



# WHY AND HOW LABELLING MORE SUSTAINABLE HYDROPOWER?

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Certification for Hydro:  
Improving Clean Energy

# BACKGROUND OF CH<sub>2</sub>OICE

Certification for HydrO: Improving Clean Energy



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# Conflicting objectives

Increasing the production of renewable energy (often including hydropower) is a must to reduce CO<sub>2</sub> emissions.



Reducing river flow alteration and other hydromorphological pressures is a must to improve river ecosystems.



# What alternatives?

## 1) BaU “command and control” strategy:

- Power companies try to keep on producing as usual and to build new hydro plants to exploit maximum potential.
- Public bodies force them to reduce their impacts on river ecosystems in existing and new plants with different kinds of constraints (e.g.: ecological flows).

Results: lawsuits, conflicts with NGOs, poor effectiveness in reducing impacts of existing plants, excess of caution in licensing new plants.

# What alternatives?

## 2) Involvement of producers on a voluntary basis:

- Power companies try to reduce their impacts, innovate technologies and improve management of existing plants to increase the value of their production; design new plants considering from the beginning environmental constraints and best management practices.
- Public bodies monitor real improvement of river status, check reliability of labelling agencies, could use the “name, fame, shame” tool, if needed.

Results: less conflicts, more efficiency and surplus value of more sustainable production can compensate for production constraints.



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# Conditions for the certification to be effective

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# Why should I certify?

For producers the BaU strategy has an “appeal”: certification means additional costs, local conflicts on existing plants occur since tens of years, lawsuits last for very long (while production can usually continue): why should they go for a certification procedure?

1. Direct economic reason: certified energy could be sold at significantly higher price.
2. Access to public incentives (requires the certification to be recognized/adopted by existing incentive systems).
3. Possibility to ease and speed up the licensing or re-licensing procedure (especially in the –frequent- case of competing re-licensing demands).

# Why should I certify?

## 1. Price increase: the Swiss example (market in very favourable conditions)

Average Swiss electricity price 2007: ~EUR 0.092/kWh

Price difference:

naturemade basic:

~EUR 0.0125 /kWh

**naturemade star hydro:**

~EUR 0.028/kWh

naturemade star wind:

~EUR 0.125 /kWh

naturemade star solar:

~EUR 0.37 - 0.75/kWh

To what extent there is willingness to pay higher prices for labelled hydropower in European markets?

# Why should I certify?

## 2. Public incentives

- Green certificate released only (or more extended in time) to certified hydropower?
- Feed in tariff (guaranteed price) to certified hydropower?

Is it reasonable that complex, country specific and continuously changing incentive systems take into account a voluntary certification procedure?

# Why should I certify?

## 3. Easier and quicker re-licensing and competition among different proposals

- Licence expiration could be very far away in time.
- Requires a true free market of abstraction licenses (competition among different demands) and a public body able to verify the most sustainable.

Could it work, given the incomplete level of energy market liberalization in many European countries?



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# How the label should work?

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# Developing the methodology

Even where (national) conditions for certification are fulfilled, developing a sound and applicable methodology, agreed by main stakeholders and appealing for the market... is not an easy task.

# Developing the methodology

## Some of the problems to be solved

- How can volunteer labeling be integrated with basin scale planning?
- How to deal with cumulative effects of different plants along the same river/basin?
- Certification approach based on a quantitative estimate of the effects on fluvial ecosystems, or qualitative/expert based?
- How to consider Highly Modified Water Bodies?
- What simplified procedures are foreseeable for specific contexts or power generation plant types?
- ...



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# What will CH2OICE do

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Zveza društev MHE Slovenije  
Slovenian Small Hydropower Association



REGIONAL ENVIRONMENTAL CENTER  
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**Italy:** Ambiente Italia, Centro Italiano per la Riqualficazione Fluviale (CIRF), WWF Italia, Associazione Produttori Energia da Fonti Rinnovabili (APER), Studio Frosio

**Slovenia:** LIMNOS Company for applied ecology Ltd., Holding Slovenske Elektrarne d.o.o., Institute for the Promotion of Environmental Protection, Slovenian Small Hydropower Association, (SI.Water Institute)

**Belgium:** European Small Hydropower Association (ESHA)

**France:** Comité de Liaison Énergies Renouvelables (CLER)

**Spain:** Universidad Politécnica de Madrid

**Slovakia:** Regional Environmental Center for Central and Eastern Europe

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# General objective

CH<sub>2</sub>OICE aims at developing a technically and economically feasible certification procedure for hydro power generation facilities of high environmental standard, being explicitly coherent with the requirements of the Water Framework Directive, to be implemented in "green labeled" electricity products, and being integrated, as much as possible, with existing EU tools, such as Ecolabel, EMAS, Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).

# Major outputs and results

- General methodological approach for WFD-coherent certification agreed by project partners.
- National operational method for certification defined and tested in Italy and Slovenia, based on consultation of national experts and stakeholders.
- Guidelines for Decision Makers and hydro power generation company, for siting, construction and management of new “green hydro” plants.
- Analysis document for Spain including a roadmap for the development of volunteer certification of hydro power generation facilities of high environmental standard in Spain.
- Proposals and feasibility analysis on the integration of the label scheme in existing procedures, with focus on Italy and France.