

# Goring & Streatley Sustainability Group Hydro Electricity Power Scheme

# Aims

- Produce 250Kw of clean, sustainable electricity for three generations
  - Equivalent to average consumption of 250 homes
- Reduce CO<sub>2</sub> emissions by >800 tonnes/year

# Aims

- Invest the income produced back into the communities to further more sustainable projects
- Educate public and schoolchildren on ‘green’, sustainable living

# How?

- Install three Archimedes Spirals on the weirs at Goring & Streatley
- Energy of the river turns the spirals producing electricity
- Connect to the national grid and *The Swan* hotel at Streatley

# Archimedes Spiral on the river Dart



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# Benefits

- It will be a beacon for other schemes up and down the Thames and other UK rivers
  - GSSG has been contacted by communities from Osney, Abingdon, Benson, Pangbourne, Sonning, Shiplake, Henley and Wokingham District Council, all with weirs on the Thames and the Esk river
- It will increase tourism/income to the villages at Weekends and be the focus of school trips from all over the South

# Archimedes Spiral

- Fish and eels simply swim through the spirals unharmed
- Flat power output over a wide range of head and flows
- ‘Intermediate Technology’
  - Relatively cheap to build with low CO<sub>2</sub> emissions, simple to install, no need to clean, simple controls and low maintenance with just two bearings
- Visually entrancing and audibly relaxing

# The weir next to the lock house



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# Project History and Status

- Project started in October 2005
- Grants from South Oxfordshire District Council, Goring Parish Council, Streatley Parish Council, Chilterns Sustainable Development Fund (SDF), North Wessex Downs SDF and Goring Amenity Association
- The Environment Agency funded the Flood Risk Assessment and have provided detailed engineering drawings of the whole site

# Project History and Status

- Site visits by John Howell MP and James Elles MEP followed by letters of support and advice in 2008
- Letter of support received from Boris Johnson MP in 2006

# Project History and Status

- Feasibility Study, Outline Design Study and preliminary Flood Risk Assessment are complete
- Environment Survey is half way complete
- Project funding sources in the UK & EU, and local share issue, being investigated

# Next Steps

- Complete Environment Report
- Obtain all permissions
- Form non-for-profit operating company reporting to GSSG
- Obtain grant funding from UK and/or EU
  - Approach local wealthy individuals

# Next Steps

- Fill any funding short-fall with local Share Issue as has been raised successfully for wind turbine farms
- Go out to tender to contractors then select and appoint one to build it
- Commission then party 😊

# Process and Learnings

- All projects need a champion
  - I got early support from Goring Parish Council and SODC, then the Village Planning and Amenities Association, then Streatley Parish Council
  - I met with the Environment Agency early on to sound out their views
  - Keep people informed - there has not been one dissenting voice from any parishioner
- Use local environmental and sustainability consultancies – I made early contact with Ian Bacon of Thames Valley Energy (TVE) – who usually give free advice when contemplating such ventures
- Trawl the Internet for similar projects in the UK and elsewhere. There's every likelihood that a project is underway somewhere else
  - There will be consultancies specialising in your scheme somewhere in the country

## Process and Learnings - 2

- When applying for grants for the various studies and project funding, I recommend you form a local sustainability group with Chairman, Secretary, Treasurer and a bank account
  - Ours is the Goring & Streatley Sustainability Group (GSSG) that will have charitable status in the near future – [www.gssg.org.uk](http://www.gssg.org.uk)
  - We regularly run public events in the village hall and have shown the Al Gore film *An Inconvenient Truth*, a film about how Cuba survived *Peak Oil*, a talk on bio-fuels and organised a local organic 'Food Fest'
  - All this encourages SDFs to support with funding
- Attitudes are changing with the EA, SODC, Chilterns and North Wessex Downs DC being very supportive