

# 2008 edition

## Business Leaders Handbook on Making your Business “Green”



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Publication by Green 2020

# Energy Efficiency Toolkit

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Taking positive action



This new CD is a real hit. From the moment you hit play it will engage you from start to finish and leave you wanting more and more.

Highly recommended.

Excellent package for people new to energy conservation; great reminder for those with experience.

The T

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Love It With



## Looking for a 5 star review?

Over 2000 organisations now have our Energy Efficiency Toolkit - a multimedia resource pack specifically designed for people tasked with saving energy in their company.

It's a hit! with clear advice about designing hip energy efficiency campaigns and a compilation of innovative materials to help you achieve great results.

It's all part of our drive to help you save energy.

**It's easy when you know how.**

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sustainability partner



## Forward by the Carbon Disclosure Project

Foreword by Paul Dickinson, CEO of CDP

Climate change has now become an issue that business can ill afford to ignore. The scientific evidence to act is compelling. Concentration of greenhouse gases in the atmosphere have almost doubled since the industrial revolution and are set to increase three to four times that level if we continue with business as usual. Total emissions of greenhouse gases amount to approximately 6.9 gigatonnes annually. Estimates suggest that continuing with business as usual could lead to a doubling of that level in the next 50 years.

The corporate and investment communities are increasingly engaged with the role they can play in addressing the challenges of climate change and the Carbon Disclosure Project plays a key role in this dynamic by collecting corporate greenhouse gas emissions data and providing the largest database of corporate climate change data in the world ([www.cdproject.net](http://www.cdproject.net)). In the UK, 92% of FTSE100 companies report their greenhouse gas emissions and climate change data through the Carbon Disclosure Project and this is a key step in driving understanding within the business community of the relevance of climate change to current and future business strategy.

The first step towards managing carbon emissions within a business is to measure them, to work out how large your emissions are, and from what processes and what products they arise - because in business what gets measured gets managed. It is only when businesses have a grip of the exact levels and sources of emissions that they are in a position to act on them and reduce them.

Because climate change and carbon emissions cannot be dealt with in isolation, we need a global collaborative approach. It is only through collaboration between the investment and corporate communities, government and international bodies that we will achieve the levels of emissions reductions required. If more businesses progress further down the path of measurement and management and recognise the opportunities associated with investing in low carbon solutions then we will be able - and at surprisingly small economic cost - to offset the dangers which climate change poses to our world.

Carbon Disclosure Project *March 2008*

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## How to use this Pocket Handbook

This guide has been written and developed by leading industry professionals for business leaders on Climate Change and the environment and is designed to help give direction to business leaders on these topics.

The purpose is to help you as a business leader to better understand how environmental issue affect your business regardless of size and to give you some practical steps and contacts that will help you achieve not only environmental improvements but also get you in shape to compete in a market that is become more aware of the need to be green.

In this guide we provide direct advice on how you should put together an environmental management programme, how to measure your carbon footprint and, if you decide that you should offset or that you want to be carbon neutral, we offer advice on who you should consult in order to meet your requirements.

We hope that this will clarify the thought and action process that you need to go through as a business leader, when you are considering the environmental issues facing your business.

We would like to thank EDF Energy and Ricoh for being the principle sponsors of this guide.

Philip Emsley  
Chief Operating Officer  
Green 2020 Limited

### **Offset of Production**

The production of this book as been carbon offset with Carbonfootprint Limited

## To CSR or not to CSR

What is Corporate Social Responsibility?

The UK Government sees CSR as *“the business contribution to our sustainable development goals. Essentially it is about how business takes account of its economic, social and environmental impacts in the way it operates - maximising the benefits and minimising the downsides”*.

1. To show you're serious about environmental responsibility, you should integrate it into the very fabric of the company.
2. CSR requires a long term investment of people and resources. Don't start unless you're dedicated to continue if times get hard.
3. There are three main ways to perceive the business case for CSR; Cost savings, risk mitigation, and new business opportunities. Find out which is yours.
4. An executive leader or team that focuses strictly on CSR is necessary to promote and coordinate efforts.
5. CSR stretches across many different parts of the organisation. As many as possible need to be involved from the get-go.
6. Know the metrics you need to measure and the goals that need to be reached.
7. Take a hard look at your broader processes. For example, make vendors in your supply chain follow good CSR practices that fit your goals instead of just going after the low-hanging fruit.
8. Involve all of your external stakeholders in the process.
9. Engage all employees in the process.
10. Make your CSR program global, but implement it at a local level.

*www.BusinessGreen.com (Press Release - March 2008)*



# Don't just be seen to be **Green**.....

## **Green 2020**

**Green 2020** is a specialist environmental supply chain consultancy providing expertise in the development of:

- Environmental policy,
- Environmental management systems,
- Carbon management programmes,
- Data centre power management solutions,
- Sustainable procurement guidance,
- Real-time energy monitoring solutions
- Energy brokering
- Carbon foot print calculation at organisational, supplier and product level.

**Green 2020** is a steering committee member of the European Supply Chain institutes' Carbon Council in conjunction with organisations such as the Carbon Disclosure Project, the International Emissions Trading Association and EU emissions trading scheme. **Green 2020** provides new thinking, strategies and solutions to help reduce emissions in the supply chain of pan European and global organisations.

### **Green 2020 Limited**

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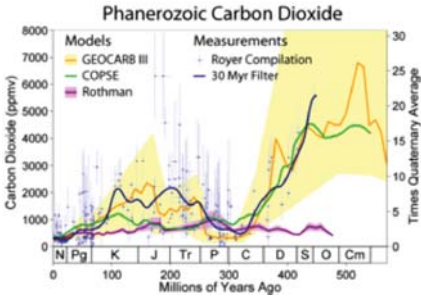
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## The Business Challenge - Action versus in Action

Despite the overwhelming evidence that rises in global temperatures can be attributed to human behaviour many people, and especially some business leaders still believe that this is not the case.

## Non-climate factors driving climate change



*Carbon dioxide variations during the last 500 million years*

During the modern era, the naturally rising carbon dioxide levels are implicated as the primary cause of global warming since 1950. According to the Intergovernmental Panel on Climate Change (IPCC), 2007, the atmospheric concentration of CO<sub>2</sub> in 2005 was 379 ppm\_ compared to the pre-industrial levels of 280 ppm\_. Thermodynamics and Le Chatelier's principle explain the characteristics of the dynamic equilibrium of a gas in solution such as the vast amount of CO<sub>2</sub> held in solution in the world's oceans moving into and returning from the atmosphere. These principles can be observed as bubbles which rise in a pot of water heated on a stove, or in a glass of cold beer allowed to sit at room temperature; gases dissolved in liquids are released under certain circumstances.

## Human influences on climate change

Anthropogenic factors are human activities that change the environment and influence climate. In some cases the chain of causality is direct and unambiguous (e.g., by the effects of irrigation on temperature and humidity), while in others it is less clear. Various hypotheses for human-induced climate change have been debated for many years.

