Progress report CO_2-emission reduction ICT Group N.V. H1-2018

ICT stands for green

History

Version	Date	Author	Description
1.0	22-08-2018	M.K. van Eesteren	Initial version

Ref.	Date	Version	Author	Description
1	14-08-2018	3.0	Mark van Eesteren	ICT Group N.V. - Organizational Boundary 2018
2	26-07-2018	3.4	Mark van Eesteren	ICT Group N.V. - CO_2 reduction plan 2017-2020

Summary

KPI	Actuals H1-2018	Expectation – based on CO_2 reduction plan 2017 – 2020	Remark if extra reduction measures are necessary?
Total CO_2-emission in tons per FTE	2,32	2,35	Not applicable.
CO emission Mobility in tons per FTE	2,20	2,02	We will start a Mobility project in 2017. Investigate if all employees can make use of a public transport card
CO_2 emission Buildings in tons per FTE	0,12	0,34	Not applicable.
CO_2 gr/km (actual) - WTW	163	156	The step-by-step decrease of the norm emission is already planned. The communication that electric vehicles can be leased is enhanced.
Decrease in number of km per lease car	9% decrease	5% decrease	Not applicable.
Number of public transport kilometres vs. lease car kilometres	0,6%	2%	We will start a Mobility project in 2017. Investigate if all employees can make use of a public transport card
Number of electric vehicles	12	70	The communication that electric vehicles can be leased is enhanced.
Optimise climate installations on each office	1 office	2-3 offices per year	In the period 2018-2020 we have to increase the number of offices for which the climate installations will be optimised.
Installation of smart meters	3 offices	90% offices	Communication with lessors for the installation is started. Furthermore, the installation of the smart meters by electricity network companies is based on a pre-determined time plan.
Generate 10% of our energy consumption on our own by 2020	-	-	In H2-2018 the business case to install solar panels on the Barendrecht Office will be investigated.

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1 Introduction

ICT Group profile
ICT Group N.V. (hereafter: "ICT") is a leading industrial technology solutions and services providers offering high quality technological solutions in the information and communication technology areas within various functional domains, especially within Automotive, Logistics, Machine & Systems, Industrial Automation, Energy and Healthcare. ICT is active within the Netherlands, Belgium, France, Bulgaria and the United States.

The ICT solutions offered to clients involve software development, solutions on project basis, the secondment of experienced and highly educated staff as well as services to maintain IT systems.

Corporate social responsibility
For ICT sustainability is a natural and inevitable part of our daily work. In our day-to-day business we pay attention to the sustainable use of energy and materials. We separately collect our waste, and products we use are recycled as much as possible. Within ICT mobility has a very important share in the total CO_2 emissions. Therefore, ICT has started initiatives to make it possible to drive electric. Also, charging stations are or will be placed at the offices to extend the possibility electric driving and promote this.

Furthermore, within our Energy unit we touch on corporate social responsibility cases in our day-to-day business as the Energy unit is servicing energy management systems from an IT perspective.

Active sustainability policy
Related to corporate social responsibility ICT is executing an active sustainability policy. Part of this is the participation in the 'SKAO CO_2 prestatieladder'.

1.1 Responsible

For the sustainability policies the end responsibility is by the Chief Financial Officer (CFO) of ICT Group N.V.

1.2 Historical base year

Based on ICT's energy management program the CO_2 Footprint is calculated at least twice a year. The reduction measures are part of the energy management program and described in the reduction plan 2017-2020.

On a semi-annual basis the progress of implementing the reduction measures relative to the reduction targets is reported. The main focus in this report is with the CO_2 reduction measures. The CO_2 footprint is part of this rapport. ICT Automatisering Nederland B.V. is currently certified for level 4 of the CO_2 performance ladder with as base year 2016. The 2017 audit on ICT Group N.V. level for certification on level 4 is currently ongoing. The period in which the CO_2 reduction measures must be realised is 2017 to 2020.

1.3 Organizational Boundary

In paragraph 6.3 of the 'CO_2 prestatieladder' manual is recorded that the organizational boundary should be chosen as such that no C-providers are amongst the A-providers. ICT has chosen for the 'control approach'. Under the control approach, a company accounts for 100 percent of the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but has no control. Control can be defined in either financial or operational terms. When using the control approach to consolidate GHG emissions, companies shall choose between either the operational or financial control criteria which are defined below:

Financial control. The company has financial control over the operation if the form has the ability to direct the financial and operating policies of the latter with a view to gaining economic benefits from its activities.

Operational control. A company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation.

For a detailed description of the organizational boundary of ICT Group N.V. see the document ‘Organisational boundary 2018’.

1.4 Exclusions and verification

In paragraph 7.3 of NEN ISO 14064-1 a number of aspects are recorded which do not count for ICT. This contains the following aspects:

f	a description of how CO_2 emissions from the combustion of biomass are treated in the GHG inventory (4.2.2)	Biomass is irrelevant within ICT
g	if quantified, GHG removals, quantified in tonnes of CO_2 (4.2.2)	This is not relevant for ICT
h	explanation for the exclusion of any GHG sources or sinks from the quantification (4.3.1)	This is not relevant for ICT
k	explanation of any change to the base year or other historical GHG data, and any recalculation of the base.	This is not relevant, because 2016 is the base year.
m	explanation of any change to quantification methodologies previously used (4.3.3)	This is not relevant, because 2016 is the base year.
n	Reference to, or documentation of GHG emissions or removal factors used (4.3.5)	This is not relevant for ICT

All other demands with respect to ISO 14064-1 are included in this rapport and all data is verified by the responsible CO_2 manager.

1.5 Changes in 2018 compared to 2017

In 2018 the ICT Group N.V. organisation is extended with NedMobiel B.V. and InTraffic B.V. NedMobiel B.V. has one office in Breda and InTraffic has two offices in Nieuwegein. The financial figures of NedMobiel are consolidated in the ICT Group N.V. accounts starting from 1 January 2018. The financial figures of InTraffic are consolidated as from 22 March 2018.

As InTraffic has a CO_2 performance ladder certificate on level 5 ICT has investigated whether InTraffic can still report for the CO_2 performance ladder on their own based on the AC analysis as part of the organizational boundary analysis. Based on the AC analysis as recorded in the organization boundary 2018 document it is concluded that InTraffic does not below to 80% largest suppliers of ICT Group. Therefore, InTraffic can report the CO_2 performance ladder on his own.

1.6 Changes based on version 3.0 CO_2 performance ladder manual

As following from the introduction of the new conversion factors for the year 2015 and business travel with public transport in 2016 the CO_2 emissions are calculated again retrospectively as from the base year 2011 with respect to ICT Automatisering Nederland B.V.

The conversion factors which are currently applicable are recorded in the Exsion consolidation tool in which all ICT Group N.V. entities has to report their energy consumption with respect to scope 1, scope 2 and scope 3 (currently, only commuting travel) CO_2 emissions and in the ICT 'Smart Trackers' tool.

