Elisa Oyj

Documentation of Elisa´s Carbon dioxide emission saving calculations

26.2.2013

Content

IMPLEMENTATION AND RELIABILITY OF MEASUREMENTS

Elisa's emission savings calculations are made available to the extent possible and assured by a third party. The assurance included assessing the reliability of the data collection and reporting systems, the existing controls, and the risks relating to the data calculation method and data collection. This calculation document has not been assured. This publication specifies all underlying assumptions and methodology of the calculations. Elisa consulted Gaia Consulting Ltd for these matters.

The independent assurance for H2/2013 was carried out by KPMG and in H1/2013 PwC Oy. These included assessment of the requirements and objectives set for the calculations, and the risks affecting the correctness of the information. They also included review of the reporting and data formation processes, the systems and data collection instructions. The objective is to ensure that the policies, practices and information systems created will allow for a sufficiently accurate and reliable calculation.

RESULTS OF AND SIGNIFICANT ADJUSTEMENTS TO PREVIOUS ACCOUNTING PERIOD

	2011	2012	2013
Elisa´s Carbon footprint	82,670	90,458[1]	65,898[1]
Carbon footprint of mobile data transfer (kgCO2/GB)	0.60	0.40	0.27

	2011	2012	2013
Reduced customer emissions	**8,334**	**19,156**	**21,965**
Virtual conferencing	7,307	17,395	18,931[2]
Cloud services	993	1,685	2,982[3]
Reuse of mobile devices	34	76	52

Emission reductions in service production	**6,898**	**9,860**	**10,029**
Mobile work	2,604	3,532	4,198
Computer rooms	3,738	4,808	3,797[3]
Reuse of products	333	1,179	1,356
Electronic invoicing	223	340	678

[1]Significant adjustments in Elisa´s carbon footprint calculation compared to previous accounting period (year 2012)

- WEEE waste was included to calculations. This added up to the carbon footprint 2013 by 11 tonnes.
- Amount of water usage was corrected for tele facilities in 2012. This reduced CO2 by - 7 tCO
- From summer 2013 on all our energy comes from renewable sources and carries certificate of orgin. This change improved our carbon footprint.

[2]Significant changes in Customers virtual meetings' calculation compared to previous accounting period (year 2012)

- LYNC- services calculation changed for H1/2013. The services bundled with LYNC were included.
- The principles of calculations were changed regarding the distribution of office space by tele conference participants and the distribution of mode of transport. Look further in section: " *Measuring distances*

[3]Significant changes in Customer cloud services and Energy efficiency of server environments' calculation compared to previous accounting period (year 2012)

- The reporting of Elisa´s virtual servers was centralized. This improved the reliability of the reporting. At the same time the share of customer servers of all servers was changed a slightly. This did not affect the total amount of virtual servers reported.

SERVICES REDUCING CUSTOMERS' EMISSIONS

Virtual conferencing

The objective is to calculate the CO_2emission savings of the virtual conferences arranged by Elisa for customers, compared with a traditional conference where participants are travelling to the conference venue. Elisa offers customers several virtual conference solutions. The conferencing types consist of Videra's video conferencing services Vidyo, Bringio and Telepresence, besides Cisco's WebEx and Microsoft's Lync. Teleconferences were excluded from the calculation. The services included in the calculation will subsequently be called *virtual conferencing*.

For the virtual conferences arranged by customers, data was sampled from Elisa's system on the number of virtual conferences implemented and partly also on the number of conference participants. The sample consisted of the conferences arranged in H2/2009. In addition, an inquiry was conducted among corporate customers in order to obtain an overall estimate of the office space used in which the

participants of the virtual conferences were held. The results were normalised for all virtual conference licenses.

Based on inquiries an average assumption was made that there are 3.64 attendants on a conference. An average of 4.09 attendants participated on Elisa's Webex conferences and 2.63 Teleprecence conferences in H2/2012. An average of 4 attendants participated Videra conferences. According to Elisa Office 365 survey, number of participants among Lync users, was 3.84. In an external, comparable survey, which was conducted by Crimson Consulting, the average number of conference participants is 4.

Virtual conferencing can replace traditional conferencing but it will increase the total number of meetings as the threshold for virtual conferencing is low. The growth in the number of meetings carried out due to possibility of using virtual conferencing was estimated on the basis of the related surveys available and the meeting and business travel behavior of Elisa's own employees. The calculation is largely based on the changed business travel behavior of Elisa's employees. In the calculation, one videoconference in three was considered to have replaced a traditional meeting.

