

Case Study 4

Green Office programme

Finland



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Changing Behaviour



Work package 2
Development of the conceptual model: Analysis of success factors,
underlying models and methods in target group interaction

Case Study 4:

Green Office programme, Finland

Eva Heiskanen (NCRC)

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Summary of the case

Green Office is a programme operated by WWF Finland. The aim of the programme is to offer offices a simplified environmental management and certification system, with a special focus on CO₂ emissions. The ultimate goal of the programme is to combat climate change through energy efficiency and renewables, reduce natural resource use, and promote sustainable lifestyles through enhanced employee awareness.

The target group includes office facilities in Finland that wish to improve their environmental management. Currently, 200 offices in 80 different organisations have gained the Green Office certificate. They include the head offices of some large companies (e.g., banks), media companies, and in particular, large non-profit organizations. Recently, a very large public facility management organisation has decided to join the programme, which will eventually double the office space covered by the programme.

Green Office is a purely voluntary and self-financing programme. It is operated by WWF Finland, a voluntary organization, and the target group participates voluntarily and finances the programme through fees paid by participants. Green Office is an advice and certification programme which provides participants with information about how to achieve energy and environmental savings, and provides their stakeholders with information about which offices can be considered 'green', i.e., good partners to co-operate with or attractive employers to work for. Arguments for offices to adopt the system include environmental benefits, cost savings, increased staff motivation and enhanced reputation of the certified organizations.

The certification requires that offices appoint a person responsible for the Green Office programme, set up an environmental programme, provide environmental training, sort and recycle waste, reduce CO₂ emissions, make a commitment to continual improvement, monitor achievement of objectives, and report annually to WWF Finland using the 'climate calculator' provided by the programme. The calculator is based on data from heat and electricity use, transportation and paper consumption. Other support activities include two annual training sessions, and an e-mail feed of about 20 conservation ideas ('saving tips') annually. Studies are published on best practices. WWF representatives make regular inspections of certified offices. Participants pay a application fee of 500-3000 EUR and an annual fee of 200-2000 EUR depending on the number of personnel.

The scheme has been in operation since 2003, preceded by a pilot phase (1999-2002). A study by WWF Finland in 2006 involving 17 of the participating organisations indicated that offices can save money and improve the working environment through Green Office activities. According to the study, participants were able to reduce CO₂ emissions by up to 70% with economically justifiable measures (this includes indirect emissions from, e.g., reduced paper use). The organizations saved a total of 3.6 M€ and reduced CO₂ emissions by 1,091 tonnes.

The example can be considered a successful one in the sense that no public funding is needed, and savings have been achieved on a voluntary basis in the participating organizations. On the other hand, it still operates on a relatively small scale, and the technologies and solutions applied are fairly conventional. The most recent data (2007) indicate that annual reductions in CO₂ emissions have continued to be significant, but some participants are experiencing problems in reducing their electricity use. The programme appears to have been very successful in promoting social learning: participating offices exchange experiences via regular network meetings, and environmental and energy management is institutionalized in the participating offices. The scheme is also being institutionalized in public sector organisations, where environmental management systems are becoming a requirement. WWF Finland has progressively learned to manage the programme over the years and gained insights into the problems and potentials for energy and resource management in offices. In recent years, the programme has also expanded to other countries - WWF is operating Green Office programmes in a number of Asian countries, and activities are also starting in some other European countries.

Step 1. Context of the programme

National context

The general, national context can be characterized as follows: Finland has one of the largest per capita energy consumption levels in the world. Energy consumption per capita is almost double the EU25 average. This is partly due to industrial structure, with a large share of heavy industries, which consume 48% of total primary energy. Geographical factors such as low population density and cold climates are other reasons for this. Total primary energy consumption has levelled off in recent years, but electricity consumption has continued to grow. The importance of saving energy and using renewable energy resources has been stressed in the Finnish environmental debate since the energy crises. At the same time, the prevailing energy policy has always stressed the importance of providing a cheap and reliable supply of energy for industry. Electricity is cheap in Finland, second only to France in Europe on a purchasing parity basis.

Finland, like many European countries, has experienced a long economic upturn period, which has continued almost unabated since the mid-1990s, except for a few years of slower growth following the dot.com crash in 2000-2001. At the time of the start of the Green Office programme, Finland had made a commitment to restore carbon dioxide emissions to 1990 levels by 2010. According to the National Climate Strategy (2001), about half of the reductions would be achieved by promoting energy conservation. Recent conservation measures have included setting stricter thermal norms for new buildings and promoting efficiency in existing buildings. The strategy was revised in 2005 (MTI 2005): for energy conservation, the target was then to bring about savings of 5% by 2015, compared to the business-as-usual scenario. The main instrument for promoting energy conservation in commercial buildings has been the Voluntary Agreements (1997-) for the private building sector (facility owners) and in the private service sector. In spite of these measures, energy consumption in the private service sector (the users of office buildings) has grown continually. In particular electricity consumption has grown at a rate of almost 4% per year (NEAAP 2007). Moreover, even the energy intensity of the private service sector has grown since the early 2000s, i.e., more energy is used in relation to economic output than previously. This is due to increased office space, increased use of air conditioning and the growing amount of energy-using equipment.

