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## **LIFE+ 09/ENV/EE/227 OSAMAT**

### **CARBON FOOTPRINT Report**



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## TABLE OF CONTENTS

<b>1.</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>2.</b>	<b>METHODOLOGY .....</b>	<b>5</b>
2.1.	Assumptions used in projects OSAMAT and ABSOILS .....	5
<b>3.</b>	<b>CARBON FOOTPRINT RESULTS .....</b>	<b>7</b>
<b>4.</b>	<b>SUMMARY.....</b>	<b>10</b>
	<b>REFERENCES.....</b>	<b>11</b>

## Annexes

- Annex 1. Travelling calculation sheet
- Annex 2. Piloting calculation sheet
- Annex 3. Deskwork calculation sheet

## 1. Introduction

Carbon Footprint (CF) analysis is a part of the Management action of OSAMAT project and monitoring was done once during each project year. The aim of CF report is to present the results of the emissions created by the different project actions. Results presented in the report show the footprint on annual basis and also give estimations about the total footprint of the project from the beginning. Carbon footprint calculations show which activities gave the biggest CO<sub>2</sub> emission.

Aim of this study is to calculate CO<sub>2</sub> equivalent value of LIFE+ OSAMAT project, while not comparing it to traditional road constructions.

To give some indications about carbon footprint projects with similar activities we have benchmarked our results with analogous soil stabilisation project in Finland named ABSOILS LIFE09 ENV/FI/575 ([http://projektit.ramboll.fi/life/absoils/index\\_eng.htm](http://projektit.ramboll.fi/life/absoils/index_eng.htm)).

The methodology of the carbon footprint calculation process and the assumptions made in the calculation can be found in Chapter 2. The results of the calculations as well as the evaluation and comparison of the results are represented in Chapter 3.

## 2. Methodology

For calculating OSAMAT project's carbon footprint, each of the project stakeholders were keeping track of their travelling associated with the project. The calculation and accounting of the project's CF includes mostly transport like business travel, transport of materials and piloting activities on site with heavy construction machinery.

The deskwork in the project was typical office work and greenhouse gas emissions from the deskwork were calculated on the basis of documented work-hours on timesheets. Emissions of the laboratory work were also calculated on the basis of work-hours.

The methodology for calculating carbon footprint took into account all the above mentioned activities. The production of CO<sub>2</sub> was based on common sense and therefore similar projects were used for estimations. This project was very unique and therefore a simple calculator program was not available. The best possible methodology for this pilot construction was developed, and most common easily understandable CO<sub>2</sub> conversion coefficients were used. Several publically available materials were studied to find correct coefficients for calculations (for example: [http://www.carbontrust.com/media/18223/ctl153\\_conversion\\_factors.pdf](http://www.carbontrust.com/media/18223/ctl153_conversion_factors.pdf) and [http://people.exeter.ac.uk/TWDavies/energy\\_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm](http://people.exeter.ac.uk/TWDavies/energy_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm)). In current study it was decided to use information for calculations from <http://www.ilmastolaskuri.fi>.

*Ilmastolaskuri* internet site provides an online calculation tool, which can be used for calculating carbon footprint for different means of transportation in various fuel types. Carbon footprint calculations for all the activities related to the project (business travel, transportation of materials, piloting activities on site, desk work and laboratory work) were made in MS Excel and main CO<sub>2</sub> amounts were verified by using the online tool.

Input data for the for CO<sub>2</sub> emissions calculations was given from each project participant.

### 2.1. Assumptions used in projects OSAMAT and ABSOILS

Certain assumptions have been used for calculating carbon footprint for OSAMAT and ABSOILS projects. The assumptions are described below.

**ABSOILS:** The laboratory and deskwork facilities in Luopioinen office in Finland consume about 75,000 kWh per year and the total working hours of the office per year are 21,000 h. The approximate energy consumption of a working hour is 3.6 kW and the CO<sub>2</sub>ekv emission per working hour is about 800 gCO<sub>2</sub>ekv (the calculation basic for this number is 221.6 gCO<sub>2</sub> ekv<sup>1</sup> multiplied by (75 000 kWh/21 000 h)). The assumption is that the laboratory work and desk work consume the same amount of energy as it is difficult to allocate to different kinds of works. However, a regular office with no laboratory consumes lower amount of energy and therefore the following assumption (for OSAMAT project calculations) was made.

**OSAMAT:** Energy consumption in other offices (RAM, EE, MNT, NC, SKPK) where only deskwork facilities are available is estimated to be lower than in Luopioinen office in Finland. Thus for simplifying purposes the 2.6 kW per hour is used as an energy consumption for one working hour and therefore the CO<sub>2</sub>ekv emission is 580 gCO<sub>2</sub>ekv per working hour.

In general, the emissions of vehicles were assumed to be the same as the manufacturer declares (gCO<sub>2</sub>ekv/km) multiplied by the kilometres travelled (See Figure 1). In this project the manufacturer data was not available and thus the data was based on more general and available data, adopted

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<sup>1</sup> <http://www.ilmastolaskuri.fi/fi>; Data as of 12.09.2013

from materials<sup>2</sup> presented on [www.ilmastolaskuri.fi](http://www.ilmastolaskuri.fi) webpages. Using this data does not compromise the quality of calculations and results.

Factors affecting the emissions from the piloting were assumed to be the transportation of the materials (volume of transported material and vehicle type), fuel consumption of the equipment / machinery / technology used in the piloting site, moving stabilisation equipment and trips from office to the piloting site. In addition, emissions from the production of the binders were also calculated.

Emissions from cement production were assumed to be 690 kgCO<sub>2</sub>ekv / ton of cement and 850 kgCO<sub>2</sub>ekv / ton for CC (Composite Cement) production. Emissions from the ash "production" were assumed to be zero as the emissions of the process were allocated to the energy production.

Emissions from the use of office supplies such as paper, pens, pencils, plastic products (binders, folders) etc. assumed to be zero as it would have been too difficult to evaluate and the emissions would have been very small compared to other activities and therefore they would not have had a key role considering the total emissions of the project.

**Figure 1. Emission coefficients used in CF calculations**

<b>CO<sub>2</sub> ekv coef. based on Ilmastolaskuri project data<sup>3</sup></b>		
Diesel fuel consumption per km	2.68	kgCO <sub>2</sub> -ekv/km
Energy consumption (used in current project for deskwork)	221.6	gCO <sub>2</sub> -ekv/km
Car, diesel	175	gCO <sub>2</sub> -ekv/km
Car, petrol	181	gCO <sub>2</sub> -ekv/km
Car, hybrid	100	gCO <sub>2</sub> -ekv/km
Taxi, diesel	175	gCO <sub>2</sub> -ekv/km
Bus, long distance	50	gCO <sub>2</sub> -ekv/pkm
Car ferry	290	gCO <sub>2</sub> /pkm
Air, 400-1600 km	247	gCO <sub>2</sub> -ekv/pkm
Air, less than 400 km	180	gCO <sub>2</sub> -ekv/pkm
<b>CO<sub>2</sub> ekv coef. based on other available data<sup>4</sup></b>		
Diesel fuel consumption per litre	2.68	kgCO <sub>2</sub> -ekv/l

Note: pkm = kilometres/person

Helsinki-Tallinn distance is 87 km making 50.46 kgCO<sub>2</sub>/person (back and forth).

<sup>2</sup> <http://www.ilmastolaskuri.fi/fi>; Data as of 12.09.2013

<sup>3</sup> <http://www.ilmastolaskuri.fi/fi>; Data as of 12.09.2013

<sup>4</sup> [http://people.exeter.ac.uk/TWDavies/energy\\_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm](http://people.exeter.ac.uk/TWDavies/energy_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm)

### 3. Carbon footprint results

Carbon footprint results of OSAMAT project have been calculated based on the information submitted by the project partners, see Table 1. In Annex 1, 2 and 3 detailed monitoring data is shown.

