Carbon accounting report 2014

NPRO

The aim of this report is to get an overview of the organisation's greenhouse gas (GHG) emissions, which is an integrated part of the company's climate strategy. The carbon accounting is a fundamental tool in order to identify concrete measures to reduce the energy consumption and corresponding GHG emissions. The annual report enables the organisation to benchmark performance indicators and evaluate progress over time.

This report comprises 21 of Norwegian Property’s buildings. Each of the 21 buildings has reported on energy use, in other words emissions in scope 1 and 2. They have reported on electricity, district heating, district cooling, oil and gas consumption. In addition, NPRO has reported on travel made by the administration, via data from travel operator.

The input data is based on information from both internal and external data sources and then converted into tonnes CO2-eq. The analysis is based on the international standard; A Corporate Accounting and Reporting Standard, developed by the Greenhouse Gas Protocol Initiative (GHG protocol). This is the most important standard for measuring greenhouse gas emissions and was the basis for the ISO standard 14064-I.

This report is provided by CO2focus AS.
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Date: February 9th 2015

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Energy and GHG emissions

Category	*Description*	*Consumption*	*Unit*	*Energy (MWh eqv)*	*Emissions (tCO2e)*	*Emissions (distribution)*
Stationary combustion						
Burning oil		3 322.0	kWh	3.3	0.9	-
Natural gas		643 211.0	kWh	643.2	132.2	3.2%
Scope 1 total				646.5	133.0	3.2%
Electricity Nordic mix		33 682 045.0	kWh	33 682.0	3 065.1	74.5%
Electricity Nordic mix	Energisentralen	6 724 009.0	kWh	6 724.0	611.9	14.9%
District heating NO/Oslo		3 838 712.0	kWh	3 838.7	215.7	5.2%
District heating NO/Stavanger		101 024.0	kWh	101.0	0.8	-
District cooling NO/Stavanger		86 178.0	kWh	86.2	9.6	0.2%
District cooling NO/Oslo		1 435 599.0	kWh	1 435.6	63.2	1.5%
District heating NO/Nydalen		56 040.0	kWh	56.0	2.1	0.1%
Scope 2 total				45 923.6	3 968.3	96.4%
Air travel						
Continental		38 458.0	pkm	-	3.4	0.1%
Domestic		69 939.0	pkm	-	10.8	0.3%
Other travel						
Hotel acc.(Nordic)		10.0	nights	-	-	-
Hotel acc.(Europe)		2.0	nights	-	-	-
Scope 3 total				-	14.3	0.3%
Total				*46 570.1*	*4 115.7*	*100.0%*

Notes

NPRO has a system for automatic tracking of energy consumption. For Tingvalla Onda (Aker Brygge), Verkstedhallen (Aker Brygge), all buildings in Nydalen, Maskinveien 32 (Stavanger), Stortingsgaten 6, Drammensveien 6 and Verkstedveien 3 we have used the numbers directly from the system. For Svanholmen 2 (Stavanger), we have used numbers from the system together with reportet numbers from the energy supplier.

For Finnestadveien 44 (Stavanger) and Lysaker Torg, NPRO has gathered data directly from the energy supplier. For Støperiet (Aker Brygge), the consumption is estimated based on consumption earlier years.

In 2014, NPRO started operatin their own energy central on Aker Brygge. The central produces local heating from sea water. The electricity used to operate the central is allocated to the two buildings receiving hot water from the central: Verkstedhallen and Bryggegata 7-9. Bryggegata 7-9 used to consist of two buildings. For the 2014-reporting the buildings total consumption is added up from the measured use from the energy system for Snekkerbygget, and estimated use based on earlier years use for Administrasjonsbygget.

