

FLERBRUK AV MAGASINER I ET ENDRET KLIMA

UTFORDRINGER, MULIGHETER OG ERFARINGER

Seminar 4.februar 2016

Åse Roen

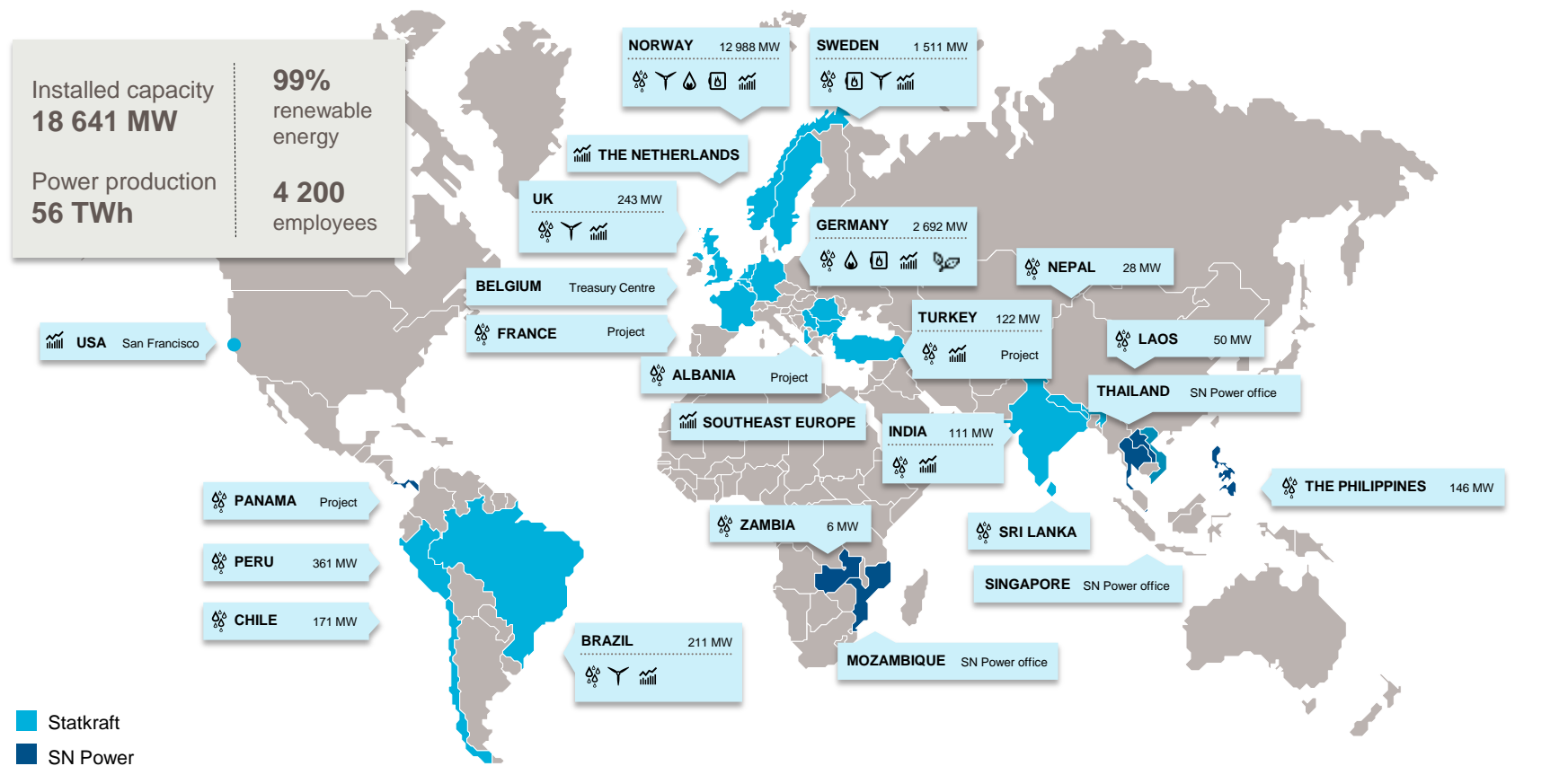




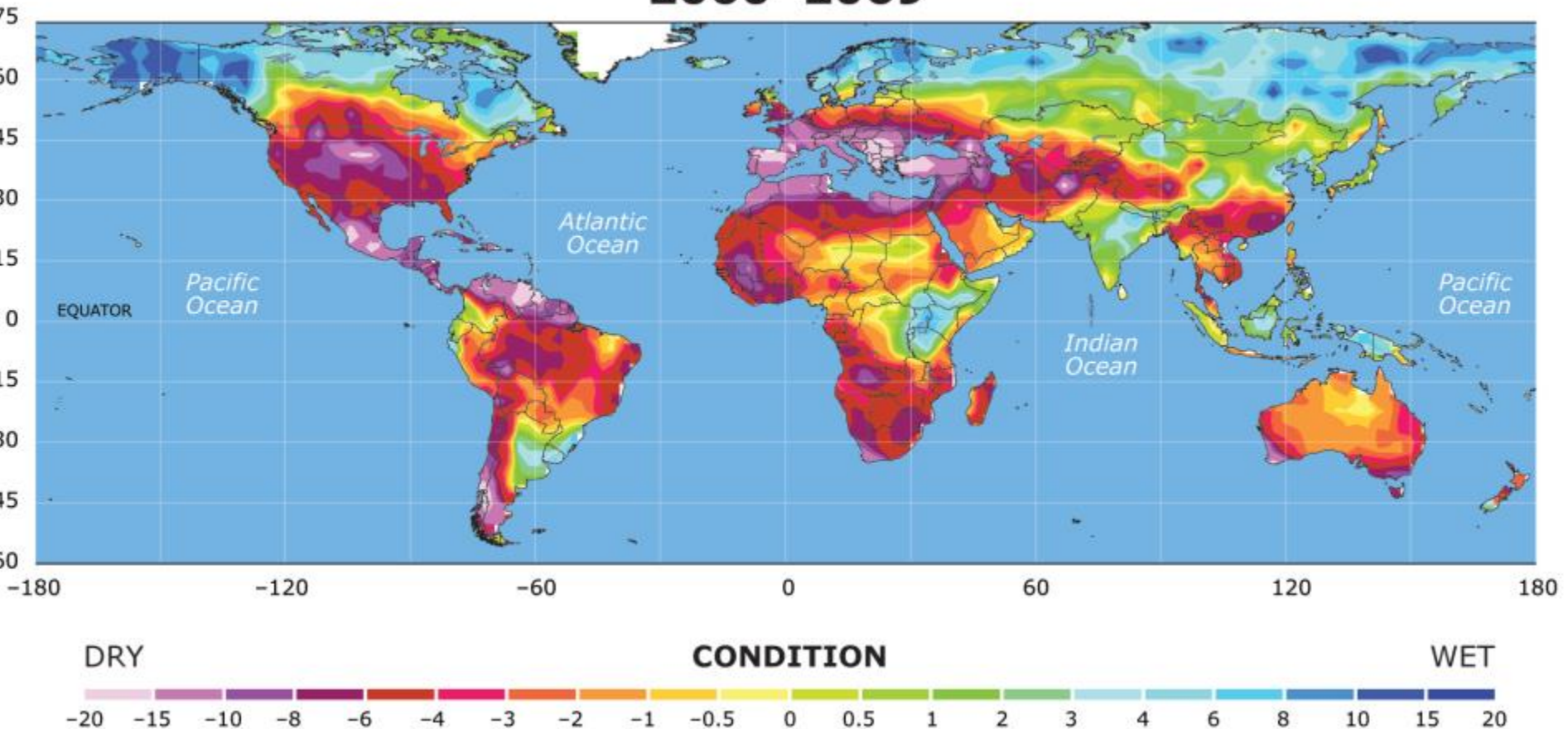
Statkraft vision

Providing pure energy

Statkraft's global presence



2060–2069





Multipurpose hydro in the age of climate change

*“Historically, hydropower has acted as a **catalyst for economic and social development** by providing both energy and water management services*

(...)

