

UNEP

A CASE FOR CLIMATE NEUTRALITY

CASE STUDIES ON MOVING TOWARDS A LOW CARBON ECONOMY

UNITED NATIONS ENVIRONMENT PROGRAMME

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A Case for Climate Neutrality—Case Studies on Moving Towards a Low Carbon Economy

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Division of Communications and Public Information (DCPI)
PO Box 30552, Nairobi, Kenya
Tel: (254 20) 762 1234
Fax: (254 20) 762 3927
www.unep.org/climateneutral

Writer: Tim Hirsch
Editors: Nick Nuttall, Niclas Svenningsen, Xenya Cherny Scanlon, Maya Alexandri, Geoff Thompson, Fanina Kodre-Alexander, Stuart Roberts
Distribution Manager: Manyahleshal Kebede
Contributor: Millicent Muriithi
Graphic design: Enid Ngaira

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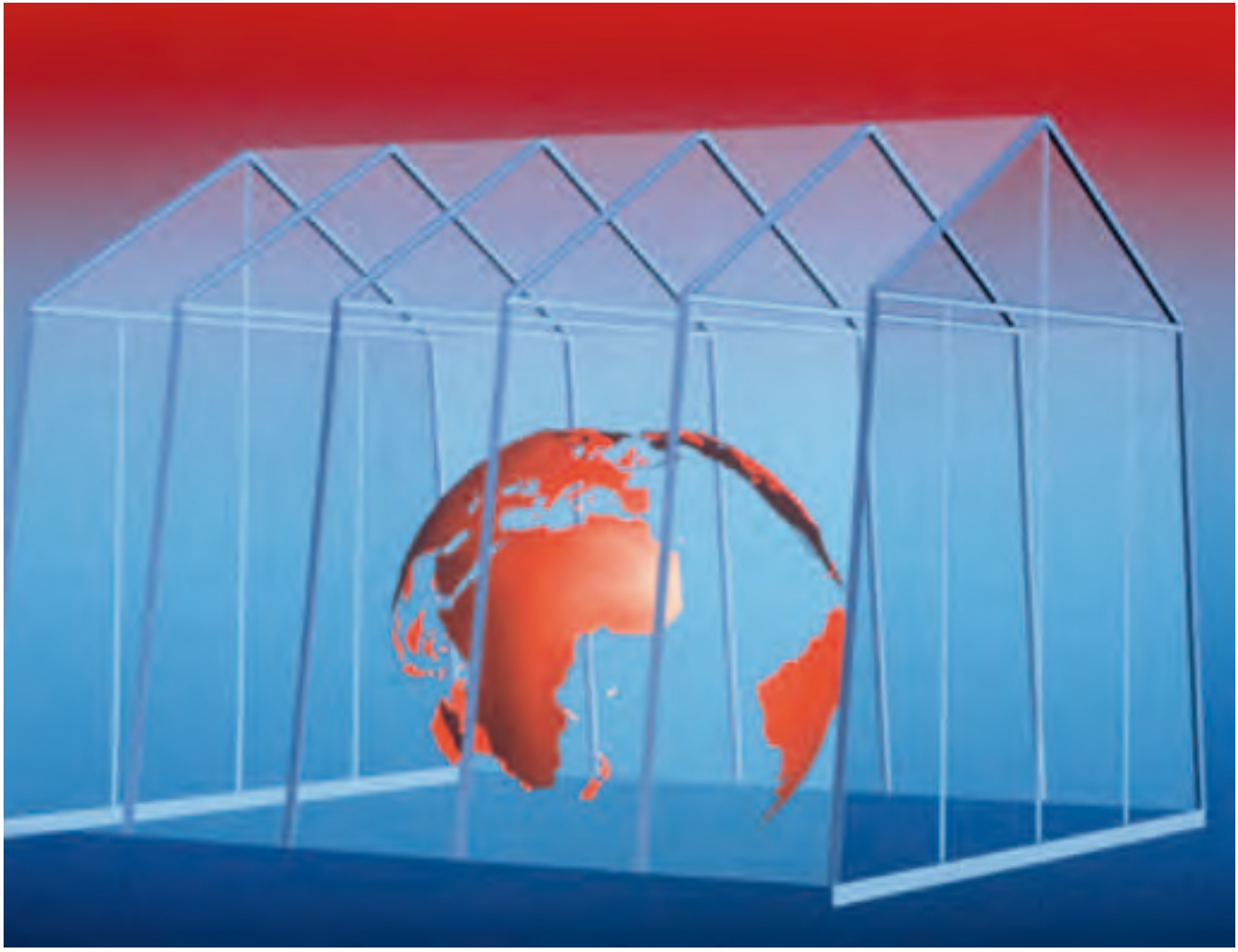
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Climate neutrality means living in a way which produces no net greenhouse gas (GHG) emissions. This should be achieved by reducing your own GHG emissions as much as possible and using carbon offsets to neutralize the remaining emissions.

Kick the Habit: A UN Guide to Climate Neutrality



FOREWORD

Since its launch in February 2008, the Climate Neutral Network has attracted a growing number of participants dedicated to reducing and eventually eliminating their negative impact on the climate. They include companies, associations, cities, regions, international bodies and even countries.

As governments continue to strive to reach agreement to secure an effective global response to one of the critical challenges of our times—climate change—making available the experience of those taking positive action is especially important.

These case studies convey frank and personal testimony surrounding the challenges, rewards and occasional frustrations involved in pushing the boundaries on climate change action.

Overwhelmingly, though, the CN Net participants profiled in these case studies have positive experiences to report and share which should inspire many others to commit to climate neutrality. Certain key messages come through.

First, measuring emissions and identifying ways of reducing them has often led to substantial savings in the costs incurred by companies and public bodies—it doesn't cost the Earth to save it!

Second, some participants see the process of going climate neutral as a good way of getting ahead of the game—taking action now before regulations direct markets towards a low carbon future.

Third, offsetting emissions is not just a matter of paying some extra money to salve your conscience—in many cases CN Net participants have identified directly with the particular projects they are supporting through their purchases of carbon credits, and see the benefits to communities and biodiversity that can accompany climate change action.

Finally, the climate neutrality process shows how your impact can extend well beyond the emissions directly created by the activities of your company, city or organization: suppliers making the materials you use, as well as customers using your products or services—all are part of the wider footprint of your activities. Several of these case studies relate examples where influencing those "upstream" and "downstream" impacts is regarded as even more important than the direct emissions of an entity's core activities.

There is no "one-size-fits-all" approach to being climate neutral. It involves different practices and priorities for different organizations. But the accounts in this volume show that going climate neutral can be an enriching and worthwhile experience, making climate change a real and tangible issue, and a way of translating the political process into real and sustainable action on the ground.

I hope that you will enjoy reading these case studies as much as I have, and that they will inspire more companies, organizations, cities and governments to join the Climate Neutral Network and start down the path to climate neutrality as one transformative avenue towards a resource-efficient, twenty-first century Green Economy.

Achim Steiner
UN Under-Secretary-General and UNEP Executive Director



Photo: courtesy of Aust-Agder county

NORWAY: CLIMATE NEUTRALITY IN ACTION

The picturesque city of Arendal on Norway's south coast may have a population of just 40,000, but it is a serious contender for the title of world capital of climate neutrality.

Not only has the city itself made a commitment to be climate neutral, it has become the hub of a wide network of businesses, sporting bodies and even music festivals that have all espoused the principles of climate neutrality.

It sits in the county of Aust-Agder, which has also declared itself climate neutral, while Norway has pledged to be so by 2030.

So what does that actually mean? Can the world's third-largest exporter of oil really reach a position where it makes no net contribution to climate change?

Arendal itself has been transformed in recent decades, from a port largely based on shipping, forestry and mining, to one dominated by tourism and twenty-first century industries, such as the information technology sector.

Among the organizations based here is the United Nations Environment Programme (UNEP) Collaborative Centre, GRID-Arendal, which is responsible for assembling environmental data, known as the Global Resource Information Database. GRID-Arendal is therefore at the vanguard of a process which involves assembling information about humankind's impact on the climate.

In its efforts to be recognized as carbon neutral, Arendal went through the multi-stage process recommended by the flagship document on climate neutrality, a UNEP publication called "Kick the Habit: A UN Guide to Climate Neutrality". First you measure your emissions; then you reduce them as much as possible; and finally, for the emissions you cannot avoid, you offset them through buying carbon credits that represent genuine reductions in emissions elsewhere.

After becoming a founding participant of the Climate Neutral Network, the Arendal city government completed its first emissions inventory in June 2008. The question—to which we return frequently in this publication—was what to measure?

The Greenhouse Gas Protocol, an internationally recognized system for assessing the climate impact of an organization, defines three "scopes" of emissions. Scope 1 emissions are those produced from direct activities—say, production in the case of a company. Scope 2 emissions are those produced by the electricity purchased by the organization. Both of these types must be included in any inventory following the Protocol.

Scope 3 emissions are those for which the organization is indirectly responsible, such as from the travel to work by its employees. Including these is voluntary, so the strict definition of climate neutrality may vary according to what proportion of Scope 3 emissions are included in an organization's GHG inventory.

In the case of Arendal, the city government chose to include in its first inventory, covering 2007, emissions from official travel for employees (Scope 3), in addition to its Scope 1 and Scope 2 emissions; more Scope 3 emissions are planned to be included in the future.

The total annual emissions for the city government's own activities were calculated at 7020 tonnes of carbon dioxide (CO_2), of which some 90 per cent comes from use of its buildings, and much of the rest from transport.

