

From power vs nature to environmental energy.

Norwegian hydropower politics in the 20th century.

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On Norway and hydro power

- Highly diversified system of watercourses with many waterfalls
- Local electricity production and – consumption.
- Today: Norway largest producer of hydro power in Europe - 99 % of domestic electricity consumption stems from hydro power
- Energy and environment as contested issue throughout the 20th century, but in different guises.

Objectives of the paper

- Analyze transformations of the conflict between hydro power and nature conservation from 1900-2010.
- Identify central traits of Norwegian politics towards hydro power development.
- Trace formative and transformative phases in the development.
- Continuities and ruptures – lessons to be learnt?

Periodization /formative phases

- 1900-1921:Formative and legislative phase
- Inter-war years: Small-scale power plants, municipalitie as driving force
- Post-war years: Hydro power as locomotive of economic growth
- 1960s: «Watershed» in power politics
- 1970s: Broadening the conflict: from hydro power vs nature conservation to energy vs environment.
- 1980s: From hydro power expansion to resource administrativon
- 1990s: Depoliticisation, water course conservation and market governance.
- 2000s: «The end of the era of large hydro power» Small scale hydro as a «kinderegg solution»?
- 2010 -: Fear of the wildd water: Hydro power as solution to extreme flooding?

The formative years: 1900- 1921

Concession laws 1906- 1917:

- Any exploitation of water courses must be licensed by the State.
Public ownership: «Hjemfallsinstituttet»
 - Prevent foreign control of natural resources
 - Tool for setting provisions on hydro power projects
 - NVE (Norwegian Watercourse and Electricitu Board (est. 1924)

Nature Conservation: Aesthetic and museal concerns

- Law on the conservation of nature (1910).
- Norwegian Trekking Association (1868); Norwegian Society for the conservation of nature (1914)
- Vettifossen first waterfall to be protected from exploitation in 1924.
- Main local conflict: *Industry vs agriculture*

Hydro power in the inter-war years

- Decentralized and small scale system of hydro power
- Dual character: Larger power plants owned by private industry, small scale power plants owned by municipalities.
- Strong public engagement in hydro power development, but on a *local not national level*.
- The role of the state: *Facilitation and control*
- Conflict: Hydro power for industrial or household needs?

Post-war years

- The State as *entrepreneur*: expansionist hydro power regime from 1945.
 - Combining industrial development and rural development
 - Compensatory arrangements: Damages to local interests due to developments to *be compensated in real terms* - Including broader and longer term damages (from 1958)
 - Partly due to the fact that industry politics were also district politics.
- Articulating and institutionalising conservationist concerns.
 - New law for the conservation of nature (1954); State Nature conservation board. Broader range of stakeholders included in hearings (nature conservation, cultural heritage, local interests).
- But still a technocratic regime:
 - 1940s and -50s: The golden age of the engineer
 - Environmental concerns as compensatory issues, not a gamestopper.

1960s: The «water-shed» in Norwegian hydro politics

- Hydro power development: From politically protected field to contested issue.
- Hydro engineers: From «heroes of progress» to «nature vandals»
«We power developers are constantly harrassed in all our mass media. We are called vandals and destroyers of nature – and at times it looks as though one wants to turn us into criminals who should get the death penalty» (VG (main tabloid 24.dec. 1969).
- Scientifically grounded conservation (ecosystem concerns, biological diversity)
- Nature conservation as a legitimate and equal interest: «The conflict between hydro power development –nature conservation concerns the question of which of two *in principle equally worthy public interests* are to have priority» (Gov't white paper 1969)
- From politics of hydro power to energy politics
 - Nuclear power as the savior of water courses.
 - First government white paper on energy politics in 1969.
 - Beginning exploration of oil fields in the North Sea.

