

## The Centre for Alternative Technology 1973 – 2007

Paul Allen B.Eng (Hons) FRSA  
Development Director

Centre for Alternative Technology  
Sustainable Energy Policy Seminar

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Samsø, Denmark

[http://www.inforse.org/europe/seminar07\\_samsø.htm](http://www.inforse.org/europe/seminar07_samsø.htm)



## CAT founder - Gerard Morgan-Grenville

*"In the early 1970s I took a sabbatical and went to America. I talked to senior business and professional people and came to the conclusion that a lot of people realised there was a major problem, but were locked into what they were doing. I came back thinking what was needed was a project to show the nature of the problem and to indicate ways of going forward".*



## CAT site c1972



## Main office c1972



## Steady restoration



## Collective effort



### CAT's original community



### Early VIP visitors



### Early VIP visitors



### Original message: Self sufficiency

- One of the driving motives of the early CAT was to develop ways of surviving the collapse of society.
- 1972 was the height of the cold war, many people thought a full out nuclear exchange was likely if not inevitable and that we must 'take to the hills' and develop self-sufficient technologies.
- If not nuclear war, then the prospect of some biological or ecological disaster fuelled a general feeling of imminent collapse!



### CAT was a self-sufficient village of the future.....



### .... from food



... to the forge.



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Early messages: Energy

- 1970's energy strategists forecasted demand to steadily and continually increase, as it had been growing steadily since the end of the 2nd World War.
- The growth in consumerism was going to continue 'ad. Infinitum', fuelled by the North Sea oil reserves and nuclear power - "so cheap it was not worth metering".
- Renewable energy hardly figured in the energy vision on the 1970s.
- Although the oil price shocks of 1973 and 1979 shook the mainstream, they were political problems, rather than resource problems.
- However, they did a lot to motivate the alternative movement, who were looking much wider and much further ahead than the mainstream view.



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'An Alternative Energy Strategy for the UK'

- Through a series of meetings between 1976 and 1977 CAT initiated the production of 'An Alternative Energy Strategy for the UK'.
- This innovative document showed how a range of emerging 'alternative technologies' could be applied on a national scale to level off and eventually reduce growth in energy demand and radically increase the proportion from 'ambient energy devices' in the mix.
- This would reduce damaging emissions, and prevent 'resource depletion'.
- Wind or hydro electric energy was at a very early stage and for the large part associated with remote 'pre-national grid' systems



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Vertical axis wind turbine



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Cretan wind turbine at CAT



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Inter-seasonal heat store



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Installation of the CAT hydro turbine



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Super-insulating site community caravans c1975



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Experimental wind pump



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Early solar collectors



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Wood gas electricity generation



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Social context in 1970s


- The vision presented by CAT was very much at odds with that of the mainstream.
- Locally and nationally CAT's vision promoted solutions to problems which the vast majority of people were not (yet) aware of.

A situation very different to today.....



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### CAT Today



**Inspire**  
Centre for Alternative Technology  
Inspire: Inspire people to explore sustainable living...  
Welcome to the Centre for Alternative Technology - our services are tailored to help you explore sustainable living...  
• Energy audits • Renewable energy  
• Sustainable design • Energy conservation  
• Sustainable buildings • Energy efficiency  
You should allow at least an hour to complete your work, but you are welcome to drop in any day!

**Inform**  
We provide practical information, education and reference on all aspects of sustainable living...  
• Free information service  
• Sustainable alternative technology  
• Books, DVDs and brochures  
• Available to all ages  
• Regular opening hours  
• Free access to shops and services  
• Guided tours - please book in advance

**Enable**  
CAT also provides a range of services to support you after your visit...  
• Grants awarded by local authorities and other  
• Community & research services  
• On-site energy consultancy for the day  
• Sustainable organisation and signage  
• Online web to buy things: www.cat.org.uk

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### CAT's current messages

Over the past 30 years the greens have been very successful in alerting people to the many hundreds of environmental challenges. CAT has chosen 3 strategic priorities which require urgent action:

- Energy (climate change & peak oil)
- Biodiversity & habitat
- Social & international equity.

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### Climate Change

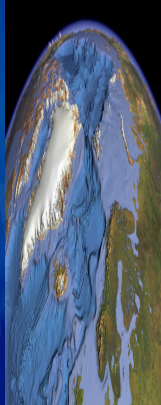
“There is no bigger problem than climate change. The threat is quite simple; it’s a threat to our civilisation”

*Professor Sir David King, UK Government's Chief Scientific Adviser and Head of the Office of Science and Technology.*

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### Climate feedback


- Runaway feedback in climate change could entail massive agricultural losses, widespread economic collapse, international water shortages, massive rises in sea levels, a shutdown of the Gulf Stream, refugee problems on a scale not yet experienced.
- Basically a global catastrophe on a scale that would dwarf hurricane Katrina and run for tens of thousands of years.