The appendices describe the calculation in the section called *Impact of virtual conferencing: Business travel changes in Elisa Corporation.* The graph shows the development of Elisa's travel expenses within the period 2006–2013.

Business travel changes in Elisa Corporation

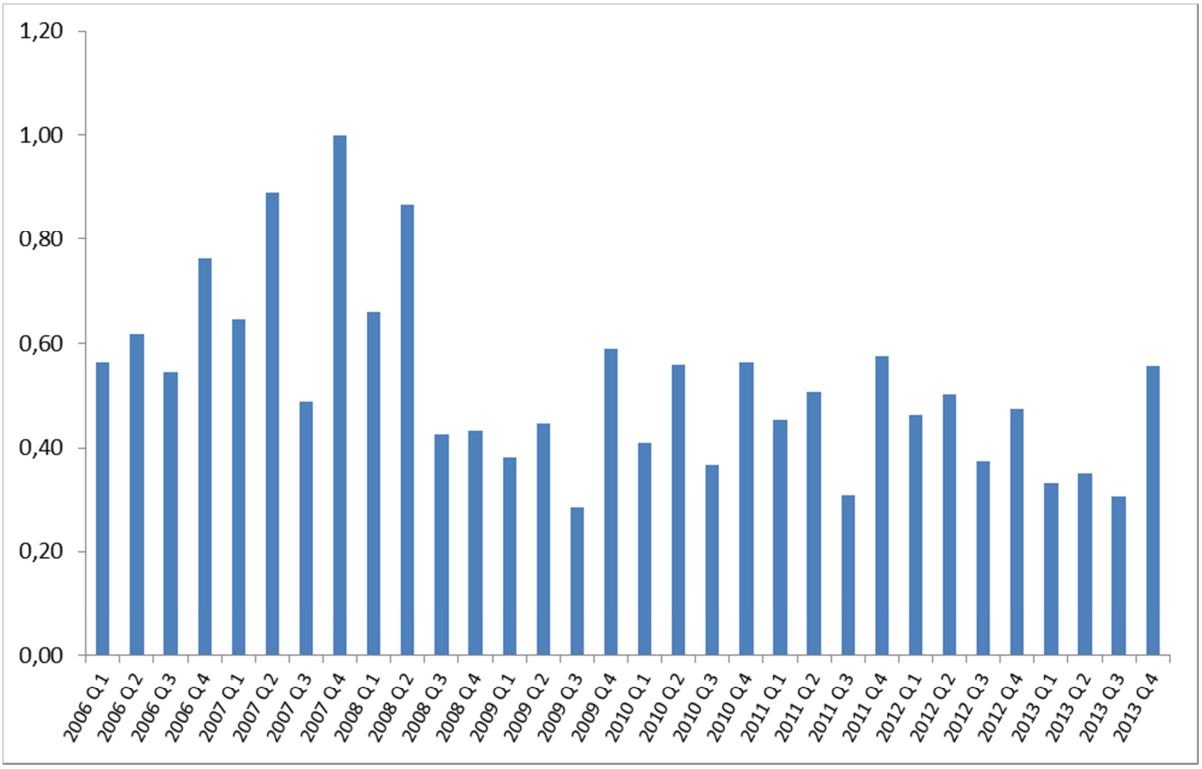
In H1/2010 Elisa employees attended over 30,000 virtual conferences, which were well documented. According data gathered virtual conference users' central place of work and Elisa employees' average methods of transportation based on travel invoicing and distances between different Elisa office locations, theoretical travel distance of virtual meetings was calculated and normalized. The result was 1.2 million kilometers, excluding such virtual meetings, where the use of international and domestic flights would have been the most likely means of replacement. Reliable data on these distances was not available.

The review of Elisa's travel expenses indicates that the total amount of business travel has decreased considerably, whereas the total amount of virtual conferencing has increased significantly. Based on the travel expenses development during 2006-2010, the statistical cost reduction of travel expenses during calculation period can be roughly estimated and converted to kilometers based on allowances for travel expenses paid for employees at Elisa using their own cars. Recalculation the travel expenses in the spring of 2013 showed that the travel expenses per man-year have permanently stabilized at a very low level.

