



# International Course programme 2017

Considering the challenges faced today by agencies and professionals around the globe dealing with water resources, climate change and the great need of energy, ICH is offering these training possibilities in 2017 in order to contribute to the sustainable development of hydropower resources.

Our courses are built around the overarching concepts related to planning, construction and operation of hydropower facilities as part of a mixed energy system as well as multipurpose projects. The courses deal with questions related to current international trends with regards to the restructuring of the power sector focusing on economic/financial questions, climate change and environmental and social issues.

All lecturers and resource persons are well-known specialists within their field, and they have extensive international experience.



**Enhancing Sustainability in Hydropower Development**



# Managing Hydropower Development

Recent indications have pointed to an increased need for improved skills related to the administration of energy projects. Frequently a lack of competence, inefficiency, unnecessary bureaucracy, as well as lack of a modern administrative structure has proven to be a hindrance in the implementation of new projects.

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*Trondheim, Norway, 13–17 March 2017*

*Application deadline: 25 January 2017*

*Course fee: NOK 17 000*

## Course objectives

- To enhance the participants skills and capacities needed to achieve improved performance through good management.
- To provide relevant training and transfer of experience from countries and projects that have successfully implemented projects.
- To achieve an understanding of the importance of an efficient decision making process.

## Main topics

- Public Administration (permits, licenses, concessions, requirements for the implementation of energy projects)
- Project Management for power plant construction (Adaptive Management)
- Operation and Maintenance (generation, transmission and distribution)

## Target group

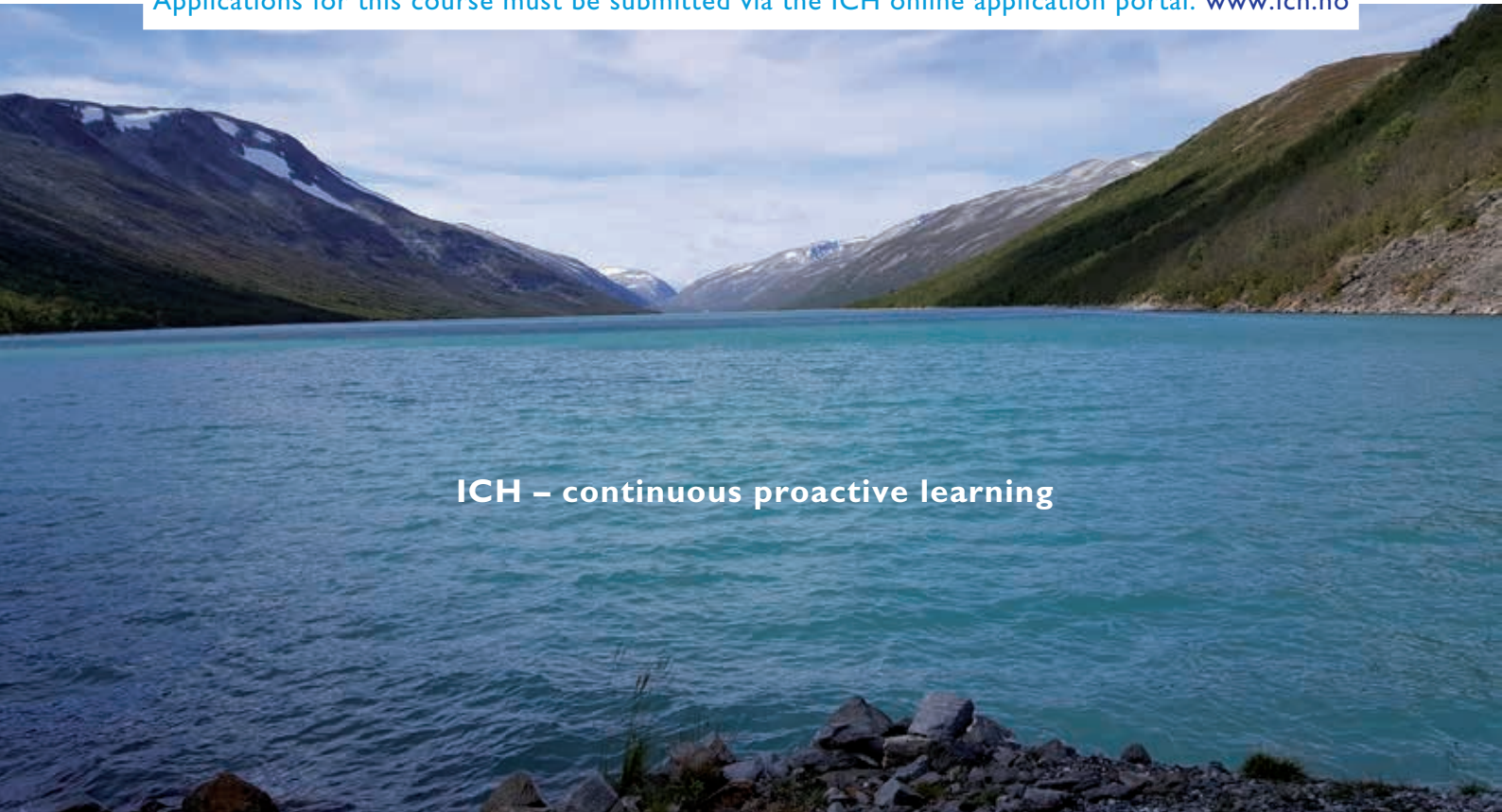
The course is aimed at senior professionals dealing with management issues in hydropower and energy projects in general. Executives of power companies, ministries, water resource and energy agencies and management in public and private sector will benefit from this course.