**Table 2. Carbon Footprint (CF) of OSAMAT project up to 30.06.2016 based on travelling, deskwork and also including piloting on Narva-Mustajõe site and on Simuna-Vaiatu site works up to June 2016**

Tons of CO <sub>2</sub> equivalent	1.09.2010-31.8.2011	1.09.2011-31.8.2012	1.09.2012-31.8.2013	1.09.2013-31.8.2014	1.09.2014-31.8.2015	1.09.2015-30.6.2016
<b>Travelling</b>	3.5	4.5	5.6	3.3	0.9	0,02
<b>Piloting work</b>	was not done	166.7	682.4	38.5	was not done	was not done
a) CF of materials transport to the site		4.0	34.9	4.4		
b) CF of cement production		124.2	525.1	18.6		
c) CF of heavy machinery on site		38.5	122.4	15.5		
<b>Deskwork</b>	3.4	5.2	4.9	1.7	0.2	0,6
<b>TOTAL</b>	6.9	176.4	692.9	43.5	1.1	0,62

According to the results the total CF of OSAMAT project from the beginning of the project up to June 2016 is 921.4 tons CO<sub>2</sub> ekv.

In the following table (Table 2) is a comparison of CF of the two soil stabilisation projects. The total CO<sub>2</sub> ekv emissions for ABSOILS up to June 2016 were 18 640 tons.

**Table 2. OSAMAT and ABSOILS CF<sup>5</sup> results comparison (period from Sept 2010 – June 2016)**

	1.09.2010-31.8.2011		1.09.2011-31.8.2012		1.09.2012-31.8.2013		1.09.2013-31.8.2014		1.09.2014-31.8.2015		1.09.2015-30.6.2016	
	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA
<b>Tons of CO<sub>2</sub> equivalent</b>	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA	ABS	OSA
<b>Travelling</b>	3.1	3.5	4.1	4.5	3.9	5.6	8.5	3.3	N/A	0.9	N/A	0.02
<b>Piloting work</b>	2169.5	0.0	6175.6	166.7	4805.8	682.4	5453.2	38.5	N/A	0.0	N/A	0.0
a) Materials transport to the site		0.0		4.0		34.9		4.4		0.0		0.0
b) Carbon footprint of cement production	N/A	0.0	N/A	124.2	N/A	525.1	N/A	18.6	N/A	0.0	N/A	0.0
c) On site heavy machinery Carbon footprint		0.0		38.5		122.4		15.5		0.0		0.0
<b>Deskwork</b>	3.6	3.4	2.3	5.2	3.2	4.9	6.8	1.7	4.6	0.2	N/A	0,6
<b>TOTAL</b>	2172.6	6.9	6182.0	176.4	4812.9	692.9	5468.5	43.5	4.6	1.1	N/A	0.62
N/A-not available	ABS-ABSOILS; OSA-OSAMAT											

<sup>5</sup> LIFE+ ABSOILS project Carbon Footprint report, 2015, by Ramboll Finland Oy



In the first project period OSAMAT did not have any piloting activities, thus the CF was very small compared to ABSOILS. From the Table 2, one can see that the majority of ABSOILS emissions were produced by piloting work which was estimated in advance to be the greatest emission source since the emissions generated from deskwork and travelling were minimal and they were similar to OSAMAT values.

It is difficult to reduce the amount of emissions generated from piloting without minimizing the amount of working hours by the machines. Piloting work includes utilisation of stabilisation machines, excavators etc. which consume a lot of fuel and therefore have a vast carbon footprint. In addition, the transportation of materials to and from the pilot site also consumes a great amount of fuel. The main reason for great difference in OSAMAT and ABSOILS CF value can be explained by very long distances of binder material transportation. For example if to compare the distances that tank trucks have driven one can see that the difference is about 8 times.

- OSAMAT<sup>6</sup> - 16 212 km driven for binder components transportation to site;
- ABSOILS<sup>7</sup> - 132 983 km driven for binder components transportation to site.

When calculating piloting activities' CO<sub>2</sub> values, the binders' production CO<sub>2</sub> was also included. The binders in this project consist of oil shale ash (OSA) and cement. The CO<sub>2</sub> coef. of cement production is said to be 690 kgCO<sub>2</sub>/ton. This number is quite big, however the OSA production coef. is considered to be 0 kgCO<sub>2</sub>/ton in CF calculations, because OSA is a by-product of energy production. The CO<sub>2</sub> emissions of OSA are calculated in energy production processes out of the context of this report.

As for finding piloting CF the cement amounts were taken into account in the calculations. The amounts of cement used had also a big difference between ABSOILS and OSAMAT projects. The amounts of cement used, differs 17 times.

- OSAMAT – all together on both sites 967.9 t of cement was used;
- ABSOILS – all together on both sites 16 490 t of cement was used.

However, from the comparison of the two projects it can be demonstrated that for example for stabilisation activities the two project activities have produced similar amounts of CO<sub>2</sub> – OSAMAT stabilisation 122.4 t CO<sub>2</sub> ekv and ABSOILS<sup>8</sup> stabilisation work on site 102,6 t CO<sub>2</sub> ekv (on site work done in year 2012) according to the data from 2012. So in general the main activities produced the same amount of CO<sub>2</sub>, and the main difference in CO<sub>2</sub> footprint of these two projects can be explained by the binder transportation and the amount of cement used. The deskwork CO<sub>2</sub> emissions were similar for both projects being 16.35 t CO<sub>2</sub> ekv for OSAMAT and 20.6 t CO<sub>2</sub> ekv for ABSOIL as total for the full project period.

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<sup>6</sup> Annex 2 of this report

<sup>7</sup> LIFE+ ABSOILS project Carbon Footprint report, 2015, by Ramboll Finland Oy

<sup>8</sup> LIFE+ ABSOILS project Carbon Footprint report, 2012, by Ramboll Finland Oy

## 4. Summary

By the end of June 2016 in OSAMAT project, all stabilization activities on pilot sites were finished, thus the Carbon Footprint (CF) calculations of this project that are based on CO<sub>2</sub> production activities, including deskwork, travelling and piloting were finalized. CF of the OSAMAT project was compared with a similar project – ABSOILS that took place in Finland. The comparison numbers are as follows:

OSAMAT total (from 2010 Sept-Jun 2016) 921.4 tons CO<sub>2</sub> ekv.

ABSOILS total (from 2010 Sept-Jun 2016) 18640.6 tons CO<sub>2</sub> ekv.

The differences in CF are quite large, even though in principle the projects are rather similar as being both soil stabilization projects, still on the other hand there are major differences in the overall scale of the projects. The scale differences of the projects have great effect on the overall CO<sub>2</sub> emissions. The major differences were the distances driven for bringing binding materials to pilot sites and also the cement amounts used during the construction of the pilot sites. The longer the distances the larger amounts of cement were used and thus the bigger CO<sub>2</sub> ekv emissions were calculated. The smallest effect on CF was created by deskwork.

The result of OSAMAT carbon footprint can be a useful base material for comparison with other road construction projects.

## REFERENCES

Available online materials:

- 1) [https://www.carbontrust.com/media/18223/ctl153\\_conversion\\_factors.pdf](https://www.carbontrust.com/media/18223/ctl153_conversion_factors.pdf); last used 15.06.2016
- 2) [http://people.exeter.ac.uk/TWDavies/energy\\_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm](http://people.exeter.ac.uk/TWDavies/energy_conversion/Calculation%20of%20CO2%20emissions%20from%20fuels.htm); last used 05.04.2016
- 3) <http://www.ilmastolaskuri.fi/>; Data as of 12.09.2013

Reference LIFE+ Project materials:

- 1) LIFE+ ABSOILS project Carbon Footprint report, 2012, by Ramboll Finland Oy
- 2) LIFE+ ABSOILS project Carbon Footprint report, 2015, by Ramboll Finland Oy

