GILDED Images

GILDED Logo

GILDED web-site front page

GILDED Poster for Public Audiences:

GILDED:

Governance, Infrastructure, Lifestyle Dynamics and Energy Demand: European Post-Carbon Communities

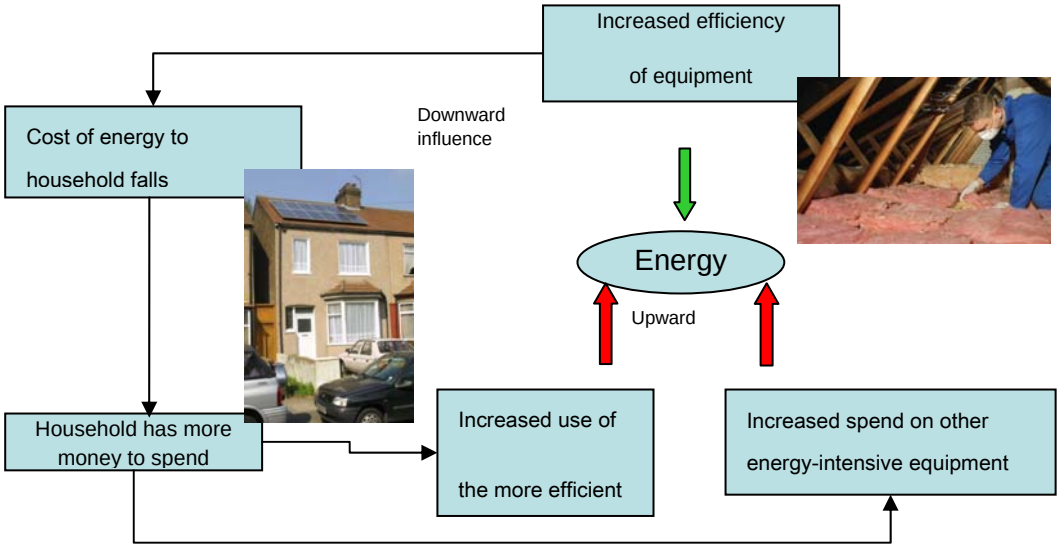
The GILDED Project

GILDED is a three year collaborative research project funded through European Union Framework Seven, running from December 2008-2011. The overall goal of GILDED is to identify social, economic, cultural and political changes which could help rural and urban households in Europe consume less energy.

Rationale

The focus of the project is on *household consumption*. In Europe, about 35% of all primary energy use and 40% of all greenhouse gas emissions come from private households. While technological innovations can reduce the energy requirement for specific activities, people still have to choose to consume less. Otherwise, increases in energy efficiency may simply raise demand for energy-intensive products and services.

Why technology alone will not reduce energy consumption:



Photographs © Energy Saving Trust 2008

To permanently reduce energy consumption, *low energy consumption must become a way of life*.

GILDED is led by the Macaulay Institute in Aberdeen, Scotland in partnership with the Potsdam Institute for Climate Impact Research (Germany), the Institute for Political Science of the Hungarian Academy of Sciences, the University of Groningen (the Netherlands) and The Institute of Systems Biology and Ecology, v.v.i. Academy of Sciences of the Czech Republic. Each of these organisations are studying initiatives to reduce energy consumption in their own countries, and the different ways people respond to these initiatives, in order to make recommendations to government about how to best help households across the EU reduce their energy consumption.

For further information on the GILDED project contact the project co-ordinator Nick Gotts (n.gotts@macaulay.ac.uk) or project manager Lee-Ann Sutherland (l.sutherland@macaulay.ac.uk).

GILDED poster for Scientific Audiences

The GILDED Project - Governance, Infrastructure, Lifestyle Dynamics and Energy Demand: European Post-Carbon Communities

Gotts,N.M., Sutherland, L-A., Cudlínová, E., Kovách, I., Reusswig, F. and Steg, L.

