

# A Community Hydro opportunity in the heart of the Derwent Valley Mills world heritage site

Ambergate Hydro

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26<sup>th</sup> February 2019





Hydro Resource Assessment  
carried out in April 2012.  
Funded by DECC.

#### Possible Opportunities

Cromford Mill  
Ambergate  
Milford  
Peckwash Mill  
Darley Abbey  
Kedleston Hall

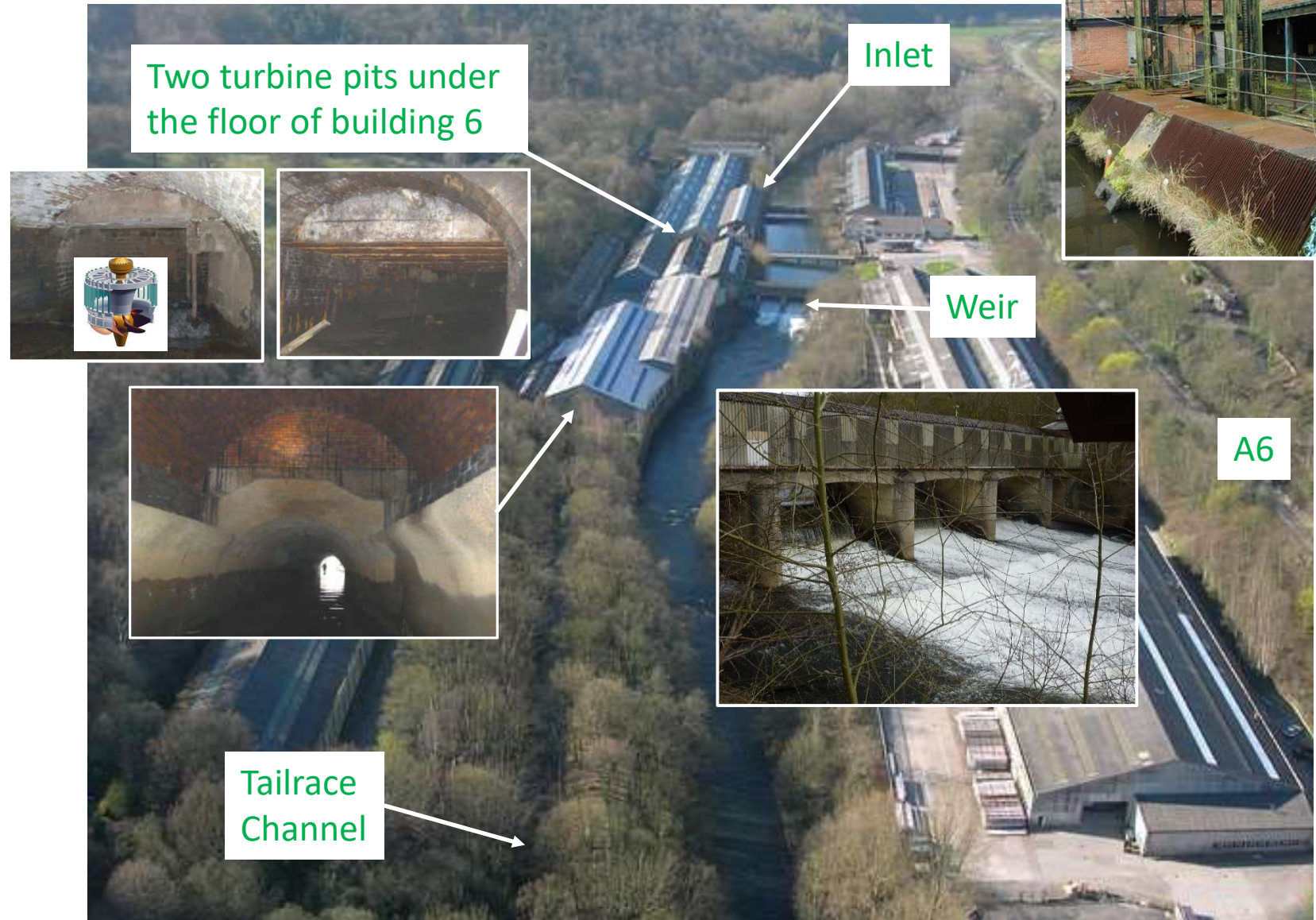
Additional, at least  
340 kW Peak  
1,700 MWh/yr  
500 Homes



