

Hvordan vi forventer at taksonomien vil virke for energibransjen

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HydroCen Fagutvalg

Mandag 18. oktober 2021

Statkraft på én side

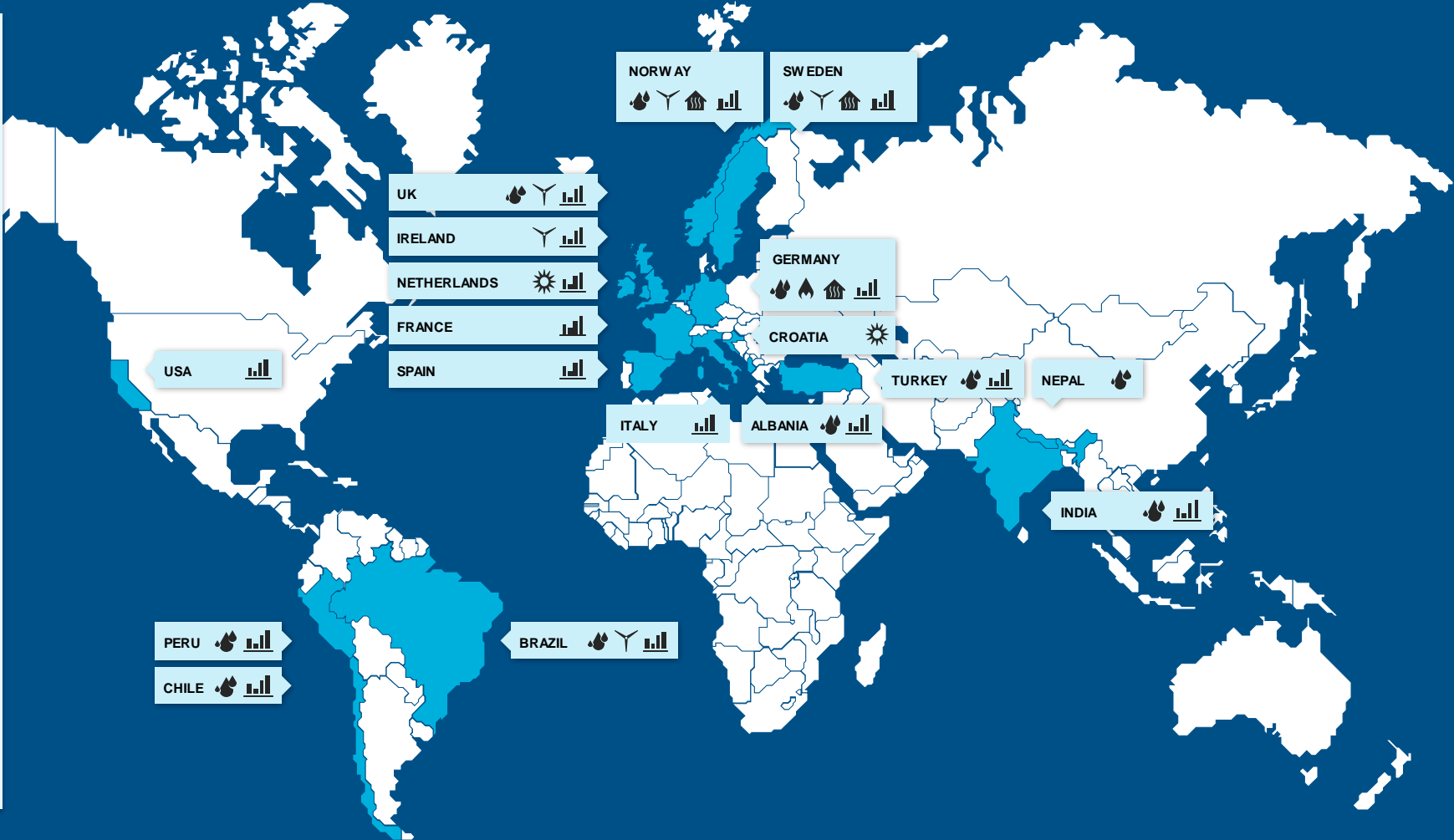
Own capacity
20 000 MW
65 TWh → 92% renewable

.....