Having calculated its emissions, Arendal has set ambitious targets for reducing its emissions in the future—90 per cent by 2017. Key steps include agreeing with its electricity provider that all energy should have green certificates, and introducing a programme of energy efficiency. The city is cutting its transport emissions by insisting on low-emission small cars in its leasing contract (100gCO_2/km compared with

the EU requirement of 120), favouring the use of biofuels, and phasing in an electric car pool system.

For the emissions it cannot avoid, Arendal is committed to buying offset credits, or "Certified Emission Reductions", through the Clean Development Mechanism (CDM) of the Kyoto Protocol—each tonne of CO_2 emitted by the city is matched by a tonne kept out of the atmosphere by a project it has helped to finance in a developing country.

With its partner authority, Aust-Agder county, Arendal is helping to develop a CDM project in its "friendship city", Mwanza in Tanzania. The project involves collecting the methane produced from a waste landfill site, and flaring it—so what goes into the atmosphere is CO_2, which is less than one-twentieth as damaging as methane in its warming effect (all GHGs are expressed as a common metric—CO_2 equivalent—that reflect their warming potential relative to CO_2). Eventually, the hope is to produce energy from the methane as well. If this project is validated through the UN system, the local authorities will have a direct link with the credits they are buying to offset their emissions and complete their claims of carbon neutrality.

"Their main motivation is to develop goods and services for tomorrow's low emission markets."

—Svein Tveitdal, Arendal City Climate Adviser

The issue of choosing offsets is a critical one for many involved in the climate neutrality process, as it can affect the credibility of the claims being made by a company or public organization.

For Svein Tveitdal, adviser to the Arendal government on achieving climate neutrality, confining offsets to UN-validated carbon credits through the CDM is an important safeguard. "We stick to CDM projects as this is the obvious choice when you are following UN guidelines," says Tveitdal. "Through buying the credits from Tanzania, Arendal can contribute to the further development of its friendship city, as well as offsetting its CO_2 emissions."

"If there is a surplus for the city as a CDM investor, this will be transferred back to Mwanza for development purposes under the friendship programme."

Public suspicion about the legitimacy of offsets has hampered the development of climate neutrality in the private sector, according to Per Otto Larsen, of the Norwegian company CO2focus, which advises companies on climate and offsetting issues.

"The debate around emission credits and the lack of trust in ensuring the climate effect of using offsets have to some extent delayed many companies in their decision process towards climate neutrality," says Larsen.

"This is counteracted by clear guidelines from national authorities, but there's still a way to go to persuade public opinion. The first wave of climate neutrality initiatives involved a lot of non-official offsets and 'voluntary standards'."

Even after it has "neutralized" all of its own emissions, Arendal's government will have accounted for only around five per cent of the emissions originating from the city. Like many involved in the climate neutrality process, Arendal sees its influence as going well beyond the emissions for which it is directly accountable.

So the city government has also set a target for reducing total emissions in Arendal to 25 per cent below 1990 levels by 2025. One way it is hoping to achieve this is through setting up the UN City Climate Partners Network, bringing together local companies with a commitment to conducting an analysis of their climate footprint and making plans to reduce it. Its members include the two counties that make up the region, the three largest cities, and 21 companies. Some 15,000 people work for network employers, generating a combined turnover of around $2.5 billion. Many UN City Climate Partners are also participants of CN Net.

"Their main motivation is to develop goods and services for tomorrow's low emission markets," says Tveitdal. "They love seeing their business contribute to sustainable development and want to be on the right side of a social development they

see coming. We believe these companies and our region will be future economic and political winners."

Some companies are also looking well beyond the emissions arising from their own operations for opportunities to reduce climate change impacts, even though they are not required to do that to qualify for carbon neutral status.

The major Norwegian energy supplier, Fjordkraft, for example, has a relatively low climate impact from its own activities, as it uses 100 per cent renewable energy. Fjordkraft's Arild Soldal says the greatest contribution the company can make is to demand climate neutrality from its suppliers, who are responsible for emissions on a far larger scale.

"Climate neutrality was made an absolute demand from 2011. If you want to be a supplier for our company, you'll have to be climate neutral," says Soldal.

As for Norway's climate neutral ambitions as a country, it is still early days. The government has agreed to invest €600 million each year to purchase carbon offsets, even if they are not required to do so for the country to meet its emissions reduction target under the Kyoto Protocol.

Norway has become a leading global player in the carbon trading market, and a champion of funding schemes in the developing world to reduce emissions from deforestation and forest degradation. Norway is, for example, the first contributor to the Brazilian Government's Amazon Fund, pledging up to $1 billion over the next 10 years to schemes helping to combat rainforest destruction and support sustainable livelihoods.

The reality of Norway's carbon neutral commitment still seems rather intangible to many of its citizens—and the impacts of its oil exports will not be included in the commitment. But places like Arendal are showing that once it catches on, climate neutrality can produce networks of committed companies and institutions that, together, make a significant contribution towards reducing the climate footprint well beyond the city's boundaries.



Photo: courtesy of Aust-Agder county

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GETTING MOVING ON CLIMATE NEUTRALITY

When your company's annual emissions are about the same as Croatia's, moving towards climate neutrality may seem like a tall order.

But Deutsche Post DHL—the world's leading mail and logistics services group—is among a number of key players in the transport sector to have joined the Climate Neutral Network.

Transport accounts for about one-fifth of global carbon dioxide emissions, and that proportion is projected to rise steadily as car sales soar in developing countries, and aviation continues its relentless expansion. The International Energy Agency forecasts that transport emissions will rise by 80 per cent between now and 2030.

Yet transport has barely been touched by the international mechanisms designed to tackle climate change. Of more than 1800 projects earning carbon credits under the UN Clean Development Mechanism (CDM), just two are transport-related. Two crucial parts of the sector—international aviation and shipping—are entirely excluded from the targets of the Kyoto Protocol, because no single country is deemed responsible for their emissions.

So the involvement of major transport companies in voluntary initiatives to calculate, minimize and offset their emissions is crucially important.

Deutsche Post DHL's global footprint in 2008 is estimated at 32 million tonnes of CO_2 emissions, the equivalent of the emissions of a small country. Through its extensive network and infrastructure, it touches approximately five per cent of total global trade volume, employing around 500,000 people, and using 120,000 vehicles and 319 aeroplanes.

So what is the company doing about its substantial footprint?

Deutsche Post DHL's "GoGreen" programme, launched in 2008, has the central goal of improving the company's CO_2 efficiency (emissions per shipment, tonne, kilometre or square metre) by 30 per cent by 2020.

This is especially challenging as it includes Scope 3 emissions—those outside the company's direct control. In Deutsche Post DHL's case this accounts for the great bulk of its emissions—more than 25 million tonnes, largely from subcontracted transport companies.

To achieve its target, a wide-ranging programme is being introduced across the company's operations, spanning the use of more efficient trailers and aircraft, new logistics technologies to cut down on truck-miles, and specialist services and products to help customers and contractors to reduce their own CO_2 footprint.

Among these original initiatives is the use of the first modern ocean-going cargo vessel to be powered partly by wind—the MS Beluga SkySails.

Steffen Frankenberg, Vice President of the GoGreen programme at Deutsche Post DHL, says, "Our customers are asking more and more for green solutions. Currently we are running efficiency analysis projects for the supply chains of some of our top customers."

"We believe in the opportunities of a low carbon economy—for us and for our customers."

In addition to joint consulting and efficiency projects, Deutsche Post DHL already offers the carbon neutral shipping service, GoGreen, to its customers. If a customer chooses to send their letter, parcel or express shipment "green", the company calculates the transport-related CO_2 emissions and offsets them with investments in international CDM climate protection projects.

Another delivery company, on a more modest scale but still a significant player in its own area, is making carbon neutrality a high-profile selling point for its services.

Urgent Couriers of Auckland, New Zealand, is also concentrating on reducing the amount of CO_2 emitted per dollar earned, and in the past two years its "carbon intensity" has fallen from 168 grams per dollar (g/$) of sales to 151 g/$. This has largely been achieved by increasing the proportion of low-emission vehicles in its fleet from 25 to 60 per cent.

"Urgent Couriers has gained a number of clients because of its climate neutral position. We have also significantly increased our brand profile by highlighting our climate neutrality," says Urgent Couriers' Steve Bonnici.

To meet the climate neutral criteria, the company agrees to buy offsets approved by a New Zealand certification system known as the carboNZero programme. But Bonnici says this does not mean that the company stops looking for further emission cuts. "Once you make the commitment to pay for your unavoidable emissions you become very focused on reduction," he says.

"Once you make the commitment to pay for your unavoidable emissions you become very focused on reduction."

—Steve Bonnici, Urgent Couriers

With road transport accounting for the bulk of emissions in the sector, leading car manufacturer Toyota Motor Europe was among the first to come on board CN Net. In addition to being a well known pioneer of hybrid cars, Toyota's European operations are aiming at climate neutrality through measures such as avoiding energy waste, use of renewable power, and offsetting travel for business meetings. The company is also investigating the possibility of using carbon capture and storage as the final step towards carbon neutrality.

Toyota Motor Europe's Alaa Salama says that the greatest contribution a company like his can make is in developing technologies to make vehicles more fuel-efficient, but a much wider effort is needed if emissions from the sector are going to fall substantially.