*Multipurpose hydropower can be a tool to **mitigate both climate change and water scarcity**”*

IPCC Special Report on the Intergovernmental Panel of Climate Change
«Renewable energy sources and Climate Change Mitigation», Chapter 5: Hydropower

Sustainable multipurpose hydro can play a key part of the solution to climate change and sustainable development

World developments



Economic and social development

Increased population, production and affluence



Climate change

Increased water scarcity and more frequent extreme weathers

Challenges

Mitigation

Increased need for clean, flexible and reliable energy



Adaptation

Increased need for water and water management



Sustainability

Need for sustainable development that balances social, environmental and economic needs



Solution

Sustainable multipurpose hydropower

The multi-benefits of sustainable hydro are not fully acknowledged, and the incentive mechanisms to unlock its full potential are lacking

Hydropower provides additional benefits...

...that will become increasingly important as a result of climate change and economic development

Irrigation



- Increasing **food demand** from a growing and more affluent world population
- Increasing **drought** frequency in several countries

Flexibility in energy system



- Large-scale deployment of **intermittent renewables** in several countries

Flood prevention



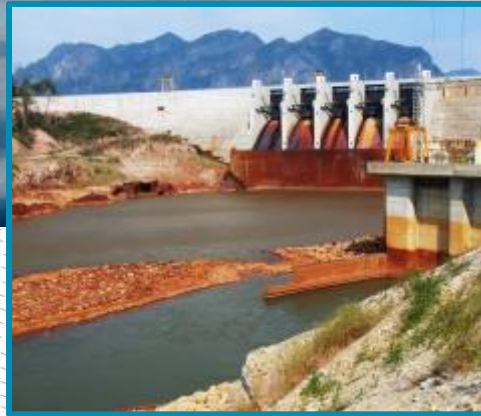
- Increasing frequency of **floods** in several countries

Drinking water



- Increasing **drinking water** demand from a growing world population

Current incentive mechanisms do not allow for a way to maximize the net social and economic returns of the different purposes of hydropower



BETTER HYDRO, BETTER CLIMATE A JOINT INITIATIVE

*Better Hydro
Better Climate*

Introduction document
December 2015

The initiative will articulate and communicate the 'win-win' value proposition of multipurpose hydropower

Step 1: Develop report



Articulate the case for sustainable multipurpose hydro

- a) The role of hydropower in the context of economic development and climate change mitigation
- b) Additional benefits of multipurpose hydro and role as adaptation measure
- c) Costs and benefits of sustainable hydro
- d) Mechanisms to facilitate and incentivize sustainable multipurpose hydro

Step 2: Share & discuss



Engage with key stakeholders

- Engage with key policy makers, financing institutions and other key stakeholders
- Present report at conferences and seminars

