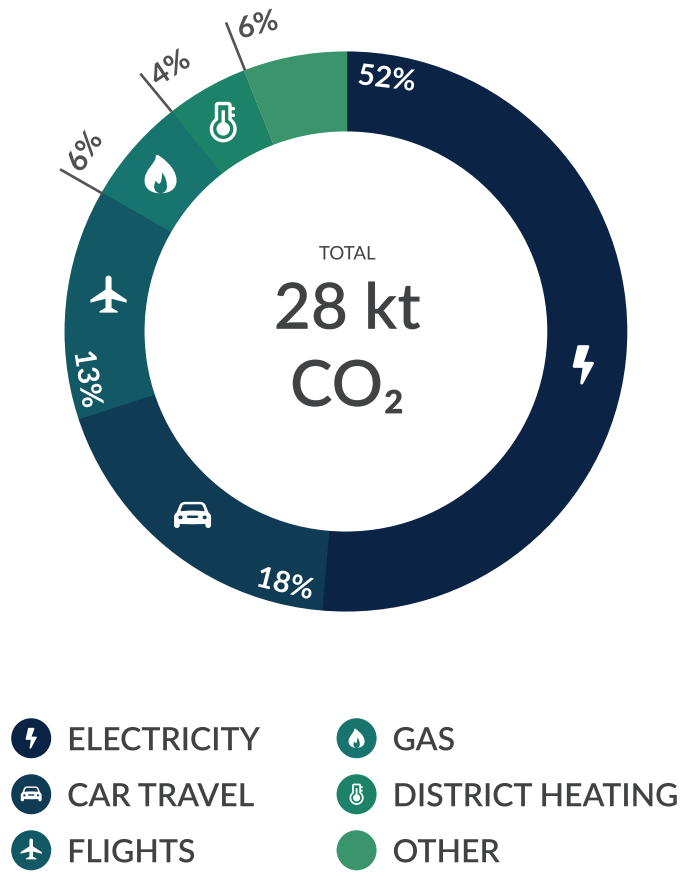
University of Twente Carbon Footprint 2019

Management Summary

The University of Twente is the ultimate people-first University of Technology. We empower society through sustainable solutions.

By adapting the mission above, the University of Twente aims to lead by example and consider sustainability to be a precondition in everything she does. The university has been assessing its environmental impact by reporting her carbon footprint since 2014. The carbon footprint reflects not only the impact of the activities of the university itself, but is also used as a tool to encourage its partners to report their greenhouse gas emissions and work together towards a sustainable future. The carbon footprint enables monitoring of progress of the strategic goal to:

"Implement sustainable solutions on our campus in the areas of food, water, waste, travel and energy use, thereby reducing our footprint by 15% in 2023."