1970s: From hydro power vs nature conservation to energy vs environment

- 1970: «the battle of Mardøla». New and more powerful environmentalist opinion, but with varying local support
- Institutionalising of water course protection: *National Protection Plan for Water courses* 1973
 - 95 water courses protected from utilisation for hydro power purposes (6,9 TWh), 51 temporarily protected for 10 years.
- Expansion of conflict lines: Energy vs environment
 - New Nature conservation law 1970; Ministry of the environment 1972.
 - Environmental pollution and acid rain as new problems;
 - Global concerns and climate change: “There is a risk of a notable effect on the climate if energy consumption in the most important industrial areas is strongly increased. Unfortunate effects on global warming could occur within 50-100 years if the present growth rate is continued» Minister of the environment, Gro H. Brundtland 1974)
 - Hydro power as a clean and renewable energy source
 - 1969: Oil finds in the North sea: Norway becomes a petroleum nation; 1978: Ministry of Oil and energy

1979-1981: Culmination of conflict

- The Alta river conflict: Damming of the Alta river in northern Norway: Huge conflict with major public protests and acts of civil disobedience. Pro-developers won the battle, but lost the war...
- 1980: «Master plan» for the future exploitation of water courses.
 - Ministry of Oil and energy – *accomodate need for new energy*
 - Ministry of the Environment – *prioritize according to level of conflict with environmental concerns*
- National Protection Plan for Water Courses II: 51 water courses protected (1 TWh), 11 for 5 years.
 - Expanded protection scheme, also going against local interests.
 - Environmental concerns and rights of the saami population.
- 1980/81: Generational change in the governing Labour party leadership: From «power socialists» to (market) environmentalists

1980s: From hydro power expansionism to resource administration

- Ministry of Environment in Charge of master Plan for exploitation of water courses.
 - Effort to insitutionalize conflict in the field
 - Plan for resource management more than a plan for future exploitation of water courses
- Protection Plan III (1983): 43 water courses protected (9.1 TWh)
 - Less politically charged, more grounded in scientific research.
 - Water course protection as object of redistribution (all counties to be represented)
- Depoliticisation:
 - Surplus of electricity, north sea gas as alternative to further expansion of hydro power
 - Increased attention toward the organising of the power industry – from public authorities to state –owned companies (New Public Management): Statkraft 1986
 - Culminates in the 1990 Energy Act: Marketization of Norwegian energy production and consumption (prevent overproduction and overconsumption)

1990s: Globalization of the energy field.

- Structural rationalization of the power industry:
 - from municipal authorities to regional companies
- Protection Plan IV 1993:
 - 129 water courses protected (11.6 TWh)
 - Protection plan as premise for master plan of exploitation of water courses
- Internationalisation:
 - From national to Nordic electricity market
 - The entry of climate concerns
 - Gas powerplants as contested issue
 - Local nature conservation vs global environmentalism

2000s: The end of large scale hydro power development?

- Prime minister Stoltenberg New year's day speech 2001: «The end of the era of large scale hydro power projects».
- The Master plan for Exploitation of water courses:
 - No further developments were initiated, and the plan was shifted from a catalogue of potential hydro power development projects to an overview of water course resources.
- Finalising the protection plan: Protection of the Vefsna river in Nordland 2009 (in all 392 watercourses protected, 43 TWh (23 % of total potential) :
 - Shifting the terms of the debate:
 - Høyre (conservative party): Against protecting Vefsna due to «global environmental concerns»
 - FrP (progress party , right wing): Against protecting Vefsna due to «local democratic concerns»
 - SV (Socialist Left Party): For protecting Vefsna due to «concerns of economic growth»
- But also contradictory developments...
 - Huge expansion of small scale hydro power from 2004
 - Allowing for small scale hydro power also in protected water courses.

2010s: Renewed interest in large scale hydro?

- Norway as 'the European battery'
- Environmental damage from small scale hydro – better with one big installation than several small?
- Electrification of transport –demand for more electricity
- Extreme flooding events due to climate change – damming also of protected water courses?

Lessons to be learnt?

- Shifts in policies result of constellation of interests
 - Concession acts: Nation and capital
 - Post-war expansion of hydro power: industry and district politics
 - Energy Act 1990: environment and market
 - Small scale hydro from 2004: Energy, climate and district development.
- Layered development of conflicts and regulatory efforts.
 - 'old' conflicts still present, partly in opposition to new ones; local vs global environmental concerns.
 - New issues met with institutional innovations: sectorised /compartmentalised public policies as a result
 - Today: the sectoral public administration does not overlap lines of conflict

1940s-60s: <i>Hydro power as locomotive of modernisation</i>	1960s-70s: <i>Hydro power vs nature conservation</i>
1970s-1990s: <i>Energy vs environment</i>	1990s – 2000s: <i>Local vs global environmental concerns / renewable vs non-renewable energy</i>