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# Talybont Energy Aims

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- To reduce our community's energy consumption
  - by raising awareness
  - by facilitating energy saving measures
  - by pioneering alternative ways of doing things.
  
- To have as much as possible of the energy used by our community be renewable:
  - by maintaining the Talybont hydro
  - by introducing further renewable energy sources
  - by helping community members to convert to renewable energy sources & suppliers

We seek to do this in ways which are novel, fun and socially beneficial.

# Aims - continued

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Our scope includes the energy involved in:

- heating & lighting

- transport

- consumables (food and materials)

- activities (functional and leisure)

We are committed to using the company's income to further these aims within the Talybont community council area whilst sharing our experiences for the benefit of the wider UK community.





# Our Turbine

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# The Turbine House

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# Talybont Reservoir

- ❑ Built 1930's – turbine used compensation flow to generate electricity for waterworks
- ❑ Turbine switched off when mains electricity reached the valley in 1950's





# History

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- ☐ Idea first 'mooted' in 2001 and Welsh Water were approached
- ☐ New 36kW generator installed in 2006 after a grant was obtained
- ☐ The electricity generated is sold back to the Grid via 'Good Energy'
- ☐ Max 33kW in winter & 19 kW in summer
- ☐ This gives Talybont Energy an average income of about £20,000 pa
- ☐ Funds have been used for various community projects



# Our projects





# Carbon Survey 2007

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- ☐ Aim to find out the carbon footprint of 10% of households
- ☐ based on this 30 households were surveyed
- ☐ The average carbon footprint for Talybont on Usk was found to be 6.6 tonnes compared to a national average of 10 tonnes in the UK as a whole

# Energy Meter Trial 2008

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Aim - to explore how feedback would affect behaviour, attitude and electricity consumption





# Results of Trial

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- Meters had dramatic effect on people's awareness and understanding of energy use.
  - e.g. energy needed for heat versus light
  - e.g. inefficient overhead lights
- 9/10 of the trial households reduced their use by 9% compared to a control group whose use actually went up by 5% in the same period!
- Variation between similar households was surprising
- Cognitive challenge of understanding power x time



# Electric bike trial 2009

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- ☐ 64% rural trips < 5 miles but hilly  
– & they are the most fuel intensive
- ☐ Very few people cycle  
(functionally)
- ☐ 6 month trial of 2 different electric bikes
- ☐ Aim – to let people try an  
alternative form of transport
- ☐ 75 people took part





# Electric bike trial - Results

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2,714 miles were travelled on the bikes

People really enjoyed the experience and it meant that they behaved differently (at least once!)

6 people bought themselves an electric bike

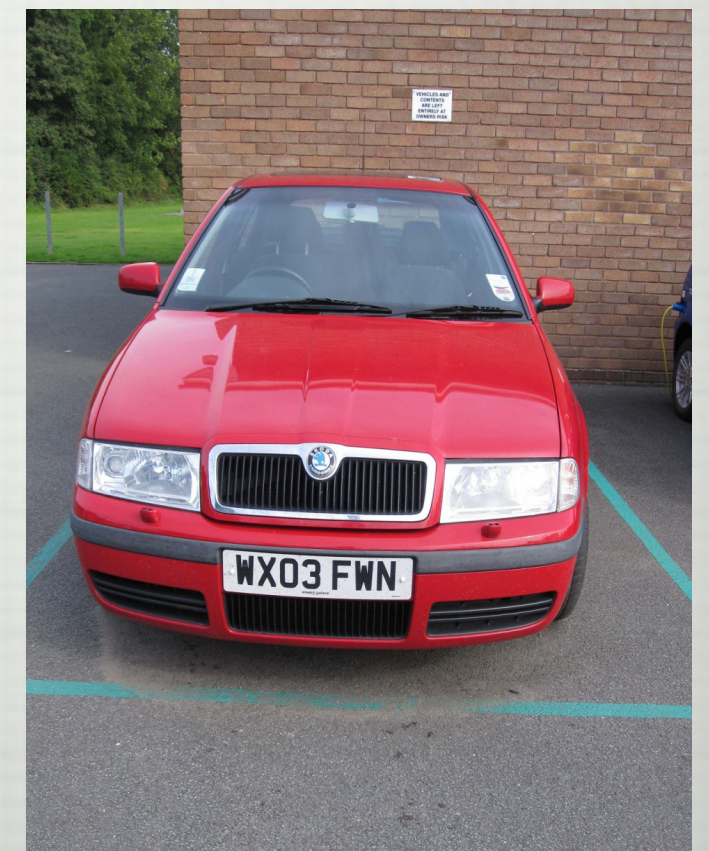
But we found that keen cyclists don't use their bikes (or see them) as an alternative to functional car trips

# Community car project - 2010

## ☐ Aims:

- to reduce transport carbon by providing a low carbon alternative
- to encourage car sharing
- to explore different low carbon options

## ☐ 2 cars – Mr Chips runs on recycled vegetable oil and Heulwen is an electric van





# Community car project - Results

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- ☐ 96k miles – 33 tonnes CO2 saved (includes shared journeys)
- ☐ 12-15 member households
- ☐ One family has given up a 2nd car
- ☐ Flagship project attracts UK wide interest
- ☐ But hard to attract new members - using a shared car and paying-by-use requires a surprisingly big shift in thinking
- ☐ And project couldn't survive without ToUE subsidy

