

## Share-North July 1 – December 31, 2019

This brief report summarizes the data from the operation of the charging infrastructure of the first 6 mobility hubs in Bergen, Norway.

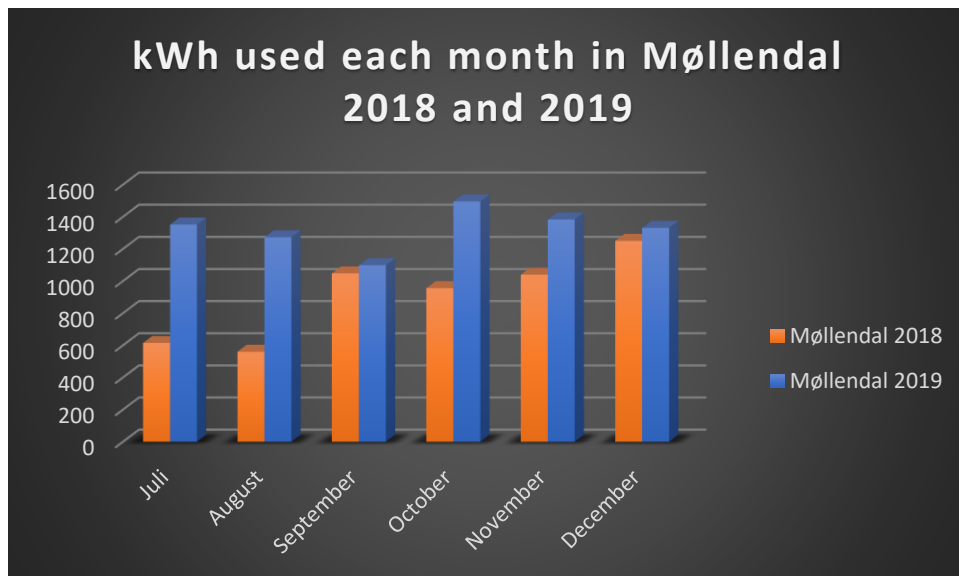


*The six locations in operation.*

### **Møllendal**

This is Bergen's first mobility hub. In addition to shared cars this site provides bike parking, a digital infoboard and a bus stop. A bike sharing station is just around the corner.

Møllendal is an urban transformation area consisting of newer and older buildings. It is also home to Bergen School of Art and Design. The centre of Møllendal has been greatly upgraded the last years with a public square, opening the area towards the ocean. The area is also home to many students through public student accommodations.

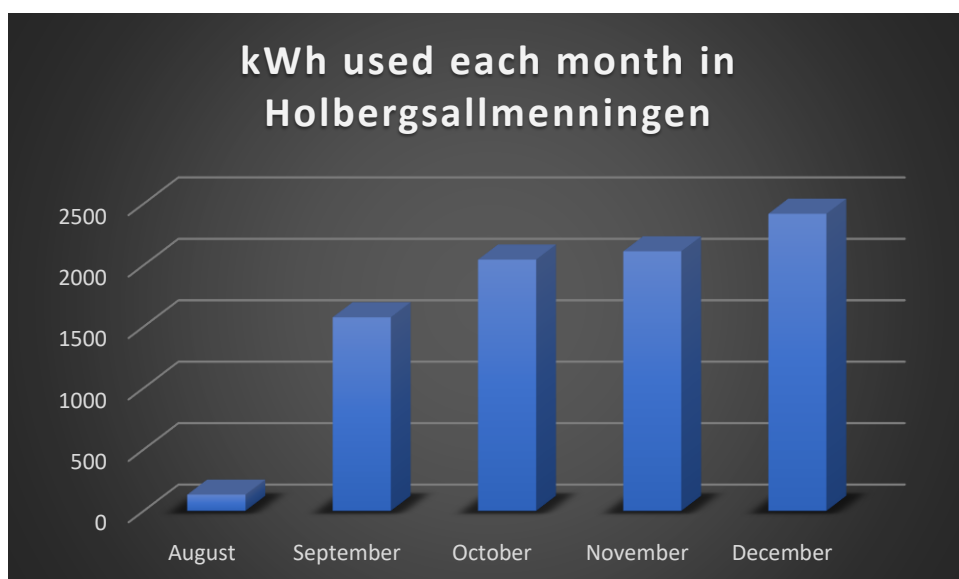


*Table 1: The mobility hub in Møllendal was officially opened in May 2018 and has parking bays and chargers for up to 9 shared electric cars. We can see an increase in the use from the same period last year.*

### Holbergsallmenningen

Is a wide street with parking and an alley in the centre. The street is named after author Ludvig Holberg who was born in the area in 1684. Together with the mobility hub the alley between the parking spots has been renovated with green space and a new waste management system. The wide street ensures an open connection between the upper part of Nordnes towards Bergen Harbour.

