Wrap-up Session
March 5th 2008

Notes by John Midwinter

Local Contacts

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- Christian Figg
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Some Information Sources

- Energy Saving Trust
  - www.energysavingtrust.org.uk
- Community Action for Energy (CAfE)
  - www.energysavingtrust.org.uk/cafe/welcome/
- Low Carbon Buildings Programme
  - www.lowcarbonbuildings.org.uk/home/
- Carbon Reduction Suffolk (CReD Suffolk)
  - www.cred-uk.org/
- Suffolk ACRE
  - ACRE = Action with Communities in Rural England
  - www.suffolkacre.org.uk

Some Information Sources (cont.)

- East of England Climate Change Partnership
  - www.sustainabilityeast.org.uk
- East of England Development Agency (EEDA)
  - www.eeda.org.uk/
- Renewables East
  - www.renewableseast.org.uk
- Sustainable Development Commission
  - www.sd-commission.org.uk
- Greening Suffolk
  - www.greensuffolk.org

Low Carbon Buildings Programme

- Current home grant levels :-
  - Solar PV - £2000/kWp
  - Wind Turbines - £1000/kWp
  - Small Hydro - £1000/kWp
  - Solar Hot Water - £400 or 30% *
  - GSHP - £1200 or 30% *
  - Wood Pellet Heater - £600 or 20% *
  - Wood fuelled boiler - £1500 or 30% *

* whichever is least!

See http://www.lowcarbonbuildings.org.uk/about/hfaqs/

Transition Towns

What is a Transition Town?

The thinking behind the Transition Town concept is simply that a town using much less energy and resources than we presently consume could, if properly planned for and designed, be more resilient, more abundant and more pleasurable than the present. But it will take time and effort to get there.

Moreover, with the combined threats of global warming and oil depletion, we urgently need to move to a lower fossil-energy-consumption lifestyle.

The Hirsch Report

(features strongly on Transition Town websites).

PEAKING OF WORLD OIL PRODUCTION:
IMPACTS, MITIGATION, & RISK MANAGEMENT

Robert L. Hirsch, SAIC, Project Leader
Roger Bezdek, MISI
Robert Wendling, MISI

February 2005

The Hirsch Report
(the punch-line figure)

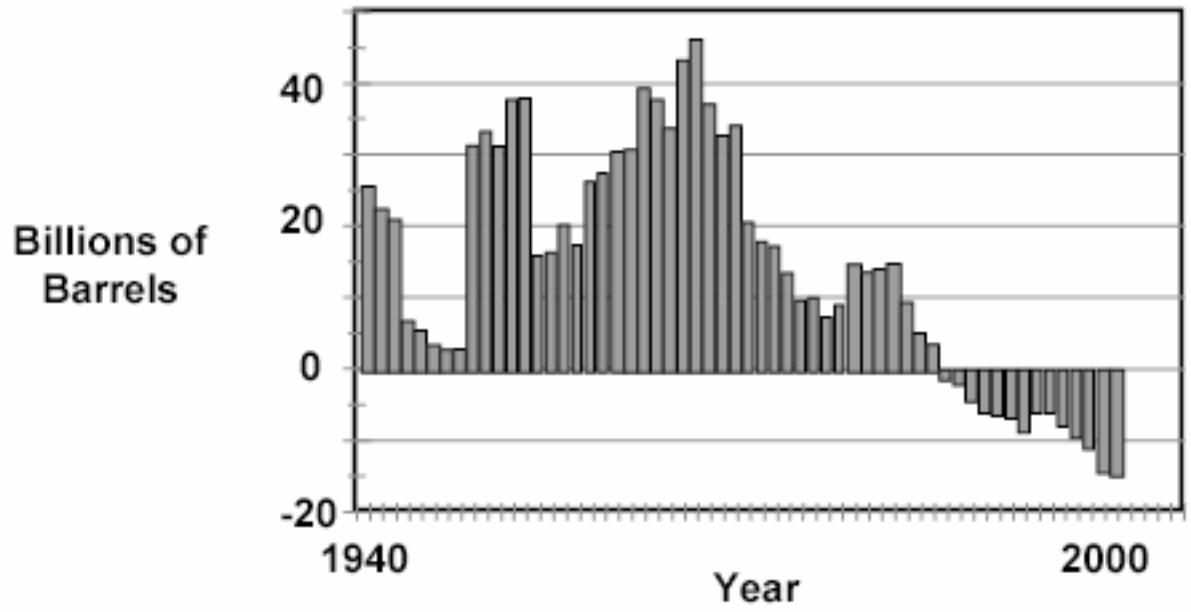


Figure II-1. Net Difference Between Annual World Oil Reserves Additions and Annual Consumption

Key to Transition Town thinking.