In terms of cultural attitudes, Finns are relatively open to new ideas, especially new technologies. The diffusion rate of new technologies is one of the highest in the world. Because it is a small country, also new ideas diffuse rapidly. It is often said that especially Finnish businesses are eager to 'jump on bandwagons', i.e., adopt similar management practices or business ideas. The educational level is high, and knowledge is sought in the media and research rather than in local traditions. This does not mean that we do not have traditional, old-fashioned companies, but less than in other countries like Germany or Italy. The country modernized very rapidly after the war, people moved from the country into towns, the industrial structure transformed, and education and the public administration boomed. So Finland is a country of rapid change, compared to many 'older' European countries.

As elsewhere in Europe, the population holds a positive attitude to energy conservation (Energy Attitudes 2004). The demand for more energy conservation efforts instead of building new power plants is accepted by more than one in two (59%). Climate change mitigation is becoming one of the key motives for energy conservation (MTI 2002). Even though awareness of climate change has been growing for years, it was not a 'hot' issue in Finland until 2006, following the Stern report, Al Gore's film and the Nobel price awarded to the IPCC, as well as two consecutive warm winters and 'black Christmases', leading to an explosion in media coverage of the topic.

Specific context

The Green Office programme is provided nation-wide, so there is no local context in a geographical sense (even though most of the participants are located in the Helsinki Metropolitan Area). The *specific context* of the Green Office programme relates to the context in which businesses in general, and service-sector businesses in particular have operated at this specific period of time. This has been a time of the 'greening of business'. Voluntary initiative such as environmental management systems have flourished. In very recent

years, following the 'climate boom', voluntary corporate initiatives have focused increasingly on climate change issues. Another issue relating to the service sector is the high employment level. Thus, organizations are vying to be 'preferred employers', and there is much discussion about the quality of working life.

Offices amount to about 4% of the building area in Finland, and about one-third of the workforce work in offices. While there has been increased awareness of environmental significance of service sector, there has been relatively little regulation and few competing programmes. Few offices employ dedicated environmental or energy professionals. This is a gap that the Green Office programme has been able to address, but it has also benefited from some particular opportunities in the sector. There has been an increasing focus on performance measurement and quality management in the private and public service sectors, so monitoring and certification are familiar concepts in offices. There is a relatively low level of capital investment in office equipment, rapid replacement cycles, and the nature of office work changes rapidly - thus, it is not so difficult to introduce changes (as compared to a paper mill, for example). On the other hand, there is a high level of capital investment in office building infrastructure. This presents a lock-in situation: whereas the contents of the office building can change, the surrounding infrastructure changes more slowly.

Step 2. The focus of the programme

General issues, initiator and problem definition

Green Office is an ongoing programme with no fixed duration. The programme was officially launched in 2002, but it was preceded by a pilot project (1999-2002). It also has no fixed budget: the budget is based on the fees paid by the participating companies; so it is the target group themselves who finance the programme. Until quite recently, the programme has operated on a small deficit covered from the general budget of WWF Finland, but last year a small operating profit was produced for the first time (and allocated to climate work at WWF).

The initiative for the programme came from WWF Finland in response to some business partners' requests to provide environmental advice for office purchasing. WWF Finland had lots of experience with co-operation with businesses, especially in various sponsoring projects. Nonetheless, Green Office was the first service of this kind provided by WWF Finland, and its capacity was relatively low at the start. In fact, two environmental consultants were employed to help in setting up the programme. On the other hand, the credibility of WWF Finland's motives is greater than for commercial consultants: WWF is viewed as being sincerely committed to environmental issues. Perhaps a large environmental consultancy, however, might be viewed as being more credible in terms of competencies. Trusts, however, has built up during the programme. In this kind of service, an important source of trust comes from 'references', i.e., the possibility to refer to other companies that are involved in the programme, and to the achievements that they have reached via the programme.

The main partners in the programme were the two environmental consultancies, which were employed for a short period right at the start, as well as the 6 pilot companies, which offered a 'testbed' for WWF to develop the programme. Over the years, WWF has sporadically co-operated with other organisations, such as Motiva, the Finnish Energy Agency, in some specific issues, but the programme has mostly been designed and executed by WWF Finland without outside help. However, the participating companies, especially the first participants, have been the most important partners, as indicated later in this case study.

The problem that the programme aimed to address is the lack of environmental management systems that are simple to use and suitable for service-sector companies. Moreover, existing environmental management systems do not require external reporting and do not have absolute performance requirements, so their impact on energy and resource use depends on how seriously the companies take them. A related problem is the lack of specialised staff and competencies for environmental and energy management in service sector companies. Thus, many simple and cost-effective ways to save energy and resources have gone unrecognised for decades.

Goals, objectives, targeted behaviours and target groups

The goals and objectives of the programme are to reduce natural resource use, promote sustainable lifestyles and combat climate change through energy efficiency and sustainable renewable energy. These ultimate goals are clearly formulated and are an integral part of the overall mission and strategy of WWF. On a more detailed level, however, the concrete objectives of the Green Office programme have been specified during the course of the programme. They relate to:

- Reducing natural resource use in offices: e.g., reducing the wasteful use of paper, energy, etc.
- Promoting sustainable lifestyles: i.e., having an impact on employees also outside work.
- Reducing CO₂ emissions: this is achieved by promoting energy efficiency and 'green electricity' as well as by influencing 'indirect' CO₂ emissions from the production of e.g., paper.
- Increasing the number of participating offices.
- Increasing the number of staff working in the offices.
- Making the programme financially self-supporting.

