

GB0.OVERHEID

GREEN ME UP, SCOTTY!



About greening the government with ICT

FOREWORD

Inconvenient truth

It is an 'inconvenient truth': the ever-increasing climate change problem. Awareness of it has more or less got through to everyone. We need to be thriftier, more careful and more frugal in how we handle energy and CO² emissions. The business community is already doing this on a large scale, on the one hand because of care for the environment, but on the other because it is simply more profitable in terms of confidence, a good image and... money.

The government is also engaged in focusing on sustainability. Thus it has set up sustainable procurement standards, which the authorities need to meet by 1 January 2011, including GBO, Overheid and many of its customers.

It's tough, but there's no way around it, we could say. We all have to do something: a different attitude, new routines, other ways of doing business, different procurement criteria. Yet we can also view sustainability as an opportunity.

With this in mind, we at GBO.Overheid put on our thinking caps, and stumbled across some amazing facts, such as the knowledge that the CO² emitted by ICT systems creates no less than 2% of the world-wide environmental problem. Or statistics that show how many needless A4 pages we print out every year and immediately throw away. And what about the energy consumed by cooling systems in the growing number of data centres!

But we saw a whole lot more. We saw sustainability initiatives that have blossomed, both within and outside government. We became aware of plans in a country like Denmark, which is rapidly becoming greener both inside and outside the government apparatus. We discovered best practices,

creative ideas, checklists and green initiatives, great and small.

But the thing that touched me most was how much energy and inspiration I found among my discussion partners, as well as in my own organization. The creativity and enthusiasm that I encountered make it clear that greening is not only good for the environment, but most of all for inspiring people. I therefore hope that we can promote sustainability together, so that we can not only offer our customers 'green' products, but also pass on to them something of the zeal that they can instil in their employees.

Steven Luitjens

Director GBO.Overheid

10 out of 50 reasons to stop greening

- 1 Nice idea, but it's too soon
- 2 Let's first look at all the facts
- 3 We first need a SMART formulation
- 4 Let's first see how others do it
- 5 It's all going much too fast
- 6 We first need to evaluate the previous action
- 7 Let's wait till the green hype has passed
- 8 You realize that we have other priorities right now
- 9 We have no idea what we are starting here
- 10 Who is telling us to do this actually?

1

Air traffic, energy companies, waste processing and the packaging industry: these are the industries we think about when we talk about burdens on the environment. It isn't our corporate networks and electronic communications that spring to mind first.

ICT: the silent energy devourer

So let's get to the point: research has shown that the environmental impact of ICT applications will overtake the environmental impact of air traffic this year and in coming years.

Take some time to digest this.

ICT can be labelled the silent energy devourer: whisper-quiet and without clouds of soot. This is a shocking realization and therefore an eye-opener. If we do nothing about it, this environmental impact will only increase in future years. We can in any case state quite clearly that the use of ICT applications will also increase enormously in the coming years.

ICT is very evidently the 'enabler' of the economy. Recent macro-economic analyses show that ICT was responsible for a growth in productivity of 50 per cent during the past ten years.

This is certainly not going to change. Web-based applications, the development of the electronic government, of 'the internet of things' and 'the internet of services' are all still growing. As Vivian Reding, the EU Commissioner for Information and Media has stated: 'ICT is the principal motor of growth and competitiveness of industries, the driver of efficiency and effectiveness of our public sector and the means of raising the quality of life of our citizens.'

State Secretary for Economic Affairs Frank Heemskerk is actively appealing for continued investment in ICT: 'Investing in innovation and ICT is investing in the future,' as he says.

We, as developers and administrators of ICT products for e-government, are major users of ICT.

The expected growth in ICT applications forces us to consider the following: does the development and use of ICT solutions in itself provide for sufficient greening of the public sector, or does it in fact create an additional problem, because of energy consumption and CO² emissions?

The ICT business community is making massive investments in creating energy-efficient equipment, computer centres, etc. With this we can deal with 2% of the environmental problem. The challenge is the remaining 98%. Managing this means managing the way that we do things, our behaviour (both in business and in private), and the organization (and linking) of our work processes.

Stated briefly, the green vision of GBO.Overheid means that this is a field that offers excellent opportunities for a well thought-out deployment of common ICT infrastructures, which links authorities and creates a connection between authorities, citizens and the business world. This will result in greater added value, lower transaction costs and most of all a big reduction in CO² emissions.