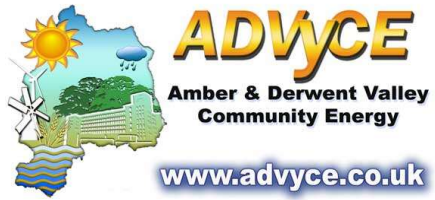


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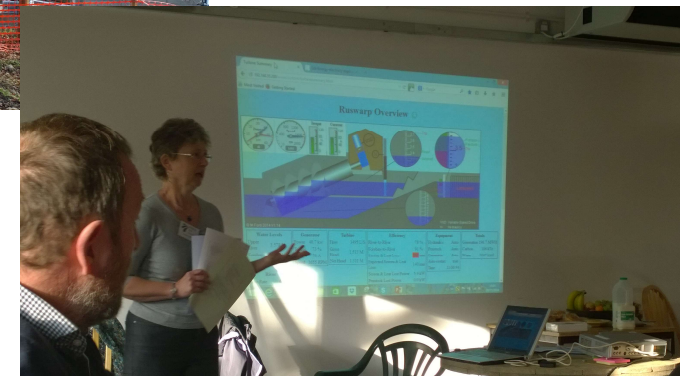
## The opportunity



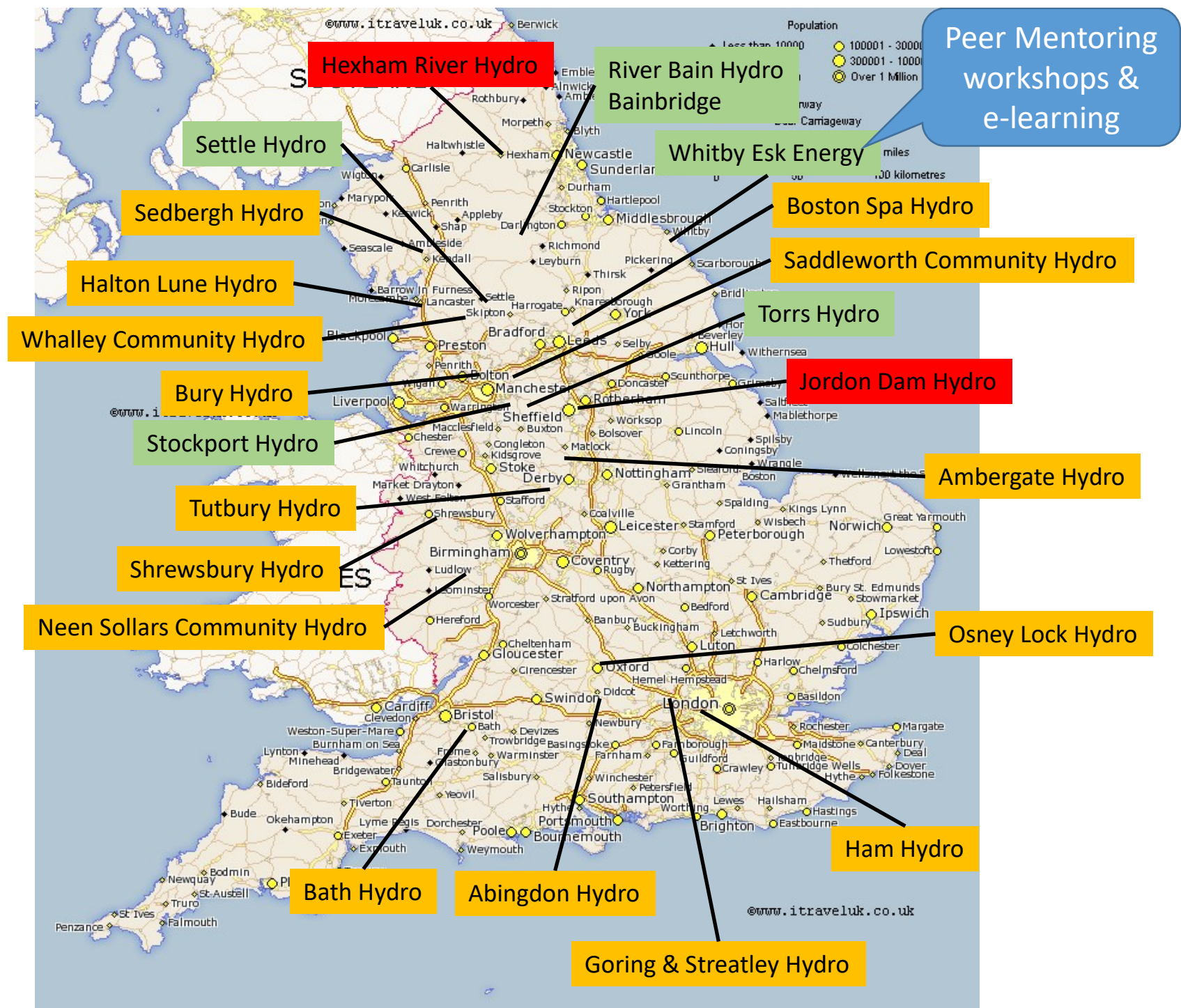




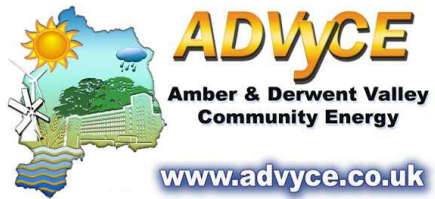
When we started looking at Hydro Power on the River Derwent and the relatively new concept in the UK of Community Energy in 2011 we quickly learnt about the potential challenges from other groups such as Sheffield Renewables, Torrs Hydro, Settle Hydro, Whitby Esk Hydro and Halton Lune, plus individuals such as Kate Gilmartin and Emma Bridge who have worked so hard to make Community Energy happen in England.











**Transition Belper's first Social Enterprise**

**Ambergate Hydro**

Want to get involved in the first Community owned Hydro Power plant on the River Derwent?

Get in Touch  
info@advce.co.uk

In the area that first harnessed water power on a scale that gave us the industrial revolution we wish once again to create energy from water to kick-start a renewable energy revolution in the Derwent Valley Mills World Heritage site and surrounding areas.