The goals and objectives are not particularly ambitious from today's perspective, but they were challenging at the time when they were introduced. They relate to very simple actions within offices (turning off lights, installing sleep modes for computers, etc.), but the commitment to continual improvement implies that the participating offices will need to search for new actions as time goes by. The idea is to provide an 'easy point of entry' and develop the participants' capacities to recognise conservation opportunities.

The changes targeted by the programme relate to awareness, behavioural changes as well as investments. At the start, small behavioural changes had a very large role in the programme. The 'low-hanging fruit', i.e., the small and easy things are done first, and over the years, more attention turns toward making efficiency-promoting investments in order to ensure a continual improvement process.

The target group of the programme was originally private-sector offices. It was believed that such companies would have the money to join the scheme. In the beginning, particular attention was devoted to engaging:

- A variety of offices: larger and smaller ones, service-sector companies vs. head offices of other kinds of companies.
- Particular effort was devoted to engaging an energy company, later also IT companies and HVAC technology companies in order to gain a network of companies with different kinds of competencies.
- Organisations that are well-known and admired (e.g., media companies, software, large non-profits).

Over the years, however, the public sector and educational institutions have become more prominent among the participants. This is also due to the fact that the programme has been able to demonstrate that financial savings that can be achieved.

Step 3. Design of the programme

What ideas informed the design of the programme (what lies at the foundation of the programme)?

The Green Office programme is not based on any formal theories of human or organizational behaviour. Rather, it has copied much of the elements of other environmental and quality management and certification systems (e.g., ISO 9000, ISO 14001)¹, which were being intensively developed and adopted during the late 1990s. The logic behind a certified quality/environmental management system is twofold:

- The systematic identification, management and monitoring of key processes (the plan-do-check-act model from quality management²), the setting of targets and a commitment to continual improvement helps organizations to reduce resource wastage and costs.
- Third-party certification can help organizations prove to their clients that resource use is under management control and that the organization is committed to continual improvement.

The logic is thus based on targets set by the organizations themselves on the basis of information gained from a review of material and energy flows of the organization. However, organizations adopting the system need to make a commitment to continual improvement, and thus set new targets once the previous ones have been reached. In contrast to ISO 14001, there are also absolute requirements in Green Office (e.g., energy efficiency must improve or at least energy consumption must not grow), and participants are required to report to WWF Finland on targeted areas (e.g., energy use, CO₂ emissions, employee behaviour).

WWF assumed that offices would like an environmental management system of their own which would be easier to implement and cheaper than e.g., ISO 14001. It was believed that a Green Office certification system would help to (1) systematically review and capture resource savings potentials and (2) communicate the organization's commitment to employees and to external stakeholders.

The Green Office programme is designed to be very easy and simple for organizations to apply. It is much easier to set up than an environmental management system, even though it targets largely the same aspects as an environmental management system would in an office-based organization. It focuses very much on curtailment behaviours such as turning off lights etc., which are cheap to implement.

Research conducted on the target group

The choice of the target group was based on general market knowledge and discussions within the environmental management community in the late 1990s. At this time, many of the large, environmentally sensitive industries had already adopted environmental management systems and acknowledged the notion of 'pollution prevention pays'. A large industry of environmental consultants had already built up for this group of customers. In contrast, the service sector was still a relatively 'untouched market', in which recognizing and capturing energy savings potentials did not in many cases require very detailed engineering expertise (see Halme and Heiskanen 2001).

Offices are relatively alike in terms of material and energy usage, and can thus easily share experiences and make use of solutions applied in another organization. There are often cheap and simple measures to save

¹ ISO 9000 is a series of international standards for quality management in organisations. They formed the basis for the environmental management system standard, ISO 14001, which is widely used today (about 135 000 certifications worldwide). ISO 14001 requires that organisations define and publish an environmental policy including a commitment to continual improvement and compliance with relevant legislation, identify the environmental aspects of the operations, set goals and targets, establish a management system, provide training and develop documentation and operational control and inspection measures. The system is based on the plan-do-check-act model, a systematic approach to managing and monitoring resource use and taking corrective action. ISO 14001 is a certifiable standard, i.e., when organisations have the system in place, they can gain third-party certification and use the certificate to communicate their commitment to continual improvement to their customers and other stakeholders.

² This model of systematic quality management is based on empirical research on quality improvement in organisations. It is, however, more of an engineering approach than a formal social science theory of organisational behaviour. But some people might call it a theory, and it has been formalised and elaborated, for example, in the management tools of Total Quality Management and Six Sigma quality management.

energy and resources. These are not, however, captured because their cost impact is negligible compared to the costs of labour (energy is typically about 1% of the costs of an office, whereas labour costs are usually more than 90%). Setting resource conservation in a broader environmental context can provide a broader motivation than simple cost savings.

