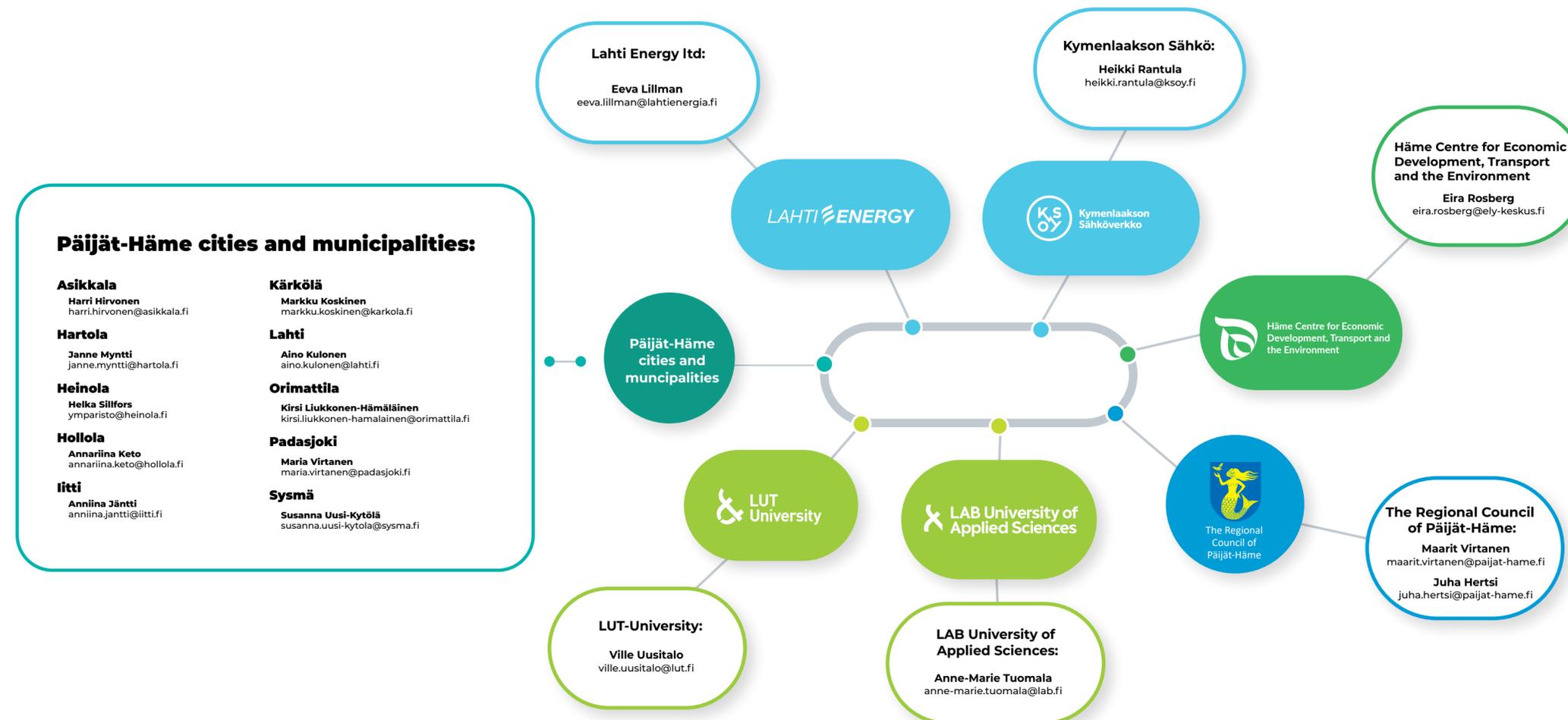
CLIMATE CHANGE ADAPTATION

GREENHOUSE GAS EMISSIONS



Stakeholders

Climate action requires broad cooperation with different stakeholders including municipalities, companies, higher education institutions and regional actors. Päijät-Häme climate coordination group steers regional activities, and the Regional Council of Päijät-Häme facilitates the work of coordination group.