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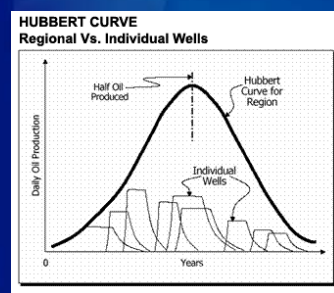
### Energy - security

- The UK is becoming increasingly reliant on abundant cheap petrochemicals.
- In an increasingly turbulent world; this makes us vulnerable.
- Global demand for oil is rising every year, driven by massive industrialisation in India and China.
- Although we are not about to run out of oil, as global demand exceeds the maximum rate of supply, massive price rises and shortages will follow.



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### World production is simply the sum of all the individual wells





**HUBBERT CURVE**  
Regional Vs. Individual Wells

The graph shows 'Daily Oil Production' on the y-axis and 'Years' on the x-axis. It features a large bell-shaped curve labeled 'Hubbert Curve for Region' and several smaller bell-shaped curves labeled 'Individual Wells' stacked under the main curve. A vertical dashed line marks the peak of the regional curve, labeled 'Half Oil Produced'.

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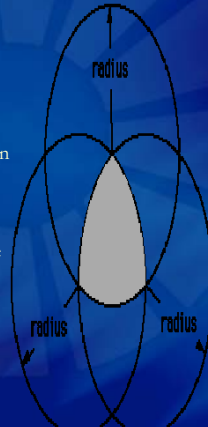

### International Equity

- If a minority of powerful nations continue to favour an exploitative economic system underpinned by wasteful, centralised fossil fuel technologies and vulnerable supply lines, they are going to need to protect it with a huge world-wide police force at enormous expense and risk to all our civil liberties.
- On the other hand, a shift to a decentralised world economy based on equitable & efficient use of renewable energy & re-localised supply systems, can create communities that no organisation can easily threaten &, perhaps more importantly, which threaten no one else.

### A common solution

- Unfortunately those seeking to solve these challenges are STILL thinking in silo's:
- There are solutions to peak oil which exacerbate climate change
- There are solutions to climate change which make peak oil worse,
- There are solutions to global equity which accelerate climate change
- Even if we solve two of them the third will still turn round and bite us

### CAT's Solution: "Zero Carbon Britain"

As it stands, no new low carbon energy source stands any chance of replacing the UK's massive (and wasteful) use of petrochemicals.

- We are energy obese, we must re-think the way we use energy
- We must accelerate the development of renewables
- We must recognise international energy equity



### CAT current clients include:



- General Public
- Community organisations
- Professionals / trades
- Schools and students
- Teachers / Lecturers
- Public servants / Local Authorities
- Business / manufacturing
- Media
- WAG and agencies
- Other Eco-sites



### Seven acre visitor complex




### Water powered cliff railway

Arranged by topic



Energy & Power



What you touch, you remember



Learning by doing



Renewable Energy



Wind power



Photovoltaic (solar electricity)



U-Turn bi-lingual information points



The Whole Home



Passive solar design



Energy efficient living



Practical ideas ....



... linking house and garden



Waste & Recycling



The worm slide ....



... to the compost area



Recycled bottle dome



The treadmill of happiness ....



.... just goes round and round



Organic Gardens



Organic Gardens



Organic Gardens



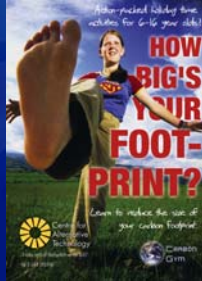
Adventure Playground



Adventure Playground



### Activities for the young



### Educational eco-cabins for schools



### Free information service

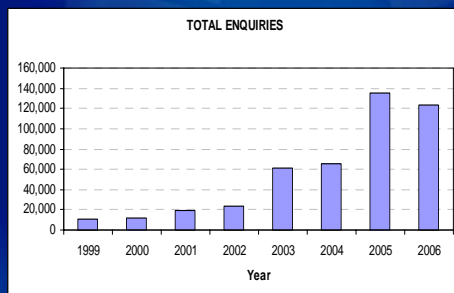


### A unique service :

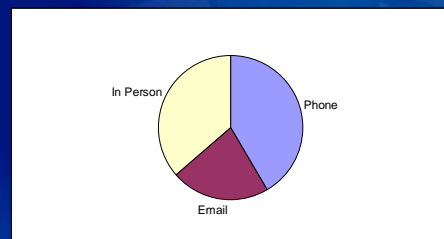
- It's free
- It's impartial & inter-disciplinary
- It has access to an exclusive database of over 4,000 organisations which assist the public
- It's part of an organisation that has been developing for over thirty years
- It has access to a wide range of CAT experts
- Supported by other CAT services




### 134,845 enquiries in 2005





Many of these enquiries are through the free information on our website but 12,700 are by phone, email and in person.