## **Annex 1**

### **Travelling calculation sheet**



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
<b>Period 1.9.2010-31.8.2011</b>											
Kersti Ritsberg; Ain Kendra	Ramboll	18.11.10	Preliminary geology and road condition survey on Simuna-Vaiatu and Narva-Mustjõe road section	Tallinn-Narva-Tallinn	Passenger car	550	petrol	6	181	gCO <sub>2</sub> -ekv/km	<b>99,55</b>
Aune Aunapuu; Olli Kiviniemi; Marjo Ronkainen	Ramboll	18.11.10	Site visit to Narva-Mustjõe road road and Narva powerplant	Tallinn-Narva-Tallinn	Passenger car	550	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>99,55</b>
Hendrik Puhkim	Ramboll	13.01.11	Opening meeting	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Aleksander Pototski, Roman Sestakov	Eesti Energia	13.01.11	Opening meeting	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Aleksander Pototski	Eesti Energia	17.02.11	Meeting	Tallinn-Narva-Tallinn	Passenger car	400	diesel	8	175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Pentti Lahtinen	Ramboll Finland	18.02.11	Progress meeting	Helsinki-Tallinn-Helsinki	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Rainer Kuldmaa	Road Administration	25.03.11	Meeting	Rakvere-Tallinn-Rakvere	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Valdar Tamminn; Andres Tartu	REIB OÜ	01.04.11	Topogeodetic survey on Simuna-Vaiatu road section	Tallinn-Simuna-Tallinn	Passenger car	260	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>47,06</b>
Toomas Sall; Erkki Mardla	REIB OÜ	01.04.11	Topogeodetic survey on Narva-Mustjõe road section	Tallinn-Narva-Tallinn	Passenger car	550	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>99,55</b>
Tanel Tammemägi	Nordecon AS	06.04.11	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Toyota Hilux	402	diesel	10,5	175	gCO <sub>2</sub> -ekv/km	<b>70,35</b>
M.Kalju; T. Ungro; A. Toom	REIB OÜ	01.05.11	Geological survey on Simuna-Vaiatu road section	Tallinn-Simuna-Tallinn	Passenger car	260	diesel	7	175	gCO <sub>2</sub> -ekv/km	<b>45,50</b>
M.Kalju; T. Ungro; A. Toom	REIB OÜ	01.05.11	Geological survey on Narva-Mustjõe road section	Tallinn-Narva-Tallinn	Passenger car	550	diesel	7	175	gCO <sub>2</sub> -ekv/km	<b>96,25</b>
M.Kalju; T. Ungro; A. Toom	REIB OÜ	01.05.11	Geological survey on Narva-Mustjõe road section	Tallinn-Narva-Tallinn	Passenger car	550	diesel	7	175	gCO <sub>2</sub> -ekv/km	<b>96,25</b>
Hendrik Puhkim	Ramboll	20.05.11	Meeting	Tallinn-Narva-Tallinn	Passenger car	400	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>72,40</b>
Hendrik Puhkim	Ramboll	01.06.11	Site visit	Tallinn-Simuna-Tallinn	Passenger car	280	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>50,68</b>
M.Kalju; T. Ungro; A. Toom	REIB OÜ	01.06.11	Geological survey on Simuna-Vaiatu road section	Tallinn-Simuna-Tallinn	Passenger car	261	diesel	8	175	gCO <sub>2</sub> -ekv/km	<b>45,68</b>
Andrei Anissimov	Nordecon AS	01.06.11	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Toyota Corolla	389	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>70,41</b>
Andrei Anissimov	Nordecon AS	08.07.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	458	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>82,90</b>
Rainer Kuldmaa	Road Administration	13.07.11	Meeting	Rakvere-Tallinn-Rakvere	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Andrei Anissimov	Nordecon AS	19.07.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	437	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>79,10</b>
Ott Jürine	Nordecon AS	20.07.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Hillux	441	petrol	10,5	181	gCO <sub>2</sub> -ekv/km	<b>79,82</b>
Kersti Ritsberg; Raimo Pajula	Ramboll	20.07.11	Environment and water condition investigation	Tallinn-Simuna-Narva-Tallinn	Passenger car	550	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>99,55</b>
Allan Allas	õnnauringute Kesk	27.07.11	Water sampling for laboratory	Tallinn-Simuna-Narva-Tallinn	Passenger car	551	petrol	8	181	gCO <sub>2</sub> -ekv/km	<b>99,73</b>
Andrei Anissimov	Nordecon AS	27.07.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	416	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>75,30</b>



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption , l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Jaanus Taro	Nordecon AS	28.07.11	Sample site visit in Finland	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Ain Pähkel	Nordecon AS	28.07.11	Sample site visit in Finland	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Andrei Anissimov	Nordecon AS	28.07.11	Sample site visit in Finland	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>
Ott Jürine	Nordecon AS	10.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Hillux	456	diesel	10,5	175	gCO <sub>2</sub> -ekv/km	<b>79,80</b>
Andres Brakmann	Ramboll	10.08.11	Site visit to Narva-Mustjõe road and Simuna-Vaiatu road	Tallinn-Simuna-Narva-Tallinn	Passenger car	529	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>95,75</b>
Andres Brakmann	Ramboll	12.08.11	Project meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	259	petrol	7,5	181	gCO <sub>2</sub> -ekv/km	<b>46,88</b>
Andrei Anissimov	Nordecon AS	15.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	416	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>75,30</b>
Alvar Telling	Nordecon AS	15.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Passenger car	326	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>57,05</b>
Roland Kirsipuu	Nordecon AS	16.08.11	Sõit objektile-objekti sisesõidud	Tallinn-Narva	Passenger car	326	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>57,05</b>
Alvar Telling	Nordecon AS	16.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Passenger car	282	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>49,35</b>
Timo Tsefels	Ramboll	17.08.11	Supervision on Narva-Mustjõe road	Tallinn-Narva-Tallinn	Passenger car	550	diesel	6	175	gCO <sub>2</sub> -ekv/km	<b>96,25</b>
Timo Tsefels	Ramboll	17.08.11	Site visit	Tallinn-Narva-Tallinn	Passenger car	400	petrol	8	181	gCO <sub>2</sub> -ekv/km	<b>72,40</b>
Marek Taro	Nordecon AS	18.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Passenger car	279	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>48,83</b>
Indrek Jõeorg	Nordecon AS	18.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	passenger car	431	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>78,01</b>
Virko Vantsi	Nordecon AS	18.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	passenger car	416	petrol	6,9	181	gCO <sub>2</sub> -ekv/km	<b>75,30</b>
Andrei Anissimov	Nordecon AS	19.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	392	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>70,95</b>
Marek Taro	Nordecon AS	19.08.11	Driving to parking lot	Narva-Tallinn	passenger car	226	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>39,55</b>
Timo Tsefels	Ramboll	22.08.11	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	8	181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Andres Brakmann; Urmas Konsap	Ramboll	22.08.11	Project meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	240	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>43,44</b>
Timo Tsefels	Ramboll	22.08.11	Project meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	240	diesel	6	175	gCO <sub>2</sub> -ekv/km	<b>42,00</b>
Virko Vantsi	Nordecon AS	22.08.11	Site visit/driving on site	Tallinn-Narva	passenger car	356	petrol	6,9	181	gCO <sub>2</sub> -ekv/km	<b>64,44</b>
Marek Taro	Nordecon AS	22.08.11	Site visit/driving on site	Tallinn-Narva	passenger car	365	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>63,88</b>
Hendrik Puhkim	Ramboll	24.08.11	Meeting	Tallinn-Narva-Tallinn	Passenger car	400	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>72,40</b>
Ain Pähkel	Nordecon AS	24.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Passenger car	484	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>87,60</b>
Andrei Anissimov	Nordecon AS	24.08.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	416	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>75,30</b>
Roland Kirsipuu	Nordecon AS	26.08.11	Driving to parking lot	Narva-Tallinn	Passenger car	220	diesel	11	175	gCO <sub>2</sub> -ekv/km	<b>38,50</b>
Virko Vantsi	Nordecon AS	26.08.11	Driving to parking lot	Narva-Tallinn	Passenger car	208	petrol	6,9	181	gCO <sub>2</sub> -ekv/km	<b>37,65</b>
Marek Taro	Nordecon AS	26.08.11	Driving to parking lot	Narva-Tallinn	Passenger car	226	petrol	11	181	gCO <sub>2</sub> -ekv/km	<b>40,91</b>



