

The FUTURE of SWISS HYDROPOWER

An INTEGRATED ASSESSMENT of OPERATION, INVESTMENT and SUSTAINABILITY

UNIVERSITÉ DE GENÈVE

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HTW Chur
Hochschule für Technik und Wirtschaft
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INSTITUTIONS INVOLVED IN THE PROJECT

Energy Turnaround
National Research Programme NRP 70

UNI BASEL

SCCER S SoE
SWISS COMPETENCE CENTER for ENERGY RESEARCH
SUPPLY of ELECTRICITY

SCCER CREST

OBJECTIVES

The overall project cluster aims to provide a comprehensive economic framework for the evaluation of hydropower (HP), allowing an assessment of operation, investments and sustainability on a regional and corporate perspective

TIMEFRAME

Q1 2015 // Screening of drivers and uncertainties
Q1 2015-Q2 2016 // Development of generic framework
Q3 2016 // Verification with stakeholders
Q4 2016-Q4 2017 // Case studies - Framework application
Q4 2017-Q2 2018 // Consolidation and final report

UMBRELLA PROJECT // HP FUTURE

Leadership: Hannes Weigt

The Future of Swiss Hydropower: An Integrated Economic Assessment of Opportunities, Threats and Solutions

CASE STUDIES

Lago Bianco, Valposchiavo (GR)
Leventina and Verzasca (TI)
Alpiq HP Plant (VS)

WORKPACKAGE 1 // HP OPERATION

Leader: René Schumann (HES-SO Valais)

Hydropower Operation and Economic Performance in a Changing Market

WORKPACKAGE 2 // HP INVESTMENT

Leader: Franco Romero (UNIGE)

Hydropower investments in the perspective of a new energy paradigm

WORKPACKAGE 3 // HP SUSTAINABILITY

Leader: Werner Hediger (HTW Chur)

Regional Impact Analysis and Sustainability Assessment of Hydropower

OBJECTIVES OF THE WP3 RESEARCH

Regional impact analyses and sustainability assessments (SA) of selected hydropower projects (case studies) and development of a SA prototype for HP evaluation in a regional and business context.

THEORETICAL AND METHODOLOGICAL APPROACH

The present research will be based on the theoretical concept of *sensible sustainability* and its application to sustainability assessment.

Methodologically, this will be based on the approach of the Federal Office for Spatial Development (ARE), which will be adapted to the evaluation of HP Operation and Investment from a regional perspective, and translated to the corporate level.

RESEARCH STEPS

Stage I // Relevance analysis - Information regarding the state of the art and the case studies, and contact with stakeholders
Stage II // Regional impact analysis and assessment - Investigation regarding the relations between HP projects and operation and a set of sustainability criteria
Stage III // Stakeholder dialogue - Regional actor network analysis, workshops and communication
Stage IV // Translation of regional assessment results to the corporate level
Stage V // Synthesis of outcomes

CONTRIBUTION OF WP3 TO THE CLUSTER

I // Sustainability assessment of the case studies
II // Providing an accompanying stakeholders process, ensuring a close link with the scientific analysis

TIMEFRAME

Q1- Q2 2015 // Project Setup
Q3 2015- Q4 2016 // Single Site Evaluation
Q3 2016- Q3 2017 // Validated Framework
Q4 2016- Q4 2017 // Multi Site Evaluation
Q4 2017- Q1 2018 // Final Report