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CLIMATE CHANGE ADAPTATION

Climate Change Adaptation

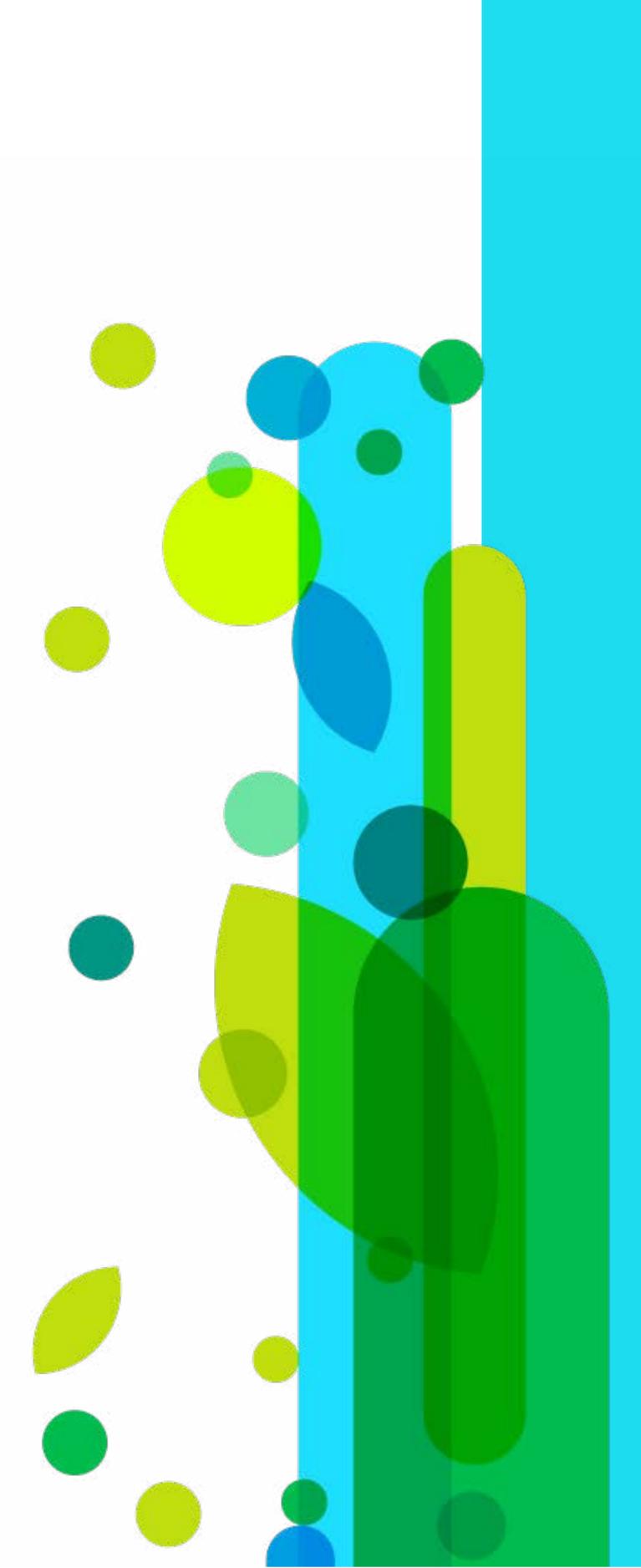
The climate will change significantly, even though the current climate change mitigation goals were met. This means that adaptation actions need to be considered alongside mitigation efforts. The City of Lahti has a comprehensive climate change adaptation plan, but in other region's municipalities this work is only beginning. Adaptation needs have been iden-

tified regarding, for example, stormwater management and storm damage, but studies covering all sectors are lacking. Land use planning is a means to impact, for instance, stormwater management and development and maintenance of ecological corridors at municipal and regional levels.

Actions	Municipality/Region	Organization	Timetable	Impact
Regional study on the impacts of climate change and adaptation needs in Päijät-Häme.	Päijät-Häme	The Regional Council of Päijät-Häme, LAB	2020/2021	●
Recommendations for municipal adaptation actions based on regional information.	Municipalities	The Regional Council of Päijät-Häme	2021	●
Specification of ecological corridors with relation to updating the regional plan.	Päijät-Häme	The Regional Council of Päijät-Häme	Continuous	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

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Themes

Climate work is done at different sectors with the aims of reducing greenhouse gas emissions, increasing carbon sinks, and improving climate change adaptation and resilience. The Climate Action Roadmap focuses on the themes of energy, circular economy, agriculture, forests and land use, and climate leadership. In addition, actions related to climate change adaptation are outlined.

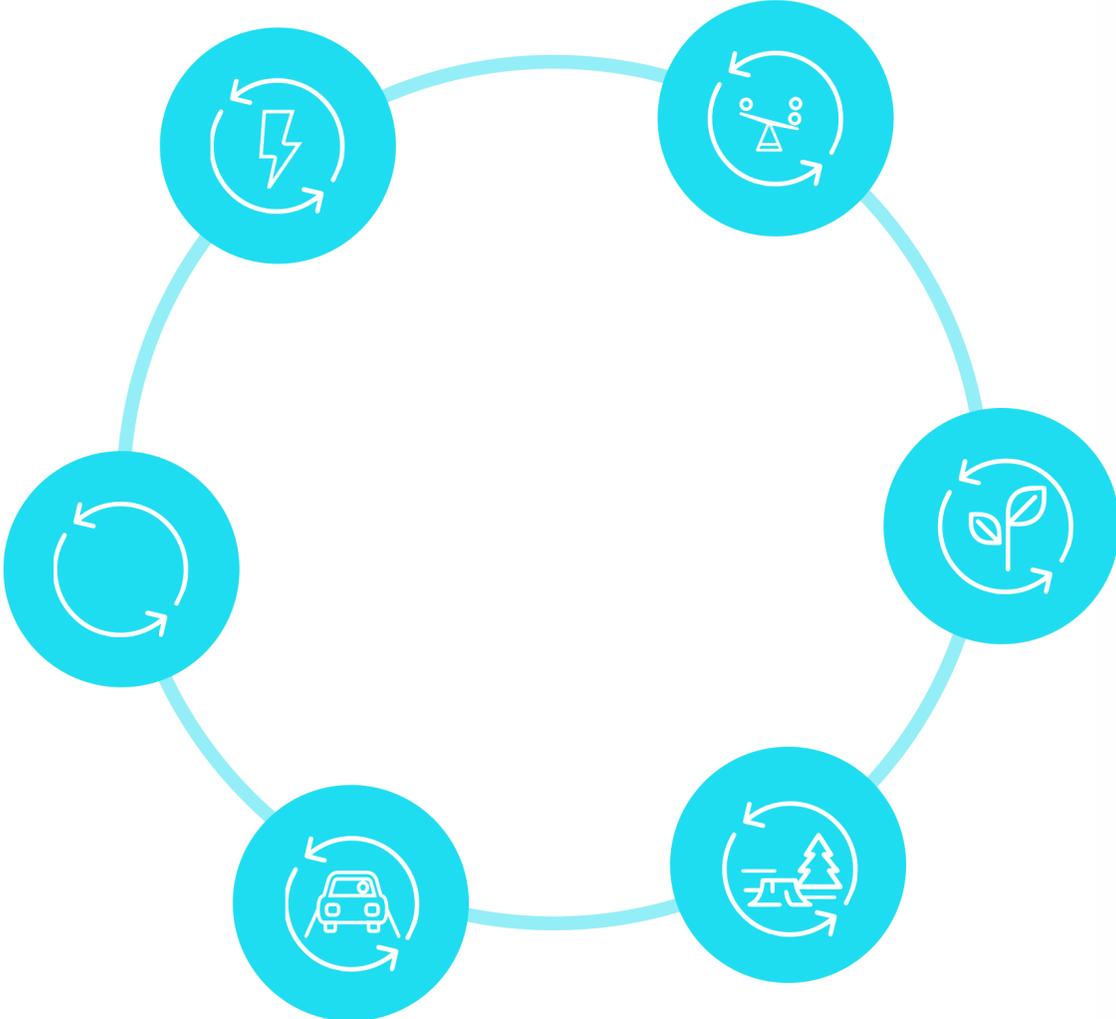
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- TRANSPORT
- CIRCULAR ECONOMY
- AGRICULTURE
- FORESTS AND LAND USE
- LEADERSHIP