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Andres Brakmann; Urmäs Konsap	Ramboll	31.08.11	Project meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	240	petrol	7	181	gCO <sub>2</sub> -ekv/km	43,44
Urmäs Konsap	Ramboll	31.08.11	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	36,20
Aleksander Pototski	Eesti Energia	31.08.11	Meeting	Narva-Rakvere-Narva	Passenger car	200	diesel	8	175	gCO <sub>2</sub> -ekv/km	35,00
										<b>TOTAL CO<sub>2</sub> ekv, kg</b>	<b>3559,42</b>
										<b>TOTAL CO<sub>2</sub> ekv, t</b>	<b>3,56</b>
<b>Period 1.9.2011-31.8.2012</b>											
Virko Vantsi	Nordecon AS	01.09.11	Fueling up/site visit/driving on site	Sillamäe-Mustjõe	Passenger car	64	petrol	7	181	gCO <sub>2</sub> -ekv/km	11,58
Virko Vantsi	Nordecon AS	01.09.11	Driving to next site	Mustjõe-Kunda	Passenger car	107	petrol	7	181	gCO <sub>2</sub> -ekv/km	19,37
Virko Vantsi	Nordecon AS	05.09.11	Driving to next site/driving on site	Kunda-Mustjõe	Passenger car	133	petrol	7	181	gCO <sub>2</sub> -ekv/km	24,07
Virko Vantsi	Nordecon AS	05.09.11	Fueling up/site visit/driving on site	Mustjõe-Kunda	Passenger car	107	petrol	7	181	gCO <sub>2</sub> -ekv/km	19,37
Andrei Anissimov	Nordecon AS	06.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	471	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	85,25
Andrei Anissimov	Nordecon AS	09.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Toyota Corolla	320	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	57,92
Andrei Anissimov	Nordecon AS	10.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe-Tallinn	Toyota Corolla	310	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	56,11
Andrei Anissimov	Nordecon AS	12.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Toyota Corolla	277	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	50,14
Virko Vantsi	Nordecon AS	12.09.11	Site visit/driving on site	Tallinn-Mustjõe	Passenger car	264	petrol	7	181	gCO <sub>2</sub> -ekv/km	47,78
Virko Vantsi	Nordecon AS	12.09.11	Driving to a place of accommodation	Mustjõe-Narva	Passenger car	17	petrol	7	181	gCO <sub>2</sub> -ekv/km	3,08
Andrei Anissimov	Nordecon AS	13.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe-Tallinn	Toyota Corolla	317	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	57,38
Virko Vantsi	Nordecon AS	13.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	114	petrol	7	181	gCO <sub>2</sub> -ekv/km	20,63
Urmäs Konsap, Andres Brakmann, Martti Helde, Ott Tiigirand	Ramboll/ Alastikino	14.09.2011	Supervision	Tallinn-Narva-Tallinn	Passenger car	490	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	88,69
Andrei Anissimov	Nordecon AS	14.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Toyota Corolla	267	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	48,33
Virko Vantsi	Nordecon AS	14.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	80	petrol	7	181	gCO <sub>2</sub> -ekv/km	14,48
Andrei Anissimov	Nordecon AS	15.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe	Toyota Corolla	99	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	17,92
Virko Vantsi	Nordecon AS	15.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	98	petrol	7	181	gCO <sub>2</sub> -ekv/km	17,74
Urmäs Konsap	Ramboll	16.09.11	Supervision	Tallinn-Narva-Tallinn	Passenger car	400	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	72,40
Hendrik Puhkim, Andres Brakmann, Aleksander Pototski	Eesti Energia/ Ramboll	16.09.2011	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	36,20



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Andrei Anissimov	Nordecon AS	16.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe-Tallinn	Toyota Corolla	325	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>58,83</b>
Virko Vantsi	Nordecon AS	16.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	79	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>14,30</b>
Andrei Anissimov	Nordecon AS	17.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Tallinn	Toyota Corolla	438	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>79,28</b>
Virko Vantsi	Nordecon AS	17.09.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	43	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>7,78</b>
Virko Vantsi	Nordecon AS	17.09.11	Driving to parking lot	Mustjõe-Türi	Passenger car	220	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>39,82</b>
Andrei Anissimov	Nordecon AS	21.09.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva	Toyota Corolla	250	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>45,25</b>
Virko Vantsi	Nordecon AS	21.09.11	Site visit/driving on site	Kunda-Mustjõe	Passenger car	107	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>19,37</b>
Virko Vantsi	Nordecon AS	21.09.11	Driving on site/driving to accommodation	Mustjõe-Narva	Passenger car	65	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>11,77</b>
Andrei Anissimov	Nordecon AS	22.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe	Toyota Corolla	98	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>17,74</b>
Virko Vantsi	Nordecon AS	22.09.11	Driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	95	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>17,20</b>
Andrei Anissimov	Nordecon AS	23.09.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe-Tallinn	Toyota Corolla	280	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>50,68</b>
Virko Vantsi	Nordecon AS	23.09.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	78	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>14,12</b>
Virko Vantsi	Nordecon AS	23.09.11	Fueling up/driving back to site/driving on site	Mustjõe-Narva-Mustjõe	Passenger car	52	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>9,41</b>
Virko Vantsi	Nordecon AS	23.09.11	Driving to next site	Mustjõe-Kunda	Passenger car	107	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>19,37</b>
Virko Vantsi	Nordecon AS	26.09.11	Site visit/driving on site	Türi-Mustjõe	Passenger car	235	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>42,54</b>
Virko Vantsi	Nordecon AS	26.09.11	Fueling up and removing the signs	Mustjõe-Sillamäe	Passenger car	23	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>4,16</b>
Virko Vantsi	Nordecon AS	26.09.11	Site visit/driving on site	Sillamäe-Mustjõe	Passenger car	36	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>6,52</b>
Virko Vantsi	Nordecon AS	26.09.11	Driving to a parking lot	Mustjõe-Tallinn	Passenger car	220	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>39,82</b>
Virko Vantsi	Nordecon AS	27.09.11	Site visit/driving on site	Tallinn-Mustjõe	Passenger car	239	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>43,26</b>
Virko Vantsi	Nordecon AS	27.09.11	Fueling up/driving to accommodation site	Mustjõe-Narva	Passenger car	21	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>3,80</b>
Virko Vantsi	Nordecon AS	28.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	63	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>11,40</b>
Virko Vantsi	Nordecon AS	29.09.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	55	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>9,96</b>
Virko Vantsi	Nordecon AS	30.09.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	47	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>8,51</b>
Virko Vantsi	Nordecon AS	30.09.11	Fueling up/driving to asphalt factory	Mustjõe-Ahtme	Passenger car	50	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>9,05</b>





Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Andrei Anissimov	Nordecon AS	02.10.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Mustjõe-Tallinn	Passenger car	440	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	79,64
Virko Vantsi	Nordecon AS	03.10.11	Site visit/driving on site	Tallinn-Mustjõe	Passenger car	252	petrol	7	181	gCO <sub>2</sub> -ekv/km	45,61
Virko Vantsi	Nordecon AS	03.10.11	Fueling up/driving to accommodation site	Mustjõe-Narva	Passenger car	21	petrol	7	181	gCO <sub>2</sub> -ekv/km	3,80
Virko Vantsi	Nordecon AS	04.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	79	petrol	7	181	gCO <sub>2</sub> -ekv/km	14,30
Virko Vantsi	Nordecon AS	05.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	80	petrol	7	181	gCO <sub>2</sub> -ekv/km	14,48
Andrei Anissimov	Nordecon AS	06.10.11	Site visit/drivin on site/driving to parking lot	Tallinn-Narva-Mustjõe-Tallinn	Toyota Corolla	428	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	77,47
Virko Vantsi	Nordecon AS	06.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	103	petrol	7	181	gCO <sub>2</sub> -ekv/km	18,64
Virko Vantsi	Nordecon AS	07.10.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	71	petrol	7	181	gCO <sub>2</sub> -ekv/km	12,85
Virko Vantsi	Nordecon AS	07.10.11	Refueling and driving to site	Mustjõe-Türi	Passenger car	220	petrol	7	181	gCO <sub>2</sub> -ekv/km	39,82
Virko Vantsi	Nordecon AS	10.10.11	Site visit/driving on site/driving to accommodation	Türi-Mustjõe-Narva	Passenger car	290	petrol	7	181	gCO <sub>2</sub> -ekv/km	52,49
Virko Vantsi	Nordecon AS	11.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	76	petrol	7	181	gCO <sub>2</sub> -ekv/km	13,76
Andrei Anissimov	Nordecon AS	12.10.11	Site visit/drivin on site/driving to parking lot	Tallinn-Narva-Mustjõe-Tallinn	Toyota Corolla	425	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	76,93
Virko Vantsi	Nordecon AS	12.10.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	32	petrol	7	181	gCO <sub>2</sub> -ekv/km	5,79
Virko Vantsi	Nordecon AS	12.10.11	Driving to concrete factory	Mustjõe-Narva	Passenger car	15	petrol	7	181	gCO <sub>2</sub> -ekv/km	2,72
Virko Vantsi	Nordecon AS	12.10.11	Refueling and driving to/on site	Narva-Mustjõe	Passenger car	15	petrol	7	181	gCO <sub>2</sub> -ekv/km	2,72
Virko Vantsi	Nordecon AS	12.10.11	Driving to accommodation place	Mustjõe-Narva	Passenger car	17	petrol	7	181	gCO <sub>2</sub> -ekv/km	3,08
Virko Vantsi	Nordecon AS	13.10.11	Sõit objektile ja objekti sisesed sõidud	Narva-Mustjõe	Passenger car	38	petrol	7	181	gCO <sub>2</sub> -ekv/km	6,88
Virko Vantsi	Nordecon AS	13.10.11	Driving to next site	Mustjõe-Sillamäe	Passenger car	25	petrol	7	181	gCO <sub>2</sub> -ekv/km	4,53
Virko Vantsi	Nordecon AS	13.10.11	Driving to site/drivin on site	Sillamäe-Mustjõe	Passenger car	31	petrol	7	181	gCO <sub>2</sub> -ekv/km	5,61
Virko Vantsi	Nordecon AS	13.10.11	Driving to accommodation place	Mustjõe-Narva	Passenger car	17	petrol	7	181	gCO <sub>2</sub> -ekv/km	3,08
Virko Vantsi	Nordecon AS	14.10.11	Driving to site/drivin on site	Narva-Mustjõe	Passenger car	38	petrol	7	181	gCO <sub>2</sub> -ekv/km	6,88
Virko Vantsi	Nordecon AS	14.10.11	Driving to parking lot	Mustjõe-Türi	Passenger car	220	petrol	7	181	gCO <sub>2</sub> -ekv/km	39,82
Virko Vantsi	Nordecon AS	17.10.11	Site visit/driving on site/driving to accommodation	Türi-Mustjõe-Narva	Passenger car	270	petrol	7	181	gCO <sub>2</sub> -ekv/km	48,87
Virko Vantsi	Nordecon AS	18.10.11	Site visit/driving on site	Narva-Mustjõe	Passenger car	30	petrol	7	181	gCO <sub>2</sub> -ekv/km	5,43



