

Vinje municipality

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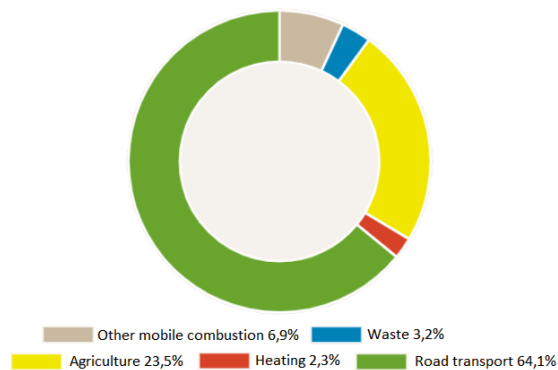
Facts:

- 3679 inhabitants
- Area 3106 square kilometers
- 60 % of the area is above the tree line (1000 MASL)
- Popular tourist area :
 - Hiking, fishing and hunting opportunities
 - Beautiful nature and wild animals
 - 5700 cabins
 - Popular winter destination:
5 ski resorts, 60 downhill trails and 340 km cross-country trails
- Hardangervidda Nasjonal Park is a huge mountain plateau with wild reindeer, which we have a nasjonal responsibility to preserve and manage.

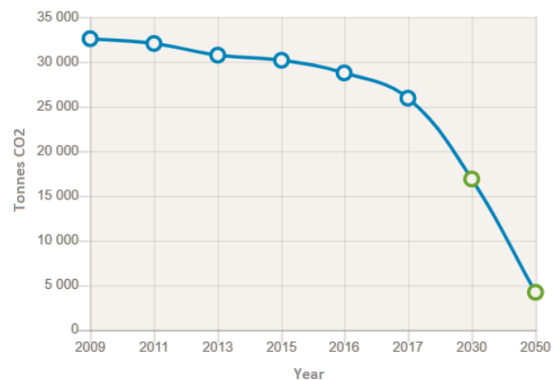


Emissions:

Greenhouse Gas Emissions in Vinje municipality



Historical emissions and emission targets



Figur 1. Modified from the Climate risk analysis for Vinje municipality, numbers updated by 2017.

Objective:

- Norway aim to reduce emissions by 40 % within 2030 from the reference year 1990, and to become climate neutral by 2050.
- Vestfold and Telemark County and Vinje municipality aim to reduce emissions by 60% within 2030 from the reference year 1990.
- In 1990, the emission in Vinje municipality was 30 000 t CO₂ equivalent.
- To achieve this, we have to reduce in total 18 000 t CO₂ within 2030 (an average reduction by 1 800 t CO₂ each year).
- By 2017 the emission in Vinje municipality was 25 951 t CO₂.

Climate change project:

The focus of the project is climate change mitigation and adaptation to secure a sustainable, safe, robust and comfortable community. The project will increase the awareness and knowledge of the pupils and inhabitants about climate change issues and adaptation measures by having education and public events, activities and workshops.

The project will also include measures to increase resilience to climate change and measures to reduce emissions from e.g. transport and other sectors, develop and manage green areas, create green roofs, walls etc. When planning development in our municipality, new buildings and infrastructure we focus on sustainable and environmentally friendly solutions, based on renewable resources, and always with projections for changes in climate and hydrology.

An important part of the project is to increase knowledge of important ecosystems and ecosystem services which can help to reduce emissions, as well as function as measures to adapt to a changing climate. Ecosystems like peatlands are capable of absorbing and store huge amount of CO₂. In only 1 square kilometer peat bog as much as 250 000 t CO₂ can be stored. Peatlands and wetlands also function as flood mitigation measures, since they can absorb huge quantities of water, preventing flooding further downstream.

In addition, peatlands have a very high biological diversity, and is an important habitat for both ordinary and rare species of birds, insects, amphibians, animals and plants. In Norway we have unfortunately destroyed more than 1/3 of all peatlands to forestry, agriculture, fuel, infrastructure and housing development etc. Mapping such important ecosystems and preventing further degradation, as well as restoring destroyed areas is very good measures to reducing climate change.

