



# Greenhouse Gas Protocol (Dual Reporting) Report for Kinnevik

Assessment Period: 2017

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# Assessment Details

## Consolidation Approach

Operational Control

## Organisational Boundaries

Operations of Kinnevik

### Included

- Kinnevik

## Operational Boundary

- Air travel
- Cars
- Coffee and fruit
- District heating
- Electricity
- Paper and printed material
- Recycled waste
- Taxi

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# Introduction

A greenhouse gas (GHG) emissions assessment quantifies the total greenhouse gases produced directly and indirectly from a business or organisation's activities. Also known as a carbon footprint, it is an essential tool, providing your business with a basis for understanding and managing its climate change impacts.

A GHG assessment quantifies all seven Kyoto greenhouse gases where applicable and is measured in units of carbon dioxide equivalence, or CO<sub>2</sub>e<sup>1</sup>. The seven Kyoto gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF<sub>3</sub>), sulphur hexafluoride (SF<sub>6</sub>) and perfluorocarbons (PFCs). The global warming potential (GWP) of each gas is illustrated in the Table 1.

**Table 1. GWP of Kyoto Gases (IPCC 2007)**

Greenhouse Gas	GWP
Carbon dioxide (CO <sub>2</sub> )	1
Methane (CH <sub>4</sub> )	25
Nitrous oxide (N <sub>2</sub> O)	298
Hydrofluorocarbons (HFCs)	124 - 14,800
Perfluorocarbons (PFCs)	7,390 - 12,200
Nitrogen trifluoride (NF <sub>3</sub> )	17,200
Sulphur hexafluoride (SF <sub>6</sub> )	22,800

This assessment has been carried out in accordance with the World Business Council for Sustainable Development and World Resources Institute's (WBCSD/WRI) Greenhouse Gas Protocol; a Corporate Accounting and Reporting Standard, including the GHG Protocol Scope 2 Guidance. This protocol is considered current best practice for corporate or organisational greenhouse gas emissions reporting. GHG emissions have been reported by the three WBCSD/WRI Scopes.

Scope 1 includes direct GHG emissions from sources that are owned or controlled by the company such as natural gas combustion and company owned vehicles.

Scope 2 accounts for GHG emissions from the generation of purchased electricity, heat and steam generated off-site. As the subject of this assessment operates in markets which offer contractual instruments with product or supplier-specific data, scope 2 emissions are reported using both the location-based method and the market-based method. The location-based method applies average emission factors that correspond to the grid where consumption occurs, whereas the market-based method applies emission factors that correspond to energy purchased (or not purchased) through contractual instruments. Contractual instruments include energy attribute certificates, direct energy contracts, and supplier specific emission rates. The subject of this assessment has ensured that any contractual instruments used in the market-based method have met the Scope 2 Quality Criteria, as defined in the Guidance. Where contractual instruments do not meet the Quality Criteria, or where contractual instruments were not purchased, market-based scope 2 emissions have been calculated using residual mix emission factors. Where residual mix emission factors are not available, market-based scope 2 emissions have been calculated using default location grid-average emission factors, per the Protocol hierarchy. This may result in double counting between electricity consumers, as an adjusted emission factor taking into account voluntary purchases of electricity with specific attributes was not available.

Scope 3 includes all other indirect emissions such as waste disposal, business travel and staff commuting. Reporting of these activities is optional under the WBCSD/WRI GHG Protocol, but as they can contribute a significant portion of overall emissions Ecometrica recommends they are reported where applicable.

A GHG assessment is an essential tool in the process of monitoring and reducing an organisation's climate change impact as it allows reduction targets to be set and action plans formulated. GHG assessment results can also allow organisations to be transparent about their climate change impacts through reporting of GHG emissions to customers, shareholders, employees and other stakeholders. Regular assessments allow clients to track their progress in achieving reductions over time and provide evidence to support green claims in external marketing initiatives such as product labelling or CSR reporting. Ecometrica GHG assessments are designed to be transparent, consistent and repeatable over time.

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<sup>1</sup> Carbon dioxide equivalent or CO<sub>2</sub>e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO<sub>2</sub>e signifies the amount of CO<sub>2</sub> which would have the equivalent global warming impact.

# Data Quality and Availability

In order to provide the most accurate estimate of an organisation's GHG emissions, primary (actual) data should be used where it is available, up to date and geographically relevant. Secondary data in the form of estimates, extrapolations and industry averages may be used when primary data is not available. Table 2 details the quality of data submitted for this assessment with the key assumptions used stated below.