Third party capacity
20 200 MW

.....

Employees
4 500



Statkraft har jobbet aktivt for å forstå og påvirke EUs taksonomi

Understand implications from the taxonomy framework and criterias



Respond on drafted and proposed legislative text



Prepare for reporting requirements and align with business processes



...while remembering what this is about

...environmentally sustainable...

(not accounting for socio-economics)

...shifting capital flows...

(not making activities illegal)

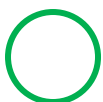





EFFECTS OF THE TAXONOMY (1)


Forventet oppfyllelse av taksonomikriterier i kraftbransjen

Based on Delegated Acts on climate change mitigation and adaptation


Well-aligned 




Solar power
and CSP




Wind power




Grid




Grid
connected
services


Well-aligned under
asset-specific conditions 




Hydropower



Bio-fired




Bio-fuel




Hydrogen


Not included (yet)




Gas power




Nuclear
power




Waste
incineration

Excluded 



Solid fossil
fuels



Oil and gas
extraction

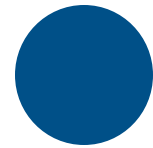
All activities need to
fulfill technical criteria





EFFECTS OF THE TAXONOMY (2)

Taksonomien skaper rapporteringsforpliktelser fra 2022

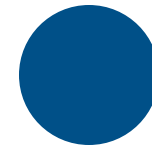


Companies

Similar scope as the
Non-Financial
Reporting Directive

European listed and large public-interest
companies (>500 employees)

Taxonomy-aligned share of
turnover, opex and capex



Funds

Asset managers, insurance undertakings and
occupational and other pension providers

% investments aligned with the Taxonomy*

Note: *Any asset managers, even those who are not claiming that their product is sustainable, who are not disclosing this information will have to add the following to their reports: "The investments underlying this financial product do not take into account the EU criteria for environmentally sustainable economic activities."



EFFECTS OF THE TAXONOMY (3)

Taksonomigodkjente aktiviteter vil dra nytte av lavere finansieringskostnader



Green bonds tend to carry a price premium

Estimating a green premium poses a challenge without otherwise identical green and conventional bonds to compare

— France — Netherlands — Belgium



Note: Data compares trading levels on green bonds to conventional bonds surrounding them on issuer's yield curve. Negative level implies the green bond is trading at a premium