Read more:

- CLIMATE CHANGE ADAPTATION
- STAKEHOLDERS
- GREENHOUSE GAS EMISSIONS

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Leadership

The need for climate action and leadership is still growing. Municipalities have an important role in acting as an example, enabling sustainable lifestyles and creating a good operating environment for companies. Päijät-Häme region has set goals for climate neutrality and strives to act responsibly in mitigating climate change. This creates also positive opportunities for regional image and attractiveness from the point of view of both new residents and companies. For young people, an interesting region must also be sustainable.

Read more:

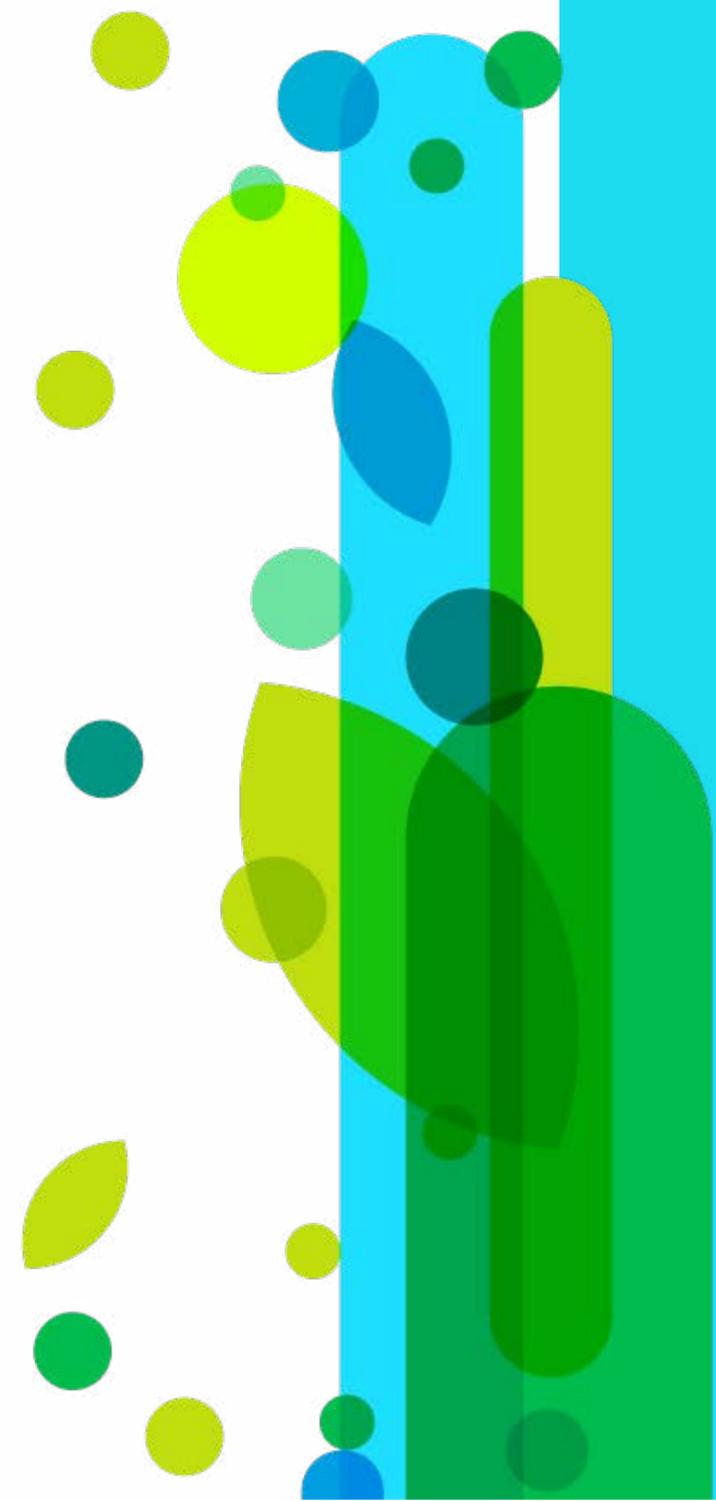
[ACTIONS](#)

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The role of municipalities in building a sustainable region is central. Climate issues must be visible in both decision making and communication. However, climate work is done together with citizens, companies, higher education institutions, and other actors.

For example, in Hollola, Orimattila and Sysmä a survey on climate issues has been made for citizens and decisions makers and the results are used for preparing climate programs.

The City of Lahti has piloted, for instance, participatory budgeting, in which one of the themes was environment. The Green Capital Year funds environmental projects done by different regional and national actors. Cooperation between companies and municipalities will be strengthened with support of Ilmastokumppanuus (Climate Partnership) project beginning in 2021.



