

# Green Power & Cleaner Power



ENERGY SUPPLY  
ON A GLOBAL SCALE

WITH RESPONSIBILITY  
TO NATURE AND  
THE ENVIRONMENT

**TOTAL GAS & POWER**

Our energy is your energy



**TOTAL**



# Green Power & Cleaner Power from Total Gas & Power

**Hydro generated Green Power and low carbon CHP sourced Cleaner Power offer inexpensive solutions to emissions reductions.**

There is little doubt that the world's climate is changing. More and more scientific evidence suggests that global temperatures are rising – perhaps even faster than scientists initially thought. Climate change and carbon footprints are now common terms, and the issues and implications surrounding them are of concern to us all.

**Today's consumer demands social responsibility from business, and environmental issues are increasingly at the top of their agenda.**

Scientists and government alike are now insisting on the need for business and industry to reduce their 'Carbon Footprint'. At the Kyoto Summit in 2002, the UK government agreed to cut carbon dioxide emissions by 20% from 1990 levels by the year 2010. Indeed, there are now financial incentives available to UK companies which utilise cleaner, green power.

How can you take real, genuine steps toward reducing your business' environmental impact without drastically changing the way you work? You can help to achieve the 20% reduction target in several ways, but the simplest method by far is choosing the right power product.

Renewable energies which are environmentally friendly and limitless are termed Green Power..



Green Power is produced in small scale hydropower stations using river water flows.

**Our CHP Power is efficiently sourced to reduce emissions, and is termed Cleaner Power.**



Wind turbines are a popular green source.

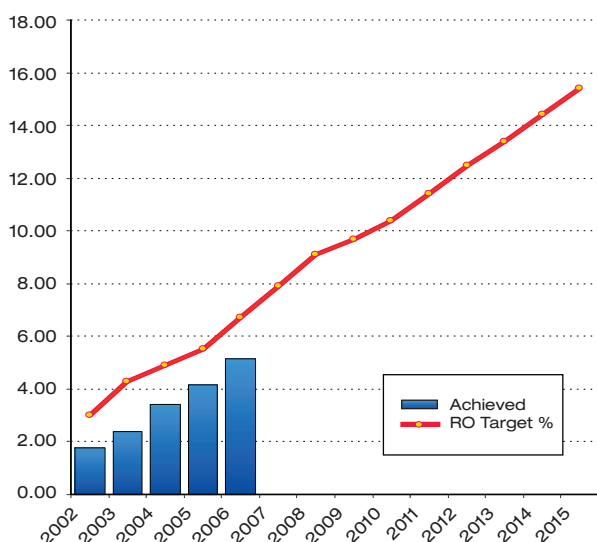
**Both Green Power & Cleaner Power are now available to you from the business energy experts, Total Gas & Power.**

## Who Should Buy Green Power or Cleaner Power?

The obvious answer is that we all should. Real progress to reduce emissions has to start soon, or more drastic measures will be taken to make companies and individuals pay for the environmental cost of their activities. Increased consumption of green energy products now may reduce the need for strict and expensive governmental controls in the future. According to the government's Energy White Paper (5.19), in 2006, the power generation mix in the UK contained only 4% of power generated from renewable fuels.

While the volume of energy from renewable resources is increasing every year, we have yet to meet our Renewable Obligation targets set by government since 2002 (see the graph). By signing up to a Green Power and/or Cleaner Power product, you will ensure that the right amount of renewable energy is purchased to cover what you use. Buying more green energy means less demand from polluting energy sources and thus helps to reduce the levels of carbon being emitted. So while the green energy is fed into the grid and mixed with electricity from all sources, buying a renewable power product helps to ensure that more is produced.

As you will see from the graph, the achieved volume of energy from renewable energy, while increasing each year is consistently below the target so far:



### Renewable Statistics

- About 670g CO<sub>2</sub> is emitted for every kWh of electricity used.
- Headline government targets to reduce carbon emissions for the UK:
  - 10% by 2010
  - 20% by 2020
  - 60% by 2050
- With 10% of UK electricity generated from renewable energy, we would save 2.5million tonnes of CO<sub>2</sub> a year.

### Carbon Trust Survey

- 74% of people think businesses are not doing enough to cut their carbon emissions and tackle climate change.
- 64% of people say that their carbon footprint is important.
- 67% are more likely to buy a product with a low carbon footprint.
- 64% are more likely to use a business that claims to have a low carbon footprint.

