

Efficient and effective use of resources

Castellum's efforts to reduce the company's climate impact are ambitious, and they are carried out on all levels of the company. The Group has been working efficiently and effectively to become more sustainable since the mid-1990s. These activities have resulted in Castellum's current position as one of the most sustainable companies within our industry.

To secure Castellum's real estate portfolio for the future and to reach the global sustainability goals that the UN has decided upon, Castellum has formed challenging objectives. Buildings shall be more energy-efficient, natural resources shall be more efficiently utilized, biodiversity in urban environment as well as renewable energy shall be increased and changing weather conditions has to be taken into account. Castellum is committed to the climate strategies of customers and authorities. The company stands solidly behind international agreements (such as the Paris Agreement), shows leadership and – to every possible extent – influences industry to become more climate-friendly. Moreover, Castellum was the first Swedish real estate company to join the government's Fossil Free Sweden initiative. The company also works actively with the Sweden Green Building Council to develop environmental certification systems for buildings.

Improve energy efficiency

Castellum works continuously to reduce energy consumption by optimizing operations and investing in energy-efficient technologies. In 2017, over 83 major energy efficiency projects were undertaken. The energy consumption within the Group is continuously observed and analysed in a monitoring system. These close follow-ups mean that effective measures can be targeted to areas with the greatest efficiency potential.

Expansion is underway for Castellum's own portal for web-based property monitoring, to check values for operations, alarms, elevators and entries. This

project is saving energy and time, and it provides customer benefits in terms of better services through preventive measures. Today, 293 properties – representing 2,076 thousand sq. m. – are connected to the portal.

In 2017, the normalized energy consumption for heating and property electricity in the comparable portfolio (like for like) decreased by 6% compared with the previous year. The decrease is due to increased focus in energy through the launch of a Group wide monitoring system, optimization and the result from implemented energy projects. The use of energy for heating decreased 4.8% during 2017 and the electricity consumption decreased 8.9%.

Since 2007, energy consumption has decreased by a total of 27% per sq. m. Castellum's heating consumption of 64 kWh/sq. m. can be compared with the industry average for heating commercial premises: 123 kWh/sq. m, which means that Castellum's buildings are 46% more efficient than the average for Swedish premises.

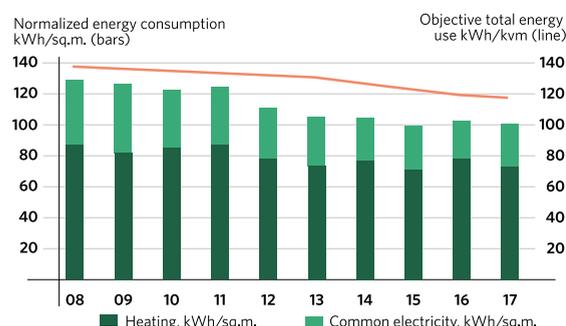
Increased share of renewable fuels

Out of Castellum's total carbon dioxide emissions, 15% are directly influenced by oil, gas, and service-, benefit- and pool cars (Scope 1). Remaining emissions can only be influenced indirectly, i.e. purchased energy such as district heating and electricity, 83% (Scope 2), and travels by plane, train and taxi, 2% (Scope 3).

To reduce emissions, work is underway to phase out fossil fuels: There are currently 8 oil furnaces still in use. Approx. 13% of Castellum's customers are responsible for their own heating and 23% for

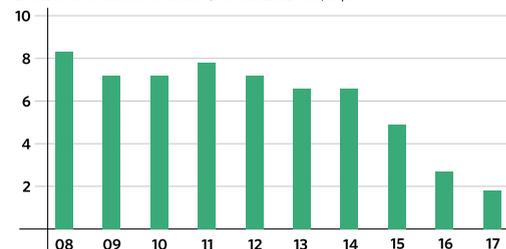
Target and outcome energy consumption per sq.m.

Absolute consumption per sq.m. in the properties Castellum manage.



Carbon emissions

Emissions of carbon dioxide (normalized) kilo/sq.m.



The actual change in the comparable portfolio was -6%. Castellum began systematically measuring energy consumption and CO₂ emission levels in 2007, which is why the year is utilized as a base year.

electricity on their premises. A total of 647 kW of solar cells have been installed on Castellum properties, corresponding to a total of approx. 4,531 sq. m. of solar cells. In addition, there are two wind turbines on roofs, totalling 3 kW.

