

Turning Challenges into Opportunities:

The First Roadmap to Reduce CO₂ Emissions in the EU and Beyond

“A changing world can seem frightening, but also carries many new opportunities.”

Margot Wallström, Vice President, European Commission

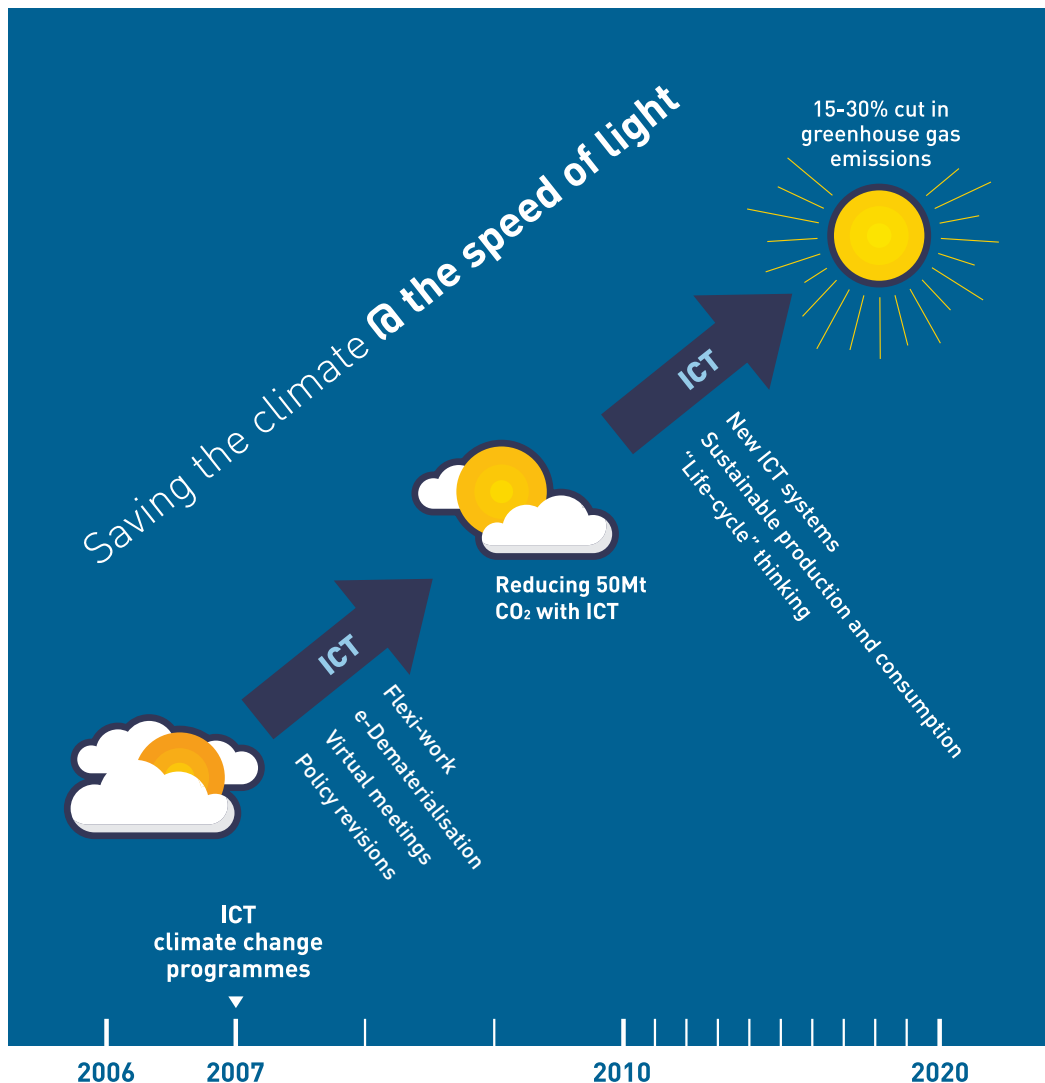
One of the world’s most pressing challenges is climate change. The need to radically reduce greenhouse gas emissions while continuing to enable economic development, both in the European Union (EU) and worldwide, is a combination that requires innovative action. ☀ The EU, as one of the richest and most technologically advanced regions of the world, is already a leader in the field of sustainable development both within its borders and beyond. So far, the leadership has been more one of words than of concrete actions. But actions are needed if we are to reach the targets that have been discussed. The EU has affirmed that at least a 15-30% cut in greenhouse gas emissions by 2020 will be needed to keep the temperature increase under 2°C, and a deeper reduction by 60-80% may be needed by 2050. ☀ In line with the outcome of the World Summit on the Information Society (WSIS); — “Government, civil society and the private sector are encouraged to initiate actions... for sustainable production and consumption” — the European Telecommunications Network Operations’ Association (ETNO) and the World Wildlife Fund (WWF) embarked on a joint initiative, “Saving the climate @ the speed of light,” the first roadmap for reduced CO₂ emissions in the EU and beyond.

THE FIRST ROADMAP

The first step is a concrete target for 2010 with a specific number tons of CO₂ based on the implementation of a few strategic ICT applications. A number of supporting targets should also be set, all of which should be measurable. The second step will include more services and system solutions, where a number of services are combined and a more ambitious target is set.

Virtual meetings can reduce about 24 million tons of CO₂ per year. Replacing 20% of business travel in EU-25 countries with videoconferences reduces 22.35 million tons of CO₂.