Leadership

Actions and indicators

Actions	Municipality/ Region	Organization	Timetable	Impact
All municipalities that are part of Hinku network have functioning energy and climate coordination groups and action plans.	Päijät-Häme	Municipalities	Continuous	●
Climate issues are linked into municipalities economic policy, procurement, land use planning, etc. and the issues are regularly discussed at relevant boards.	Päijät-Häme	Municipalities	Continuous	●
The responsibilities related to climate work are clearly identified.	Päijät-Häme	Municipalities	Continuous	●
Climate meetings at all municipalities' steering groups to specify action needed.	Päijät-Häme	The Päijät-Häme Regional Council and municipalities	2020–2021	●
Municipal climate programs are published in Hollola, Heinola and Orimattila, and Hinku action plans in other municipalities that belong to the Hinku network.	Päijät-Häme	Municipalities	2021	●●
Strengthening the cooperation with companies through expanding the Climate Partnership model from the City of Lahti to the whole region.	Päijät-Häme	The Päijät-Häme Regional Council and municipalities	2021–	●
Climate leadership training for municipalities as a part of Green Capital year.	Päijät-Häme	City of Lahti, Association of Finnish Municipalities, municipalities	2021	●
Developing climate evaluation of municipal decision making.	Päijät-Häme	The Päijät-Häme Regional Council and municipalities	2021	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

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Energy

Energy efficiency improvements, production of renewable energy and clean electrification are essential for reducing greenhouse gas emissions. Besides renewable energy, heat pumps can reduce emissions significantly, when the energy source is waste heat, ground, water or air.

Municipalities in the Päijät-Häme region mainly use renewable energy for heating their own premises, and the energy transition of Lahti Energy has reduced significantly district heating emissions since 2019. However, a part of industries and households still uses oil for heating. Oil and other heating accounted for about 17 % of emissions in 2018.

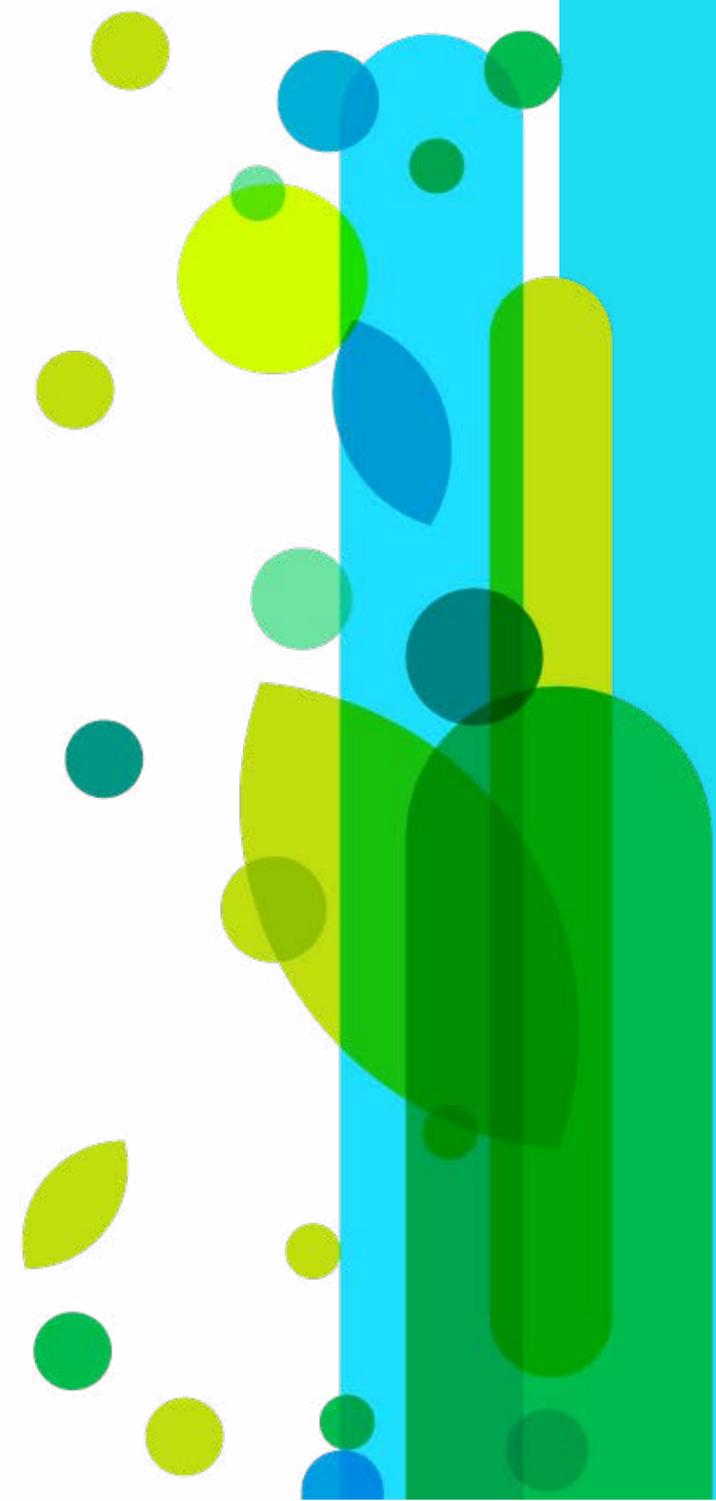
Seven of regions municipalities: Asikkala, Hartola, Heinola, Hollola, Kärkölä, Lahti, Orimattila and Padasjoki have signed a voluntary energy efficiency agreement for the period 2017-2025. The energy saving target is 7,5 % of the participant's annual energy use.

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The use of solar energy is increasing rapidly in industries, municipalities and households. Also, wind energy construction is planned in several municipalities. Lahti Energy has invested in wind energy outside the region, and it formed 22 % of energy production in 2019. There are also several studies on biogas in the region, but there are currently no projects under implementation.

The Development Centre for Low-carbon Construction was established in the City of Lahti in 2020. The centre aims at finding new methods and technologies for decreasing the carbon footprint of construction and producing the solutions.