Table – historic CO_2 emissions

Year	H1-2011 ICT B.V.[1]	H2-2011 ICT B.V.	H1-2012 ICT B.V.	H2-2012 ICT B.V.	H1-2013 ICT B.V.	H2-2013 ICT B.V.	H1-2014 ICT B.V.	H2-2014 ICT B.V.
CO_2-emission Old	1951	1951	1880	1868	1798	1866	1863	1826
CO_2 emission New	1.992	1.992	1.913	1.899	1.825	1.889	1.890	1.846
CO_2-emission total	3.984		3.813		3.714		3.737	

Year	H1-2015 ICT B.V.	H2-2015 ICT B.V.	H1-2016 ICT B.V.	H2-2016 ICT B.V.	2016 ICT N.V.	2017 ICT B.V.	2017 ICT N.V.
CO_2-emission Old	-	-	-	-	-	-	-
CO_2 emission New	1.670	1.720	1.697	1.852	-	-	-
CO_2-emission total	3.391		3.548		4.220	3.738	4.579

Year	H1-2018 ICT N.V.	H2-2018 ICT N.V.
CO_2-emission Old	-	-
CO_2 emission New	2.380	
CO_2-emission total	2.380	

In all CO_2 emission calculations the CO_2 emissions are based on version 3.0 of the performance ladder manual and the related conversions.

[1] ICT B.V. is abbreviation for ICT Automatisering Nederland B.V.

2 Reduction measures 2017-2020

For the period 2017-2020 the following reduction measures are recorded on ICT Group N.V. level. The reduction measures per subsidiary are recorded in the reduction measures plan 2017-2020.

Nr.	Name	Disclosure	Execution	Execution period	Payback period in years	Measurement type	Status
1 Buildings	Reduce installed power indoor lighting – conventional lightning	On a natural moment – e.g. defect lightning – replace conventional lightning (TL8) by energy efficient lamps TL5 (with adapter)	When lamps should be replaced they must be replace by TL5 lamps.	2017-2020	< 5 years	Policy measure	Running
2 Buildings	Reduce installed power indoor lightning – HF TL to LED (day/night and presence sensors)	On a natural moment – by refurbishment or a new building – placement of the most energy efficient lamps and fittings (LED). Also investigate if sensors (day/light and/or presence) can be placed	Investigate/install LED (incl. sensors) in case of new buildings or refurbishments.	2017-2020	< 5 years	Policy measure	Running
3 Buildings	Optimise climate installation (warming and cooling)	Optimise climate installations. Every five-year an investigation must be performed to conclude whether a climate installation is well tuned. In first place the turn on/off or ventilations (outside work time) and the shutdown of ventilations	For every office we have to investigate if the climate installation should be optimised.	2017-2018	< 5 years	Policy measure	Running
4 Buildings	Continuous stimulation of change in behaviour via continuous campaigns and communication	We have to create awareness by the personnel to prevent that lighting, cooling and ventilations are unnecessary turned on. We have to create this awareness by a continuous campaign to the employees.	Record actions in communication plan. Create awareness during business unit and group meetings	2017-2020	Between 1 and 2 years	Policy measure	Open
5 Buildings	Own energy generation (electricity) – at least 10%	Consider if on natural moments solar panels can be placed to generate own energy	Investigate possibilities for the Deventer location. Afterwards, select solar panel supplier and request government subsidy.	2018	Between 10-15 years	Policy measure	Open
6 Buildings	Registration and monitoring energy consumption – registration of energy consumption data	Monitoring – organise the periodically measurement of energy consumption data of all locations, analyse the results per entity and office and take actions if necessary.	Register and analyse periodically the energy invoices and measurement data with Smart Meters. Make comparisons based on KPI's and take actions based on the actual energy consumption.	2017-2018	Between 10-15 years.	Policy measure	Running
7 Buildings	Purchase green power (guarantees or origin)	If grey power is purchased compensate this with the purchase of guarantees of origin	Grey power is compensated in 2017 on ICT Automatisering Nederland B.V. level. For 2018 we have purchased green power for all ICT Group N.V. offices	Yearly	Negative	Policy measure	Closed for 2017 Running for 2018
8 Building	Optimise setting ventilation	Based on EED it is concluded that it is possible that the ventilation is on during hours in which this is not necessary	We plan that a climate and ventilation optimization investigation will be performed	2017-2018	51,5 years	Policy measure	Running

Nr.	Name	Disclosure	Execution	Execution period	Payback period in years	Measurement type	Status
9 Buildings	Shut down IT equipment if possible	Investigate if (ICT) equipment is turned on during hours/periods in which this is not necessary. For example coffee machines, pc's and monitors	Check per office which equipment is installed and if these can be turned off during hours/periods in which this is not necessary	2017-2020	< 5 years	Policy measure	Open
10 Mobility	Shaping the norm emission of lease cars by a step-by-step basis	The emission for lease cars will be decreased step-by-step to 95 gram/km. This is based on the ANWB list for energy efficient cars.	The emission norm is adjusted on a semi-annual basis. In addition we promote the leasing of electric vehicles and will start a Mobilty project with Athlon to investigate which triggers can be used to reduce the use of the (lease) cars.	2017-2020	< 1 year	Policy measure	Running
11 Mobility	Reducing use of lease cars	Reduce number of car kilometres and relative number of lease cars. Stimulate use of public transport, skype meetings etc.	Introduction and promotion use of 1. OV Business card 2. Skype 3. Working at home 4. Carpooling. In addition we promote the leasing of electric vehicles and will start a Mobilty project with Athlon to investigate which triggers can be used to reduce the use of the (lease) cars.	2017-2020	< 1 year	Policy measure	Running
12 Mobility	Campaign and activities to stimulate energy-efficient driving	Mobility project to stimulate energy efficient us of various means of transport. In addition electric driving is heavily stimulated and various campaigns for a right tyres tension are started. This to promote energy efficient driving.	The following campaigns has performed or will be performed: 1. Athlon Mobility project. 2. Stimulate electric vehicles. 3. Promote a right tyres tension	2017-2020	< 1 year	Policy measure	Running

2.1 CO_2 reduction projects

Our target on ICT Group N.V. level is CO_2 of reduction of 11% in 2020 compared to 2016. The CO_2 emission equivalent of this reduction percentage is 1.652 ton CO_2. See the table below for the H1-2018 of the reduction activities.