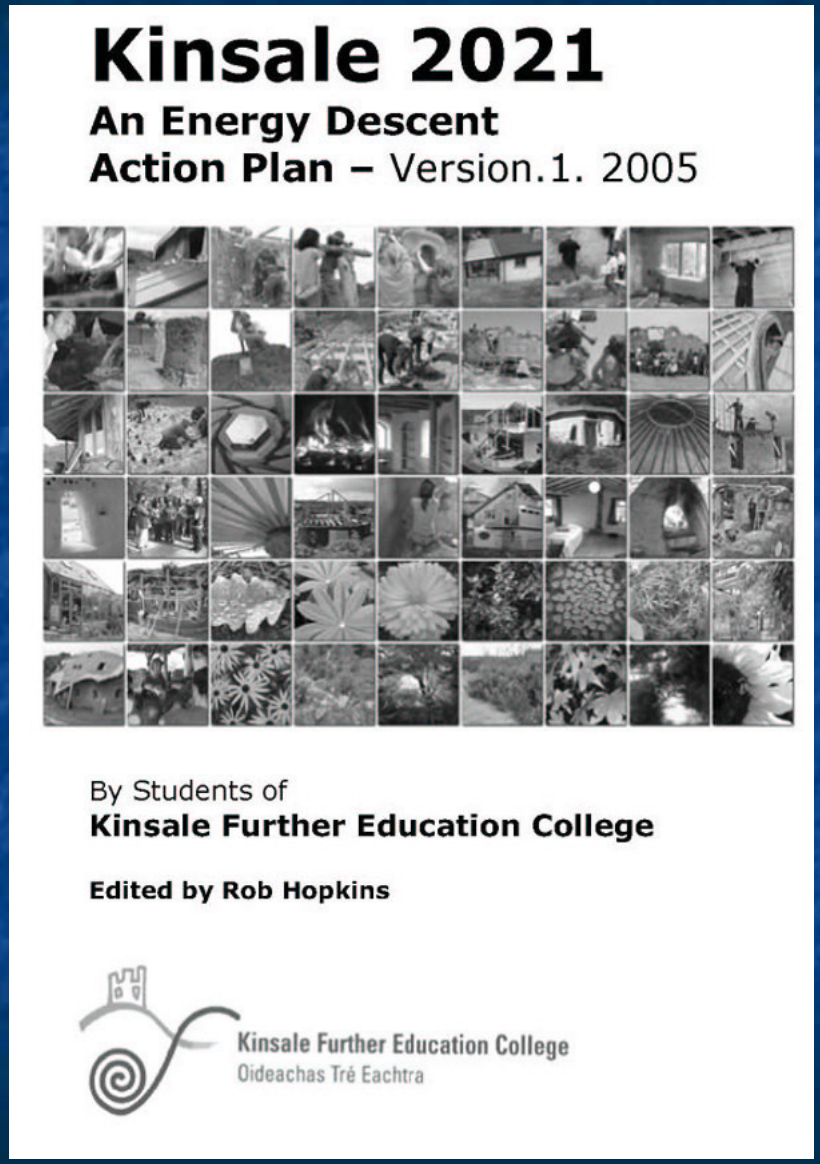
Develop an Energy Descent Action Plan (EDAP)

An Energy Descent Action Plan (EDAP) is a local plan for dealing with Peak Oil. It goes well beyond issues of energy supply, to look at across-the-board creative adaptations in the realms of health, education, economy and much more. An EDAP is a way to think ahead, to plan in an integrated, multidisciplinary way, to provide direction to local government, decision makers, groups and individuals with an interest in making the place they live into a vibrant and viable community in a post-carbon era.

Kinsale (Southern Ireland)

The first Transition Town according to their website!

Kinsale Energy Descent Action Plan 2005 (55 pages)



Kinsale EDAP Contents

Contents

Other Transition Towns

* TOTNES,
* Ivybridge,
* Falmouth,
* Moretonhampstead,
* Lewes,
* Stroud,
* Ashburton,
* Penwith,
* Ottery St. Mary,
* Brighton,
* Bristol,
* Brixton,
* Forest Row,
* Mayfield,
* Glastonbury,

Totnes Working groups

ESTABLISHED
Energy.
Healthcare
Food.
The Arts.
Heart and Soul
- the psychology of change.
Local Government
Economics and Livelihoods.

BEING FORMED.
Youth and Community.
Education.
Housing
Transport.
Waste.

Comments (by JEM)

- The case for Transition Towns seems strong
- Neither Kinsale nor Totnes seem to know they are one
  - No mention on their official town websites!
- The broad thrust of the “sales pitch” seems excellent
- But it seems to need clear numerical targets for progress to be visible.

Transition Town web-sites

- www.transitiontowns.org
- www.transitiontowns.org/Totnes
- www.transitiontowns.org/Kinsale

