Kaffehuset Friele

This report is an independent review of the company's Carbon Footprint Analysis based on the total energy consumption related to corporate operations. The carbon footprint gives a general overview of the company's greenhouse gas emissions, converted into CO_2 - equivalents and it is based on reported data from internal and external systems.

The analysis facilitates the identification of possible measures to reduce the energy consumption and thus also the overall carbon footprint. The purposes of the carbon indicators are to measure the carbon intensity per employee and per value creation in addition to showing environmental transparency towards external players.

The analysis is based on the international standard **Greenhouse Gas Protocol Initiative (GHG protocol)**, which is the most important standard for measuring greenhouse gas emissions, developed by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). The GHG protocol consists of two accounting standards explaining how to calculate and report GHG emissions and was the basis for the ISO standard 14064-I. The GHG protocol founds its carbon inventory and reporting on three main scopes of direct and indirect emissions. The reporting considers the following greenhouse gases, all converted into CO_2 equivalents: CO_2, CH_4 (methane), N_2O (laughing gas), SF_6, HFCs and PFCs.

The company's total amount for 2010 are **2 183,9** tonnes CO_2 .

Oslo, 4 April 2011

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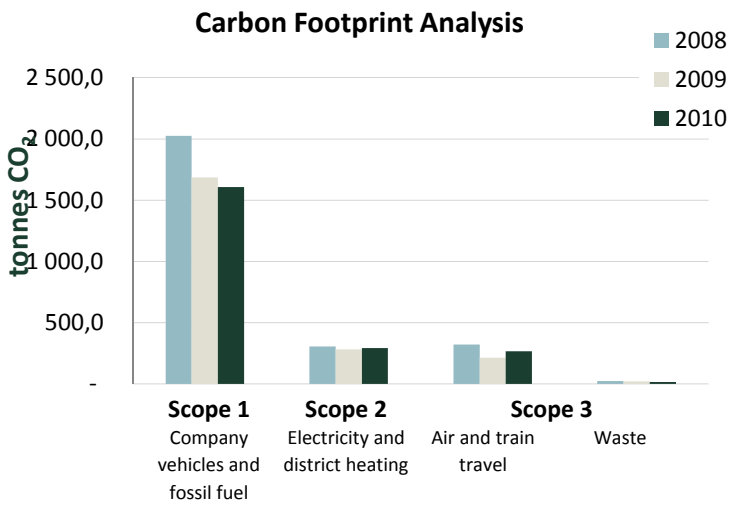
for CO2focus AS

Key figures emissions

Category	Consumption		Energy eq. (MWh)[1]		Emissions (tonnes CO_2)		Percentage
Petrol	47 969	l	438,3		111,6		5 %
E85	-	l	-		-		-
Diesel	151 370	l	1 395,8		382,4		18 %
Bio diesel 5%	-	l	-		-		-
Autogas vehicles	-	l	-		-		-
Electric cars	-	kWh	-		-		-
Fuel oil / kerosene	-	l	-		-		-
Propane / LPG	-	l	-		-		-
Natural gas	592 097	m3	5 921,0		1 113,1		51 %
Sum scope 1			**7 755,0**	**MWh**	**1 607,2**	**tonnes CO_2**	74 %
Electricity	2 960 890	kWh	2 960,9		293,1		13 %
District heating	-	kWh	-		-		-
Sum scope 2			**2 960,9**	**MWh**	**293,1**	**tonnes CO_2**	13 %
Flight hours	1 330 988	km			252,4		12 %
Train	-	km	-		-		-
Transportation of goods	11 198	km	59,0		15,0		1 %
General waste	55 920	kg			16,2		1 %
Paper	30 070	kg			-		n.a.
Glass	140	kg			0,0		n.a.
Metal	530	kg			-		n.a.
Plastic	2 980	kg			-		n.a.
Organic waste	31 840	kg			-		n.a.
Sum scope 3			**59,0**		**283,6**	**tonnes CO_2**	13 %
Total corporate CO_2 emissions			**10 774,9**	**MWh**	**2 183,9**	**tonnes CO_2**	100 %

1) Energy equivalent is calculated for the corporate main operations (scope 1 and 2) to show the yearly energy intensity related to the corporate daily activities.