The biggest factor of present concern is the increase in CO2 levels due to emissions from fossil fuel combustion, followed by aerosols (particulate matter in the atmosphere), which exert a cooling effect, and cement manufacture. Other factors, including land use, ozone depletion, animal agriculture and deforestation, also affect climate.

The choice between taking action and not taking action is simple even if you aren't convinced. By taking action and discovering that in fact the scientists and the evidence was correct then the impact of temperature rises becomes manageable and the impact less devastating. If we chose to not take action or our attempts to take action are weak and half hearted, if the scientists were right then the effects of climate change will be devastating with wide spread population migration, shortages of food stuffs and shortages of water supply.

If we chose to take action and find that the scientists were in fact wrong, then we would still benefit through the reduction of dependence on natural resources, better waste management and for businesses lower cost supply chains. If we take no action and the scientists are wrong then we will probably not experience status quo as natural resources will be depleted and we will still need to take some kind of action to ensure sustainability is implemented for the benefit of future generations.

Businesses therefore need to take action what ever your belief. The earth will be a more sustainably managed place, businesses will be running more efficiently, transportation will be cleaner and our future generations will grow up with a responsible and mature approach to the World around us.

To find out more about Climate Change and to review the evidence for climate change go to:

### **Intergovernmental Panel on Climate Change**

[www.ipcc.ch](http://www.ipcc.ch)

## Legislation and Government Targets

The UK Government is committed to addressing both the causes and consequences of climate change and has therefore introduced a Climate Change Bill. The Bill will create a new approach to managing and responding to climate change in the UK through: setting ambitious targets, taking powers to help achieve them, strengthening the institutional framework, enhancing the UK's ability to adapt to the impact of climate change and establishing clear and regular accountability to the UK, Parliament and devolved legislatures

The Bill was introduced into the House of Lords on 14 November 2007. The aim is to receive Royal Assent by early summer 2008.

The Government announced on 18 February that a review of the target to reduce the UK's CO<sub>2</sub> emissions by at least 60% by 2050 will become a statutory duty under the Climate Change Bill and has provided details of the terms of reference for that review. This is one of several amendments tabled by the Government to strengthen the Bill as it moves towards completing its passage through the House of Lords. Other amendments tabled include measures to strengthen compliance with the target, increase accountability and transparency and expand the remit of the Committee on Climate Change.

For more information go to

<http://www.defra.gov.uk/environment/climatechange/uk/legislation/index.htm>

## Initial Environmental Reviews

### - How is your business performing?

An environmental review is the starting point for any process of environmental management and improvement. A review should aim to identify the potential environmental risks and impacts associated with a company's products, processes or activities. As well as direct environmental aspects, this should include indirect ones e.g. customers and suppliers. A review will reveal areas of concern or areas where further investigative work may be required.

Once all environmental aspects have been identified, it is advisable to measure and monitor them during an environmental audit. The information provided through a thorough audit provides valuable management information regarding the actual environmental situation on a site, and can be used to prioritise an environmental management programme in keeping with the company's business strategy.

It is advised that you:

- Review your company to identify areas that are potentially an environmental risk or create an adverse environmental impact non-compliant with environmental law.
- Audit (measure and monitor) all identified environmental aspects. Review operational procedures and identify opportunities to cost effectively
- Prioritise areas where environmental improvements can be made (based on cost, quantity, stakeholders and risk).
- Set objectives and targets to minimise your company's environmental impact.
- Look to improve environmental performance often beyond the requirements of the law.

To find out more contact ABC Environmental:

T: 01795 411550

W: [www.abcenvironmental.co.uk](http://www.abcenvironmental.co.uk)

or call Green 2020 on 01223 714928.

## Environmental Statements and Policies

An Environmental Policy is a written statement outlining an organisation's mission in relation to managing the environmental effects of its operations. The Environmental Policy is the cornerstone of any environmental management system (EMS) and is fundamental to obtaining certification to the international standard ISO 14001 or registration under EMAS (the EU's Eco-Management and Audit scheme). A company's environmental policy should be:

- Available to the public.
- Commit to preventing pollution and working towards continual improvement
- Provide a framework for setting environmental objectives and targets.
- Be documented, implemented, maintained and communicated throughout the organisation.

It is advised that you start by:

- Discussing your existing Environmental Policy with an Environmental Consultant in the context of your current and future business strategy.

To find out more contact ABC Environmental:

T: 01795 411550

W: [www.abcenvironmental.co.uk](http://www.abcenvironmental.co.uk)

or call Green 2020 on 01223 714928.

## The Environment and the Law

It is vital for companies to understand and comply with their obligations under environmental law. Environmental Law is specific to the region (England, Wales, Scotland and Northern Ireland), to business type or activity. However, all companies have environmental impacts and consequently are affected by laws and regulations designed to reduce these impacts.

As the volume of environmental legislation increases over time it is becoming more difficult for businesses with limited resources to keep track of and manage their obligations.

Guidance is available on all aspects of environmental legislation. If you are unsure about what your company needs to do to comply or whether or not regulations affect your business, contact your legal adviser, environmental consultant, local reference library or the website [www.netregs.gov.uk](http://www.netregs.gov.uk).

It is advised that you:

- Create an Environmental Legislation Register Specific to your business.
- Ensure that environmental obligations are communicated throughout your organisation.
- Ensure environmental obligations are fulfilled using professional expertise.
- Install a procedure to regularly review current and future legislation.

To find out more contact ABC Environmental:

T: 01795 411550

W: [www.abcenvironmental.co.uk](http://www.abcenvironmental.co.uk)

## Environmental Management Systems and Carbon Management Programmes

More and more businesses are choosing to implement a formalised EMS (Environmental Management System) to effectively manage their impact on the environment. Implementing an EMS is increasingly seen by stakeholders as an important means of demonstrating effective control of an organisation's environmental impacts. Additionally, more and more companies are preferentially seeking suppliers with ISO14001 or similar accreditation as part of their own efforts to make environmental improvements and to be seen to be doing so.

An EMS can be tailored to meet the unique requirements of your business or a formally accredited system such as

- ISO 14001
- EMAS
- BS8555
- IEMA Acorn Scheme

Either way, a successful EMS can be based on an implementation model of PLAN - DO - CHECK - REVIEW, which may be applied to any type or size of organisation. This approach not only establishes control over a company's environmental impacts, it installs and drives a continual improvement in environmental improvement.

### *Carbon management programmes to be added*

It is advised that you start by:

- Discussing your environmental management with an Environmental Consultant in the context of your current and future business strategy.

