



## Contact

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

[sustainable.hydropower@hydro.com.au](mailto:sustainable.hydropower@hydro.com.au)

# Cost-benefits & economic performance

## Chilime, Nepal

### Overview

In the past large hydropower schemes in Nepal have been reliant on overseas expertise and financing. The cost of electricity generated from such schemes was often too expensive for local communities. Debt servicing costs also put a strain on the Nepali economy as the domestic currency, the Rupee, has been depreciating. This scheme was a landmark project in that it was scoped and developed using local expertise and was funded entirely from within Nepal. The skills developed are now being applied to several other projects – the largest being the 250 MW Upper Tama Kosi project.

### Scheme Specifications

#### Dam Name

#### Scheme operator

Chilime Hydropower Company and  
Nepal Energy Authority

#### Size of scheme (MW)

22.1 MW

#### Country

Nepal

#### Catchment area

N/A

#### River

Chilimekhola - tributary of the Trisuli  
River

#### Effective reservoir capacity

Run of river scheme

#### Construction years

1995 - 2003

#### Reservoir size

Run of river scheme

### Details on sustainability aspect

The Chilime hydropower scheme was designed and built by Nepali engineers and financed 51% by the Nepal Energy Authority, 24% by the pension fund of the NEA employees and 25% from offering public shares. The scheme, being locally designed,

owned and built, has retained money in the local economy, and has been built for less than half the cost of overseas aid funded projects.

The scheme generates 137 million units of electricity annually at a cost of 2.19 Rupee. The power is sold at 3 Rupee with an 8% annual increase factored in for 5 years. It is anticipated that the scheme will have recovered all costs within 5 years. The total cost of the project was in the vicinity of 2.3 million rupees while the annual income is between 520 and 540 million rupees with investors expected to receive a dividend of around 10% in the first year.

The innovative finance arrangements have avoided the need for off-shore debt financing and exposure to currency risk. By using local technicians, local capacity to build hydropower schemes has been strengthened and can now be utilised for other hydropower developments.

## **Other Aspects**

### Distribution and sharing of benefits

NEA adopted a fixed buy back rate for power purchased from plant run by private companies with up to 50 MW installed capacity. This has provided incentive to local entrepreneurs to invest in schemes, including Chilime.

The Chilime scheme generates royalties for the local communities and donations are made to local school and health services.

### Siting and design

Due to scarcity of level arable land in Nepal, the local people were reluctant to allow siting of the powerhouse in the proposed position and, in response to their concerns, it was subsequently built underground.

The scheme appears to have been well sited with few obvious major environmental or social impacts. There are apparently no fish in the river. Much of the infrastructure and inundation area was sited on government owned land and only one family required relocation.

### Community engagement and acceptance

There were good relations established with the local community, who were encouraged to participate in the decision-making process, and the management has been praised for their transparency and integrity.

When it became increasingly obvious that the project construction team was not working cohesively with the local community to the point where it was detrimental to the project, the Managing Director intervened and replaced the project team with one that was more sensitive to the needs of the local people.

## **Further Information**

[http://www.hydropower.org/CountryReports/Nepal/9\\_2.Nepal\\_4.htm](http://www.hydropower.org/CountryReports/Nepal/9_2.Nepal_4.htm)

[http://www.nepalnews.com.np/ntimes/issue166/resources\\_1.htm](http://www.nepalnews.com.np/ntimes/issue166/resources_1.htm)