No formal survey was conducted of the target group, but WWF had experience of office-based organizations and their problems from various sources:

- Enquiries and requests for advice directed to WWF Finland (e.g., via telephone).
- Other environmental education programmes (e.g., for schools).
- Seminars and other training events organized.
- Co-operation with corporations via sponsorship events.
- Own office experience (WWF Finland has also applied the Green Office concept in its own operations).
- Staff with quality management and engineering backgrounds in business.
- External consultants employed at the start of the programme with experience from environmental consultancy in service-sector organizations.

The most important 'research' conducted was the piloting of the programme with 6-8 offices in 1999-2002. These first offices were the 'test-bed' for the programme, they were paying clients but they also helped to develop the programme and its various elements. For example, training needs and barriers to change were identified during this process.

From these different information sources, it was recognized, for example, that there are employees who are very enthusiastic about 'greening' their office, but there are also others who doubt whether significant improvements can actually be achieved by 'turning off lights', 'copying on both sides of the paper', etc. This highlighted the importance of quantitative reporting and the provision of calculations that reveal the cumulative effect of small but regular conservation actions. Other barriers include the difficulties in making changes in facilities (few of the participating offices own their building). In general, it was noticed that people in charge of things like facilities or office IT have very little awareness of the energy consumption of these things, so new information linkages are needed.

When designing the programme, little attention was directed at possible unintended or negative consequences. Risks have been minimized by building up the programme gradually and 'learning by doing'.

What barriers, motives and capacities did the programme aim to target?

The behavioural determinants that the programme tries to address were picked up from the design of an environmental management system: economic constraints/opportunities, organizational social responsibility and means for organizational control. The programme thus aims to influence:

- *Organisations' financial motives* by identifying cost-efficient opportunities for energy and resource saving: It is well-known that there are cost-effective opportunities for saving energy, materials and the environment. By making energy and resource consumption visible and part of the organisation's performance management system, the scheme aims to capture such easily achievable improvements in resource management that have simply been 'invisible' and thus unmanageable.
- *Organisations' desire for social legitimacy* by 'rewarding good companies' with a certificate. Organisations can use the certificate to communicate to their stakeholders (including current and future employees) that they are seriously addressing their environmental responsibilities. This motive has become more pronounced as more and more organizations want to position themselves as 'socially responsible'. This is also expected to influence the organisations' financial success in the long term via enhanced commitment and loyalty by stakeholders (e.g., Hillman and Keim 2001).
- *Organisations' capabilities for controlling work* insofar as it relates to energy and resource management. Especially in service-sector organizations, there is rarely much expertise in the field of energy and resource management, and systems for monitoring and managing resource use are underdeveloped. Because the financial impact of energy and materials is small, they are rarely part of the organisation's performance evaluation system.

- *Managers' and employees' intrinsic motivation* to protect the environment by providing information, skills and a legitimate context for environmental aspirations. It is well known that people are concerned about the environment and would like to do more, but often lack the requisite skills and knowledge. Moreover, if energy and resource conservation is not part of their job description, their efforts to save energy or resources may not be perceived of as legitimate work.

These determinants were targeted via motivation, enablement and reinforcement:

- *Motivation* was influenced on two organisational levels, targeting both management and employees through peer and customer recognition, goal achievement and increased self-worth. The programme has worked via *intrinsic motivation*, i.e., managers' and employees' concern about environment, their sense of own responsibility, and their desire to apply best practices in their working environment. But also *extrinsic motives* were targeted - cost savings, organizational legitimacy, differentiation (especially in the eyes of prospective employees) and customer loyalty.
- *Enablement* is a key part of the programme: provision of training, manuals, workshops and seminars. Enablement focuses on two aspects: providing the necessary skills for reducing energy consumption (how to do it?) and setting up a reporting system (e.g., the climate calculator) for the monitoring of achievements and the setting of new targets.
- *Reinforcement* relates to the feedback on the results of the conservation activities. Measuring, monitoring and providing a third-party certificate can be seen as a way of reinforcing commitment to energy and resource conservation, and producing positive social results that can be more important than the (modest) financial savings. When organizations are publicly acknowledged as Green Office participants, they are likely to stay with the system because leaving it would raise questions.

What instruments and activities were used?

Part of the instruments used were already part of the programme design, whereas some specific instruments have been introduced in the course of the programme. Today there are five major activities or instrument:

1. *Publication of the Green Office criteria.* The criteria explain what organisations need to do in order to become eligible for the Green Office certificate. Participating organisations are required to set up an environmental management programme, appoint a person in charge of the Green Office activities, set up a communication channel for environmental information, prove that they reduce carbon dioxide emissions from energy consumption on a continual basis, recycle waste, ensure that staff are aware of the Green Office targets, monitor and report to WWF annually, and demonstrate a commitment to continual improvement. When participants join the programme, they are required to sign a contract with WWF Finland, which clearly sets out both parties' responsibilities and commitments.
2. *Annual inspections and the Green Office certificate:* WWF Finland inspects the annual reports from participants and makes regular on-site inspections to ensure that the system is in place and working. In connection with the inspections, consultancy and training to improve the programme are provided. Organisations are awarded the Green Office certificate, which they can use in their external communications. The Green Office participants are also listed on the WWF Finland website, and they are allowed to use the Green Office logo in their corporate communications (but not in product marketing).
3. *Provision of tools:* Tools are provided to the participants via the programme's extranet. They include a model environmental programme that organisations can use to make their own environmental programme. There is also a step-by-step manual for setting up a Green Office programme. The tools also include an online reporting scheme for management and a separate one for employees. The climate calculator is another tool that participants are required to use to estimate their climate change impacts.
4. *Network meetings:* WWF Finland organises four network meetings annually. The network meetings are usually hosted by one of the participants. These are important elements of the programme. Each network meeting has a specific theme (e.g., energy use of office IT). Invitations are sent to the Green Office contact persons, and they invite the relevant people from their own company (e.g., IT officers) to join. These network meetings are important for learning and information exchange. Some companies have more expertise in one area than others, and they can share this expertise.
5. *Training:* About 20 'eco-tips' are sent to the participants annually for how to improve their environmental programme. WWF Finland also offers one free-of-charge training event for the staff of each company an-