"In addition to efforts made by vehicle manufacturers to improve fuel efficiency, it is important for governments and the private sector to work together on challenges such as reducing traffic congestion and improving driving methods, motivating the switch to low carbon fuels, and efficiently utilizing transport resources," says Salama.

A carbon neutral motorway may sound like a contradiction. But one participant of CN Net, Autostrada Eksploatacja, is applying the principle to its maintenance and safety operations on a stretch of the A2 toll road between Konin and Września in Poland.

With the bulk of its emissions coming from electricity use and its maintenance vehicles (it does not, of course, count the vehicles using the motorway), the company is looking for savings such as using more efficient road lighting, although the global financial crisis caused this investment to be put on hold.

Autostrada Eksploatacja's carbon neutral strategy is based on the responsibility being taken by the company to care for trees and other plants lining the motorway, which it estimates absorb more carbon dioxide than the total emissions of the company.

Autostrada Eksploatacja's Jacek Dymowski says that for a company like this, which is heavily dependent on the use of electricity, the level of emissions is largely beyond its control.

"Unfortunately, more than 90 per cent of electricity in Poland comes from coal burning. There is no opportunity to buy any 'greener' energy for us; we are not able to change the macroeconomic aspects of our economy. So we have to buy this 'dirty' energy."

A similar dilemma faces the European rail industry. Even though railways are widely seen as the greenest form of transport, their actual emissions are largely dependent on the source of the electricity which powers them, and this varies greatly according to the country in which they operate.

Even so, the International Union of Railways (UIC)—incorporating leading companies such as Deutsche Bahn, Eurostar and Danish Railways—has become a participant of CN Net. Among its commitments is a 30 per cent reduction in railway emissions by 2020, compared with 1990 levels.



Photo: courtesy of H2 Logic / Climate Consortium Denmark

One of the key initiatives of the UIC's climate programme is the development of the website www.ecopassenger.org, which allows travellers to compare the emissions associated with a journey to any European destination using road, rail or air transport.

Surprisingly, the analysis does not always come down in favour of the train. "It was so honest that it was not very popular with some of our marketing managers," admits UIC's Margrethe Sagevik.

For example, the website calculates that a trip from Berlin to Warsaw emits 56 kg of CO_2 per passenger by train, and 96 kg by car with single occupancy. But two people travelling in the car emit less CO_2 than rail, at 48 kg per passenger.

Of course the comparison will vary greatly according to where the journey takes place, and what type of car engine is being used. Sagevik argues that it was important to make the comparison as fair as possible, including an assessment of the full life-cycle of the fuel used, from "well to wheel", even if this analysis does not always make her industry look very green.

"With this tool, we would like, in addition to contributing to informed transport choices, to create awareness around the challenges connected with measuring the energy and emissions performance of transport modes," says Sagevik.

"In principle, the dependency of the emissions performance of electric trains on the energy that is being fed into them also means that when renewable energy is available, electric trains provide a mass public transport system that release zero net emissions."

In fact, one of UIC's member companies, Deutsche Bahn (DB), is already offering emissions-free travel on its network. For a small surcharge, corporate clients can guarantee that the power for their journey comes from 100 per cent renewable sources. DB undertakes to replace all of the non-renewable energy used on business trips with power from an "eco pool" it has set up, using clean forms of generation in Germany.

Probably even less likely than a carbon neutral motorway is a carbon neutral airline—but CN Net counts among its participants a number of airlines that are committed to carbon neutrality.

One of these, Nature Air—a regional airline based in Costa Rica specializing in ecotourism—offsets all of its emissions through the protection of tropical forests in the country. Since 2004, it has been using Costa Rica's Environmental Services Payment Programme to protect more than 150 hectares of primary forest in an ecological corridor in the south of the country.

The airline's commercial director, Alexi Huntley Khajavi, says, "We are not simply planting trees in a park, we are protecting some of the last tropical forests in a biologically imperative area of the world. So our efforts of climate neutrality are more than just mitigating our footprint."

The aviation industry as a whole is increasingly looking at slashing its carbon footprint. The International Air Transport Association (IATA), which represents all major passenger and cargo airlines in the world, has recently pledged carbon neutral growth from 2020, and to halve emissions by 2050 from 2005 levels.

The industry is also pushing for aviation to be included in the future climate regime so that its emissions are better accounted for, priced and managed.

Nature Air is also looking for maximum emissions savings within its own operations. Khajavi says the key is to balance good business practices with an enlightened environmental approach.

"The goal is to be a good company offering quality products at competitive prices. A bad climate neutral airline does not do the world any good."

"That being said, a good airline that is doing positive things environmentally and socially has a lot of leverage to do more good and be more profitable."

"To other transport companies, we say get on the bus or get run over; sustainability and climate change and emissions reductions are not going away."



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A LOW CARBON DIET

Every food or drink item we put into our supermarket trolley, or order in a café, has a hidden story of GHG emissions behind it. From the carbon released through tilling soil and converting forests to crops and pasture, to emissions from fertilizers used to grow the ingredients, the fuel used by farm machinery, the transport emissions to get the product to the shelf, and the energy required to make the packaging—all of these form part of the climate footprint of consumers as we make everyday choices about what we eat and drink.

The world's total agricultural production is estimated to account for around 13 per cent of global GHG emissions covered by the Kyoto Protocol.

Accounting for the true climate impacts of food and drink is especially challenging, as these products often involve very long and complex chains of production and distribution. But some companies in this sector have embraced the climate neutral concept, and find that it can help cut costs as well as motivate staff and customers alike.

In the case of Dole Fresh Fruit International, the decision to move towards climate neutral production of pineapples and bananas in Costa Rica formed part of the country's stated ambition of becoming climate neutral by 2021. As one of the world's leading exporters of these fruits to the United States and Europe, Dole sees great potential for minimizing the significant emissions involved in getting its products to market.

The first stage, as with all companies seeking carbon neutrality, is to work out the scope or boundaries of the emissions to be measured, and to calculate the current footprint. Dole's inventory, completed in 2009, included the emissions associated with agricultural production, and with transport of the fruit, both by land and by sea.

The company's strategy to reduce emissions includes looking at some innovative solutions. For example, research is under way on the use of live leguminous trees instead of concrete posts to prop up banana plants. As well as eliminating the emissions associated with making the concrete, the trees themselves capture carbon and add nitrogen to the soil.

Other measures include controlled-release fertilizers to cut down on emissions of nitrous oxide (the third most significant greenhouse gas after CO_2 and methane), training of machine operators to minimize fuel use, and various initiatives to save on transport emissions.

To offset the emissions involved in transporting its fruit to Costa Rica's ports, Dole contributes to the country's Environmental Services Payment Programme, providing incentives to small farmers in the country to reforest and look after the trees.

Dole's director of environment and food safety, Rudy Amador, says the process of looking at the company's climate footprint has already brought tangible benefits, such as fuel savings amounting to a cut of 1000 tonnes of CO_2 emissions each year, and savings to employees on their own fuel bills through training on efficient vehicle use.

"You don't need to measure every last emission to take action," says Amador. "While analysing your business from the climate change perspective, opportunities for improvements are identified that can be implemented right away or in the near term."

Cost savings through carbon neutrality are also being discovered by a food company working in a very different environment—Norway's leading coffee roasting company, Kaffehuset Friele. The biggest step being taken by the company is to switch its roaster from fuel oil to gas, which is estimated to save about 500 tonnes of CO_2 per year.

To account for the company's remaining emissions, Kaffehuset Friele is investing in two carbon reduction projects in coffee growing countries: a small hydro scheme in Brazil certified by the UN Clean Development Mechanism, and a project in Kenya to make biodiesel from jatropha plants—a scheme attracting Gold Standard certification.

Kaffehuset Friele's Olav Munch says it has been important for the company to select offset projects with which it has a direct connection, rather than simply buying credits "off the shelf".

"We realize that as a corporation we impact local communities in developing countries, and much of the CO_2 emissions that are created in the production process of our coffee affects them as well. We therefore consider it our responsibility to invest in clean energy projects in the regions where our trade is set," says Munch.

"Also, the measurement of CO_2 emissions is rather intangible. Who can really picture how much 500 tonnes of CO_2 is? Having something to invest in that we can relate to, with the same quantity, makes it all seem a little bit more tangible."

Even so, says Munch, it hasn't been easy to communicate the company's efforts to its employees and customers. "There has been a lot of bad press about companies falsely advertising climate neutrality, so we've often felt like we're met with more resistance than approval by the public when we announced our carbon neutrality. It would be nice if there was a consensus about the requirements to make the claim that you are carbon neutral."

Andrew Railton, of New Zealand's Antipodes Water—another CN Net participant—agrees: "The biggest challenge is getting people to see carbon footprinting as more than a marketing ploy. Everyone is sceptical the minute you mention carbon emissions, and a lot of time is spent explaining the process to new team members and distributors. However, once they are on board and see the processes in action, they are converted."

Antipodes Water offers carbon neutral bottled water, drawn from a deep aquifer. The company has explored every opportunity to reduce its footprint, for example using recycled glass instead of plastic for its bottles, locating staff in its main distribution regions to minimize the need for business travel, sending its bottles via rail freight, and installing solar panelling for heating.

The company offsets all unavoidable emissions using projects approved by New Zealand's Landcare Research through its carboNZero programme. Antipodes Water has carved out two wetlands and reforested an area with 2000 native kahikatea trees on the site of its bottling plant—the company argues that this makes its products carbon positive.