To find out more contact ABC Environmental:

T: 01795 411550

W: [www.abcenvironmental.co.uk](http://www.abcenvironmental.co.uk)

## ABC Environmental Ltd

ABC Environmental Ltd provide corporate environmental management, sustainable business practice and climate change strategy. Our aim is to enable our client's to focus on their core business while we ensure that all key environmental matters (risks and impacts) have been identified and are managed appropriately. To overcome the conflict between investment in environmental improvement and the financial imperatives of running a business, we identify and implement environmental performance improvements that result in cost savings, competitive edge, and enhanced environmental credentials. Our corporate services include:

- Environmental Management Systems (ISO14001, BS8555, EMAS),
- Environmental Audits,
- Environmental Statements, Policy and Reporting,
- Life Cycle Assessment (ISO14044.2006),
- Carbon Footprinting,
- Waste Management,
- Energy Efficiency,
- Process Greening,
- Pollution Control (Air, Land and Water),
- Environmental Legislation and Compliance.

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## Energy Management

Energy management programmes are designed to ensure that you are utilising energy in the most efficient way. Some describe energy efficiency as energy waste management which is essentially what we all trying to reduce.

Energy programmes are best way to both reduce carbon emissions in your business and reduce spend on energy. There are four things you need to do before you start:

1. Understand what you current and historical energy spend has been, this will help you set a baseline from which to measure reduction performance
2. Get support from the board of directors to commence a programme
3. Understand through an asset register exactly what you have in your business that consumes energy and water
4. Engage with an expert. They will not only help you reduce consumption but will help you manage consumption long after the end of the initial programme.

Typical savings from energy programmes are 10% in the first year and 35% in the first three years.

## Energy Monitoring Solutions

As part of any cost or carbon reduction programme, to be able to know and realise savings you need to set a baseline. By understanding your past 12 months energy bills is fine but you really need to understand how your buildings consume and use energy.

The best way is by implementing energy monitoring solutions. Smart meters are fine but to get an accurate picture real time monitoring is the way to go.

When selecting an energy monitoring solution you need to look for four things: low cost of purchase and implementation, low running costs, easy of use and the ability to manage energy consuming plants remotely.

Green 2020 has already selected a solution that can achieve all of these attributes and will enable any size of business to remotely manage lighting, heating and air conditioning as well as report real time on actual consumption.

To find out more contact Green 2020:

T: 01223 714928

E: [info@green2020.co.uk](mailto:info@green2020.co.uk)

W: [www.green2020.co.uk](http://www.green2020.co.uk)

## EDF ENERGY ON TACKLING ENERGY EFFICIENCY

Not forgetting rising energy costs, growing political and consumer concerns around climate change are compelling companies to adopt a more sustainable approach to managing their activities. At EDF Energy, we believe sustainability plans should begin with energy efficiency as this can rapidly deliver carbon savings and quantifiable financial rewards too. In fact energy efficiency is becoming a more important component of sustainability action plans as it appears that new legislation (see below) will no longer recognise the purchasing of renewable energy as a carbon saving activity. We're helping businesses of all shapes and sizes tackle the energy efficiency challenge head on. These are some key issues to consider for those preparing to take action to cut their energy use.

### Three key drivers for energy efficiency

A previously neglected activity, there are three principle reasons for the resurgence of interest in energy efficiency by businesses.

a) **Costs:** Energy costs are significantly higher today than they were three to four years ago. This has come as quite a shock for many, for at least a decade preceding 2003, energy costs had followed a comfortable downward trend in real terms. But having reaped the early benefits of deregulation and competition in all aspects of the UK's energy markets, we have to accept that the future will be less comfortable. We now face a climate of higher energy costs due to a wide range of factors including soaring global energy demand, new environmental legislation, and the need for investment in the UK's energy infrastructure to meet our future energy needs. But every cloud has its silver lining and in this case it's a stronger argument for investing in being more energy efficient - the returns from investing in energy efficiency are greater than ever.

b) **Climate Change:** Climate change is on everyone's lips these days. Taking action to substantially reduce our carbon emissions is important for our future prosperity. The economic costs (never mind the social and environmental costs) of global temperatures rising much higher than 2 degrees above pre-industrial levels will be unpalatably high - from five to 20 per cent of global GDP according to the Stern Report. Unfortunately we're nearing the half way mark of that limit as temperatures rose by three quarters of a degree in the last century. So businesses need to act with a sense of urgency to reduce their carbon emissions. The

UK's larger retailers have been particularly vocal about their plans to cut carbon from their business operations - reflecting the risks to brands of savvy consumers shunning high carbon businesses. Energy use is a major source of carbon emissions and improvements in energy efficiency deliver immediate and lasting carbon cuts. They can be substantial too - often delivering around 10 to 20 per cent reductions with little investment.

c) **Legislation:** The case for tackling energy efficiency will continue to grow stronger through new legislation too. The Government is implementing a new scheme, called the Carbon Reduction Commitment (CRC), to help reduce carbon emissions in a wide range of business and public sector organisations. Around 5,000 organisations that spend more than £500,000 a year on electricity will qualify. They will then be part of a mandatory emissions trading scheme which will limit the overall carbon dioxide emissions caused by energy use - which contribute almost 10% of the entire UK economy's emissions. The scheme will be an important part of the national effort to reduce the UK's total carbon footprint, and is intended to save at least 4 million tonnes of carbon dioxide per year by 2020. Although all the details of the scheme are not 100% finalised, it is almost certain that the scheme will no longer allow firms to claim carbon emissions savings based simply on purchasing renewable energy from energy suppliers. Energy efficiency therefore looks to be the most effective strategy to follow for the foreseeable future.

### Taking positive action

Yet despite more attractive payback periods and the mitigating effect on brand risk, many businesses still struggle to implement energy efficiency initiatives. So at EDF Energy, we've developed practical ways to help businesses overcome the barriers they face.



### Energy efficiency for all businesses, great and small

At its most basic, energy efficiency is about making behavioural changes at an individual level. Everyone has a role to play in cutting waste in their immediate environment and these small changes can add up to significant difference. But getting people change their behaviour is tough - old habits die hard. Successful energy efficiency initiatives are well planned, not haphazard.

That's why EDF Energy has developed an award winning Energy Efficiency Toolkit to help businesses, big and small, develop successful initiatives. It is free to our existing customers and those businesses potentially interested in taking their electricity and gas from EDF Energy. Here are three key steps we recommend following.

### 1. **Measurement**

The basis of all energy efficiency campaigns is knowing how much, where and when you use energy in your business. Detailed measurement combined with a little detective work can provide valuable insights into where savings can be made. In fact many managers are surprised when they first see how energy is used in their business, for example how much energy is used in unoccupied buildings overnight.

Measurement is essential for reporting results throughout your initiative. The more detailed your data, the better you can target your actions and report their successes. Data is available from bills, meters and dedicated energy monitoring services. Advice on how best to source and use data is contained in our Energy Efficiency Toolkit.