Ashton Hayes

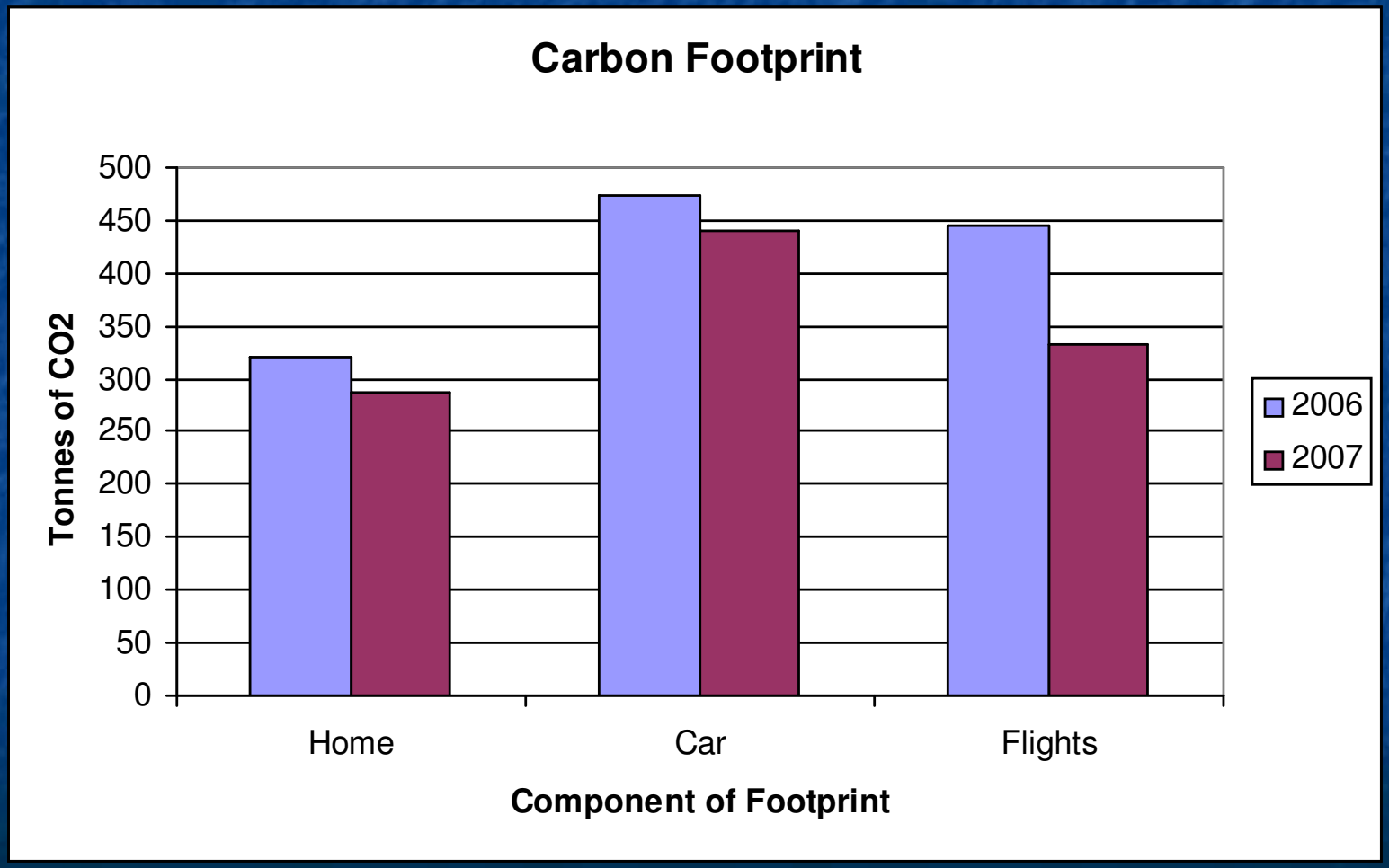
- A Cheshire Village
  - Aims to be UK's 1st Carbon Neutral Community
  - www.goingcarbonneutral.co.uk/

Ashton Hayes details

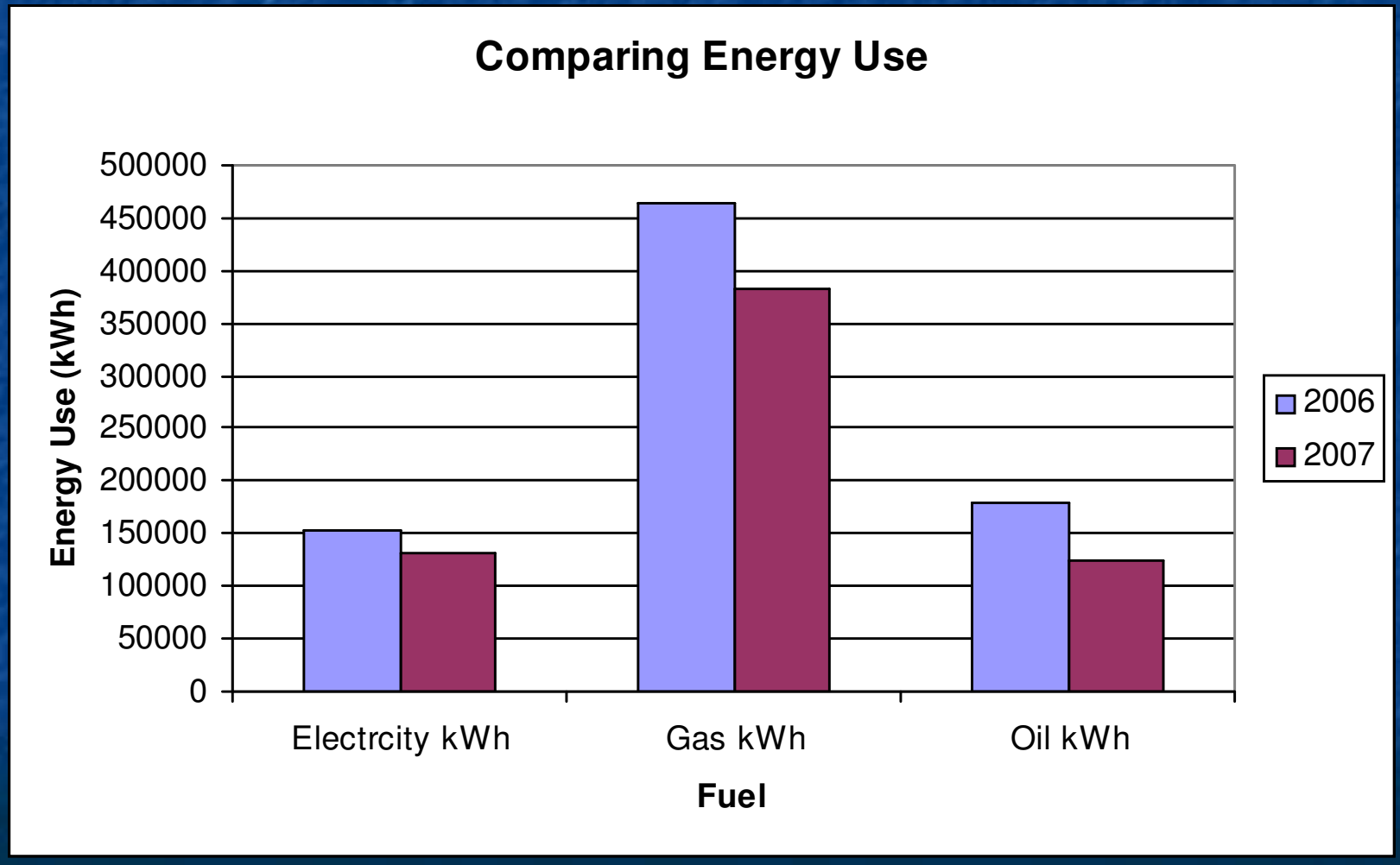
The Going Carbon Neutral project started in January 2006, its twin aims: to become England's first carbon neutral village and to share its experience in doing so with other like-minded communities. The project is now in its second year and a follow up survey investigating carbon changes has been conducted.

