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Distribution & sharing of benefits

Glomma & Laagen Rivers, Norway

Overview

The Glomma and Laagen Water Management Authority came into being in 1918. It operates to supply 21 hydropower and industry companies.

The Glomma and Laagen river basin covers 42 000 km². Hydropower schemes in this system provide power to 1.3 million people living in the basin, and jobs for 2350.

Scheme Specifications

Dam Name

Scheme operator

The Glomma and Laagen Water Management Association

Size of scheme (MW)

2165 MW (51 power stations with an average capacity of 42 MW)

Country

Norway

Catchment area

42 000 km²

River

Glomma in the Osterderdalen Valley and the Laagen in the Gudbrandsdalen

Effective reservoir capacity

3 500 million m³

Construction years

1945 - 1970

Reservoir size

N/A

Details on sustainability aspect

Distribution and sharing of benefits

Hydropower has been a key driver of economic development in Norway for most of the 20th Century. The distribution of income from hydropower development is recognised in Norwegian laws dating back to 1917.

The direct benefits from hydropower in the Glomma and Laagen basin have been through the provision of jobs during construction, and permanent employment for 2350 people operating power stations and maintaining associated infrastructure including reservoirs.

Other direct benefits include revenues to Municipal Authorities in the form of taxes, licence fees and from owner incomes in the form of dividends. The taxes paid by the publicly owned power companies are significant, and public revenues amounted to US\$71 million in 1998 with 80% of this money returned to the region. Energy revenues amount to 1.9% of total incomes to the municipal sector.

Non-costed benefits include infrastructure supply in the form of roads, and telecommunications and use of materials for other construction purposes.

Other Aspects

Longevity of benefits

Many impoundments in the river basin have been based on the use of existing lakes, and upgrades to turbines have increased generating capacity over time.

Reservoirs in the basin have also provided a strong measure of flood control with evidence from 1995 indicating a reduction in flood peak of some 20%. This resulted in a significant reduction in economic damage conservatively estimated at about US\$46 million.

Low cost rural electrification and assistance to tourism have been additional benefits of the hydropower development.

Passage of aquatic species

There has been a cooperative effort between power companies and stakeholders operating in the basin to address environmental and resource management issues particularly with regard to fishing interests. The management of fish stocks has been a feature of these developments. This has involved both establishing fish hatcheries, as well as construction of fish ladders to maintain populations, although not all of these have been effective.

Further Information

WCD Case Study *The Glomma and Laagen River Basin Norway*, Final Report November 2000.

<http://www.dams.org/docs/kbase/studies/csnomain.pdf>