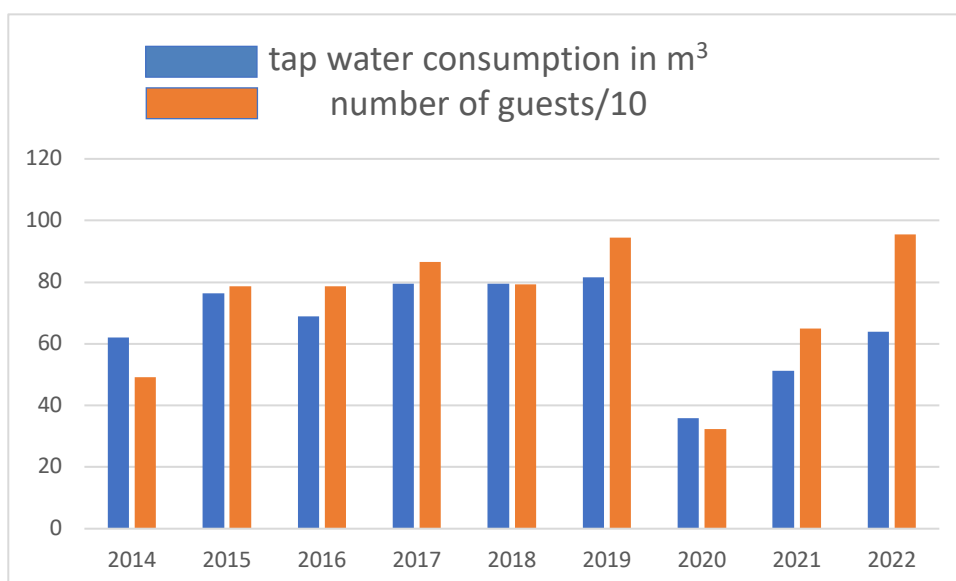


GREEN KEY – natural resources - use, evolution.

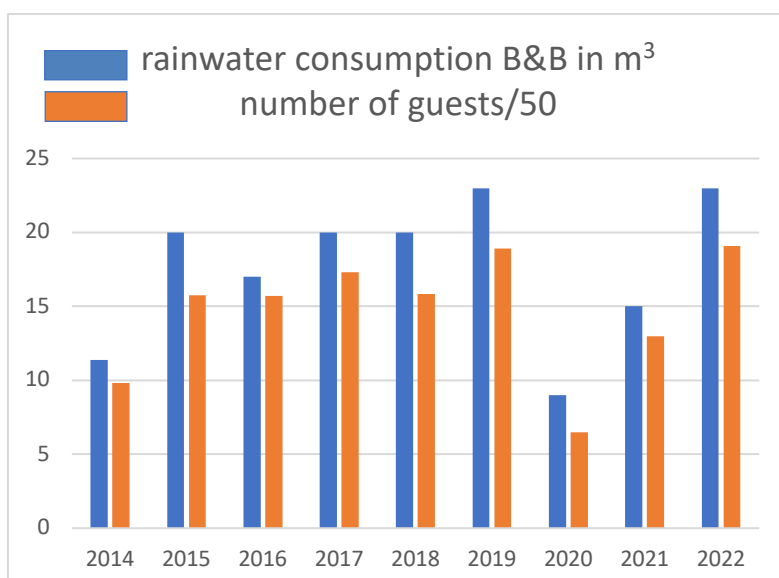
1. Data

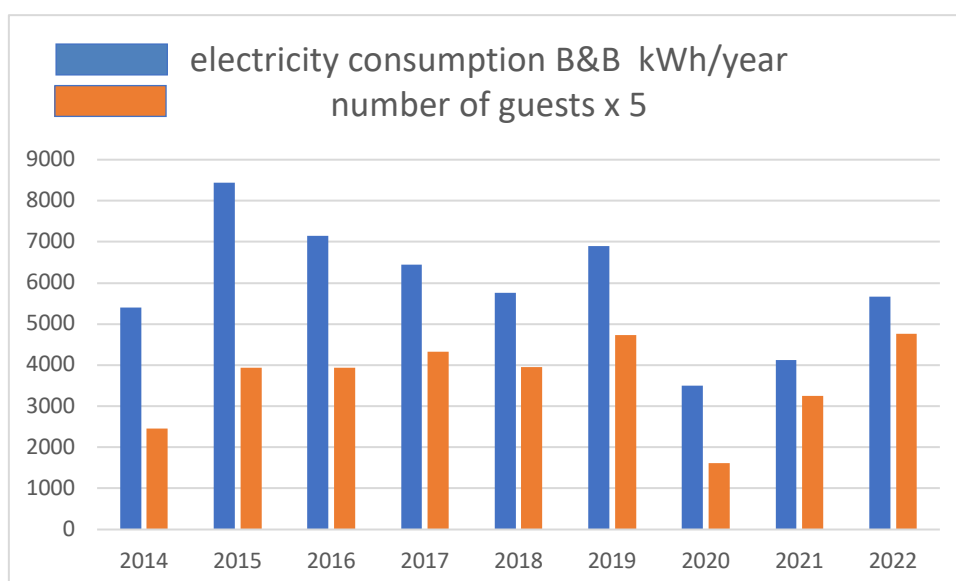
Tap water, electricity and rain/surface water meter readings have been recorded at regular intervals since the B&B started. *As part of the Green Key, meter readings are recorded every 1st day of the month (from 1 Jan 2021). Detailed results are also published on the Villa Emma website.*

For fuel oil consumption, the volume of fuel oil purchased is correlated with the number of degree days over the measured periods (see below).



