CO₂ Performance ladder - Sector Initiatives 2017

*ICT stands for green!*
## History

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<th>Date</th>
<th>Author</th>
<th>Description</th>
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<td>Hans van den Hoven</td>
<td>Initial version</td>
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<td>3.0</td>
<td>26-3-2018</td>
<td>Mark van Eesteren</td>
<td>Update to ICT Group N.V. level</td>
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<td>Mark van Eesteren</td>
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1 Road map ICT 2030

In the road map ICT 2030\(^1\) version 1.1 from May 2012 (ICT-Office, ministry of economic affairs and Atos Consulting) the conclusion is formed that the following energy reductions and their CO\(_2\) emissions are important in the future:

- The already installed capacity can be used better by making use of techniques like virtualisation, cloud computing, data deduplicating and thin provisioning. Data centres will search for measures to further improve their energy management. Additionally, there are possibilities to re-use residual heat of data centres and the connection to Smart Grids, so that saving of data can be placed at the location where the energy is the cheapest.
- The development of more efficient hardware, ICT components and network will make ICT applications energy efficient. Also energy efficient software will add to energy efficiency. The development of energy efficient applications can be picked up by the ICT industry.
- Stimulate ‘the new way of working’ to reduce the number of business travel kilometres.

Based on the multi-year plan “MJA3 ICT-sector” 2017-2020 it is recorded that already in 2015 the ICT-sector has achieved the energy reduction goals for 2020 as set in the MJA3-covenant. For the period 2017-2020 the ambition is reduce 3,3 PJ. ICT Group N.V. does not participate in the MJA3 covenant, but is close contact with the ICT Nederland branch organisation who is pulling the MJA3-covenant.

2 Participation in social initiatives

ICT Group (“ICT”) is participating in various initiatives within the sector and the environment to reduce the energy consumption and CO\(_2\) emission.

Besides, a contribution in hours there is budget for the costs of these initiatives. On a yearly basis ICT investigate which social initiatives are available to which comparable companies contributes to reduce CO\(_2\) emissions.

The participation in social initiatives to reduce CO\(_2\) emissions is discussed with ICT’s management team on a yearly basis. In the next paragraph a list of initiatives in which ICT already participates is recorded.

2.1 USEF/EnergieKoplopers (intelligent energy networks)

ICT is an important initiator of developing, realising and supporting the ICT for Smart Grids in the Netherlands. For example, ICT is one of the founders of the USEF foundation, together with other key players active across the smart energy chain, ABB, Alliander, DNV GL, Essent, IBM and Stedin. The Universal Smart Energy Framework (USEF) sets the international common standard for a unified smart energy market, connecting projects and technologies at the lowest cost possible. With a value-to-all approach, USEF enables the commoditisation and trading of flexible energy use. The framework defines the market structure, stakeholders roles, how they interact and how they benefit doing so.

The USEF foundation was founded to accelerate the transition to a commercially viable smart energy system.

The EnergieKoplopers project in the Dutch town of Heerhugowaard test a USEF flexibility market for the first time. To this end, smart appliances were installed in 203 homes, to enable flexibility electricity consumption. The smart appliances were automatically controlled by a smart ICT system. The project has shown that the USEF flexibility market works: the system helps resolve future problems in the energy system, and creates value for all the parties that play a role in a USEF flexibility market.

2.2 Gridflex Heeten
In the village of Heeten in the province of Overijssel, ICT and a number of partners launched a pilot for Gridflex in December 2017. The aim is to create a local and sustainable energy market for the consumption, storage and trading of solar energy. To make this possible, salt batteries are being used to store the renewable energy. ICT developed the energy management system. With respect to Gridflex Heeten we have setup a chain analysis to reflect on the future CO₂ reductions.

2.3 Smart Charging (Greenflux)
ICT and Greenflux are working together on Smart Charging. Smart Charging is a smart and safe charging system that consists of charging points, a backend system in the cloud and reliable communication between the charging points and the cloud system.

ICT is realising the design, build and operational support for the Greenflux Service and Operatings Platform which is used for the setup and support of the loading poles network. Additionally, ICT is realising the MyGreenflux portal for the mobile electric driver. For more information, refer to http://ict.eu/2015/ict-brabantse-ontwikkelings-maatschappij-bom-acquire-stake-in-greenflux/ , the chain analysis ‘loading poles’ and the ICT Group N.V. – Annual Report 2017 (https://ict.eu/annualreport/).

2.4 Hosting
Under the title ‘hosting’ ICT offers her knowledge and experience with Cloud Computing over the whole spectrum from IaaS (Infrastructure as a Service), PaaS (Platform as a Server) to SaaS (Software as a Service) on, among other things, the Windows Azure Cloud platform. This software hosting technology is already used in a number of projects and in the future the use will be further expanded. Additionally, the service will be extended with support services to be able to serve the customers more broadly and deeply.

An important part of this Cloud Sourcing proposition is the offering of a total ‘green’ package. The energy reduction compared to a traditional on-premise solution is considerably. For more information on this initiative, refer to https://ict.eu/digital-transformation/cloud/.

2.5 Connekt
This is the independent network for smart, sustainable and social mobility. A healthy mix of knowledge, creativity and vigour in which influential partners are coming together. With more than 200 partners all over the world we create and realise tangible solutions for a more sustainable and economic better world.

Possible participation: Participation via Intraffic.
Contact information: https://www.connekt.nl/home/

Aspects: CO₂-reduction related to mobility.