nually. WWF Finland staff can also help as consultants and trainers in setting up the environmental management and monitoring system for an extra charge.

In the pilot phase, the most important elements were the Green Office criteria, inspections and the certificate. Training was offered continually on an ad hoc basis, and seminars were organised to get new participants on board. As the programme has evolved, the training instruments, in particular, have developed. Less focus is on open seminars, and more on network meetings for the participating companies. The e-mail eco-tips were introduced in 2002, when the programme was formally launched and the group of participants started to widen. There has also been development in the reporting schemes and formats, and the climate calculator was introduced as a reporting tool in 2006.

Participation and commitment

Some members of target group have participated in the development of the programme from the start via the pilot project. Today, participation is ensured via the network meetings (3-4 meetings each year). There has also been discussion about setting up an online discussion forum for participants, but there have not been sufficient resources for this. Nonetheless, the participating companies also communicate among themselves quite a lot, as they have established personal contacts at the network meetings. Some have even obtained new clients via the network, and are delivering energy, HVAC or other solutions to other members of the network.

There are, however, limits to how much the participating offices can actually participate in the design of the programme. Because it is a third-party certification system, its credibility depends on stringent criteria that are not influenced by the organisations receiving the certificate. So WWF Finland also has a sort of control function that cannot be undermined by too much influence on the programme by the participating companies.

Commitment and social pressure are integral elements of the scheme. Commitment is ensured by the contract signed between the participating offices, through annual inspections and via the required reporting. Companies not meeting these criteria are excluded from the programme. Commitment within the participating organisations is ensured via the Green Office contact persons - usually consisting of a Green Office team with 4-5 members from different organisational functions.

Social pressure and social recognition are integral parts of the programme. Pressure comes from inside the company and from outside. Often the initiative to join the scheme comes from one of the employees or from a mid-level manager. There is also pressure from outside: from customers and prospective employees. These pressures are often diffuse: employees and clients want to work with a 'responsible company' that 'cares for the environment'. Green Office is in fact a simple way to respond to these diffuse pressures by adopting a simple, easy-to-use system. Social pressure and emulation has also been used by having 'admired' and well-known companies as participants in the scheme. Organisations aspiring to be well-known and admired thus gain an incentive to follow the lead of these successful organisations.

Communication and benefits offered to the target group

In the early years, much attention was devoted to marketing communications via seminars and by presenting the programme at various events. Personal contacts and word-of-mouth have been the most important ways of raising awareness of the existence of the programme. The organisations joining the programme are also important promoters: they will almost always issue a press release when they receive the Green Office certificate and feature the Green Office logo on their website. The Green Office logo is based on the well-known logo of WWF.



Over the years, the Internet has become an increasingly important communication tool for the scheme. Some participants have stumbled on the programme accidentally when searching the web for advice on how to become 'greener'. The benefits offered to the target group are illustrated by this excerpt from the website of the programme (http://www.wwf.fi/green_office/):

" Green Office is a simple and light environmental management system developed by WWF Finland. Green Office is suitable for small and large offices in the private as well as the public sector. Both the environment and the company will benefit from the Green Office Management System. With the help of the EMS, the company will be able to reduce office waste and save on materials and energy costs at the same time. The company will also benefit from a newly motivated and environmentally aware personnel and an improved corporate image. In addition to all this, the office can, for example, make an effort in saving forests and reducing emissions of carbon dioxide."

The feedback and results show that these promises have indeed been redeemed in most of the cases. The system is easy to use: it is operated by part-time staff. At the start, the programme requires about 3-5 person-days per month to operate, but less as it becomes institutionalised. The environmental and financial results also appear to be good (see below). Impact on staff motivation has been positive, and it also seems that companies benefit in terms of corporate image, even though no comprehensive surveys have been conducted of this.

Learning, evaluation and monitoring

Evaluation is partly included in the design of the programme insofar as monitoring and reporting on progress is an integral part of the scheme. Thus, WWF Finland collects data on energy and resource use and staff behaviour from the participating organisations every year. Baselines are also set when setting up the Green Office programme (review of energy consumption, paper use, etc.), which enable evaluation of whether participants are reaching their targets.

Monitoring and evaluation systems are continually improved. For example, the web reporting form has been developed, and a climate calculator enabling the assessment of the climate impacts of the programme has been introduced. There are, however, no common schemes for assessing the cost savings of the programme: this issue was addressed in a one-shot study called 'From Emissions to Savings' conducted in 2006.