Key figures

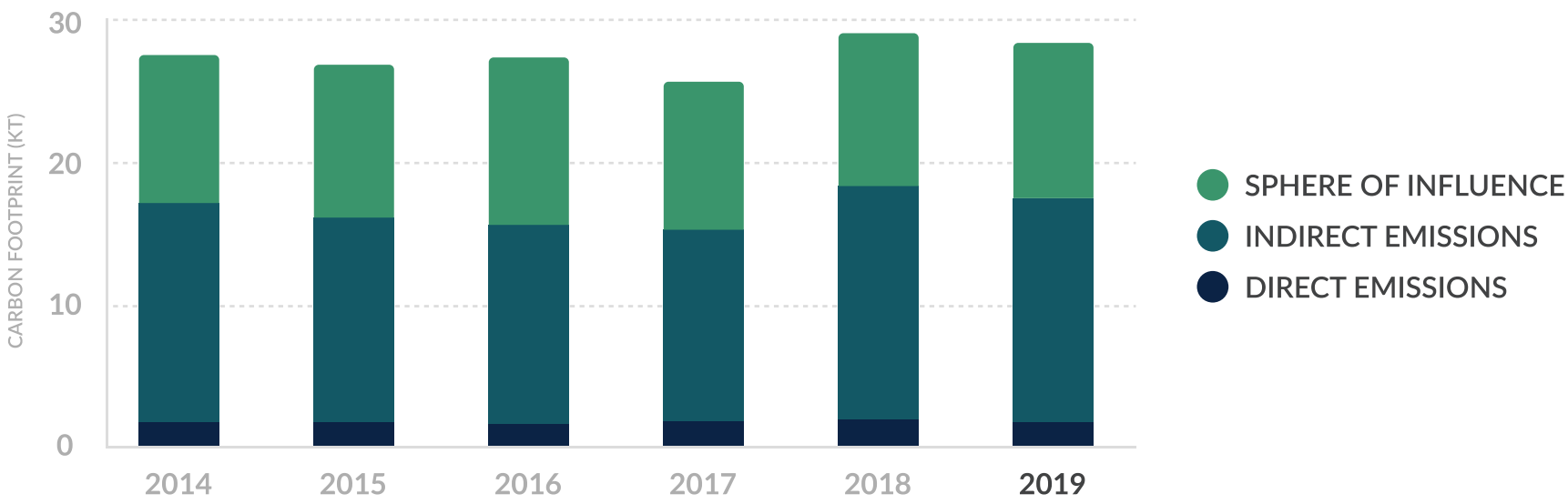
-4%
Total energy consumption

-19%
Short flights (<700 km)