The train is commonly used for short and medium distances in Elisa business travels. However, at the time of calculation, the amount of train travel could not be comprehensively separated from other travel expenses. Therefore allowances for travel expenses for employees using the train are assumed according to the use of car. The expense of train per kilometer is based on Statistics Finland's review of train expenses in Finland for a travel distance of 200 km in 2010. As a result, the actual replacement could be calculated from the period, as travel expense reductions (excluding flights, lodging and other expense) and virtual meetings as 100 percent replacement distances were converted to kilometers. The calculation

result shows that the percentage at which virtual conferencing has replaced traditional conferencing, was 31 per cent. If we assume that 60 per cent of travel allowances for this period related to travelling by train, the replacement degree would increase to as high as 39 per cent.

According to the report of the Carbon Disclosure Project, at the initial phase 44 per cent of virtual conferences are new but their share reaches 66 per cent after five years. This means that at first 56 per cent of the virtual conferences replace travelling and that the share falls to 34 per cent after five years. (Carbon Disclosure Project Study 2010, The Telepresence Revolution). The point of departure here was the careful assumption that at least 30 per cent of the conferences replace traditional conferences, a trend also supported by information available from other sources (Crimson Consulting Group 2009, James 2009, 2005).



Elisa's travel expenses/employee within the period 2006-2013

Measuring distances

The use of Elisa's own virtual conferences is comprehensively documented. The data collected in Elisa's Meeting Centre reports are utilized when assessing virtual conference behavior among customers: the number of participants, length of avoided conference travel, and distribution by modes of transport. Complementary data was derived from national commutation surveys (Statistics Finland as the source for overseas areas and the National Travel Survey 2004–2005 for Finland).

The basic assumption made on office space distribution of the conference participants is: head office or nearby area 80 per cent, other parts of Finland 10 per cent, Europe 7 per cent and other continents 3 per cent. Calculation assumption based on two customer inquiry. In year 2010 the sample of survey was 7

companies and in year 2013 56 companies. Distribution of companies offices were volume weighted average of these inquiries.

The shares of transportation by mode Finland were assumed to be: passenger car kilometers 67 per cent, train kilometers 22 per cent, ship kilometers 0 per cent and short flights 9 per cent. Calculation assumption is average on Elisa's own use and the National Travel Surveys 2004–2005 and 2011.

The assumption for medium-long flights in Europe was 100 per cent and that for intercontinental flights 100 per cent. The average travel distance was assumed to be 390 km in Finland (based on Elisa's own use), 2,000 km in Europe (Helsinki-London 1,800 km) and 8,000 km to other continents (Helsinki-New York approx. 6,600 km).

Despite careful background surveys and operational assessments, the calculation of the decrease in travel owing to the use of virtual conferencing still contains many assumptions and generalizations that are based on Elisa's own structure and the geographical location of its offices. However, Elisa has complied with the prudence principle and thus used the lowest coefficient in both teleconferencing and other calculations of emission saving.

Cloud services for customers

Elisa's cloud services provide customers with a virtual server, i.e. server capacity from Elisa's equipment, instead of traditional server solutions.

The objective is to calculate the CO_2 emission reductions enabled by Elisa's cloud services, compared with a service produced traditionally. First, the number of virtual servers available was verified. It was then estimated how many traditional servers would be necessary to produce a corresponding service.

Next, the energy consumption of servers Elisa's cloud services and of servers in a traditional system was assessed. Finally, energy savings were calculated by comparing a cloud service system to a traditional system. It was assumed in the calculation that the service to be replaced is implemented using traditional server technology.

The power consumption of virtual servers and traditional server solutions was assessed based on the values given by the manufacturers. The power consumption of a traditional server solution was assessed on the basis of the average PUE figure (EPA, 2010).

Elisa calculated an indicator for the amount of electricity saved for each virtual server. The actual figure was calculated on the basis of the number of virtual servers sold. The number includes the virtual servers sold by Elisa and those sold by subsidiaries Elisa Links Ltd and Appelsiini Ltd.

The virtual data centers were converted into individual virtual servers by dividing the calculation power reserved for the service by the power requirement reserved for the virtual server. For Elisa's cloud services, the specific CO_2 consumption reported by Savon Voima for 2011 was used as the emission factor for electricity consumption. Savon Voima Plc. is the electricity supplier for Elisa's equipment facilities. For traditional server technology, the customer purchases were assumed to be the corresponding service

from a non-specified service supplier in Finland. Here, the average calculated by Statistics Finland for 2007–2011 was used as the emission factor.