There are no formal systems for collecting feedback on participants' satisfaction. However, participants e-mail their feedback and questions directly to WWF Finland, and the Green Office contact persons collect feedback, questions and ideas from within the company. The network meetings are an important source of feedback for WWF Finland, as companies discuss their experiences and share best practices, as well as problems, at these meetings. For example, one network meeting hosted by Finnish Lottery focused on staff motivation, including facilitated groupwork to find the best solutions.

The programme has clearly learned, and the most important learning elements relate to: (1) The environmental impacts of office work, including new and emerging issues like the energy consumption from server rooms, and (2) How to motivate organisations and their employees and how to manage the change process. These 'lessons', however, have not influenced the core elements of the programme, which have been unchanged since 2002. This is because the programme itself is quite flexible, and organisations have a lot of leeway in how they define and achieve their targets.

Links to other programmes and policy

Green Office originally had very few links to other programmes and policy. In fact, it was designed to address a gap, i.e., the lack of suitable simple systems for office-based organisations to manage their environmental and energy issues. Thus, the links are more to a general trend toward ‘voluntary greening’ and ‘corporate social responsibility’, which is also supported and advocated by policy makers on a general level. (e.g., National Programme for Sustainable Development 2006).

Over the years, however, Green Office has started to institutionalise in the public sector and on policy agendas. It is mentioned as one of the environmental management systems that public sector organizations should adopt in the *National Programme for Sustainable Consumption and Production*, as well as in the *National Programme for Sustainable Development* and the *Government Programme for Sustainable Public Procurement*. *The Government Programme of the II Cabinet of Matti Vanhanen (2007)* does not explicitly mention Green Office, but requires that ministries, government agencies and municipalities implement sustainable development in their own daily activities and in their work environment. It recommends that governmental bodies adopt a formal environmental management system for this purpose.

Other supporting policy elements have emerged over the years. These include the Buildings Energy Performance Directive, which requires that buildings have an energy certificate, which is displayed in public buildings. EU-level and national guidance on Green Public Purchasing has also supported the Green Office scheme, both by making it easier to procure energy-efficient office products, and by placing client pressure on service-sector companies, as well. For example, travel agencies have joined the scheme to demonstrate to their clients that they have an environmental management system in place.

Step 4. Process of the programme

Interaction between the different stakeholders of the programme

The main stakeholders involved in the programme are WWF Finland and the participating organizations. Other core stakeholders include the employees, clients and suppliers of the participating organizations. More peripheral stakeholders include suppliers and service providers, the media, environmental authorities, as well as trade, labour and professional associations (Table 1).

Table 1. Stakeholders and their roles and expectations in the Green Office programme

Stakeholders	Their expectations and role in the programme
Participating organisations	Legitimacy, good reputation Financial savings Expert support for environmental management Enhanced organizational identify Attractiveness as an employer
Employees	Ability to influence their work environment Possibility to improve their environmental impact More work and new rules? Will it really help?
Clients	Rarely a reason for selecting a business partner, but additional value for the business relationship
Environmental and energy authorities	For them, Green Office is a voluntary scheme to complement policy in an area with little regulation/policy instruments
Suppliers and service providers: facility owners and office equipment suppliers	Needed for providing energy-efficient products and services Low involvement
Trade, labour and professional associations	No role or involvement

Participating organizations have gone for exactly the values that WWF Finland has offered. Some see even co-operating with an NGO as a positive image factor, and many report on Green Office activities in their social responsibility or annual reports. Others, however, were initially concerned whether it would be ‘too green’. Financial savings are not very important motives, but it is nice to have a cost-effective approach to environmental and social responsibility management (i.e., it does not cost more, and even saves a little). Participating organizations also expect support for their environmental management (at a low cost compared to large consultancies), as well as enhanced organizational identify and attractiveness as an employer.

Employees are obviously the most important stakeholders because they are the key agents of the programme, but also important beneficiaries. Employees, especially highly educated women, are very aware of environmental issues and the scheme provides them an opportunity to influence their own work environment. On the other hand, some people have been skeptical about whether the scheme will increase their workload, and also some doubts have been voiced whether it will actually make a difference. In the best cases, it has turned out that Green Office is a new form of cross-functional communication that helps to build a sense of community within the company: it is a common project.

Customers would rarely select a service provider just because it is a Green Office. However, it seems that Green Office provides some added value. For example, a survey of the customers of Osuuspankki, a co-operative bank, indicated that customers valued this kind of effort from their bank (25% said it would influence their choice of bank and 33% said it added value to the relationship; Koskela 2007). A comment that probably typifies the customer sentiment is: “Taking care of the environment is topical today”. This comment indicates that being part of Green Office signifies up-to-date, modern management systems and signals an overall ‘quality of management’ (cf. e.g., Orlitzky et. al, 2003). Some organizational customers require that their suppliers have an environmental management system, and Green Office often serves that purpose.

Environmental authorities view the scheme as a complement to formal policy instruments. It promotes voluntary activities in organizations that are otherwise not subject to much formal regulation. Energy authorities have not paid much attention to the programme. Motiva, however, has participated in some parts of the programme, e.g. construction of the climate calculator used in the system, as well as in some joint communication campaigns.