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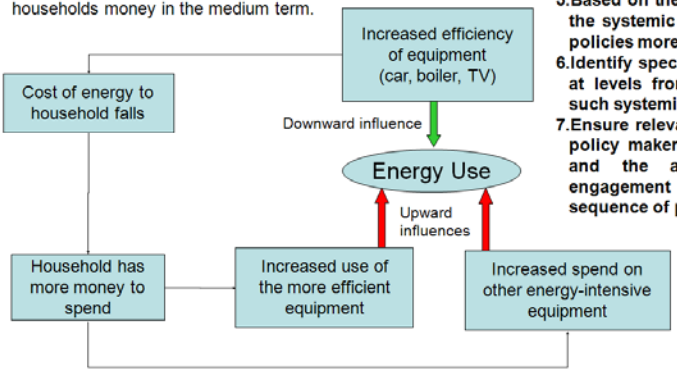
Loft insulation being laid

External cavity wall insulation

Energy Saving and Efficiency

Improved energy efficiency, and changes in consumer behaviour, offer the best opportunities to cut carbon-intensive energy use within the next decade. Measures like switching off equipment when unused, and walking, cycling or using public transport instead of driving, can save households money immediately; improved insulation (above), and more efficient vehicles and heating systems require significant initial outlay, but can save households money in the medium term.



Scientific Objectives

1. **Analyse the structural factors (governance, power relations, physical infrastructure) shaping current and recent energy demand and use in the household sector, in five case study areas, each consisting of a city and its functionally associated rural areas.**
2. **Identify the socio-economic, cultural and political factors and actors which are either facilitating or obstructing reduction of carbon-intensive energy use across urban and rural individuals and households, through the analysis of lifestyle patterns and characteristics.**
3. **In cooperation with stakeholders, investigate past and current trends in energy demand and use. Each case study will focus on one or more past, present or possible community or policy initiatives to reduce carbon-intensive energy demand and use.**
4. **Develop agent-based models of selected case-study areas and initiatives, demonstrating the potential outcomes of specific policy implementations.**
5. **Based on the case studies and agent-based models, identify the systemic changes necessary to make European energy policies more environmentally friendly.**
6. **Identify specific policy instruments which can be employed, at levels from local government upwards, to bring about such systemic changes.**
7. **Ensure relevance and dissemination of research findings to policy makers and other stakeholders, the general public, and the academic community, through the direct engagement of local stakeholder advisory groups, and a sequence of policy briefs.**

Micro-hydro power, Gants Mill, Somerset, UK

The Rebound Effect

Increased energy efficiency might look good all round: households save money, and emissions fall. However, if households either increase use of the more efficient equipment, or spend money saved on energy-intensive goods or services, net emissions may fall less than expected, or even rise. To prevent this "rebound effect", either energy prices must rise, or energy users must adopt energy saving as a goal independent of financial considerations.

Case study areas

A. Scotland: Aberdeen and Aberdeenshire
B. The Netherlands: Assen and Assen Municipality
C. Germany: Potsdam and Brandenburg
D. The Czech Republic: České Budějovice and Budějoviceshire
E. Hungary: Debrecen and Hajdú-Bihar County

Map from Wikimedia commons

Small-scale energy generation

Electricity and heat generation on a household and community scale can contribute to reducing greenhouse gas emissions and improving energy security. Experience in Europe suggests that community ownership can greatly increase the acceptability of installations such as wind turbines.

Household and community energy generation can also signify commitment to energy sustainability, encouraging energy saving behaviour change , and reducing the rebound effect. However, at household level there is some risk that ineffective electricity generating equipment may displace more cost-effective energy saving measures.