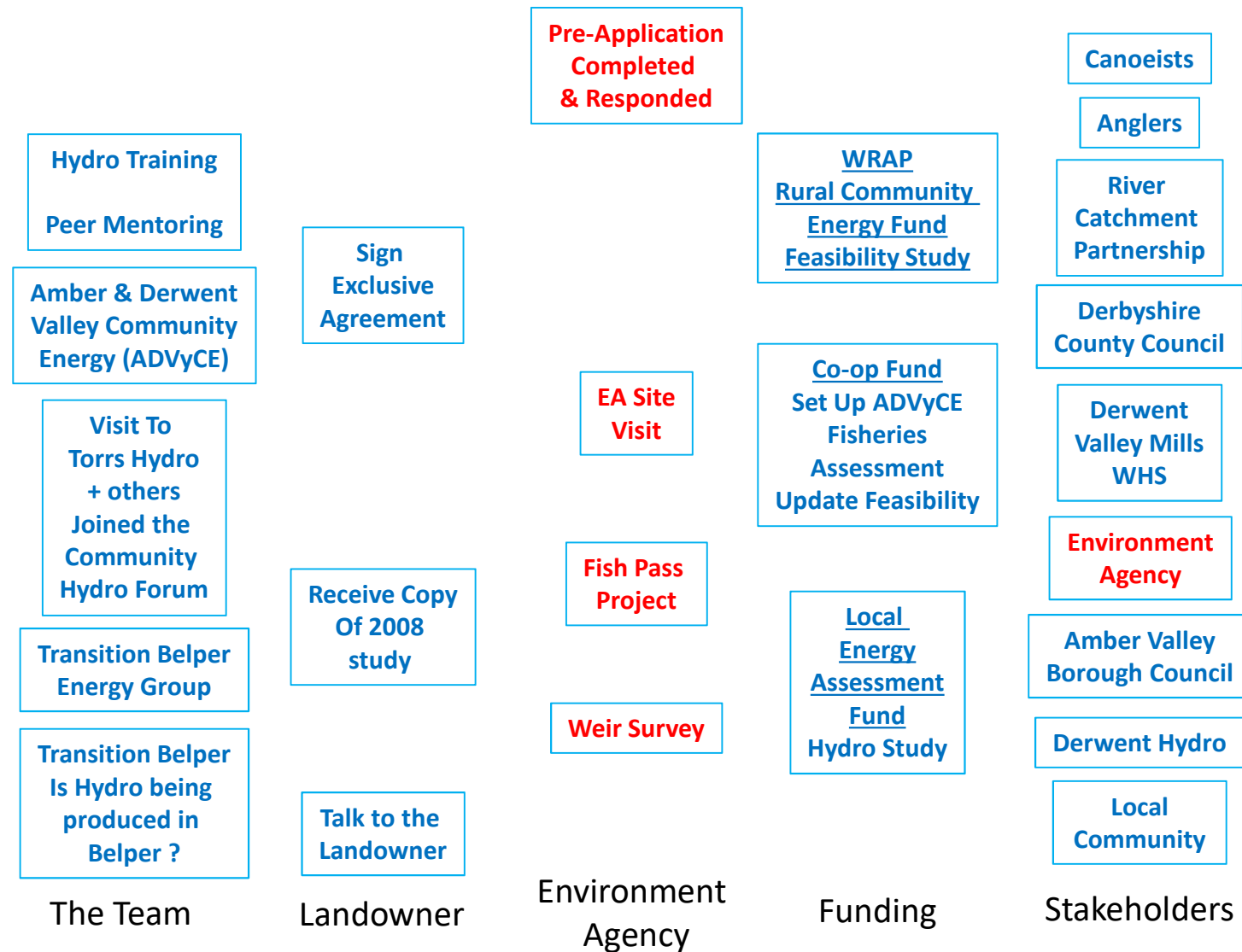
Member of: CO-OPERATIVES UK

Supported by:



# Ambergate Hydro

## The Story So Far



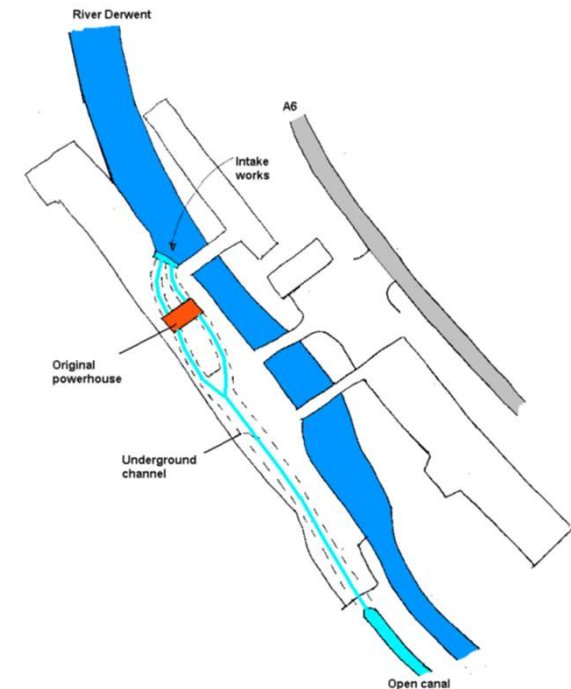
Hydro Installed & Generating Predicted Amount of Electricity

Increasing the Likelihood of generating Hydro Power  
Reducing the Risk

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## Is the project feasible?