Energy

Actions and indicators

Actions	Municipality/ Region	Organization	Timetable	Impact
Implementation of energy saving actions according to the municipal energy efficiency agreements.	Asikkala, Hartola, Heinola, Hollola, Kärkölä, Lahti, Orimattila ja Padasjoki		2017–2025	●
A renewable energy review to identify the potential for increasing the use of clean energy.	Heinola		2021	●
Implementation of the Sustainable Energy and Climate Action Plan for 2030 in the City of Lahti. The plan includes various actions at the energy sector.	Lahti		2019–2030	●●
Households are encouraged to move from oil heating to more sustainable energy and to improve energy efficiency through Sustainable Alternatives for Oil Heating project	Asikkala, Heinola, Lahti, Padasjoki	The Päijät-Häme Regional Council and The Päijät-Häme Rescue Services	2020–2021	●
RDI activities support the uptake of new energy and circular economy solutions. Development of piloting environments for, for instance, campus energy efficiency, digestion and biogas production, and textile and plastics recycling.	Päijät-Häme	LAB University of Applied Sciences	Continuous	●
Studies on the potential of biogas production and waste heat in Päijät-Häme.	Päijät-Häme	LAB University of Applied Sciences	2020	
Häme Centre for Economic Development, Transport and the Environment hires a wind energy coordinator to promote the use of wind power	Päijät-Häme	ELY	2020	●
Support to the use of renewable energy through up-to-date studies and area reservations on the regional level.	Päijät-Häme	The Päijät-Häme Regional Council	Continuous	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

Indicators:

Emissions from electricity consumption in Päijät-Häme: 138 kt CO₂ eqv in 2018. Emission reduction -47 % from the year 2007

Emissions from heating in Päijät-Häme: 550 kt CO₂ eqv in 2018. Emission reduction -22 % from the year 2007 (electric, district, oil, and other heating)

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Transport

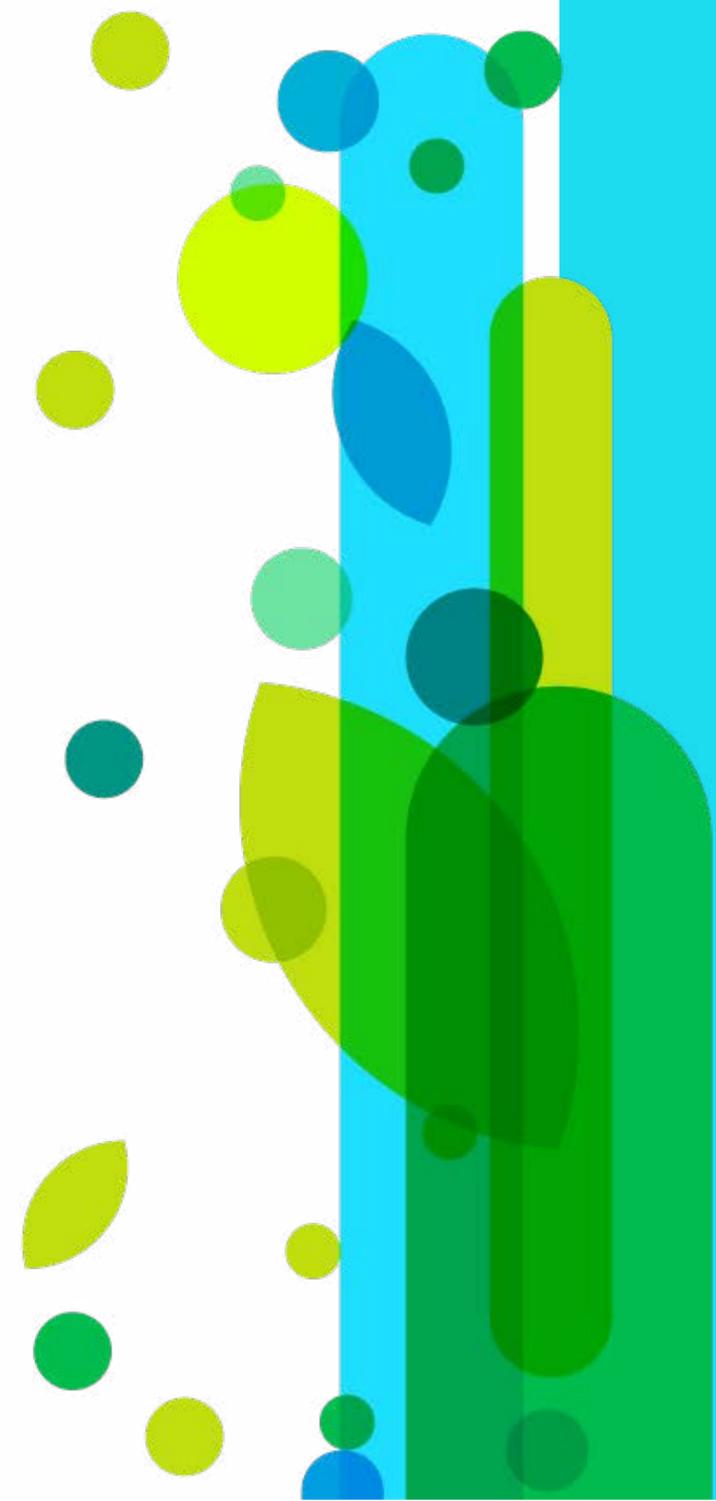
Transport caused about 26 % of total greenhouse gas emission in Päijät-Häme in 2018. The relative proportion of transport emissions will further increase, as emissions from energy production decrease. The reduction of transport emissions depends partly on national regulation and economic steering, but many actions can also be done at the local and regional levels.

