Greenhouse Gas Protocol (Dual Reporting) Report for Avanza

Assessment Period: 2018

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Assessment Details

Consolidation Approach

Operational Control

Organisational Boundaries

Operations of Avanza

Included

- Avanza

Operational Boundary

- Air travel
- Cars
- District cooling
- Electricity
- Employee owned cars
- Paper and printed material
- Rail (train, tram, light rail, underground)
- 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_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	74.8	91.2
Estimated	7.17	8.75
Total	82	100

Market-based

Accuracy Overview	tCO_2e/year	%
Actual	68.8	86.7
Estimated	10.6	13.3
Total	79.4	100

Table 2. Data Quality and Availability

Source of emissions	Data quality
Business Travel	
Air travel	Mixed
Employee owned cars	Actual
Hired cars	N/A
Hotel night stays	N/A
Rail (train, tram, light rail, underground)	Actual
Taxi	Actual
Company-Owned/Leased Vehicles	
Cars	Actual
Electricity and Heating	
Electricity	Actual
Office supply	
Coffee and fruit	N/A
Copy Paper	N/A
Paper and printed material	Actual
Hosted servers	
District cooling	Estimated

Electricity	Actual

Key Assumptions

With regard to district heating, there is no emission factor available from Stockholm Exergi. We have therefore made a conversion from kWh district cooling to kWh electricity. Formula: COP * kWh Remote cooling = X * EPD from hydropower (which Exergi buys GoO for)

As for the emission factor for 100% bio, we have produced an average value (Scope 2 and 3) from the agreement in Heat Market Committee 2017 "by the trade association Energibolagen in Sweden.

Assessment Summary for Avanza

Gross Overall Emissions (location-based): 82 tCO_2e

Gross Overall Emissions (market-based): 79.4 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
406 Full Time Equivalent Employees	0.202 tCO_2e per Full Time Equivalent Employee (Location-Based)
291,455 Portföljvärde (MSEK)	2.81e-4 tCO_2e per Portföljvärde (MSEK) (Location-Based)
1,049,000 Turnover (KSEK)	7.81e-5 tCO_2e per Turnover (KSEK) (Location-Based)
406 Full Time Equivalent Employees	0.196 tCO_2e per Full Time Equivalent Employee (Market-Based)
291,455 Portföljvärde (MSEK)	2.73e-4 tCO_2e per Portföljvärde (MSEK) (Market-Based)
1,049,000 Turnover (KSEK)	7.57e-5 tCO_2e per Turnover (KSEK) (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Business Travel	29.5	36
Company-Owned/Leased Vehicles	6.54	7.98
Electricity and Heating	16.3	19.8
Office supply	10.7	13
Hosted servers	19	23.2
Total	82	100

Summary by Activity (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Business Travel	29.5	37.1
Company-Owned/Leased Vehicles	6.54	8.23
Electricity and Heating	6.15	7.74
Office supply	10.7	13.4
Hosted servers	26.6	33.5
Total	79.4	100

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

Scope	tCO_2e/year	%
Scope 2	14.3	17.4
Scope 3	67.7	82.6
Total	82	100

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

Scope	tCO_2e/year	%
Scope 2	0.0293	0.0369
Scope 3	79.4	100
Total	79.4	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	65.3	65.3	32.9	32.9
CH_4	25	0.00536	0.134	4.92e-4	0.0123
N_2O	298	0.00127	0.38	5.64e-4	0.168
CO_2e	1	16.1	16.1	46.3	46.3
		Total	82		79.4