End goal



Increased awareness of the **benefits of multipurpose hydro**



Demonstrate industry best-practices for sustainable hydro



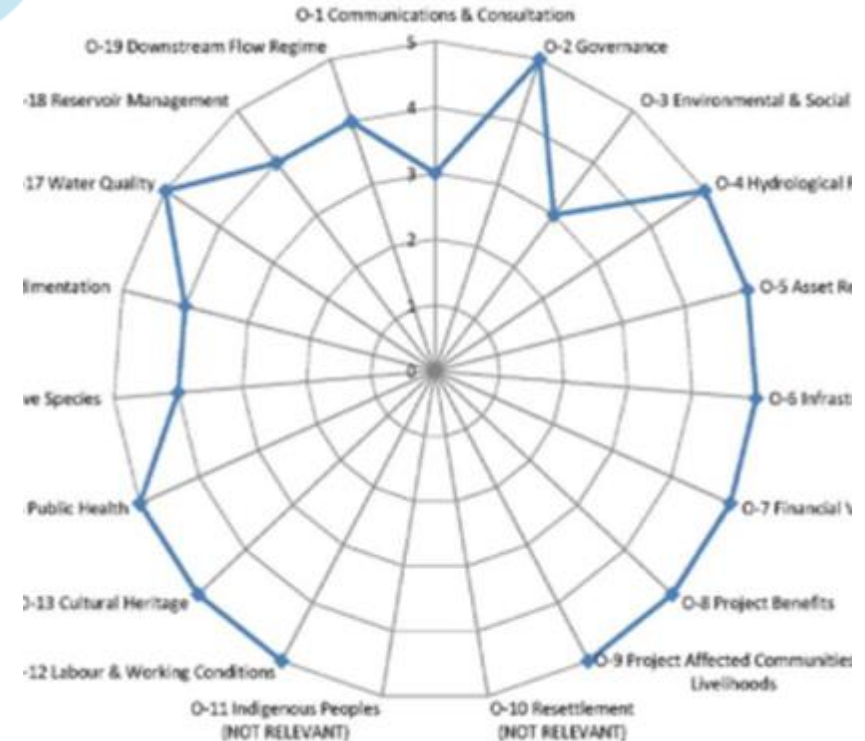
Highlight mechanisms to increase the net social and economic benefits

The Statkraft Way

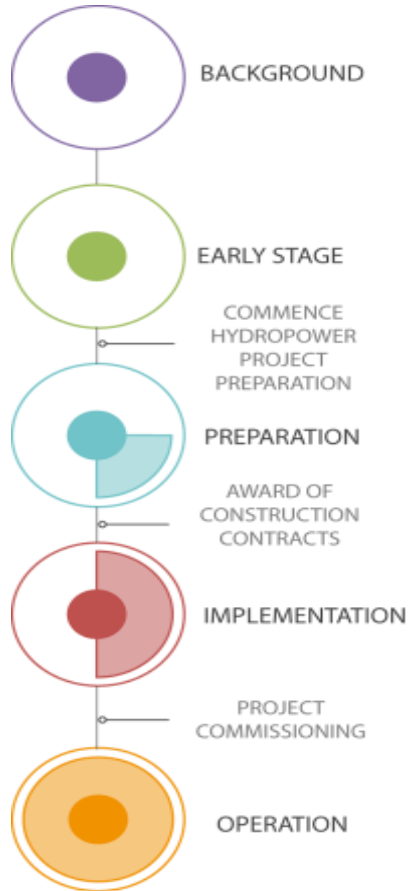


- ▶ Bærekraftig utvikling
- ▶ Internasjonal god praksis
- ▶ The Stage Gate Model

Hydropower Sustainability Assessment Protocol



The Hydropower Sustainability Assessment Protocol

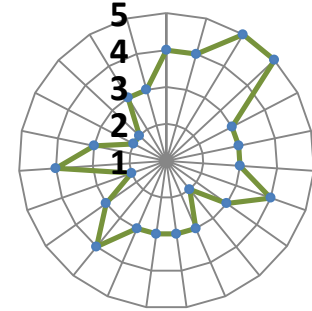


A **framework** to assess sustainability at all stages

A **consistent, globally-applicable** methodology, and a neutral **platform for dialogue**

Over 20 clearly-defined sustainability **topics**

Governed by a multi-stakeholder Council and Terms and Conditions




Cross-cutting Issues

- ▶ **Climate change**
- ▶ Human rights
- ▶ Gender
- ▶ Grievance Mechanisms
- ▶ **Integrated Water Resource Management**
- ▶ Legacy Issues
- ▶ Livelihoods
- ▶ **Multi-Purpose Projects**
- ▶ Transboundary Issues
- ▶ Transparency