- Key Steps
  - 2010/2011 Transition Belper, looking for Hydro Power opportunities, met DHPL.
  - The Landowner – Litchfield Group
  - The Environment Agency
  - Setting up ADVCE and selecting the best option, as of Feb .2015
    - New screen, meeting EA guidance.
    - 1 x 100 kW Kaplan turbine, in existing tunnel and pit
    - Trash removal using second tunnel
    - Using 3.4m<sup>3</sup>/sec only, aiming for EA HOF & default allowance
  - 2015 Feb. Feasibility Study
    - The scheme would generate 625,000 kWh annually with a revenue of £133,125 – based on the 21.3p/kW Feed in Tariff rate.
  - 2015 (May to Nov.) – Change in Community Energy & Hydro support
    - Initial cancellation of Pre-Accreditation (one of 14 challenges to CE Hydro)
    - The most significant impact was the Feed in Tariff reduction of 16.81p/kWh down to 8.54 p/kWh



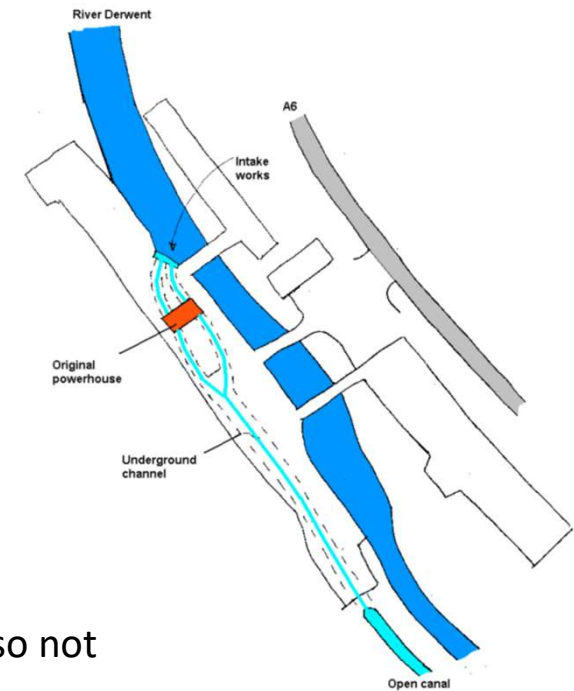


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## One last look!

- During 2017 we were asked by supporters and local authorities;
  - What fund or grant could make the project happen?
  - If all the electricity could be sold on site would it be viable feasible?
  - What happens after FiT's?
- In November 2017 the government confirmed no FiT replacement until at least 2025.
- We have therefore carried out a fresh evaluation of the project.
  1. Feasibility Criteria, not just Financial, Environmental and Social, also not the same as a private developer (6 or 7 year payback).
  2. Build our own Financial model, understand the risks.
  3. Carry out what ifs;
    1. With or without FiT's
    2. With a grant (lump sum)
    3. With PPA's – sleeve or private wire

The project will not happen without FiT's  
A £400k grant would be required  
PPA's improve the financial return, a little.



