

Local Community Experiences from Hydro Power Development

A scenic landscape photograph of a mountain valley. The foreground is a green, grassy slope with patches of snow. In the middle ground, a calm lake reflects the surrounding mountains. The background features large, rugged mountains with significant snow cover under a clear blue sky. A group of about seven hikers is visible on the right side of the slope, looking towards the valley.

Arne Vinje,
Mayor of Vinje Municipality, Norway
Kathmandu, February 2009

Vinje in Telemark
– a mountain municipality





Vinje kommune





Geography

- Area: 3 117 km²
- Population (1.1.2009): 3 662, scattered settlements, 3 small villages/centres.
- Altitude: from 200 to 1 700 metres above sea level. Ca 60 % above 1000 m.
- Protected area: 830 km² - 26 % of total area
- 683 km² (20 %) of Hardangervidda National Park, the largest in Norway. Vinje is recognised as one of Norway's 'National Park Municipalities'.
- Largest population of wild reindeer in Norway





Early Post War Society (1945-1955)

- One of the most significant rural areas of Southern Norway: no towns or villages, scattered population. Weakly developed private and public service sector. Primary schools only.
- Industries: Traditional small scale agriculture (cattle, sheep, goats), forestry, dairy plant, saw-mill, crafts, some trade and tourism.
- Most farmers own their land. Small plots of cultivated fields, often large forest and mountain areas, including lakes and rivers.
- Reputation for strong and rich traditions within folk culture: vocal and instrumental music, tales, poetry, decorative painting, textiles, house building etc
- Several famous poets, authors, scientists, painters and sculptors are born in Vinje, or have stayed there for long periods

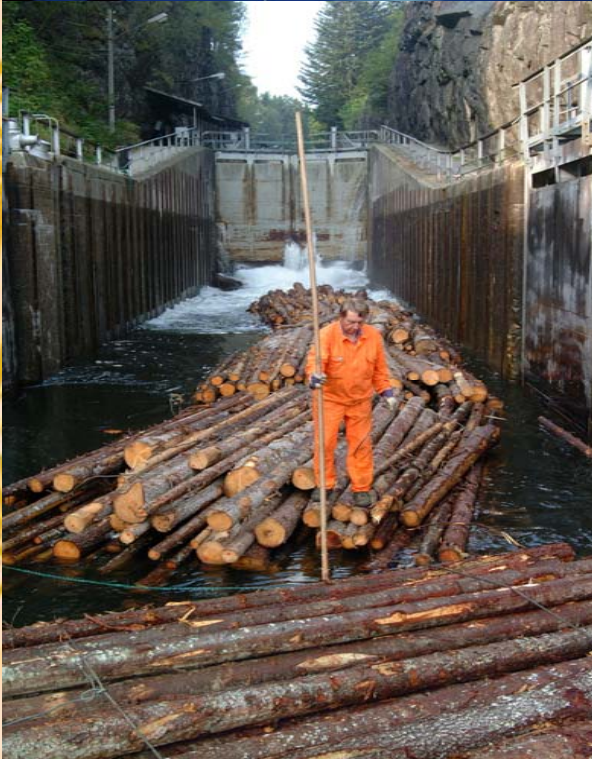




Central issues in the 1950's: growth and urbanisation

- Cities and coastal areas experienced a rapid economic growth, fuelled by capital investments partly provided by the American Marshall-plan.
 - The economy of remote regions was generally weakly developed and not able to provide the municipalities with resources for public services. Both public and private sector lacked behind those in central areas.
 - Specialised factory farming developed quickly in advantaged areas. Farming in mountain areas was characterised by small farms, steep fields and harsh climate, unable to compete in efficiency and productivity.
 - Secondary schools and universities were quite centralised. The youth had to seek education outside the municipality, and would hardly find jobs in rural areas according to their competence.
-
- Increasing demand for energy and labour force in growth areas, surplus in disadvantaged regions;
 - Leading to an exodus of particularly young people from the countryside to towns and cities;
 - But also opening for new possibilities: the development of water power in the mountains.