For further information of GILDED, go to the website: http://www.gildedeu.org/

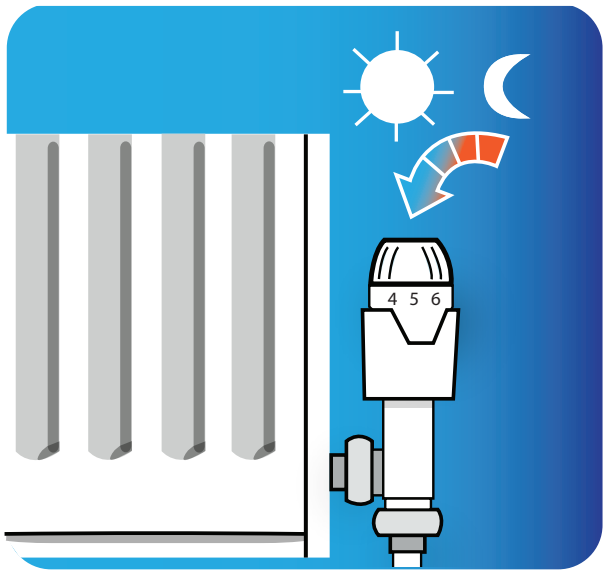
Stakeholder Advisory Groups at Work

IPS HAS: First Stakeholder Advisory Group Meeting

PIK: First Stakeholder Advisory Group meeting

ENERGY SAVING TIPS

Try and follow these 23 suggestions as often as you can and see how much energy you can save in one year!



1| *Only heat rooms that people regularly use*
The advantage of central heating is that it can heat several rooms at the same time. However, it is not necessary to heat rooms which are only used once in a while, like bathrooms, halls or spare rooms.

2| *Turn the thermostat to 15° C at night*
15° C is a good temperature for when you are sleeping. At a higher temperature the heating uses a lot of needless energy; at a lower temperature, a lot of energy is used to increase the heat in the morning.

3| *Turn down the heating*
In general, a temperature of 20° C is high enough during the day. When you are physically active you can turn down the heating even more. For every degree that you turn down the heating you will save on your energy consumption.

4| *Take fewer baths and shorter showers*
Combined with heating rooms, heating water takes the most energy in households. You can easily save energy by taking a shower instead of a bath. Taking a bath uses around twice as much energy and water as taking a shower.

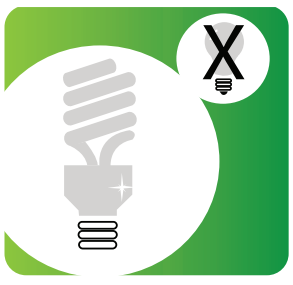
Shorter showers also help. Reducing your shower time by one minute saves around 6 to 8 litres of hot water.

Another good way to save energy is to install a water-efficient showerhead.

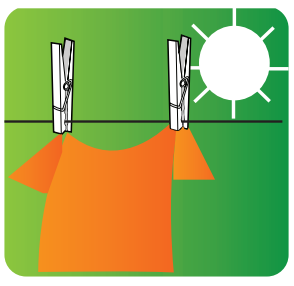
5| *Ventilate fast with wide open windows*
To let in fresh air, turn off the heater and open the window widely. The air is exchanged while the walls stay warm. Don't leave windows open while the heating is on.

6| *Insulation*
Around half the heat lost in a typical home escapes through the walls and the roof. Installing good insulation in your walls, attic and cellar is a very effective way to save energy. New, double glazed windows will help you save substantially on home heating costs as well.

Another way to save energy is to attach insulating boards or foils behind your heaters.



7| *Replace regular light bulbs with energy saving light bulbs*
They use up to 80% less electricity than a standard bulb, but produce the same amount of light. Technology has moved on a lot since energy saving light bulbs were first invented and so has the way they look: you can buy ones that look similar to old-style bulbs and give out the same coloured light. Energy efficient bulbs are now widely available at low prices, including in supermarkets.



8| *Line drying*
You can save a lot of energy by line drying and only use the dryer if you don't have other options, for instance when it is raining or if you can't dry the laundry inside.

9| *Replace white goods with energy saving recommended appliances*
Before buying new appliances like washing machines and refrigerators take a look at energy saving alternatives, *www.topten.info* offers a list of the most efficient washing machines, dishwashers and refrigerators.

Energy use between different models of refrigerators and freezers energy varies substantially. The most efficient are labeled as "A++".

10| *Don't put appliances like the television or DVD players on stand-by*
About 30% of the energy use of audio equipment is caused by stand-by usage. So be sure it is switched 'off' at the wall or unplugged, not just on stand-by.