The project attracted a £26,500 grant from the Department of Environment, Food and Rural Affairs (Defra) to communicate its experience to other communities.

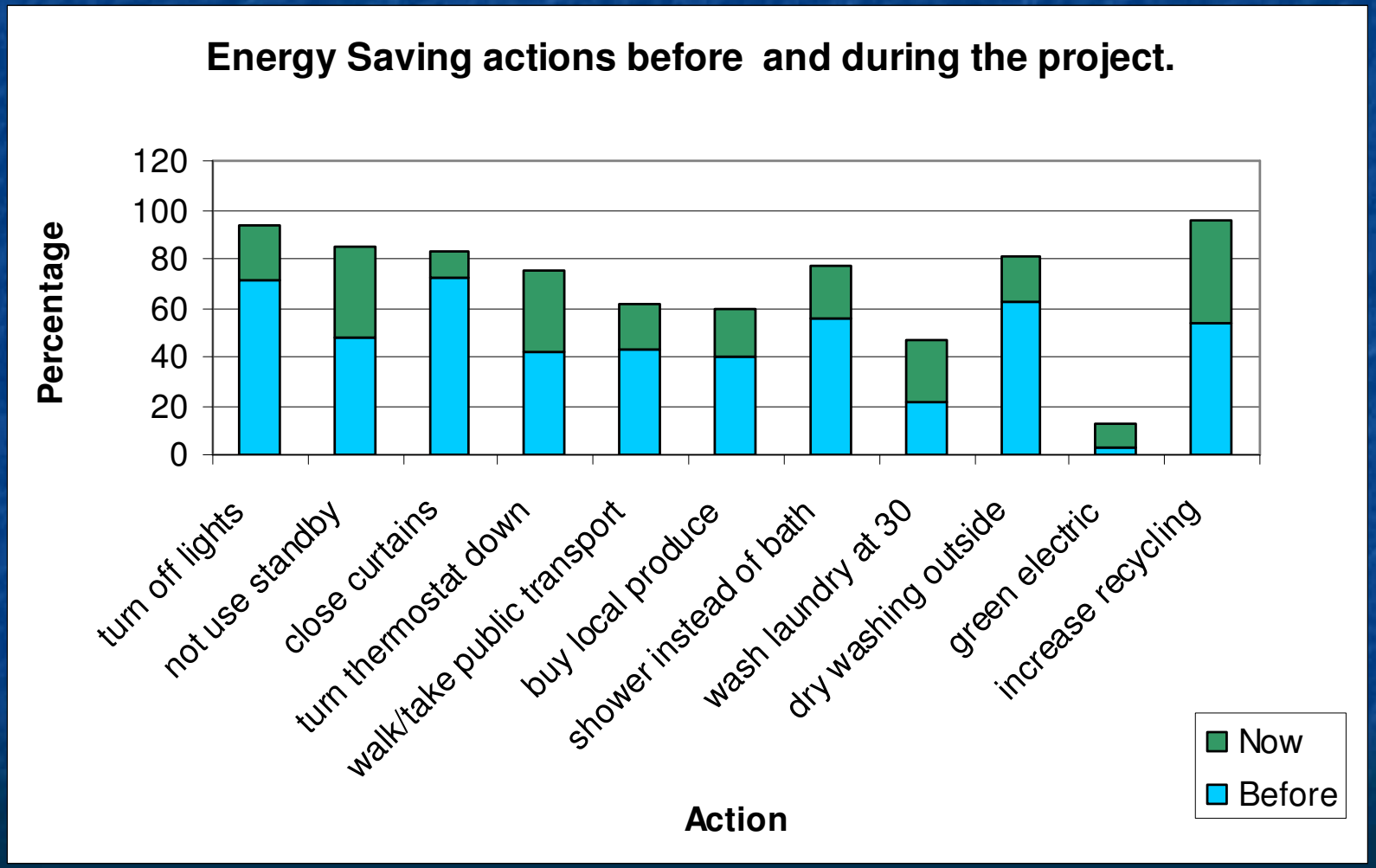
Some Ashton Hayes results



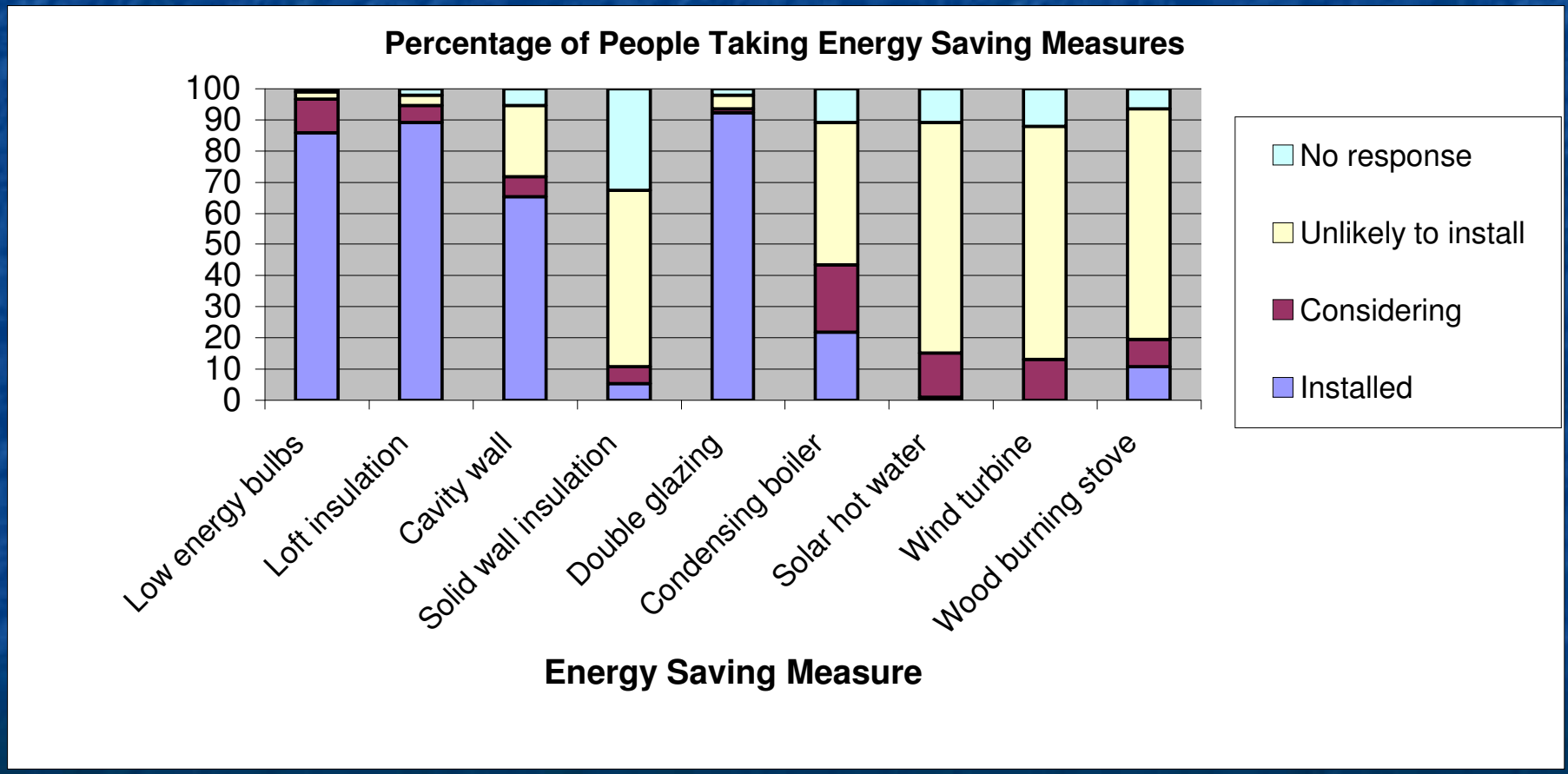
Some Ashton Hayes results



Some Ashton Hayes results



Some Ashton Hayes results



Ashton Hayes results

I was impressed by their numeracy!

Community (Wind) Energy

- Energy-for-All
  - www.energy4all.co.uk/
- Baywind Energy
  - www.baywind.co.uk/

Brought to my notice by Matthew Ling in Ipswich

About Baywind

Baywind Energy Co-operative Ltd, an Industrial & Provident Society, was formed in 1996 to allow a community in Cumbria to invest in a local wind farm. The original board of directors included 7 members of the community from Ulverston and Barrow.

Baywind's aim is to promote the generation of renewable energy and energy conservation.

About Baywind - cont.

The first share offer in 1996/97 raised £1,2 million to buy two turbines at the Harlock Hill wind farm. In 1998/99 the second share offer raised a further £670,000 to buy one turbine at the Haverigg II wind farm site. Preference was shown for local investors, so that the community shares the economic benefits from their local wind farm. Around 40% of existing Baywind shareholders live either in Cumbria or North Lancashire with a wider number from the Northwest Region.

A Bealings Wind Generator?