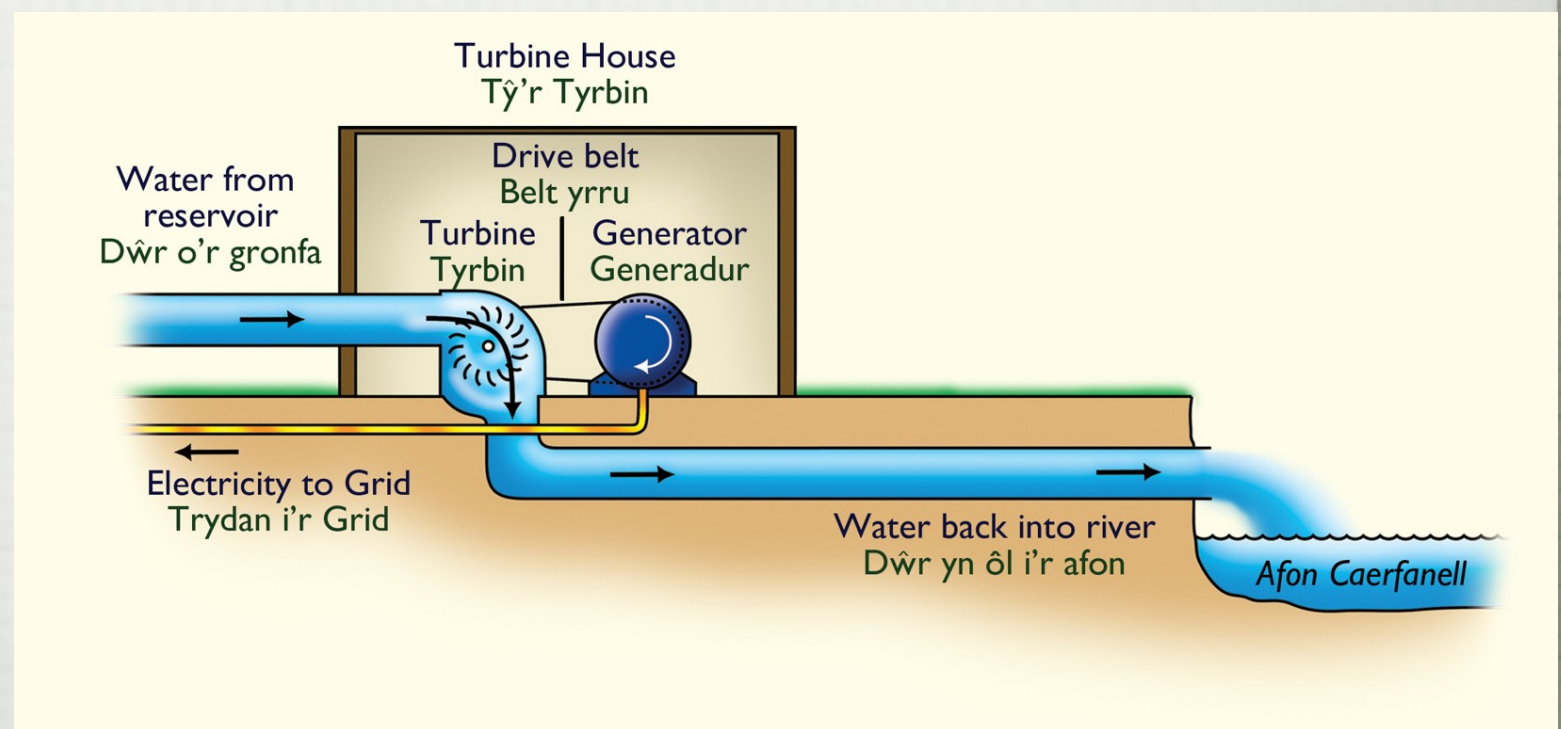
# Schools project 2010

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We developed a Key Stage 2 educational package for 7-11 year olds about our turbine - to promote understanding of sustainable energy

1 hour lesson including activities and worksheets

We are working on a key stage 3/4 package





# AV equipment 2011

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- ☐ A projector and screen were purchased for the village hall to enable the village to run training courses, show 'flicks in the sticks' and hire out the hall to other groups
- ☐ This brings the community together
- ☐ It also enables us to be able to encourage other members of the community to join in with our projects/activities

# Community Hall Energy 2011/14

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- ☐ Installation of 4kW solar PV panels in 2011 then 4kW more in 2014
  - Now averages 8,000 kWh/year
  - reduced electricity bill by 35%
  - Provides small FIT's income
- ☐ Air to air heat pump
  - reduced heating costs by 80%
- ☐ Benefits the whole community
- ☐ Heulwen (our electric van) is charged from this electricity





# Community fund

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Talybont Energy now allocates a portion of the turbine income to the Community Council for them to administer as a general fund for community projects.



# 1st Langynidr cubs Eco Award 2014/15

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# Eco award 2014/15

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- ☐ A range of activities to develop the awareness of young people
- ☐ Supporting and sponsoring a new staged activity badge
- ☐ A collaborative project - ongoing.....

# Conclusions – 10 years on

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- ☐ Thankful to the original pioneers - their vision and persistence
- ☐ We are lucky having Talybont Reservoir and Welsh Water relationship
- ☐ Engaging and benefiting wider community remains a challenge
- ☐ Running projects as volunteers is hard but if you employ a project worker there's less money to do projects.
- ☐ We've learned a lot and had a lot of fun!