Energy and carbon indicators	2008	2009	2010	09/10
Total corporate CO_2 emissions:	***2 674,5***	***2 202,1***	***2 183,9***	***-0,8 %***
Total energy consumption scope 1 and 2 (MWh):	***10 249,2***	***9 934,3***	***10 715,9***	***7,9 %***
Energy consumption per square metre (kWh / m^2)	***2 075,0***	***2 004,6***	***2 220,5***	***10,8 %***
CO_2 emissions per employee (tonnes CO_2 / employee)	***23,5***	***16,6***	***17,8***	***7,2 %***
CO_2 emissions per turnover (tonnes CO_2 / million NOK)	***0,2***	***0,2***	***0,2***	***4,7 %***



Reporting according to the Greenhouse Gas Protocol

Scope 1: Direct emissions
Comprises all direct emissions from company controlled sources, such as company vehicles, own power and heat generation, transportation of employees etc.

Scope 2: Indirect emissions
This level concerns all emissions from purchased energy, mainly electricity or district heating.

Scope 3: Indirect emissions
Comprises other indirect emissions from company activities originating from sources not controlled by the company, such as, emissions from sub-suppliers, service and waste management.

Key figures emissions

Category	*2008*	*2009*	*Notes*	*2010*	*09/10*
Petrol	171,1	150,5	*1*	111,6	**-26 %**
Diesel	337,0	362,9	*1*	382,4	**5 %**
Autogas vehicles	-	-		-	**-**
Electric cars	-	-		-	**-**
Fuel oil / kerosene	1 517,9	609,0		-	**-100 %**
Propane / LPG	-	-		-	**-**
Natural gas	-	562,2	*2*	1 113,1	**98 %**
Sum scope 1	**2 026,0**	**1 684,5**		**1 607,2**	***-5 %***
Electricity	305,8	282,7	*3*	293,1	**4 %**
District heating	-	-		-	**-**
Sum scope 2	**305,8**	**282,7**		**293,1**	***4 %***
Air travel	320,3	214,0	*4*	252,4	**18 %**
Train travel	-	-		-	**-**
Transportation of goods	n.a.	n.a.	*5*	15,0	**n.a.**
General waste	22,4	20,9	*6*	16,2	**-22 %**
Paper	-	-	*6*	-	**n.a.**
Glass	0,0	0,0	*6*	0,0	**n.a.**
Metal	-	-	*6*	-	**n.a.**
Plastic	-	-	*6*	-	**n.a.**
Organic waste	-	-	*6*	-	**n.a.**
Sum scope 3	**342,7**	**234,9**		**283,6**	***21 %***
Total corporate CO_2 emissions	**2 674,5**	**2 202,1**		**2 183,9**	***-1 %***

Notes

1. Annual consumption of fuel by company cars and car allowance. Kaffehuset Friele has 15 petrol driven cars and 71 diesel driven cars.
2. Reported consumption of natural gas. The production facility converted from heating oil to natural gas in 2009.
3. Reported annual electricity use. The emission factor for electricity is calculated from the Nordic production mix between 2004-2008 and gives 99 gCO2 per kWh (Nordel).
4. Annual air travel reported by travelling agency. Employees at Kaffehuset Friele carried out 791 return flights in 2010 of which 72 % were Nordic trips, 18 % European flights and the remaining 10 % were inter continental trips. The calculation includes the indirect global warming effect caused by air traffic (Radiative Forcing Index).
5. Purchased transportation of raw unroasted coffee from harbour in Norway to production facility.
6. Calculated emissions from energy recovery of general waste. Waste fractions with material recovery such as paper, metal, plastics, glass and organic waste, give an environmental benefit and do in this case not contribute to greenhouse gas emissions. Glass with material recovery generates emissions much lower than with other waste treatment.

Reference

Scope 1 - Carbon indicator for fuel; SFT (Norwegian Pollution Control Authority) and Energilink (Teknisk Ukeblad)
- Energy converting for fuel; Energilink and NVE, NP, BP and Statoil Forskningssenter (2001-2008).

Scope 2 - Carbon indicator for electricity is calculated from a Nordic production mix. Reference: Nordel and PointCarbon.
- Carbon indicator for district heating is calculated out of an energy mix, reported from the distric heating supplier.

Scope 3 - Carbon indicator for flights is calculated based on information from Lavutslippsutvalget and DEFRA.
- Carbon indicator for transportation of goods; SINTEF, DEFRA, SSB, NSB, Swedish National Road and Transport Research Institute.
- Carbon indicator for the managment of general waste: Grønn Byggallianse and recycled waste (energy- or material recycle) from Avfall Norge. Either the process of waste is energy- or recycling of waste materials, it gives in this context, zero emission.