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Virko Vantsi	Nordecon AS	18.10.11	Renting construction equipment	Mustjõe-Narva-Mustjõe	Passenger car	34	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>6,15</b>
Virko Vantsi	Nordecon AS	18.10.11	Driving on site and to accommodation place	Mustjõe-Narva	Passenger car	31	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>5,61</b>
Virko Vantsi	Nordecon AS	19.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	71	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>12,85</b>
Virko Vantsi	Nordecon AS	20.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	79	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>14,30</b>
Virko Vantsi	Nordecon AS	21.10.11	Site visit/driving on site/driving to parking lot	Narva-M;ustjõe-Türi	Passenger car	275	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>49,78</b>
Hendrik Puhkim	Ramboll	21.10.11	Meeting	Tallinn	Passenger car	30	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>5,43</b>
Andrei Anissimov	Nordecon AS	24.10.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Mustjõe-Tallinn	Toyota Corolla	446	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>80,73</b>
Virko Vantsi	Nordecon AS	24.10.11	Site visit/driving on site/driving to accommodation		Passenger car	328	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>59,37</b>
Arina Koroljova	Eesti Energia	24.10.2011	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Aleksander Pototski	Eesti Energia	24.10.2011	OSAMAT work meeting	Eesti Energia office-Ramboll office	Passenger car	1	petrol		181	gCO <sub>2</sub> -ekv/km	<b>0,18</b>
Virko Vantsi	Nordecon AS	25.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	59	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>10,68</b>
Aleksander Pototski	Eesti Energia	26.10.11	Meeting	Tallinn-Narva-Tallinn	Passenger car	400	diesel	8	175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Virko Vantsi	Nordecon AS	26.10.11	Site visit/driving on site/driving to accommodation	Narva-Mustjõe-Narva	Passenger car	66	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>11,95</b>
Andrei Anissimov	Nordecon AS	27.10.11	Site visit/driving on site/driving to parking lot	Tallinn-Narva-Mustjõe	Toyota Corolla	285	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>51,59</b>
Andrei Anissimov	Nordecon AS	28.10.11	Site visit/driving on site/driving to parking lot	Narva-Mustjõe-Tallinn	Toyota Corolla	300	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>54,30</b>
Andrei Anissimov	Nordecon AS	07.11.11	Site visit/meeting/driving to parking lot	Tallinn-Narva-Mustjõe-Tallinn	Toyota Corolla	476	petrol	7,1	181	gCO <sub>2</sub> -ekv/km	<b>86,16</b>
Arina Koroljova	Eesti Energia	10.11.2011	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Olli Kiviniemi; Marjo Ronkainen	Ramboll Finland	18.11.11	Quality control of Narva-Mustajõe	Tallinn-Narva-Tallinn	Passenger car	550	petrol	7	181	gCO <sub>2</sub> -ekv/km	<b>99,55</b>
Arina Koroljova	Eesti Energia	25.11.2011	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Aleksander Pototski	Eesti Energia	08.12.11	Meeting	Tallinn-Narva-Tallinn	Passenger car	400	diesel	8	175	gCO <sub>2</sub> -ekv/km	<b>70,00</b>
Aleksander Pototski	Eesti Energia	25.1.2012	OSAMAT work meeting	Eesti Energia office-Nordecon office	Passenger car	6	petrol		181	gCO <sub>2</sub> -ekv/km	<b>1,09</b>
Hendrik Puhkim	Ramboll	13.03.12	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Taavi Tõnts, Indrek Pik	Road Administration	13.03.12	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Aleksander Pototski	Eesti Energia	13.03.2012	OSAMAT work meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol		181	gCO <sub>2</sub> -ekv/km	<b>36,20</b>
Arina Koroljova	Eesti Energia	13.03.2012	OSAMAT work meeting	Narva-Rakvere-Narva	Passenger car	240	petrol		181	gCO <sub>2</sub> -ekv/km	<b>43,44</b>
Pentti Lahtinen	Ramboll Finland	20.03.12	Progress meeting	Helsinki-Tallinn-Helsinki	Ferry	200			290	gCO <sub>2</sub> -ekv/km	<b>58,00</b>



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Andres Brakmann	Ramboll	05.04.2012	Meeting	Tallinn	Passenger car	12	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	2,17
Arina Koroljova	Eesti Energia	16.04.2012	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	70,00
Arina Koroljova	Eesti Energia	03.05.2012	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	70,00
Hendrik Puhkim, Aleksander Pototski	Eesti Energia/Ramboll	09.05.12	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	36,20
Arina Koroljova	Eesti Energia	29.05.12	Wascon conference	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	70,00
Arina Koroljova	Eesti Energia	29.05.12	Wascon conference	Tallinn-Göteborg-Tallinn	airplane	2000			247	gCO <sub>2</sub> -ekv/km	494,00
Hugo Tang	Keskkonnauringute Keskus OÜ	30.05.12	Taking soil samples	Tallinn-Simuna-Narva-Tallinn	Passenger car	550	petrol	7	181	gCO <sub>2</sub> -ekv/km	99,55
Rainer Kuldmaa, Rein Kuusk	Road Administration	11.06.2012	Meeting	Tallinn-Rakvere-Tallinn	Passenger car	200	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	36,20
Hendrik Puhkim	Ramboll	11.07.2012	Meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	416	Petrol	7		gCO <sub>2</sub> -ekv/km	0,00
Allan Allas	Estonian Environmental Research Center	26.07.12	Taking water samples	Tallinn-Narva-Tallinn	Passenger car	400	petrol	7	181	gCO <sub>2</sub> -ekv/km	72,40
Andres Brakmann	Ramboll	26.07.2012	Meeting	Tallinn	Passenger car	12	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	2,17
Arina Koroljova	Eesti Energia	31.07.2012	OSAMAT work meeting	Tallinn-Narva-Tallinn	Bus	400	diesel		175	gCO <sub>2</sub> -ekv/km	70,00
Aleksander Pototski	Eesti Energia	25.08.2012	Baltic Road conference	Tallinn-Vilnius-Tallinn	airplane	2000			209	gCO <sub>2</sub> -ekv/km	418,00