Imagine if the government were to send all standard messages digitally. This not only signifies a huge saving on (transaction) costs and faster and easier business for citizens, companies and the government as well, but also a great relief for the environment. There would be hardly any more need for paper and printer cartridges, no CO² emissions as a consequence of massive daily postal deliveries, print streets, and so on. There would also be far fewer energy-consuming conversions, because the applications would speak one language and the messages would not have to be translated every time.

TIPS

Green development

What can we do to incorporate sustainability when developing ICT systems? Some tips:

Carbon footprint as (one) selection criterion

Include a carbon footprint of the project in the tendering requirements for your supplier. This includes, among other things, how many paper printouts are consumed, which systems are used, how much energy is consumed, and how much energy is used to cool systems. Also how many consultants are employed on a project, and how many kilometres they are going to drive (home-work, work-work) for the project. One criterion for awarding a contract could be that consultants should live and work in a particular area.

Is cooling needed?

About 50% of the energy consumed in data centres is used for cooling. Enquire whether the cooling systems that are bought do not cool far more than is necessary, thus consuming a lot of energy. And also: at a certain temperature, simply opening the window can help matters. Look for alternatives to energy-wasting cooling systems.

Virtualize the environment

Consider whether it is possible to set up a virtualized server environment, instead of various separate servers. This applies both to the testing and development environment as to the production environment. If after proper consideration (e.g. as regards security) it appears possible to set up a virtualized environment, then the hardware resources will be used optimally, generating a significant energy saving.

Recycle heat from computers

We don't have many of them in the Netherlands, but the supercomputers that we do have (in particular in scientific institutions) emit a huge amount of heat. This heat could be recycled, for example to heat water or other parts of the building.

Optimizing codings

Entering codes when searching, costs a lot of capacity. Instead of buying more resources, one can make do with formulating codes more intelligently. Include code optimization in design criteria. This saves buying hardware and energy.

Eliminate waste

Throw away things you don't need. This applies to your home, your head and also your system. All superfluous processes running on your computer cost space, energy and CPUs.

To measure is to know

It isn't difficult to quickly measure the energy use in various office spaces. There are consumption meters for this end on the market, which can also, for example, measure use per server.

What is GBO.Overheid doing itself?

- Complied with the government's Sustainable Purchasing standards, one year earlier than agreed
- Published our annual report in digital form on www.gbo.overheid.nl/jaaroverzicht/2008
- Digital editions of this 'green paper'
- Friday is Slip on a Warm Sweater Day
- Green tips calendar
- Light sensors in strip light tubes
- Green GBO.Overheid promotional gifts
- Auctioning promotional gifts for a green cause
- Our printers are on draft mode
- Developing a measuring instrument for the carbon footprint of GBO.Overheid
- Working with our landlord to green our premises
- A digital ideas wall
- PCs are only left on when they are being used

2

Connect and standardize

The government is bound to make greater use of ICT applications, but must do so with a strategic vision. Why are we making use of ICT? What are the objectives? Are there downsides or risks that we need to bring into the open? Who is waiting for our solutions?

What we are looking to achieve is smart government that contributes to a sustainable, resilient and healthy society, that can resist the odd knock.

A government that harmonizes its policies with the needs and wishes of citizens and businesses. Which contributes actively to the objectives of the Lisbon Agenda. Which does this using actions that can be achieved in one's own country: improvement of public services, increased sustainability, reduction in bureaucracy, and creating a slimmed-down civil service with an efficient and effective operational management.

ICT applications contribute to modern government.

A government which:

- places great importance on sustainability in both word and deed
- has an external orientation, vision and exemplary role that we can be proud of
- is easily accessible and well-connected
- offers added value thanks to the quality of its services
- is forward-thinking, pro-active, secure and transparent
- is reliable, clear and professional
- does not ask for the sake of asking
- is innovative
- keeps down transaction expenses.

What does that mean for us? That we share a common vision and work together by building up common structures, that are ready for a sustainable future. This can be achieved, because we are going to lay down standards together for our ICT, so that everyone who wants to make use of this can also do so. 'Green our routine is turning from a dream to reality.'

We are paying more and more attention to a secure ICT infrastructure, taking into account the value and confidentiality of information flows from day to

day: an official infrastructure that can resist hacking and misuse of data.