Summary of Scope 2 Market-Based Method for Avanza

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	586	100	0.0293	100
Residual mix factors	0	0	0	0
Default location-based factors	0	0	0	0
Total	586	100	0.0293	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 2 Total	**14.1**	**0.00212**	**3.09e-4**	**14.3**	**17.4%**
Electricity and Heating Total	14.1	0.00212	3.09e-4	14.3	17.4%
Electricity	14.1	0.00212	3.09e-4	14.3	17.4%
Hosted servers Total	0	0	0	0	0%
District cooling	0	0	0	0	0%
Scope 3 Total	**51.2**	**0.00324**	**9.65e-4**	**67.7**	**82.6%**
Business Travel Total	26.4	1.14e-4	4.32e-4	29.5	36%
Air travel	25.1	1.12e-4	3.99e-4	25.2	30.8%
Air travel: Flights, long-haul, ecomony, upstream emissions	0	0	0	0.676	0.825%
Air travel: Flights, medium-haul, ecomony, upstream emissions	0	0	0	1.53	1.87%
Air travel: Flights, short-haul, upstream emissions	0	0	0	0.418	0.51%
Employee owned cars	0.203	0	0	0.203	0.248%
Rail (train, tram, light rail, underground)	0	0	0	0.0251	0.0306%
Taxi	1.12	2.11e-6	3.28e-5	1.13	1.38%
Taxi: Regular taxi, upstream emissions	0	0	0	0.269	0.328%
Company-Owned/Leased Vehicles Total	6.49	3.79e-4	1.33e-4	6.54	7.98%
Cars	6.49	3.79e-4	1.33e-4	6.54	7.98%
Electricity and Heating Total	0.824	1.24e-4	1.8e-5	2.01	2.45%
Electricity: Electricity - transmission & distribution losses (MCR)	0.824	1.24e-4	1.8e-5	0.832	1.02%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0586	0.0715%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	1.12	1.37%
Hosted servers Total	17.5	0.00262	3.83e-4	19	23.2%
Electricity	16.5	0.00248	3.62e-4	16.7	20.3%
Electricity: Electricity - transmission & distribution losses (MCR)	0.964	1.45e-4	2.11e-5	0.974	1.19%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0685	0.0836%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	1.31	1.6%
Office supply Total	0	0	0	10.7	13%
Paper and printed material	0	0	0	10.7	13%
Total	**65.3**	**0.00536**	**0.00127**	**82**	**100%**

Market-Based methodology

Source of Emissions	tCO_2/yr	tCH_4/yr	tN_2O/yr	Total Emissions (tCO_2e/yr)	%
Scope 2 Total	**0**	**0**	**0**	**0.0293**	**0.0369%**
Electricity and Heating Total	0	0	0	0.0293	0.0369%
Electricity	0	0	0	0.0293	0.0369%
Scope 3 Total	**32.9**	**4.92e-4**	**5.64e-4**	**79.4**	**100%**
Business Travel Total	26.4	1.14e-4	4.32e-4	29.5	37.1%
Air travel	25.1	1.12e-4	3.99e-4	25.2	31.8%
Air travel: Flights, long-haul, ecomony, upstream emissions	0	0	0	0.676	0.851%
Air travel: Flights, medium-haul, ecomony, upstream emissions	0	0	0	1.53	1.93%
Air travel: Flights, short-haul, upstream emissions	0	0	0	0.418	0.526%
Employee owned cars	0.203	0	0	0.203	0.255%
Rail (train, tram, light rail, underground)	0	0	0	0.0251	0.0316%
Taxi	1.12	2.11e-6	3.28e-5	1.13	1.43%
Taxi: Regular taxi, upstream emissions	0	0	0	0.269	0.338%
Company-Owned/Leased Vehicles Total	6.49	3.79e-4	1.33e-4	6.54	8.23%
Cars	6.49	3.79e-4	1.33e-4	6.54	8.23%
Electricity and Heating Total	0	0	0	6.12	7.71%
Electricity: MBI Upstream Emissions	0	0	0	6.12	7.71%
Hosted servers Total	0	0	0	26.6	33.5%
District cooling	0	0	0	0	0%
District cooling: MBI Upstream Emissions	0	0	0	3.43	4.32%
Electricity	0	0	0	12.8	16.1%
Electricity: MBI Upstream Emissions	0	0	0	10.4	13%
Office supply Total	0	0	0	10.7	13.4%
Paper and printed material	0	0	0	10.7	13.4%
Total	**32.9**	**4.92e-4**	**5.64e-4**	**79.4**	**100%**

Annual Activity Data

Source of Emissions	Value	Unit
Business Travel		
Air travel		
Long-haul, economy (RFI 2)	37,926	pass.km
Medium-haul, economy (RFI 2)	87,546	pass.km
Short-haul (RFI 2)	12,803	pass.km
Employee owned cars		
Average swedish car	1,650	km
Rail (train, tram, light rail, underground)		
Swedish rail	100,494	pass.km
Taxi		
Average taxi	148,381	SEK
Company-Owned/Leased Vehicles		
Cars		
Small car (unknown fuel)	43,015	km
Electricity and Heating		
Electricity		
Electricity consumption (Nordic Market)	586	MWh
Hosted servers		
District cooling		
District cooling (Stockholm, Fortum)	56,303	kWh
Electricity		
Electricity consumption (Nordic Market)	685,388	kWh
Office supply		
Paper and printed material		
Office paper (from Sweden)	107,680	kg

References

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

Client-supplied market-based instrument emission factor

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

Fortum (2014). Fortum Värme och miljön, Stockholm 2014. AB Fortum Värme samägt med Stockholms stad.

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

Numbeo (2015). Taxi Fares in Stockholm. http://www.numbeo.com/taxi-fare/city_result.jsp?country=Sweden&city=Stockholm

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

SJ (2017). SJ Sustainabilitu Report 2016.

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