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Yearly report – GHG emissions (tCO2e)

Category	*Description*	*2012*	*2013*	*2014*	*% change from previous year*
Stationary combustion					
Burning oil		36.5	36.5	0.9	-97.6%
Natural gas		200.1	140.5	132.2	-5.9%
Scope 1 Emissions		236.6	177.1	133.0	-24.9%
District cooling NO/Oslo		38.0	42.5	63.2	48.5%
District cooling NO/Stavanger				9.6	100.0%
District heating NO/Nydalen				2.1	100.0%
District heating NO/Oslo		622.2	480.3	215.7	-55.1%
District heating NO/Stavanger				0.8	100.0%
Electricity Nordic mix		4 996.3	5 073.4	3 065.1	-39.6%
Electricity Nordic mix	Energisentralen			611.9	100.0%
Electricity Norway		14.3	14.3		-100.0%
Scope 2 Emissions		5 670.7	5 610.5	3 968.3	-29.3%
Air travel					
Continental		6.4		3.4	100.0%
Domestic		14.7	12.5	10.8	-13.3%
Intercontinental		4.2	2.9		-100.0%
Other travel					
Hotel acc.(Europe)			0.1	-	-80.0%
Hotel acc.(Nordic)			0.1	0.1	-9.1%
Scope 3 Emissions		25.3	15.6	14.3	-8.2%
Total		5 932.6	5 803.2	4 115.7	-29.1%
Percentage change			*-2.2%*	*-29.1%*	

Notes

Norwegian Property had a total emission of climate gasses of 4 115,7 ton CO2 equivalents (tCO2e) in 2014. It breaks down to 96,4 % in scope 2, 3,2% in scope 1 and 0,3% in scope 3.

Compared to earlier years, this is a significant reduction in greenhouse gas emissions. This reduction is significant in all three scopes, but the reduction in scope 2 (energy use) has definitely the biggest impact on the total accounting. This reduction in emissions from energy use is both due to reduction in energy use and in the electricity emission factor. The energy consumption has been reduced with 10,7%, equivalent to 5 584,2 MWh from 2013 to 2014. For the same period, the electricity emission factor has been reduced. The reason for this is that the physical electricity in Norway has changed from energy sources with lower emissions (such as water power compared to coal) in 2014 compared to the year before. The area used is also reduced from 2013 to 2014. Due to these changes, the most interesting factor is the energy use per area. From 2013 to 2014 Norwegian Property reduced their consumption from 33,1 kg CO_2e/m^2 to 23,8 kg CO_2e/m^2. That is an reduction equivalent to 28,2 % reduction.

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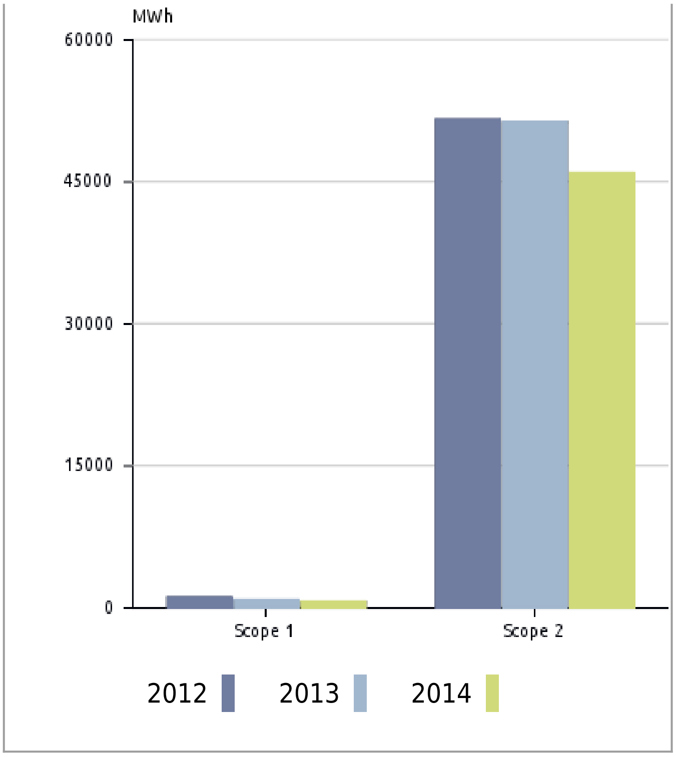
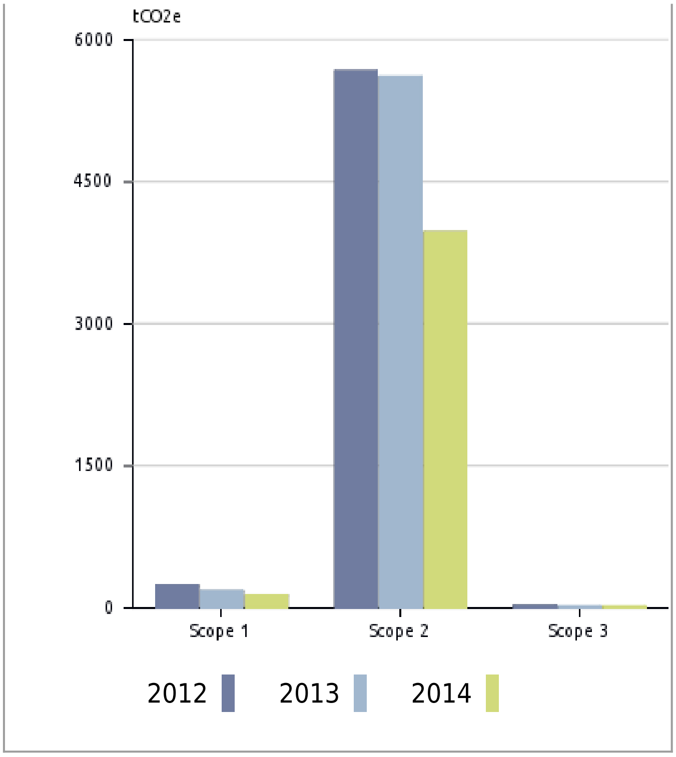
Key energy and climate performance indicators