If the government can achieve this, then we can envisage a society where:

- there is no need to ask for something twice
- there are more answers available than questions
- there is only one digital post office
- there is one single digital postman
- authorization and authentication are simple thanks to standardization
- everyone is uniquely identifiable depending on their role
- basic registries have been set up for frequently used data
- there are intelligent and flexible standards for connecting businesses and government networks
- sustainability and security are basic principles

GBO.Overheid has already set out the foregoing basic principles in its green paper 'The hot tap is always on the left'. There we set out the need for standardization, streamlining procedures, and the fact that generic products ensure that there is no competition in the wrong areas.

Every organization needs generic facilities. This implies standardization.

Standardization is an opportunity and not a threat, as we long thought.

Everyone's costs fall with standardization, the complexity of chain processes diminishes and the value of chain co-operation increases as a whole.

TAKEN FROM: 'THE HOT TAP IS ALWAYS ON THE LEFT: THE PERSPECTIVE OF GBO.OVERHEID.'



3

Green talk, green ambition

Our vision of society as set out above signifies that electronic services will grow, with all the environmental consequences of this growth. This means we have a duty to ensure that we make our organizations and services greener. Let's be concrete and turn green talk into green ambitions.

Here we are going beyond the 2% environmental impact for which ICT is currently responsible.

Most of all we want to look at the 98% that is not directly related to data centres and light switches. We want to look at processes, architectures and behaviour. Is that possible? Are we being too ambitious?

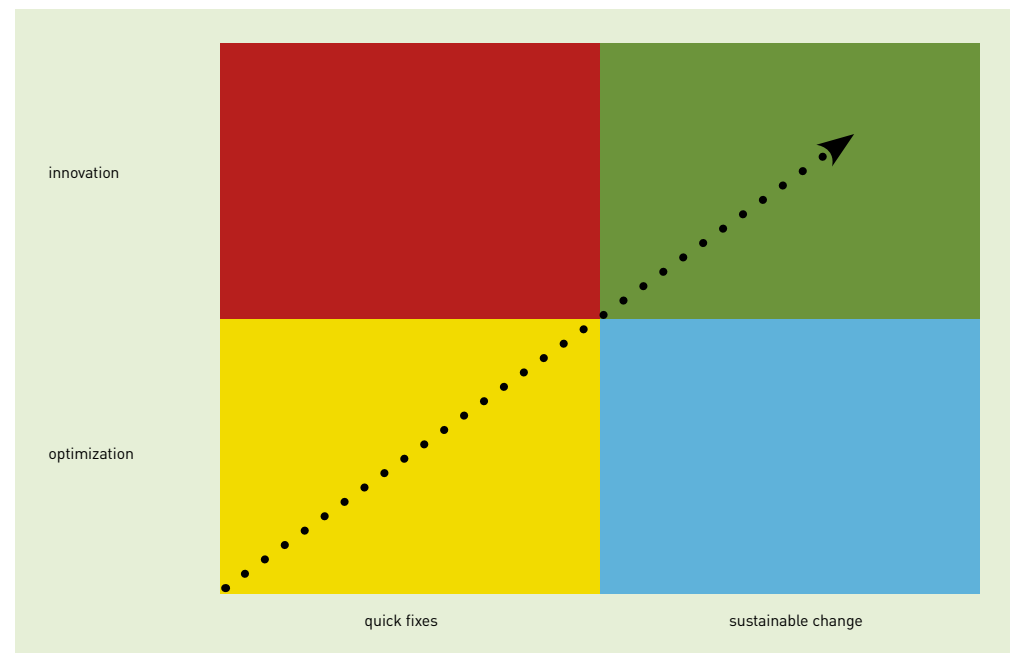
We developed a simple matrix as we went along with our partners, with which it is possible to define ambitions.

Using this matrix, we can make choices about what we want to achieve. Are we going for quick wins? That might be so. Sometimes you need quick wins to achieve something in the longer term. Or to inspire people. As we said before: greening also creates enthusiasm in organizations, which is worth a lot. Quick wins are likely to be useful in reducing the 2% we mentioned earlier. GBO.Overheid has in any event started on this. We have therefore committed ourselves to strive for 100% sustainable procurement, and we have organized our procedures accordingly. We have started a project to make our operations and internal organization as green as possible as from 1 January 2010. You can find some examples of this in this issue. We have set up a 'green action plan' with the landlord of our premises, in which we look for more energy-efficient and less polluting methods of heating, dealing with waste and other forms of consumption. Our staff think along with us about greening and submit concrete and sometimes amazing ideas to our project leader, who assesses whether they can be achieved in practice. The project leader develops measuring instruments for energy efficiency and the so-called 'carbon footprint'.