Nr.	Type	Activity	KPI	2018	Unit	2018 target reduction plan	H1-2018 actual	2020 target in % relative to 2016 conform reduction plan
1	Buildings	On a natural moment – e.g. defect lightning – replace conventional lightning (TL8) by energy efficient lamps TL5 (with adapter)	Replace lightning (TL8) by energy efficient lamps TL 5 (with adapter)	1 Office	Percentage	On a natural moment	n/a	n/a
2	Buildings	On a natural moment – by refurbishment or a new building – placement of the most energy efficient lamps and fittings (LED). Also investigate if sensors (day/light and/or presence) can be placed	a. Install LED by every refurbishment or new building	1 Office	GJ	35	Estimated 29	83%
			b. By every change of an ICT office the energy label has to be better than the current office.	1 Office	Label type	1 office (new Maastricht office)	1 office (new Maastricht has energy label)	100%
3	Buildings	Optimise climate installations. Every five-year an investigation must be performed to conclude whether a climate installation is well tuned. In first place the turn on/off or ventilations (outside work time) and the shutdown of ventilations	Check the climate installations for each office every five years	2-3 offices a year since ICT has 11 offices on a continuous basis (Gorinchem is closed and Apeldoorn will be closed)	Percentage	2-3 offices per year	0 offices (offers are requested to optimise 2 offices)	Not reached
4	Buildings	We have to create awareness by the personnel to prevent that lighting, cooling and ventilations are unnecessarily turned on. We have to create this awareness by a continuous campaign to the employees.	Regular updates via the progress reports about our electricity consumption per m²	89 GJ reduction in 2018 (ICT Automatisering B.V offices, Improve and BMA). This is 24.722 kWh. Per m2 this is 2,49 kWh.	kWh/m2	2,49 kWh reduction per m²	1,07 kWh increase per m²	Not reached. Is mainly due to Oosterhout office, refer to paragraph 2.1 for further explanation
5	Buildings	Consider if on natural moments solar panels can be placed to generate own energy.	Investigate if for at least one office solar panels can be installed	11 Offices	Number of offices	Investigate for the Barendrecht office if solar panels can be installed	-	Not reached

Nr.	Type	Activity	KPI	2018	Unit	2018 target reduction plan	H1-2018 actual	2020 target in % relative to 2016 conform reduction plan
6	Buildings	Monitoring – organise the periodically measurement of energy consumption data of all locations, analyse the results per entity and office and take actions if necessary.	Number of offices with smart meters	11 Offices	Number of offices	90% offices have smart meters	3 offices have smart meters	27%, is behind schedule.
7	Buildings	If grey power is purchased compensate this with the purchase of guarantees of origin	Compensate grey electricity	9 Offices + rental houses with grey electricity	Percentage	100% compensation (850,000 kWh)	100% compensation (H1-2018: 394.403 kWh)	Is on schedule
8	Buildings	Optimise setting ventilation. Based on EED it is concluded that it is possible that the ventilation is on during hours in which this is not necessary.	Check the ventilations for each office every five years	2-3 offices a year since ICT has 11 offices on a continuous basis (Gorinchem is closed and Apeldoorn will be closed)	Percentage	2-3 offices per year	0 offices (offers are requested to optimise 2 offices)	Not reached
9	Buildings	Investigate if (ICT) equipment is turned on during hours/periods in which this is not necessary. For example coffee machines, pc's and monitors	Investigate all ICT offices	11 Offices	Percentage	Purchase of sustainable ICT equipment	PC's and monitors will adequately go into energy efficient stand if the monitors are not used.	Is on schedule
10a	Mobility	The emission for lease cars will be decreased step-by-step to 95 gram/km. This is based on the ANWB list for energy efficient cars.	a. Step-by-step decrease in lease arrangement to 95 gram/km in 2019	97 gram/km	gr/km (CO2)	97	98	Is behind schedule
10b	Mobility	Increase the number of full electric cars to a zero-emission lease car park in 2026	b. Number of full electric vehicles	30% of lease car park in 2020	Number	70 (10% lease car park)	12 full electric lease cars	Is behind schedule
11a	Mobility	Decreasing the number of car kilometres and relative number of lease cars	a. Decrease relative number of lease cars	Decrease of 2% ratio lease cars vs total number of employees in %	Decrease in %	58% (2017 YTD: 60%)	2% decrease	Is on schedule
			b. Decrease number of car kilometres	Decrease of 5% car kilometres per FTE per year to 20% decrease in 2020 compared to 2016	Decrease in %	9.760 (H1-2017: 10.685)	9% decrease	Is above schedule
11b	Mobility	Introduction public transport cards. Relative number of public transport kilometres vs. lease car kilometres	Increase use of public transport	1% of lease car kilometres in 2017 5% of lease car kilometres in 2020.	Number of kilometres with public transport	400.000 >> 2% number of car kilometres	H1-2018: 60.645 >> 0,6% number of car kilometres	Is behind schedule

Nr.	Type	Activity	KPI	2018	Unit	2018 target reduction plan	H1-2018 actual	2020 target in % relative to 2016 conform reduction plan
12	Mobility	Mobility project will be started to investigate incentives who stimulate economic driving and a sustainable transport choice.	gr/km (CO2)	151	gr/km (CO2)	151	163	Is behind schedule
	Scope1 + Scope 2	Totaal aan CO_2-emissie van ICT (gebouwen en vervoer)		4,70	CO2 ton/FTE	4,70 (/- 7,4% vs base year)	4,65 (-/- 8,3% vs base year)[2]	Reached

[2] CO_2 emission is 2,32 ton per FTE over the period 1 January until 30 June 2018. The emission of 4,65 CO_2 ton is extrapolated for the whole year 2018. Base year CO_2 emission per FTE was 5,07 ton.

3 Disclosure projects

3.1 Reduce installed power indoor lighting (1)

On a natural moment replace defect lamps by TL5 lamps. In H1-2018 there were no natural moments to place new power indoor lighting.

3.2 On a natural moment – by refurbishment or a new building – placement of the most energy efficient lamps and fittings (LED) (2a)

During H1-2018 we did not had a large refurbishment or a new building in which it was needed to place the most energy efficient lamps and fittings. In the Deventer office we had a small refurbishment. The Deventer office already have energy-efficient lamps and fittings.

3.3 Change ICT office (2b)

In July 2018 we moved to another Maastricht office which has the EPU label A.

3.4 Investigate and optimise climate installations (3)

In H1-2018 an investigation is performed to optimise the climate installations of the Oosterhout and Eindhoven offices. The investigation and execution of optimising the climate installations of these offices will be continued in H2-2018.

3.5 We have to create awareness by the personnel to prevent that lighting, cooling and ventilations are unnecessarily remained on (4)

On a regular basis a tour through the offices is made to investigate whether lightning, computers and monitors are turned on. If this is the fact 'notes' will be added to the specific working places. The turning off of lighting, computer and monitors is added to the clean desk policy.

3.6 Consideration if own energy can be generated (5)

The investigation if solar panels can be placed on the roof of the Barendrecht office is performed in H1-2018. Also the possibility for the SDE+ subsidy will be further investigated.

It is possible to install 180 solar panels on the Barendrecht office with a power of 40.500 kWh and a pay-back time of 7 to 8 years. The 40.500 kWh is between 25 and 30% of what our energy consumption is for the Deventer office (2017: 153.000 kWh). In H2-2018 we will investigate whether the business case to place solar panels is solid.

3.7 Registration and monitoring energy consumption (6)

A number of ICT offices already has a smart meter on which on a monthly basis the energy consumption numbers can be read. Furthermore, all offices has to report their energy consumption on a quarterly basis in the sustainability reporting tool Exsion.

