CLEAN ENERGY AND WATER INSTITUTE

entura

SMALL HYDROPOWER DEVELOPMENT

Small scale hydro projects can offer a more immediate opportunity to support rural electrification expansion, as well as contributing to energy and capacity support of the grid. There are also opportunities to development small-hydropower generation on existing water infrastructure, creating added value from such dam and water articulation assets.

This course explores the full project development cycle from site identification to operations and provides participants with an understanding of the key development risks and issues specific to small hydropower development.

The course material is derived from Entura's experience with the design and installation of a large proportion of the small hydropower schemes in

Australasia, as well as projects in southeast Asia and southern Africa.

After completing the course, participants will have a strong understanding of small hydropower development issues from site selection to operation, enabling them to undertake important roles associated with project development oversight, investment analysis and due diligence.

COURSE CONTENT

INTRODUCTION TO HYDROPOWER

- Understanding hydropower – getting power from water
- Water to wire – elements of a hydropower scheme
- Project life-cycle – an introduction

RISK ASSESSMENT PROCESS

- Understanding importance of risk and certainty
- Overview of key risks:
  - resource (hydrology – flow/head, data quality)
  - engineering (geology, topography, construction)
  - environmental and social safeguards
  - project economics

COMMERCIAL ISSUES

- Tender procurement models
- Project development models and issues
- How to balance efficiency, cost effectiveness, and constructability

OPERATIONAL ISSUES

- O&M planning
- Environmental compliance

PARTICIPANT PROFILE

- Junior engineers
- Developers and managers exploring the potential of small hydropower development and operation

LEARNING OBJECTIVES

To provide participants with an understanding of the technical elements and the risks and issues specific to small scale hydropower development.

LEARNING METHODS

- Lectures
- Case studies
- Site visits
- Discussions/assignments

COURSE PROVIDERS

Entura's lecturers include:

- Accredited training professionals
- Technical specialists and professionals with extensive experience and qualifications in the hydropower industry

CUSTOMISATION

This course can be customised to suit particular regional or organisational emphasis or to match existing capability or skill level of participants.

COURSE DURATION
3-4 DAYS

LOCATION:
Tasmania, Australia
(includes site visits)
Client site as negotiated

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