Quick wins are therefore by no means unimportant. But this does not mean that we are not at the end of the day looking for sustainable changes.

Does this sound abstract? Let's look at a couple of practical examples, in chapter 4.

Choosing ambitions





FACTS

to remember

- An office worker prints on average 8000 pages annually
- An employee prints on average 6 wasted pages every day
- On average every wasted page costs € 0.06
- Printing cost 5 Watts per page
- Producing a sheet of paper requires about 0.36 litres of water
- 98 tons of material are required from different sources to make 1 ton of paper
- Paper production is responsible for 130 gm of CO² emissions per page
- A ream of paper contains 500 sheets at 80 gr/m² A4 (210 x 298 mm)
- One tree can produce 8000 sheets of paper
- One pack of paper uses 6% of one tree
- A search request on the internet generates 7 gm of CO² emissions, the same as a low energy light bulb generates in one hour
- A find request generates 0.02 gm of CO² emissions
- There are 50 billion search requests every month with an annual growth rate of 40%
- It is estimated that in 2008 40 exabytes (4 x 10¹⁹) of unique information were created around the world. That means more data in 1 year than in the previous 5000 years together
- More than 5 million people in the Netherlands have created their own Hyves page
- There were 5.5 million active broadband connections in the Netherlands in 2008 (cable and ADSL)

A green government for a green society

In November 2008, GBO.Overheid organized a 'green' conference, at the Nieuwspoor press centre in The Hague. In an effort to translate 'green talk' into 'green action', we brought together about 150 people from the Netherlands and other countries who are interested in or already involved in greening the government. The results were surprising and inspiring. Everyone making use of the same ICT solutions is a precondition for reducing bureaucracy for private citizens and businesses and much cheaper for government bodies themselves. It also lays the necessary basis for greener chains in business processes. There was a broad consensus on this subject among the public who were present. The deputy director-general of the ICT & Telecom agency of the Danish government, Marie Munk, presented her government's sober and concrete green action programme. See also www.gbo.overheid.nl

4

The other 98%

We are on our way towards sustainable innovations. This is not all we can or want to do. We need creative minds for this, as well as practical people, scientists and architects, who look with us at processes, not only with customers, developers and administrators, but right across the chain. How does the chain work and where can we make it smarter, faster, better and greener?

We will take NORA (Dutch Government Reference Architecture) as an example. NORA provides development principles, models and agreements for the (re)organization of the electronic government. NORA among other things concerns co-operation for integrated services for citizens and businesses. It also concerns linking operational processes between official organizations, electronic messaging traffic and the joint use of data and network connections. NORA is not a straitjacket but a dynamic concept: principles, models and agreements are constantly kept up to date for and by architects from various official organizations. What would happen if we were to ask these architects to examine process designs from a sustainable perspective? To think and develop using green design principles? It's certainly worth a try.

Here is another example. Take the Government Transaction Portal product, the contract for which was recently awarded. This enables digital information exchange between the government and businesses. The Government Transaction Portal forms part of the infrastructure of e-government and is managed by GBO.Overheid. It is the government's 'electronic post office' for businesses. Every business that is connected can exchange digital information with the government. This is most of all useful for businesses that need to provide information regularly. The Government Transaction Portal ensures that the information arrives at the correct official organization and that the information which that organization sends is delivered to the right business. Fast and efficiently. But it could be greener too. With this vast flow of messages we can save a great deal of paper, but there is also a great deal of digital traffic back and forth, which signifies energy consumption and

CO² emissions. What kind of profit can we gain here? Here are some ideas. Suppose that affiliated organizations decide to send their messages at particular times, during so-called off-peak hours. Then fewer server resources will be used, which saves money. This is like advising drivers to drive outside peak times. Another option is - if we follow the same metaphor - metering your journeys. An organization can choose between getting an immediate answer or waiting a bit longer. Give the user the choice and stimulate the green option. We need to remember that there are now seven million DigiD users: the same thing applies.

GBO.Overheid aims at sustainable innovation. As the administrator of generic products for the electronic government, GBO.Overheid is a major user of ICT. Given the environmental impact of ICT, we feel we must play a part in increasing sustainability, for our organization, our products and the chains within which we operate. **We want to do that together with our customers, suppliers and other partners.** GBO.Overheid wants to put its partners in a position to generate concrete ideas, to gain inspiration and to share knowledge with each other.



