Green for real? Have you asked the eel?

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Not against hydropower!



Built Norwegian welfare, strongly connected with Norwegian independence. Requesting environmental improvements is however considered as being HP-critical!

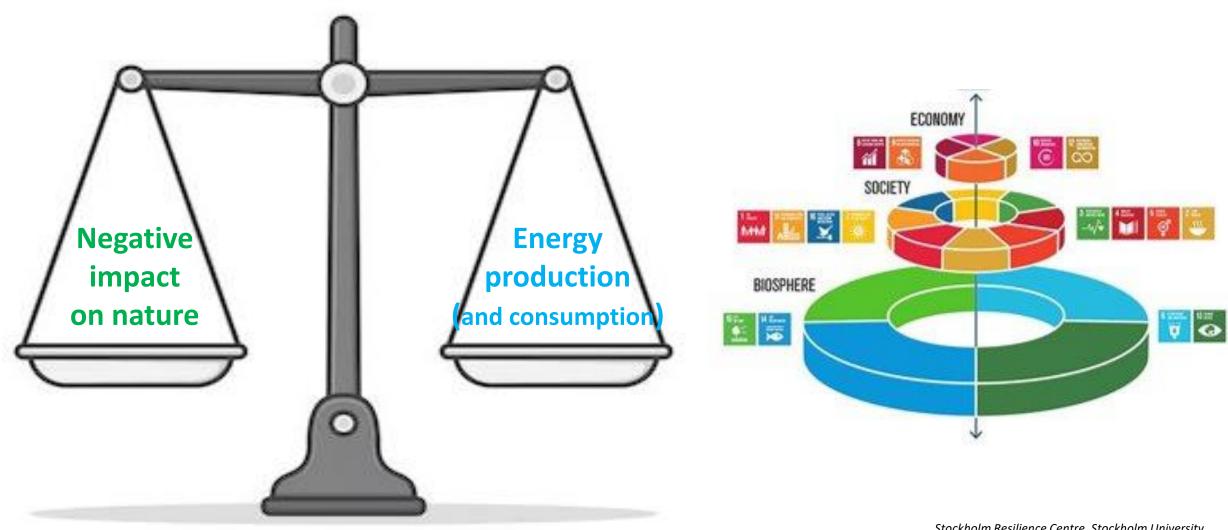
HP from 18- and 1900 built without environmental concerns. Health and safety hardly "invented" either!





Time to take nature into account. Great that there is a conference like this. To learn about how to make HP sustainable for real. Not just adjusting the paperwork, to make it fit doing nothing or little.

Photo: Dag Ringstad



Stockholm Resilience Centre, Stockholm University

Need to be aware of this balance – and nature as the basis for society and economy.

2022 UN BIODIVERSITY CONFERENCE C O P 15 - C P / M O P 10 - N P / M O P 4

Ecological Civilization-Building a Shared Future for All Life on Earth

KUNMING - MONTRÉAL

Can't get stuck in climate vs nature

Climate crisis – but in many ways further out in terms of biodiversity loss.

Can't afford one-sided focus on need for more energy, without looking at how to reduce the environmental cost.

Planetary Boundaries

fter Johan Rockström, Stockholm Resilience Centre et al. 2009

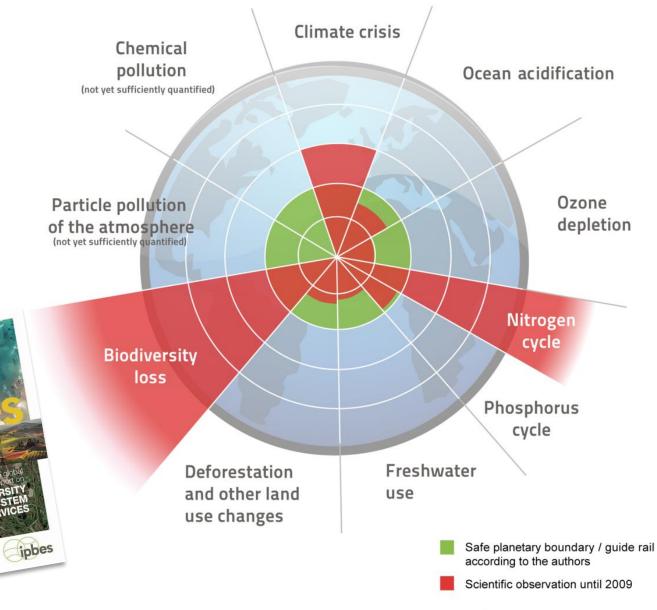


Illustration: Felix Müller (www.zukunft-selbermachen.de) Licence: CC-BY-SA 4.0

Norwegian NGOs are frustrated as our experience so far is that the sector puts more effort into adjusting things to make it look as if they meet sustainability criteria rather than actually doing things on the ground, to improve the environmental status in affected rivers.