The Action Plan for Low Carbon Transport in Päijät-Häme was finalised in 2020, collecting solutions for city centres, suburban areas, as well as countryside. The implementation of action plan is a part of regional transport system work, and a significant part of climate work. In addition, Lahti region is for the first time included in the national Land use, housing and transport agreements. The agreement contributes to climate change mitigation through, for instance, support to sustainable land use and transport.

The City of Lahti promotes sustainable city transport through several actions that have been listed in the Sustainable Energy and Climate Action Plan for 2030. Furthermore, the city has approved the Sustainable Urban Mobility Plan in 2020. The aim is to increase the share of sustainable transport modes, so that it is over 50% in 2030. The **CitiCAP project** piloted citizen's carbon trade as a first city in the world and the aim is to scale up to other cities.

ACTIONS

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Transport

Actions and indicators

Actions	Municipality/ Region	Organization	Timetable	Impact
Public transport uses alternative power sources at least according to the EU regulation schedule. In the City of Lahti, bus transport uses renewable diesel, biogas or electricity in 2030.	Päijät-Häme, Lahti		2030	●●
Implementation of the Action Plan for Low Carbon Transport in Päijät-Häme.	Päijät-Häme	all municipalities and The Regional Council of Päijät-Häme	Continuous	●●●
Implementation of Sustainable Energy and Climate Action Plan and the Sustainable Urban Mobility Plan.	Lahti		2030	●●●
Introduction of city bike system.	Lahti		2021	●
Action plan for improving conditions for walking and cycling.	Heinola		2020	●
Promotion of sustainable transport through municipal mobility plans and pilots.	Päijät-Häme	all municipalities and The Regional Council of Päijät-Häme	2021	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

Indicators:

● Greenhouse gas emissions from road transport in Päijät-Häme: 363 kt CO₂eqv. in 2018. Emission reduction -12 % from the year 2007.

● Mode of transport: sustainable modes of transport 37 % in 2016 (walking, cycling and public transport)

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Circular Economy

Circular economy is a solution for climate change mitigation and a way to achieve sustainable growth. Päijät-Häme Circular Economy Roadmap was published in 2017 and is updated annually. Implementing the circular economy roadmap is consequently a part of climate work in the region.

The Circular Economy Roadmap has five main themes: material flows, bio circular economy, energy, new services and pioneering. Circular economy is promoted through, for instance, several projects that higher education institutions implement together with companies. Companies play an essential role in innovating circular products and services.

In bioeconomy, the Päijät-Häme Bio-based Circular Economy Action Plan specifies actions needed. The action plan includes four main actions: 1. Promoting a sustainable bio-based circular economy and enhancing nutrient cycles, 2. Pilots in biowaste collection and recovery, 3. Promoting the use of bioproducts and bioenergy, 4. Päijät-Häme as an international reference area for circular economy.

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Circular Economy

Actions

Actions	Municipality/Region	Organization	Timetable	Impact
Implementation and updating of Päijät-Häme Circular Economy Roadmap.	Päijät-Häme	The Regional Council of Päijät-Häme, higher education institutions, municipalities, companies	2017–	●●
Implementation of the Päijät-Häme Bio-based Circular Economy Action Plan.	Päijät-Häme	The Regional Council of Päijät-Häme, higher education institutions, municipalities, Salpakierto, Lahti Region Development LADEC, companies	2019–	●
The smart specialisation strategy of Päijät-Häme was updated together with stakeholders in 2020. The aim is to further clarify the goals and promote regional innovation activities.	Päijät-Häme	Päijät-Häme, The Regional Council of Päijät-Häme, higher education institutions, companies, organisations	2020	●
Implementation of the Circular Economy Roadmap through projects focusing on, for instance, citizen centred actions and services, and bio circular economy.	Päijät-Häme	LAB projects CECI (Interreg Europe), ASKEL (ERDF), Maallemuuttajat 2030 (Rural Development Programme), Biosykli (ERDF), higher education institutions, companies, municipalities	Continuous	●
Increasing the recycling of construction and demolition waste through, for instance, RDI projects.	Päijät-Häme	LAB project RAPA - Low-carbon products of construction and demolition waste reject project (ERDF)	2020–2021	●
The City of Lahti makes a circular economy roadmap and specifies environmental goals.	Lahti	Lahti	2021	●
Circular economy is promoted through public procurement, the procurement program of Lahti acts as a good practice for this.	Päijät-Häme	The Regional Council of Päijät-Häme, municipalities	Continuous	●
Development of circular economy education at higher education institutions and schools.	Päijät-Häme	Higher education institutions, schools, municipalities	Continuous	●
Establishment of a circular economy and creative sector center in Sopenkorpi.	Lahti	Painovoima, the City of Lahti, Laulumaa Ltd., LAB University of Applied Sciences, companies	Ongoing	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

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Agriculture

Agriculture caused about 11% of greenhouse gas emissions in Päijät-Häme in 2018. However, in rural municipalities the percentage is considerably higher, because the method of calculation directs the emissions to the municipality in which agricultural production takes place and does not take into account the consumption of products.