+585
Solar panels placed on campus

-37t
Paper waste

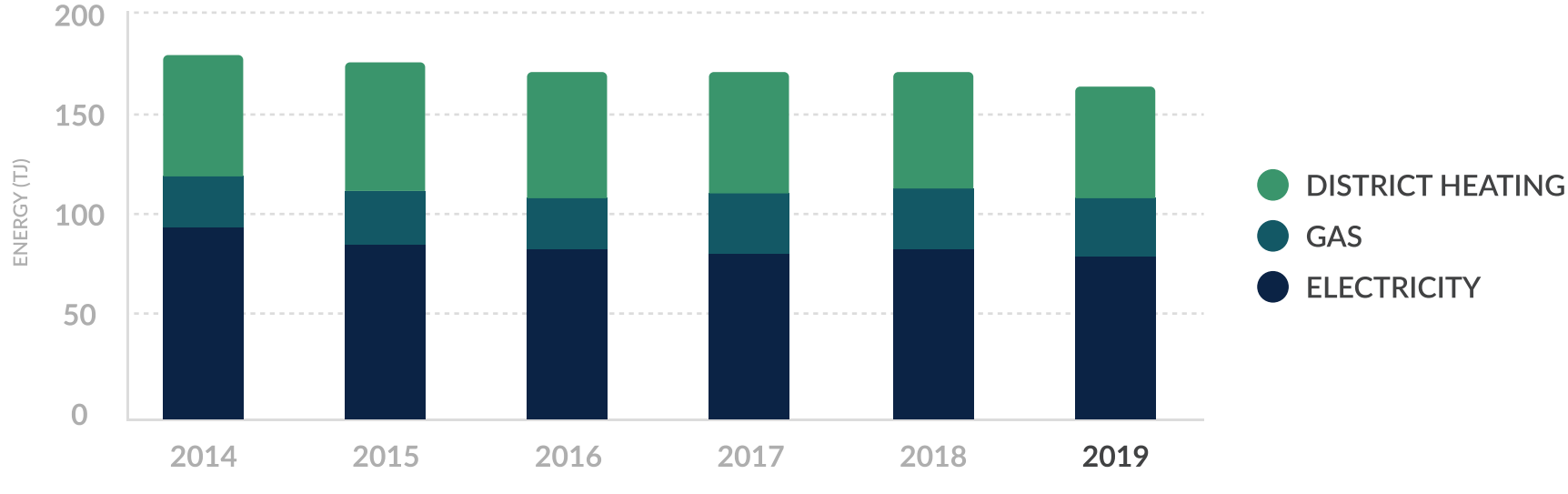
Carbon footprint development



realised

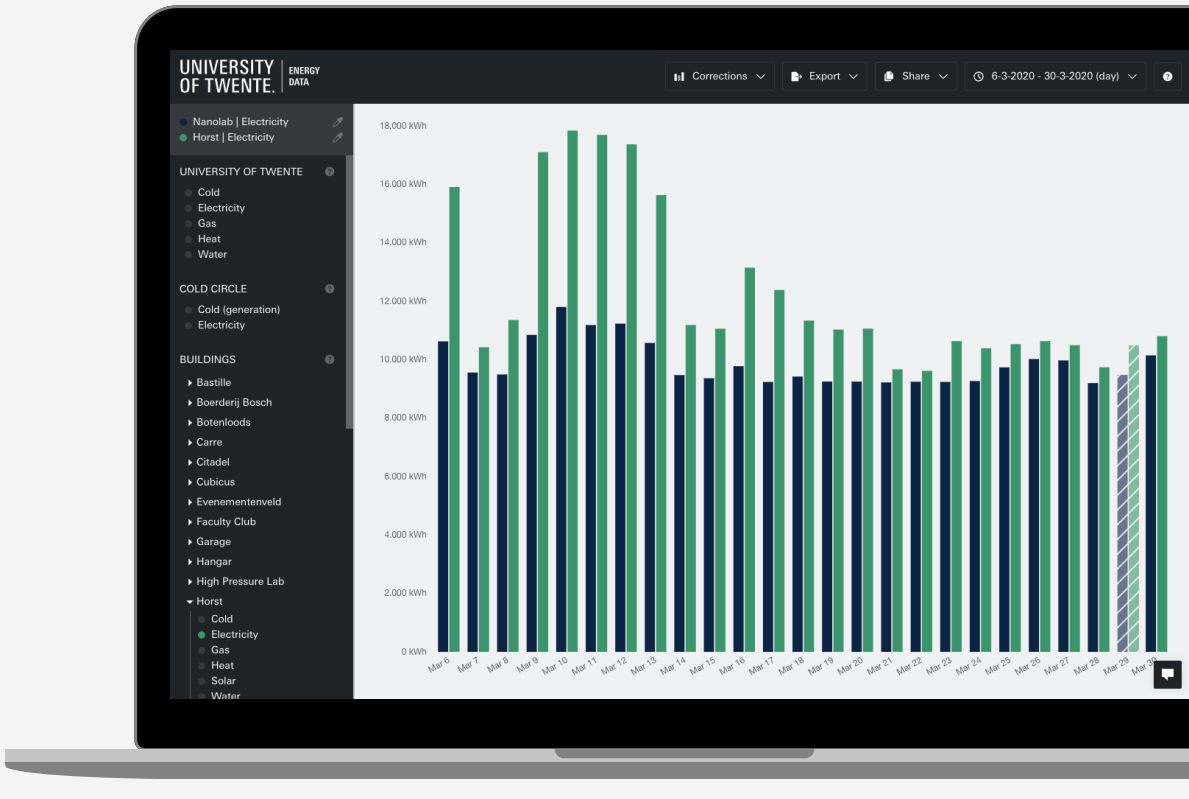
Direct and indirect emissions

The greenhouse gas emissions caused by directly burning fuels or the direct consumption of energy together, account for the majority of the university's carbon footprint. The amount of gas, heat and electricity consumed, has been actively reduced, while the number of students and employees has been increasing. Compared to 2018 the carbon footprint caused by direct and indirect emissions was reduced by 4.2% and the university consumed 6.3 TJ less energy. The carbon footprint related to the heating of university buildings is relatively low due to the large-scale implementation of district heating. By using district heating, the university is setting an example on how society can reduce their gas consumption. This saves around 1.8 million cubic meters of gas each year. Additionally, the cool circle in front of the Horst provides an efficient and environmentally assisted cooling system.