**TOTAL CO<sub>2</sub> ekv, kg** 4467,95  
**TOTAL CO<sub>2</sub> ekv, t** 4,47

Period 1.9.2012-31.8.2013											
Liis Tikerpuu	Ramboll	20.09.2012	OSAMAT project work group meeting in Espoo	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Aleksander Kollo	Ramboll	2.10.2012	Narva-Mustjõe test sections supervision	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Liis Tikerpuu	Ramboll	3.10.2012	Driving to Narva-Mustjõe site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Olli Kiviniemi	Ramboll	3.10.2012	Technical check on site	Helsinki-Tallinn-Helsinki	Ferry	160			180	gCO <sub>2</sub> -ekv/km	28,80
Olli Kiviniemi	ramboll	3.10.2012	Technical check on site	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	petrol		181	gCO <sub>2</sub> -ekv/km	75,30
Timo Tsefels	Ramboll	8.10.2012	Field work on site (measuring stabilisation layers)	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Environmental Research	Ramboll	17.10.2012	Taking water samples	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	Petrol		181	gCO <sub>2</sub> -ekv/km	75,30
Andres Brakmann	Ramboll	25.10.2012	Field work on Narva-Mustjõe site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Steiger OÜ	Ramboll	25.10.2012	Testing load capacity	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	Petrol		181	gCO <sub>2</sub> -ekv/km	75,30
Environmental Research	Ramboll	30.10.2012	Taking soil samples	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	Petrol		181	gCO <sub>2</sub> -ekv/km	75,30
Arina Koroljova	Eesti Energia	31.10.2012	OSAMAT work meeting	Narva-Tallinn-Narva	Bus	416			50	gCO <sub>2</sub> -ekv/km	20,80
Timo Tsefels	Ramboll	2.11.2012	Drilling asphalt layers on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andres Brakmann	Ramboll	7.11.2012	Meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Timo Tsefels	Ramboll	7.11.2012	Meeting in Rakvere	Tallinn-Rakvere-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption , l/100 km (average)	CO <sub>2</sub> ekv	unit	CO2 ekv, kg
Arina Koroljova	Eesti Energia	7.11.2012	OSAMAT work meeting	Narva-Rakvere	Bus	232			50	gCO <sub>2</sub> -ekv/km	11,60
Aleksander Pototski	Eesti Energia	7.11.2012	OSAMAT work meeting	Tallinn-Rakvere-Tallinn	Passenger car	200			181	gCO <sub>2</sub> -ekv/km	36,20
Timo Tsefels	Ramboll	21.11.2012	Field work on site (measuring banks)	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Aleksander Pototski	Eesti Energia	25.11.2012	OSAMAT work meeting	Eesti Energia kontor-Nordecon kontor	Passenger car	6	petrol		181	gCO <sub>2</sub> -ekv/km	1,09
Timo Tsefels	Ramboll	12.12.2012	Meeting admissions commission on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Arina Koroljova	Eesti Energia	11.03.2013	OSAMAT SG-meeting	Narva-Tallinn-Narva	Bus	416			50	gCO <sub>2</sub> -ekv/km	20,80
Ain Kendra	Ramboll	15.05.2013	Field observation on site	Tallinn-Narva-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Arina Koroljova	Eesti Energia	10.06.2013	Oil Shale Symposium	Narva-Tallinn-Narva	Passenger car	416			181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	1.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300			181	gCO <sub>2</sub> -ekv/km	54,30
Andrei Anissimov	Nordecon AS	12.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300			181	gCO <sub>2</sub> -ekv/km	54,30
Andrei Anissimov	Nordecon AS	12.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300			181	gCO <sub>2</sub> -ekv/km	54,30
Andrei Anissimov	Nordecon AS	12.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300			181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	15.07.2013	Site visit/driving on site	Tallinn-Simuna_Vaiatu	Passenger car	150			181	gCO <sub>2</sub> -ekv/km	27,15
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	15.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu	Passenger car	150			181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	17.07.2013	Driving to Nordecon office	Simuna_Vaiatu - Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	18.07.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	19.07.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	19.07.2013	Driving on site/driving to parking lot	Simuna-Vaiatu-Tallinn	Passenger car	200	diesel	16	181	gCO <sub>2</sub> -ekv/km	36,20
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	19.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	22.07.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	22.07.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Veli-Pekki Kangasniemi	Ramboll	22.07.2013	Technical check Simuna-Vaiatu	Helsingi-Tallinn-Helsing	airplane	160			180	gCO <sub>2</sub> -ekv/km	28,80
Veli-Pekki Kangasniemi	Ramboll	22.07.2013	Technical check Simuna-Vaiatu	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	150	petrol		181	gCO <sub>2</sub> -ekv/km	27,15
Talvar Anijärv	Ramboll	23.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Talvar Anijärv	Ramboll	23.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Talvar Anijärv	Ramboll	24.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andres Brakmann	Ramboll	25.07.2013	Visiting Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Talvar Anijärv	Ramboll	25.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	25.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Talvar Anijärv	Ramboll	26.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	26.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	26.07.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	26.07.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Talvar Anijärv	Ramboll	29.07.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Vadim Tsõro	Nordecon AS	29.07.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	29.07.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Andrei Anissimov	Nordecon AS	29.07.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Keskkonnauuringud	Ramboll	30.07.2013	Taking water samples	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	Petrol		181	gCO <sub>2</sub> -ekv/km	75,30
Raimo Pajula	Ramboll	31.07.2013	Monitoring of the state of natural environment on Narva-Mustjõe section	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Vadim Tsõro	Nordecon AS	31.07.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	31.07.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	1.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	1.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	1.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	181	gCO <sub>2</sub> -ekv/km	54,30
Elmo Rohelsaar	Ramboll	2.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Talvar Anijärv	Ramboll	2.08.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	2.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	2.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	2.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Talvar Anijärv	Ramboll	5.08.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Vadim Tsõro	Nordecon AS	5.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	5.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Liis Tikerpuu	Ramboll	6.08.2013	Simuna-Vaiatu site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Arina Koroljova	Eesti Energia	6.08.2013	Simuna-Vaiatu public event	Narva-Rakvere-Narva	Bus	232			50	gCO <sub>2</sub> -ekv/km	11,60
Aleksander Pototski	Eesti Energia	6.08.2013	Simuna-Vaiatu public event	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300			181	gCO <sub>2</sub> -ekv/km	54,30
Andrei Anissimov	Nordecon AS	6.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	6.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	0,5	diesel	300	181	gCO <sub>2</sub> -ekv/km	0,09



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Rait Kopti	Nordecon AS	6.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	0,5	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	0,09
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	7.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	181	gCO <sub>2</sub> -ekv/km	54,30
Elmo Rohelsaar	Ramboll	8.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Talvar Anijärv	Ramboll	8.08.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	8.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	10.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	54,30
Rait Kopti	Nordecon AS	10.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	12.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	12.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Elmo Rohelsaar	Ramboll	13.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Arina Koroljova	Eesti Energia	13.08.2013	OSAMAT work meeting	Narva-Tallinn-Narva	Bus	416			50	gCO <sub>2</sub> -ekv/km	20,80
Talvar Anijärv	Ramboll	14.08.2013	Taking samples	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Vadim Tsõro	Nordecon AS	14.08.2013	Driving to Nordeconi office - driving to site	Simuna_Vaiatu-Tallinn-Simuna_Vaiatu	Passenger car	300	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	54,30
Rait Kopti	Nordecon AS	14.08.2013	Driving to Nordeconi office - driving to site	Simuna_Vaiatu-Tallinn-Simuna_Vaiatu	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	14.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	181	gCO <sub>2</sub> -ekv/km	54,30
Elmo Rohelsaar	Ramboll	16.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Talvar Anijärv	Ramboll	16.08.2013	Taking samples	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Andrei Anissimov	Nordecon AS	16.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	16.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	16.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Andrei Anissimov	Nordecon AS	19.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	19.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	20.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	diesel	8,5	181	gCO <sub>2</sub> -ekv/km	54,30
Rait Kopti	Nordecon AS	20.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	21.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	181	gCO <sub>2</sub> -ekv/km	54,30
Talvar Anijärv	Ramboll	22.08.2013	Field work on site	Tallinn-Narva-Mustajõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Andrei Anissimov	Nordecon AS	22.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	181	gCO <sub>2</sub> -ekv/km	54,30
Arina Koroljova	Eesti Energia	23.08.2013	OSAMAT work meeting	Narva-Tallinn-Narva	Bus	416			50	gCO <sub>2</sub> -ekv/km	20,80
Marjo Rongainen	Ramboll	23.08.2013	Work meeting	Helsinki-Tallinn-Helsinki	Airplane	160			180	gCO <sub>2</sub> -ekv/km	28,80
Arina Koroljova	Eesti Energia	25.08.2013	Baltic Road conference	Tallinn-Vilnius-Tallinn	airplane	1200			247	gCO <sub>2</sub> -ekv/km	296,40
Elmo Rohelsaar	Ramboll	26.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Talvar Anijärv	Ramboll	28.08.2013	Field work on site	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	Petrol	7	181	gCO <sub>2</sub> -ekv/km	75,30
Vadim Tsõro	Nordecon AS	28.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	28.08.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Alari Volmre, Marek Mändoja, Ott Jürine, Ott Krüger	Nordecon AS	28.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna-Vaiatu-Tallinn	Passenger car	300	diesel	16	175	gCO <sub>2</sub> -ekv/km	52,50
Elmo Rohelsaar	Ramboll	29.08.2013	Supervision on Simuna-Vaiatu site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	280	Petrol	7	181	gCO <sub>2</sub> -ekv/km	50,68
Vadim Tsõro	Nordecon AS	29.08.2013	Driving to Nordeconi office - driving to site	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	52,50
Andrei Anissimov	Nordecon AS	30.08.2013	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,6	185	gCO <sub>2</sub> -ekv/km	55,50
Vadim Tsõro	Nordecon AS	30.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	30.08.2013	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15

