

## **Twelve Steps to Help You Kick the CO2 Habit From United Nations <http://www.unep.org>**

Whether you are an individual, an organization, a business or a government, there are a number of steps you can take to reduce your carbon emissions, the total of which is described as your carbon footprint. You may think you don't know where to begin, but by reading this, you have already begun.

### **1. Make a commitment**

Reducing your carbon footprint is no different from any other task. Telling people you will reduce carbon emissions may seem simplistic, but even simple actions like announcing your commitment to going carbon neutral can be effective, while the simple act of asking for ideas can lead to creative and innovative solutions. Several countries have indicated in recent months that they will go carbon neutral, led by Costa Rica, New Zealand and Norway. The United Nations system itself, led by Secretary-General Ban ki-Moon, and guided by the UNEP-led Environment Management Group, is moving towards carbon neutrality. UNEP is also facilitating carbon neutrality in all sectors and all regions through its climate neutral network.

### **2. Assess where you stand**

It is likely that carbon will eventually be judged as an atmospheric pollutant and regulated accordingly, with consequent costs—and opportunities—for all sectors of society. Knowing where and how you generate greenhouse gases is the first step to reducing them. For individuals and small businesses, online calculators and internal assessments can help start the process. Larger organizations may need specialized advice and tools, such as the new ISO 14064 standard for greenhouse gas accounting and verification, or the Greenhouse Gas Protocol, provided by the World Resources Institute and World Business Council for Sustainable Development, which is an accounting tool for government and business managers to understand, quantify, manage and report greenhouse gas emissions.

### **3. Decide and plan where you want to go**

Based on your assessment of climate-related risks and opportunities, a strategy and action plan can be developed. Targets help focus efforts and also provide a benchmark for measuring success. Most homes or businesses can reduce energy use by 10 per cent—which almost always results in a 10 per cent reduction in greenhouse gas emissions—with a one year payback or less. A plan to reduce carbon emissions will first focus on the type of energy and the way it is used; for example electricity for buildings and fuel for transport. Reducing this energy can create instant savings. An effective tool is an energy audit. Many electric utilities and government energy offices now offer an audit as part of their efforts to reduce carbon emissions.

#### **4. De-carbon your life**

There is a broader way to think about carbon and climate. Everything an individual, organization, business or government does or uses embodies some form of carbon, either in products themselves or in the energy and materials it takes to make them. Buildings, fittings and equipment are all proxies for carbon; 'carbon copies' can be chosen based on the least amount of impact they will have on the climate. Integrating climate friendly criteria into decision making can trigger a ripple effect.

If consumers, manufacturers and lawmakers all think 'low carbon' and 'climate friendly' savings in carbon emissions will multiply. Take packaging as an example. US retail giant Wal-Mart worked with one of their toy suppliers to reduce packaging on just 16 items. The toy suppliers saved on packaging costs while Wal-Mart used 230 fewer shipping containers to distribute their products, saving about 356 barrels of oil and 1,300 trees. By broadening this initiative to 255 items, the company believes it can save 1,000 barrels of oil, 3,800 trees, and millions of dollars in transportation costs.

Another example: you can buy paper or wood products that adhere to internationally certified standards. The Forestry Stewardship Council ([www.fsc.org](http://www.fsc.org)), for example, is an international non-profit organization promoting responsible management of the world's forests. The FSC trademark is increasingly recognized as an international standard for responsible forest management. More than 90 million hectares in more than 70 countries have been certified according to FSC standards while several thousand products are produced using FSC certified wood and carrying the FSC trademark. Switching to recycled or sustainably sourced paper can also lead to considerable savings, reducing both landfill use and carbon emissions. Using recycled paper can save 1.4 tonnes of CO<sub>2</sub> for every tonne of paper and cardboard.

Other ways of reducing your carbon footprint include wasting less time and energy on travel. Cities can improve public transport options, companies can encourage low carbon habits (by ceasing to subsidize parking or investing in hybrid technology company vehicles), and individuals can car pool or use public transport. Sometimes simple actions can produce a shift. Secure bicycle storage and changing and shower facilities, for example, are often inexpensive compared to other parking structures but create a strong incentive for those who can commute by bicycle. In larger cities with adequate public transport, a monthly or yearly pass can be offered instead of parking facilities. Paris and Vienna, for example, offer a public bicycle system that reduces greenhouse gas emissions and traffic congestion.

#### **5. Get energy efficient**

Improving the efficiency of your buildings, computers, cars and products is the fastest and most lucrative way to save money, energy and carbon

emissions. This does not mean going without. Energy efficiency is about increasing productivity but doing more with less. More efficient buildings, cars and products will a direct and lasting contribution to limiting carbon emissions. Conventional buildings can account for almost 40 per cent of CO<sub>2</sub> emissions. High performance, environmentally accountable, energy efficient and productive facilities are now economically possible.