Recycling terminal equipment

Elisa launched a campaign for its consumer customers in 2010, in which Elisa pays a refund for a used, working mobile phones when replaced with new ones. Used phones are sold for reuse, while parts, or at least raw-materials, are reused from phones that cannot be repaired. The purpose of the refund is to encourage customers to return their old mobile phones instead of just leaving them in the drawer.

The objective is to calculate the emission savings achieved in the manufacture of new terminal equipment by recycling used phones. The assumption was that if the customer does not purchase a used mobile phone, he/she will be purchase a new, inexpensive phone. The calculation is based on the number of used phones sold and the carbon footprint of manufacturing a new phone. In H1/2013 carbon footprint of Nokia C2 mobile phone were used in calculations and in H2/2013 Nokia Asha 311 (Nokia Oyj, 2013). Only the share of production and logistics has been taken into consideration for the carbon footprint. These phones were cheapest bestselling phones (under 100 euros) In Saunalahti and Elisa.

The calculation did not take into account any possible emission reductions resulting from material server cycling, as carbon footprint standards take into consideration the use of recycled material in a product manufactured. It proved to be very challenging to estimate the amount of material resulting from phone recycling or parts to be utilized as components, the energy spent on their recycling process, and the carbon footprint of the virgin production of each material or component. The calculation did not take account of the energy consumption of phones and chargers. Depending on assumptions made, older phone models have higher energy consumption, equal to one to three per cent of the emissions of manufacturing a new mobile phone (Nokia Oyj, 2014).

EMISSION REDUCTIONS IN SERVICE PRODUCTION

Elisa is determined to make every effort to reduce its own emissions throughout the 2000s. In day-to-day operations, Elisa has reduced its carbon footprint by improving energy efficiency, making the most of its own services, and changing its operating methods.

Mobile work

The objective is to calculate the extent to which mobile work solutions have reduced carbon dioxide emissions in Elisa's operations. Mobile work means accessibility of people, services and data regardless of time and place. Emission reductions were calculated for three sub-areas: (1) emission reductions with the help of teleworking, (2) emission reductions in business travel with the help of virtual conferences, and (3) emission reductions with the help of a multi-functional office solution.

Lower level metric: teleworking

The objective is to calculate the extent of Elisa's employees reduced carbon dioxide emissions, taking into consideration the travel-related carbon dioxide emissions saved by Elisa's personnel by reduced daily commuting. Only employees working in multi-functional offices were calculated for. Statistical surveys

are conducted in June and December to evaluate the amount of teleworking days deployed by employees during the period. The response rate in both surveys has been over 50 per cent. The latest survey showed an average of 4.75 days a month of teleworking. The surveys also collected data of the distance of daily commute to a central place of work (average ca. 20 km) and the methods of transportation. The emission volumes for each were calculated using emission factors obtained for road and rail travel from VTT's Lipasto calculation system.

Lower level metric: decrease in business travel

The objective is to calculate the extent of Elisa's own virtual conferences reduced carbon dioxide emissions during calculation period, taking into consideration the travel related carbon dioxide emissions saved by Elisa's personnel by attending virtual conferences. The base of the calculation was that as a rule the possibility to arrange virtual conferences will increase the number of conferences. It was defined in the calculation that the total number of virtual conferences replaces traditional conferences by 30%. The conservative assumption of a 30% replacement rate is supported by other information sources and further justifications are presented in the "Virtual conferencing" chapter of this report.

The calculation covered all conferences arranged by Elisa's personnel using the following services: Lync, Vidyo and Teleprecense and Webex. Teleconferencing was omitted from the calculation. Teleconferences were omitted from the calculation due to lack of sufficiently reliable and extensive information. Teleconferencing is generally used during Webex and LiveMeeting conferences as part of more versatile virtual conferencing technology.