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## The final straw

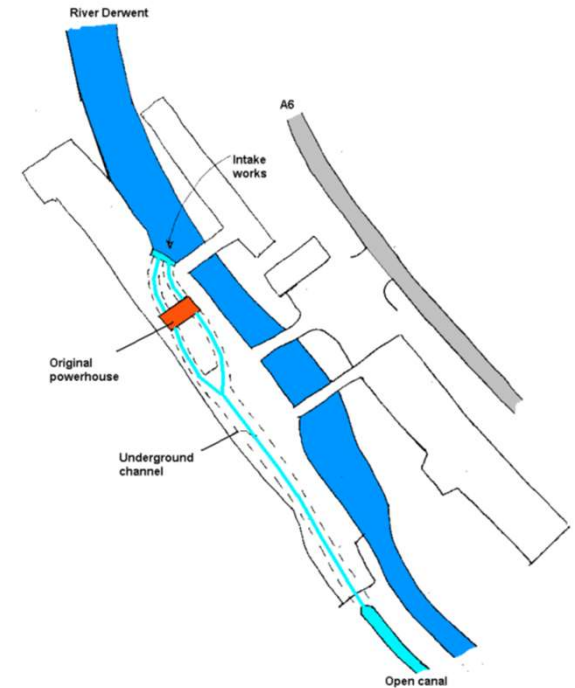
In 2018 the Environment Agency insisted on a new Pre-Application for an Abstraction licence.

Unwilling to visit site or enter into discussion

Ignored the previous agreement and applied new conditions killing the project immediately;

Including;

- Requirement of a Fish Pass, design to be approved by EA, at our cost  
*based on anecdotal evidence that a salmon had been seen in the river.*
- Finer screening, impacting flow and efficiency of the plant.
- Surveys that could only be completed after the FiT deadline.



### BHA Small-scale hydropower in the UK statement 1<sup>st</sup> November 2018

- If support does not continue for the industry further UK hydropower deployment beyond April 2019 will cease.
- There will be no new projects, companies will fold, UK expertise will be lost. It really is as bad as that.
- All of this impact on job losses, the crippling of an industry and the increased CO2 emissions is for the sake of a future saving of 1£ per household, annually required to continue support for the hydropower element of the FiTs. How can that possibly be described as an “undue burden on consumer bills”? (6)



# Community Hydro - Future

## HM Prime Ministers Office – Lack of Leadership and Joined up Thinking !

Currently Climate Change is not on the agenda and all progress and achievements being made are based on good work started or carried out prior to May 2015 despite the current government, not because of its support. We need a significant shift in prioritisation, urgency and a requirement for Climate Change to be challenged across all departments across the government.

### HM DEFRA (Environment Agency)

DEFRA must take responsibility for the actions of the Environment Agency (formerly the National Rivers Authority) and the impact they are having on Climate Change mitigation, through the barriers they continue to raise to prevent Hydro Power development. They need to change their focus on;

- The Water Framework Directive
  - Abstraction Licence
  - Weir (Hydro potential) removal
- Climate Change Adaption – NOT MITIGATION

### HM Treasury

Unfortunately, with a change in Government in May 2015 there was an immediate change in Government policy on both Community Energy groups and Renewable Energy, leading to 6 months of continuous consultations and 14 changes, largely driven by HM Treasury and all negative, to Community Energy project developers.

We have not heard mention of Climate Change in a budget for a number of years so it is clearly not a priority.

Move Fossil Fuel subsidy and support to Renewable Energy and encourage Community Ownership

### HM DECC BEIS

Working with groups like Community Energy England and industries such as the British Hydro Association BEIS need to review their approach to Community Energy (revisit the Community Energy Strategy) and to renewables across the board.

BEIS also need to work with other departments and insist that Climate Change is factored into decision making at all levels. It cannot be acceptable that anyone wanting to install a Hydro Power scheme on a British River must design and pay for a Fish and Eel pass to enable the Environment Agency to meet the Water Framework Directive whilst the Environment Agency can remove existing former water power weirs and infrastructure, or build fish passes, without assessing the Climate Change impact or Hydro Power lost potential.

### HM Housing, Communities and Local Government

Quite late on in the project we have also come across a significant threat and risk to the project, business rates. We are no longer allowed to approach Valuation Officers until the scheme is completed for an assessment or estimate of the costs.

On the basis that the Valuation Office would be using a theoretical revenue value based on the Feed in Tariff value in 2015 (more than double the current tariff) we could complete the project and then find all of the profit raised for Community Benefit projects could have to be paid in Business Rates.



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