As a user of district heating, Castellum is dependent on the district-heating plant's fuel mix when it comes to emissions of carbon dioxide. Today, Castellum makes use of 27 district-heating facilities, accounting for to 89% of the Group's total carbon dioxide emissions. Castellum conducts ongoing dialogues with the district-heating suppliers who account for the highest emissions per kWh, with the purpose of influencing these suppliers to reduce emissions. The transfer to green district heating with renewable fuels is ongoing and currently amounts to 48% of our district heating suppliers.

During 2017, carbon dioxide emissions decreased by 33% per sq. m. and since 2007 they have decreased by 78% per sq. m. The large decrease in 2017 is due to the possibility of increasing the proportion of non-fossil district heating mainly in the Central Region. Of Castellum's total energy use, 95% is renewable.

Since 2001, only green electricity has been used in the Group.

Almost all of Castellum's servers are now virtual. A virtual server means that a physical server has

been replaced by software, which reduces energy consumption.

Reduced amount of waste

For a long time, Castellum has actively worked on reducing the amount of waste that goes to landfill by providing recycling services. Follow-up is difficult since Castellum hires several sanitation companies, and only a few offer weight-monitoring. In addition, customer operations differ – as do their needs for waste disposal. Statistics are currently obtainable from 20% (22%) of the sanitation companies.

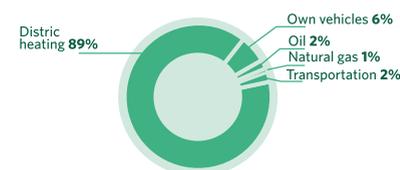
The statistics include waste from buildings managed by Castellum, but not waste from projects/contracts.

Water consumption

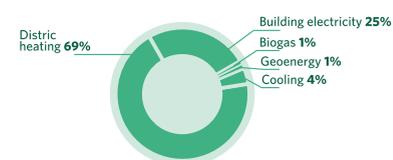
Water consumption is an important issue from a global perspective, but currently of less importance in Sweden. Castellum utilizes water from the municipal water system, monitors consumption and takes measures to reduce it.

During 2017, Castellum adopted a target implying that water consumption should be reduced by 1% per sq. m. yearly in the like-for-like portfolio until 2030. Outcome in the like-for-like portfolio for 2017 was - 4%.

Distribution of carbon dioxide emissions



Distribution of total energy consumption



Targets	Outcome 2017
Net-zero carbon dioxide emissions and 100% non-fossil energy by 2030.	95%, non-fossil energy 78% lower carbon dioxide emissions
15% in energy savings per sq.m to 2025 compared with index 2015 and energy savings per sq.m of > 1.5% yearly in the like-for-like portfolio.	-6%, like-for-like 3%, compared with 2015
1% water conservation per year in the like-for-like portfolio.	-4%
100% fossil-independent vehicles by 2020.	34%
50% of the real estate portfolio in sq.m. will be environmentally certified in 2025.	29%
All new constructions and larger reconstructions shall be environmentally certified. Miljöbyggnad, level Gold is applicable for new- or reconstruction of office and retail premises. A lower certification level may only be used if there are special reasons why Gold cannot be achieved.	Achieved
100% of all properties which are retained for more than one year are to be environmentally inventoried, and these will be updated at least every 10 th year.	82%
Eco-system services will be evaluated for new construction and major projects, and at least as many eco-system services – or more – will be recreated on site.	Tool to be launched during 2018

Energy, carbon emissions and water	Change 2016 to 2017	Change 2016 to 2017 Normalized	Total consumption				Intensity				
			2017		2016		2017		2016		
			Absolute figures, MWh	Normalized MWh	Absolute figures, MWh	Normalized MWh	Absolute figures kWh/sq.m.	Normalized kWh/sq.m.	Absolute figures, kWh/sq.m.	Normalized kWh/sq.m.	
Total energy consumption	- 6.5%	5.8%	343,140	365,927	388,426	388,426	93.7	99.7	100.3	106	
<i>which heating</i>	- 5.0%	- 4.1%	244,060	266,847	256,866	278,324	64.1	70.1	67.5	73.1	
<i>which electricity</i>	- 10.0%	- 10.0%	99,080	99,080	110,101	110,101	29.6	29.6	32.8	32.8	
Total CO ₂ emissions	- 33%				Absolute figures tonnes CO ₂	Absolute figures tonnes CO ₂	(kg.CO ₂ /sq.m.)	(kg.CO ₂ /sq.m.)			
					7,393	-	1.6	3.0	-	-	
Total water consumption	- 1.9%		Absolute figures, m ³	Absolute figures, m ³	1,008,457	1,028,295	-	Absolute figures, m ³	Absolute figures, m ³	0.28	0.28

For more information see appendix Sustainability data 2017 on www.castellum.com.