Distances were calculated on the basis of assumptions underlying Elisa's own calculations and based on the business travel behavior of Elisa's personnel and data available on the use of the service. For Webex and Teleprecense, the figures for kilometres travelled between offices were obtained from Elisa's Webex and Teleprecense reporting (Elisa meeting centre reporting) for the calculation of period H1/2010. The starting point was the conference participant's office, which was obtained from his/her registration data (name and e-mail address) and personnel management software. Distances between the points were calculated for travel by car, train and air, and the following websites were used to determine distances:

- Car: Googelmaps: www.maps.google.fi

- Train: Publication of the Railway Administration Centre: http://portal.liikennevirasto.fi/sivu/www/f/liikenneverkko/rautatiet

- Airplane: Data on distances between airports: http://www.partow.net/miscellaneous/airportdatabase/

The percentages of different means of transport between offices were drawn on a matrix. The most likely means of transport between Elisa's offices were assessed. Elisa's offices furthest form Helsinki are located in Joensuu, Kokkola and Oulu. The share of flights to and from these offices was checked from Elisa's travel invoices. The emission volumes of the various means of transport were calculated using emissions factors obtained for road and rail travel from VTT's Lipasto calculation system and for air travel

from the GHGProtocol. The average number of Lync conference participants and travel distances were assumed to be the same as the average in Webex.

The emission savings for 2013 were calculated on the basis of the emission calculations for H1/2010 by first calculating emission savings for one conference based on the data for H1/2010. This figure was multiplied by the number of conferences. Since the calculation for H1/2010 involved analysing data on approximately 15,000 conferences, the resulting figure can be considered reliable.

Lower level metric: space efficiency

There are no dedicated desks for any employees Elisa's multi-functional offices. As a result of mobile working, Elisa has reduced the office space and the number of desks. The calculation of the space efficiency metrics aimed to show the carbon dioxide emission savings for the office space that otherwise would have required heating. Only employees working at multi-functional offices were taken into consideration in the calculation. The multi-functional offices were located in:

- Helsinki, Pasila
- Helsinki, Tali
- Tampere
- Turku
- Jyväskylä
- Joensuu

These facilities have some 2,400 employees altogether.

Emission calculations are limited to the consumption of electricity and heat and consumer electricity in the property. Water consumption was excluded from the calculation as the impact of lifecycle emissions from water purification is very small.

The calculation compared Elisa with the average Finnish space efficiency figure of 23 m^2/person (source: Consulting office DTZ 23.6.2009). The result indicated the assumed emissions for the amount of space saved during the calculation period. The floor area in square meters and the number of employees were obtained from Elisa's facility service information system. The emissions were calculated by using the average figure of specific consumptions for Elisa's offices that was obtained in Elisa's carbon footprint calculation for 2011-2012.

Energy efficiency of server environments

The objective is to calculate savings in carbon dioxide emissions in Elisa's server centers as compared to average energy efficiency of the ICT sector. There were three different aspects in the calculation:

• Efficiency of the IT infrastructure measured with a PUE figure

• Level of virtualization (The number of virtual servers)

• Reuse of the waste heat arising from the servers

Lower level metric: Calculated energy efficiency with the PUE figure

Cooling has a major role in data center energy consumption. PUE is calculated by dividing the total energy consumption of the machine rooms by IT energy consumption (Green Grid). The following calculation formula was used:

(Elisa's IT energy consumption * reference PUE) – (Elisa's IT energy consumption * Elisa's PUE) =energy efficiency as compared to the average ICT company

During the reporting period, calculations were limited based on data of only two major data centers due to the lack of accurate measurements in other centers and computer rooms. For the data centers, the specific CO_2 consumption reported by Savon Voima for 2011 was used as the emission factor for electricity consumption. Savon Voima is the electricity supplier for Elisa's equipment facilities. The reference PUE figure was 1.91 (EPA, 2010).

Lower level metric: Cloud services

Elisa's cloud services provide customers with a virtual server, i.e. server capacity from Elisa's equipment, instead of traditional solutions. From the customers' point of view, virtual servers and data centers allow for the expansion of the service in compliance with currently valid customer needs. The advantage of virtual servers is their energy efficiency, which allows for using the servers more efficiently at the maximum utilization rate. More detail calculation principles are in the chapter Customers' cloud services.

Lower level metrics: Heat utilization

In summer of 2011, Elisa started to deliver the heat generated by a server center in Espoo to Fortum's district heating network. Next autumn, the heat recovery system was expanded, which considerably increased the volume of utilized heat energy. In the system, the heat generated by servers is bound with the district heating system's coolant and transferred, along with it, to the district heating network of Espoo. The heat generated is used in the district heating network as an energy source, instead of using the heat generated by fossil fuels. The quantity of heat is measured based on heat coefficient of the coolant, the flow rate and the temperature difference of liquid before and after the server center.