### 2. **Creating a buzz**

Effective campaigns have a clear communications programme that engages employees. This includes:

- a context for the initiative: why we're trying to save energy
- a clear explanation of what the company is trying to achieve: monetary, social and environmental objectives of the campaign in terms people can understand and hopefully visualise
- how staff can contribute: those desired behaviours such as switching off dormant equipment and being vigilant for waste
- regular reminders of how to contribute - those old habits die hard!
- feedback of how the initiative is progressing towards meeting its targets, and recognise the contribution of particularly dedicated staff.

Most of all, find someone in your business with a lot of personal energy and make them responsible for implementing the initiative and keeping the momentum going. Put the right tools in the hands of the right person and it's amazing what can be achieved. A wealth of communications materials are contained in our Energy Efficiency Toolkit. Best of all, these are customisable with your company logo and campaign message to help create a real sense of ownership and enthusiasm amongst your staff.

### 3. Show leadership and reward them

As a figure of authority in your business, you need to demonstrate you're as committed to energy efficiency as you expect your staff to be.



Doing simple things like ensuring your own computer is switched off overnight and being visibly vigilant for waste encourages those around to do the same. And keep it up - changing behaviour takes time.

Rewarding your staff by sharing some the savings your business achieves will reinforce positive behaviour. For example some of the financial savings could boost the Christmas party fund, some could be donated to a local charity and some reinvested in energy efficiency.

#### Energy efficiency for large energy users

The potential for increasing energy efficiency in industry is significant and good progress has been made, particularly by energy intensive industries. The steel industry for example has more than halved the amount of energy used to produce a ton of steel since the 70s. But there remains enormous scope for further improvements as technologies keep advancing. With average annual equipment renewal rates of 5-6%, industry is well placed to invest in more energy efficient equipment and practices and see good returns.

In recent years EDF Group has worked with companies in France and Germany to deliver commercially rewarding energy saving activities through our Advanced Efficiency Programmes - a service bringing the expertise of our energy R&D facilities to businesses using large amounts of energy.

EDF Group operates the largest energy R&D facilities in Europe. Around 200 of the 2,000 or so researchers test applications of the latest equipment and technologies for cooling, heating, air-treatment, dryers and more. It's this knowledge we have available to transfer to our clients' own engineers to deliver leading edge energy saving techniques for their operations.

A commercial approach is employed. Our Advanced Efficiency Programmes are delivered as a bespoke business case and supporting action plan. It is built following in-depth energy audits of the company's energy intensive sites and processes by

our specialist engineers. Recommendations are based on our own lab tests of equipment and techniques, rather than manufacturer claims. The detail goes much further than superficial surveys and reports, as does our support to ensure the projected savings are realised rather than be doomed to filing cabinet.

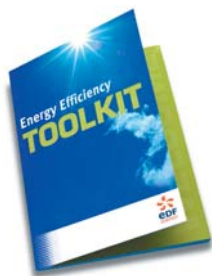
Many clients were already efficient users as they operated energy intensive processes that demand attention for cost efficiency reasons as well as environmental considerations. Through our expertise, they have realised significant additional efficiencies and cost savings.

## More help from EDF Energy

Order your free copy of our Energy Efficiency Toolkit by visiting [edfenergy.com/business](http://edfenergy.com/business).

You can find out about how our Advanced Efficiency Programmes have helped other businesses while you're there.

See the targets we've set our own business by visiting [edfenergy.com/ourvision](http://edfenergy.com/ourvision).



# Energy Efficiency Toolkit

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It's all part of our drive to help you save energy.

**It's easy when you know how.**

GET YOUR FREE COPY  
[edfenergy.com/eetoolkit](http://edfenergy.com/eetoolkit)



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## Green IT and Data Centre Power Management

There are a number of opportunities to manage carbon and cost in the IT real estate. Carbon management is normal attributed to desktop PC power management and there are a number of solutions, such as Night Watchman, that can help reduce power consumption by centrally controlling the power down and power up of desk tops.

A recent survey by the Fraunhofer Institute in Germany found that the choice of thin clients over PCs on the business desktop has reduced CO2 emissions in Western Europe by 166,000 tonnes in 2007 - equivalent to the emissions of more than 540 return flights from London to New York, according to research carried out by the Institute.

“Energy consumption when in operation was up to 50 percent lower than for conventional PCs,” concluded Dr Hartmut Pflaum, the Fraunhofer researcher. “While PCs consume about 85 watts on average, thin clients including their server get by with 40 to 50 watts. In view of climate change and the need to reduce CO2 emissions, this is an important factor.”

The biggest challenge for power management is in Data Centres. Recent reports suggest that the level of opportunity to reduce energy consumption in data centres can be as much as 40%. The Greengrid, and organisation set up to support large corporate seeking to manage power consumption in data centres suggests the follow checklist to start improving data centre power consumption:

- Have an itemised electricity bill to hand
- Optimise the design of the data centre
- Optimisation of data equipment layout in the centre
- Proper location of vented floor tiles
- Right sizing of physical infrastructure system
- Installation of “Green” power equipment
- Installation of close coupled cooling architecture
- Deployment of server virtualisation
- Installation of energy efficient lighting
- Installation of blanking panels
- Installation of efficient plumbing
- Efficient server consolidation practises
- Utilisation of air conditioning optimisers
- Coordination of air conditioning and airflow
- Proper configuration of server software
- Proper alignment of data centre staff

To find out more about Green IT contact Chris Danielson at Tori Global on 0207 025 5555 or over the web [www.toriglobal.com](http://www.toriglobal.com)  
To find out about Green Grid go to [www.thegreengrid.org](http://www.thegreengrid.org)

In line with the current environmental improvement agenda, TORI Global is able to implement best practice methodologies and tools to drive efficiencies and cost savings within IT, with the primary focus to assist in:

### Education

- Understanding the impact of energy use within IT
- Connecting IT with an organisation's environmental programmes (ISO 14001)

### Scoping

- Identifying environmental improvement opportunities within IT
- Creating a roadmap for implementing energy optimisation programmes

### Optimisation

- Implementation of energy optimisation programmes
- Focus on the entire IT organisation - people, processes and technology

### Monitoring

- Data collection and reporting  
- a 'single version of the truth'
- Provision of Management Information for Corporate Social Responsibility initiatives

### Programme Management

- Maintaining ongoing environmental improvement programmes
- Introduction of new methodologies and technologies as they become available

### Key programmes for Green IT include:

- Server Virtualisation
- Storage Virtualisation and Consolidation
- Information Lifecycle Management
- Application Consolidation
- Appliance Consolidation
- Shared Service Buildings
- Desktop Power Management and Thin Client Technology
- Digital Forms
- Branch/Remote Office Consolidation
- Unified Communications and Video Collaboration

TORI Global's operational effectiveness experience and domain knowledge in the implementation of energy efficiency programmes represents a compelling opportunity for organisations to design, develop and deploy a best-in-class Carbon Footprint monitoring and energy reduction programme within IT that will rapidly deliver a substantial return on investment whilst meeting Corporate Social Responsibility obligations.