## How is Green Power produced?

### Environmental sources

It is generated from sources occurring naturally in the environment, such as wind, water (waves and hydropower) or the sun. Other methods of generating power that do not rely on fossil fuels such as oil, coal, and gas are carbon neutral, or at least emit much lower levels of carbon, and are also considered green.

### Hydropower

Total Gas & Power's Green Power is produced in France and Switzerland by small scale hydropower stations using river water flows. All of these hydropower stations qualify with Ofgem and under HM Revenue & Customs regulations for exemptions from the Climate Change Levy (CCL), which is the tax on supply from fossil fuel based power generation. The electricity is transported to the UK via an inter-connector with France. The power generated from green sources is therefore fed into the UK network just like electricity from any other source, and can be used anywhere in the UK with your existing infrastructure and equipment.

### Hydroelectric power

While there are many ways to harness energy from the natural environment, some are better than others. Hydroelectric power has been used for decades, but the smaller scale hydro projects - such as those used by Total Gas & Power - have far less environmental impact than the traditional large dams.

### Wind turbines

Wind is also a popular green source because it is relatively straightforward to build and run a turbine, but there is significant opposition to the proliferation of wind farms being proposed in the UK because of their visual impact on the landscape.

### Biomass fuels

Biomass fuels do produce carbon emissions when organic matter, such as plants or woodchip, is burned, but since the plants absorb carbon during the growth cycle, the process is considered carbon neutral, and is therefore green.

### Carbon Offsets

Offsetting is a method of compensating for emissions produced with an equivalent carbon saving, lessening the impact of a consumer's actions. Consumers can offset a particular business activity including all of the gas and electricity they consume. Carbon offsetting involves calculating emissions and then purchasing equivalent credits from emission reduction projects that have prevented or removed the emission of an equivalent amount of carbon dioxide somewhere else.

### Landfill Energy

Landfills contain significant portions of organic materials that produce a variety of gases when they are compacted and covered in landfills as they decompose. Carbon dioxide and methane are the primary byproducts. Water soluble carbon dioxide is likely to leach out of the landfill, but methane, which is lighter than air, is likely to move up and out. Landfill gas energy companies capture the methane and use turbines to convert it to power.



Total's combined cycle CHP station in Gonfreville, France.

## How is our Green Power Produced?

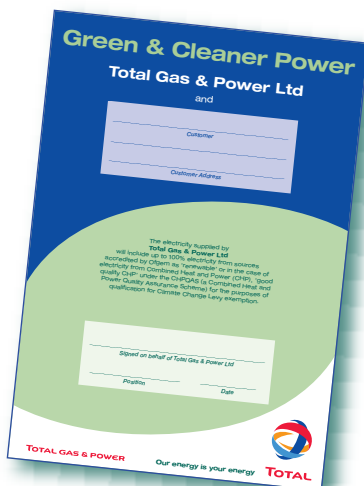
Our Cleaner Power is produced using Combined Heat and Power (CHP) technologies. CHP is the highly efficient, simultaneous generation of heat and power in a single source, and the very largest industrial CHP plants rival traditional power plants in delivering huge quantities of power, except that they do so far more efficiently.

**Total's 250MW integrated gasification combined cycle CHP station in Gonfreville France is a perfect example of research and innovation at its finest.**

You may ask why power which is generated abroad counts toward UK green energy targets. The answer is that every unit of Green Power generated there and transported across the inter-connector can be used to reduce the level of polluting energy produced in the UK, and so still provides the benefit in Britain.



Biomass fuels such as plants absorb carbon dioxide making the process carbon neutral.



Sustainable power certification.

## Why should I choose Green and/or Cleaner Power?

Purchasing Total Gas & Power's Green Power or Cleaner Power may be no more expensive than your current power package. Using Green Power or Cleaner Power exempts you from paying the CCL because it is a tax on fossil fuel based energy for non-domestic use. On the other hand, it is quite possible that in the future businesses and individuals will be made to pay more for not using green energy through penalties for exceeding carbon allowances.

Green Power and Cleaner Power are compatible with our suite of energy procurement packages, so your contract will remain unchanged. Similarly, these products offer all the flexible options and easy payments with Direct Debits you have come to expect from Total Gas & Power. Are you interested in sustainable power certification? We may be able to help with that too.

Switching to Green Power or Cleaner Power is a straight forward solution which actively demonstrates your commitment to reducing emissions, and sends out a positive message about your business.

**Switching to Green or Cleaner Power is a sound business decision.**

**The real question is can you afford not to?**



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