"We look at every new market we enter from a carbon emissions point of view before we commit to a distribution agreement," says Railton. "We discuss our goals with the distributor candidly, which helps us form long-term relationships built on a strong environmental belief system. It is also a great instrument for change internally: with every new idea, someone always asks: 'And what is the carbon footprint impact of this?'"

Railton's advice to other companies considering a pledge of carbon neutrality: "It shouldn't be undertaken lightly. Understand it, believe in it—if you are looking for a quick fix marketing gimmick this isn't it. Becoming a carbon neutral company should force you to turn your company inside out and make you look at all the pieces differently."

If water can be carbon neutral, then why not wine? The New Zealand Wine Company—which grows grapes, and makes and bottles wine, in the Marlborough region—has been carbon neutral for four successive growing periods. After calculating and minimizing emissions from all stages of the production process, the company also offsets the remainder through the carboNZero programme—in this case through a wind farm in New Zealand.

Craig Fowles, of the New Zealand Wine Company, says one of the biggest challenges of calculating emissions in this industry is the variation of the seasons—the weather conditions will dictate needs such as irrigation, frost protection and weed control, which in turn have a significant impact on the company's energy use.

Nevertheless, Fowles argues that the process of mapping out the company's footprint helps to identify areas where efficiency can be improved. "This not only improves the company's footprint but can highlight areas in which to save financially also."

"In a world requiring further and further transparency into the full life-cycle of products, this information is going to be required by regulation and not voluntarily—so why not get involved now whilst you are one of only a few?"



Photo: courtesy of Kaffehuset Friele



Photo: Courtesy of Deutsche Bank

BANKING ON CLIMATE NEUTRALITY

Banking may not be the most carbon-intensive sector in terms of its direct operations. However, through their lending decisions, policies and investment choices, financial institutions can have enormous influence on the scale of emissions in other sectors.

The banks that have joined the Climate Neutral Network combine commitments to reduce and offset their own emissions, with various forms of engagement with customers aimed at reducing their climate impacts.

CN Net participant, Deutsche Bank, calculated its emissions at 460,000 tonnes of CO_2 for the baseline year of 2007. It committed to reduce its footprint by 20 per cent for each successive year, so that from 2013 the bank plans to be climate neutral.

Among the measures it has taken towards that goal is the conversion of its headquarters in Frankfurt to the most eco-friendly high-rise building in Europe, described as the "Greentowers" project. Thanks to innovative and state-of-the-art technology, the building has cut its CO_2 emissions by 89 per cent, its heating energy requirements by 67 per cent, water consumption by 74 per cent, and electricity consumption by 55 per cent.

Putting a climate strategy into action across a large international corporation like Deutsche Bank is a complex process that demands a lot of energy and communication. Reducing its carbon footprint involves finding technical solutions, buying renewable energies, and engaging staff and stakeholders.

As in other sectors, looking for ways of reducing emissions has produced cost savings for the bank, for example the greater use of video conferencing instead of undertaking expensive business trips. Achieving higher sustainability ratings in the various indices ranking ethical investments can also bring new business opportunities.

As for the lessons learned so far from the climate neutrality process, Deutsche Bank says that it is important for the policy to have strong support, both from the senior management and the workforce of the organization.

Deutsche Bank's climate neutral strategy goes beyond reducing its own footprint and offsetting its emissions with Gold Standard CDM projects. It has set itself up as a "climate ambassador", taking the message of climate neutrality to its customers, shareholders and the general public. Opportunities to influence behaviour more widely include financing innovative climate-friendly projects, and developing investment products specifically aimed at sustainable activities.

Finally, the bank takes part in the Carbon Disclosure Project, an initiative bringing together more than 2000 organizations from 66 countries to measure and publish their emissions and strategies to reduce them—information increasingly important in the world of ethical investment funds.

In the words of Lord Adair Turner, chairman of Britain's Financial Services Authority, speaking about the importance of the Carbon Disclosure Project: "The first step towards managing carbon emissions is to measure them, because in business what gets measured gets managed."

In September 2009, the Nedbank Group became the first large corporate institution in South Africa to make the commitment to go carbon neutral.

The bank already measures emissions across its 13 head office and regional office buildings. Between 2007 and 2008 it achieved emissions reductions of seven per cent per full-time employee, and by eight per cent per square metre of floor space. With current emissions measured at 131,000 tonnes of CO_2, the bank's carbon neutral programme will look first at how the footprint of its buildings can be reduced further.

Nedbank's chief executive, Tom Boardman, says that achieving carbon neutrality will only be possible with the full buy-in of all stakeholders, and most importantly the 29,000-strong workforce. "Central to Nedbank's sustainability goals is a focus on educating and informing staff, clients and suppliers in respect of social and environmental initiatives, and empowering them to reduce their carbon footprints at home and in the workplace," he says.

As part of its offsetting programme, the bank will be supporting a project to protect African tropical rainforests. Boardman chairs the Africa Task Force of the Prince's Rainforest Project, which brings together government leaders, NGOs and investors to discuss African solutions to the deforestation issue.

"Although the rainforests might feel very far away from South Africa, their destruction through slash-and-burn agriculture and commercial logging will have adverse effects on the life of every person who calls Africa home," says Boardman.

Some banks have gone even further in taking the principles of climate responsibility into their investment and financial services activities.

The Co-operative Financial Services group (CFS) in the United Kingdom has a long tradition of basing its business activities on ethical principles—since 1998 it has had a policy of not investing in any company whose core business contributes to global climate change through extraction or production of fossil fuels.

In 2007 alone, four financing opportunities were turned down on these grounds, with an estimated sacrifice of £188,000 (approximately $300,000) in projected income.

CFS has joined CN Net with a commitment to go "beyond climate neutral" by adding an extra 10 per cent to its offsetting requirements to account for past emissions.

Amongst the products CFS has offered its customers is the Think Card—a credit card which offers a lower rate of interest for ethical purchases. The first time the customer uses the card, the bank arranges for half an acre of Brazilian rainforest to be protected in the customer's name, and a donation of 25 pence towards rainforest protection is made for each £100 spent on the card.

"The first step towards managing carbon emissions is to measure them, because in business what gets measured gets managed."

—Lord Adair Turner, Chairman, Britain's Financial Services Authority

The benefit to the environment goes beyond the financial uses of the card—it is made of a plastic called PETG, which does not include the toxic vinyl chloride used to make conventional PVC cards, so that these cards can eventually be disposed of safely.



Photo: Courtesy of Google.com



Photo: © Jason Hill / Greenfest

COOLER PLANET, COOLER CULTURE

Music festivals, rock concerts and other events have the power to inspire huge audiences towards taking positive action in the fight against climate change. At the same time, those events themselves can leave a considerable carbon footprint, as they often involve flying artists to the venue, powering high-voltage lighting and visual effects, and dealing with the food, drink and waste needs of thousands of fans.

So a growing number of cultural events are embracing the climate neutral concept. It may be an easy slogan to describe your event as climate neutral, but it presents tough choices about where to "draw the line" around your own impacts, and how far to go with really greening the event itself, rather than relying on offsets to compensate for an energy-intensive spectacle.

Live Earth, one of the original "green" music events, is a participant of the Climate Neutral Network. The organization has continued to stage events and advise others, following on from the worldwide series of synchronized concerts in July 2007. That event, inspired by former US Vice-President Al Gore and music producer Kevin Wall, involved concerts in 11 locations on all seven continents, and was broadcast in 132 countries, making it the most watched online entertainment event ever.

Since action against climate change was the rationale for the event itself, clearly the exercise of climate neutrality has been an important priority for Live Earth. It has produced a set of Green Event Guidelines that provide a practical guide to minimizing and offsetting climate impacts for other event organizers, and these have been updated to include athletic events as well as concerts.

Live Earth's general manager, Catherine Geanuracos, says a key challenge is to work out where the boundaries are drawn around the impact of the event itself, to avoid making claims that cannot be substantiated.

"Carbon neutrality can only be implemented in those areas where the event has direct impact, such as audience and artist transportation, energy use, waste creation, and water usage," says Geanuracos. "Full carbon neutrality is a difficult concept to achieve, as the purchasing impacts of events are profound, and until every product used comes with its own impact assessment, it will still be difficult to understand and account for the full carbon impact of purchased goods," she adds.

But Geanuracos says the real impact of events like Live Earth must also be measured in the positive effect they can have on the subsequent behaviour of their audiences: "We've seen repeatedly that participating in Live Earth events has inspired people to change their lives at home, work and school, to be more sustainable. In particular, we've heard from our audience that they've made changes in their transportation habits, buying habits, and recycling behaviour after participating in our events."

"We've heard from our audience that they've made changes in their transportation habits, buying habits, and recycling behaviour after participating in our events."

—Catherine Geanuracos, General Manager, Live Earth

The ability to inspire audiences to make long-term changes is at the heart of the rapidly growing Greenfest event in Brisbane, Australia. Originally inspired by the Live Earth concerts of 2007, it is a three-day festival of music and a showcase for practical measures for greater sustainability—the June 2009 event attracted 60,000 people.

According to Greenfest's founder Colman Ridge, "The purpose of Greenfest is to promote a 'Cooler Planet Culture'. Carbon neutrality is expected of us. Our ability to network our 200 plus exhibitors and a broader network to help each other and others reduce their footprint has become a year-round opportunity for us to assist acceleration of the lower carbon economy."