2.6 Athlon Mobility project
In the Athlon Mobility project pilot starting in June / July 2018 we connect energy efficient mobility to incentives and punitive measures and to mobility flexibility. For example, Athlon and ICT will try to find out which incentives (and at which level) is necessary to move people to use public transport instead of the (lease) car. Additionally, we want to pilot the flexibility of the lease budget in which for example personnel is able to lease an electric bike and to use/share a car. Another factor is that we want to find out which incentive and/or punitive measures are necessary to move people to drive energy-efficient.

2.7 Congresses
Participation to various congresses like for example NSC 2017 and 2018, the NBA congress ‘Role of the financial in CO₂ reduction’ and the Erasmus University congress ‘Future of Mobility’.

3 Initiatives in which participating will be considered
As ICT believes it is important to participate in initiatives which suits us a well and in which we can successfully contribute we investigate and consider participating in the following initiatives.

3.1 Nederland CO2 Neutraal
Nederland CO2 Neutraal organizes various congresses. During these congresses practical and concrete tips are provided with respect to CO₂ reduction possibilities.

For more information about this initiative, refer to: http://nlco2neutraal.nl/

3.2 Knowledge Network Green Software (KNGS)
Accelerate the investigation to the development of energy efficient software. Takes care that a new generation of software developers educated which can develop energy efficient software.

The Knowledge Network Green Software is an elaboration of long-term agreements between businesses and government (MJA3 and MEE), in which is recorded that businesses will be more energy-efficient every two year.

Possibility to participate: Participation is open for every commercial, governmental or academic organization which is active in this working field.

For more information about this initiative, refer to: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-besparen/kennisnetwerken/knowledge-network-green-software

3.3 Nederland ICT
Nederland ICT is a branch organization for the IT, Telecom and Internet companies. Within Nederland ICT initiatives are taken based on the long-term agreement (MJA) for energy reduction. Examples of these initiatives are the Smartgrids based on the road map ICT 2030.

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2 Nederland ICT: https://www.nederlandict.nl/
In 2018 Nederland ICT has agreed with the Secretary of State of economic affairs to enter a long-term agreement (MJA) on energy efficiency. The long-term agreement offers ICT companies a voluntary, but not an opportunity without obligations to reduce their energy consumption. Attendees to the long-term agreement can reduce their energy consumption in two ways: improve their own energy efficiency and develop and use innovative ICT solutions in other sectors.

ICT companies who participate in the long-term agreement, make an effort to improve their energy efficiency with 2% on a yearly basis. In 2020 an improvement of 30% compared to 2005 must be realised. To support the energy efficiency goals the foundation ‘ICT Milieu’ has founded. All ICT companies can access the long-term agreement (MJA).

Currently, 34 ICT-sector related companies are participates in the long-term agreement. This are data centers, soft- and hardware companies, telecom companies and ICT consultants. The last long-term energy efficient plan is from 2014-2016. Nederland ICT currently does not have presented a 2017-2010 long-term energy efficient plan.

**Possibility to participate:** Participation is open for every commercial, governmental or academic organization which is active in this working field.

**For more information about this initiative, refer to:** [https://www.nederlandict.nl/actueel/?filter-thema=duurzaamheid](https://www.nederlandict.nl/actueel/?filter-thema=duurzaamheid)

### 3.4 RCI

The Rotterdam Climate Initiative (RCI) is an ambitious climate program in which 4 parties, led by ambassador Ruud Lubbers, have entered into an unique collaboration: municipal Rotterdam, Havenbedrijf Rotterdam NV, DCMR Milieudienst Rijnmond and Deltalings. The RCI target is the most ambitious in the Netherlands: a CO₂ reduction of 50% in 2025 compared to 1990, preparation on climate change and enhancing the Rotterdam economy.

The Rotterdam Climate Initiative offers a platform in which government, organisations, companies and citizens are working together to reduce CO₂ emissions with 50% and enhance the Rotterdam economy.

**Possibility to participate:** Participation is open for every commercial, governmental or academic organization which is active in this working field.

**For more information about this initiative, refer to:** [http://www.rotterdamclimateinitiative.nl/nl/top/home](http://www.rotterdamclimateinitiative.nl/nl/top/home)

### 3.5 Ambassador klimaatenergiekoepel.nl

Klimaatenergiekoepel.nl (‘KEK’) is an initiative which brings to together young professionals which work on climate and energy transition questions. More importantly, KEK will deliver one young professional to each Climate table which are setup following the Climate and Energy agreement from the Dutch government.
As ambassador we can support KEK and their initiatives.

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<th>Theme</th>
<th>Conclusion</th>
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<td>Gridflex Heeten</td>
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<td>Yes</td>
<td>Insights and participations in the newest developments in this area</td>
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<td>Smart Charging (Greenflux)</td>
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<td>Hosting</td>
<td>No</td>
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<td>Reduce the energy consumption by ICT clients</td>
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<td>Connekt</td>
<td>Yes</td>
<td>Yes</td>
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<td>Athlon Mobility Project</td>
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4. Participation by ICT

ICT actively participates in the following initiatives:

- USEF/Energiekoplopers – intelligent networks
- Gridflex Heeten
- Smart charging (Greenflux)
- Connekt (via Intraffic)
- Athlon Mobility Project
- National Sustainability Congress
- The role of the financial in CO₂ reduction (congress)
- Future of Mobility (congress)

ICT considers participation to:

- Nederland CO2 Neutraal (congresses)
- KNGS
- Nederland ICT
- RCI
- Ambassador klimaatenergiekoepel.nl
5. **Authorisation**

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<td>Mark van Eesteren – Financial controller &amp; sustainability officer ICT Group N.V.</td>
<td>15-5-2018</td>
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<td>Jan-Willem Wienbelt – Chief Financial Officer ICT Group N.V.</td>
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