For further information please contact:

Chris Danielson  
07775 872 311  
[chris.danielson@origlobal.com](mailto:chris.danielson@origlobal.com)

## The Green Supply Chain

Businesses looking to achieve sustainability need to take a holistic view of their entire operation not just sample elements.

If you are looking to transform your supply chain then you need to consider the following steps and take a number of key first actions.

1. Firstly you must define what it is you are actually trying to achieve. It sounds obvious but without objectives and targets you are not going to achieve anything.
2. Ensure your policy reflects your organisations objectives and is up to date.
3. Once you have established the policy and have defined your objectives you need to build the teams who will implement those objectives. Teams will be drawn from all elements of your supply chain including your own suppliers.
4. Design products with sustainability as your core objective. This will require you to work with your suppliers and logistics companies to ensure sustainability in both product components and logistics is applied.
5. You need to have a transparent reporting process that can be externally validated. By measuring your performance, whether through supplier qualification processes or through the measurement of carbon across the organisation, make sure the reporting method you use is transparent, easy to follow and can be externally validated.
6. Adopt an external partner to measure, advise and report on progress. External validation will give the hard work that you have put in the credibility and authenticity of the results. Try not to be just seen to be green try to demonstrate your “greenness” by showing your competitors, customers, shareholders and staff that your business truly is green.

To find out more contact Green 2020:

T: 01223 714928

E: [info@green2020.co.uk](mailto:info@green2020.co.uk)

W: [www.green2020.co.uk](http://www.green2020.co.uk)

# Measuring your own and your Suppliers Carbon Footprint

## Carbonalysis - Supplier and organisational carbon footprint analysis

Measuring your organisations carbon footprint is not quite as straight forward as many would have you believe. Getting it right first time is paramount as all future measurements will use the first as the baseline.

Measuring footprints depends very much on the nature of your business and the location of your business. Typically, carbon measurement is based on the amount of carbon your business produces as a result of energy consumption, fuel, manufacturing, and waste management. However, and this is a big however, do you include the direct activity of your business, the buildings, logistics and waste? Do you include staff travel to and from work? Or do you include the total impact of your business in other words the activity of your suppliers, your third party partners and in the case of product manufacturing the total lifecycle of the products you produce and sell.

Helping businesses to define the boundaries is the single most important step in defining an organisations carbon footprint as this will act as the baseline of improvement for all future measurements.

There are currently no agreed international standards for calculating carbon footprints and so for any global business this means taking into account local standards of measurement. For example, the US report in US lbs and the UK in tonnes, so any global programme needs to decide which standard if not all are used for continuous measurement and improvement.

The final factor that needs to be agreed when calculating carbon footprints is whether your business wishes to measure annually, quarterly, monthly, weekly or daily. Calculating your carbon footprint annually is no more useful than an MOT certificate, so Green 2020 have developed an online tool to help companies continuously measure improvements

Carbonalysis is a unique web based software application that helps companies to measure and monitor their own carbon footprint and the carbon footprint of their suppliers.

Easily deployed any organisation, whether local or global, can ask their suppliers to complete the online carbon footprint assessment questionnaire which will provide both the client organisation a high level indication of the carbon impact of its supply base and provide each supplier a report on their environmental performance based on the industry standard A to G energy performance rating.

With supplier data having been collected Carbonalysis can be used as a procurement decision making tool. Organisations using eProcurement solutions or eMarketplaces will be able to connect Carbonalysis to be able to provide supplier level carbon footprint data in the buyer's supplier catalogue. Buying organisations then go on to nominate and sponsor suppliers and their products for life cycle assessment auditing giving buyers not just the carbon performance of the supplying organisation but also the products and services they provide enhancing procurement decision making to include the environmentally friendliness of the products the buyer is sourcing.

### **Carbonalysis - The National Database of Carbon Footprint Data**

Carbonalysis is set to be the UK's largest database of carbon footprint audited data on organisations and the products and services they sell. Based on a grading of CO2 emissions, organisations will be given performance ratings and performance targets to help improve their ratings. Some industries of course will be high CO2 emitters, but the scoring of those organisations will be based on their specific industries standards and targets.

To find out more about our supply base Carbonalysis programme please contact Green 2020.

T: 01223 714928

E: [info@green2020.co.uk](mailto:info@green2020.co.uk)

W: [www.green2020.co.uk](http://www.green2020.co.uk)

# Offsetting

## What is Carbon Offsetting?

Each of our everyday actions consume energy and produce carbon dioxide emissions, e.g. taking flights, driving cars, heating or cooling our homes and offices. Carbon Offsets can be used to compensate for the emissions produced by funding an equivalent carbon dioxide saving somewhere else in the world.

The Steps to offsetting are as follows:-

1. **Calculate your carbon footprint**

When calculating your emissions you should take into account the emissions you are directly responsible for e.g. energy used in your buildings and emissions from transportation. Carbon Footprint Ltd offer a consultancy based service to help companies calculate their emissions. For smaller companies, the online business calculator at [www.carbonfootprint.com](http://www.carbonfootprint.com) can also be used.

2. **Select the most appropriate offsetting standard to meet your needs.**

The offset market is split into two broad categories - the compliance market and a voluntary market.

The **compliance market** is highly regulated, and is the carbon market used to demonstrate compliance to the Kyoto Protocol. It includes trading Certified Emission Reductions (CERs) and retiring EU Allowances (EUAs) from the EU Emissions Trading Scheme (EU ETS).

The **voluntary market** does not form part of the Kyoto Protocol or the EU ETS, and is less regulated. There are several key international standards, which have been generated over the last few years to provide a suitable level of verification within this market, such as the Voluntary Carbon Standard (VCS).

3. **Identify the type of project you would like to support.**

As well as there being different standards there are different types of offset project as well. Types of projects include Reforestation, Renewable Energy projects (e.g. hydro power and wind farms), Energy Efficiency (e.g. supplying low energy light bulbs to a developing community) or fuel switch projects that use the offset money to fund cleaner energy generation (e.g. switching from a coal to a gas fired power station).

## DEFRA Code of Best Practice

The UK government through DEFRA is launching a code of best practice for carbon offset providers. This will help consumers and businesses identify which projects meet the DEFRA standard. The code is due for launch in the second half of 2008, and will start by supporting compliance market offsets, but intends to include some voluntary offset projects within the following year.

To find out more about carbon offsetting contact  
Carbonfootprint Ltd.

T: 01256 345645

W: [www.carbonfootprint.com](http://www.carbonfootprint.com)

## Carbon Trading

### Carbon Trading

**Carbon trading** (or **emissions trading**) is an administrative approach used to control pollution by providing economic incentives for achieving reductions in emissions. It is sometimes called a **cap and trade system**.

