



A short guide to  
**Carbon Offsetting**



[direct.gov.uk/offsetting](http://direct.gov.uk/offsetting)

# The challenge we face

Climate change is the greatest environmental challenge facing the world today. The Earth has warmed by about 0.75°C since about 1900. Much of this warming has occurred in the last 50 years, meaning that global sea levels have risen, glaciers and sea ice have melted, floods and droughts are on the increase and heatwaves are worse. Moreover, we are committed to further unavoidable climate change from this past rise in temperature, including further sea level rises, for centuries to come. Climate change affects all of us – but we can all be part of the solution by taking steps to reduce our carbon emissions.



Generating energy from wind power. Lufeng Jiadong First Phase Wind Farm Project, Philippines. Xiaopeng Li, UNFCCC/CDM photo contest 2008.

# A question for our times...

You're worried about climate change and want to do something about it. So, you turn off your lights and turn down your heating. You may even install cavity wall insulation or purchase solar panels. It all helps to reduce CO<sub>2</sub> emissions. You're also trying to fly less, but you and your family still want to take a well-earned holiday in the sun – and you have to fly to get there. For all your efforts, you are still releasing greenhouse gases into the atmosphere. The question is, what can you do to reduce your impact even further? The answer could be carbon offsetting.

## About this guide

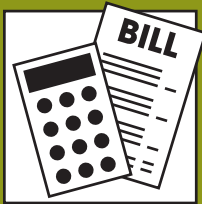
You may have heard of carbon offsetting, but may not understand exactly what it means or you may not believe that offsetting makes a difference. Or you want to offset but don't know where to find proper, good quality offsets. **This short guide provides the information you need.** It should help you make a more informed choice about whether offsetting is appropriate for you or your business. And it will direct you towards carbon offsets that meet the Government's criteria for good quality.



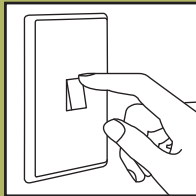
Using bagasse (residue from sugarcane processing) as a renewable energy source. Bagasse based Co-generation Power Project at Khatauli, India. Adeel Halim, UNFCCC/CDM photo contest 2008.

# The hierarchy of actions

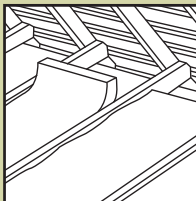
Before choosing to offset, there are other steps that you should take to reduce emissions. The Government recognises a hierarchy of actions to combat the effects of climate change for both businesses and individuals and encourages you to take action on your carbon footprint in the following order:



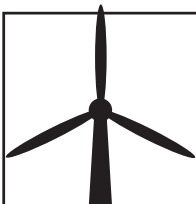
## Calculate



## Avoid



## Reduce



## Offset

**Calculate** – the first action is always to calculate your carbon emissions or the carbon emissions from your organisation. Common emission sources are electricity and gas use and transport. A number of emissions calculators exist – the Government’s preferred calculator for individuals is the Act on CO<sub>2</sub> Carbon Calculator (available at [www.direct.gov.uk/ActOnCO2](http://www.direct.gov.uk/ActOnCO2)). For organisations, the Carbon Trust has a carbon calculator (available at [www.carbontrust.co.uk](http://www.carbontrust.co.uk)). Both calculators use the latest conversion factors and provide advice on how to reduce your emissions.

**Avoid** – Once you know the size of your carbon footprint you can begin to take action on CO<sub>2</sub>. Many emissions can be avoided in the first place for example by finding alternatives to travelling or turning off equipment when it is not in use.

- **Reduce** – Once all reasonable actions have been taken to avoid emissions, you should take action to reduce your remaining emissions through efficiency measures, such as using low-energy light bulbs or installing better insulation. Again, both the Act on CO<sub>2</sub> Calculator and the Carbon Trust can advise on avoiding and reducing emissions.
- **Offset** – Many emissions cannot currently be avoided or reduced. You could consider offsetting some or all of these remaining emissions. Offset providers will help you to calculate the emissions relating to the particular activities you wish to offset. If you’re not sure where to buy your offsets, the Quality Assurance Scheme for carbon offsetting will make it easy for you to identify good quality offsets. If you don’t purchase quality assured offsets, then you should take the time to check that the offsets you choose represent real CO<sub>2</sub> reductions and have been measured and verified by a competent third party.

# What exactly is carbon offsetting?

Carbon offsetting compensates for your unavoidable emissions by allowing you to fund an equivalent carbon dioxide saving elsewhere in the world. Offsetting is not a 'cure' for climate change – the most effective way to help combat climate change is to reduce your emissions. This can have the additional benefit of helping to save money by reducing energy use. However, if done in the right way, offsetting can reduce the impact of your actions and help raise awareness by putting an actual price on the carbon you emit.



Producing biogas from swine wastewater to generate electricity, Superior Hog Farms Methane Recovery, Philippines. Enrimand Esmer Dejeto, UNFCCC/CDM photo contest 2008.

# What does offsetting actually involve?

Carbon projects funded through offsetting must be 'additional' – meaning that the reductions must be in addition to those that would have happened anyway, had the offset funding not been available. So if a project to install solar panels for electricity was sufficiently profitable to have gone ahead anyway using private/state funding, it shouldn't qualify as an emission reduction project that can generate carbon credits for offsetting.

Projects reducing or avoiding emissions range from hydro-electric power stations to biomass generation plants and wind farms. The pictures in this leaflet show different types of offsetting projects from around the world. As well as reducing CO<sub>2</sub> emissions, these projects can have additional benefits, such as creating local jobs or helping reduce water stress.