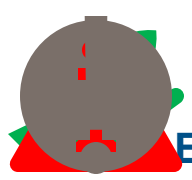
Source: Mizuho | Chart: Yoruk Bahceli

Bloomberg
NEW ENERGY FINANCE

“Taxonomy will bring credibility to the green bond market “

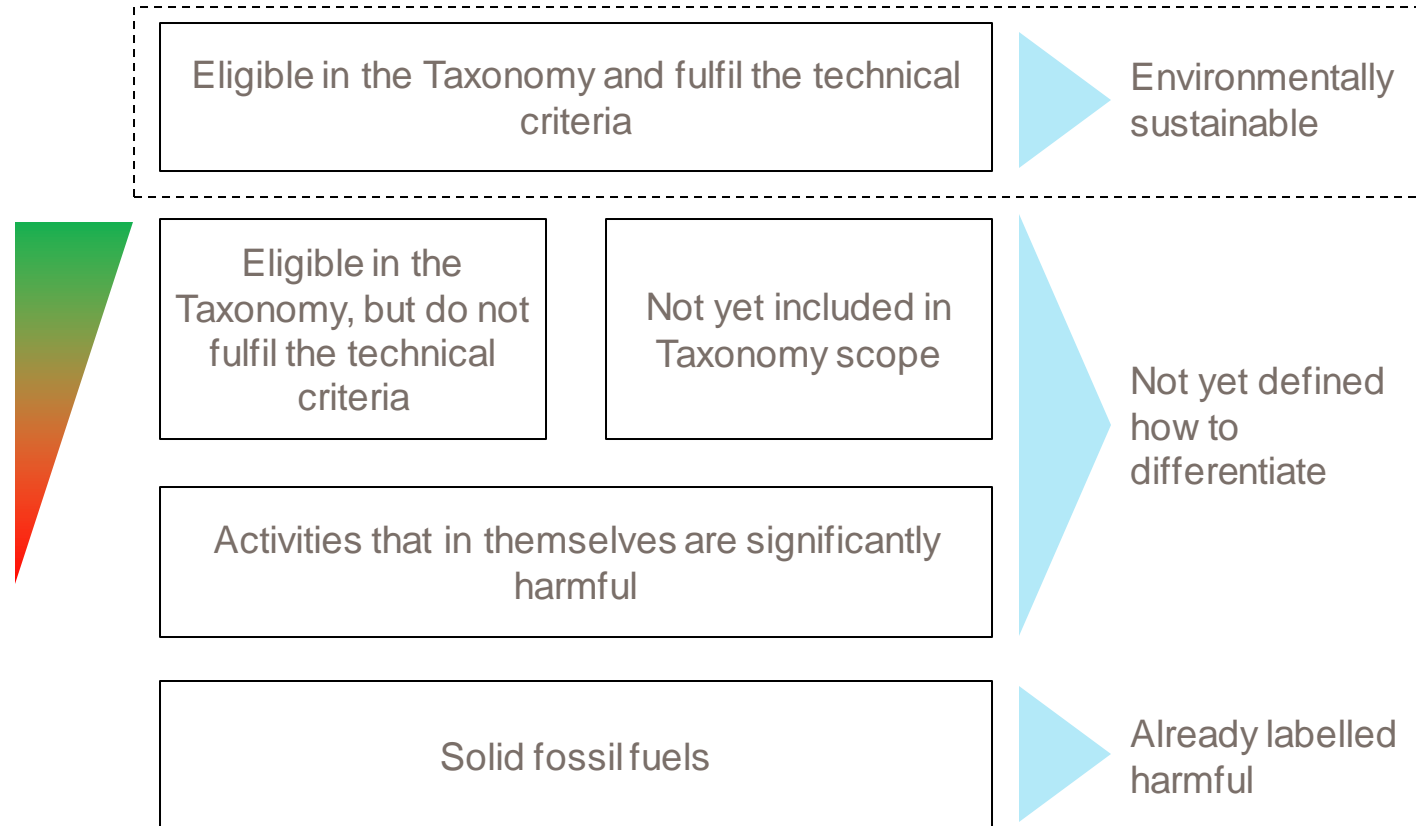
<https://www.reuters.com/article/uk-bonds-green-germany-analysis-idUKKBN25T2ZS>





EFFECTS OF THE TAXONOMY (4)

Taksonomien er ikke grunnlag for å definere ikke-bærekraftige aktiviteter eller teknologier



This means that...

... there is **no equal sign** between being outside the taxonomy and being unsustainable. The Taxonomy does not make this distinction.

...not aligned activities are **still legal**. The Taxonomy might only facilitate a competitive edge for aligned activities.

...there is currently no significant difference from having **one or more substantial contributions**.

...in fact, in the start Taxonomy-alignment is expected to be a **very narrow tranche**.

The technical expert group has proposed to extend the Taxonomy to a “traffic light model”



EFFECTS OF THE TAXONOMY (5)

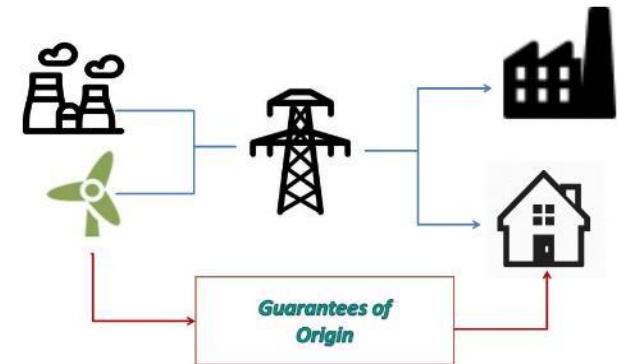
Bredt utvalg av andre implikasjoner



Confirms and accelerate shift towards Paris goals



Can influence public perception



Accelerate the need for – and hence - value of certification



HYDROPOWER IN THE TAXONOMY (1)

Tabloide tolkninger av taksonomien risikerer å sementere feilaktige oppfatninger av vannkraften

Media coverage Dec '20 – March '21

EU's communication

MONTEL
Sweden, Norway fear
hydropower not green
enough for EU

Forbes
EU Green Investment
Classification Is Necessary But
Needs Improvement
Nils Rokke Contributor @
Green Tech
I write about the global energy transition and net-zero emissions.

