



THE POWER OF WATER: Broadcaster, journalist and environmentalist Adam Hart-Davis (left) with Gants Mill owners Alison and Brian Shingler, at the official switch-on of a hydropower scheme at the ancient mill on the outskirts of Bruton. The South Somerset Hydropower project, involving 10 historic mills to produce hydro-electricity, is the first scheme of its kind in the country. See full report on page 151. *Picture by Ian Sumner*

Hydropower switch-on at Gants Mill

Ancient and modern technology combine to meet challenge of climate change

THE big challenge of the 21st century is climate change - and an ancient mill, whose origins date back to Anglo Saxon times, will be playing its part in the battle to cut carbon dioxide emissions.

The South Somerset Hydropower Group was officially launched last Friday at Gants Mill, Bruton, when the turbines were switched on to start generating electricity from the water mill, owned by Brian and Alison Shingler. It was a first for the UK, as part of a nationwide project to produce sustainable energy and increase energy efficiency, and will be followed by another nine mills in South Somerset. The energy generated from the two turbines - one dating from 1888 - will go into the national grid.

The 10 historic mills - Carreys, Clapton, Cole Manor, Court, Cuttern, Gants, Hainbury, Hinton, Nimmer and Thorney - will generate enough hydro-electricity to supply 150 homes in the area.

It may not sound a lot, but as South Somerset District Council's environment officer Keith Wheaton-Green explained, if all the mills in the country were operating it would power two per cent of the housing stock - and that is a lot of houses.

Keith, who was the driving force in the project, said the threat of climate change is

"our most pressing environmental problem. Policies and strategies to deal with this issue are commonplace but practical projects are rare.

"It struck me that historic mill sites provided good opportunities for renewable electricity generation because the physical infrastructure was usually in place and their development was not likely to be controversial. Any barriers were largely institutional.

"As soon as I met my first few mill owners, I could tell that these were not ordinary people. Their ownership of a mill had been a very deliberate decision; they obviously had well above average technical abilities and were passionate about making the most of their mills. For example, one of our mill owners is actually building the turbine himself from scratch.

"Right from our very first

meeting here at Gants Mill, it was obvious that the members of our group had the tenacity to see this project through."

And even before last week's switch on, interest in the South Somerset

Hydropower Group had spread across Britain, said Keith: "I have about one enquiry a week about this project from around the country. From the evidence I have through these communications with individual mill owners and groups throughout the country, our project has been something of a breakthrough. Before our project, very small-scale hydroelectric installations seen to have been considered by most not to be viable in this country.

However, the time is now right to see a resurgence of historic mill sites as providers of power across the country. Possibly as a result of their engagement with this project, the

Environment Agency have pledged to streamline their licensing procedures for small scale hydro projects; the renewables obligation certificates provides a premium price for the renewably generated electricity and the £1 Clear Skies grants are available for hydro projects. We have demonstrated what is possible and it seems that there are many others who intend to follow where we have led."

Under-used resource

While Keith Wheaton-Green was the co-ordinator of the mill group, Brian Shingler was totally committed from the start. The Shingler family has owned Gants Mill since 1949, when Brian's father Gilbert - in his 90s still one of Bruton's most active gardeners - moved from Shropshire.

There has probably been a watermill on the site since Anglo Saxon times, and the current mill probably dates from around 1800. But the mill takes its name from a John le Gaunt, who built a fulling mill around 1290.

The present mill still has the Victorian corn milling machinery, and the 1888 Armfield turbine is taking its share of the power-generating work with the new crossflow turbine built by Peter Trebilcock of Valley Hydro.

"Having lived at Gants Mill for quite a few years now, I have long thought that the flow of water in the River Brue was an underused resource," Brian told the guests at last week's switch-on. "So when Keith

Wheaton-Green approached us to suggest that mill owners form a group to investigate the possibility of generating electricity from south Somerset rivers we jumped at the opportunity."

The Shinglers, like the other members of the mill group, are all committed to the idea of renewable energy, but living near Wincanton, Brian had noted the opposition to the wind farm proposal. He commented wryly that the mill hydro-power scheme should not provoke many objections. "It doesn't harm anyone," he said. "It doesn't harm the environment, and it uses resources that were built hundreds of years ago, such as the leat and the sluices."

"It doesn't harm anyone else; it doesn't harm the environment; it is using resources that were built hundreds of years ago"

- Brian Shingler

Brian praised the support they had received from Keith Wheaton-Green, and from the other members of the South Somerset Hydropower Group. "You

have all been a source of inspiration to myself and Alison - from the initial tentative meetings in our different mills, to now, when we provide each other with real friendship help and support. Each of us has different problems to overcome, but I am sure that all of us will succeed in the end."

He also thanked the various inventive and practical people who had brought the hydropower scheme off the drawing board and into action, including Gerry Pope of GP Electronics, who designed and built the "all-singing-all-dancing control unit, able to control all the functions of the turbine and generator automat-



Environmentalist, journalist and television presenter Adam Hart-Davis was the special guest at Gants Mill, with the unique honour of pressing the button to start the turbines turning. Picture by Ian Sumner

ically," and Hydro Generation Ltd who installed the unit.

Brian acknowledged that the project had been expensive (the total cost will be between £250,000 and £300,000) but he was sure it was worth it: "We hope that the new turbine and generator will be an added interest to visitors to the mill and garden, showing how old technology can be complemented by the new, and leading this old building into the future with a new purpose.

"Lastly, we hope we are doing just a little towards reducing reliance on fossil fuels, and to create awareness among the general public about what can be done with a bit of lateral thinking to improve sustainability of our society for the future.

Inspirational project

The South Somerset Hydropower Scheme, which will be followed by a similar scheme in Mendip, integrates energy efficiency with renewable power.

At full capacity, says Keith Wheaton-Green, the 10 South Somerset mills will produce over 600,000 kWh of electricity per year, and will reduce carbon dioxide emissions by 260 tonnes, helping the government to meet its target to produce 10 per cent of electricity from renewable sources by 2010.

With at least 20,000 disused

mill sites in the UK, says Keith, there is "vast untapped potential to harness river and stream power to help meet the government's renewable energy targets."

Catrina Reeby, the head of community partnerships for the Energy Saving Trust, said: "This Somerset hydropower scheme demonstrates how, with a little ingenuity and imagination, local authorities and communities can work together to initiate significant carbon saving schemes.

"If every local authority developed one such innovative scheme, we could save nearly 110,000 tonnes of carbon per year. "It's an inspirational project and one that we need many more of."

● Converting an ancient mill to generating electricity is an expensive business, and half the cost is being borne by the mill owners; Gants Mill had grants from the Energy Savings Trust (£98,000), and £45,000 from EDF Energy and the electricity consumers contributing to the Green Electron Fund.

● In flood conditions the system has to be shut down as the turbine and generator may be under water (only a few days each year).

● Gants Mill and garden reopen to the public on 15th May, Thursday-Sunday, 2-5pm.

Fanny Charles