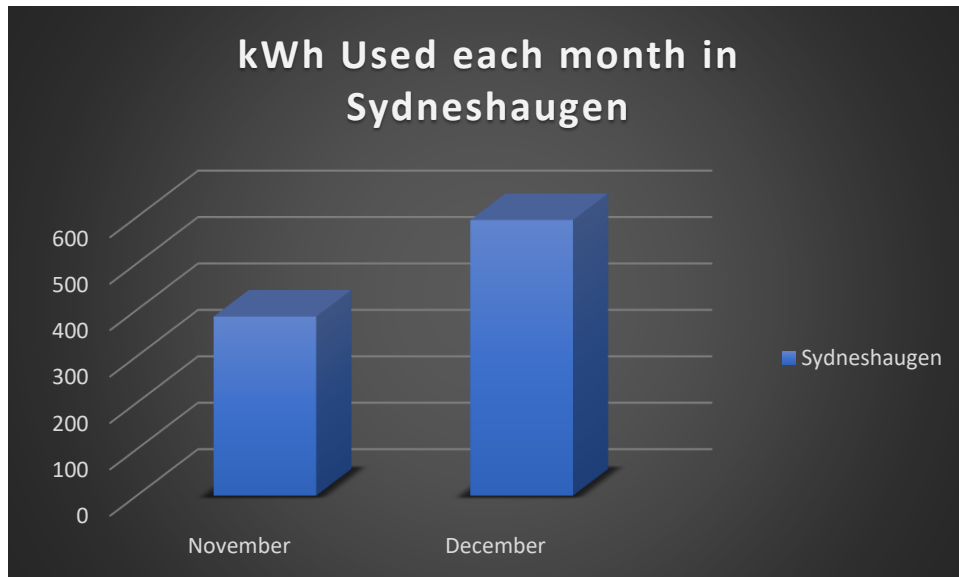
The Nordnes area is dominated by narrow streets, cultural buildings, apartment buildings and parks. It is home to both young and old, families and singles. There are few parking lots for private cars in the area.



*Table 2: The installation at Holbergsallmenningen was finished in late august 2019 with room for 6 electric cars. We can see an increase in use since then.*

## Sydneshaugen

Sydneshaugen is located on the University hill. It is surrounded by great villas, university buildings museums and the St. John's Church overlooking the city. Sydneshaugen is home to both students and families with and without children. There are few places for private parking and a good spot for car sharing.



*Table 3: Sydneshaugen is a new installation finished in November 2019 with 7 cars. It will be interesting to see the development at this mobility hub.*

## Møhlenpris (Professor Hansteensgate, Welhavens gate and Thormøhlens gate)

Møhlenpris stretches between the Nygaardsparken, a long park, and the fjord. Many of the buildings are older apartment buildings. The population is characterised by a cultural diversity, young and old. It is a compact area that holds many different facilities; a school, kindergartens, football field, Bergen Technical Museum, university, cafés, office- and industry.

Parts of Møhlenpris is the geographical centre for a car free neighbourhood project. It is a good spot for car sharing.