The following offices has a smart meter:

- Barendrecht.
- Deventer, only loading pole.
- Dreumel (Raster).
- Eindhoven.

Requests for a smart meter are running for the Groningen, Oosterhout, Maastricht and Houten offices.

3.8 Compensate grey power with purchase green power (7)

For the offices Deventer, Eindhoven, Maastricht, Houten, Sofia, Dreumel and Baarn grey power is consumed. Furthermore, the offices Oosterhout and Groningen are consuming European green energy which does not count as green energy under the CO_2 performance ladder and the electricity loaded by full electric vehicles counts as grey power. This grey power is compensated with the purchase of green power via guarantees of origin. Over 2018 850.000 kWh of green power is purchased which is sufficient to compensate the 394.403 kWh of grey power over the first half year of 2018.

3.9 Optimise ventilation setting (8)

See paragraph 3.4.

3.10 Investigate if (ICT) equipment is turned on during hours/periods in which this is not necessary (9)

See paragraph 3.5.

3.11 Decreasing the norm emission of lease cars on a step-by-step basis (10)

As from April 2016 ICT Automatisering Nederland B.V. has a new lease arrangement for all employees which is based on the norm emissions for the most energy efficient following from the ANBW list with the 10 most energy efficient cars. The average norm emission is decreased on semi-annual to annual basis.

Norm energy-efficient cars (ANWB)	(1-10-2016) gr/km		(1-4-2017) gr/km		(1-10-2017) gr/km	
Depends on lease tariff	Standard	Maximum	Standard	Maximum	Standard	Maximum
Gasoline (average norm)	112	128	112	128	112	127
Diesel (average norm)	102	109	102	109	98	109

In H1-2018 we did not adjust the norm emission of lease cars as new European CO_2 emission tests are currently performed which will result in new CO_2 emission norms. We expect that by the end of 2018 a new CO_2 emission norms can be set.

The driving of an electric vehicle is heavily promoted for example in an electric driving week. The number of full electric lease cars as at 30 June 2018 is 12 electric cars. This is far behind our target that 10% of the lease park is full-electric.

3.12 Decrease the number of car kilometres and stimulate use of public transport (11)

See paragraph 3.13. Furthermore, employees are able to use an OV business card to come to the offices or go to clients.

3.13 Mobility campaigns (12)

3.13.1 Mobility project to stimulate energy efficient driving

As at 1 September 2018 we will start a mobility project together with Athlon to investigate which incentives stimulates employees to drive energy efficient. Incentives which will be investigated are:

- A bonus/malus if employees drive energy efficient or not.
- Remunerations when employees are using a(n) (electric) bike or public transport.
- Drive electric.

This in combination with an investigation what employees will do if a budget is provided which employees can use for a mean of transport which is free of choice.

3.13.2 Campaign CO_2 awareness

In H2-2018 a CO_2 awareness campaign will be started together with the mobility pilot.

4 CO_2 emission footprint ICT Group N.V.

In August 2018 the CO_2 Footprint over H1-2018 is determined. This CO_2 footprint is compared to H1-2017.

Direct and indirect CO_2-emissions (ton CO_2)	H1-2018	H1-2017	Increase / (reduction) in % H1-2018 compared to H1-2017
Scope 1	1.825	1.692	7,9%
Scope 2	555	535	3,7%
Total	2.380	2.227	6,9%
Average number of total FTE	1.024	940	8,9%
Total emission per FTE	2,32	2,37	-/-1,9%

Buildings related emissions (ton CO_2)	H1-2018	H1-2017	Increase / (reduction) in % H1-2018 compared to H1-2017
Electricity	0	94	-100%
Heating + WKO	121	130	-/-6,9%
Total	121	224	-/-46,0%
Buildings related kWh	**H1-2018**	**H1-2017**	**Increase / (reduction) in % H1-2018 compared to H1-2017**
Number kWh (before the purchase of green power)	469.437	349.666	34,2%
Number m^2	13.712	13.972	-/-1,9%
Number kWh per m^2 (before the purchase of green power)	34,23	25,03	36,8%
Number kWh per FTE (before the purchase of green power)	458,43	371,99	23,2%

Mobility related emissions (ton CO_2)	H1-2018	H1-2017	Increase / (reduction) in % H1-2018 compared to H1-2017
Lease cars	1.752	1.610	8,8%
Electric vehicles (EV) (after purchase of green power)	0	7	-100%
Business travel with private cars	221	193	14,5%
Public transport	4	4	0%
Business flights	282	189	49,2%
Total	2.259	2.003	12,8%
Number of electric vehicles	12	7	71%
Public transport kilometres	60.645	63.770	-/-4,9%
Norm and actual emission lease cars in gr/km	**H1-2018**	**H1-2017**	**Increase / (reduction) in % H1-2018 compared to H1-2017**
Average emission lease cars (norm consumption) (TTW)	92	91	1,1%
Average emission lease cars (actual consumption) (WTW)	163	160	1,9%

Number kWh electric driving	H1-2018	H1-2017	Increase / (reduction) in % H1-2018 compared to H1-2017
Number kWh electric driving	17.265	8.074	114%

5 Results and conclusions

5.1 Results

CO_2 emission per FTE:
The relative CO_2 emission per FTE has decreased with 1,9%. The decrease of the relative CO_2 emission per FTE is mainly due to the decrease in CO_2 emissions related to electricity and gas and a stable CO_2 emission per FTE related to lease cars which are compensating increased CO_2 emissions related to business flights and private cars.

Mobility:
The lease car related CO_2 emissions has increased with 8,9% compared to the H1-2017. This increase is mainly due to an increased average FTE number (+8,8%) comparing H1-2018 vs. H1-2017. The lease car related CO_2 emissions are stabilizing due to changes in the lease car mix. It is a trend that ICT has less diesel lease cars in the lease cars mix.

With regard to new norm emissions ICT currently is waiting for the results of the new European CO_2 tests on cars to update the norm emissions. It is expected that this update will be published by the end of 2018 or begin 2019.

Another trend is that the number of business flights has increased in H1-2018 compared to H1-2017 resulting in higher CO_2 emission. This is due to international recruitment activities and an increasing number of flights from and to Strypes.

Buildings:
The building related CO_2 emissions has decreased with 46%. This is mainly due to the fact that ICT has less offices with gas related CO_2 emissions and the 100% purchase of green power for the offices which are using grey power.

5.2 Conclusion

The absolute CO_2 emissions has increased with 6,9% due to the increase of the number of ICT employees (+8,8%). The CO_2 emissions per FTE has decreased with 1,9%. This reduction is just below the CO_2 reduction target of 2% CO_2 emission per FTE over 2018. The absolute CO_2 emission per FTE of 2,32 ton over H1-2018 is below the targeted CO_2 emission per FTE of 2,35 ton.

Currently no extra measures are needed to reach the CO_2 emission reduction targets over the years 2017-2020 based on the CO_2 emissions developments over the H1-2018. However on sub-targets we have to execute and/or enhance the execution of the reduction measures as the absolute CO_2 emission per FTE is close to the targeted CO_2 emission per FTE.