Suppliers could have an important role in Green Office by providing energy efficient products and services. Facility owners and managers are, however, largely missing stakeholders in the network. Two relevant companies are Green Office participants: Helsinki Energy (the municipally owned energy company), and TAC Finland, a provider of HVAC solutions. Nonetheless, participants have encountered many problems with their landlords and facility managers when trying to implement energy and resource efficient solutions, and WWF Finland acknowledges that it needs to engage facility owners and managers better in the scheme.

Trade, labour and professional organizations are not involved in the scheme in any way, even though the programme has many links to working life, staff responsibilities and occupational issues³. This is a missing stakeholder in the network, but not a critical one. Employees are very engaged in the scheme via informal networks at the workplace.

Issues arising and programme manager's reactions

Issues and problems arising from the interaction of stakeholders have been small and many of them have been relatively easy to solve:

- Some of the marketing people participating companies have wanted to use the Green Office logo for marketing their products - this is forbidden, a non-negotiable because it would undermine the credibility of the scheme. It has not been a serious problem, and participants understand the rationale for limiting the use of the logo to corporate-level communications.
- Some employees have been skeptical about the value of the scheme, i.e., whether small behavioural changes actually result in significant improvements. This has been addressed by providing consistent monitoring, which indicates that quite significant results have been achieved. The eco-tips also include calculations of the costs of various office consumption items, and visual representations of how large savings have been achieved. One of the Green Office network meetings also explicitly addressed 'unmotivated staff members' by lectures and groupwork training sessions on how to motivate people.

Some issues are more difficult: the lack of involvement by facility owners and managers is an obstacle for Green Office members to make improvements that significantly address energy conservation, for example by improving heating and air conditioning systems. Also the suppliers of IT equipment and services could be engaged more. IT equipment and servers are today a significant consumer of energy (especially due to cooling requirements). Green Office has recently started to address this issue by organizing a network meeting on this topic, and explicitly inviting IT staff from the participating organizations to attend.

³ As an example of why this might be relevant, the well-known TCO energy label was originally developed by a Swedish association of trade unions).

Step 5. Outcomes and results

As a whole, the Green Office programme can be judged as being relatively successful. When considering the different dimensions of success, the following evaluation can be made (more details below):

Effectiveness:

- Goal achievement: very good results
- Durability of the changes: good results
- Impact on overall energy use: modest or mixed
- Efficiency: high level of efficiency, no public funding needed, target group has saved money by participating in the programme

Social learning:

- Learning by the programme manager: good results
- Learning by the target group: excellent results

Effectiveness

Effectiveness can be estimated vis-à-vis the targets of WWF Finland for the programme:

1. Reducing natural resource use in offices: This target has been achieved quite well. For example, in 2007, the participating offices reduced their paper consumption by 11%.
2. Promoting sustainable lifestyles: This target was evaluated in a specific study conducted for Green Office (reference), which indicated that staff members also have adopted environmental behaviours outside work, in their home life.
3. Reducing CO₂ emissions: This target has been achieved quite well. For example, in 2007, the Green Office participants reduced their carbon dioxide emissions by almost 12%.
4. Increasing the number of participating offices. Since 2002, the number of participating offices has increased from 8 to 200 offices in 80 different organizations.
5. Increasing the number of staff working in Green Offices. The number of staff working in Green Offices is currently about 20 200.
6. Making the programme financially self-supporting: this target has been achieved in 2007.

Some evidence of the durability of the effects on the target group can be gained from a survey administered annually by WWF Finland to employees of the Green Office participants. This survey includes 20 items (e.g., duplex copying, turning off lights, having an energy efficient computer) and calculates an 'index of consumption patterns'. This index has been fairly stable since 2002, indicating that the resource consumption changes are durable. Moreover, very few offices (3) have left the programme since it started⁴.

However, we can evaluate the effectiveness, in terms of impact on total energy use as modest, or at least mixed. Energy conservation is not the only target of the Green Office scheme. Participants can also reduce their CO₂ emissions by purchasing green electricity and indirectly by reducing paper use. Improvements in energy efficiency are, however, a requirement for green offices: they must reduce their energy consumption or at least not increase it. Overall estimations of the trends in energy use are difficult because new offices are continually joining the project. On the basis of the latest evaluation of developments between 2005 and 2007, the following can be noted:

- Fifteen of the participating offices have data on electricity consumption from 2005-2007. In this entire group, energy consumption has slightly increased during the past two years (3%) due to two large offices that have increased their electricity consumption⁵. The remaining 13 offices have decreased their energy consumption by a total of 4% during the same period.

⁴ In the case of two organisations, the reason for this was restructuring or termination of activities, whereas the third organisation left the programme because the marketing advantages of Green Office did not meet its expectations.

⁵ WWF Finland has a policy to contact such organisations and investigate the causes of non-compliance, agree on corrective actions, and review progress again after a year.

- Nine of the offices have data on consumption of heat during 2005-2007. In these offices, consumption of heat has decreased by 13% during the two-year period.
- The data from 2006-2007 include a larger group of offices with data on electricity use (20 participants) and heat consumption (18 offices). The trend is the same: two large offices have increased their electricity consumption, some have remained stable, and 12 offices have successfully reduced electricity use. The total increase for this entire group of offices is about 3.5%. Reductions in heat consumption have been successful, amounting to a total reduction of about 12%.
- For the sake of comparison, it is worth noting that during the same period (2005-2007), electricity consumption has grown by about 3% per year in the service sector in Finland (Statistics Finland 2007).