The First Roadmap to Reduce CO₂ Emissions in Europe and Beyond



Source: *Saving the Climate @ the Speed of Light* (ETNO & WWF)

First step for 2010

Goal: 50 million tons of CO₂ reduction per year with ICT by 2010

Tools:

A. Virtual meetings

reducing about 24 million tons of CO₂ / year (e.g. audio and videoconference applications)

In Practice:

- Audio-conference: half of EU-25 countries' employees replace one meeting with one audio-conference call per year: 2.128 million tons of CO₂
- Videoconference: replacing 20% of business travels in EU-25 countries: 22.35 million tons of CO₂

B. e-Dematerialization

reducing around 4 million tons of CO₂ / year (e.g. online-billing, virtual answering machine, Web-based taxation, and e-governance)

In Practice:

To reach the target an EU-wide e-dematerialization campaign is necessary by encouraging the measurements, establishing labeling process for goods from product to service.

C. Combined measures / Flexi-work

reducing about 22 million tons of CO₂ / year

In Practice:

10% of EU-25 countries' employees become flexi-worker: 22.17 million tons CO₂

- This reduction of 50 million tons of CO₂ is small compared with the potential for ICT solutions, but it is still more than the tons of CO₂ emissions from the transport sector in Austria and Finland combined (the two countries holding the EU Presidency in 2006). The significant contribution will however come in the second step where a more comprehensive approach is developed.

Policy revisions for the target

For each of the following areas, policies should be explored to see how they could promote sustainable ICT use: general energy; general tax; public procurement; transport; efficiency; investment; innovation; export and import.

Second step for 2010

It will include new services and system solutions, where a number of services are combined. During the first phase, a strong focus should be on collecting suggestions for new services and possible targets for the 2020 target.

Possible focus areas:

A. Sustainable consumption

- Further dematerialization (e.g. e-paper, music on demand, video on demand, Internet TV, etc.)
- Indirect effect on sustainable consumption by information (e.g. intelligent products that can inform users about optimal use and give feedback about the environmental impacts of different choices)

B. Sustainable production

- Decentralized production
- Production on demand (e.g. printing books on demand)
- Converging technologies (e.g. nanotechnology, biotechnology, and robotics)

C. Sustainable community / City planning

including travel replacement (e.g. intelligent buildings, smart public transport systems, telemonitoring, tele-education, telemedicine, telecare services, flexible car ownership, e-commerce, e-business, etc.)

EVALUATION

In this process we will broaden the scope and include other third-party verified solutions as well as create a more comprehensive roadmap that can provide inspiration and guidance and serve as a benchmark for best practice. But most of all it will send a stronger signal to all relevant decision makers that the time for action is now. If the policy framework is right, ICT can become one of the major contributors to reduction of CO₂ and a more resourceful and equitable society.

About the Article

This article is a brief summary of the report *Saving the Climate @ the Speed of Light*, a joint initiative of the European Telecommunications Network Operators' Association (ETNO) and World Wildlife Fund (WWF) in 2006, which is the first roadmap for reduced CO₂ emissions in the EU and beyond.

First Step for 2010: Supplementary, Parallel Actions

1. Communication of a European vision

- In order to engage the ICT sector, a targeted public campaign that highlights its potential to contribute to key social challenges would be appropriate. Companies and individuals should be encouraged to come up with new solutions to these challenges. This could be linked to a competition where the best suggestions are not only given a prize, but also become implemented. In particular, young entrepreneurs who have never been engaged in sustainability work should be targeted.
- As the challenges that EU face are not unique, innovative ways of dealing with them, such as an ICT-project, should be communicated in countries outside the EU as well. For this to work, it is important that the EU institutions take the lead in using ICT services that reduce CO₂ emissions.

2. Innovation

- In order to encourage innovation (and entrepreneurship), a Website could be opened where services that can help meet the target are welcomed. This Website could be in the form of a “sustainable developers’ zone,” i.e. a place where ideas are not only presented, but also developed. This could be linked to business players who are interested in developing these solutions. Joint initiatives with business players will also be crucial. It will be important to link SMEs to the initiative in order to ensure that not only large players are involved.
- A number of technological breakthroughs are around the corner. The EU should be prepared for the positive and negative effects these might bring. This includes everything from high quality digital paper to fuel cell batteries that could allow many small applications to be disconnected from the power grid forever.

3. Entrepreneurs

- The global dimension is a key to the climate change work, and initiatives that contribute to sustainable export should be encouraged. Existing export promotion initiatives should be involved in the e-strategy development.

- The current education and employment system is often built on an industrial logic that is not always able to develop the kind of solutions needed. Areas that could be explored include sustainable design, urban planning, “from product to service” perspective, software development and construction.

4. Resource efficiency

- For larger investments in urban infrastructures, ICT solutions for increased resource efficiency should be included.
- To strengthen the EU’s knowledge base is crucial. The need to explore new opportunities as well as possible rebound effects is important.
- To promote a broader use of sustainable ICT-solutions, there is a need to develop standards for calculating the gains. A way of communicating the positive effects of dematerialization should also be explored. Even if creating a label would take time, there are a number of products that can be dematerialized where both private customers and business would like to know how much CO₂ they saved.

5. Export possibilities

- In countries like Japan, the US, South Korea, China and India, a lot of work in the fields of ICT and resource efficiency is taking place. R&D initiatives, student exchanges or joint ventures should be encouraged.
- One of the areas in the 2010 strategy that are successfully accomplished should be communicated to the world as an example of how technological innovation can help reduce CO₂ emissions.

6. Welfare/Growth

- During the process it is important to see how more and better jobs can be created. An evaluation should be conducted to see if the development of an e-strategy resulted in increased employment, especially in new companies or growing SMEs.
- ICT also provides opportunities to measure welfare in a better way where qualitative aspects can be captured in a better way than through aggregated measures like GDP.