

## Case Study – Lydney Micro Hydro for Mid Counties Coop



### The Need

The Mid Counties Coop was considering reducing its carbon footprint of its Lydney store by generating 12-15% of its energy for the store from the adjacent river Lyd. The canalised section of the river running past the store has very little ecological habitat and is isolated from the river downstream by a weir at its lower end thus restricting movement by migratory fish.

### The Solution

The proposal was to utilise peak flows in the river diverting them around the man-made section of the river and through an underground hydroelectric turbine and then back into river below the weir. The proposals would generate up to 60,000kWhrs of energy each year and help create significant habitat improvements. Furthermore the scheme was shown to provide significant flood risk reduction for the town of Lydney which is increasingly at risk from flooding due to climate change

The scheme design utilises an Ossberger crossflow turbine with a very high efficiency suitable for this low head relatively high flow site.

### The Results and Benefits

The scheme received full planning consent in 2012 and is currently under review before progressing further, the anticipated payback on capital construction is 8-12 years.

### Key Facts:

- 15kW Hydroelectric Scheme
- Flood Risk Reduction
- Habitat Creation
- Improve Migratory passage of fish and mammals
- Climate Change Resilience to risk from increased rainfall intensity