Reuse of products

Lower level metrics: product returns

The purpose of this calculation is to monitor the emission savings arising from the recycling of product returns. In H1/2010 was used as the reference point. Some of the devices sent by Elisa to consumer customers (phones, SIM cards, modems, etc.) are returned to Elisa after a short testing period. Improved checking and packaging methods enable Elisa to recover more efficiently those devices that are still functional and forward them to other customers. Recycled devices are sent to customers as replacements for new devices. Since the carbon dioxide emissions generated by the manufacturing of electronic devices are large, the new practice results in remarkable emissions savings.

The calculations included the following products:

• Mobile phones

• Mobile broadband dongles

• Broadband modems

• IPTV set-top box

• Home Security Service devices

SIM cards were omitted from the calculation, because nearly all SIM cards have undergone recycling for many years.

The products that were returned by customers and sent by Elisa to new customers were regarded as recycled products. The recycling was considered to have generated emission savings that equal the emissions arising from the manufacture of new similar devices.

The emission coefficients used are based on the sector's publications and the information given by manufacturers. The emission coefficients of some products were not available. In that case, the figures originating from corresponding products are used as their emission coefficients. An article dealing with the reliability of the lifecycle calculations of consumer electronics devices was used as an important background source. The article was published in 2010 in the series of the International Journal of Life Cycle Assessment. According to this article, the product-specific average for a mobile phone is 18.3 kg CO_2 and for a laptop computer 198 kgCO_2, for example. Another important source was the information on carbon dioxide emissions provided by Apple for its devices.

The emission coefficients used in calculations:

• IPTV set-top box 244 kgCO_2/product

• Home Security Service: central unit 59 kgCO_2/product

• Home Security Service: camera 12 kgCO_2/product

• Home Security Service devices 71 kgCO_2/product

• Broadband modem 39 kgCO_2/product

• Mobile broadband dongle 9 kgCO_2/product

• Mobile phone 18 kgCO_2/product

Electronic invoicing

The objective is to calculate the CO2 emission reductions enabled by Elisa's electronic invoicing and electronic order confirmations, compared with invoicing produced traditionally. The calculation covered

electronic invoices and order confirmations delivered by the Elisa parent company. Both have similar processes.

The emissions of traditional processes and electronic processes were first calculated. Finally, emission savings were calculated by comparing an invoice or order confirmation sent traditionally to an electronic one. An indicator was calculated on the basis of estimated emission savings that shows the amount of emissions saved for each electronic invoice or order confirmation.

The actual figure was thus calculated on the basis of the number of electronic invoices sent. The emissions of processing (including, servers, enveloping and printing) and delivering a paper invoice or order confirmation were calculated using emissions factors reported by Itella, including Itella carbon neutral delivery. The paper emission factor used in the calculation is based on average emissions reported by four different manufacturers. The paper emission factor included the following framework:

- GHG emissions from pulp and paper production
- GHG emissions associated with producing virgin or recovered fiber
- GHG emissions associated with producing other raw materials
- GHG emissions associated with purchased electricity and steam
- Transport-related GHG emissions (customer delivery logistics not included)

Moreover, the calculation includes emissions from disposal and recycling as well as archiving (6 years) for corporate customers. The emission volumes of disposal are calculated using emissions factors obtained from VTT LEADER research project. The emission factor for archiving was obtained from a study published by Federation of Finnish Financial Services 2010. Elisa's electronic invoicing is processed by a subcontractor. Regarding the emissions for processing electronic invoicing or order confirmation, the subcontractor refers to the emissions factors reported by the Federation of Finnish Financial Services.

OTHER EMISSION SAVINGS RESULTING FROM ENERGY EFFICIENCY

Emissions from the use of mobile phone subscriptions

The objective is to calculate the subscription-specific carbon footprint of Elisa's mobile phone subscriptions. In the calculation, the emissions caused by the radio network were divided by the number of subscriptions. The results obtained were allocated to the various business units on the basis of the number of subscriptions.

The emissions caused by the radio network were calculated on the basis of the network's electricity consumption. The specific CO_2 emissions reported by Savon Voima, the electricity seller, from 2011 were used as the emission factor for electricity consumption for electricity purchased directly. In so far as a third party was responsible for the electricity used in the equipment facilities, and the original seller of the electricity was not known, the moving average of Statistics Finland for emissions factors for 2007–

2011 was used as the emission factor. The emission factor on sites rented from Sonera is zero, because Sonera reports that they are using in Finland only electricity from renewable resources.