5

Green is as green does

Regardless of our ambitions for sustainable innovation, we must remain practical. Green is as green does. Start with small actions and then develop the bigger policy lines. This is what we would like from our suppliers, our customers, our clients and our people.

Greening society, starting with the government, is there for the taking. We want to take responsibility in this respect, not simply, as we said earlier, because we care about the environment. We are convinced that this will benefit us more than that. Increasing sustainability is a process, from design to implementation, and generates quality and, last but not least, money. The business world has already made this changeover, and now the government will make it as well.

The matrix on this page offers a concrete guideline for proceeding to take action. GBO.Overheid believes in co-operating for a greener chain and calls on customers and suppliers to work with it to achieve innovative changes that will result in sustainability and efficiency.

We want to help with our reusable standard ICT solutions to set off a green wave, where we do not need to brake at every red light, but can keep going and even accelerate. We want to visibly take off, but under control.

In Denmark a Green IT action plan has been set up with both long- and short-term objectives. The action plan entails collecting best practices, carrying out and opening up research into sustainability, raising awareness among younger people, and various concrete measures per ministry that lead to energy savings. Where the participation of the business world is rewarded and is supported when entering new international markets. GBO.Overheid looks to Denmark full of admiration and also to the United Kingdom, where this development is also going on. We would also like to develop an action plan in the Netherlands with partners that leads to sustainable greening of the government.

We are concentrating in this respect on e-government products: from architecture to application, from development to implementation. The lessons that we can draw from developing and implementing such an action plan can also be applied to other sectors.

GBO.Overheid welcomes everybody who wants to work with us on greening e-government. You can contact us via:
 Projectbureau Groen
 GBO.Overheid
 info@gbo.overheid.nl

A framework for actions

Green Direction & Goal specs	Measure and report	Track and manage	Hunt and realise ideas
Individual actions			
Group initiatives			
Organisational actions			
Government interventions			

turning green talk into green action

INSPIRING

initiatives

A tour around international businesses which have found special, quantifiable and creative ways of putting sustainability into practice. With concrete results.

www.lef.csc.com

Detailed information on the theme of Sustainable Government. Here you can find answers to such questions as: what steps can I undertake to arrive at a climate neutral local council? How can I organize the local government purchasing process and other local government activities in such a way as to reduce our CO² emissions?

www.platformduurzameoverheden.nl

Criteria and practical instruments from Senter Novem to start up sustainable Purchasing in your organization and incorporate sustainability into purchasing and tenders. You can download these instruments. News, inspiring examples and possibilities to provide input.

www.senternovem.nl/duurzaaminkopen

And also from Senter Novem, the energy transition programme. The ultimate aim of EnergieTransitie is entirely sustainable energy provision in 2050 in the Netherlands. Energy will be clean, affordable for everyone and constantly available. It is important that everyone should start contributing now to the solution by dealing with energy more cleanly and more carefully: consumers, the business community and the government. For more, see:

www.senternovem.nl/energietransitie

MVO Nederland is the start page and route map for the entrepreneurial Netherlands in the field of socially responsible entrepreneurship. Phased

plans, instruments, ideas, examples and all kinds of information at:

www.mvonderland.nl

The climate programme 'Nieuw Amsterdams Klimaat' stimulates our own responsibility and brings the various parties together. The local council is responsible for the co-ordination of the programme. The participants in the various topics are themselves responsible for the implementation. There is a lot of inspiring and concrete information at:

www.nieuwamsterdamsklimaat.nl

GBO.Overheid has opened a 'wall of inspiration' site in connection with the 'Green Government for a green society conference', to generate and share ideas.

gbo.overheid.nl/evenementen/green-government-13-november-2008/wall-of-inspiration

There are certainly a lot more initiatives that will inspire and help us to go greener. This list is not exhaustive! If there are initiatives, ideas and suggestions which we cannot do without in our search to go green, then send us an E-mail!

info@gbo.overheid.nl

What is sustainable and what is green?

Sustainability is a wide term. It not only means being green, but also responsible, social and thrifty. Until now we have been mainly talking about Green IT here at GBO.Overheid. That may be a restrictive choice of words, but it does grab people's attention.

GBO.OVERHEID

The Dutch government for ICT implementation GBO.Overheid offers a cohesive ICT infrastructure to public service providers, so that citizens and businesses are able to interact with them digitally, securely, quickly and easily. GBO.Overheid supplies products, for instance related to access, exchange of data, information security and standardization.

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