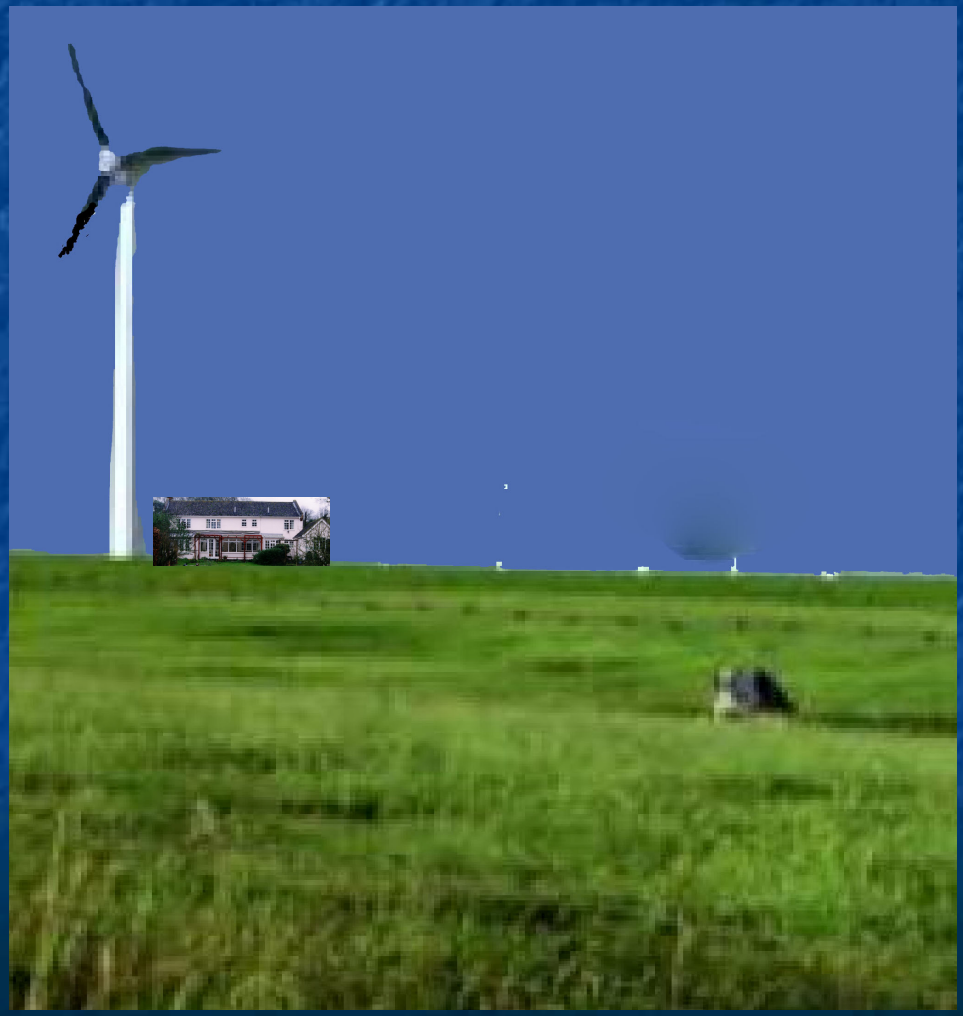
Suppose we wanted one!

What size does it need to be?

Design assumptions

- ~ 200 homes in Gt. & Lt. Bealings
- 4.2 MWh annual consumption/home
- Total = 840 MWh per annum
- Equals 96 kW mean power
- Assume 30% duty cycle
- Implies 320 kWp generator
- Rotor size ~ 35m or 115 feet diameter

A visualisation with Lower Cottage for approx. scale!



Personal Energy Consumption or Carbon Footprint

Personal Preferences

kWh or tons of CO_2?

- I can visualise 1kWh (1 electric fire for 1hr)
- I can't visualise 1 ton of Carbon Dioxide!
- So I prefer to work in kWh or MWh
- And then separate those sourced from fossil fuel and those not.
- Moreover, it seems easier to think about changing one's energy consumption using my units!

Some conversion factors

- Petrol - 13 kWh/litre
- Diesel - 11.7 kWh/litre
- Heating oil - 11.7 kWh/litre (assumed)
- Gas - quoted in kWh?
- Electricity (1 unit = 1kWh)
- 1kg dry timber = 5 kWh
- 1kg coal = 6.7 kWh

Energy equivalents

- 1 kWh = 1 single bar electric fire for 1 hour
- 1 MWh = 1000 kWh - e.g.
  - 1000 electric fires for one hour
  - 1 electric fire for 1000 hours (42 days)

Notes

- Remember
  - Oil, gas, diesel, petrol are consumed as raw fossil fuels - what you buy is what is burnt.
  - Litres used gives MWh used!
  - Electricity is often made from fossil fuel but
    - for every kWh delivered to your home, another has already been wasted at power station etc
    - So multiply meter reading by ~ 2
  - Green electricity is exempt!

Home Energy Survey Form

(from www.goingcarbonneutral.ca)