The huge water course of Telemark has for ages connected the mountain areas to the sea, transporting people, iron, whetstone, timber and other items down to the coast.



The rivers powered mills, saw mills, stamping mills and other machineries.

Small local water power plants were built already in early 20th Century in order to light electric lamps.





1955: Facing challenges, seeking solutions

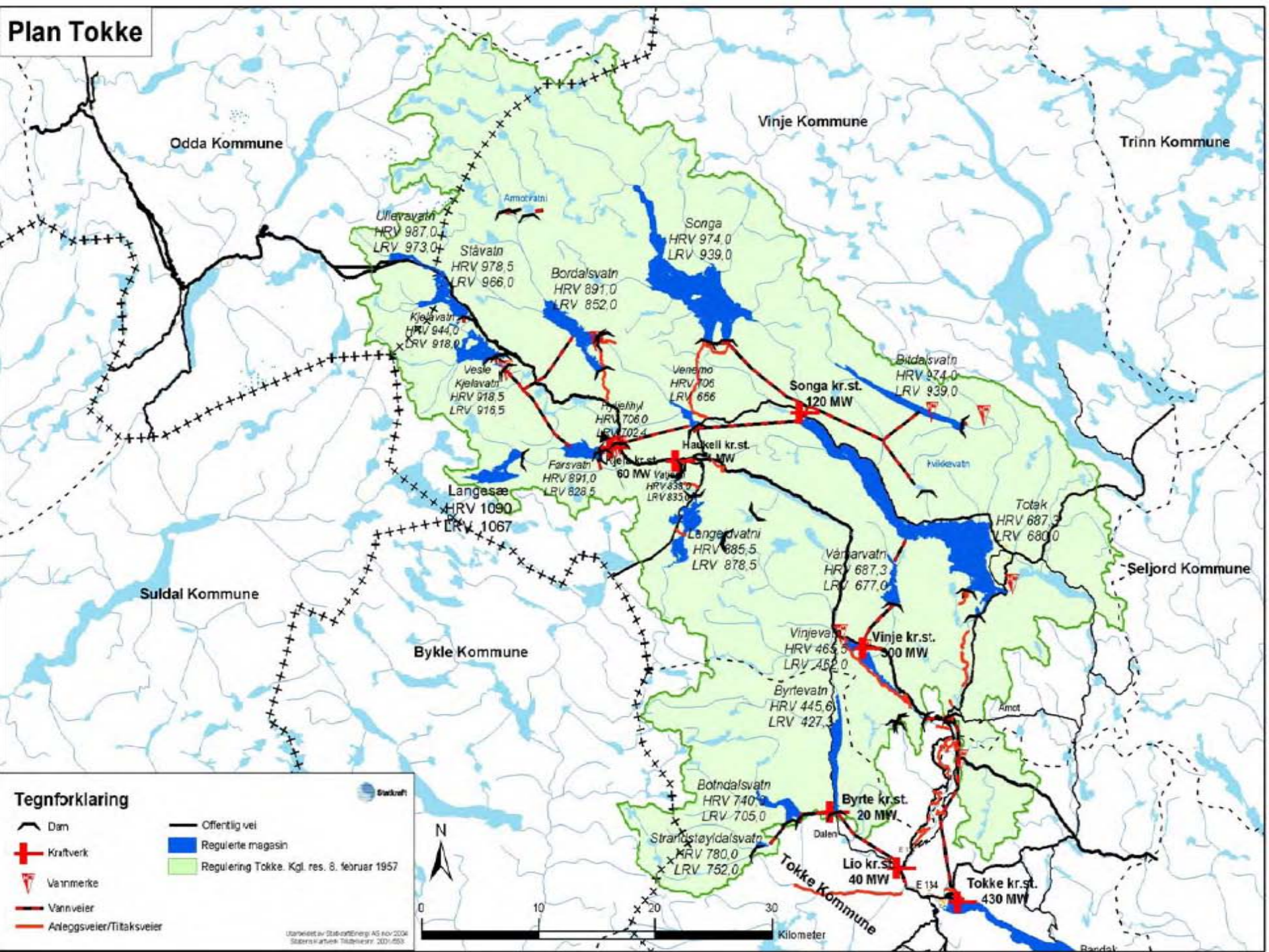
- The municipalities in upper part of the Telemark watercourse had for many years bought private rights to waterfalls in order to participate in a large, regional development of water power
- The development was planned and executed by the Norwegian state (NVE), as Norway's largest ever. The volume of investments needed made it necessary to involve the World Bank.
- 1. license to the plan given by the authorities (Royal resolution) in 1957; later followed by several amendments and extensions.