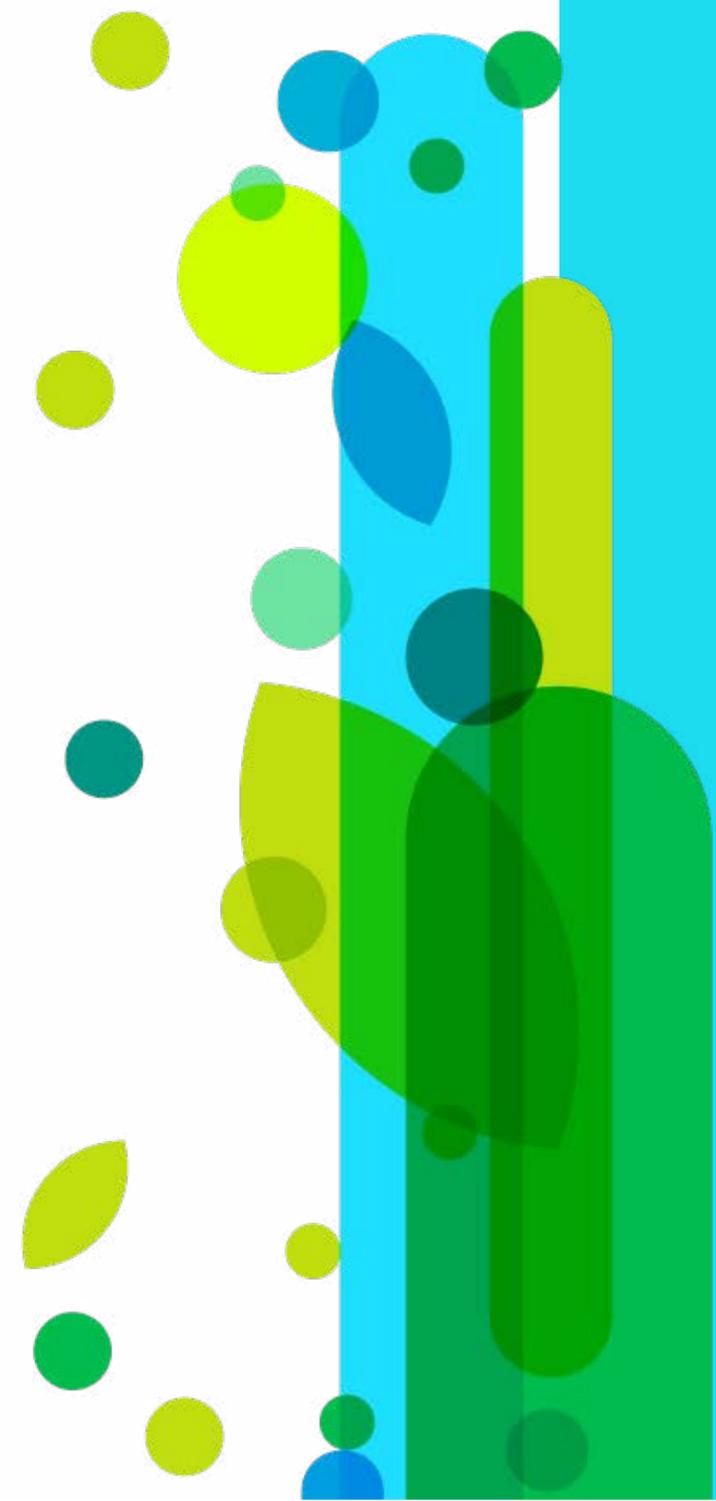
Most of the direct greenhouse gas emissions produced by agriculture come from the soil, and good cultivation practices as well as wise land use are key to reducing emissions. Good cultivation practices both increase carbon capture and improve the soil. Some farmers from Päijät-Häme take part in the national Carbon Action Platform piloting actions that accelerate soil carbon sequestration. In addition, Asikkala and Orimattila municipalities have been involved in the Nutrient Neutral Municipality project (2018-2020). The project aimed at promoting nutrient recycling in municipalities.

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Emissions from agriculture can also be reduced by clean energy solutions at farms, including transition to renewable energy and biogas production. There are good examples of energy solutions in Päijät-Häme and possibilities of biogas production at farms have been studied, for example, in Asikkala and Padasjoki.

In the whole food chain, consumption choices contribute significantly to emissions. New, plant-based products are becoming increasingly popular, and the use of domestic oats and beans is also growing in these products. For example, Päijät-Häme Food Services has increased the share of vegetarian meals and the company participates in the Steps to Organic Food program. The sustainability of food services can also be increased by using local or domestic food, and by reducing food loss.



Agriculture

Actions and indicators

Actions	Municipality/ Region	Organization	Timetable	Impact
Increasing the cooperation between different actors to decrease the agricultural emissions and increase sustainability.	Päijät-Häme	Farmers, companies, The Regional Council of Päijät-Häme, Häme Centre for Economic Development, Transport and the Environment, MTK Häme, ProAgria, municipalities and higher education institutions	Continuous	●
Study on the possibilities of reducing emissions and increasing carbon sequestration taking into account the special characteristics of Päijät-Häme.	Päijät-Häme	Higher education institutions, farmers, The Regional Council of Päijät-Häme	2021	●
Development of sustainable use and processing of biomass like straw.	Päijät-Häme	The City of Heinola, LAB University of Applied Sciences and LUT University, Vihreän kasvun biokylä project (Rural Development Programme)	2019–2021	●
Promotion of business utilising plants that sequester carbon (especially willow) for biocoal.	Päijät-Häme	LAB University of Applied Sciences	Continuous	●
The City of Lahti supports the implementation of an E-college for regenerative farming as a part of the Green Capital year.	The city of Lahti	Reaktor, Baltic Sea Action Group	2021	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

Indicators:

- Greenhouse gas emissions from agriculture in Päijät-Häme 159,4 kt CO₂ eqv. in 2018. Emission reduction - 6 % from the year 2007.
- Number of farms involved in the Carbon Action platform or implementing otherwise carbon farming actions