Mobility
The CO_2 emissions on lease cars per FTE has stabilized. This is due to the fact that no new norm emissions were available due to the new European CO_2 tests, the number of full electric cars is not increasing fast enough and the lease mix is changed from less diesel cars to more gasoline cars.

Based on the stabilisation of the CO_2 emissions on lease cars per FTE and the number of full electric is not increasing fast enough we will start a mobility pilot in H2-2018. In this mobility pilot we want which incentives will work to move personnel from the lease car to public transport and/or e-bikes. Furthermore, we will heavily promote the full electric vehicles.

The CO_2 emissions related to business flights have increased significantly (49%). This is mainly due to business choices made with regard to international recruitment and more flights to Sofia. An action in the next half year is to promote energy-efficient flying as there is a list with energy-efficient flight companies.

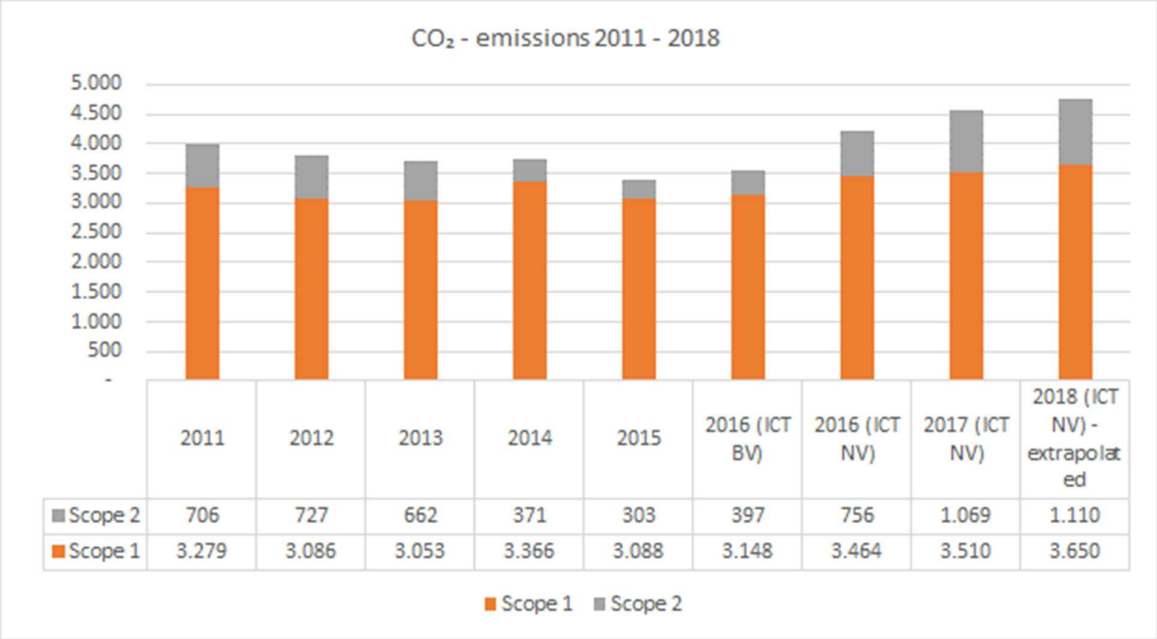
Buildings
The building related absolute CO_2 emissions has decreased with 46,0%. This is highly influenced by the purchase of green power for all buildings in which we consume grey power. Furthermore, we do not rent the Gorinchem office and the houses in Son en Breugel and Veldhoven anymore which were consuming gas.

In H2-2018 we will further investigate the climate installations of the Oosterhout and Eindhoven offices. This to reduce the electricity and gas consumption. Furthermore, we will actively follow up on the project to install smart meters in all offices.

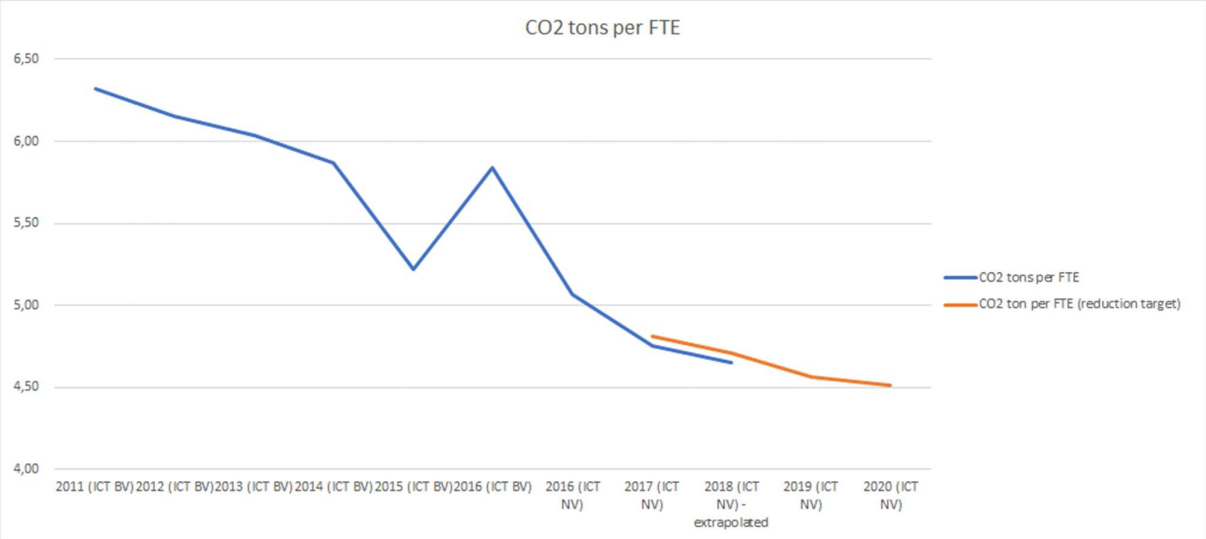
6 Authorisation

	Initials	Date
Mark van Eesteren – Financial Controller & Sustainability Officer ICT Group N.V.		22-08-2018
Jan-Willem Wienbelt – Chief Financial Officer ICT Group N.V.		22-08-2018