- Climate and energy plan for Vinje municipality
- Climate reporting (financial statement and budget)
- Climate risk analysis
- Vinje municipality is represented in several climate networks (regional and international networks)
- Measures to reduce emissions:
 - Reduce emissions from transport, agriculture, waste etc.
 - Renewable energy/resources to substitute fossil fuel
 - Sustainable and environmentally development
 - Green roof, walls etc.
 - Map, preserve and restore important ecosystem and ecosystem services (carbon storage in peatland, forest, etc.)
- Measures to increase resilience to climate change:
 - Planning infrastructure, development, buildings with projections for change in climate and hydrology
 - Map, preserve and restore important ecosystem and ecosystem services (peatland and wetland are important in flood control)

Expected climate:

- Higher temperatures (approx.+ 4 degrees), especially during winter season.
- 1-4 months' shorter snowy winter seasons.
- 15 % increase in precipitation with higher frequency.
- Combination of more drought and more extreme rainfall in short periods during seasons. Increased risk of frequently avalanches and landslides in mountain areas due to the combination of extreme drought and rainfall.

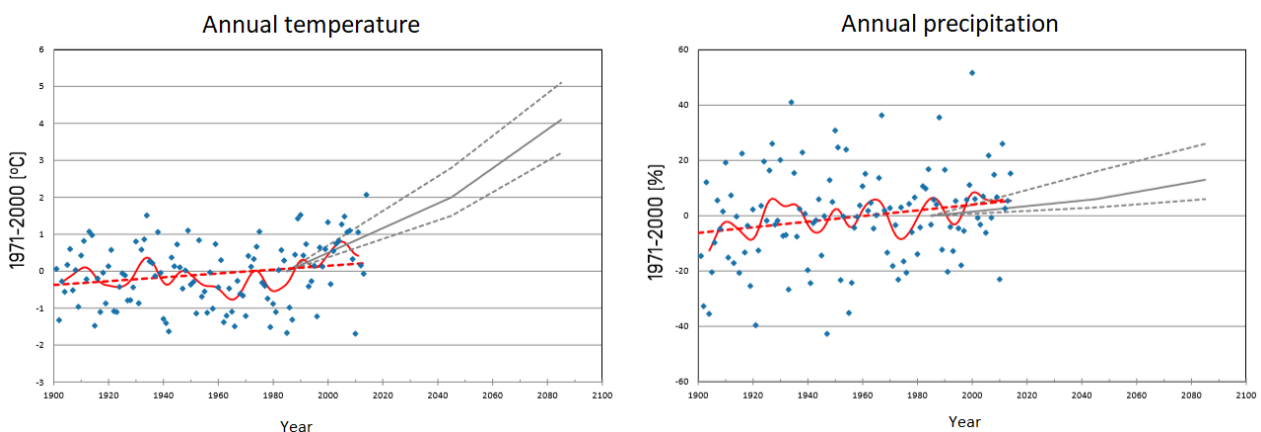













Figure 2. Modified from the Climate profile Telemark 2017.

| Increased probability | |
|---|--|
|  Heavy precipitation | Heavy precipitation is expected, both in intensity and frequency, which will lead to more runoff |
|  Rain floods | More and larger rainfall is expected, and in smaller streams and rivers an increase in flood flow is expected. |
|  Landslide, debris flow and avalanche | Increased risk as result of increased precipitation |

| Possible increased probability | |
|--|--|
|  Drought | The summer rainfall is not expected to increase. Higher temperatures and increased evaporation may therefore increase the risk of drought |
|  Ice drift | Shorter icing season, more frequent winter ice drift, as well as ice drift further up in the rivers |
|  Avalanche | With a warmer and wetter climate, the snow limit will go higher, and rain will more often fall on snowy ground. This can reduce the risk of landslides and increase the risk of landslides |
|  Quick clay landslides | Increased erosion due to heavy rainfall and increased flood in rivers and streams can trigger more quick clay landslides |

| Unchanged or less likely | |
|---|---|
|  Flooding from snow melting | The snowmelt floods will come earlier in the year and less towards the end of the century |

| Uncertain | |
|---|---|
|  Strong wind | Probably small change |
|  Rock leaps and rock slides | More frequent episodes of heavy rainfall could increase the frequency of these avalanche types, but mainly for smaller rock leap events |
|  Mountain landslides | Climate change is not expected to significantly increase the risk of mountain landslides |

Figur 3. Modified from the Climate profile Telemark 2017.



NRK



Haukeli 2020



Øyfjell 2020



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