Using solar energy for water heating. Kuyasa low-cost urban housing energy upgrade project, Khayelitsha, Cape Town, South Africa. Nic Bothma, UNFCCC/CDM photo contest 2008.



Generating energy from wind power. Guohua Inner Mongolia Huitengliang Wind Farm Project, China. Chun Li, UNFCCC/CDM photo contest 2008.



Harnessing river water to generate electricity, Hedcor Sibulan 42.5 MW Hydroelectric Power Project, Philippines. Paolo Justin Alquiza, UNFCCC/CDM photo contest 2008.

## The Quality Assurance Scheme for Carbon Offsetting

The Government's Quality Assurance Scheme for carbon offsetting was launched in February 2009 to provide you with confidence that the offsets you purchase are actually reducing the impact of your actions. The scheme was developed in response to research that suggested that people were interested in offsetting their emissions but didn't know where to go to find trustworthy offsets. You can now look for the quality mark (see right) being used by offset providers.

The Quality Assurance Scheme currently only approves credits that are verified by the United Nations under the Kyoto Protocol – the international agreement for reducing greenhouse gases – or under the EU’s emissions trading system – and go through the most robust quality-control process. This provides the highest possible assurance that the project generating the credits is additional and permanent and does lead to an equivalent emissions reduction. The scheme does not permit the inclusion of unregulated, independent ‘voluntary’ offset credits because Government does not currently have the necessary level of assurance to vouch for the quality of these credits.

Carbon offsets with the quality mark:

accurately calculate your CO<sub>2</sub> emissions using approved factors;

use good quality carbon credits that comply with robust standards and that are verified by the United Nations or under the EU’s emissions trading system;

see the cancellation of carbon credits within a year of purchase, ensuring that the same credit is not bought twice;

are priced transparently (including how much the credits cost per tonne);

are accompanied by information about the role of offsetting in tackling climate change and advice on reducing your carbon footprint.



[direct.gov.uk/offsetting](http://direct.gov.uk/offsetting)

Further information is available at [www.direct.gov.uk/offsetting](http://www.direct.gov.uk/offsetting).

This webpage also contains a link to a list of providers selling approved offsets.

# Offsetting myths and misunderstandings

## **I can't make a difference – offsetting a flight here or there won't help**

In the UK the average household produces around 10 tonnes of carbon dioxide annually. Two people taking a return flight to New York are responsible for 2.68 tonnes of CO<sub>2</sub> emissions – that's over a quarter of UK's annual household average. It all counts!

## **The Government tells people to do this stuff but isn't leading by example**

The UK's Low Carbon Transition Plan outlines the steps Government is taking to reduce the UK's carbon emissions (available at [www.decc.gov.uk/en/content/cms/publications/lc\\_trans\\_plan/lc\\_trans\\_plan.aspx](http://www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx)). The UK has developed a Government Carbon Offsetting Facility (GCOF) to offset emissions arising from official and ministerial air travel.

## **Offsets are just tree planting schemes**

Some offsetting projects involve planting trees, but it can take many years for the environmental benefits to be realised. It's also difficult to measure how much CO<sub>2</sub> is actually saved. For this reason, very few such projects have currently been approved by the United Nations. It's not expected that offsets from such projects will be covered by the Quality Assurance Scheme. The Forestry Commission is looking at how to develop robust forestry projects in the UK through a separate code of practice.

## **Offsetting schemes are just a money-making ploy**

There are overheads related to setting up and auditing offset projects to ensure that they're real and robust. The Quality Assurance Scheme requires offset providers to give clear pricing (price per tonne of CO<sub>2</sub>) so that you can easily compare costs. There is a cost to reducing CO<sub>2</sub> and offsets reflect this – cheap offsets are not necessarily better, as reductions claimed may not have been properly audited.

## **It's only worth buying offsets from projects in the UK**

Because the UK has a target for reducing its emissions of greenhouse gases, there are significant difficulties in demonstrating that reductions from UK offset projects have not been 'double-counted' – first by the individual purchasing an offset, and also when they're automatically recorded under the UK's national target. As a result, Government does not encourage the creation of UK-based offsets.

## **By offsetting, we're passing the buck to developing countries**

Rather than passing the buck, offsetting leads to investment in projects aimed at reducing emissions and helping the development of low carbon technologies in developing countries.



Converting waste into energy and income. Quezon City Controlled Disposal Facility Biogas Emission, Philippines. Romeo Mariano, UNFCCC/CDM photo contest 2008

## Useful links:

**DECC:** [www.decc.gov.uk](http://www.decc.gov.uk)

Government's Quality Assurance Scheme (QAS) for carbon offsetting:  
[www.direct.gov.uk/offsetting](http://www.direct.gov.uk/offsetting)

## Act on CO<sub>2</sub>:

[www.direct.gov.uk/ActOnCO2](http://www.direct.gov.uk/ActOnCO2)

## List of quality assured offsets:

[www.direct.gov.uk/ActOnCO2/offsetting](http://www.direct.gov.uk/ActOnCO2/offsetting)

## Carbon Trust:

[www.carbontrust.co.uk](http://www.carbontrust.co.uk)

## Energy Saving Trust:

[www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)

**Clean Development Mechanism (CDM):** <http://cdm.unfccc.int>



Using bagasse (residue from sugarcane processing) as a renewable energy source. Lucelia Bagasse Co-generation Project (LBGP), Brazil. Pedro Guinle, UNFCCC/CDM photo contest 2008.