A central authority (usually a government or international body) sets a limit or cap on the amount of a pollutant that can be emitted. Companies or other groups are issued emission permits and are required to hold an equivalent number of allowances (or credits) which represent the right to emit a specific amount. The total amount of allowances and credits cannot exceed the cap, limiting total emissions to that level. Companies that need to increase their emissions must buy credits from those who pollute less. The buyer is then affectively paying a charge for polluting, while the seller is being rewarded for having reduced emissions by more than was needed. Thus, in theory, those that can easily reduce emissions most cheaply will do so, achieving the pollution reduction at the lowest possible cost to society.

The largest multi-national trading scheme is the European Union Emission Trading Scheme (EU ETS), which was created in conjunction with the Kyoto Protocol.

### European Union Emissions Trading Scheme (EU ETS)

This is a trading mechanism used across Europe to reduce Carbon Dioxide emissions and combat the threat of climate change. Phase I of the scheme ran from 1 January 2005 to the 31 December 2007, with all members of the European Union participating. The program caps the amount of carbon dioxide that can be emitted from large installations, such as power plants and carbon intensive factories and covers almost half of the EU's Carbon Dioxide emissions. Phase II will run from 2008-2012 to coincide with the first Kyoto Protocol commitment period.

The EU ETS is currently the world's only mandatory carbon trading programme. Other Carbon Trading schemes are being developed such as the Carbon Reduction Commitment targeting emissions produced by business and public sector organisations of the next level down from those covered by the EU ETS.

## Verification and Validation Programmes

Many organisations have embarked on a low carbon strategy and many claim to have reduced carbon significantly but how many businesses can really demonstrate real tangible improvements?

If you were to spend a day looking at corporate websites you would find many green and sustainable claims. Some businesses will even tell you what they have done to achieve those claims but few will make public the actual numbers and the calculations behind them.

The challenge for businesses are very much the same as the process of agreeing what is actually going to be measured, do I include my staff travel to and from work, do I include the outsourced operations or materials sourced from overseas? Who will question the published figures and what will be the fallout from getting it wrong?

The answer is external validation. By contracting in external experts to validate the process, the boundaries and the outputs, then you can feel comfortable about making public those numbers.

We simply term this process as environmental validation and auditing. Not dissimilar to the world of financial external auditors but an area businesses are increasingly seeking to employ so that improvement credentials can be validated, signed off and made public for all to see.

To find out more about validation and auditing, please contact Green 2020.

T: 01223 714928

E: [info@green2020.co.uk](mailto:info@green2020.co.uk)

W: [www.green2020.co.uk](http://www.green2020.co.uk)



## Reducing Carbon with IP Telephony

### Welcome Telecom

At Welcome Telecom we make sure our UK-wide telephony services deliver the reliable quality you want without any of the frustrations you don't. Our products will always save you money and add positive value to your business. And we'll look after you personally rather than routing you through an indifferent call centre.

All the products and services we provide - including calls, line rental, broadband and IP Telephony - are fully managed by us, and all our systems incorporate unlimited scalability enabling them to grow with your business.

Along with clear, unambiguous information, our robust end-to-end telephony solutions add up to sound sense and better business.

Welcome Telecom takes corporate and environmental responsibilities seriously. As more businesses move to IP Telephony we help our customers to use modern communication systems to help reduce their carbon emissions. The functionality of these systems means that businesses can offer flexible working and online collaboration with ease.

Welcome Telecom use the most efficient networks and least power hungry equipment to provide services.

One mile travelled in a small car, like a Ford Focus, produces the same carbon emissions as 5 hours of IP Telephony.

IP Telephony can work for all sizes of business, from SoHos to multinationals, just ask Welcome Telecom to find out what modern communications can do for your business.

To find out more contact Welcome:

W: [www.welcometelecom.co.uk](http://www.welcometelecom.co.uk)

E: [info@welcometelecom.co.uk](mailto:info@welcometelecom.co.uk)

## Your Business in the Future

Where do you see your business in two years, five years or even ten years?

In ten years it will be 2018 and the 2020 targets will be nearly upon us. Do you see your business having reduced energy consumption, improved on product development, streamlined your supply chain or even helped your own suppliers realise their own carbon reduction goals?

Will your business have gained market share over the competition by becoming green or will your business be the one that gets left behind?

What ever your corporate objectives, take these two thoughts away with you;

**A Green business  
is a lean business  
and**

**A low carbon supply chain  
is a low cost supply chain.**

## RICOH EUROPE ON FIGHTING AGAINST THE GREEN BACKLASH

**RICOH**

*Tom Wagland, environmental manager at Ricoh Europe*

As collective scientific thought maintains that humans are almost entirely responsible for climate change, the pressure for companies to implement greener business practices continues. In order to secure environmentally-conscious customers and cut costs by reducing energy consumption, organisations can no longer ignore global warming.

However, a recent backlash has emerged against ecological practices that are said to conceal inadequate environmental processes rather than pushing organisations to improve. The debate continues as Britain's advertising watchdog, the Advertising Standards Authority (ASA), has launched a clampdown on exaggerated claims and vague declarations of “environmentally friendly” operations.

With so many companies now jumping on the bandwagon, Tom Wagland, environmental manager at Ricoh, explains how genuinely conscientious companies can prove their green credentials.

Criticism has recently emerged surrounding offsetting schemes with customers waking up to the fact that the unscrupulous few champion the fact they have offset emissions but not actually made any significant effort to reduce them. Organisations need to understand it is not enough to simply offset carbon emissions, they need to pledge year on year reduction targets which cover the entire enterprise and not just a head office as has been recorded in recent months.

Disappointment has also been compounded with some existing programmes when customers have expressed an interest in visiting the projects they invest in only to find the offsetters to be evasive. To avoid such downfalls, using an offsetting company with third-party auditors is advisable. In addition to this, the imminent introduction of stricter government guidelines will establish greater market-wide confidence in genuine organisations.

Working with offsets that are charity-run rather than managed by commercial entities can provide further global benefits. While helping to negate carbon emissions caused by businesses, they

are also able to help developing countries with community development, in addition to helping combat the massive deforestation affecting the world.

While efforts to lessen a company's environmental impact are commendable, it is equally important to ensure this approach isn't tokenistic. In order to make a real difference to the environment, organisations need to implement offsetting schemes as just one component in a company-wide environmental strategy.

Industrial, commercial and agricultural electricity usage amounts to 19 per cent of UK emissions [Source: DEFRA [www.defra.gov.uk/environment/statistics/](http://www.defra.gov.uk/environment/statistics/)]. Raising staff awareness is an essential first step for organisations in reducing their total energy usage. The Carbon Trust, a government-funded independent company, will supply free starter packs to businesses who wish to raise awareness and transform user behaviour [[www.carbontrust.co.uk/energy/startsaving/](http://www.carbontrust.co.uk/energy/startsaving/)]. Ricoh has also produced a green guide which provides environmental knowledge and information, in addition to detailing simple and practical ways to actively counter damage to the environment [[www.ricoh.co.uk/greentodo/](http://www.ricoh.co.uk/greentodo/)].