WATERFALLS

Find the perfect flow

NORWAY POWERED BY NATURE

VISIT A DESTINATION WITH A FOCU

SUSTAINABILITY

Our national labelling scheme



THE FJORDS

Once in a lifetime...



Screenshots from visitnorway.com



Norway has a red list for Ecosystems and Habitat Types. «River and stream waterbodies» assessed as more than 30% degraded over the last 50 years = Near Threatened. Rivers in Norway on the ecosystem red list! Real impact from HP is much higher, as most of it was built more than 50 years ago, so the criteria for the assessment are not designed to reflect the real impact.

River and stream waterbody

Elvevannmasser

Vurderingsenhet av Type 1.1. NiN-kode: F1

Near Threatened NT

On the Norwegian Redlist for species (2021)

- Atlantic salmon (*Salmo salar*) NT
- Eel (Anguilla anguilla) EN
- Fresh water pearl mussel (*Margaritifera margaritifera*) VU
- Sea trout (Salmo trutta trutta) not assessed in the redlist, but in 40% of rivers, population status is bad or very bad, or the population is lost, according to the Norwegian Scientific Advisory Committee for Atlantic Salmon.

"But aren't there rules and environmental requirements in todays' HP."
Yes, for new HP, built in the last couple of decades or so.
But most Norwegian HP was built more than 50 years ago
For such old licenses – basically no, or few environmental terms.

"But if so old – licences must certainly get modernized? Like all other industry?"

Old licences may go through a "revision of terms in the license". Can lead to improved environmental status. Not always satisfactory, this photo from the Aura River after revision.

We are critical of several aspects regarding license revisions:

- Can only be done after 30 years. And then 30 years again.
- Until now 22 cases have been revised. Took 11 years in average.
- Weak connection to the environmental status in the RBMPs/the WFD.
- Regular way for opening revision, is that local NGOs or the municipality have to submit request for revision – request then assessed – may take decades.
- The authorities ought to revise old licenses when the environmental status in affected river calls for it.

License revisions are not intended to bring old licenses up all the way to "modern" status:

"In comparison with ordinary licensing cases or cases with updating expired licenses, the authorities do not have the same possibilities to use 'the strict environmental requirements that apply to new hydropower development today' in cases of revision of licenses."

The Norwegian Minister of Petroleum and Energy, Terje Aasland,

in a comment regarding a proposal from the Norwegian parliament's Energy and Environment Committee concerning a proposed license revision. (my translation)

Source: <u>https://www.stortinget.no/globalassets/pdf/innstillinger/stortinget/2022-2023/inns-202223-150s-vedlegg.pdf</u>

Unlicensed – but legal

Licence free HP plants >100 GWh per year

Most unlicenced HP is small, but 60: 10-99 GWh/yr. These 16 each produce 100 – 1500 GWh/yr. With no licence.

Authorities can not impose monitoring/measures. Not possible to ask for revision of the terms in the license, because they don't have a license.

However, a section in the law allows for unlicensed facilities to be summoned for licensing. But only to be applied in *special circumstances*.