## Data Quality Overview



Location-based Accuracy Overview		
	tCO <sub>2</sub> e/year	%
Actual	599	100
Total	599	100



Market-based Accuracy Overview		
	tCO <sub>2</sub> e/year	%
Actual	602	100
Total	602	100

Table 2. Data Quality and Availability

Source of emissions	Data quality
<b>Premises</b>	
District heating	Actual
Electricity	Actual
Recycled waste	Actual
<b>Business Travel</b>	
Air travel	Actual
Taxi	Actual
<b>Company-Owned/Leased Vehicles</b>	
Cars	Actual
<b>Materials purchased</b>	
Coffee and fruit	Actual
Paper and printed material	Actual

# Assessment Summary for Kinnevik

**Gross Overall Emissions (location-based): 599 tCO<sub>2</sub>e**

**Gross Overall Emissions (market-based): 602 tCO<sub>2</sub>e**

## Key Performance Indicators

Absolute GHG emissions will vary over time and often correspond to the expansion or contraction of an organisation. It is useful therefore to use reporting metrics that take these effects into account and monitor relative GHG emissions intensity. A common emissions intensity metric is tonnes of CO<sub>2</sub>e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

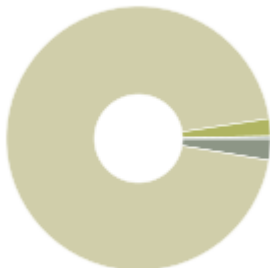
Data	KPI
772 Floor area (square metres)	0.775 tCO <sub>2</sub> e per square metre (Location-Based)
37.4 Full Time Equivalent Employees	16 tCO <sub>2</sub> e per Full Time Equivalent Employee (Location-Based)
772 Floor area (square metres)	0.78 tCO <sub>2</sub> e per square metre (Market-Based)
37.4 Full Time Equivalent Employees	16.1 tCO <sub>2</sub> e per Full Time Equivalent Employee (Market-Based)

## Summary by Activity (Location-Based, tCO<sub>2</sub>e)



By Activity	tCO <sub>2</sub> e/year	%
Premises	12.1	2.02
Business Travel	572	95.6
Company-Owned/Leased Vehicles	13	2.17
Materials purchased	1.55	0.259
<b>Total</b>	<b>599</b>	<b>100</b>

## Summary by Activity (Market-Based, tCO<sub>2</sub>e)



By Activity	tCO <sub>2</sub> e/year	%
Premises	15.9	2.65
Business Travel	572	94.9
Company-Owned/Leased Vehicles	13	2.16
Materials purchased	1.55	0.257
<b>Total</b>	<b>602</b>	<b>100</b>

## Summary by WBCSD/WRI Scope (Location-Based, tCO<sub>2</sub>e)



Scope	tCO <sub>2</sub> e/year	%
Scope 1	10.6	1.76
Scope 2	10.9	1.83
Scope 3	577	96.4
<b>Total</b>	<b>599</b>	<b>100</b>

**Summary by WBCSD/WRI Scope (Market-Based, tCO<sub>2</sub>e)**



Scope	tCO <sub>2</sub> e/year	%
Scope 1	10.6	1.75
Scope 2	14.8	2.45
Scope 3	577	95.8
<b>Total</b>	<b>602</b>	<b>100</b>

**Summary by Greenhouse Gas**

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO <sub>2</sub> e/year (Location-Based)	tGHG/year (Market-Based)	tCO <sub>2</sub> e/year (Market-Based)
CO <sub>2</sub>	1	529	529	527	527
CH <sub>4</sub>	25	0.00151	0.0377	0.00116	0.029
N <sub>2</sub> O	298	0.00861	2.57	0.00856	2.55
CO <sub>2</sub> e	1	66.9	66.9	73.2	73.2
<b>Total</b>			<b>599</b>		<b>602</b>

# Summary of Scope 2 Market-Based Method for Kinnevik

## Energy Consumed and Emissions By Factor Type In Scope 2 Market-Based Method

Scope 2 Market-Based Energy



Scope 2 Market-Based Emissions



Emission Factor Type	Energy		Market-Based Emissions	
	MWh	%	tCO <sub>2</sub> e	%
Client-supplied market-based instrument	0	0	0	0
Residual mix factors	115	46.6	6.34	42.9
Default location-based factors	132	53.4	8.45	57.1
<b>Total</b>	<b>247</b>	<b>100</b>	<b>14.8</b>	<b>100</b>