A recent survey concluded that 76% of CAT enquiries led to positive changes in people's lives.



CAT Publications





CAT Publications

- Over 80 titles
- Tip sheets fact sheets, resource guides, teachers / pupils and New Futures series
- Practical, hands-on style
- Written by experienced experts
- Web downloads growing rapidly
- Growth in partnership publications



Eco-Shop and mail order service






CAT consultancy service

- Energy Advice
- Energy efficiency – interdisciplinary approach
- Renewable energy – system design and resource assessment
- Eco-buildings – new build and retro-fit
- Feasibility studies
- Energy policy analysis
- Waste and recycling
- Creating Eco-centres




Business Incubation

CAT Residential Courses



Accredited courses for professional installers:

- Solar water heating (BPEC accredited)
- Photovoltaics (City and Guilds accredited)
- Wood fuel for heating (New for 2005)
- Energy efficiency (City and Guilds accreditation planned for 2006)



Photovoltaics for electricians



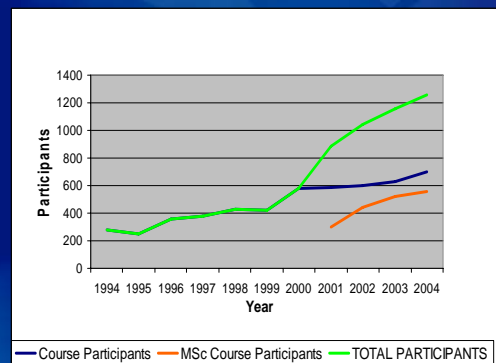
Solar water heating for plumbers



Accredited courses to MSc level



Growth in demand for courses



### Wales Institute for Sustainable Education (WISE@CAT)

£6.2 Million investment to create a unique learning environment for all sectors of society to learn sustainable solutions up to Masters level.

- Circular, rammed earth lecture theatre for up to 200 students
- 3 seminar rooms
- Teaching laboratory
- Workshops for technical course activities
- New technologies, PV, Passive solar, Bio-fuel, Building materials
- Common room and bar, opening on to a private courtyard
- Kitchen and restaurant extension
- New on-site accommodation



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Work began June 2006



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Timber, hemp/lime & rammed earth



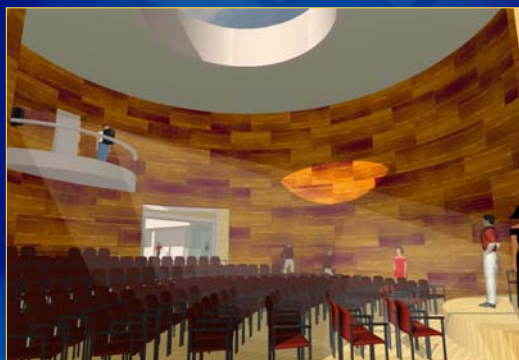
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Materials - Main Walls



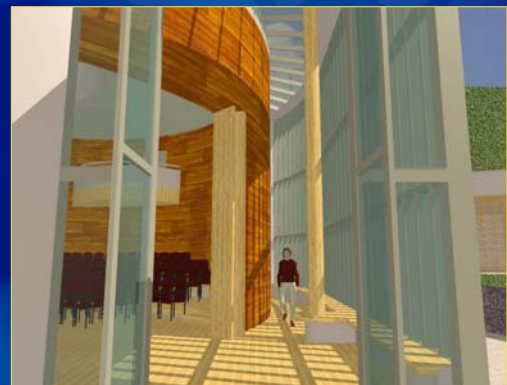
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Lecture Theatre Interior



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Passive Solar Design



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### Study bedrooms and balcony



### Opens summer 2008



### How can CAT help you?

- CAT consultants have been involved in the creation and development of many 'Ecosite' projects, including 'Terre Vivante' (France) & 'Sonairte' (Ireland).
- The largely self-funding model demonstrated by the CAT and other Ecosites holds the potential to play a key role in accelerating the take up of solutions across Europe through inspiring and enabling a network of similar centres.
- Visit [www.ecosites.net](http://www.ecosites.net)



Come visit us!  
[www.cat.org.uk](http://www.cat.org.uk)

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