TU Energi
VANNKRAFT EU
Miljødirektoratet: 1.500 vann og
vassdrag vil ikke regnes som grønne
av EU

Economic activities that are not recognised by the EU Taxonomy ...

are not necessarily environmentally harmful or unsustainable.

EU Commission press release April 2021

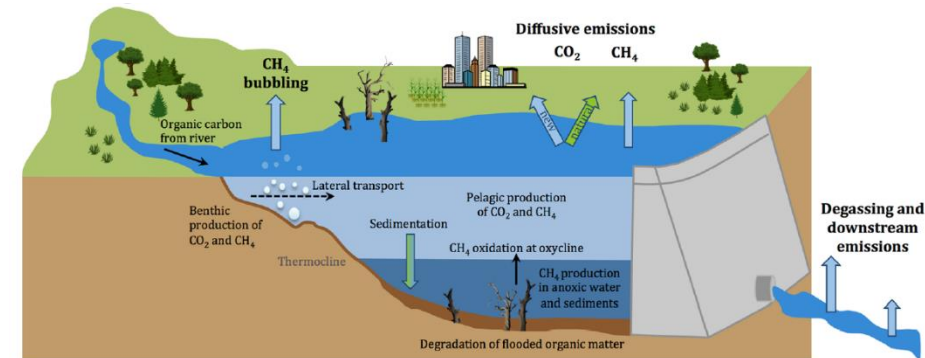
<https://www.montelnews.com/en/story/sweden-norway-fear-hydropower-not-green-enough-for-eu/1170411>

https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/sustainable-finance-taxonomy-faq_en.pdf



Klimagassutslipp fra vannkraft kommer fra potensielle økte utslipp fra reservoarer

- All freshwater ecosystems do emit GHG (CO₂).
- The GHG comes from carbon rich run-offs that decompose underwater.
 - agriculture (fertilisers)
 - settlements (sewage)
 - natural input (leaves, debris)
- Hydropower reservoirs can intensify nature's own carbon cycle



Her hakkar Jens Ivar (21) hol i isen og tenner på

Skøyturen blei ei spesiell oppleving for Jens Ivar Ellingsen og faren då dei jakta på små, eksplosive bobler under isen.



GASS I ISEN: Jens Ivar Ellingsen (21) opplevde fenomenet for første gong. Her tenner han på metangassen som ligg i bobler i isen. Foto: Einar Ellingsen.

Silje Steinnes Bjerknes
Journalist

Publisert 12. jan. kl. 09:38
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Fun fact: In Nordic climate minor methane emissions can accumulate during the winter and come to surface when the ice is breaking up.



Power density er kun en statistiks sammenheng til karbonintensitet og sier ingenting om faktiske utslipp

The parameter shall identify reservoirs with higher probability of high emission intensity

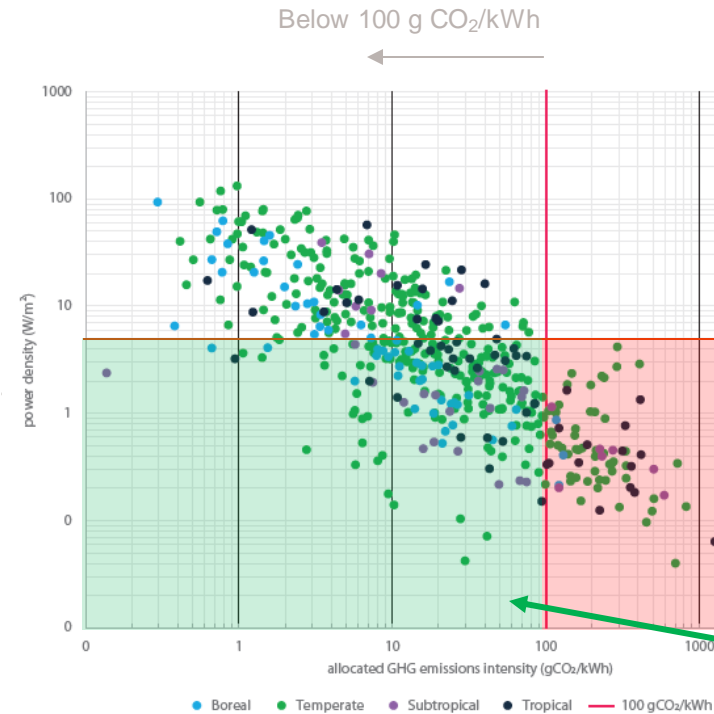
Capacity of power Reservoir, i.e. size of generator.
NOT to be confused with production (kWh).