Ridge's advice to other events considering climate neutrality is to avoid building up the production levels to beyond that which audiences really want, and making up for it afterwards by buying more offsets. "Walk the talk by having the best staging and sound, but keep high energy consumption lighting and effects down to a minimum, and work with innovations to curb the rest, such as LED lighting. Your music festival is an opportunity to demonstrate the change in audience expectations and preferences—bring simple quality and content to life and you will have an outstanding success."

On the offsets themselves, Greenfest chose an initiative run by the Queensland state government called Ecofund, which aims to regenerate habitats bordering national parks, expanding wilderness areas and creating biodiversity corridors. For Ridge, this link with broader environmental objectives is what Greenfest's audiences want to see from the offsets they are helping to support.

"Winning the race against climate change will be a hollow victory if we arrive without rich biodiversity and real wilderness on Earth. Let's not lose sight of conservation priorities for biodiversity in pursuit of carbon neutrality—let's leverage the race against climate change to fund conservation. This approach will be respected and preferred by your customers, and you can point to specific and meaningful outcomes from your care for a carbon neutral Earth," says Ridge.

Several other festival events have joined CN Net, among them the Hove Festival, which, since 2007, has been staging an annual five-day music event in natural surroundings on an island off Arendal, Norway. With environmental responsibility a key theme of the festival, a number of initiatives to reduce the carbon footprint of the event have been introduced, including a make-up table using 21 LED light bulbs, which together use the equivalent energy of one conventional 60-watt bulb. The power for the lighting comes from a battery charged by a solar cell and wind turbine. Festival-goers can even charge their mobile phones by cycling!

The Hove Festival's Karen Landmark also warns against being too ambitious in trying to measure all emissions connected with the event. "The biggest challenge is where you draw the line," says Landmark. "In a way it is close to impossible for a festival to measure all emissions, in particular when it comes to the audiences. In 2008 we tried to measure how the audience travelled to and from the festival, but it was difficult to measure that accurately. In 2009, we claimed only to be climate neutral in terms of the event itself, the organization and the artists."

Hove Festival sees communication as an important part of the impact of such events. "It is a unique opportunity to reach out to people with important messages. We also believe in the artists as role models, and we work hard on getting the artists to engage in our environmental work, and to engage with the audience on these issues."



Photo: Courtesy Google.com


LIVE EARTH
LIVE EARTH LONDON 7.7.07


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VIRTUAL CLIMATE NEUTRALITY

The information and communications technology (ICT) sector contributes approximately two per cent of the world's GHG emissions. However, the use of computers to control and organize every aspect of our lives and economies gives this sector a significant influence over the remaining 98 per cent.

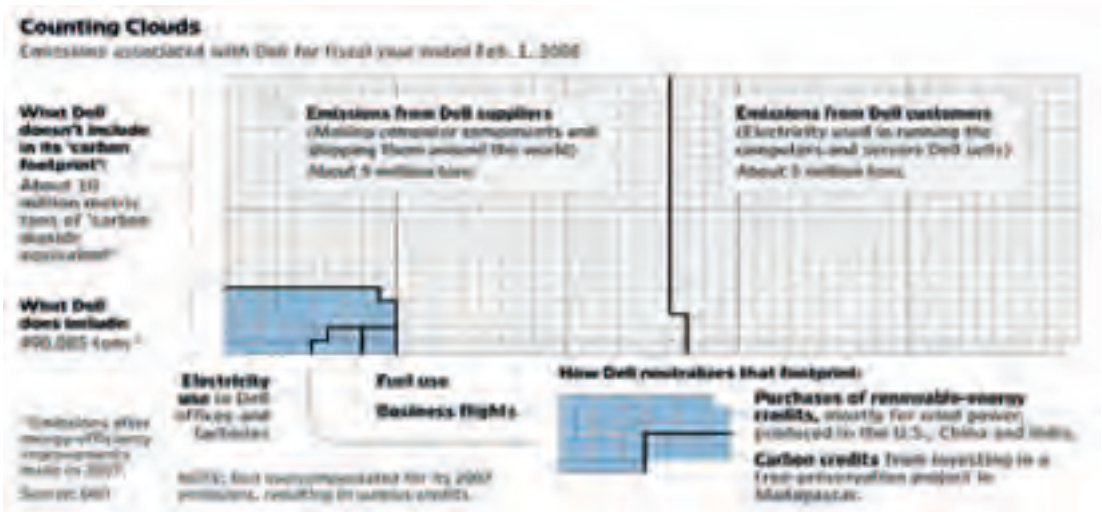
Dell, one of the world's leading manufacturers of computers and computer-related products, has made the decision to go climate neutral. But as its own analysis shows [see graphic], even offsetting every tonne of CO_2 required by the agreed protocol for carbon neutrality accounts for a relatively small portion of the emissions associated with its business.

Dell counts within its GHG inventory the direct emissions from its own factories and facilities worldwide, plus those from business travel. Together, they amounted to about 470,000 tonnes of CO_2 between 2008 and 2009.

These emissions were, however, just a small fraction of the emissions which Dell judges to be linked with its own business and products. About 20 times the company's own emissions are estimated to be produced from "upstream" and "downstream" sources—upstream being emissions from making and shipping components, and downstream being the electricity used in the running of Dell's computers and servers worldwide. Emissions from each of these sources are estimated at five million tonnes annually (10 million tonnes in total).

Dell is committed to reducing its direct and business travel emissions as much as possible, while offsetting the rest. Since around 80 per cent of these emissions are from electricity, this is where the company will focus its efforts in striving towards carbon neutrality.

After exhausting the maximum efficiency improvements, Dell undertakes to account for all of its electricity use through purchase of renewable energy. As far as possible this is done through negotiation with the utilities that supply the power itself—in the United States Dell is able to source 36 per cent of its power from renewable generation technologies, and 26 per cent worldwide—well above the average availability for renewable power.



To match the remainder of the electricity purchased from non-renewable generators, Dell buys Renewable Energy Certificates (RECs)—tradeable environmental commodities which prove that electricity had been generated from renewable energy sources—from projects in the United States, China and India, mostly involving wind power.

Once its electricity is accounted for, Dell still has about 40,000 tonnes of CO_2 to offset. The company's sustainable business director Mark Newton explains the company's thinking in deciding how to select the source of offsetting credits: "We could have just gone to the market and bought off-the-shelf offsets. But we felt that the most credible way to do this was to really roll up our sleeves and get involved in a single project."

The company decided to provide five years of funding for a project protecting a 2400 square kilometre area of tropical forest in Madagascar. Coordinated by the non-governmental organization Conservation International, the project will support conservation efforts in the Fandriana-Vondrozo Forest Corridor on the island's eastern escarpment, preserving the habitat of many endemic species including the Golden Bamboo Lemur, the Greater Bamboo Lemur and the Malagasy Poison Frog.

It is estimated that by reducing the deforestation rate, the funding will prevent about 500,000 tonnes of carbon dioxide from entering the atmosphere over the five year period, more than compensating for Dell's projected emissions from fuel use and business air travel, according to Newton.

"We chose REDD (Reduced Emissions from Deforestation and Forest Degradation) over things like methane capture because we want to send a signal that afforestation and reforestation are very important issues—there is a lot of controversy over how we are going to account for this, how it is going to be included in regulatory schemes, and we wanted to promote its legitimacy."

Newton accepts that addressing the company's own direct emissions is the tip of the iceberg as far as Dell's overall impact is concerned. He says that targeting that indirect impact is an even higher priority for the company than achieving climate neutrality according to the existing rules.

"We are maniacally focused on the downstream impacts. We are not making carpets or soda bottles here. We are making electronics that help others create solutions in their industries, to address climate change." Among its commitments in this respect, Dell's target was to improve the average energy efficiency of its products by 25 per cent between 2008 and 2010, on top of an improvement of more than 50 per cent over the previous five years.

As for the upstream impacts—the emissions from production and transport of its components—Dell is putting active pressure on suppliers to measure and report their own emissions, and to publish plans for reducing them. If they don't comply, Dell considers terminating the supply contract. The company is working with some suppliers directly, to help identify where efficiencies can be implemented.

"Ultimately we believe that each enterprise needs to be accountable for its own impacts," says Newton. "I think if we send a signal that we are going to incorporate the impacts of our suppliers into our own footprint, in a way we are undercutting the responsibility that our suppliers need to take for their own impacts."

Another ICT company that is a participant of CN Net—Atea—also sees opportunities for reducing emissions beyond the direct activities of the company. Atea—which supplies ICT equipment and services to companies in six Nordic and Baltic countries—has set up a website, www.goitgreen.com, which gives practical guidance on how emissions can be reduced through better use of computer systems.

"There are numerous direct ways of reducing CO_2 emissions from the ICT sector, such as virtualization, consolidation, power management, and using laptops instead of desktops," says Atea's Hannah Lind.

"But beyond these direct measures, we believe the ICT sector holds the key to a number of other ways of saving CO_2. For instance, better ICT infrastructure will enable possibilities to work from home. This is being used more and more as a way of not only of saving CO_2, travel time and expenses, but also to help a sound work/ life balance."



Image: courtesy of goitgreen.com

The company has calculated that it loses approximately 478,922 working hours a year due to travel, so this was an obvious target for improvement. "Using videoconferencing instead of travelling by car or plane is also a highly effective way to save CO_2, and to convert travel time to work hours," Lind adds.

Atea has prioritised staff education and behavioural change, in implementing the various measures being introduced to cut Atea's footprint across its six national units.

"Atea's employees are now on a daily basis sorting waste correctly, turning off lights when leaving meeting rooms, offices and bathrooms, turning off the external screen when leaving the computer, making sure that computer settings are electricity effective, and so on," says Lind.

