



Contact

Sustainable Hydropower Website
C/- Hydro Tasmania
4 Elizabeth St
Hobart TAS 7000
AUSTRALIA

sustainable.hydropower@hydro.com.au

Multiple use benefits

Hydropower schemes can deliver multiple use benefits over and above electricity generation such as irrigation, flood mitigation, water supply and recreation; these benefits need to be realistically assessed and planned in a holistic fashion.

Issue

Hydropower projects can provide for many other societal needs as well as the generation of electricity and needs and opportunities should be identified as part of an initial assessment. The challenges are to maximise the delivery of additional benefits, and undertake assessment, planning and implementation of multi-purpose schemes in a holistic and integrated fashion.

Management

Hydropower projects generally provide a variety of value added uses and benefits, particularly those that involve reservoir storage. These multiple use benefits differentiate hydro generation from other forms of power generation, and are amongst the criteria to be considered when evaluating the social, economic and environmental sustainability of an electricity generation project.

For example, with hydropower, affected communities can benefit from the availability of drinking water supply and sanitation, water for business and industry, water for sustainable food production (both in-reservoir and via irrigation), flood mitigation, water-based transport, and recreation and tourist opportunities. These benefits generate economic activity over and above that of electricity generation, but can also incur some costs, and these need to be taken into account in project planning as well as in on-going management. An example of additional cost might be an operating requirement to maintain water levels in reservoirs for fishing. This may reduce electricity sales.

Optimal delivery of intended multi-purpose benefits occurs where a hydropower scheme is developed as part of a regional strategy; where costs and benefits are thoroughly assessed; and where social and environmental assessments are undertaken, implemented and monitored.

Hydropower schemes also have a capacity to provide additional economic benefits as a result of the synergy between hydropower and other intermittent renewable energy

resources such as wind and solar power. Further added benefits are ancillary services such as spinning reserve, voltage support and black start capability. Perhaps one of the greatest benefits of hydropower projects is the avoidance of greenhouse emissions and particulate pollution associated with some thermal energy options. These externalities may be difficult to price but deserve recognition in the wider economic context of project assessment.