The Tokke Hydroelectric Power Development

- Owner: Statkraft AS
- Influences two municipalities: Vinje and Tokke
- Utilising an area of precipitation of 3104 km², and a height of fall of approximately 1000 metres
- 8 power plants, 17 reservoirs, 32 dams, 108 km of tunnels, 140 km of roads
- Producing 4,4 TWh (average per year)

Plan Tokke



Tegnforklaring

- Dam
- Kraftverk
- Vannmerke
- Vannveier
- Anleggsvveier/Titaksveier
- Offentlig vei
- Regulerte magasiner
- Regulering Tokke. Kgl. res. 8. februar 1957



Utdragsplan av Statkraft Energi AS, februar 2004
 Statkraft Energi AS, Tokke, 2004-003



The Prime Minister pushing the Start Button to a Modern Society

The water power development offered:

- Decent incomes for small farmers – local jobs instead of leaving the region;
- Significant increase in public incomes
- Increasing number of inhabitants
- New schools
- Improved health service and social care
- Better infrastructure and access to goods and services
- Cheap electricity
- Flood control





What the local society has sacrificed



Great environmental impacts:

- Reservoirs covering old farm fields, mountain alps and pastures;
- Dams cutting off rivers, leaving the river beds dry and ecological dead;
- Regulation of lakes degrading the environmental conditions for the fish, and making the ice unsafe in winter season;
- More difficult public access to rivers and lakes;
- The wounds and traces from the development are creating a less attractive landscape, reducing the possibilities for tourism.



However...

- Farmers and landowners have been compensated for economic losses through a broad and complex judicial assessment;
- Public interests are supposed to be taken care of through a process recently started, aiming at upgrading the environmental standard of the development;
- The impact on the municipality's economy is crucial.



Economic Dependence on Power Production

- Total income account 2008 for Vinje Municipality:
NOK 345 920 000 ,- (€ 40 696 470)
- Income related to hydroelectric production (NOK):

– Optional Property Tax	49 783 809
– Natural Resource Tax	33 962 698
– Annual Licence Fee	21 632 943
– Yield of compulsory power (by law)	17 648 658
– - on special conditions	<u>9 535 653</u>
– Total	<u>132 563 761</u>
- Relative part of total income: 38 %



Vinje Municipality...

- ... is able to maintain a high level of public services compared to similar municipalities, mostly due to incomes related to hydropower production;
- ... claims that the economic value being offered to the municipality is only a small compensation for the loss of nature qualities, and it is even smaller compared to the values that the produced electricity creates for the owner of the plant in particular, and through the economic growth of the urban area in general;
- ... expects that energy prices, particularly on "green energy" will remain on a high level in the long run, securing municipality incomes also for coming generations;
- ... fears, however, that future changes of external factors (for instance new political decisions concerning taxes) might jeopardise the economic basis of the local society;
- ... participates thus actively in the *National organisation of Hydro Electric Power Producing Municipalities* (LVK).

For a future with white winters and green summers



Clean, white snow is good for body and soul and vital for mountain societies. When the snow turns into water, essential for our complete ecosystem, it also powers our society with clean sustainable electricity.