"In most areas, Atea's employees have been very supportive and full of initiatives to support a climate neutral policy. However, one single area has been more challenging than others: cutting down on car driving and using video conference meetings instead. As expected, this has taken more time than any other initiative."

In Atea's Danish operation, further encouragement to use video conferencing is being provided though an incentive system, awarding "green points" to employees who avoid business travel by this means.

Similar to the experience of many companies, some of Atea's planned investments to improve efficiency and cut emissions were hindered by the global financial crisis—for example a plan to replace bathroom light switches with sensors was shelved, although the installation of more efficient light bulbs is contributing to reducing emissions.

In another ICT company that has declared itself climate neutral, cost-cutting due to the economic downturn has led to some unplanned improvements in carbon management. Revolution ID—a New Zealand-based provider of software to manage a company's climate footprint—decided to end its practice of outsourcing its engineering service to a support team in Asia.

According to Revolution ID's Chris Lindley, this enables the company to practise what it preaches to a much greater extent, by keeping greater control over carbon emissions associated with the business. "We can now influence operating procedures and choice of suppliers. These include printing and stationery resources from sustainably managed resources and socially responsible companies, car pooling and green taxi services, electricity from wind and hydro energy retailers, and where and how meetings will be conducted, such as through video conferencing and desktop sharing."

While the engineering service has been brought in-house, Revolution ID has decided to outsource many of its ICT requirements, such as back-up systems and disaster recovery for its software and company files, to a "cloud hoster". This means that the company does not need to keep its own physical server on constant standby, as the backup functions are shared between the computers of different organizations.

Lindley says: "The principal lessons we have learned are that in our case, bringing our human resources in-house and moving our purely ICT services 'out of house' has significantly reduced complexity, costs and our carbon footprint. This in turn has made us far more efficient and productive as a team, and resilient as an organization."

"The increase in 'cloud' services and specialized web-based services emerging in the ICT sector is a great opportunity for businesses to consolidate their operations. This has a direct impact on their carbon footprint as well as their bottom line."

"It is advancements in technology and using eco-committed third party specialists which will move a business to a more sustainable existence."

To help bring sustainability to bear more widely in the ICT sector, the Global e-Sustainability Initiative (GeSI), has brought together leading firms in the sector, UNEP and the International Telecommunications Union (ITU). The partnership has supported an examination of both the ICT industry's impact on climate change, and its potential to provide solutions to it. The project aims to provide the information needed to facilitate the sector's contribution to global reductions in energy use and GHG emissions.

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BUILDING FOR A COOLER CLIMATE

Buildings account for more than a third of the energy used on the planet, and are in many countries the largest source of GHG emissions. Once completed, buildings have an ongoing climate impact. There is huge potential to reduce this footprint through better design, and smarter, energy efficient technologies.

The construction process itself involves substantial GHG emissions, and a large proportion of these are embedded within the materials used. Leading construction company, Skanska, for example, estimates that between 80 and 90 per cent of its emissions (not including the use of the building once it is finished) come from beyond its direct activities and electricity use, and of these Scope 3 emissions, between 60 and 70 per cent are attributed to steel and concrete.

With some 12,000 projects that are commenced each year, the footprint of a multinational company such as Skanska is a complicated one. The Arendal division of Skanska Norway is a participant of CN Net, and is concentrating its efforts on reducing the emissions over which it has direct control, such as ensuring its equipment is as efficient as possible, cutting energy use in its own offices, and reducing fuel use from its vehicles.

One of Skanska's project managers, Tore-André Thorsen, points out that decisions during the construction process can have significant impacts on reducing the emissions associated with a particular building: "By recycling the waste materials left after we have finished building, we can save 20,000 to 30,000 litres of diesel during the winter season."

Recognizing that some 84 per cent of the emissions from buildings are accounted for by the way they are used over their lifetime, Skanska sees an important business opportunity in making the design of its buildings as energy efficient as possible. The company is part of the long-term Zero Emissions Building Project, and its guidelines on managing buildings efficiently have recently been adopted by UNEP's Sustainable Building and Construction Initiative (SBCI).

The SBCI is a partnership between the private sector, government, non-government and research organizations, formed to promote the global implementation of solutions to reduce the substantial climate footprint of the world's buildings. Among its priorities are establishing a global benchmarking system to define what sustainable buildings are, and assisting governments to develop policies to support them.

The need for a total refit of the United Nations headquarters in New York has given the UN an opportunity to practise what it preaches. In fact, this iconic 1950s symbol of post-war modernism was ahead of its time in terms of sustainability as well as aesthetic design. For example, large open spaces in the complex were reserved for garden areas, radiant heat panels were embedded in the tower walls and the lobby floor, and East River salt water naturally cooled the chiller plant equipment.

However, the building is ageing, and a major five-year renovation project, known as the Capital Master Plan, is currently under way. Built into the plan are a number of key measures to reduce the climate footprint of the building, including:

- A new double-glazed curtain wall to replace the glass envelope of the tower, which while revolutionary at the time of its construction, bleeds energy throughout the year.
- New automated interior shades and blinds to maximize natural light, heating and cooling.
- New insulation for roofs and exterior walls.
- A new heating, ventilation and air conditioning system using state-of-the-art control systems.
- Improved lighting systems that automatically switch off when rooms are unoccupied.

These measures are aimed at reducing energy use of the UN complex by 50 per cent, and the energy used for heating and cooling specifically by 65 per cent. The resulting cut in

CO_2 emissions is estimated at a minimum of 45 per cent, or 23,000 tonnes, annually.

The UN official in charge of the Capital Master Plan, Michael Adlerstein, believes the biggest contribution it makes to sustainability is the decision to retrofit the existing structure, rather than to vacate and construct an entirely new building.

This, says Adlerstein, is a message that needs to be applied more widely in the construction sector if it is really serious about reducing its climate footprint.

"Building greener, more sustainable new buildings will not be enough—we simply must build less," says Adlerstein. "The old expression—'the greenest building is the one you do not build'—must be given more credibility. By far the most significant achievement of the decision to restore rather than replace the UN buildings is avoiding the energy embodied in the materials that would have been used," he adds.

The principle of retrofitting old structures rather than constructing new buildings is also at the heart of China's first climate neutral hotel company. CN Net participant, URBN hotels, renovated an old building in Shanghai's colonial French Concession district, using 90 per cent recycled materials such as reclaimed hardwoods and old Shanghai bricks (see photo on opposite page).

Energy is saved in the hotel with innovations such as passive solar shades and water-based air conditioning, while the remaining emissions, including those from staff commuting, cleaning services and the energy used by each guest, are offset through investment in clean energy projects within China.

According to Jules Kwan, director of URBN hotels and resorts, the biggest challenge has been pioneering the climate neutral process in China's hotel sector. But he insists that it is worthwhile: "We have to work out the whole process by ourselves. But we have customers who tell us they stayed specifically because we are climate neutral—so that's a huge benefit to the bottom line."

And Kwan's advice to other hotels or building managers considering the climate neutral route? "There is a growing consumer base supporting environmentally conscious companies. So get on board now, it's the future."

Another pioneering company which has joined the Climate Neutral Network—BioRegional—sees the emissions associated with constructing and running buildings as just part of its footprint as a developer of housing and commercial properties.

"We have customers who tell us they stayed specifically because we are climate neutral—so that's a huge benefit to the bottom line."

—Jules Kwan, Director, URBN hotels and resorts

BioRegional's Pooran Desai argues, "Of course buildings are important, but really what we should be looking at is creating sustainable lifestyles, whether that is in new, purpose-built developments or whether it is going into existing communities and helping them retrofit their buildings."

The UK-based BioRegional has its head office at a showcase development in South London known as BedZED. Its apartments and commercial spaces were constructed using recycled aggregate and low-temperature clay blocks, reducing the embodied energy of the materials. The amount of energy required to run the buildings is reduced through high levels of wood-fibre insulation, and apartments are fitted with low-energy appliances. BioRegional has set up an energy services company which bulk purchases electricity from a wind energy generator.

These measures form part of a wider philosophy, known as the One Planet Principles, which the company uses to help its residents reduce their environmental footprint. For example, reduced transport emissions are encouraged through a car

club and provision of limited parking spaces, and residents are assisted to recycle as much of their waste as possible.

In a new BioRegional development in the south coast city of Brighton, a "green caretaker" has been employed to take deliveries of locally produced food from nearby farmers and distribute it to the residents.

Desai says the type of mixed-use developments BioRegional is working on—new projects are under way as far afield as California and the South African city of Durban—help to move away from the old urban model of sprawling suburbs producing car-dependent residents commuting to a central business district.

"The sorts of communities we are creating will be places where people are healthier and happier, and that is the great selling point we have got. Fortunately, many of the ways we can make ourselves happier and healthier also reduce our carbon footprint and ecological footprint."

Niclas Svenningsen, of UNEP's Division of Technology, Industry and Economics, agrees: "We see a clear trend that climate-lean design of buildings is moving from high-profile projects to mainstream projects. Low-cost social housing projects in São Paolo or Bangkok may not be as attractive as corporate headquarters in New York or Paris, but in terms of the accumulated impact from small improvements from thousands upon thousands of buildings, these are much more important."

"It is there—in the mundane day-to-day buildings—that we are looking for a change in the tide of building practices. The reason that this is happening, we believe, is that climate-smart buildings translate to energy-smart—and cheaper—buildings, which in the long run is a win-win situation for both the property developers and the tenants."