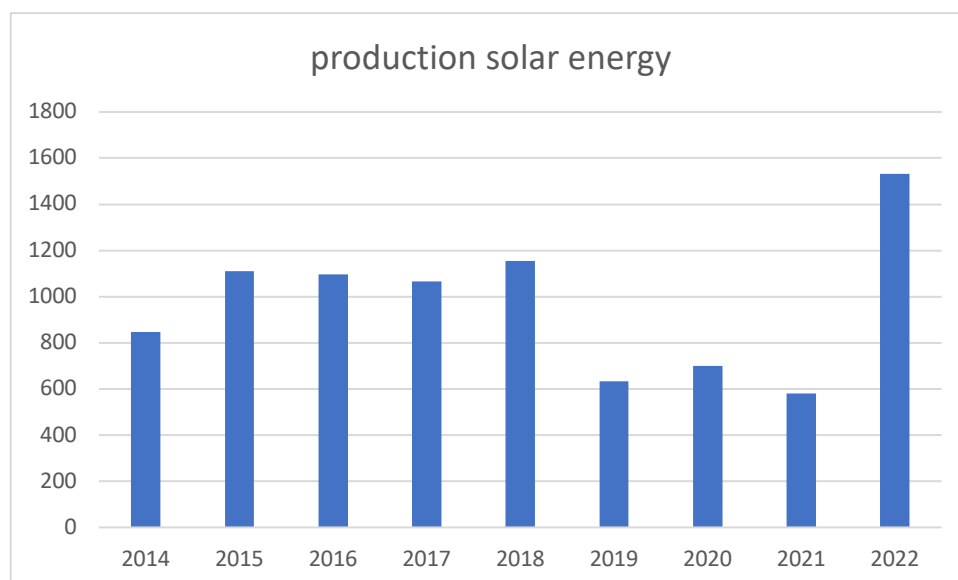
In Ghent, an average of 800 mm/m² of rainwater falls on an annual basis. For Villa Emma (3100 m²), this means about 2480 m³. No rainwater disappears into the drainage system.



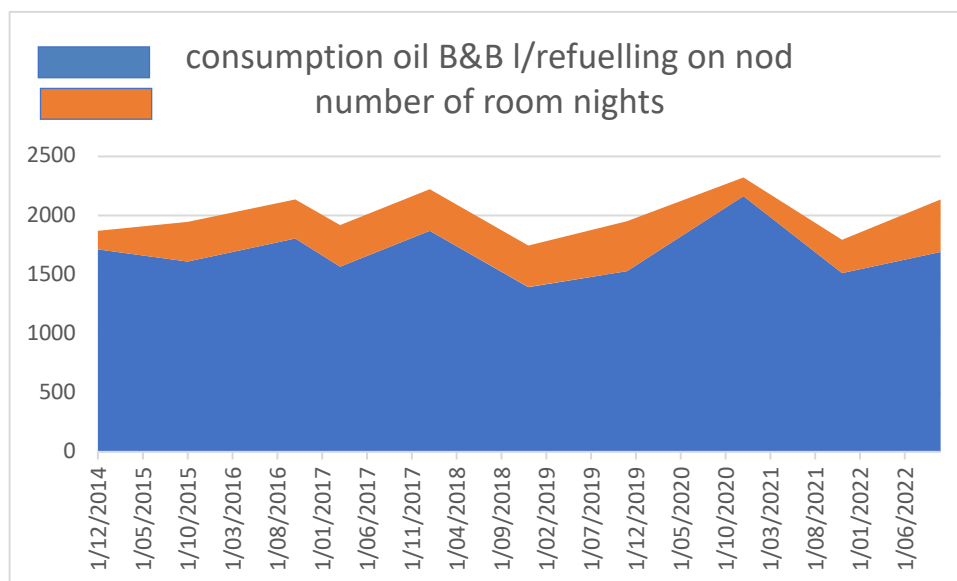


Villa Emma uses 100% green electricity: we are shareholders of “Ecopower” which produces (only) green electricity: from wind, sun & water. Ecopower also has a production unit for wood pellets in Limburg. The raw material is sourced within a 150 km radius of the plant (Ham) and only from sustainable forestry projects.