The number of base stations grouped according to station type was multiplied by the energy consumption of the base station types in question. Here, the consumption of an average configuration was used. The energy consumption of drivers is included. The calculation did not take into consideration the electrical power required by heating or cooling or base station transmission. Therefore, the amount of energy consumption is theoretical and based on the specific energy consumption of different base station types. When determining the measurement method, theoretical energy consumption was compared with invoiced and measured energy consumption. Data on theoretical, measured and invoiced energy consumption were consistent. Those subscriptions of Elisa and Saunalahti that have generated invoiced income during the six-month period were taken into consideration in the calculation. The calculation covered all subscription types (postpaid, prepaid, telematics and non-commercial subscriptions).

Energy efficiency of the radio network

The objective is to calculate the emissions of the radio network in relation to the package data volume transmitted through the network. The emissions caused by the radio network were calculated on the basis of the network's electricity consumption. The criteria for calculating the emissions were discussed in the previous chapter. The energy consumption of the radio network was divided by the amount of data transferred. The number of mobile data in the radio network will be obtained from maintenance statistics. This indicated carbon dioxide emissions per transferred gigabyte.

ELISA´S CARBON FOOTPRINT FOR 2013

The carbon footprint calculation at Elisa is based on the Greenhouse Gas Protocol (GHG), which is developed by the World Resources Institute and the World Business Council for Sustainable Development. In the light of the present information, this is the most reliable calculation method. In addition, standard ISO 14064-1:2006 (Greenhouse gases - Part 1) is used in the calculation. The future development of standards and guidelines will also be considered.

The GHG protocol calculation and reporting are based on complying with the general principles used by companies in their calculation and reporting of the key financial indicators. These principles consist of relevance, comprehensiveness, consistency, transparency and precision.

Elisa has taken the general calculation principles into account. The calculation criteria have been defined for the various functions with a view to ensuring that they correspond to Elisa's operations, products and services as well as possible. The calculation has been implemented to ensure the method is transparent and assurable by a third party. All assumptions and stages in the calculation have been reported clearly. The reliability of data collection and reporting systems, existing controls and the risks connected with the data calculation method and data collection have been assessed by a third party. The results were calculated in accordance with standard ISO 14064-1:2006 and can thus be verified according to standard ISO 14064-3:2006 (Greenhouse gases - Part 3), where necessary.

The results of calculations are assured by a third party. The assurance of calculations for 2013 was carried out by KPMG Oy. The objective is to verify the correctness of the carbon footprint calculation data, thereby supporting Elisa's environmental responsibility in the calculation and reporting process and its development. The assurance includes assessing the requirements and objectives set for the carbon footprint calculation and the risks affecting the correctness of information. It also included reviewing the reporting and data formation processes, the systems and data collection instructions. The objective is to ensure that the policies, practices and information systems created allow for a sufficiently accurate and reliable calculation.

Scope of the calculation

The assured carbon footprint calculation for 2013 at Elisa consisted of areas listed

Direct emissions (scope 1)

- The consumption of standby fuels in telecom facilities
- The triggering of extinguishing systems at telecom facilities

Indirect emissions due to energy generation (scope 2)

- Electric power including:
  - Premises
  - Telecom facilities
  - Shopits
  - Elisa Estonia
  - Mobile network (company's own objects)
  - Mobile network (leased objects)
  - Subsidiaries
- District heating including:
  - Premises
  - Shopits
  - Telecom facilities
  - Elisa Estonia
  - Subsidiaries

Other indirect emissions (scope 3)

- Production equipment investments in the radio network
- Effluent treatment for premises
- Waste management for premises
- Business travels
- Commuter traffic between home and work
- E-invoicing

- Invoicing on paper
- The use of office papers at premises

Coefficients used in the calculation

Elisa's carbon footprint and emission savings were calculated by using the latest coefficients available. The CO_2 specific emission figure reported by Savon Voima for 2011 (335 gCO_2/kWh) was used in the calculation for the electric power bought by Elisa. In so far as a third party was responsible for supplying the electric power for the equipment space and the original electric power seller was not known, the floating average for emission coefficients reported by Statistics Finland for the period of 2007–2011 was used as the emission coefficient (260 gCO_2/kWh).