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Forests and land use

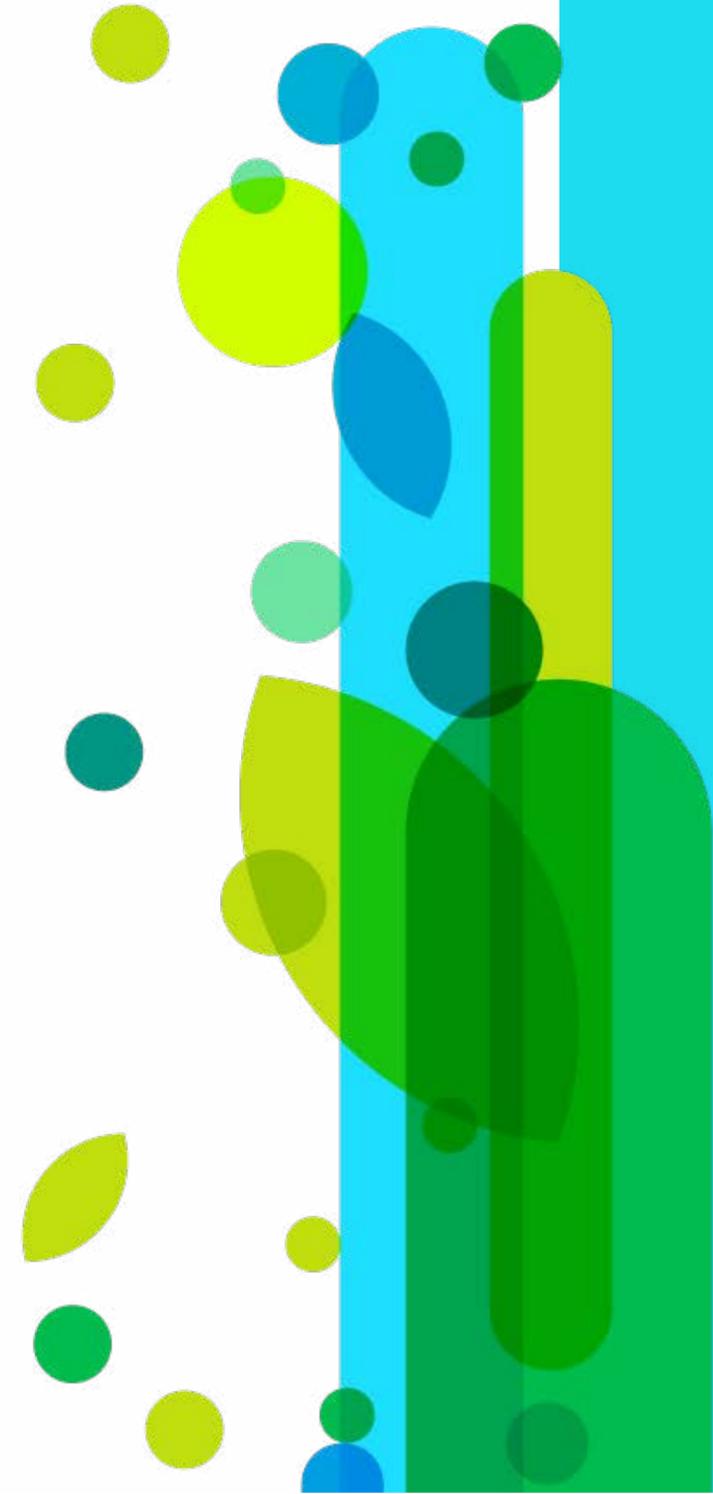
Achieving climate neutrality means that greenhouse gas emissions and carbon sinks are in balance with zero net emissions. Changes in the land use sector can increase the emissions or reduce them. In the land use sector, forests including the soil are the main carbon sink and strengthening them is at the moment the main means of increasing carbon sequestration. In addition, carbon is stored in wood products with long life cycle. The Regional Council of Päijät-Häme and Häme Centre for Economic Development, Transport and the Environment are preparing a regional review on carbon sinks.

Sustainable forestry practices are essential in climate work. Actions include, for instance, enhancing the forest growth and adaptation to climate change through e.g., choice of diverse tree species and voluntary protection measures. However, biodiversity and other sustainability impacts must also be considered.

At the land use sector, clearing of forests should be avoided and new construction and other activities be directed into areas already in use. There is still need for additional information on the impacts of land use, as well as carbon sinks, at the municipal and regional level. Land use impacts can also be compensated by well selected measures that can include, for example, restoration of swamps and additional forestation.

ACTIONS

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Forests and land use

Actions

Actions	Municipality/ Region	Organization	Timetable	Impact
Study on the state of carbon sinks and propositions for strengthening them in Päijät-Häme.	Päijät-Häme	The Regional Council of Päijät-Häme, Häme Centre for Economic Development, Transport and the Environment and the City of Lahti	2021	●●
Strengthening of carbon sinks at the land use sector is one of actions in the Green Capital year action plan. The carbon sink and compensation plan was approved at the City Board in 2020.	Lahti	The City of Lahti	2021	●
Increased communication about sustainable forestry that contributes to carbon sequestration for private forest owners.	Päijät-Häme	The City of Lahti, The Regional Council of Päijät-Häme, Finnish Forest Center and other regional stakeholders	Continuous	●
Implementation of climate proof forestry actions included in the Häme Regional Forest Plan, while increasing biodiversity.	Päijät-Häme	Finnish Forest Center, forest owners, companies, municipalities, regional actors	2021-2025	●●
Implementation of planned reforestation actions and expansion of activities in Päijät-Häme.	Päijät-Häme	Finnish Forest Center, municipalities, The Regional Council of Päijät-Häme	Continuous	●
Value added products are developed from biomaterials. These include wood and other bioeconomy materials, like separation and processing of hemicellulose and lignin from sawdust.	Päijät-Häme	LAB University of Applied Sciences, LUT University, the City of Heinola, EXTRA-CT project	2020-2021	●
Development of climate impact evaluation of land use and recommendations in the municipal and regional level.	Päijät-Häme	The Regional Council of Päijät-Häme	2021-	●

Symbol legend: Impact: ● Minor ●● Moderate ●●● Major

Indicators:

● Land use sector carbon sinks in Päijät-Häme.

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