HP PLANT NAME	Average annual production (GWh) (1981- 2010)	year of first HP PRODUCTION	OPERATOR
Vamma	1506,8	1915	HAFSLUND ECO VANNKRAFT AS
Fellesanlegget Kykkelsrud-Fossumfoss Solbergfoss	1241 961,9	1963 1924	HAFSLUND ECO VANNKRAFT AS HAFSLUND ECO VANNKRAFT AS
Kaggefoss	586,9	1951	GLITRE ENERGI PRODUKSJON AS
Rånåsfoss	583 544	1921 1978	GLOMMA KRAFTPRODUKSJON AS HAFSLUND ECO VANNKRAFT AS
Sarp Borregaard	250,6	1978	SARPSFOSS LIMITED
Ramfoss	189,8	1910	KRAFTIA TJENESTER AS
Grønvollfoss	175,4	1933	SKAGERAK KRAFT AS
Nomeland	172,6	1920	AGDER ENERGI VANNKRAFT AS
Hafslund	169,4	1933	HAFSLUND ECO VANNKRAFT AS
Skotfoss	157,3	1953	SKIEN KRAFTPRODUKSJON AS
Hønefoss Svean	119,9 110	1920 1940	RINGERIKSKRAFT PRODUKSJON AS STATKRAFT ENERGI AS
Svean	110	1940	STATKRAFT EINERGLAS
Hensfoss	106,5	1946	GLITRE ENERGI PRODUKSJON AS
Årlifoss	103,4	1915	SKAGERAK KRAFT AS

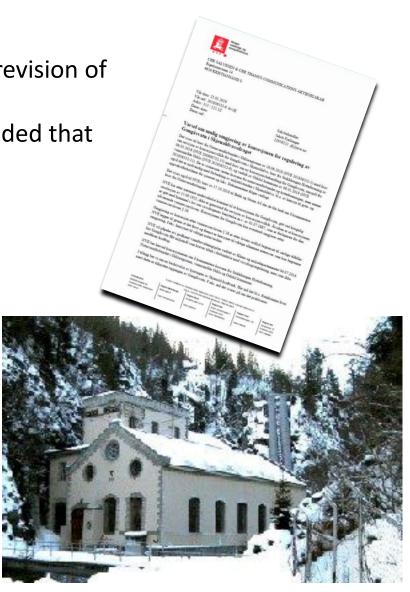
"Special circumstances"

Example from Trøndelag – the county we are in. Local cabin owners' association and local Friends of the Earth asked for revision of the regulation of a lake. Supported by the River Basin Sub-District and the Municipality – who added that the revision process should cover all HP facilities in the watershed.

Turned out to be 3 facilities:

The regulation of Lake Gangåsvatn
 License from 1922, based on old law from 1887, not revisable!
 But possible to apply "modification of old license", also
 only to be applied in "special circumstances".

2 and 3: Skjenaldfossen power station and regulation of Lake Våvatn Both unlicensed, but possible to summon for licensing.



Important public interests and vital nature:



The County Governor and others lined up the arguments for why these facilities should be considered to meet the *special circumstances* requirement:

Nature Reserve with about 30 red listed species of birds is affected. Ground nesting waterfowl, like the

- Eel (EN)
- Atlantic salmon (NT) population status in the river is poor
- Sea trout
- Arctic charr population has declined. Important for local anglers.







Lapwing/peewit (Vanellus vanellus) (CR)



Photo: Frode Falke



lapwing, struggle because of artificial flooding during the breeding period.



- Docks/piers/buildings/boats damaged due to the regulation
- The lakes and river are used for • lots of outdoor activities, summer and winter, like ice fishing on Lake Gangåstvatn.
- RBMP suggested the river be prioritized for environmental improvement.

Decision: did not meet the "special circumstances" requirements

No modification of existing license.

<u>No</u> summoning of the two unlicenced. They continue into eternity without licenses.

→ What is needed to meet the requirements of "special circumstances"?!



Vår dato: 26.04.2022 Vår ref.: 201836332-46 Oppgis ved henvendelse Deres ref.:

Krav om omgjøring av konsesjon for regulering av Gangåsvatn og innkalling til konsesjonsbehandling for regulering av Våvatn og Skjenaldfossen kraftverk – NVEs avgjørelse

NVE mener at konsesjonen for reguleringen av Gangåsvatn ikke skal omgjøres. NVE mener også at reguleringen av Våvatn og Skjenaldfossen kraftverk ikke skal innkalles til konsesjonsbehandling. Begrunnelsen er at kravene om særlige tilfeller i vannressursloven § 28 og § 66 ikke er oppfylt.

Skjenaldvassdraget ligger i Orkland kommune i Trøndelag. Konsesjonær og kraftverkseier er Chr. Salvesen og Chr. Thams's Communications Aktieselskab, som nå eies av Bekk og Strøm AS.



