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ERICSSON ⧢

Communication Solutions for Low Carbon Cities

Helping cities to reduce CO_2 with existing low carbon ICT solutions

BECOMING CLIMATE POSITIVE

The need for climate action in the midst of an economic crisis can be percieved as a problem, but also as an opportunity. Until now, most of the global policy focus has been on high-emission sectors and on incremental improvements that entail additional costs. But in order to make real progress, it is imperative to direct a good deal of attention to sectors that provide solutions. Especially important are companies that provide low carbon solutions that create transformative reductions with low carbon feedback (solutions that encourage further and deeper reductions). This would lead us towards a low carbon economy without adding unnecessary costs.

Once companies have moved away from the traditional approach where climate change is seen as a problem and a risk, they will be better positioned to recognize new business opportunities. Instead of a risk approach, where the best thing a company can do is to reduce their own emissions to zero, companies with products and services that can help reduce CO_2 emissions in society, can lead the way by actively contributing towards a low carbon economy. Instead of carbon neutrality as a target, these companies, such as those providing low carbon communication solutions, can have targets that also make them net contributors to emission reductions. This would enable them to go beyond "neutral" to become "Climate Positive", i.e they deliver a greater reduction in CO_2 emissions through the use of their products and services than they emit over the whole value chain.
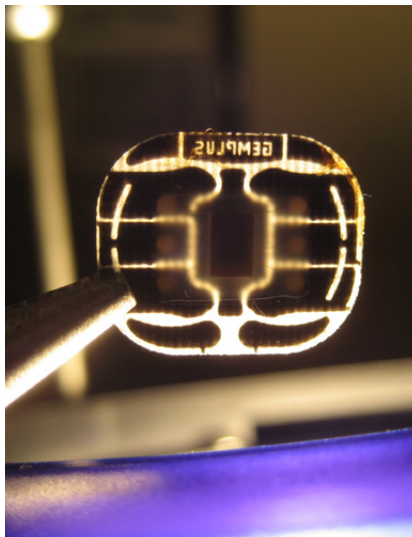
LOW CARBON LEADERSHIP

With COP 15 taking place in Copenhagen this December, 2009 will be a defining year for climate solutions and the world will be looking for strong low carbon leadership. This is a unique opportunity to establish the ICT sector and ICT solutions, including low carbon communication solutions, as an important part of both climate and industrial policies. Low carbon ICT solutions can play a leading role in improving basic services while reducing CO_2 emissions – both by replacing physical products with services, and by helping people to use resources more efficiently. For this to happen, these solutions should be an integrated part of all major projects and initiatives from governments and business. To achieve this WWF Sweden and Ericsson will:

▶ **Establish a methodological approach to make low carbon communication solutions visible**
If something cannot be measured, it can neither be managed nor supported. In order to make the climate potential of low carbon ICT solutions visible, thus enabling their support, a methodology for calculating CO_2 savings from related solutions will be developed. A priority is to ensure that the role of a well functioning broadband infrastructure is well understood.

▶ **Integrate low carbon ICT solutions in climate strategies for cities**
Engage in dialogue with central policy makers in key markets to ensure that the positive potential of low carbon ICT solutions becomes an integrated part of all major climate strategies. Publish supporting facts and figures to guide companies and policy makers on how to make smart decisions.

▶ **Support low carbon partnerships**
Together with users of ICT solutions identify, quantify and validate selected telecom related solutions which support a carbon lean economy. The aim is to support the implementation of solutions that can make significant reductions in CO_2 emissions and ensure that low carbon solutions are available on the market.
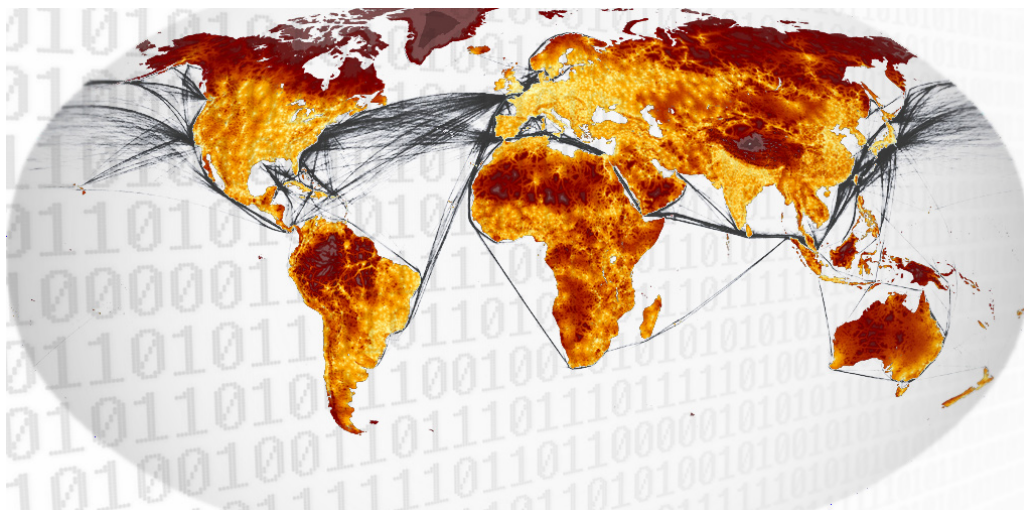
A LOW CARBON 21ST CENTURY INFRASTRUCTURE

Over the next 30 years more than 200 trillion USD will be invested globally in urban areas to provide us with basic services, such as transportation, heating, cooling and lighting. From this perspective, low carbon communication solutions can make a significant contribution to a low carbon economy by:

Delivering sustainable climate solutions and reducing poverty

With billions of people fighting poverty and a world population that will reach nine billion in a few decades, it is crucial that measures to help reduce greenhouse gas emissions are extremely resource efficient. Because low carbon communication solutions can provide transformative reductions without unnecessary costs, they can play a key role in bringing people in developing countries out of poverty by enabling access to basic services and supporting economic development. They can also ensure that people in developed countries not only reduce their emissions but their total ecological footprints as well.