11| *Turn off the monitor when you turn off the computer*
When you turn off the computer, the monitor usually goes into stand-by mode. The monitor then still uses power. You can turn off the monitor by pushing the power button on the monitor.

12| *Turn off the computer when not in use*
It can be tempting to leave the computer on when you aren't using it, but a computer still uses approximately 70% of its energy even when it's not in use. So turn it off even when taking breaks.

13| *Unplug the computer and appliances like printers and modems*
The transformer in your computer uses power, even when the computer is off. If you want to prevent this you can unplug your computer. This does not have any consequences for your computer. For instance, the clock will keep working.

14| *Replace meat by other types of food*
Producing, transporting and consuming food is responsible for nearly a third of individuals' contribution to climate change. Meat especially is a very energy-intensive type of food. By eating less meat you can save a lot of energy: beef in particular, requires a lot of energy per kilo to produce.

15| *Fill up the washing machine*
Some washing machines use slightly less water and energy for smaller loads, but these savings are small in comparison to doing laundry in big loads. The same is true for the 'half full' button.

16| *Wash at lower temperatures: 60° C instead of 90° C and 30 ° C instead of 60 ° C*
Detergents have improved significantly over the past few years. Laundry now will get clean at lower temperatures and washing at these lower temperatures will only take half as much energy.

17| *Turn off light in unoccupied rooms*
You can save energy by turning off lights in unoccupied rooms. This counts for all types of lighting, including energy efficient light bulbs and strip lights.

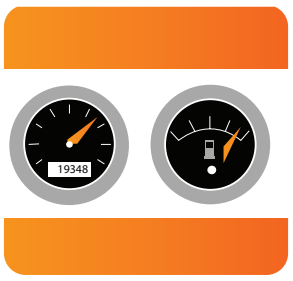
18| *Regional and seasonal food consumption*
Long distance transport by planes, ships or trucks can waste a lot of energy. As a result, regional food usually requires less energy, if the means of transportation and production are energy efficient. On average, flown in vegetables and fruits use up to 48 times more fuel than regional ones! So take a look at where the products you buy come from.

Eating seasonal fruit and vegetable can also help tackle climate change: growing vegetables in green houses uses a lot more energy. Seasonal food is mostly regional, so it doesn't have to be transported over long distances.

19| *Avoid travelling by airplane*
Every flight emits a significant amount of greenhouse gases. Flying long distances in many cases causes more air pollution than a whole year of driving a car. Try to avoid flying and use the car, coach or train instead.

20| *Compensate for your flight*
If there is no feasible alternative to flying, you can compensate for the CO_2 emissions: approved organizations like atmosfair (*www.atmosfair.com*) allow you to calculate the quantity of greenhouse gases caused by your flights and how much it costs to save these emissions by investing in climate protection projects.

21| *Use the bike instead of the car*
As nearly a quarter of all car journeys are under 2km, walking or cycling is often a practical alternative to driving: with a bike 2km should only take you about 15 minutes.



22| *Adopt an energy efficient driving style*
An energy efficient driving style means that you shift to a higher gear as soon as possible, keep to the maximum speed limit, accelerate slowly and brake carefully. You can save a lot on your fuel when you adopt this driving style. It also helps to pump up your tyres: underinflated tyres create more resistance when your car is moving.

23| *Travel by train or coach instead of travelling by car on your own*
The train emits approximately one third of the CO_2 emissions that a car emits per km. For longer trips another alternative are coaches. They need even less petrol per person than the train.

GILDED

GILDED (Governance, Infrastructure, Lifestyle Dynamics and Energy Demand:European Post-Carbon Communities) is funded through the European Commission 7th Framework Programme for Social Sciences and Humanities. It is led by the Macaulay Institute in Aberdeen, Scotland in partnership with the Potsdam Institute for Climate Impact Research (Germany), the Institute for Political Science of the Hungarian Academy of Sciences, the University of Groningen (the Netherlands) and The University of Southern Bohemia (Czech Republic) For further information go to: www.gildedeu.org.