HSAP – mer informasjon tilgjengelig på www.hydrosustainability.org



Hydropower Sustainability Assessment Protocol

Search by keyword

Search


Home Hydropower Sustainability Assessment Protocol About Sustainability Programmes of Activities Protocol Assessments Governance FAQs

HydroLIFE

WORLD

SECO

Sustainability Partners



Norad

You are here: Home > Programmes of Activities > NORAD


NORAD

Developing countries sustainable hydropower initiative

IHA has received funding from the Norwegian Agency for Development Cooperation (NORAD) to promote and use the Protocol in less developed countries. The purpose of the Project is the application of the Hydropower Sustainability Assessment Protocol by stakeholders in hydropower in three selected developing countries or river basins.

The outcomes are as follows:

- Developers and project owners in target countries/regions apply the Protocol
- Developing country regulators, regional bodies, civil society and international agencies recognize the benefits of the Protocol
- Developers, project owners and regulators in developing countries outside of project target countries recognize the improved Protocol documents
- Regulators use lessons on options assessment to identify sustainable hydropower project options with development impact. Governance Committee benefits from information provided from the Project to guide further development of the Early Stage tool




What is the Protocol?

The Hydropower Sustainability Assessment Protocol is a tool that promotes and guides more sustainable hydropower projects. It provides a common language that allows governments, civil society, financial institutions and the hydropower sector to talk about and evaluate sustainability issues. The Protocol offers a way to assess the performance of a hydropower project across more than 20 sustainability topics. Assessments are based on objective evidence and the results are presented in a standardised way, making it easy to see how existing facilities are performing and how well new projects are being developed.

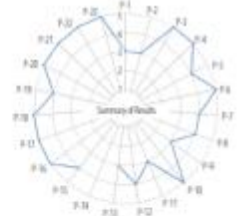
What is the Protocol valuable for?

- Independent review of sustainability issues
- Guiding sustainability issues
- Comparison with international best practice
- Communication with stakeholders
- Facilitating access to finance
- Preparing clients to meet bank requirements
- Reducing risk of investment opportunities



What does the Protocol cover?

The Protocol covers a range of topics that are important to understand the overall sustainability of a hydropower project. The 'spider diagram' below shows the environmental, social, technical and economic aspects which are included. The Protocol also includes 'cross-cutting issues' such as climate change and human rights, which feature in multiple topics. For each sustainability topic, performance is scored from one to five. Five represents proven best-practice, three represents basic good practice.



Topic	Performance Score
P-1 Communications and Consultation	4
P-2 Governance	4
P-3 Demonstrated Need and Strategic Fit	4
P-4 Siting and Design	4
P-5 Environmental and Social Management	4
P-6 Integrated Project Management	4
P-7 Hydrological Resource	4
P-8 Infrastructure Safety	4
P-9 Financial Viability	4
P-10 Project Benefits	4
P-11 Economic Viability	4
P-12 Procurement	4
P-13 Project-Affected Communities	4
P-14 Resettlement (Not relevant)	4
P-15 Indigenous Peoples	4
P-16 Labour and Working Conditions	4
P-17 Cultural Heritage	4
P-18 Public Health	4
P-19 Biodiversity and Invasive Species	4
P-20 Social and Environmental	4
P-21 Water Quality	4
P-22 Reservoir Planning	4
P-23 Development Risk Registers	4

Who supports the Protocol?



International Institute of Environment and Development:

"The Protocol currently offers the best available 'measuring stick' for the respect for the World Commission on Dams provisions"

World Bank:

"The Protocol complements the World Bank's general Safeguards with content that is hydropower-specific"

CH2:

"CH2 views the Protocol as a useful tool for evaluating transactions in the hydropower sector to ensure compliance with the ESRM Standard"

E.ON:

"The value created during this assessment and by the derived sustainability profile justifies the investment necessary to conduct such a protocol application"



THANK YOU

Åse Roen
ase.roen@statkraft.com



www.statkraft.com