**TOTAL CO<sub>2</sub> ekv, kg** 5640,50  
**TOTAL CO<sub>2</sub> ekv, t** 5,64

Period 1.9.2013-31.8.2014											
Vadim Tsõro	Nordecon AS	2.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	2.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Aleksander Pototski	Eesti Energia	3.09.2013	Meeting in Narva	Tallinn-Narva-Tallinn	Passenger car	400	diesel	8	181	gCO <sub>2</sub> -ekv/km	72,40
Meelis Joonsaar	Ramboll	4.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Meelis Joonsaar	Ramboll	5.09.2013	Site visit, repairing a tool, running errands	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Vadim Tsõro	Nordecon AS	6.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	6.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Arina Koroljova	Eesti Energia	6.09.2013	OSAMAT SG-meeting	Narva-Tallinn-Narva	Bus	400	diesel		50	gCO <sub>2</sub> -ekv/km	20,00
Meelis Joonsaar	Ramboll	6.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Vadim Tsõro	Nordecon AS	9.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	9.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Meelis Joonsaar	Ramboll	12.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Elmo Rohelsaar	Ramboll	12.09.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	123	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	22,26
Vadim Tsõro	Nordecon AS	13.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	13.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	16.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	16.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Elmo Rohelsaar	Ramboll	17.09.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	123	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	22,26
Meelis Joonsaar	Ramboll	18.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Vadim Tsõro	Nordecon AS	20.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	20.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Meelis Joonsaar	Ramboll	20.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Vadim Tsõro	Nordecon AS	23.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	23.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Rait Kopti	Nordecon AS	23.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Meelis Joonsaar	Ramboll	24.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Elmo Rohelsaar	Ramboll	24.09.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	123	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	22,26
Elmo Rohelsaar	Ramboll	26.09.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	123	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	22,26
Meelis Joonsaar	Ramboll	27.09.2013	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Vadim Tsõro	Nordecon AS	27.09.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	30.09.2013	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	1.10.2013	Drive to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Elmo Rohelsaar	Ramboll	8.10.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	246	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	44,53
Katri Voo	Reaalprojekt OÜ	11.10.2013	Surface samples	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416			181	gCO <sub>2</sub> -ekv/km	75,30
Elmo Rohelsaar	Ramboll	14.10.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	246	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	44,53
Andres Brakmann	Ramboll	30.10.2013	Site visit Narva-Mustjõe road	Tallinn-Narva_Mustjõe-Tallinn	Passenger car	416	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	75,30
Ari Kaski	Ramboll	30.10.2013	Site visit	Helsinki-Tallinn-Helsinki	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Fredrik Winqvist	Ramboll	30.10.2013	Site visit	Helsinki-Tallinn-Helsinki	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Indrek Reismann	Ramboll	30.10.2013	Site visit/driving on site	Tallinn-Simuna_Vaiatu-Tallinn	Lorry	340			175	gCO <sub>2</sub> -ekv/km	59,50
Elmo Rohelsaar	Ramboll	27.11.2013	Supervision of the owner	Rapla-Simuna_Vaiatu-Rapla	Passenger car	246	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	44,53
Elmo Rohelsaar	Ramboll	28.11.2013	Supervision of the owner (Geological Survey)	Rapla-Simuna_Vaiatu-Rapla	Passenger car	246	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	44,53
Meelis Joonsaar	Ramboll	28.11.2013	Site visit, GPS, soil samples	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Elmo Rohelsaar	Ramboll	29.11.2013	Supervision of the owner (Geological Survey)	Rapla-Simuna_Vaiatu-Rapla	Passenger car	246	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	44,53
Arina Koroljova	Eesti Energia	3-5.06.2014	LIFE Green Week 2014	Narva-Tallinn-Narva	Bus	400			50	gCO <sub>2</sub> -ekv/km	20,00
Arina Koroljova	Eesti Energia	3-5.06.2014	LIFE Green Week 2014	Tallinn-Brussels-Tallinn	Airplane	3182			209	gCO <sub>2</sub> -ekv/km	665,04





Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Vadim Tsõro	Nordecon AS	17.06.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	17.06.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Rait Kopti	Nordecon AS	19.06.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	20.06.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	25.06.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	26.06.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	27.06.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	30.06.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Eret Hiiemäe	Ramboll	30.06.2014	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Fredrik Winqvist	Ramboll	30.06.2014	Site visit	Helsinki-Tallinn-Helsinki	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Ari Kaski	Ramboll	1.07.2014	Site visit/driving on site	Tallinn-Simuna_Vaiatu-Tallinn	Lorry	340			175	gCO <sub>2</sub> -ekv/km	59,50
Rait Kopti	Nordecon AS	1.07.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Eret Hiiemäe	Ramboll	1.07.2014	Site visit	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Rait Kopti	Nordecon AS	3.07.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	27,15
Vadim Tsõro	Nordecon AS	4.07.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	7.07.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	8.07.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	11.07.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Vadim Tsõro	Nordecon AS	14.07.2014	Site visit	Tallinn-Simuna_Vaiatu	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	15.07.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Vadim Tsõro	Nordecon AS	18.07.2014	Driving to parking lot	Simuna_Vaiatu-Tallinn	Passenger car	150	diesel	8,5	175	gCO <sub>2</sub> -ekv/km	26,25
Rait Kopti	Nordecon AS	18.07.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
Rait Kopti	Nordecon AS	30.07.2014	Site visit/driving on site/driving to parking lot	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7,8	181	gCO <sub>2</sub> -ekv/km	54,30
										<b>TOTAL CO<sub>2</sub> ekv, kg</b>	<b>3294,67</b>
										<b>TOTAL CO<sub>2</sub> ekv, t</b>	<b>3,29</b>

Period 1.9.2014-31.8.2015											
Allan Allas, Katri Vooro	Keskkonna-uuringute Keskus OÜ	9.09.2014	Taking ground surface water sample	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	300	petrol	7	181	gCO <sub>2</sub> -ekv/km	54,30
Arina Koroljova	Eesti Energia	11-12.09.2014	Simm-cities Conference-ABSOLLS	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Aleksander Pototski	Eesti Energia	11-12.09.2014	Simm-cities Conference-ABSOLLS	Tallinn-Helsinki-Tallinn	Ferry	200			290	gCO <sub>2</sub> -ekv/km	58,00
Raimo Pajula	Ramboll	12.09.2014	Site visit, field work	Tallinn-Simuna_Vaiatu-Tallinn	Passenger car	294	petrol	7,4	181	gCO <sub>2</sub> -ekv/km	53,21
Arina Koroljova, Tõnis Meriste	Eesti Energia	16.09.2014	Adoption of Simuna-Vaiatu site	Tallinn-Simuna-Tallinn	Passenger car	280			181	gCO <sub>2</sub> -ekv/km	50,68