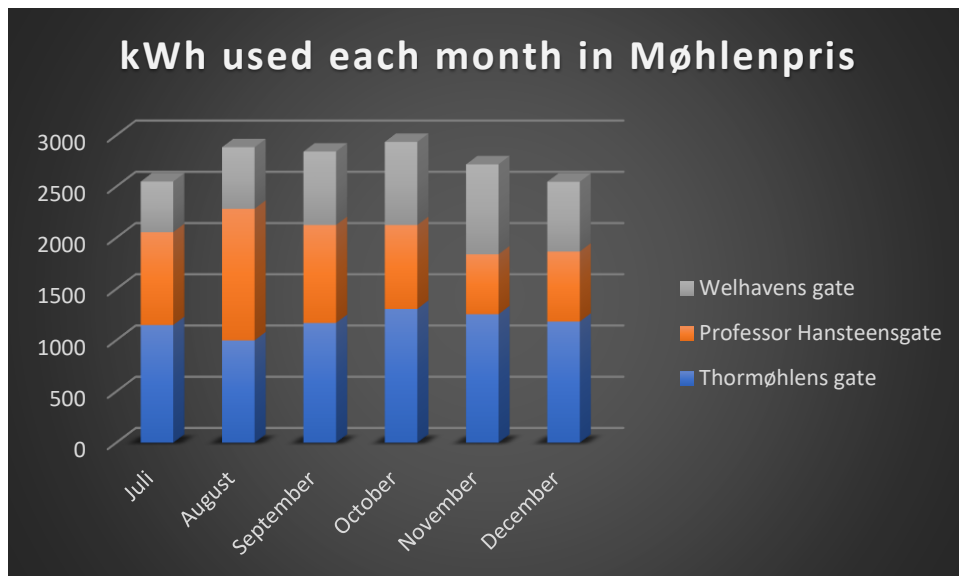


Table 4: These three mobility hubs is in the same area, Møhlenpris. This table shows both the total and use for each site.

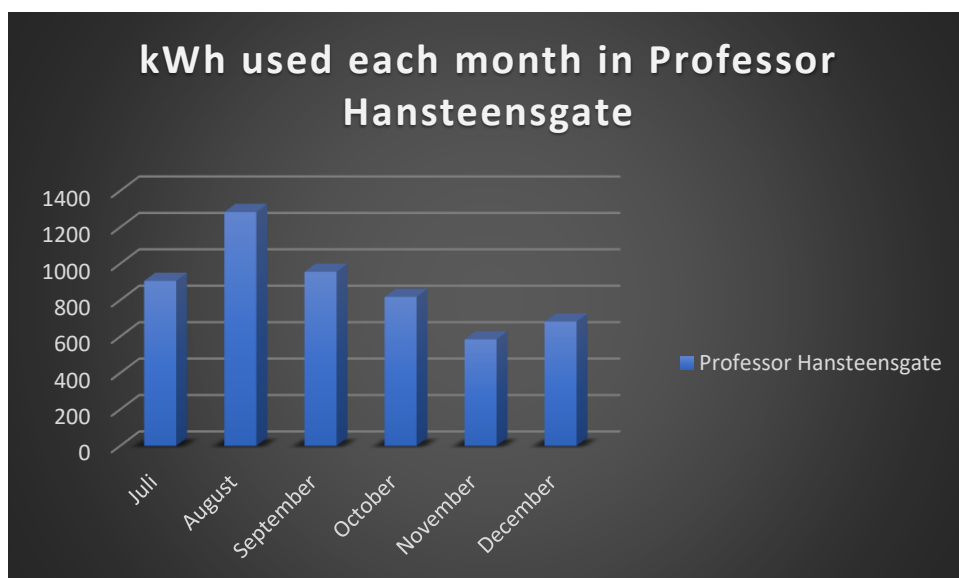
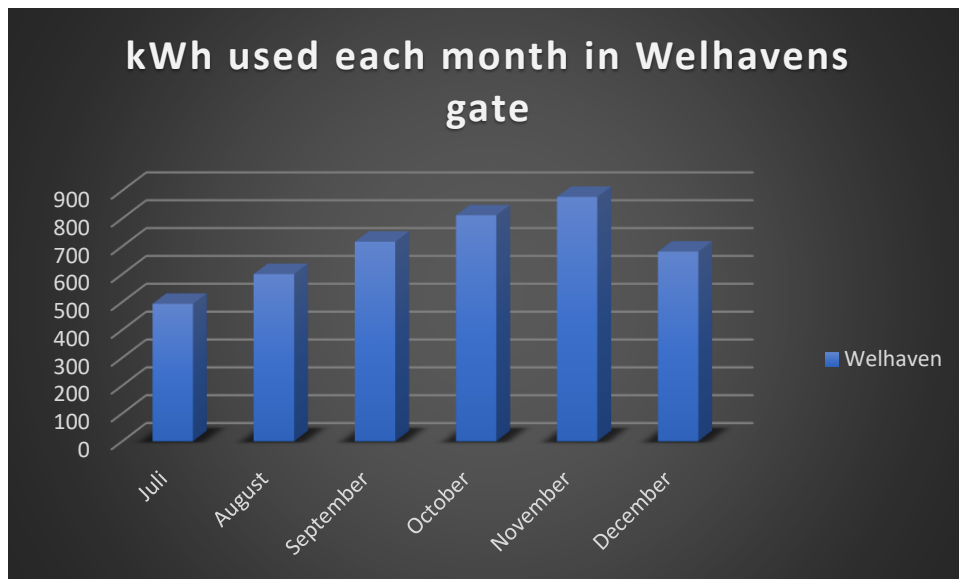
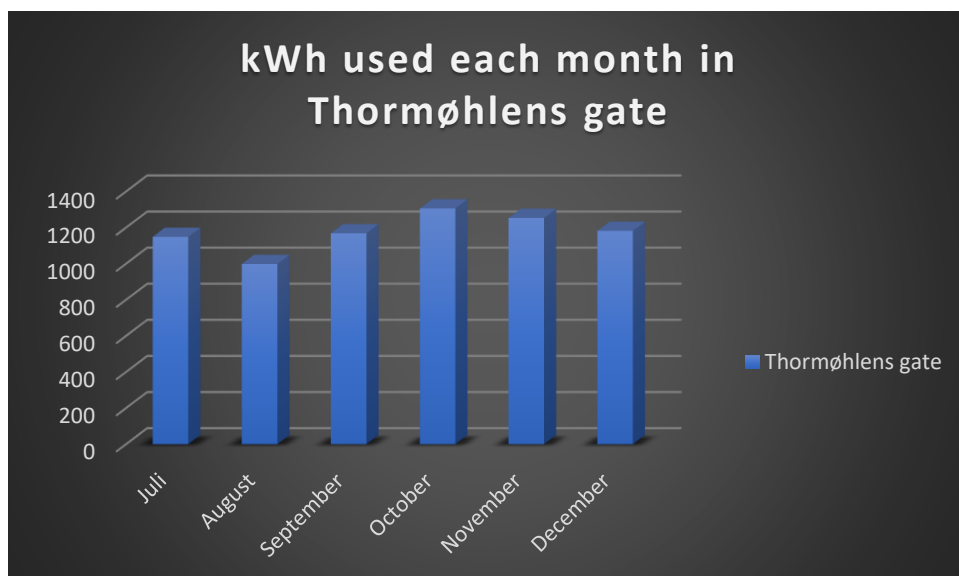