Reducing the carbon footprint of cities

For the first time in history more people are living in cities than in rural areas. With high incomes and resource intensive lifestyles the carbon footprint of urban dwellers is often very high, which adds urgency to the importance of reducing the footprint of cities. Low carbon ICT can lead to smarter ways of working and ensure that basic needs are met. This will require collaboration, new partnerships and constellations, and open for new players and opportunities for leadership.

Moving towards system innovation and opportunities to become climate positive

To reach a low carbon economy, we must move away from dealing with problems after they have occurred. This kind of reactive 'end-of-pipe' approach is no longer viable. In contrast, low carbon communication solutions are proactive and can offer transformative results. Not only can they help deliver smart energy, smart transportation and smart health and education, they can also help us shift to a circular economy, where natural resources are efficiently reused. In such an economy where solutions are based on a cradle-to-cradle approach, for example supporting smart city planning, dematerialization and sustainable consumption patterns, this uptake can also enable companies to have a net positive impact on global CO_2 emissions – to become climate positive.

Ensuring support for a 21st century infrastructure

Current approaches to tackle climate change tend to focus on single products and how they can be improved. But this fails to address the invisible problems and negative impacts, which often occur due to today's "20th century infrastructure" such as roads, airports, transmission lines and old buildings. This means that investments to reduce CO_2 emissions often only result in marginal improvements, or even increased emissions, due to an overall unsustainable development. For example, introducing more energy efficient cars could lead to more people getting cars and driving more often, and greater distances, compared to before. In contrast, low carbon communication solutions which instead can be seen as "21st century infrastructure" can contribute to direct emissions reductions and also pave the way for further reductions (thereby stimulating 'low-carbon feedback') by supporting a long-term sustainable infrastructure. For example, with the appropriate infrastructure in place to support flexi-work and virtual meetings, these solutions will become attractive to more people as they will experience better results. This will accelerate the uptake, resulting in a situation with accelerated CO_2 reductions. This type of transformative infrastructure is what the world needs to meet tomorrow's needs.

FROM "GREEN ICT" TO "GREENING WITH ICT"

Green ICT - reducing up to 2% of global CO_2 emissions

The term "Green IT" or "Green ICT" is widely used to refer to measures related to making ICT equipment and ICT, including everything from computers and mobile phones to network infrastructure equipment and servers, use energy more efficiently in order to reduce direct emissions from the sector. Up to 2% of global CO_2 emissions come from ICT today. It is important, especially as the use of ICT will increase over the coming years, that the efficiency continues to increase and that the ICT sector sets targets for 100% renewable energy.

Greening with ICT – using ICT to reduce the 98% of global CO_2 emissions in other sectors

The ICT sector can contribute to emissions reductions in many areas of society through their services. This contribution includes solutions such as virtual meetings, smart buildings, m-health, smart grids and de-materialization services. Combined, these solutions can help to reduce a significant part of the remaining 98% of global CO_2 emissions that come from other sectors/areas. Thus, activities that are directly linked to emitting CO_2 can contribute to an overall "greening with ICT" and have a net positive CO_2 impact. An accelerated uptake of these kind of services is needed and can be supported by a shift from a "product to service" perspective.
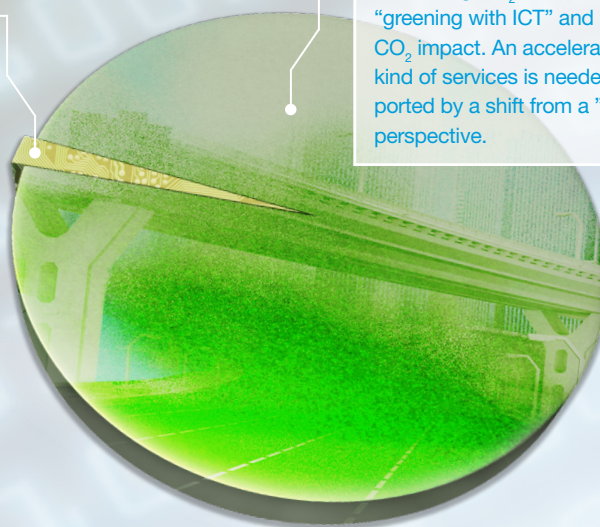
For more information about this WWF Sweden - Ericsson project please contact:

Suzanne Pahlman, Project Manager
Andreas Follér, Project Support

▶ pahlman@connecore.com
andreas@climateinnovators.net

WWF
Dennis Pamlin, Global Policy Advisor, WWF Sweden
John Kornerup Bang, Head of Globalisation Programme, WWF Denmark
Chen Dongmei, Head of Climate and Energy Programme, WWF China
Staffan Söderberg, Director Corporate Partnerships, WWF Sweden

▶ dennis@pamlin.net
j.bang@wwf.dk
dmchen@wwfchina.org
staffan.soderberg@wwf.se

Ericsson

▶ corporate.responsibility@ericsson.com

WWF is the world's largest and most experienced independent conservation organisation, with almost 5 million supporters and a global network active in more than 90 countries

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:
- conserving the world's biological diversity.
- ensuring that the use of renewable natural resources is sustainable.
- promoting the reduction of pollution and wasteful consumption.

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