Name	*Unit*	*2012*	*2013*	*2014*	*% change from previous year*
Total emissions (s1+s2+s3) (tCO2e)		5 932.6	5 803.2	4 115.7	-29.1%
Total energy scope 1 +2 (MWh)		52 726.7	52 154.3	46 570.1	-10.7%
Totalt utslipp per areal	kg CO2e/m2	-	33.1	23.8	-28.2%
Areal		-	175 385.0	173 187.0	-1.3%

Annual energy consumption (MWh) Scope 1 & 2



Annual GHG emission per scope



Methodology and sources

The Greenhouse Gas Protocol Initiative (GHG protocol) is developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). This analysis is according to A Corporate Accounting and Reporting Standard Revised edition, currently one of four GHG Protocol accounting standards explaining how to calculate and report GHG emissions. The reporting considers the following greenhouse gases, all converted into CO2 equivalents: CO2, CH4 (methane), N2O (laughing gas), SF6, HFCs and PFCs.

This analysis is based on the operational control aspect that defines what should be included in the carbon inventory, as well as in the different scopes. When using the control approach to consolidate GHG emissions, companies shall choose between either the operational control or financial control criteria. Under the control approach, a company accounts for the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but has no control.

The carbon inventory is divided into three main scopes of direct and indirect emissions.

Scope 1 Mandatory reporting includes all direct emission sources where the organisation has operational control. This includes all use of fossil fuels for stationary combustion or transportation, in owned, leased or rented assets. It also includes any process emissions, from e.g. chemical processes, industrial gases, direct methane emissions etc.

Scope 2 Mandatory reporting includes indirect emissions related to purchased energy; electricity or heating/cooling where the organisation has operational control. The electricity emissions factors used in CEMAsys is based on national gross electricity production mixes on a 5 year rolling average (IEA Stat). The Nordic electricity mix covers the weighted production in Sweden, Norway, Finland and Denmark, which reflects the common Nord Pool market area. Emission factors per fuel type are based on assumption in the IEA methodological framework. Factors for district heating/cooling are either based on actual (local) production mixes, or average IEA stat.

Scope 3 Voluntary reporting of indirect emissions from purchased products or services in the value chain. The scope 3 emissions are a result of the company’s different activities, which are not controlled by the company, i.e. they’re indirect. Examples are business travel, goods transportation, waste handling, consumption of products etc. In general, the GHG report should include information that users, both internal and external to the company need for their decision making. An important aspect of relevance is the selection of an appropriate inventory boundary that reflects the substance and economic reality of the company’s business relationships.

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