Data visualisation

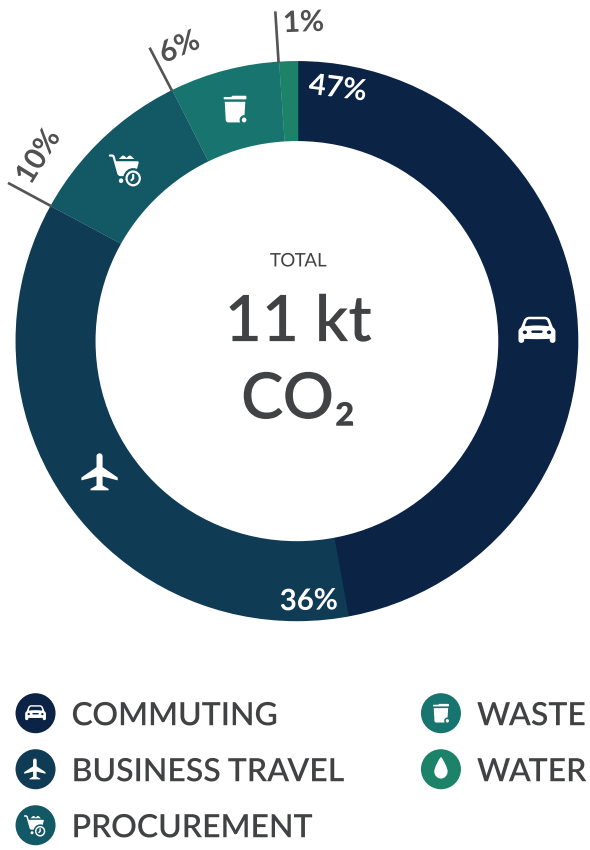
Transparent communication is part of the implementation approach of the Sustainability Policy. Besides the CO_2 footprint, real time energy consumption data of the university is presented on a data platform. On the website energydata.utwente.nl, employees, students and anyone who is interested, can analyse and download the energy data of every single building on campus. Additionally, students and education programmes can use these open datasets in data visualisation or machine learning courses.



University of Twente Carbon Footprint 2019

Sphere of influence

The university's sphere of influence are emissions that do not occur at the university but that the university can influence. This influence entails that by implementing specific policy measures the university has a direct impact on the partners that deliver goods and services to the university and how they operate. The university is actively encouraging partners to calculate their CO2 impact for the goods and services provided to the university and stimulating the entire supply chain to gain a better insight in their carbon footprint. The largest parts of the carbon footprint in this section are business travel by employees and commuting travel of students and employees.



Flying

International collaboration is integral to the work of a university. Travelling can be seen as one of the necessities of the scientific community, but not every trip is the same. Firstly, is a trip a necessity or can a trip be skipped? Secondly, are there alternatives such as taking the train of videoconferencing. Lastly, CO_2 compensation is an option to offset the impact of the trip. The impact of flying is categorised in three categories: short (<700 km), medium (700-2500 km) and long (>2500 km).

Category	Kilometres	CO_2 (t)
Short	638.238	190
Medium	2.692.438	538
Long	20.066.236	2.950
Total	**23.396.912**	**3.678**

Waste streams

With society moving towards a circular economy, reducing the use of resources is of great importance. Using fewer resources and discarding less leads to a reduction in the amount of waste produced. Avoiding waste, using fewer primary resources leads to a reduction in waste produced. At the same time, the waste that is still produced needs to be separated properly in order for it to be processed and re-used as a high-grade product without downcycling.

Category	CO_2 (t)
Residuals	596,4
Paper and cardboard	144,1
Wood	46,9
Compostables/swill	37,9
Plastics	24,4
Glass	18,1
Other	21,2
Total	**889,0**