Appendix A – Various insights in CO_2 emission developments 2011-2018

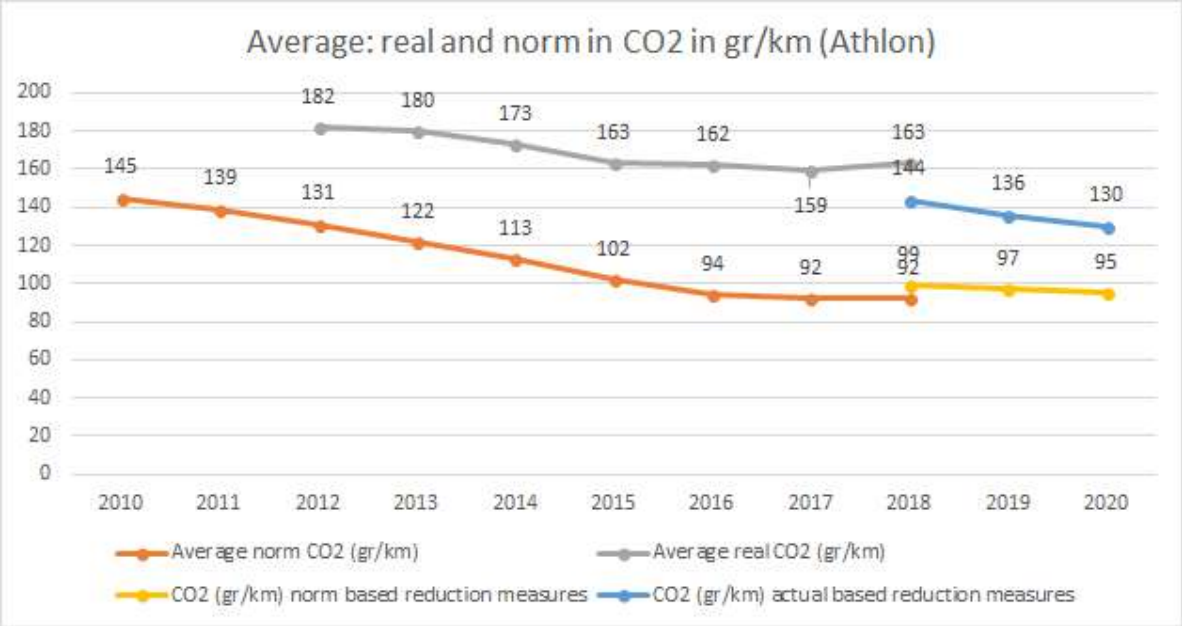


	2011	2012	2013	2014	2015	2016 (ICT BV)	2016 (ICT NV)	2017 (ICT NV)	2018 (ICT NV) - extrapolated
Scope 2	706	727	662	371	303	397	756	1.069	1.110
Scope 1	3.279	3.086	3.053	3.366	3.088	3.148	3.464	3.510	3.650



	2011 (B.V.)	2012 (B.V.)	2013 (B.V.)	2014 (B.V.)	2015 (B.V.)	2016 (B.V.)	2016 (N.V.)	2017 (N.V)	H1-2018 (N.V.)
Office Bellegem	-	-	-	-	-	-	60	60	30
Office Apeldoorn	-	-	-	-	-	-	-	60,00	-
Office Oosterhout							-	316,60	77,52
Office Baarn	-	-	-	-	-	-	12,09	60,00	30,00
Office Sofia	-	-	-	-	-	-	94,51	106,87	40,30
Office Dreumel	-	-	-	-	-	-	169,88	37,67	30,40
Office Houten	-	-	-	-	-	-	145,61	39,79	19,28
Office Gorinchem (Kleine Landtong)	150	141	-	-	-	-	-	-	-
Office Eindhoven (Son en Breugel)	199	45	36	36	-	-	-	-	-
Office Groningen	54,70	54,70	69,10	86,08	96,14	49,05	49,05	-	-
Office Bergen op Zoom	80,19	77,82	78,96	75,26	84,19	92,77	92,77	84,68	-
Office Barendrecht	117,22	115,49	115,92	127,96	129,44	75,85	75,85	71,68	36,37
Office Maastricht	182,35	165,46	165,46	165,47	165,47	165,47	165,47	2,15	1,01
Office Gorinchem (Avelingen West)	-	-	77,58	76,69	82,46	78,88	78,88	6,01	-
Office - Eindhoven (Prof. Dr. Dorgelolaan)	-	-	-	-	21,19	16,30	120,86	95,37	128,56
Office - Deventer	70,30	59,89	46,41	88,77	65,67	67,42	69,37	64,36	39,42
Rental house ((Veldhoven)	-	-	-	-	22,48	21,60	21,60	21,30	-
Rental house (Son en Breugel)	78,30	61,63	58,70	57,28	84,88	24,45	24,45	74,35	17,10

In the electricity consumption it is striking that the electricity concumption for the Eindhoven and Oosterhout offices are in comparison to the other offices. This is because the heating and cooling of the Eindhoven and Oosterhout offices are (partly) electricity based.



Appendix B Reduction plan 2017-2020

Nr.	Type	Name	Disclosure	Office / scope
1	Buildings	Reduce installed power indoor lighting - conventional lightning	On a natural moment - e.g. defect lighting - replace conventional lighting (TL8) by energy-efficient lamps TL5 (with adapter)	All ICT offices
2	Buildings	Reduce installed power indoor lighting - HF TL to LED (day/night and presence sensors)	On a natural moment - by refurbishment or a new building - placement of the most energy efficient lamps and fittings (LED). Also investigate if sensors (day/light and/or presence) can be placed.	All ICT offices
3	Buildings	Optimalise climate installation (warming and cooling)	Optimalise climate installations. Every five year an investigation must be performed to conclude whether a climate installation is well tuned. In first place the turn on/off of ventilistions (out side work times) and the shut down of ventalitations must be investigated.	All ICT offices
4	Buildings	Continuous stimulation of change in behaviour via continuous campaigns and communication	We have to create awareness by the personnel to prevent that lighting, cooling and ventilations are unnecessary turned on. We have to create this awareness by a continuous campaign to the employees.	All ICT offices
5	Buildings	Own energy generation (electricity) - at least 10%	Consider if solar panels can be placed to generate own energy.	Investigate possibilities. At least 10% use of own energy as lowest limit. The Deventer office is an interesting possibilty.
6	Buildings	Registration and monitoring energy consumption - registration energy consumption data	Monitoring - organise the periodically measurement of energy consumption data of all locations, analyse the results per entity and office and take actions if necessary.	All ICT offices need a smart meter per office or floor. In addition a energy consumption dashboard must be made based on quarter data. The Barendrecht and Raster work shop already has smart meters. Dashboard will be build by Luttmer consulting.
7	Buildings	Purchase green power (guarantees of origin)	If grey power is purchased compensate this with the purchase of guarantees of origins.	BMA and Raster and the ICT BV offices Eindhoven, Deventer and Maastricht does have grey power.
8	Buildings	Optimalise setting ventilation	Based on EED it is concluded that it is possible that the ventillation is on during hours in which this is not necessary.	Oosterhout office
9	Buildings	Shut down IT equipment if possible	Investigate if (ICT) equipment is turned on during hours/periods in which this is not necessary. For example coffee machines, pc's and monitors.	All ICT offices
10	Mobility	Sharping the norm emission of lease cars by a step-by-step basis	The emission norm for lease cars will decrease step by step to 95 gram/km. This is based on the ANWB list for energy efficient cars.	Investigate the possiblity ot have an uniform lease arrangement for each ICT subsidiary.
11	Mobility	Reducing use of (lease) cars	Reduce number of car kilometers and relative number of lease cars. Stimulate use of public transport, skype meetings etc.	ICT Group and his subsidiaries
12	Mobility	Campaign and activities to stimulate energy-efficient driving	Mobilty project to stimulate energy efficient use of various means of transport. In addition electric driving is heavily stimulated and various campaigns for a right tyres tension are started. This to promote energy efficient driving.	ICT Group and his subsidiaries