EU Taxonomy to secure sustainability and level playing field

"But Norway, no doubts, defends Norwegian interests and Norwegian hydropower"

the State Secretary in the Ministry of Petroleum and Energy to NRK

from: https://www.nrk.no/klima/eu-regler-mot-gronnvasking-kan-ramme-norsk-vannkraft-1.16083432

In last round of RBMPs, Norway had over 1400 exemptions from the environmental objectives in the WFD while e.g. Austria and Sweden had 10 each.

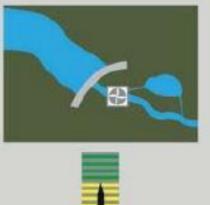
The EU commission clarified that exemptions are not compatible with the taxonomy.

Thus no longer attractive to be on the list of exemptions.

No of exemptions are down by about a third in new RBMPs, which is good.

It means that these water bodies then need to meet Good Ecological Potential GEP The best ecology that can be achieved, by use of measures





<u>NOT</u>: "GEP = equivalent to current status."

For heavily modified water bodies, like many affected by HP, the goal is to reach good ecological potential (GEP).

GEP =ecological level reachable by carrying out all measures that are technically and economically realistic.

 \rightarrow make use of technology and research and implement measures that improve ecological status.

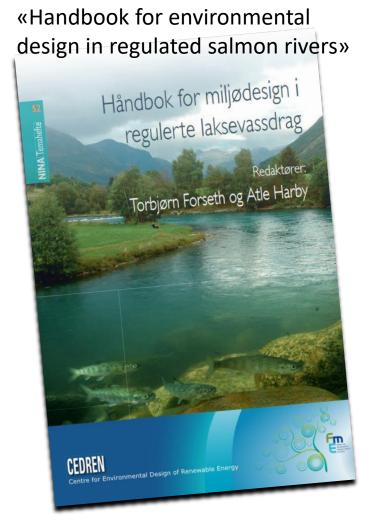
But Norwegian authorities have a practice of setting GEP as "equivalent to current status".

Without much, if any, assessment of the actual ecological potential.

A decision that GEP is reached - without doing anything!

It can't be that HP facilities that are over 100 years or several decades old have already fulfilled this potential.

Research on measures for environmental adaptation needs to be made use of

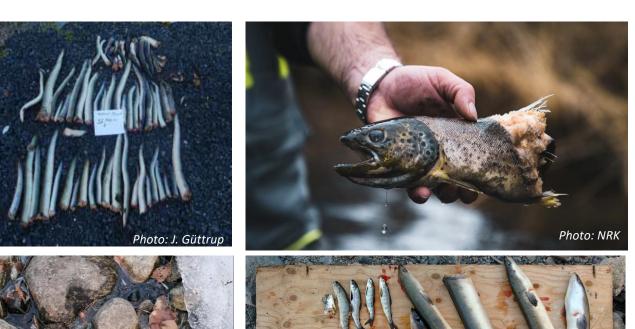


"Survey methodology and measures for improving and restoring the physical water environment. A guideline proposal for HP regulated rivers." Utredningsmetoder og tiltak for bedring og restaurering av fysisk vannmiljø Forslag til veileder for kraftregulerte elver NORCE Laboratorium for ferskvannsøkologi og innlandsfiske (LFI)

"Safe bidirectional fish migration past hydropower plants: updated knowledge and best practices"



«The companies are not the culprits - the Ministry of Petroleum and Energy approves what they are doing." NRK



Basically – have a license to kill!

Small and large companies – but in general Norwegian HP can afford some environmental measures.

Statkraft's net income in 2022: NOK 73,9 billion Statkraft's 2022 Annual Report: all Statkraft's HP in Europe meets the WFD and taxonomy criteria and is thus sustainable. Norwegian HP actors claim everything they do is sustainable based on this sentence from the Norwegian guidelines regarding WFD Article 4(7):

"If an activity is carried out in accordance with a permit granted by a public authority, the requirement for sustainability is considered fulfilled."

From the Norwegian guidelines on WFD Article 4(7), regarding new activity, implemented through section 12 of the Norwegian Water Regulation (our translation)



Photo: Erling Svensen

So – back to the eel. Make sure it thrives!

If you want sustainable HP, ensure that the habitat of the affected waterways can support healthy thriving populations of the species that belong there.