This training will be relevant and useful for senior officers from the public administration as well as from power companies.

## Course dates

Participants are expected to arrive in Trondheim on Sunday, 12 March, and leave Trondheim on Saturday 18 March 2017. Information on travel, detailed course programme and other relevant information will be sent to all selected participants in due course.

Applications for this course must be submitted via the ICH online application portal. [www.ich.no](http://www.ich.no)



ICH – continuous proactive learning

# The process of Social Impact Assessment

*Trondheim, Norway, 24-28 April 2017*  
*Application deadline: 28 February 2017*  
*Registration fee: NOK 17 000*

## Course objectives

The course will introduce the participants to procedures that should be followed in order to comply with today's requirements for a sound social impact assessment process, including strategic priorities and national guidelines, and to provide tools for planning hydropower and other water-related projects in the best possible way on a national, regional and local level.

## Course contents

- Background and development of SIA
- Impact assessment methodologies
- Baseline data and mitigation measures
- Stakeholder consultation process
- Resettlement
- Livelihood development
- Health issues
- The role of NGO's and monitoring
- Environmental and technical issues
- Indigenous peoples and vulnerable groups
- Institutional strengthening and capacity building
- Financial and budget issues
- Corporate social responsibility

## Target group

The course is aimed at power companies, ministries, authorities, NGO's, relevant private enterprises and others working with development of water resources requiring structured knowledge of the SIA process. Executives of power companies, ministries, water resource and energy agencies and relevant private sector enterprises with management responsibility or influence on project planning will benefit from this course. The course will also be of value to engineers working in water resources planning and multipurpose projects.

## Course dates

Participants are expected to arrive in Trondheim on Sunday, 23 April, and leave Trondheim no earlier than Saturday 29 April 2017. Information on travel, detailed course programme and other relevant information will be sent to all selected participants in due course.



Applications for this course must be submitted via the ICH online application portal. [www.ich.no](http://www.ich.no)



# Small Hydro Resources

Enhancing Sustainability in Small Hydropower Developments

*Trondheim, Norway, 29 May – 2 June 2017*

*Application deadline: 17 March 2017*

*Course fee: NOK 17 000*

## Course objectives

The course will introduce the participants to the essential issues in the pre-feasibility phase of a potential project in order to assess the environmental and economic sustainability of the project. In addition to the importance of the natural conditions, the course will comprise different solutions within civil, mechanical and electrical engineering.

## Main topics

- The development process
- Organization and risk assessment
- Assessment of site potential
- Calculation of production and installed capacity
- Environmental and social assessment
- Preliminary design
- Driving forces for costs
- Economic analysis of alternatives
- Cost estimates and financial models
- Mechanical and electrical equipment, power house
- PPAs, grid connection

The course will be concluded with a 1½ day excursion where the participants will be shown hydro projects in different stages of construction.

## Target group

The course is aimed at planners and engineers from power companies and public agencies involved in power supply and rural electrification.

## Course dates

Participants are expected to arrive in Trondheim on Sunday, 28 May, the day prior to course start, and leave Trondheim on Saturday 3 June 2017. Information on travel, detailed course programme and other relevant information will be sent to all selected participants in due course.

Applications for this course must be submitted via the ICH online application portal. [www.ich.no](http://www.ich.no)



# Hydropower Development and Management

Management of Environmental, Social and Technical Aspects of Hydropower Development

*Trondheim, Norway 21 August – 7 September 2017*

*Application deadline 26 May 2017*

*Registration fee: NOK 34 000*

## Course objectives

The objective of the course is to provide the participants with an updated knowledge of the fundamentals of hydropower resources development and management in the setting related to Integrated Water Resources Management (IWRM). By focusing on both theoretical and practical issues, the participants should be able to contribute more effectively in the development and management of the water and energy resources in their own countries.