We can thus conclude that individual offices have been successful in reducing electricity consumption, but there are also offices that have not been successful in reaching this target. There are many pressures for increased electricity use in the sector, including the increased amount of energy-using office equipment and increased demand for space cooling and ventilation due to larger and more powerful servers (NEEAP 2007).

The cost-effectiveness of the programme can be evaluated from various perspectives: from the perspective of public funding or from the perspective of the participating organizations. From a public funding or societal perspective, the programme is very cost-effective because no public funding is used. It is also cost effective for the participating organizations. A study conducted in 2006 indicated that 17 of the participating companies had saved a total of EUR 3.6 million, with fairly modest investments, mainly consisting of the annual fee of 250-1500 EUR/participant and the staff time allocated to Green Office activities.

Social learning

Learning by the programme manager has been significant. WWF is an organization that has systematically aimed to develop its co-operation with the private sector. Green Office is one example of this kind of co-operation. By operating the Green Office programme, WWF Finland has found a new way of co-operating with companies and helping them to reduce their climate footprint. The skills and competencies have grown over the years, as ways of communicating the benefits have improved and new ways of tailoring communications to different kinds of organizations have been found. These skills are largely embodied in the personal capabilities of Green Office programme managers, and the current challenge is to institutionalize the skills into the organization itself. The ongoing internationalization of the programme is likely to require - and support - an even sharper learning curve.

Learning by the target groups has been very significant, and has followed a gradual, incremental approach. Organisations can set their own targets, and most will set targets for measures with very short payback periods. Curtailment measures are more popular than energy efficiency investments. The programme takes an incremental approach in which easy measures are targeted first, but participants need to make a commitment to continual improvement. Nonetheless, it is possible to say that participants have learned a useful lesson: “environmental and energy issues are easy and cost-effective to manage”. The participating organizations have gained confidence and positive experiences in dealing with environmental and energy issues. As they continue their work, they may learn that they need to invest more after the easiest savings potentials have been used up.

The programme has been very successful in creating new networks and institutions. The Green Office companies interact with each other regularly and share experiences. In fact, being part of this ‘club’ seems to be an important motivator for the participants, and the participating organizations working in the energy sector have had the opportunity to present and promote their own solutions to other members of the network. Thus, new business networks have also built up that promote the supply of energy-efficient solutions. Green Office is also starting to institutionalize in the public sector and on policy agendas.

Because many of the participants are very visible organizations outside the field of energy (e.g., well-known non-profits like the Finnish Sports Federation and Finnish Lottery, and media companies like the women’s magazine Anna or the radio channel for young people, YleX), they also spread the word to new groups in

society. Energy and environment thus gain a more 'popular' and 'fun' image than previously. Moreover, the programme has been found to have a positive effect on the private life of Green Office participants' staff, who make more efforts than previously to conserve energy and resources at home.

Step 6. Analysis and conclusions

The successfulness of Green Office needs to be judged vis-à-vis its starting point, when there were very few exemplars available and the programme was a very new kind of activity, both for WWF Finland and for most of the participating offices. From this perspective, it has done extremely well.

The five most crucial factors influencing its success are:

1. **Good fit with the needs and expectations of the target group:** The programme has addressed important behavioural determinants and managed to provide a solution for existing needs and problems. These features were partly inherent in the design of the programme, but they have also improved during its implementation due to feedback and regular face-to-face contacts.
2. **Use of peer-to-peer networks:** The network of participating companies provides a forum for information exchange, for exploring new issues, and even for the formation of supplier-customer contacts that promote energy efficient solutions. This effect was partly envisaged from the start, but it has also emerged during the programme.
3. **Incremental approach:** It is easy to join the programme, and participating organizations can learn gradually. This is a benefit because energy and environmental issues can be very confusing for non-experts. People are happy to grasp at an easy and simple solution to their problems. The programme itself has also grown gradually from a small pilot project into a large and well-known programme, which has enabled learning along the way.
4. **Linking energy into a broader environmental framework and multiple benefits.** Few of the participants are so concerned about energy in particular, and energy costs are not a sufficient incentive to join. Additional benefits relate to managers' and staff's desire to be environmentally responsible, and their clients' desire to deal with socially responsible business partners
5. **Closeness of the programme managers to the target group.** WWF Finland also applies the Green Office programme to its own operations, and through its own experiences it is highly aware of the problems and opportunities of the target group. There is also some cultural closeness: many of the participants are also large non-profit organisations, which operate under similar conditions. The main co-ordinator is a former quality manager in a large corporation. The Green Office programme fits nicely into existing performance management and evaluation systems in the participating organizations. So there is a very low 'communication gap' between the participants and the programme managers.

An additional factor influencing success has been the long-term approach of the programme managing organization. The top management of WWF Finland has been willing to invest into the programme with a long-term perspective, not expecting immediate huge results. Timing has then helped the programme to grow when climate change became a hot topic in 2006. Because it existed before the huge 'climate awareness boom', the solutions were readily available when demand surged.

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