Photo courtesy URBN hotels





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HEADLINING CLIMATE NEUTRALITY

The communications and marketing sector provides unique opportunities not only to reduce the footprint of individual businesses, but to use communication skills to influence many others—clients, employees and the public—to reduce theirs. As environmental campaigner Sir Jonathan Porritt once put it, the sector has a large "climate brainprint".

In 2007, one of Australia's biggest media groups, News Limited, followed its parent company, News Corporation, in pledging to become climate neutral by 2010. News Limited reinforced its commitment by joining CN Net.

To help achieve its climate neutral goal, News Limited launched a programme called One Degree, an initiative to reduce GHG emissions across the business, and to raise awareness of climate change among the company's staff and the broader community.

At the heart of the One Degree programme is a tough target for reducing the company's own emissions—by 20 per cent between 2007 and 2010. This involves preventing 30,000 tonnes of carbon dioxide from reaching the atmosphere—the equivalent of taking 7500 cars permanently off the road.

News Limited has looked at its operations across Australia from top to bottom, and come up with more than 90 projects to reduce emissions. In some cases, looking at the inefficiencies of a single process can produce a "big hit". For example, at its Mile End print centre in Adelaide, News Limited found it could prevent more than 2000 tonnes of CO_2 emissions by reducing leakage of compressed and humidified air.

According to News Limited's sustainability manager, Dr Tony Wilkins, the efficiency gains identified so far have resulted in an annual saving of about AU$1.5 million (approximately $1.6 million).

"Climate neutrality should not be seen as a difficult goal, but as a milestone on the longer path to tackling climate change," Wilkins argues. To complement the One Degree programme, News Limited launched a competition amongst its staff called "How eco would you go?", offering a Toyota Prius hybrid car to the winner.

The competition aimed to encourage staff to think about ways in which their actions impact climate change, and to make small changes in their day-to-day behaviour, both at home and in the workplace, to reduce their own footprint.

To enter the competition, staff pledged to undertake 14 days of action to reduce carbon emissions and to inspire others in original and sustainable ways. They could pledge to take action at home, at work or in the community. But the actions had to have some positive impact on climate change and had to be something that could be sustained to make a long-term difference.

The competition drew more than 300 pledges from News Limited's staff, ranging from riding a bicycle to work, to starting a community vegetable garden, to sharing laundry loads with flatmates.

"We had people looking at all aspects of their lives—from home, with the family or flatmates, to at work and in the community," says News Limited's Chief Executive John Hartigan. "Each person's circumstance was different, but almost without exception they found that cutting their carbon footprint also saved money, encouraged their personal fitness and, in many cases, gave them back precious time."

The winner of the competition, printer Carl Winter from Perth, made changes in every aspect of his life. He planted vegetable gardens, installed rainwater tanks, turned off the heat, switched to energy efficient lighting, started composting and making bread, ditched the dishwasher, and installed a wind turbine to provide power. His family cut back on its car use and shopped in bulk to save time, travel and packaging. At work, Winter replaced foam cups with mugs—his print team alone is saving 34 cups a month from ending up in landfill.

But Winter did not stop at changing his own behaviour. He drew up "Carl's Going Green Checklist", and has distributed it to hundreds of people door-to-door in his own neighbourhood, and by personalized email to contacts who have, in turn, passed it on to others in their workplaces. By multiplying his actions in this way, Winter is effectively compensating for his remaining emissions and those of his family.

"We really are enjoying ourselves and I am looking forward to seeing our future bills to see what the change is. But one of the greatest aspects of this whole exercise is that I can see my three sons growing up now with a different attitude. They are genuinely excited about the whole eco thing now," says Winter.

The INOXIA advertising agency, based in Bordeaux, France, also sees climate neutrality as something that ripples down through its influence on others, as well as involving the direct activities of its own business.

The company has set targets for reducing its own emissions by 20 per cent in 2 years, by, for example, subsidizing public transport use for its staff, using the train for business travel and operating a bicycle pool.

"Not all brands should look green—in fact probably too many are trying too hard!—but that doesn't mean they shouldn't act green."

—Monna Nordhagen, Brandlab

INOXIA's Jean Marc Gancille says that by taking this kind of action now, the company is anticipating inevitable constraints that will come with tighter climate-related regulation in the future, such as a carbon tax. "We invest in research and development on the topic that will bear fruit when new laws are introduced," says Gancille.

But INOXIA also specializes in running advertising and media campaigns for activities that genuinely benefit the environment, and specifically counsels against the "greenwashing" that is sometimes associated with the private sector's approach to climate change. Gancille says that the agency has recently secured contracts from national chains requiring expertise in communicating positive actions related to climate change.

"Until now, the resources of creative agencies have been at the service of an economy that generates social inequalities, wastes resources, and encourages excessive consumption—and they have been very effective at it! This ingenuity can now be used to serve the issues of our time and help to change attitudes and perceptions of happiness, success and progress, by highlighting the limits on our resources and global warming," says Gancille.

INOXIA has helped to set up a network of environmentally and socially innovative public relations professionals in France, and it no longer works with companies that take an irresponsible attitude towards the environment.

For the Norwegian marketing and communications company Brandlab, promoting climate-friendly practices to its clients is the greatest contribution it can make in the fight against climate change.

Brandlab's Monna Nordhagen says, "This is the most important thing we do. We are a small company in offices heated by clean power and with limited air miles. Our own impact is marginal—even though we try to have as small a footprint as possible anyway."

"Making a lot of effort for further reductions will produce marginal results. Our work for clients is overwhelmingly more important. We would prefer to focus on where we can have most impact—the advice we give to clients about reducing their own carbon dioxide emissions."

For example, Brandlab recommends online advertising instead of print materials and direct marketing, to reduce both costs and carbon footprint. The agency has also developed ideas for climate-friendly corporate gifts, such as mugs to replace disposable cups, solar-powered mobile phone chargers, and packaging concepts that minimize environmental impacts. It also advises clients to choose environmentally responsible suppliers.

"Not all brands should look green—in fact probably too many are trying too hard!—but that doesn't mean they shouldn't act green," concludes Nordhagen.



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www.federationisland.ru/images

PLAYING FAIR WITH THE CLIMATE

For many of us, participating in sport is all about escaping into the great outdoors. Whether it is enjoying beautiful landscapes during a round of golf, skiing on pristine snow slopes, or watching or participating in a football match—a large part of the pleasure is getting out into the fresh air and leaving the city behind for awhile.

Yet sporting activities have many impacts on the very environment that provides such pleasure to participants and spectators. A growing number of associations and major sporting events are looking at climate neutrality as a way of helping to minimize those impacts.

The Organizing Committee of the Sochi 2014 Olympic Winter Games in Russia is a participant of the Climate Neutral Network. The games are taking place in the beautiful and environmentally sensitive Krasnodar region on the Black Sea coast, against the backdrop of the snow-capped peaks of the Caucasus Mountains.

This has brought challenges and some controversy in the planning of the multi-billion dollar infrastructure project that will be needed to host the event—especially as it is taking place adjacent to a UNESCO World Heritage Site.

In June 2009, the games organizers signed a memorandum of understanding with UNEP, agreeing to a range of measures to make the games as sustainable as possible. Among the measures was relocation of the luge and bobsleigh tracks away from the Caucasus nature reserve—one of the few untouched mountain areas of Europe.

The agreement also details Sochi 2014's commitment to climate neutrality—covering all emissions contributed directly by the event's activities from the time of the announcement of the successful bid, in 2007, to the final shut-down phase after the games in February 2014. Emissions from electricity, air and ground transport and other activities will all be offset.

Among the emissions-saving actions being taken in connection with the Olympics are energy efficiency measures in all construction, use of recycled construction materials, and retrofitting existing energy systems to operate using renewable fuels. A light railway system is also being built to link the Olympic village with the international airport and downtown Sochi.

According to Dmitriy Kolosov, who is one of the coordinators of the carbon neutral commitment for the organizing committee, just providing modern facilities for a city like Sochi involves important environmental gains, through replacing ageing and often dirty infrastructure.

"Even if we just choose the best available technologies for the city and games facilities, we will reduce pollution and emissions," says Kolosov. "The games are driving development and modernization of Sochi's systems for waste management, sewage treatment, energy and heat supply, and transport. All the improvements not only get rid of old sources of emissions, but they also bring the city to a sustainable and comfortable standard of living."

Kolosov's advice to other sporting events considering climate neutrality? "Start planning early, engage stakeholders, define the borders of your responsibility, promote your programme."

Another major world sporting event that aimed to minimize its climate footprint was the 2010 FIFA World Cup, held in South Africa. The host country greened the event by focusing on the conservation of water and energy, waste management and introducing more environmentally friendly transport systems.

However, even the most ambitious measures to green the World Cup would only impact the emissions from the use of the stadiums and precincts, which only accounted for around

six per cent of the entire domestic footprint, estimated at 850,000 tonnes of CO_2 equivalent—and that does not include international air travel, estimated at 1.4 million tonnes.

So offsetting all emissions and achieving full climate neutrality is not cheap. Cost estimates for offsetting the domestic footprint alone were between $6.8 million and $12 million, while offsetting international travel would be around double that.

Jenitha Badul, who was responsible for coordinating the climate neutral commitment for the 2010 World Cup, is frank about the challenges she faced. "The most significant challenge was the lack of availability of funds to offset the 2010 carbon footprint," she says. "This was despite the attempt to mobilize the key stakeholders, donors, sponsors and corporate sector."