Table 5: We can see a decrease in the use in this installation in Professor Hansteensgate. It is most likely that this is due to construction work on the adjacent buildings in the period September through November. The installation was finished in november 2018 and has parking bays for 4 electric and 2 conventional cars.



*Table 5: The installation in Welhavens gate was finished in august 2018 and has facilities for two electric cars. We can see a steady increase from July through November. We are uncertain as to why the usage of the mobility hub decreased in December. It will be interesting to compare the numbers in December 2020.*



*Table 6: The Thormøhlens gate installation was finished in april 2018 and holds facilities for four electric cars. The mobility hub is well established and shows a relatively steady use through this period.*

### **How much CO<sub>2</sub> was saved from using these cars instead of fossil fuel cars?**

The total amount of power in all installations used by car sharing provider Bildeleringen is 33 687 kWh.

This equals 221 627,11 km of driving when the most common electric car model Nissan Leaf uses 15,2 kWh/100km.

The alternative small fossil car Bildeleringen offers is Skoda Rapid. This car uses 0,05 l/km

One litre of octane 95 petrol creates 2,20 kg CO<sub>2</sub> by direct chemical conversion.

***This means that these electric cars reduced the climate emissions of Bergen by 24 423 kg CO<sub>2</sub> for the reporting period 1<sup>st</sup> of July to 31<sup>st</sup> of December 2019.***

These figures only compare emissions of the use of standard shared fossil fuel cars versus shared electric cars. In addition, the effect of car sharing itself must be considered when estimating emissions reductions for the city.

- For Bergen, we would estimate that each shared car replaces about 10 privately owned cars
- The 31 shared electric cars in Bergen then replaces an estimated number of 310 cars.
- The average mileage for private cars in Norway is 15 000 km per year, 7 500 km for this six-month period.
- New cars in Norway have an average CO<sub>2</sub> emission of 75g/km (including electric cars). In this case we simplify and set the emission rate for the replaced 310 cars to 100g/km
- The calculation of saved CO<sub>2</sub> emissions for the 6 month period: 310 cars x 7 500 km x 100g/km = **232 500 kg CO<sub>2</sub>**

***In total, we could estimate that the 31 shared electric cars are saving 464 metric tonnes of CO<sub>2</sub> emissions per year.***