# Detailed Results

## Detailed Summary by WBCSD/WRI Scope

### Location-Based methodology

Source of Emissions	tCO <sub>2</sub> /yr	tCH <sub>4</sub> /yr	tN <sub>2</sub> O/yr	Total Emissions (tCO <sub>2</sub> e/yr)	%
<b>Scope 1 Total</b>	<b>10.5</b>	<b>1.03e-4</b>	<b>2.86e-4</b>	<b>10.6</b>	<b>1.76%</b>
Company-Owned/Leased Vehicles Total	10.5	1.03e-4	2.86e-4	10.6	1.76%
Cars	10.5	1.03e-4	2.86e-4	10.6	1.76%
Premises Total	0	0	0	0	0%
Recycled waste	0	0	0	0	0%
<b>Scope 2 Total</b>	<b>2.47</b>	<b>3.47e-4</b>	<b>5.31e-5</b>	<b>10.9</b>	<b>1.83%</b>
Premises Total	2.47	3.47e-4	5.31e-5	10.9	1.83%
District heating	0	0	0	8.45	1.41%
Electricity	2.47	3.47e-4	5.31e-5	2.5	0.417%
<b>Scope 3 Total</b>	<b>516</b>	<b>0.00106</b>	<b>0.00827</b>	<b>577</b>	<b>96.4%</b>
Business Travel Total	515	0.00104	0.00827	572	95.6%
Air travel	507	0.00101	0.00806	510	85.2%
Air travel: Flights, long-haul, average, upstream emissions	0	0	0	5.56	0.929%
Air travel: Flights, long-haul, business, upstream emissions	0	0	0	33.8	5.65%
Air travel: Flights, long-haul, economy, upstream emissions	0	0	0	3.39	0.566%
Air travel: Flights, medium-haul, average, upstream emissions	0	0	0	4.36	0.728%
Air travel: Flights, medium-haul, business, upstream emissions	0	0	0	0.914	0.153%
Air travel: Flights, medium-haul, economy, upstream emissions	0	0	0	4.54	0.759%
Air travel: Flights, short-haul, upstream emissions	0	0	0	0.502	0.0839%
Taxi	7.15	3.35e-5	2.07e-4	7.21	1.2%
Taxi: Regular taxi, upstream emissions	0	0	0	1.78	0.298%
Company-Owned/Leased Vehicles Total	0	0	0	2.42	0.404%
Cars: Medium diesel car, upstream emissions	0	0	0	2.36	0.394%
Cars: Medium petrol car, upstream emissions	0	0	0	0.0599	0.01%
Materials purchased Total	1.45	0	0	1.55	0.259%
Coffee and fruit	1.45	0	0	1.45	0.242%
Paper and printed material	0	0	0	0.101	0.0168%
Premises Total	0.121	1.69e-5	2.59e-6	1.15	0.193%
District heating: District Heating, Fortum Värme, AB s.m. Stockholms stad, upstream emissions	0	0	0	0.792	0.132%
Electricity: Electricity - transmission & distribution losses (MCR)	0.121	1.69e-5	2.59e-6	0.122	0.0204%

Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0138	0.00231%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	0.226	0.0377%
<b>Total</b>	<b>529</b>	<b>0.00151</b>	<b>0.00861</b>	<b>599</b>	<b>100%</b>

### Market-Based methodology

Source of Emissions	tCO <sub>2</sub> /yr	tCH <sub>4</sub> /yr	tN <sub>2</sub> O/yr	Total Emissions (tCO <sub>2</sub> e/yr)	%
<b>Scope 1 Total</b>	<b>10.5</b>	<b>1.03e-4</b>	<b>2.86e-4</b>	<b>10.6</b>	<b>1.75%</b>
Company-Owned/Leased Vehicles Total	10.5	1.03e-4	2.86e-4	10.6	1.75%
Cars	10.5	1.03e-4	2.86e-4	10.6	1.75%
Premises Total	0	0	0	0	0%
Recycled waste	0	0	0	0	0%
<b>Scope 2 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14.8</b>	<b>2.45%</b>
Premises Total	0	0	0	14.8	2.45%
District heating	0	0	0	8.45	1.4%
Electricity	0	0	0	6.34	1.05%
<b>Scope 3 Total</b>	<b>516</b>	<b>0.00106</b>	<b>0.00827</b>	<b>577</b>	<b>95.8%</b>
Business Travel Total	515	0.00104	0.00827	572	94.9%
Air travel	507	0.00101	0.00806	510	84.6%
Air travel: Flights, long-haul, average, upstream emissions	0	0	0	5.56	0.924%
Air travel: Flights, long-haul, business, upstream emissions	0	0	0	33.8	5.61%
Air travel: Flights, long-haul, economy, upstream emissions	0	0	0	3.39	0.562%
Air travel: Flights, medium-haul, average, upstream emissions	0	0	0	4.36	0.723%
Air travel: Flights, medium-haul, business, upstream emissions	0	0	0	0.914	0.152%
Air travel: Flights, medium-haul, economy, upstream emissions	0	0	0	4.54	0.754%
Air travel: Flights, short-haul, upstream emissions	0	0	0	0.502	0.0834%
Taxi	7.15	3.35e-5	2.07e-4	7.21	1.2%
Taxi: Regular taxi, upstream emissions	0	0	0	1.78	0.296%
Company-Owned/Leased Vehicles Total	0	0	0	2.42	0.402%
Cars: Medium diesel car, upstream emissions	0	0	0	2.36	0.392%
Cars: Medium petrol car, upstream emissions	0	0	0	0.0599	0.00994%
Materials purchased Total	1.45	0	0	1.55	0.257%
Coffee and fruit	1.45	0	0	1.45	0.24%
Paper and printed material	0	0	0	0.101	0.0167%
Premises Total	0.121	1.69e-5	2.59e-6	1.15	0.192%

District heating: District Heating, Fortum Värme, AB s.m. Stockholms stad, upstream emissions	0	0	0	0.792	0.131%
Electricity: Electricity - transmission & distribution losses (MCR)	0.121	1.69e-5	2.59e-6	0.122	0.0202%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0138	0.0023%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	0.226	0.0375%
<b>Total</b>	<b>527</b>	<b>0.00116</b>	<b>0.00856</b>	<b>602</b>	<b>100%</b>

# Annual Activity Data

Source of Emissions	Value	Unit
<b>Business Travel</b>		
Air travel		
Long-haul, average class (RFI 2)	257,224	pass.km
Long-haul, business (RFI 2)	703,988	pass.km
Long-haul, economy (RFI 2)	204,510	pass.km
Medium-haul, average class (RFI 2)	246,896	pass.km
Medium-haul, business (RFI 2)	35,106	pass.km
Medium-haul, economy (RFI 2)	261,792	pass.km
Short-haul (RFI 2)	17,140	pass.km
Taxi		
Average taxi	31,499	km
Hybrid taxi	2,750	km
<b>Company-Owned/Leased Vehicles</b>		
Cars		
Medium diesel car	6,140	km
Medium diesel car	3,465	l
Medium petrol car	103	l
<b>Materials purchased</b>		
Coffee and fruit		
Mixed fruit	1,447	kg
Paper and printed material		
Office paper (from Sweden)	905	kg
Printed material (from Sweden)	54	kg
<b>Premises</b>		
District heating		
District Heating, Fortum Värme, Stockholm	132	MWh
Electricity		
Electricity consumption	115,278	kWh
Recycled waste		
Waste, recycled	1,720	kg
Waste, recycled	39	m3

## References

IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.

AIB (2017). European Residual Mixes 2016. Version 1.2, 15th June 2017. Association of Issuing Bodies.

CalRecycle (2009). California Department of Resources Recycling and Recovery (CalRecycle). Solid Waste Characterization, <http://www.calrecycle.ca.gov/WasteChar>.

Defra/DECC (2011). Guidelines to Defra/DECC's GHG conversion factors for company reporting. Department of Environment Food and Rural Affairs/Department for Energy and Climate Change, London.

Defra/DECC (2016). UK Government conversion factors for greenhouse gas reporting. Department of Environment Food and Rural Affairs/Department for Energy and Climate Change, London.

Department for Business, Energy and Industrial Strategy (2017). 2017 Government GHG Conversion Factors for Company Reporting.

Ecometrica 2010. Internal Paper Profiles Database.

Energi Företagen (2017) Lokala miljävärden 2017. Sweden Available from <https://www.energiforetagen.se/statistik/fjarrvarmestatik/miljovardering-av-fjarrvarme/>

IEA (2017). Statistics. <http://www.iea.org/stats/index.asp>.

Paper Profiles (2016). Paper Profiles database. Updated October 2016. Available at: <http://www.paperprofile.com/>.

U&W (2011). Client specific LCA (temporary source)