Additional activities such as reducing waste to landfill and organisation-wide policies for company cars with lower emission levels could also make a big contribution towards reducing business impact on the environment.

The UK alone, contributes between 22 and 25 billion tonnes of carbon dioxide equivalent each year to global warming [Source: DEFRA [www.defra.gov.uk/environment/statistics/](http://www.defra.gov.uk/environment/statistics/)]. Reducing overall energy consumption should form the heart of any environmental strategy. The US Environmental Protection Agency (EPA) has a voluntary labelling programme, Energy Star, which identifies and accredits energy-efficient products to help reduce greenhouse emissions. Energy Star is recognised around the world and can form the core of an energy reduction plan. Procurement programmes should dictate that only Energy Star products are bought.

International standards are a dependable way of ensuring that businesses have obtained a recognised level of performance. The most up-to-date and widely used standard for environmental risk management, ISO14001:2004, stipulates a process for managing and developing an organisation's environmental performance.

Just 6,000 UK organisations are currently ISO14001 accredited [Source: NGA <http://nqa.com/services/iso14001>], meaning that many are losing out on an endorsement which could provide them with a dependable way of establishing their place on the list of genuinely “green” businesses, as well as attracting environmentally-conscious customers. With environmental government legislation pending, companies should identify potential problem areas now and act before the new regulations are enforced.

With such an essential push for environmental consciousness already underway, measured purchasing and efficient usage need to become intrinsic to business operations. In order for organisations to become recognised for their green credentials, legitimate offsetting schemes, accreditations and solicitous business practices need to become central to company operations.

For advice on how to make your office greener please visit:  
[www.ricoh.co.uk/greentodo](http://www.ricoh.co.uk/greentodo)

## Next Steps Contacts and Websites

### Next Steps

Initial reviews, policy development and strategy development

Web: [www.abcenvironmental.com](http://www.abcenvironmental.com) Phone: 01795 411550

Web: [www.green2020.co.uk](http://www.green2020.co.uk) Phone: 01223 714928

Supply Chain carbon management

Web: [www.green2020.co.uk](http://www.green2020.co.uk) Phone: 01223 714928

Carbonalysis - online corporate carbon footprint analyser

Web: [www.green2020.co.uk](http://www.green2020.co.uk) Phone: 01223 714928

Green IT and Data Centre Power Management

Web: [www.toriglobal.com](http://www.toriglobal.com) Phone: 0207 025 5555

Accreditation and standards

Web: [www.abcenvironmental.com](http://www.abcenvironmental.com) Phone: 01795 411550

Waste Management and Pollution Control

Web: [www.abcenvironmental.com](http://www.abcenvironmental.com) Phone: 01795 411550

Energy Supply and Support

[www.edfenergy.com](http://www.edfenergy.com)

Energy Management and Energy Monitoring

Web: [www.green2020.co.uk](http://www.green2020.co.uk) Phone: 01223 714928

Carbon Offsetting

Web: [www.carbonfootprint.com](http://www.carbonfootprint.com) Phone: 01256 345645

Carbon Trading

Web: [www.carbonfootprint.com](http://www.carbonfootprint.com) Phone: 01256 345645

Or <http://ec.europa.eu/environment/climat/emission.htm>

For advice on how to make your office greener please visit:

[www.ricoh.co.uk/greentodo](http://www.ricoh.co.uk/greentodo)

## **Environmental Bodies and Supporting Agencies**

Institute of Environmental Management and Assessment  
[www.iema.net](http://www.iema.net)

Chartered Institute of Purchasing and Supply  
[www.cips.org](http://www.cips.org)

Defra BREW programme (Business Resource Efficiency and Waste)  
[www.defra.gov.uk/environment/waste/brew](http://www.defra.gov.uk/environment/waste/brew)

DTi Technology Programme  
[www.dti.gov.uk/technologyprogramme](http://www.dti.gov.uk/technologyprogramme)

Environment Agency  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

National Industrial Symbiosis Programme (NISP)  
[www.nisp.org.uk](http://www.nisp.org.uk)

Regional Development Agencies (RDAs)  
[www.englishrdas.com](http://www.englishrdas.com)

Waste and Resource Action Programme (WRAP)  
[www.wrap.org.uk](http://www.wrap.org.uk)

Carbon Disclosure Project  
[www.carbondisclosureproject.com](http://www.carbondisclosureproject.com)

Energy Institute  
[www.energyinst.org](http://www.energyinst.org)

## **Information Portals and Press**

[www.environmentalleader.com](http://www.environmentalleader.com)

Guardian Newspapers Environmental News  
<http://www.guardian.co.uk/environment>

Environmental Expert  
[www.environmental-expert.co.uk](http://www.environmental-expert.co.uk)

## Business Networks

### Wessex Chambers of Commerce

The Wessex Environment Business Network (WEBN) was re-launched in June 2006 following a successful funding bid to Envirowise. The Network is a partnership between the Wessex Association of Chambers of Commerce (WACC), the Mendip Association of Chambers of Commerce (MACoC) and Envolve, a charity environmental organisation based in Bath. Our membership has grown to around 90 businesses, which includes all the Chamber Patrons. The overall aim of the network is to reduce unnecessary wastage in businesses by providing information on best practice, low-cost and no-cost measures to minimise energy and water usage, and increasing turnover through the 'reduce, recycle, re-use' policy on waste. We hold seminars and training sessions giving advice on new environment legislations affecting businesses, arrange site visits to exemplar organisations, and generally provide an information network for businesses interested in reducing their 'carbon footprint'!

As we are part of the Chamber of Commerce Associations, we are also in a position to be directly involved with key stakeholder decisions affecting local businesses and have a close working relationship with all the local authorities, town and parish councils, local area partnerships and local training providers.

There are three levels of membership available - Gold, Silver and Bronze, and annual membership starts from as little as £50.00 + VAT for Chamber members.

For further information, please visit our website at [www.wessex-chambers.org.uk](http://www.wessex-chambers.org.uk), or contact the network co-ordinator as detailed below:-

Elaine Harvey  
WEBN  
52 Castle Street  
Trowbridge  
Wiltshire  
BA14 8AU

(01225) 355553  
[elaine@wessexchambers.org.uk](mailto:elaine@wessexchambers.org.uk)

## Glossary of Terms

### **Auditing**

See environmental management system audit.

### **Certification**

The procedure by which third party gives written assurance that a product, process, or service conforms to specific requirements. See also registration.

### **Characterisation**

Characterization aggregates classified environmental interventions/aspects within an environmental impact category. This step results in environmental performance indicators.

### **Characterisation Factor**

A factor that describes the relative harmfulness of an environmental intervention within one environmental impact category. A factor is a result of modelling environmental effects/problems.