## Main topics

- Energy needs; planning requirements
- Design cost estimates
- Legal and institutional frameworks
- Economic and financial assessments of projects
- Environmental impact analysis
- Financing of hydropower developments
- Operation and management
- Hydropower in mixed energy supply systems
- Project management
- Planning methods
- Multipurpose projects
- Corporate social responsibility

## Target group

The course is aimed at middle management personnel from power companies, ministries and public agencies. Executives of power companies, ministries, water resource- and energy agencies and relevant private sector enterprises with management responsibility will also benefit from this course.

## Course dates

Participants are expected to arrive in Trondheim on Sunday 20 August, and leave Oslo no earlier than Friday 8 September 2017. Information on travel, detailed course programme and other relevant information will be sent to all selected participants in due course.

Applications for this course must be submitted via the ICH online application portal. [www.ich.no](http://www.ich.no)



Gaining  
Through  
Training

# Hydropower Financing and Project Economy

Meeting the Challenges of Financing Hydropower Projects

*Trondheim, Norway, 16–20 October 2017*

*Application deadline 21 August 2017*

*Registration fee: NOK 17 000*

## Course objectives

The course will provide participants with insight into a variety of financing models for hydropower projects looking at both private and public requirements and solutions. Participants will be introduced to concepts necessary in the assessment of the economic viability of hydropower projects, with emphasis on the challenges of a liberalized energy sector.

- Implications of hydropower development from deregulation and privatization
- Sustainable use of natural resources and its implications on project economy
- Implications on project development from EIA/SIA processes
- Design cost estimates and cost benefit analysis
- Economic risk- and sensitivity analyses

## Course content

The course focuses on project financing and the role of energy in a country's economy as well as legal and institutional framework. The planning process of a project, with emphasis on the economic and financial considerations and assessments will be elaborated. Environmental and social considerations and risk analyses will be introduced.

## Target group

The course is aimed at management personnel and executives with responsibilities in the planning and decision making processes of hydropower projects on a national/regional or company level. A technical/engineering and/or economic background is relevant. Executives of power companies, ministries, water resource and energy agencies and relevant private sector enterprises with management responsibility or influence on project planning will benefit from this course.

## Main topics

- Importance of water in the national economy
- Trends in hydropower development in view of liberalized markets
- The planning process – making projects attractive to investors
- Economic and financial assessments
- Legal issues
- Corporate social responsibility
- Financing of hydropower projects – various models

## Course dates

Participants are expected to arrive in Trondheim on Sunday, 15 October, and leave Trondheim no earlier than Sunday 22 October 2017. Information on travel, detailed course programme and other relevant information will be sent to all selected participants in due course.

Applications for this course must be submitted via the ICH online application portal. [www.ich.no](http://www.ich.no)



Learning from each other  
building up a better world

# Specifics for the courses

## General

All lecturers and resource persons are well-known specialists within their field, and they have extensive international experience.

Attending the courses is an opportunity to discuss and learn about current issues related to hydropower together with professionals from Africa, Asia, Latin America and Europe.

Participants are encouraged to bring along information that can be shared about pending energy and hydro-power issues of your interest.

## Admission requirements

- Applicants should hold a B.Sc. degree in hydropower engineering or have an equivalent relevant background.
- A minimum of about 5 years of working experience is required.
- Proficiency in English is necessary.

## Important notice!

***Only applications ON LINE will be accepted,***

You can access the official ICH Application from [www.ich.no](http://www.ich.no). Please follow the graphic icon. Application Form for Courses and select the course of your interest.

***Women are encouraged to apply.***

Information on travel, detailed course programme and other relevant information will be sent to all participants in due course.

## Course fee

The course fee includes lectures, materials, accommodation, meals, a social programme and fieldtrips if applicable. International travel expenses are not included. There is a reduced fee for ICH members organisations.

A limited number of sponsored seats are available for participants from developing countries prioritised by Norad (Norwegian Agency for Development Cooperation).

## More information

Information on each course can also be found on Internet: [www.ich.no](http://www.ich.no) or by contacting ICH, [laura@ich.no](mailto:laura@ich.no)

*Women are encouraged to apply.*



**ICH – promoting sustainability**



The purpose of ICH is to raise the standards of competence of the industry personnel and promote the sustainable development of hydropower.

The International Centre for Hydropower (ICH) is a non-profit organization based on institutional membership among organizations with an involvement in hydropower.

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