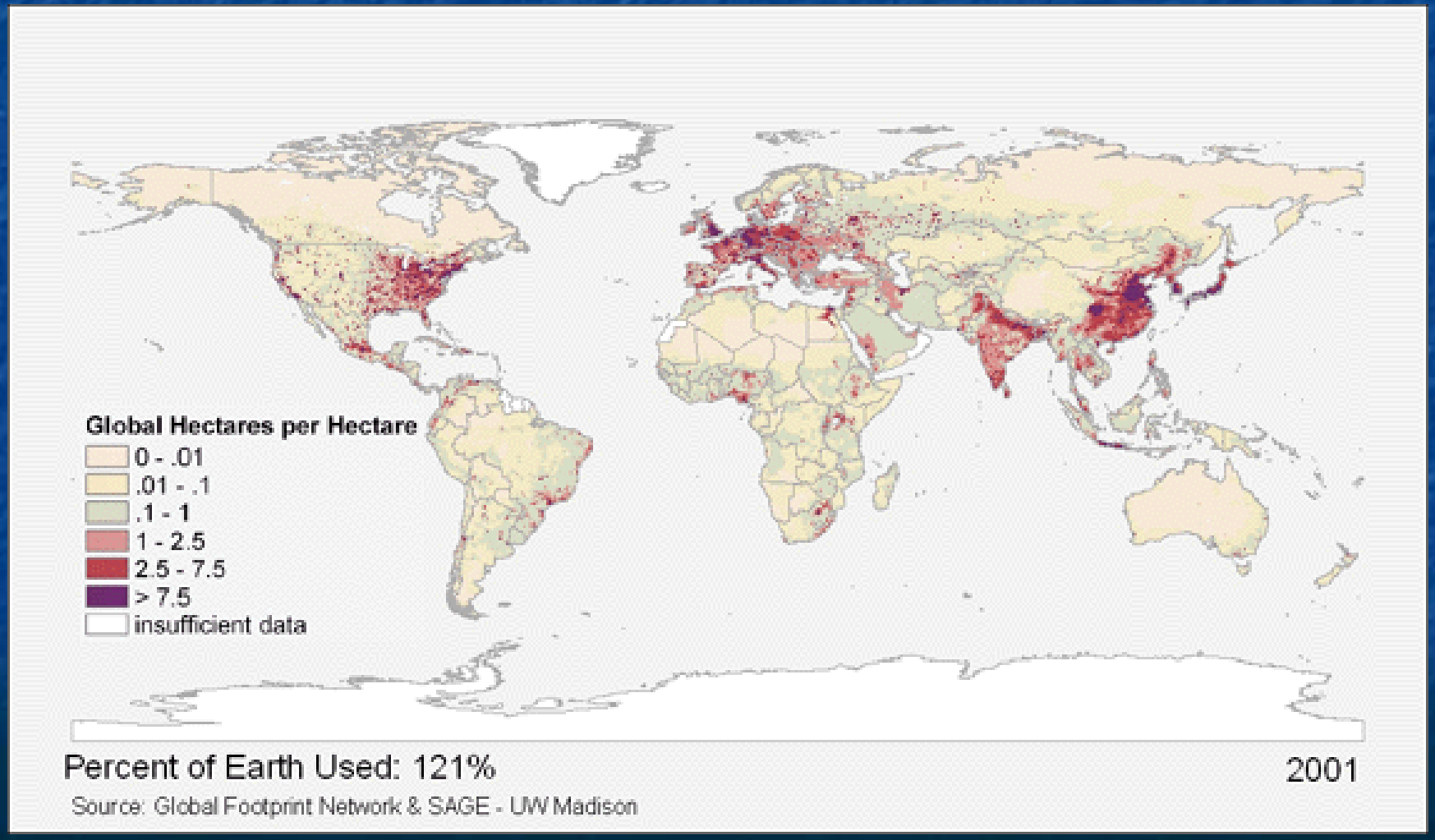
Energy Type	Measured In	Primary	Secondary	Secondary
Electrical	kWh/yr			
Heating Oil	L/yr			
Propane	L/yr			
Wood	bush cords/yr			
Pellets	kg/bag/yr			
Other				

TRANSPORTATION

Vehicle Information	Vehicle 1	Vehicle 2	Vehicle 3	Vehicle 4
Fuel Efficiency				
km/yr driven				
Type of Fuel				
Information below is not required if fuel efficiency above, calculated using a) or b) has been recorded				
Make of Vehicle				
Model of Vehicle				
Year of Vehicle				

Global Footprint Network

www.footprintnetwork.org



Ecological deficit (-) or reserve (+)

Region	Score *
North America	-3.70
European Union	-2.60
Middle East & Central Asia	-1.20
Asia Pacific	-0.60
Africa	0.20
Rest of Europe	0.80
Latin America	3.40

* Units - global hectare per person

Some general information sites

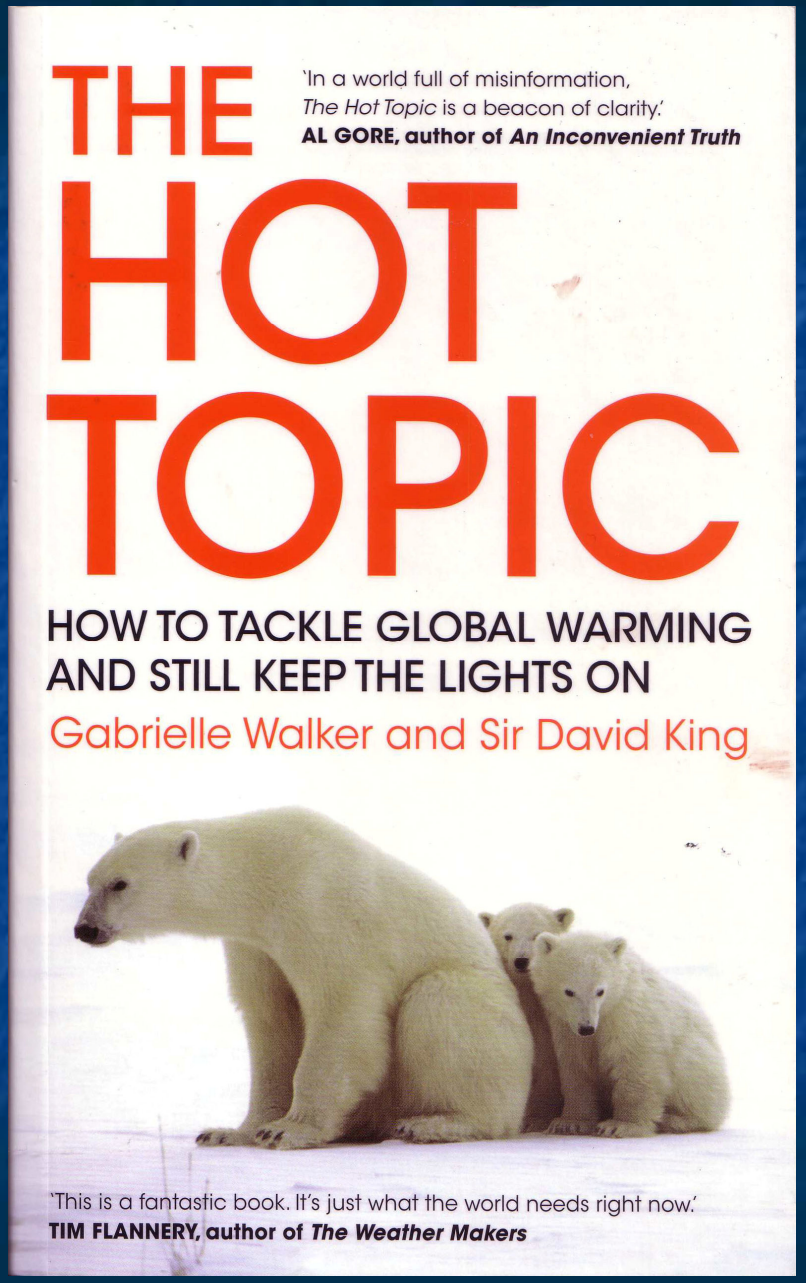
(there are dozens more)