Power density

=

Installed capacity (MW)
Reservoir area (m²)

A correct representation relies on finding the net increase of surface area of the reservoir due to the hydropower Reservoir



In this sample all projects above 100 g CO₂e/kWh have power density below 5 W/m²

But there are also many projects that are below 5 W/m² while at the same time having GHG footprint below 100 g CO₂e/kWh

Figure 2: Relationship between GHG emissions intensity (gCO₂-eq/kWh) and the power density of projects (W/m²)

Power density is **effective** at screening in **high emission projects**

...but **not effective** at screening out **low emission projects**





Karbonfotavtrykk vil gi en økt administrativ byrde, men vi forventer at de fleste vannkraftverk vil oppnå kriteriet

Method is significant when assessing carbon footprint

- Gross vs net area
- Plant vs regulation area
- Sintef Energi guidelines on how to apply criteria
- Based on static data, one-off exercise



Majority of hydropower assets globally rank low in life-cycle carbon footprint

Coal	820
Gas	490
Solar PV (Utility)	48
Hydropower*	18.5
Wind Offshore	12
Nuclear	12
Wind Onshore	11

Figure 1: Median life-cycle carbon equivalent intensity (gCO₂-eq/kWh)

Source: IPCC 2014 / IHA 2018

*IHA STUDY

Going forward

- Collect data on reservoir areas, also pre-construction
- Establish process to verify and document installed capacity, reservoir areas and LCA analyses (if available)
- Share data with other operators in the same waterway



Krav til vannforvaltning henger tett sammen med EU sitt Vanddirektiv, og Norges implementering av dette

The water framework directive

A new geographical frame:
The river basin



4 innovative objectives:

- Central role of aquatic life
- Good water and ecosystem quality
- Public participation in water management activities
- Recovery of costs for water services



One main tool:

The river basin management plan (RBMP)

- ▶ What are the significant issues in the river basin?
- ▶ What are the quality objectives for water bodies?
- ▶ What are the actions to undertake in order to reach the objectives?



Vann-Nett Portal er inngangsportalen til informasjon om vann i Norge.

Målet er å gi en enkel og rask tilgang til data i forskjellige format. Her kan du finne hvordan det står til i vannet (miljøtilstand, miljømål, tiltak, påvirkninger osv) og få ut data i forskjellige formater (faktaark og kart). Under informasjon finner du forklaring på de mest sentrale begrepene som brukes i vannforvaltningen.

Vann-Nett eies av miljøforvaltningen og Norges Vassdrags- og energidirektorat (NVE). Systemet er stasjonert hos og driftes av NVE.



Vi jobber med å forstå og utvikle metodikk for hvordan vi skal evaluere og rapportere om vannforvaltning

Hydropower is THE one activity in the Taxonomy with the most specific and detailed criteria on water management

- Reference to the Water Framework Directive (WFD) is positive
- WFD is founded on cost-benefit mechanisms



We still have questions since...

- ...the WFD allows for national priorities while the Taxonomy sets EU-wide requirements
- ...WFD is about sustainable use of water while Taxonomy is on env. Sus.
- ...the WFD is based on a 6-year cycle of plans and actions, while the Taxonomy shall be reported annually
- ...there are also other entities that are accountable for measures and impact on nature in our waterways



Statkraft

Takk for meg



statkraft.com

The Taxonomy assume that SC is a stricter criteria than DNSH

Fundamental concepts – Focus on SH