"Use the opportunity, when hosting events like this, to educate the broader public on the significance of achieving climate neutrality."

—Jenitha Badul, Greening the 2010 FIFA World Cup team

Badul argues that a commitment to climate neutrality can be seen as a process of improvement, rather than necessarily an absolute goal. "Your footprint cannot be determined 100 per cent, so climate neutrality can never be achieved totally, but it can be worked towards. The most important lesson here is never to give up. Ensure planning well in advance and secure political buy-in. Environment needs to be equally prioritized at every step of planning and implementation."

Badul has a final piece of advice to others considering carbon neutrality for a major event: "Use the opportunity, when hosting events like this, to drive the communication and awareness aspects as well as educating the broader public on the significance of achieving climate neutrality."

The Norwegian Golf Federation (NGF)—Norway's third-largest sports association—made a commitment to become climate neutral from 2009, and it joined CN Net to affirm that commitment.

Golf is often criticized for its environmental impact in many parts of the world—for using large quantities of water and chemicals to produce aesthetically pleasing links. But Ole Martin Lilleby, of the Norwegian Golf Federation, says that the game in Norway keeps its impact as low as possible. "In Norway, things are well regulated through legislation," he says. "Water is not a limiting factor for us, and we can only use a few pesticides. We feel that we do a lot of things in a good way, but we can always be better."

The NGF has gone through the UNEP-endorsed process for its climate neutral aspirations—deciding on the commitment, measuring emissions, reducing them as far as possible, and offsetting those emissions that cannot be avoided. The Federation had a relatively modest footprint of 324 tonnes of CO_2 for 2008 (the average European individual emits about 12 tonnes a year), and this was offset through purchase of emission reduction certificates through the Clean Development Mechanism.

As well as seeking emission reductions from, for example, transport and electricity consumption, the NGF is seeking to integrate its golf courses with the biodiversity of the countryside in which they are situated.

"One challenge is to create a good certification system dealing with the environmental aspects of running a golf course," says Lilleby. "We have applied to the Ministry of Culture for a financial contribution to develop a certification for sports federations in Norway."


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ISLANDS IN THE CLIMATE STORM

Among the countries to join the Climate Neutral Network are two very different island states, with unique opportunities to push the boundaries on the use of renewable energy.

From the geothermal heat sources underneath Iceland's volcanic rocks, to the Indian Ocean winds and sun of the Maldives, maximizing renewables has to be balanced with conserving the wild landscapes from which emissions-free energy is being tapped.

Iceland's position is something of a paradox. For many years, it has used renewable energy to produce virtually all of its electricity and heating for homes and offices. Its historical reliance on renewables was not a result of an urgency to tackle climate change, but rather because the island has an abundance of two renewable energy sources that have been exploited for more than a century: hydro-electricity and the geothermal energy from underground "hot rock" layers. Boreholes underneath the capital Reykjavik channel hot water from the subterraneous geothermal layers directly into the city's heating system—visitors are informed that the water in their hotel shower last saw the light of day at the time of the last Ice Age.

Yet paradoxically, according to the International Energy Agency (IEA), Iceland's CO_2 emissions per person in 2007 were slightly higher than the average for OECD countries in Europe.

Iceland's relatively high CO_2 emissions are caused by three main factors. Firstly, the country's small population (just over 300,000) has a tendency to drive large, fuel-thirsty cars. Second, the oil-powered super-trawlers of Iceland's fishing fleet play a disproportionate role in pushing up total emissions. Finally, aluminium smelting plants—ironically attracted to Iceland because of its cheap, renewable electricity—produce substantial GHG emissions from the industrial process of extracting the metal from bauxite ore.

So, in a sense, Iceland's ambitions for climate neutrality are more challenging than for other countries because it has already drastically reduced the carbon footprint associated with its electricity and heating production—usually two principal targets in cutting emissions.

"While Iceland has a head start in its abundance of renewable energy, it will be especially difficult to end reliance on fossil fuels for transport and the fishing fleet," observes Hugi Olafsson, of Iceland's environment ministry.

"The car fleet in Iceland is very large per capita, and very fuel inefficient. This means that there is great potential in bringing the fuel efficiency up, and a draft law exists that would change the tax system for cars and fuel in a way to encourage cleaner solutions. Iceland can attempt to stay at the forefront in employing new transport technology, such as electric or hydrogen cars, but this will take a long time."

On the other hand, the global economic downturn, which hit Iceland's economy especially hard, has provided a strong incentive to tackle this source of emissions. Olafsson adds: "The fuel-inefficient car fleet of Icelanders is a liability in the economic recession, and it is very clear that a shift to cleaner and more fuel-efficient cars will bring sizeable economic benefits for families and society as a whole."

For the fishing fleet, an experimental hydrogen-powered vessel was deployed in 2007, but as a near-term solution the government is looking more to biofuels as an alternative to oil. Iceland also claims to have squeezed out just about all possible emissions from aluminium smelting, given current technology, partly by minimizing emissions of the powerful perfluorocarbon (PFC) GHGs, of which emissions per tonne (taking electricity generation into account) have been reduced to around half the global average.

As a way of helping to offset those continuing emissions, Iceland is placing a strong emphasis on capturing more CO_2 in the island's vegetation. The country has suffered the worst soil erosion of any European country since its settlement 1100 years ago, as deforestation left the fragile volcanic soil vulnerable to the action of wind and water. Long before loss of carbon to the atmosphere became recognised as a

problem for the climate, Iceland was taking steps to reverse past damage through revegetation and afforestation—and increasing those efforts will be an important part of achieving climate neutrality.

Getting the most out of a country's renewable resources does not mean leaving environmental controversy behind. Iceland has discovered this first-hand, sparking numerous major international protests against plans for hydro-electric dams in some of Europe's last remaining large wilderness areas. Even geothermal power plants can have a significant impact on the pristine environment.

"Problem-free energy probably does not exist," says Olafsson. The government is currently carrying out a detailed study of all the main potential projects, and by ranking them in terms of feasibility, it hopes to prioritize those which cause the least impact, and therefore to head off future controversy."

"The problem of global warming should not be seen as giving a free rein to all dams and nuclear power plants, and other low carbon energy development. We always need to look hard at the benefits and problems, and attempt to minimize the effect of energy production on the environment."

The quest for climate neutrality is an obvious priority of the Pacific island nation, the Maldives. The archipelago of more than a thousand islands—with an average height of just 1.5 metres above sea level—faces a very real risk of becoming uninhabitable as a consequence of sea level rise. To highlight this looming crisis, the country's President Mohamed Nasheed held a Cabinet meeting underwater in 2009 (see photo on opposite page).

Indeed, the country is investing in protection from the rising ocean as best it can, by building up sea defences, including water breakers and sea walls, and by promoting natural defence through protecting coral reefs. But the Maldives Government is also seeking to be the world's first country to become fully carbon neutral by 2019.

"For the Maldives, climate change is no vague or distant irritation, but a clear and present danger to our existence," says President Nasheed. "Maldivians have lived here for thousands of years. And we don't want to trade-in paradise for an environmental refugee camp."

Eliminating the Maldives' climate footprint is hardly going to put a brake on global emissions—the country's own emissions are less than 0.1 per cent of the world's total. But that is not the point.

The aim of the country's climate neutral commitment is to show to the world that it can be done—and hopefully, to set an example that could lead to the kind of global action that might give the Maldives a fighting chance of survival. "We have not been part of the climate change problem. But we are determined to be part of the solution," adds President Nasheed.

"By successfully decarbonizing our local economy, the Maldives can demonstrate that going green is not only possible but also profitable."

—Maldives President Mohamed Nasheed

Among the measures being planned to reduce emissions in the archipelago are the construction of 155 wind turbines, an installation of half a square kilometre of solar panels, and a biomass plant processing coconut husks. Batteries will be used to store the power that is generated, and renewable electricity will also be used to power transport, both on land and at sea.

To offset aviation emissions associated with the island nation's tourism industry, the Maldives Government is considering the purchase of European Union emission certificates, which would then be "retired", or taken out of circulation, meaning that they would not be available for European companies to emit more greenhouse gases. In all, the programme is estimated to cost $110 million a year to implement, an investment the Maldives hopes to recoup within 10 years.

Says President Nasheed: "I hope the Maldives' carbon neutral example will help persuade other countries to follow suit. By successfully decarbonizing our local economy, the Maldives can demonstrate that going green is not only possible but also profitable."



Photo: courtesy myviews4life.wordpress.com

Launched in February 2008 as an initiative of the United Nations Environment Programme (UNEP), the Climate Neutral Network (CN Net) is at the forefront of the movement towards a global transition to low carbon economies and societies. CN Net is a high profile platform for innovative and forward thinking pioneers to present to the world their strategies for reducing their climate impact.

CN Net participants include countries, cities, regions, UN agencies, NGOs, universities, and global and local companies, representing sectors as diverse as construction, tourism, transport, media, agrifood, and information and communication technologies. CN Net participants have some of the most innovative climate neutral strategies in the world.

Through an interactive website, and presence at international climate events, CN Net is a dynamic forum for exchanging knowledge and sharing practical experience.

For more information about CN Net, see www.unep.org/climateneutral

www.unep.org

United Nations Environment Programme
P.O. Box 30552 Nairobi 00100, Kenya
tel: +254 20 762 1234
fax: +254 20 762 3927
e-mail: uneppub@unep.org

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