- National Renewable Energy Laboratory
  - www.nrel.gov
- Energy Information Administration
  - www.eia.doe.gov
- Carbon Dioxide Information Analysis Center
  - www.cdiac.ornl.gov
- Dept. of Business, Enterprise & Regulatory Reform
  - www.berr.gov.uk

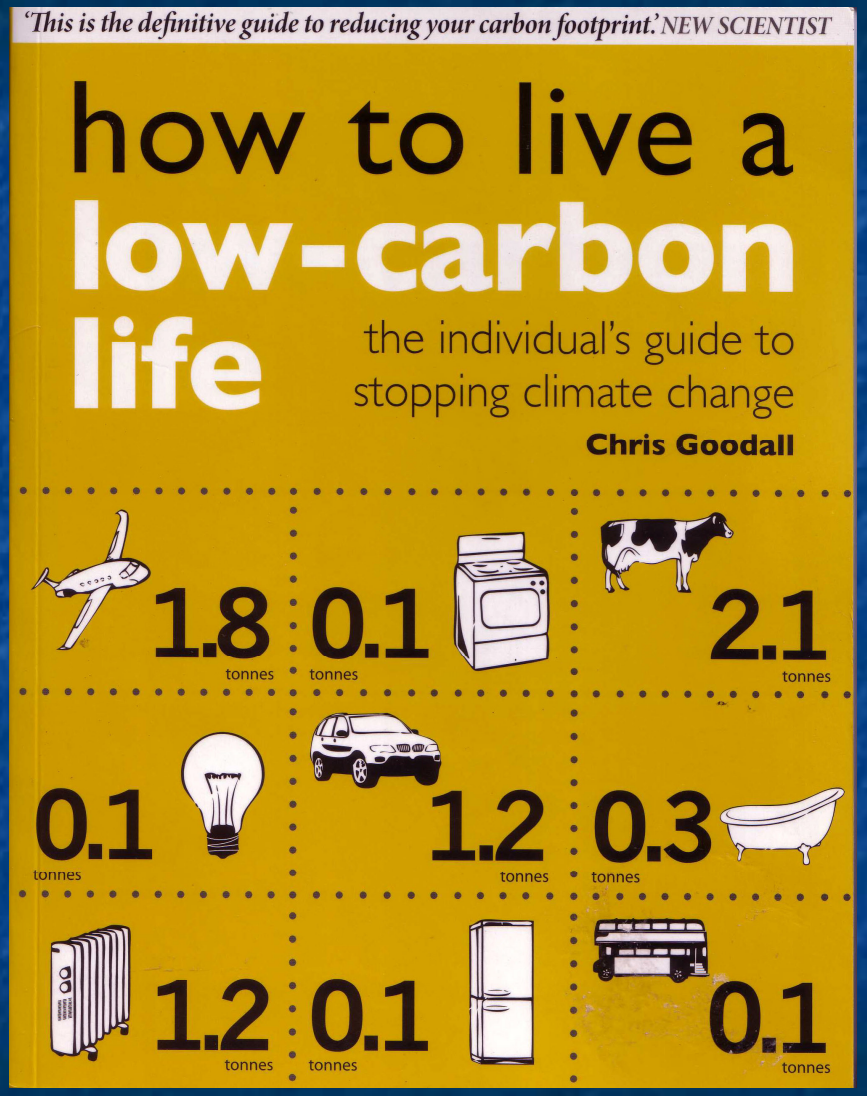
Some general information sites

- Intergovernmental Panel for Climate Change
  - www.ipcc.ch
- The Royal Society
  - www.royalsoc.ac.uk
- The Royal Academy of Engineering
  - www.raeng.org.uk

A good analysis of the technology supplemented by insightful discussion of the International Politics



A good analysis of how to decide what is right for you!



What to do?

- Sort out your home insulation
- Analyse personal energy use
  - Explore ways to reduce the biggest items.
- Talk to friends and relatives
  - Encourage them to take CC seriously
- Choose the most cost & carbon effective changes to make to your lifestyle.