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Independent assurance report of meters (In Finnish)

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Riippumaton varmennusraportti

Elisa Oyj:n johdolle

Olemme Elisa Oyj:n (jäljempänä Elisa) johdon pyynnöstä suorittaneet yritysvastuuraportin varmennustoimeksiannon yhteydessä Elisan tuloskorteissa ajanjaksolta 1.7.2013-31.12.2013 (H2/2013) esitettyjen, CO_2-päästösäästöihin liittyvien mittareiden (jäljempänä mittarit) varmennuksen. Näihin mittareihin kuuluivat seuraavat:

- Asiakkaiden CO_2.vähennykset, jonka alamittarit
  - Virtuaalineuvottelut
  - Pilvipalvelut
  - Päätelaitteiden uudelleenkäyttö
- Elisan omat CO_2.vähennykset
  - Konesalit
  - Liikkuva työ
  - Verkkolaskut
  - Tuotepalautusten uudelleenkäyttö
- Energiatehokkuusmittarit
  - Asiakkaiden CO_2.vähennys: liittymä
  - Oma CO_2-vähennys: radioverkko

Johdon velvollisuudet

Elisan johto vastaa hiilidioksidilaskennasta raportointikriteerien eli WBCSD/WRI Greenhouse Gas Protocol-ohjeistuksen ja Elisan omien raportointiohjeiden mukaisesti.

Varmentajan velvollisuudet

Meidän velvollisuutenamme on esittää rajoitetun varmuuden antavan toimeksiantomme perusteella riippumaton johtopäätös varmennuksen kohteena olevista tiedoista. Tämä varmennustoimeksiantomme osakokonaisuus on toteutettu KHT-yhdistyksen *Muut varmennustoimeksiannot kuin menneitä kausia koskevaan taloudelliseen informaatioon kohdistuva tilintarkastus tai yleisluonteinen tarkastus* -varmennusstandardin ISAE 3000 mukaisesti. Muun ohessa tämä standardi edellyttää, että toimeksiannon toteuttaja noudattaa Kansainvälisen tilintarkastajaliiton IFAC:n ammattieettisiä periaatteita riippumattomuuden turvaamiseksi. Emme vastaa työstämme, raportista tai johtopäätöksistämme muille tahoille kuin Elisalle.

Toimeksiannon rajoitukset

Varmennusraporttiamme lukiessa tulee ottaa huomioon CO_2-päästösäästöihin liittyvien tietojen luonteeseen kuuluvat, tiedon tarkkuutta ja täydellisyyttä koskevat rajoitukset. CO_2-päästösäästöjä koskevia tietoja tulee arvioida yhdessä Elisan antamien tietojen keräämiseen, laskemiseen ja arvioimiseen liittyvien selvitysten kanssa. Varmennusraporttiamme ei ole tarkoitettu käytettäväksi arvioitaessa Elisan suoriutumista määrittelemiensä vastuullisuusperiaatteiden toteuttamisessa.

Toimeksiannossa tehdyt toimenpiteet ja johtopäätökset

Rajoitetun varmuuden antava toimeksianto toteutetaan tekemällä tiedusteluja pääasiassa henkilöille, joiden tehtävänä on laatia esitetyt hiilidioksidipäästötiedot, sekä soveltamalla analyyttisia ja muita asianmukaisia evidenssin hankkimismenetelmiä. Rajoitetun varmuuden antavassa toimeksiannossa yllä mainitut evidenssin hankkimistoimenpiteet ovat vähemmän kattavia kuin kohtuullisen varmuuden antavassa toimeksiannossa, minkä vuoksi tässä annetaan alemman tason varmuus.

Tässä osassa toimeksiantoamme olemme suorittaneet seuraavat toimenpiteet:

- Olemme käyneet läpi esitetyt mittarit ja arvioineet niiden taustalla olevien tietojen laatua ja laskentarajojen määrittelyä.
- Olemme testanneet tietojen oikeellisuutta ja tarkastaneet laskutoimituksia otospohjaisesti.
- Olemme tarkastelleet mittareiden keräämiseen ja yhdistelemiseen käytettäviä tiedonhallinnan prosesseja sekä käytännön menettelytapoja.

Tekemämme varmennustyön perusteella tietoomme ei ole tullut seikkoja, jotka antaisivat aiheen olettaa, että mittarit eivät olisi olennaisilta osiltaan asianmukaisesti esitetty.

Helsinki, 16. tammikuuta 2014

KPMG OY AB

Esa Kailiala
KHT

Nathalie Clément
Senior Manager
Yritysvastuuasiantuntija