At Villa Emma electricity is also used for heating, cooling and production of domestic hot water by means of an air-to-air heat pump (see below).



Solar thermal energy is obtained via 4.6 m² of solar panels that heat a 300 l solar water tank (next to guest room Tilia). Backup is provided by an air/water heat pump and on top of that by the fuel oil boiler. The production reduction in 2019 is mainly related to increasing the boiler temperature from 55°C to 63°C due to comfort demand from our guests ...: filling a second bathtub.

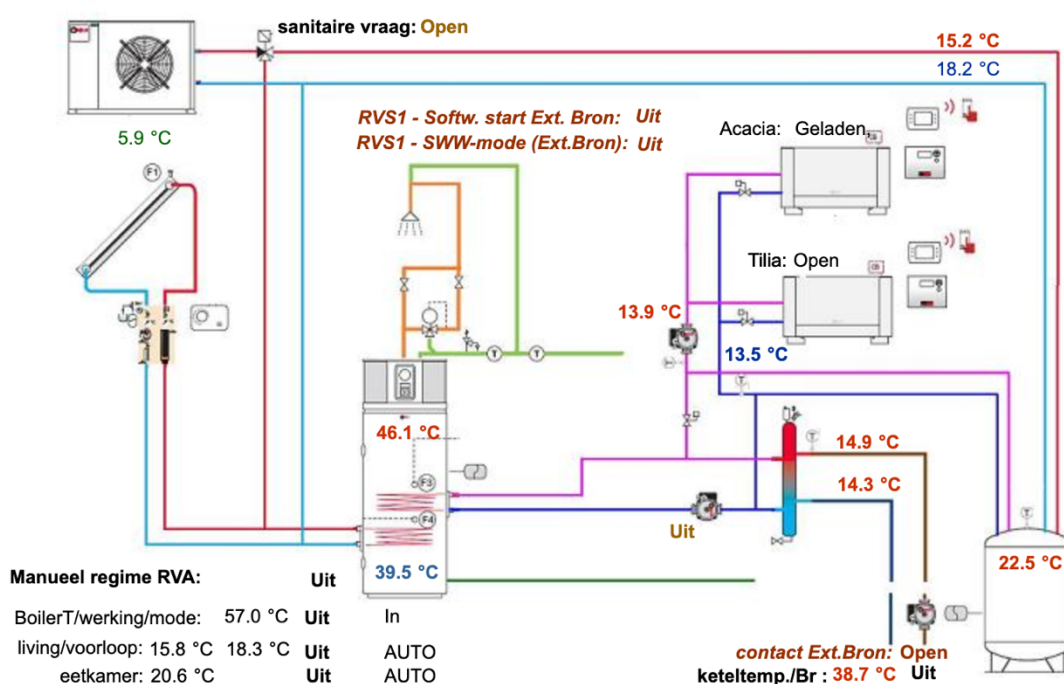


The house and domestic hot water for the private area are heated by a fuel oil boiler with a Low NOx fuel oil burner.

In principle, the 4000l oil tank (battery tank) is filled once a year. The quantity of oil delivered is correlated with the number of degree-days in between deliveries to obtain an objective consumption picture during that period. February 2021 was a cold winter month.

The degree-days are equal to the difference between 16.5 °C and the average outside temperature measured on one day and weighted over the previous three days.

The oil plant is used as a backup and to support heating and domestic hot water production in the B&B:



The heating and water system can be monitored and controlled digitally - over the web. Each guest room is equipped with basic control over a digital programmable room thermostat (heating - cooling). On top of that, a temperature setting per individual room - per convector - is possible.

2. CO₂-footprint

Using the calculation tool "Hotel Carbon Management Initiative (HCMI) tool", the carbon footprint was calculated:

werkjaar	elektriciteit kWh	stookolie l	Zonne-energie kWh	aantal kamernachten	CO ₂ kg /jaar	CO ₂ kg/nacht
2014	5398	1711	848	160	6250	22
2015	8442	1608	1111	339	6890	11,4
2016	7147	1803	1096	331	7030	11,9
2017	6448	1568	1065	354	6180	9,8
2018	7553	1868	1156	352	7330	11,7
2019	6893	1395	632	421	5850	7,8
2020	3506	1530	700	158	5190	18,5
2021	4120	2200	581	282	7190	14,3
2022	5660	1512	1531	447	5800	7,3

2020 and 2021 are abnormal years owing to the corona crisis.

In October 2022, we purchased 60 tons of CO₂ making our guests' stay carbon-neutral in 2022, 2023 and 2024. However, our guests are given the option to offset their carbon footprint.

This is done through Belgian 2 projects: Carbon Farming through Bénédictine Rary's dairy farm from Thuin and Natuurpunt's tree planting project in the Gentbrugse Meersen. Both projects are explained at: <https://www.villa-emma.eu/en/compensation-co2-foot-print>.

A start was made on offering the compensation option in October 2022. These are the results up to 31 December 2022:

