Greenhouse Gas Protocol (Dual Reporting) Report for SBAB

Assessment Period: 2018

Produced on March 27, 2019 by *Our Impacts* on behalf of U&W

Assessment Details

Consolidation Approach

Operational Control

Organisational Boundaries

Operations of SBAB

Included

- SBAB
- Göteborg
- Karlstad
- Malmö
- Stockholm

Operational Boundary

- Air travel
- Cars
- Copy Paper
- District cooling
- District heating
- Electricity
- Employee owned cars (unknown fuel)
- Incinerated waste
- Rail (train, tram, light rail, underground)
- Recycled waste
- Taxi
- Water supply

Quality Assurance Assessor

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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_2e[1]. The seven Kyoto gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF_3), sulphur hexafluoride (SF_6) 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_2)	1
Methane (CH_4)	25
Nitrous oxide (N_2O)	298
Hydrofluorocarbons (HFCs)	124 - 14,800
Perfluorocarbons (PFCs)	7,390 - 12,200
Nitrogen trifluoride (NF_3)	17,200
Sulphur hexafluoride (SF_6)	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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[1] Carbon dioxide equivalent or CO_2e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO_2e signifies the amount of CO_2 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_2e/year	%
Actual	206	98.4
Estimated	3.3	1.57
Total	210	100

Market-based

Accuracy Overview	tCO_2e/year	%
Actual	191	98.6
Estimated	2.63	1.36
Total	193	100

Table 2. Data Quality and Availability

Source of emissions	Data quality
Premises	
District cooling	Actual
District heating	Mixed
Electricity	Mixed
Incinerated waste	Actual
Recycled waste	Actual
Water supply	Mixed
Company owned vehicles	
Cars	Actual
Business Travel	
Air travel	Actual
Employee owned cars (unknown fuel)	Actual
Hotel night stays	Unknown
Rail (train, tram, light rail, underground)	Actual
Taxi	Actual
Office supply	
Copy Paper	Actual

Hosted servers	
Electricity	Unknown

Assessment Summary for SBAB

Gross Overall Emissions (location-based): 210 tCO_2e

Gross Overall Emissions (market-based): 193 tCO_2e

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_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
574 Full Time Equivalent Employees	0.365 tCO_2e per Full Time Equivalent Employee (Location-Based)
3,642 Credit volume (MSEK)	0.0576 tCO_2e per Credit volume (MSEK) (Location-Based)
574 Full Time Equivalent Employees	0.337 tCO_2e per Full Time Equivalent Employee (Market-Based)
3,642 Credit volume (MSEK)	0.0531 tCO_2e per Credit volume (MSEK) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	53.8	25.6
Company owned vehicles	15.5	7.38
Business Travel	140	66.8
Office supply	0.441	0.21
Total	210	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	37.3	19.3
Company owned vehicles	15.5	8.01
Business Travel	140	72.5
Office supply	0.441	0.228
Total	193	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 1	12.3	5.86
Scope 2	47.1	22.4
Scope 3	150	71.7
Total	210	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 1	12.3	6.37
Scope 2	23.3	12.1
Scope 3	158	81.6
Total	193	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	165	165	151	151
CH_4	25	0.00532	0.133	0.00138	0.0346
N_2O	298	0.00274	0.815	0.00216	0.644
CO_2e	1	43.8	43.8	41.8	41.8
		Total	210		193

Summary of Scope 2 Market-Based Method for SBAB

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_2e	%
Client-supplied market-based instrument	1,028	56.8	1.31	5.59
Residual mix factors	0	0	0	0
Default location-based factors	782	43.2	22	94.4
Total	1,810	100	23.3	100

Detailed Results

Detailed Summary by WBCSD/WRI Scope

Location-Based methodology

Source of Emissions	tCO_2/yr	tCH_4/yr	tN_2O/yr	Total Emissions (tCO_2e/yr)	%
Scope 1 Total	**12.2**	**5.78e-4**	**2.15e-4**	**12.3**	**5.86%**
Company owned vehicles Total	12.2	5.78e-4	2.15e-4	12.3	5.86%
Cars	12.2	5.78e-4	2.15e-4	12.3	5.86%
Scope 2 Total	**24.8**	**0.00372**	**5.43e-4**	**47.1**	**22.4%**
Premises Total	24.8	0.00372	5.43e-4	47.1	22.4%
District cooling	0	0	0	0.148	0.0706%
District heating	0	0	0	21.5	10.3%
District heating: District heating (EON - Malmö-Burlöv, Sweden), upstream emissions	0	0	0	0.383	0.182%
Electricity	24.8	0.00372	5.43e-4	25	11.9%
Scope 3 Total	**128**	**0.00102**	**0.00198**	**150**	**71.7%**
Business Travel Total	126	8.06e-4	0.00195	140	66.8%
Air travel	118	7.96e-4	0.00186	118	56.3%
Air travel: Flights, long-haul, average, upstream emissions	0	0	0	3.47	1.66%
Air travel: Flights, medium-haul, average, upstream emissions	0	0	0	4.51	2.15%
Air travel: Flights, short-haul, upstream emissions	0	0	0	4.33	2.06%
Employee owned cars (unknown fuel)	5.59	0	0	5.59	2.67%
Rail (train, tram, light rail, underground)	0.0588	4.29e-6	1.48e-6	0.395	0.188%
Rail (train, tram, light rail, underground): Train, national, upstream emissions	0	0	0	0.0114	0.00545%
Taxi	2.85	5.36e-6	8.31e-5	2.88	1.37%
Taxi: Regular taxi, upstream emissions	0	0	0	0.681	0.325%
Company owned vehicles Total	0	0	0	3.18	1.52%
Cars: Average diesel car, upstream emissions	0	0	0	1.04	0.496%
Cars: Average petrol car, upstream emissions	0	0	0	2.14	1.02%
Office supply Total	0.441	0	0	0.441	0.21%
Copy Paper	0.441	0	0	0.441	0.21%
Premises Total	1.45	2.17e-4	3.17e-5	6.74	3.21%
District heating: District Heating (Göteborg. Partille. Ale, Sweden), upstream emissions	0	0	0	0.048	0.0229%
District heating: District Heating, Karlstads Energi AB, upstream emissions	0	0	0	2.7	1.29%
Electricity: Electricity - transmission & distribution losses (MCR)	1.45	2.17e-4	3.17e-5	1.46	0.696%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.103	0.049%

Electricity: Electricity grid, generated, upstream emissions	0	0	0	1.96	0.936%
Incinerated waste	0	0	0	0.0576	0.0274%
Recycled waste	0	0	0	0	0%
Water supply	0	0	0	0.4	0.191%
Total	**165**	**0.00532**	**0.00274**	**210**	**100%**

Market-Based methodology

Source of Emissions	tCO_2/yr	tCH_4/yr	tN_2O/yr	Total Emissions (tCO_2e/yr)	%
Scope 1 Total	**12.2**	**5.78e-4**	**2.15e-4**	**12.3**	**6.37%**
Company owned vehicles Total	12.2	5.78e-4	2.15e-4	12.3	6.37%
Cars	12.2	5.78e-4	2.15e-4	12.3	6.37%
Scope 2 Total	**1.31**	**0**	**0**	**23.3**	**12.1%**
Premises Total	1.31	0	0	23.3	12.1%
District cooling	0	0	0	0.148	0.0766%
District heating	0	0	0	21.5	11.1%
District heating: District heating (EON - Malmö-Burlöv, Sweden), upstream emissions	0	0	0	0.383	0.198%
Electricity	1.31	0	0	1.31	0.675%
Scope 3 Total	**137**	**8.06e-4**	**0.00195**	**158**	**81.6%**
Business Travel Total	126	8.06e-4	0.00195	140	72.5%
Air travel	118	7.96e-4	0.00186	118	61.1%
Air travel: Flights, long-haul, average, upstream emissions	0	0	0	3.47	1.8%
Air travel: Flights, medium-haul, average, upstream emissions	0	0	0	4.51	2.33%
Air travel: Flights, short-haul, upstream emissions	0	0	0	4.33	2.24%
Employee owned cars (unknown fuel)	5.59	0	0	5.59	2.89%
Rail (train, tram, light rail, underground)	0.0588	4.29e-6	1.48e-6	0.395	0.204%
Rail (train, tram, light rail, underground): Train, national, upstream emissions	0	0	0	0.0114	0.00591%
Taxi	2.85	5.36e-6	8.31e-5	2.88	1.49%
Taxi: Regular taxi, upstream emissions	0	0	0	0.681	0.352%
Company owned vehicles Total	0	0	0	3.18	1.65%
Cars: Average diesel car, upstream emissions	0	0	0	1.04	0.538%
Cars: Average petrol car, upstream emissions	0	0	0	2.14	1.11%
Office supply Total	0.441	0	0	0.441	0.228%
Copy Paper	0.441	0	0	0.441	0.228%
Premises Total	10.8	0	0	14	7.22%
District heating: District Heating (Göteborg. Partille. Ale, Sweden), upstream emissions	0	0	0	0.048	0.0248%

	District heating: District Heating, Karlstads Energi AB, upstream emissions	0	0	0	2.7	1.4%
	Electricity: MBI Upstream Emissions	10.8	0	0	10.8	5.56%
	Incinerated waste	0	0	0	0.0576	0.0298%
	Recycled waste	0	0	0	0	0%
	Water supply	0	0	0	0.4	0.207%
	Total	**151**	**0.00138**	**0.00216**	**193**	**100%**

Summary by Company Unit

Location-Based methodology

Assessment	2017		2018	
Company Unit	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**
SBAB	197	0.389	210	0.365
Göteborg	1.97	-	0.864	-
Karlstad	31.5	-	35.1	-
Malmö	3.63	-	4.22	-
Stockholm	11.5	-	13.6	-

Market-Based methodology

Assessment	2017		2018	
Company Unit	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**
SBAB	184	0.363	193	0.337
Göteborg	1.8	-	0.65	-
Karlstad	24.7	-	27	-
Malmö	3.51	-	4.03	-
Stockholm	5.09	-	5.66	-

Annual Activity Data

Source of Emissions	Value	Unit
Business Travel		
Air travel		
Long-haul, average class (RFI 2)	149,063	pass.km
Medium-haul, average class (RFI 2)	253,276	pass.km
Short-haul (RFI 2)	132,389	pass.km
Employee owned cars (unknown fuel)		
Average swedish car	45,456	km
Rail (train, tram, light rail, underground)		
Swedish rail	1,341,872	pass.km
Train, national	1,341	pass.km
Taxi		
Average taxi	13,391	km
Company owned vehicles		
Cars		
Average diesel car	24,797	km
Average petrol car	43,010	km
Office supply		
Copy Paper		
Copy paper (Sweden)	2,143	kg
Premises		
District cooling		
District cooling (Solna/Sundbyberg, Norrenergi)	148,030	kWh
District heating		
District Heating Karlstads Energi AB	450,499	kWh
District Heating, Göteborg Energi AB, Göteborg, Partille och Ale (exkl. Bra Miljöval)	8	MWh
District heating EON Malmö-Burlöv	27,025	kWh
District heating, Solna/Sundbyberg (Norrenergi)	148,030	kWh
Electricity		
Electricity consumption (Nordic Market)	1,028,187	kWh
Incinerated waste		
Combusted waste, energy recovery, WEEE, small	15	kg
Combusted waste, energy recovery, average rigid plastic (incl. bottles)	920	kg
Combusted waste, energy recovery, board	1,370	kg
Combusted waste, energy recovery, glass	293	kg
Combusted waste, energy recovery, mixed cans	12	kg
Combusted waste, energy recovery, scrap metal	82	kg
Waste, incinerated (heat recovery), MSW	17,423	kg
Recycled waste		

Waste, recycled	12,904	kg
Water supply		
Water supply	4,000	m3

References

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

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Client-supplied market-based instrument emission factor

Department for Business, Energy and Industrial Strategy (2018). 2018 Government GHG Conversion Factors for Company Reporting.

EON (2018). Miljövärden 2017. Sweden.

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

Göteborg Energi (2018). Miljövärden för levererad fjärrvärme 2017, Göteborg, Partille och Ale (exkl. Bra Miljöval).

IEA (2018). Statistics. http://www.iea.org/stats/index.asp.

Norrenergi (2015). Miljöprestanda för Norrenergis fjärrvärme 2014 (preliminär)

Norrenergi 2015. Miljöprestanda för Norrenergis fjärrvärme 2014 (preliminär)

SJ (2017). SJ Sustainabilitu Report 2016.

The Swedish Institute for Food and Biotechnology (SIK) (2004). Jämförelse av dricksvatten - översiktlig livscykelanalys (LCA).

Trafikverket (2018). Minskade utsläpp men snabbare takt krävs för att nå klimatmål.

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Assessment Summary for Göteborg

Gross Overall Emissions (location-based): 0.864 tCO_2e

Gross Overall Emissions (market-based): 0.65 tCO_2e

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_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
350 Office floor area (square metres)	0.00247 tCO_2e per Office floor area (square metre) (Location-Based)
350 Office floor area (square metres)	0.00186 tCO_2e per Office floor area (square metre) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	0.864	100
Total	0.864	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	0.65	100
Total	0.65	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	0.746	86.3
Scope 3	0.118	13.7
Total	0.864	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	0.429	66
Scope 3	0.221	34
Total	0.65	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	0.337	0.337	0.153	0.153
CH_4	25	5.06e-5	0.00127		
N_2O	298	7.39e-6	0.0022		
CO_2e	1	0.523	0.523	0.497	0.497
		Total	0.864		0.65

Summary of Scope 2 Market-Based Method for Göteborg

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_2e	%
Client-supplied market-based instrument	13.2	62.3	0.00496	1.16
Residual mix factors	0	0	0	0
Default location-based factors	8	37.7	0.424	98.8
Total	21.2	100	0.429	100

Assessment Summary for Karlstad

Gross Overall Emissions (location-based): 35.1 tCO_2e

Gross Overall Emissions (market-based): 27 tCO_2e

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_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
5,948 Office floor area (square metres)	0.0059 tCO_2e per Office floor area (square metre) (Location-Based)
5,948 Office floor area (square metres)	0.00453 tCO_2e per Office floor area (square metre) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	35.1	100
Total	35.1	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	27	100
Total	27	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	30.3	86.5
Scope 3	4.75	13.5
Total	35.1	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	18.4	68.2
Scope 3	8.57	31.8
Total	27	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	13.9	13.9	6.95	6.95
CH_4	25	0.00208	0.052		
N_2O	298	3.04e-4	0.0905		
CO_2e	1	21.1	21.1	20	20
		Total	35.1		27

Summary of Scope 2 Market-Based Method for Karlstad

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_2e	%
Client-supplied market-based instrument	544	54.7	1.28	6.94
Residual mix factors	0	0	0	0
Default location-based factors	450	45.3	17.1	93.1
Total	994	100	18.4	100

Assessment Summary for Malmö

Gross Overall Emissions (location-based): 4.22 tCO_2e

Gross Overall Emissions (market-based): 4.03 tCO_2e

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_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
248 Office floor area (square metres)	0.017 tCO_2e per Office floor area (square metre) (Location-Based)
248 Office floor area (square metres)	0.0163 tCO_2e per Office floor area (square metre) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	4.22	100
Total	4.22	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	4.03	100
Total	4.03	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	4.18	98.9
Scope 3	0.0485	1.15
Total	4.22	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	3.91	96.9
Scope 3	0.126	3.12
Total	4.03	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	0.281	0.281	0.116	0.116
CH_4	25	4.22e-5	0.00106		
N_2O	298	6.16e-6	0.00184		
CO_2e	1	3.94	3.94	3.92	3.92
		Total	4.22		4.03

Summary of Scope 2 Market-Based Method for Malmö

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_2e	%
Client-supplied market-based instrument	11	29	5.51e-4	0.0141
Residual mix factors	0	0	0	0
Default location-based factors	27	71	3.91	100
Total	38.1	100	3.91	100

Assessment Summary for Stockholm

Gross Overall Emissions (location-based): 13.6 tCO_2e

Gross Overall Emissions (market-based): 5.66 tCO_2e

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_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
5,309 Office floor area (square metres)	0.00256 tCO_2e per Office floor area (square metre) (Location-Based)
5,309 Office floor area (square metres)	0.00107 tCO_2e per Office floor area (square metre) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	13.6	100
Total	13.6	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Premises	5.66	100
Total	5.66	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	11.8	86.7
Scope 3	1.82	13.3
Total	13.6	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

Scope	tCO_2e/year	%
Scope 2	0.615	10.9
Scope 3	5.05	89.1
Total	5.66	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	11.7	11.7	4.83	4.83
CH_4	25	0.00176	0.0441		
N_2O	298	2.57e-4	0.0767		
CO_2e	1	1.75	1.75	0.828	0.828
		Total	13.6		5.66

Summary of Scope 2 Market-Based Method for Stockholm

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_2e	%
Client-supplied market-based instrument	460	60.9	0.023	3.74
Residual mix factors	0	0	0	0
Default location-based factors	296	39.1	0.592	96.3
Total	756	100	0.615	100