Very simple measures can lead to immediate savings. Just turning off unused lights, motors, computers and heating can substantially reduce wasted energy—and money. Generally, laptop computers use less energy than desktop computers and LCD monitors use less energy than CRT screens. Also consider what to do with equipment when its useful life is finished. Some manufacturers offer take-back or recycling. Also look for energy efficiency standards. For appliances, the Energy Star rating is a way to describe efficiency. For many brands now, the highest energy efficiency rating does not cost any more than less efficient products. Originally from the United States, Energy Star is now applicable in Europe.

Think about your travel. Advanced web and video conferencing technology mean the time is rapidly approaching when the need to travel will be substantially diminished. A two-day trip to attend a meeting 1,000 km (600 miles) away can cost about US\$2,000 per person when accommodation, travel and meals are included, while a video conference may cost as little as US\$200. The savings are US\$1,800 and about half a tonne of carbon. Telecommuting is also increasingly an option for many. A study by the Telework Coalition ([www.telcoa.org](http://www.telcoa.org)) found that if 32 million Americans who could telecommute did so one day a week, they would drive 2 billion kilometers less, save 300 million litres of fuel and gain the equivalent of 32 million extra hours every week for leisure, family or work.

Lighting can account for 15-20 per cent of total electricity use. Converting coal at the power plant into incandescent light is only three per cent efficient. Compact fluorescent lights (CFLs) have evolved rapidly in the past decade. They now last between six and 15 years and reduce electricity use by a minimum of 75 per cent compared to a standard incandescent bulb. The advantages of CFLs and other high efficiency lighting have prompted legislation to ban incandescent bulbs. In 2007, Australia was the first country to mandate that no incandescent bulbs will be sold by 2012, a move that will reduce emissions by four million tonnes and cut power bills for lighting by up to 66 per cent.

## **6. Switch to low carbon energy**

If possible, switch to energy sources that emit less carbon and can reduce costs and emissions. Generally, coal produces twice the emissions of gas, six times the amount of solar, 40 times the amount of wind and 200 times the amount from hydro. In many parts of the world customers can choose to have a percentage of their electricity supplied from a renewable energy

source, such as a wind farm or landfill gas project. These 'green choice' programmes are maturing and proving to be a powerful stimulus for growth in renewable energy supply. Today, more than 50 per cent of all US consumers, for example, have an option to purchase some type of green power product.

Larger users can even build their own lower emission energy systems, using solar power or lower carbon technologies such as generators powered by natural gas. A Global Environment Facility project in eastern and southern Africa is promoting small-scale hydro schemes in the tea industry and cogeneration using agricultural waste from the sugar industry to generate electricity for industry use and to feed into national grids. In the United Kingdom, the Body Shop bought a 25 per cent stake in a large modern wind generator to provide renewable energy for its UK operations. Other companies installing their own renewable energy plant include 3M, DuPont, General Motors, IBM, Johnson & Johnson and Staples.

At the small business or household level, tax breaks and incentives can make solar photovoltaic systems and other renewable energy technologies cost effective. Rooftop solar electric panels can provide energy over time, reduce electricity costs and provide a buffer against price fluctuations. UNEP is helping promote such schemes in southern India and North Africa.

The transport sector is responsible for 25 per cent of total energy consumption and greenhouse gas emissions, mainly from burning petrol and diesel. Various options exist for kicking the carbon habit. Hybrid engines that combine electricity and conventional petrol or diesel engines can offer substantial fuel savings while reducing emissions. Vehicles can also run on a range of alternative fuels that can offer both cost and environmental benefits, although they also often require an additional investment that take some time to pay back. These include compressed natural gas (CNG), liquefied petroleum gas (LPG), liquefied natural gas (LNG) and biofuels.

Biodiesel and bioethanol are biofuels made from crops, such as wheat, soy, corn and sugar cane. They are often blended with petrol or diesel, and almost all vehicles can run on blends up to 10 per cent without modification. Specially enabled biofuel cars can run on higher blends, such as a mix of 85 per cent bioethanol and 15 per cent petrol. In many parts of the world, biofuels are becoming more popular and easier to find commercially and in various blends. For companies with automotive fleets, biofuels can be a cost-effective low-carbon alternative.

## **7. Invest in offsets and cleaner alternatives**

There is a limit to how much efficiency you can squeeze from your lifestyle or your organization's operations, or how much renewable energy you can employ. The choice for those who wish to compensate for their remaining emissions is to fund an activity by another party that reduces emissions. This

is commonly called a 'carbon offset' or 'carbon credit'. The term carbon neutral includes the idea of neutralizing emissions through supporting carbon savings elsewhere.