Geautitative targets				Total energy redection (GJ)/year	Energie-besparing (GJ)/jaar in 2016	Energy-redection (GJ)/year in 2017	Energie-besparing (GJ)/jaar in 2018	Energie-besparing (GJ)/jaar in 2019	Energy-redection (GJ)/year in 2020	Total CO2-emission redection (ton)/year	CO2-emissie redectie (ton)/jaar in 2016	CO2-emission redection (ton)/year in 2017	CO2-emissie redectie (ton)/jaar in 2018	CO2-emissie redectie (ton)/jaar in 2019	CO2-emission redection (ton)/year in 2020
Target buildings				1.731	287	604	1.118	1.570	2.096	28	3	7	12	24	81
Target mobility				5.354	1.217	2.582	3.974	5.354	5.354	473	107	229	351	473	473
Total target				7.085	1.504	3.186	5.092	6.924	7.450	501	110	236	363	498	555
Primary energy consumption & CO_2 emissions				Consumption in GJ/year		Consumption in GJ/year			Consumption in GJ/year	CO_2 emissions/year		CO_2 emissions/year			CO_2 emissions/year
Total primary energy consumption & total CO_2 emissions buildings				10.997	10.997	10.997	10.997	10.997	10.997	338	338	338	338	338	338
Total primary energy consumption & total CO_2 emissions mobility				59.082	59.082	59.082	59.082	59.082	59.082	4.552	4.552	4.552	4.552	4.552	4.552
Total energy consumption & CO_2				50.079	50.079	50.079	50.079	50.079	50.079	4.869	4.869	4.869	4.869	4.869	4.869
Relative targets															
Target buildings		relative to the primary energy consumption/CO_2 emissions of buildings		162	32	52	102	142	152	82	12	22	42	72	242
Target mobility		relative to the primary energy consumption/CO_2 emissions of mobility		142	32	72	102	142	142	102	22	52	62	102	102
Total target		relative to the total energy consumption/CO_2 emissions of buildings & mobility		142	32	62	102	142	152	102	22	52	72	102	112

Appendix C Detailed overview CO_2 emissions H1-2018 vs. H1-2017

Company	Description energy sort	H1-2018 - consumption	Unity	Emission factor	H1-2018 CO_2 emission in ton	H1-2017 CO_2 emission in ton	Difference CO_2 emission in ton	Difference % - CO_2 emission in ton	Scope
ICT Group N.V. - company only	Alphabet Gasoline leasecars	-	Liters	2,740	-	1,58	-1,58	-100%	Scope 1 leasecars
ICT Group N.V. - company only	Athlon Diesel leasecars	1.281	Liters	3,230	4,14	3,85	0,29	8%	Scope 1 leasecars
ICT Group N.V. - company only	Alphabet Diesel leasecars	1.171	Liters	3,230	3,78	-	3,78	100%	Scope 1 leasecars
ICT Group N.V. - company only	Leaseauto e-mobility public in kWh (grey)	8.488	kWh	-	-	1,85	-1,85	-100%	Scope 2 electricity e-mobility
ICT Group N.V. - company only	Privat car with lease with lease compensation	1.599	km	0,220	0,35	-	0,35	100%	Scope 2 Private cars
ICT Automatisering Nederland B.V.	Athlon gasoline lease cars	116.656	Liters	2,740	319,64	263,01	56,63	22%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Century gasoline leasecars	4.349	Liters	2,740	11,92	70,52	-58,60	-83%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Alphabet gasoline leasecars	28.909	Liters	2,740	79,21	26,22	52,99	202%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Century diesel lease cars	21.427	Liters	3,230	69,21	183,37	-114,16	-62%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Alphabet diesel lease cars	54	Liters	3,230	173,06	89,53	83,53	93%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Athlon diesel lease cars	275.553	Liters	3,230	890,04	838,42	51,62	6%	Scope 1 leasecars
ICT Automatisering Nederland B.V.	Leaseauto e-mobility public in kWh (grey)	8.473	kWh	-		2,85	-2,85	-100%	Scope 2 electricity e-mobility
ICT Automatisering Nederland B.V.	Leaseauto e-mobility offices in kWh (green)	-	kWh	-	-	-	-	0%	Scope 2 electricity e-mobility
ICT Automatisering Nederland B.V.	Electricity usage Green - Groningen (Guarantee of Origin)	10.477	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Oosterhout (Guarantee of Origin)	35.736	kWh	-	-	20,93	-20,93	-100%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Rental house Veldhoven (Guarantee of Origin)	1.290	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Gorinchem (Guarantee of Origin)	-	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green SMK Wind - Bergen op Zoom	26.956	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Maastricht (Guarantee of Origin)	2.674	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green SMK Wind - Barendrecht	77.973	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Deventer (Guarantee of Origin)	84.509	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Rental house Son en Breugel (Guarantee of Origin)	-	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Electricity usage Green - Eindhoven (Guarantee of Origin)	71.994	kWh	-	-	-	-	0%	Scope 2 electricity
ICT Automatisering Nederland B.V.	Gas usage - Groningen	2.031	m3	1,887	3,83	3,98	-0,15	-4%	Scope 1 gas
ICT Automatisering Nederland B.V.	Gas usage rental house Veldhoven	-	m3	1,887	-	1,76	-1,76	-100%	Scope 1 gas
ICT Automatisering Nederland B.V.	Gas usage - Gorinchem	-	m3	1,887	-	3,77	-3,77	-100%	Scope 1 gas
ICT Automatisering Nederland B.V.	Gas usage - Bergen op Zoom	5.528	m3	1,887	10,43	12,63	-2,20	-17%	Scope 1 gas
ICT Automatisering Nederland B.V.	Gas usage - Deventer	9.507	m3	1,887	17,94	14,00	3,94	28%	Scope 1 gas
ICT Automatisering Nederland B.V.	Gas usage rental house Son en Breugel	-	m3	1,887	-	3,21	-3,21	-100%	Scope 1 gas
ICT Automatisering Nederland B.V.	Geothermal heating Barendrecht	802	Gj	25,060	20,10	20,10	-	0%	Scope 2 WKO heating
ICT Automatisering Nederland B.V.	Geothermal heating Eindhoven	1.139	Gj	25,060	28,54	28,54	-	0%	Scope 2 WKO heating
ICT Automatisering Nederland B.V.	Privat car with lease with lease compensation	926.908	km	0,220	203,92	174,91	29,01	17%	Scope 2 Private cars
ICT Automatisering Nederland B.V.	Public transport (train, taxi)	78.761	km	0,036	2,84	2,31	0,53	23%	Scope 2 public transport
ICT Automatisering Nederland B.V.	Business Flights <700 km	28.988	km	0,297	8,61	10,45	-1,84	-18%	Scope 2 business flights
ICT Automatisering Nederland B.V.	Business Flights 700-2500 km	550.519	km	0,200	110,10	17,77	92,33	520%	Scope 2 business flights
ICT Automatisering Nederland B.V.	Business Flights >2500 km	294.094	km	0,147	43,23	30,18	13,05	43%	Scope 2 business flights

