

FAQ

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Sandford Hydro Lock has returned the Lasher Weir on the Thames to its historic role as a provider of clean energy. The hydro uses three Archimedes screws to generate electricity from the flow of the river.

HOW MUCH ELECTRICITY WILL SANDFORD HYDRO GENERATE?

On average, the hydro is expected to generate 1,600MWh (or 1.6GWh) of renewable, clean electricity per year, which is the equivalent demand for about 500 households or most of Sandford. Our model for Sandford Hydro does take into account that we expect little or no generation over the summer months. Generation will also vary from year to year over the lifespan of the project.

WHERE DOES THE ELECTRICITY GO?

The electricity produced by the hydro is exported into the national grid.

HOW MUCH DID IT COST?

The hydro, including the fish pass, cost £3.8m to build.

WHO PAID FOR IT?

The hydro was funded from a mixture of individual investors through a community share offer, some loans and some grants including from Oxford City Council, Oxfordshire County Council, Ashden, and Naturesave.

The fish pass was also part-funded by a grant from the Low Carbon Hub Community Benefit fund.

WHERE DOES THE INCOME FROM THE SALE OF ELECTRICITY GO?

The funds from the electricity generated will give a financial return to the people who have invested in the hydro through the community share offer. One hundred per cent of the profits will fund further community energy initiatives through the Low Carbon Hub's community benefit programme.

THE RIVER IS REALLY HIGH, WHY AREN'T ALL THE SCREWS TURNING?

The hydro is powered by the amount of water flowing through the screws and not directly related to the river level. We can have low river level with a lot of water flowing through and, high river level with very little water flowing through. The Environment Agency controls the river level by allowing more or less water to go through the weir gates and they also control how much water goes through the screws.

WHAT HAPPENS IF THE RIVER IS REALLY LOW?

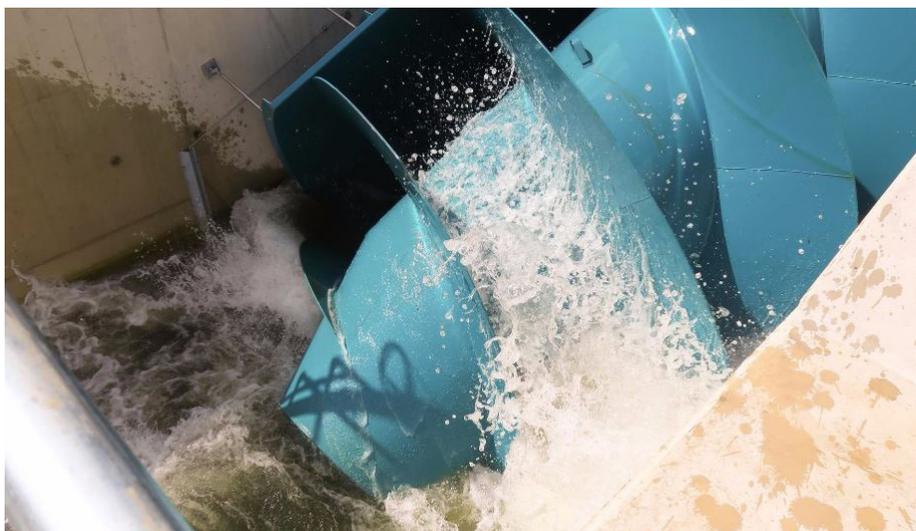
Usually the river level upstream from the weir and lock is kept low if there is a lot of water flowing through. In that scenario the hydro could still operate, depending on how much of that flow the Environment Agency allows to go through the screws rather than just spill through the weir gates.

WILL SANDFORD HYDRO CAUSE ANY FLOODING?

The hydro operates like an automatic river level control system and it will always aim to keep the upstream river level within a range determined by the Environment Agency. It is a reliable system and we have performed several different tests to simulate all possible scenarios and the Environment Agency is happy that the hydro does what it is supposed to do.

WILL THERE BE LIVE GENERATION DATA TO ACCESS?

We don't currently have any publicly accessible live generation data. However, we are planning to make this accessible through the [People's Power Station](#) soon.



WILL WE BE ABLE TO TOUR THE SITE?