Name of the person	Organisation	Date of the event	Description of the event	From where - to where	Mode of transport	Distance (km; back and forth)	Type of fuel (in case a car)	Fuel consumption, l/100 km (average)	CO <sub>2</sub> ekv	unit	CO <sub>2</sub> ekv, kg
Aleksander Pototski	Eesti Energia	16.09.2014	Adoption of Simuna-Vaiatu site	Narva-Simuna-Narva	Passenger car	300			181	<i>gCO<sub>2</sub>-ekv/km</i>	<b>54,30</b>
Arina Koroljova	Eesti Energia	22-23.04.2015	Ash Trade Conference 2015 Europe	Tallinn-Frankfurt-Tallinn	Airplane	2944			209	<i>gCO<sub>2</sub>-ekv/km</i>	<b>615,30</b>
										<b>TOTAL CO<sub>2</sub> ekv, kg</b>	<b>943,79</b>
										<b>TOTAL CO<sub>2</sub> ekv, t</b>	<b>0,94</b>
<b>Period 1.9.2015-30.6.2016</b>											
OSAMAT Conference visitors	Conference visitors	3.06.2016	Visiting Eesti Elektri jaam	Tallinn-Auvere-Tallinn	Bus	400	diesel		50	<i>gCO<sub>2</sub>-ekv/km</i>	<b>20,00</b>
										<b>TOTAL CO<sub>2</sub> ekv, kg</b>	<b>20,00</b>
										<b>TOTAL CO<sub>2</sub> ekv, t</b>	<b>0,02</b>

## **Annex 2**

### **Piloting calculation sheet**



The amount of kilometres driven by tank trucks

Construction year	Construction substance	Starting point	Construction site	Machine type and capacity	One journey to the construction site (one time, one car back and forth)	The number of trucks on the construction site during the construction	The sum distance of tank trucks during the construction period	Emission coefficient (kgCO <sub>2</sub> /km)	CO <sub>2</sub> ekv emission total, kg	CO <sub>2</sub> ekv emission total, t
Narva-Mustajõe pilot 2011	Cement	Kunda	Narva-Mustajõe	Lorry tanks, 30 t	2 x 99 km	7	1386,00	2,68	3714,48	<b>3,71</b>
Narva-Mustajõe pilot 2011	Ash	Narva Elektriijaam	Narva-Mustajõe	Lorry tanks, 30 t	2 x 8,4 km	7	117,60	2,68	315,17	<b>0,32</b>
Narva-Mustajõe pilot 2012	Cement	Kunda	Narva-Mustajõe	Lorry tanks, 30 t	2 x 99 km	5	990,00	2,68	2653,20	<b>2,65</b>
Narva-Mustajõe pilot 2012	Ash	Narva Elektriijaam	Narva-Mustajõe	Lorry tanks, 30 t	2 x 8,4 km	13	218,40	2,68	585,31	<b>0,59</b>
Simuna-Vaiatu pilot 2013	Cement	Kunda	Simuna-Vaiatu	Lorry tanks, 30 t	2 x 75 km	21	3150,00	2,68	8442,00	<b>8,44</b>
Simuna-Vaiatu pilot 2013	Ash	Narva Elektriijaam	Simuna-Vaiatu	Lorry tanks, 30 t	2 x 150 km	29	8700,00	2,68	23316,00	<b>23,32</b>
Simuna-Vaiatu pilot 2014	Cement	Kunda	Simuna-Vaiatu	Lorry tanks, 30 t	2 x 75 km	1	150,00	2,68	402,00	<b>0,40</b>
Simuna-Vaiatu pilot 2014	Ash	Narva Elektriijaam	Simuna-Vaiatu	Lorry tanks, 30 t	2 x 150 km	5	1500,00	2,68	4020,00	<b>4,02</b>
Simuna-Vaiatu pilot 2015	Cement	Kunda	N/A	N/A	N/A	0	0	2,68	0	<b>0</b>
Simuna-Vaiatu pilot 2015	Ash	Narva Elektriijaam	N/A	N/A	N/A	0	0	2,68	0	<b>0</b>
Simuna-Vaiatu pilot 2016	Cement	Kunda	N/A	N/A	N/A	0	0	2,68	0	<b>0</b>
Simuna-Vaiatu pilot 2016	Ash	Narva Elektriijaam	N/A	N/A	N/A	0	0	2,68	0	<b>0</b>
<b>Total CO<sub>2</sub> tons</b>									<b>43,45</b>	

The amount of different materials used on the construction site

Section	Ash t (byproduct of energy production with no effect)	Cement (t)	Emission coefficient (kgCO <sub>2</sub> /t)	CO <sub>2</sub> ekv emission total, kg	CO <sub>2</sub> ekv emission total, t
Narva-Mustajõe pilot 2011	240	180	690	124200	<b>124,20</b>
Narva-Mustajõe pilot 2012	425	135	690	93150	<b>93,15</b>
Simuna-Vaiatu pilot 2013	1352	626	690	431940	<b>431,94</b>
Simuna-Vaiatu pilot 2014	135,26	26,9	690	18561	<b>18,56</b>
Simuna-Vaiatu pilot 2015	0	0	690	0	<b>0,00</b>
Simuna-Vaiatu pilot 2016	0	0	690	0	<b>0,00</b>
<b>Total CO<sub>2</sub> tons</b>				<b>667,851</b>	

Heavy machinery footprint on site

Heavy machinery on site	Sum of fuel consumption per day, l	Number of days when machined worked on the construction site	Sum of fuel consumption, l	CO <sub>2</sub> coefficient per litre	CO <sub>2</sub> ekv total, kg	CO <sub>2</sub> ekv total, t
Narva-Mustajõe 2011 autumn	341,83	42	14356,86	2,68	38476,38	<b>38,48</b>
Narva-Mustajõe 2012 autumn	341,83	45	15382,35	2,68	41224,70	<b>41,22</b>
Simuna-Vaiatu 2013	946	32	30272	2,68	81128,96	<b>81,13</b>
Simuna-Vaiatu 2014	305	19	5795	2,68	15530,60	<b>15,53</b>
Simuna-Vaiatu 2015	0	0	0	2,68	0,00	<b>0,00</b>
Simuna-Vaiatu 2016	0	0	0	2,68	0,00	<b>0,00</b>
<b>Total CO<sub>2</sub> tons</b>					<b>176,36</b>	

## **Annex 3**

### **Deskwork calculation sheet**



Deskwork

Project party	Working period	Working hours	lab/desk	emission coefficient( kgCO2/lab)	kg CO2 ekv total	t CO2 ekv total, cumulative
Eesti Energia	1.09.2010-31.08.2011	1800	desk	0,58	1044,00	1,04
Nordecon	1.09.2010-31.08.2011	1224	desk	0,58	709,92	1,75
Maanteeamet	1.09.2010-31.08.2011	144	desk	0,58	83,52	1,84
Ramboll	1.08.2010-31.08.2011	2722	desk/lab	0,58	1578,76	3,42
Eesti Energia	1.09.2011-31.08.2012	2326	desk	0,58	1349,08	4,77
Nordecon	1.09.2011-31.08.2012	4050	desk	0,58	2349	7,11
Maanteeamet	1.09.2011-31.08.2012	192	desk	0,58	111,36	7,23
Ramboll	1.09.2011-31.08.2012	2501	lab/desk	0,58	1450,58	8,68
Eesti Energia	1.09.2012-31.08.2013	1744	desk	0,58	1011,52	9,69
Nordecon	1.09.2012-31.08.2013	5335	desk	0,58	3094,30	12,78
Maanteeamet	1.09.2012-31.08.2013	150	desk	0,58	87,00	12,87
Ramboll	1.09.2012-31.08.2013	1360	lab/desk	0,58	788,80	13,66
Eesti Energia	1.09.2013-31.08.2014	1349	desk	0,58	782,42	14,44
Nordecon	1.09.2013-31.08.2014	1028	desk	0,58	596,24	15,04
Ramboll	1.09.2013-31.08.2014	695,5	lab/desk	0,58	403,39	15,44
Eesti Energia	1.09.2014-31.08.2015	149	desk	0,58	86,42	15,53
Nordecon	1.09.2014-31.08.2015	0	desk	0,58	0,00	15,53
Ramboll	1.09.2014-31.08.2015	345	lab/desk	0,58	200,10	15,73
Eesti Energia	1.09.2015-30.06.2016	733	desk	0,58	425,14	16,15
Nordecon	1.09.2015-30.06.2016	100	desk	0,58	58,00	16,21
Skepast&Puhkim	1.09.2015-30.06.2016	239	desk	0,58	138,62	16,35
				sum 1 year	3416,2	3,42
				sum 2 year	5260,02	5,26
				sum 3 year	4981,62	4,98
				sum 4 year	1782,05	1,78
				sum 5 year	286,52	0,29
				sum 6 year	621,76	0,62
				<b>Total tons CO2</b>		<b>16,35</b>