### **Classification**

Classification attributes are environmental interventions/aspects listed in an environmental inventory/environmental effects register according to environmental impact categories.

### **Close-loop Recycling**

A recycling system in which a product made from one type of material is recycled into a different type of product (e.g. used newspapers into toilet paper). The product receiving recycled material itself may or may not be recycled. See also open-loop recycling.

### **Co-Product**

A marketable by-product from a process that can technically not be avoided. This includes materials that may be traditionally defined as waste such as industrial scrap that is subsequently used as a raw material in a different manufacturing process.

### **Continuous Improvement**

The process of enhancing an environmental management system to achieve improvements in overall environmental performance in line with an organisation's environmental policy.

### **Depletion**

The result of the extraction of abiotic resources (non-renewable) from the environment or the extraction of biotic resources (renewable) faster than they can be renewed.

## **Eco-Efficiency**

The relationship between economic output (product, service, activity) and environmental impact added caused by production, consumption and disposal.

## **Emission**

One or more substances released to the water, air or soil in the natural environment. See also environmental release, pollution and environmental intervention.

## **Environment**

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelations. This definition extends the view from a company focus to the global system.

## **Environmental Aspects**

Elements of an organisation's activities, products or services which can interact with the environment (ISO 14004). A significant environmental aspect is an environmental aspect which has or can have a significant environmental impact. See also environmental interventions, environmental problem.

## **Environmental Effect**

Any direct or indirect impingement of activities, products and services of an organisation upon the environment, whether adverse or beneficial. An environmental effect is the consequence of an environmental intervention in an environmental system. See also environmental impact, environmental problem.

## **Environmental Effects Evaluation**

A documented evaluation of the environmental significance of the effect of an organisation's activities, products and services (existing and planned) upon the environment.

## **Environmental Effects Register**

A list of significant environmental effects, known or suspected, of an organisation's activities, products and services upon the environment. Also see environmental inventory.

## **Environmental Impact**

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services. An environmental impact addresses an environmental problem. Also see environmental effect.

### **Environmental Impact Added**

The total of all environmental interventions of a product or production system evaluated (weighted) according to the harmfulness of each intervention to the environment.

### **Environmental Intervention**

Exchange between the economy and the environment including resource extraction, emissions to the air, water, or soil, and aspects of land use. If resource extraction is excluded, the term used in this case is environmental release. See also emission and pollution.

### **Environmental Inventory**

An environmental inventory identifies and quantifies - where appropriate - all environmental aspects of an organisation's activities, products and services. Also see environmental effects register.

### **Environmental Issue**

A point or matter of discussion, debate, or dispute of an organisation's environmental aspects.

### **Environmental Management**

Those aspects of an overall management function (including planning) that determine and lead to implementation of an environmental policy. See also environmental management system.

### **Environmental Management Audit**

A systematic evaluation to determine whether an environmental management system and environmental performance comply with planned arrangements, and whether a system is implemented effectively, and is suitable to fulfil an organisation's environmental policy.

### **Environmental Management Program**

A description of the means of achieving environmental objectives and targets.

### **Environmental Management Review**

A formal evaluation by management of the status and adequacy of systems and procedures in relation to environmental issues, policy and regulations as well as new objectives resulting from changing circumstances.

## **Environmental Management System**

The part of an overall management system which includes structure, planning activities, responsibilities, practices, procurements, processes and resources for developing, implementing, achieving, reviewing and maintaining an environmental policy.

## **Environmental Management System Audit**

A systematic and documented verification process to objectively obtain and evaluate evidence to determine whether an organisation's environmental management system conforms to the environmental management system audit criteria set by the organisation, and communication of the results of this process to management.

## **Environmental Objectives**

The overall environmental goal, arising from an environmental policy, that an organisation sets itself to achieve, and which is quantified where practical.

## **Environmental Performance**

Measurable results (see environmental performance indicators/index) of an environmental management system, related to the control of its environmental aspects. Assessment of environmental performance is based on environmental policy, environmental objectives and environmental targets.

## **Environmental Performance Index**

A parameter describing environmental impact with a single figure. An index is usually calculated by weighting the actual impact level against a target level. Also see valuation.

## **Environmental Performance Indicators**

Different parameters describing the potential impact of activities, products or services on the environment. These parameters are the result of characterizing classified environmental interventions/environmental aspects.

## **Environmental Policy**

A statement by an organisation of its intentions and principles in relation to its overall environmental performance. Environmental policy provides a framework for action and for the setting of its environmental objectives and target.

### **Environmental Problem**

An environmental problem is a description of a known process within the environment or a state of the environment which has adverse effects on the sustainability of the environment including society. They include resource consumption and environmental impacts. See also environmental effects, environmental aspects.

### **Environmental Target**

A detailed performance requirement, quantified where practical, applicable to the organisation or parts or combination thereof, that arises from environmental objectives and that must be set and met in order to achieve those environmental objectives.

### **Environmental Strategy**

A plan of action intended to accomplish a specific environmental objective.

### **Interested Party/ Stakeholders**

Individuals or groups concerned with or affected by the environmental performance of an organisation. Interested groups include those exercising statutory environmental control over an organisation, local residents, an organisation's investors, insurers, employees, customers and consumers, environmental interest groups and the general public.

### **Open-loop Recycling**

A recycling system in which a particular mass of material (possible after upgrading) is remanufactured into the same product (e.g. glass bottles into glass bottles). See also open-loop recycling.

### **Pollution**

Residual discharges of emissions to the air or water following application of emission control devices (EPA 1993b). See also environmental release and environmental intervention.

### **Prevention of Pollution**

The use of processes, practices, methods or products that avoid, reduce or control pollution. These may include recycling, treatment, process changes, control mechanisms, efficient use of resources and material substitution.

## **Recycling**

The process of re-using material for the production of new goods or services on the same quality level. If the quality of the goods and services produced with recycled material is lower, then the process is known as down cycling. See also close-loop recycling and open-loop recycling.

## **Resources**

Materials found in the environment that can be extracted from the environment in an economic process. There are abiotic resources (non-renewable) and biotic resources (renewable).

## **Reuse**

The additional use of a component, part, or product after it has been removed from a clearly defined service cycle. Reuse does not include reformation. However, cleaning, repair, or refurbishing may be done between uses.

## **Solid Waste**

Solid products or materials disposed of in landfills, incinerated or composted. See also waste.

## **Valuation**

The process of weighting characterized environmental interventions against each other in a quantitative and/or qualitative way. This process results in an environmental performance index.

## **Verification Activities**

All inspection, test and monitoring work related to environmental management.

## **Waste**

An output with no marketable value that is discharged to the environment. Normally the term "waste" refers to solid or liquid materials.

## **Waterborne Waste**

Discharge to water of pollutants.





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[www.ricoh.co.uk/greentodo](http://www.ricoh.co.uk/greentodo)