Yes. Once we are fully operational and have installed all of the appropriate health and safety systems we are planning to provide guided tours for investors, supporters and members of the local community. We will keep people informed of these opportunities via our website and email newsletter.

WHAT'S THE ENVIRONMENTAL IMPACT OF THE HYDRO?

As part of the planning process we undertook rigorous eco-system surveys to ensure that it has minimal impact on the local wildlife, such as trees, shrubs, birds and bats. The hydro is enhancing the local environment through the provision of the fish pass. It is also generating clean electricity and so helping the local community reduce its impact on the environment.

We are happy to share this environmental impact assessment report, please contact us for a copy.



WHAT'S THE FISH PASS?

The fish pass is a system specifically designed to allow all species of fish to migrate upstream beyond the Lasher Weir for the first time in over 400 years. It's the first of its kind in the country and includes concrete and naturalised sections, resting pools and spawning grounds. [Read more about the fish pass.](#)

WILL THE HYDRO HARM FISH?

No, the hydro has been designed to ensure that it won't harm any fish or other wildlife. We have installed a specially designed fish pass which allows fish to pass freely upstream. It also has resting pools and spawning grounds to further benefit fish. You can read more about the fish pass [here](#).

AS THE HYDRO WASN'T OPERATING STRAIGHT AWAY, WHAT'S THE IMPACT ON MY INVESTMENT?

Following commissioning we undertook numerous operational tests in conjunction with the Environment Agency. As a result the hydro wasn't operating fully.

We do not expect the delay in full operation to have a negative impact on members' financial returns – the financial model does not forecast interest payments to members in the first year of operation because of such risks at the start of operations. We expect the amount of generation to vary considerably from year to year. Our modelling shows that we can expect total generation to vary from 0.8 GWh/year to 2.5 GWh/year, with an expected mean of 1.6 GWh/year.

The revenue generated by the hydro depends on how much electricity it generates and in years of low generation there might not be enough cash to pay the full amount of interest due. We aim to manage the returns to shareholders in such a way that we achieve the overall financial return forecast over the lifetime of the investment.

Get in touch at info@lowcarbonhub.org if you have more questions about your investment.

WHO IS RESPONSIBLE FOR MONITORING THE GENERATION OF THE HYDRO?

The hydro has an automated system which will automatically start generating when the flow conditions are right. This is done by monitoring the river level within a set of parameters agreed with the Environment Agency.

Water is the fuel of the hydro, and so as long as there is water available to go through the screws it can generate clean electricity. The decision of allowing more or less water to go through the hydro depends entirely on the Environment Agency (EA) and its local staff at the lock and weir and Waterways management. That's why we are working very closely with the EA to ensure that we can capture as much of the river potential as possible and convert it to clean energy.

Staff at the Low Carbon Hub can also monitor and fully operate the hydro remotely from anywhere with an internet connection.

I'D LIKE TO HELP RUN SANDFORD HYDRO AS PART OF A LOCAL TEAM OF VOLUNTEERS. WHAT DO I NEED TO DO?

We are really keen for members of the local community, investors and supporters to volunteer to help run Sandford Hydro. There are a range of different tasks to help out with, such as:

- regular visual inspections and monitoring
- both planned and unplanned maintenance, including clearing trash screens
- guided tours and educational work.

We will of course offer training and make sure everything is done in a safe way.

If you are interested in helping out at your local clean power station please get in touch at info@lowcarbonhub.org to find out more.



WHERE CAN I GET MORE UPDATES?

We will keep [this project page](#) updated with the latest news and information on the Hydro.

You can also read the [case study on the Hydro](#). The Sandford Hydro newsletter archive can be accessed here. We have now rolled the Sandford Hydro updates into our monthly Low Carbon Hub newsletter, which you can sign up to [here](#).



I INVESTED IN THE SANDFORD HYDRO, WHEN WILL I RECEIVE A RETURN ON MY INVESTMENT?

All of our share classes, including Sandford Hydro, follow the same pattern for the first payment of interest:

- Year 0 – the investment is made
- Year 1 – first full financial year following investment
- Year 2 – second full financial year following investment

Then we expect to make the first interest payment following completion and auditing of the year 2 accounts.

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