The average price for carbon offsets is US\$15 per tonne, but costs range from US\$5-50 per tonne. To purchase offsets, individuals or businesses pay an offset company to implement and manage projects that avoid, reduce or absorb greenhouse gases. Climate change is a global problem, so carbon reductions will have the same impact no matter where they are implemented. Carbon credits can be generated by emission-free energy generation, reduced demand, including energy efficiency, or sequestration in the form of underground and forestry storage.

According to one report, the highest quality offsets are generated from the flaring of methane from landfills, since methane is an even more potent greenhouse gas than CO<sub>2</sub>. Green Gas International ([www.greengas.net](http://www.greengas.net)) is a company that generates carbon credits by converting waste gas to clean energy through partnerships with mines, landfills and biogas producers. The worldwide benefits of such projects include 125 megawatts (MW) of power, saving four million tonnes of CO<sub>2</sub>.

## **8. Get efficient**

Looking at your life or business through a carbon neutral lens can help you in other ways by increasing the efficiency of resource use, avoiding and reducing waste and ultimately improving your overall performance and reputation. Economists are fond of saying that there are no banknotes lying around because someone will have already picked them up. In climate change, there are still plenty of banknotes just waiting to be picked up. After all, carbon is generally the waste product of producing energy, and reducing waste and becoming more efficient is always a good idea. Integrate the 3R approach—reduce, reuse and recycle—into your thinking.

## **9. Offer—or buy—low carbon products and services**

The market for climate friendly products and services is growing rapidly, from energy efficient products to new renewable energy systems. To offer such products, however, it's important to begin at the design stage. Actions as simple as adding energy efficient specifications into the design process, for example, can produce a design that minimizes energy consumption during its use and saves customers the time and energy from making adjustments to a product after a purchase, (for example having to wrap water heaters with insulation blankets).

A more systematic approach comes from the field of 'design for sustainability', which includes life cycle design and environmentally conscious design and manufacturing. This new approach considers environmental aspects at all stages of development to create products with the lowest

environmental impact throughout the product life cycle. Ecodesign is an important strategy for small and medium sized companies both in developed and developing countries to improve the environmental performance of their products, reduce waste and improve their competitive position on the market.

## **10. Buy green, sell green**

The market for green products and services is growing rapidly. In many countries consumer surveys report that growing numbers of consumers are willing to buy green products if given the choice. For businesses, innovative product design and presentation combined with responsible marketing and communications can help ensure that this consumer interest translates into purchasing. However, the market for green products remains underdeveloped because people still find it difficult to locate products or trust their environmental claims. Businesses can help consumers to be more climate friendly, from the online click for carbon offsetting on a tourism booking website to the label on a product at the local store.

## **11. Team up**

Many private sector companies are increasingly working with non-governmental organizations, cities or governments to identify and implement best practice solutions to reduce emissions. The Carbon Disclosure Project ([www.cdproject.net](http://www.cdproject.net)), for example is an independent non-profit organization providing information for institutional investors with a combined US\$41 trillion of assets under management. On their behalf, CDP seeks information on the business risks and opportunities presented by climate change and greenhouse gas emissions data from more than 2,000 of the world's largest companies.

Similarly, local and national governments are seeking opportunities to partner with business on delivering low carbon solutions. In countries such as Canada, government institutions and power utilities supported the setting up of Energy Service Companies (ESCOs). In the United States, the federal Environmental Protection Agency started the Energy Star program ([www.energystar.gov](http://www.energystar.gov)) in 1992 as a voluntary partnership to reduce greenhouse gas emissions through increased energy efficiency. In 2006, American businesses and consumers saved US\$14 billion on energy bills with the help of Energy Star saved and reduced greenhouse gas emissions equal to 25 million vehicles annually.

## **12. Talk**

The increasing importance of climate change means that companies and organizations will need to communicate. Transparency is critical. The internet and other new media mean that companies, organizations and governments cannot hide behind greenwash. This is where tools for verification and

reporting guidelines with recognized indicators are critical. One example is the Global Reporting Initiative (GRI) ([www.globalreporting.org](http://www.globalreporting.org)). Internal communications via intranets and company publications can report progress and acknowledge contributions by individual staff or teams. It's also important to let shareholders know. Reducing emissions, particularly by improving efficiency is a win-win situation that can also enhance a company's reputation. Consumers and investors alike are requesting information on a company's response to risks and opportunities related to climate change.

*(This is an abridged and adapted version of an original piece produced by UNEP for the UNEP/Sustainable Development International publication 'Climate Action' [www.climateactionprogramme.org](http://www.climateactionprogramme.org))*