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Company	Description energy sort	H1-2018 - consumption	Unity	Emission factor	H1-2018 CO_2 emission in ton	H1-2017 CO_2 emission in ton	Difference CO_2 emission in ton	Difference % - CO_2 emission in ton	Scope
Improve Quality Services B.V.	Century Gasoline leasecars	14.944	Liters	2,740	40,95	44,45	-3,50	-8%	Scope 1 leasecars
Improve Quality Services B.V.	Century Diesel leasecars	5.666	Liters	3,230	18,30	23,92	-5,62	-23%	Scope 1 leasecars
Improve Quality Services B.V.	Century e-mobility (grey)	-	kWh	-	-	1,92	-1,92	-100%	Scope 2 electricity e-mobility
Improve Quality Services B.V.	Electricity usage Baarn (guarantee of origin)	4.230	kWh	-	-	2,23	-2,23	-100%	Scope 2 electricity
Improve Quality Services B.V.	Gas usage Baarn	2.538	m3	1,887	4,79	4,79	-	0%	Scope 1 gas
Improve Quality Services B.V.	Privat car with lease with lease compensation	36.899	km	0,220	8,12	7,49	0,63	8%	Scope 2 Private cars
Improve Quality Services B.V.	Business Flights 700	-	km	0,297	-	1,02	-1,02	-100%	Scope 2 business flights
Improve Quality Services B.V.	Business Flights 700-2500 km	3.326	km	0,200	0,67	-	0,67	100%	Scope 2 business flights
Improve Quality Services B.V.	Business Flights >2500 km	11.150	km	0,147	1,64	1,19	0,45	38%	Scope 2 business flights
Improve Quality Services B.V.	Public transport (train, taxi)	9.277	km	0,036	0,33	0,50	-0,17	-34%	Scope 2 public transport
Raster Beheer B.V. - consolidated	Athlon leasecars - Gasoline	526	Liters	2,740	1,44	1,70	-0,26	-15%	Scope 1 leasecars
Raster Beheer B.V. - consolidated	Century diesel leasecars	2.973	Liters	3,230	9,60	10,81	-1,21	-11%	Scope 1 leasecars
Raster Beheer B.V. - consolidated	Athlon diesel leasecars	3.816	Liters	3,230	12,32	9,15	3,17	35%	Scope 1 leasecars
Raster Beheer B.V. - consolidated	Electricity usage Dreumel (guarantee of origin)	21.281	kWh	-	-	6,91	-6,91	-100%	Scope 2 electricity
Raster Beheer B.V. - consolidated	Gas usage Dreumel	1.181	m3	1,887	2,23	2,98	-0,75	-25%	Scope 1 gas
Raster Beheer B.V. - consolidated	Privat car with lease with lease compensation	33.977	km	0,220	7,47	8,14	-0,67	-8%	Scope 2 Private cars
Raster Beheer B.V. - consolidated	Business Flights 700-2500 km	3.484	km	0,200	0,70	1,56	-0,86	-55%	Scope 2 business flights
Raster Beheer B.V. - consolidated	Business Flights >2500 km	13.258	km	0,147	1,95	2,60	-0,65	-25%	Scope 2 business flights
Buro Medische Automatisering B.V. - consolidated	Leasecars - Gasoline	6.911	Liters	2,740	18,94	17,59	1,35	8%	Scope 1 leasecars
Buro Medische Automatisering B.V. - consolidated	Leasecars - Diesel	10.787	Liters	3,230	34,84	21,80	13,04	60%	Scope 1 leasecars
Buro Medische Automatisering B.V. - consolidated	Electricity usage Houten (guarantee of origin)	33.054	kWh	-	-	17,82	-17,82	-100%	Scope 2 electricity
Buro Medische Automatisering B.V. - consolidated	Gas usage Houten	9.561	m3	1,887	18,04	11,74	6,30	54%	Scope 1 gas
Buro Medische Automatisering B.V. - consolidated	Electricity usage Bellegem (guarantee of origin)	660	kWh	-	-	0,43	-0,43	-100%	Scope 2 electricity
Buro Medische Automatisering B.V. - consolidated	Gas usage Bellegem	198	m3	1,887	0,37	0,37	-	0%	Scope 1 gas
Buro Medische Automatisering B.V. - consolidated	Privat car with lease with lease compensation	-	km	0,220	-	0,36	-0,36	-100%	Scope 2 Private cars
Buro Medische Automatisering B.V. - consolidated	Business Flights <700 km	15.214	km	0,297	4,52	3,04	1,48	49%	Scope 2 business flights
Buro Medische Automatisering B.V. - consolidated	Business Flights 700-2500 km	53.676	km	0,200	10,74	16,13	-5,39	-33%	Scope 2 business flights
Buro Medische Automatisering B.V. - consolidated	Public transport (train, taxi)	16.279	km	0,036	0,59	1,54	-0,95	-62%	Scope 2 public transport
Strypes EOOD	Electricity usage Sofia	99.869	kWh	-	-	45,55	-45,55	-100%	Scope 2 electricity
Strypes EOOD	Gas usage Sofia	7.587	m3	1,887	14,32	21,69	-7,37	-34%	Scope 1 gas
Strypes EOOD	Business Flights <700 km	-	km	0,297	-	0,69	-0,69	-100%	Scope 2 business flights
Strypes EOOD	Business Flights 700-2500 km	497.400	km	0,200	99,48	104,27	-4,79	-5%	Scope 2 business flights
High Tech Solutions B.V.	Lease Gasoline	-	km	2,740	-	0,50	-0,50	-100%	Scope 1 leasecars
High Tech Solutions B.V.	Lease Diesel	-	km	3,230	-	4,34	-4,34	-100%	Scope 1 leasecars
High Tech Solutions B.V.	Privat car with lease with lease compensation	-	km	0,220	-	2,20	-2,20	-100%	Scope 2 Private cars
ICT Mobile	Privat car with lease with lease compensation	5.966	km	0,220	1,31	-	1,31	100%	Scope 2 Private cars
NedMobiel	Alphabet - Lease Gasoline	1.884	Liters	2,74	5,16	-	5,16	100%	
NedMobiel	Alphabet -Lease Diesel	18.566	Liters	3,23	59,97	-	59,97	100%	
NedMobiel	Alphabet e-mobility (grey)	1.408	kWh	0	-	-	-	100%	
					2.379,69	**2.227,16**	**152,53**	**6,85%**	
	Average FTE ICT Group NV excl. InTraffic				**1.024**	**940**	**84,00**	**8,94%**	
	CO2 ton per FTE				**2,324**	**2,37**	**-0,05**	**-1,92%**	