



# Energy and CO<sub>2</sub> Account

## 2008-2021



Electrification of heating,  
transport and drying is priority



# Electrification is in focus



Since 2008, C.C.JENSEN A/S has worked efficiently to reduce CO<sub>2</sub> emissions, and has had good success with becoming CO<sub>2</sub> neutral according to the calculation methods used thus far. Still, it is possible to reduce energy consumption, and fossil fuels can be converted to green energy sources.

The accounts show a comparison of our CO<sub>2</sub> emissions over the years, development in the consumption of the various energy sources, and the energy consumption at the various locations in the years 2008-2021.

In 2021, the main message is that the CO<sub>2</sub> emissions have decreased by 5.9%, when emissions from passenger transport and the CO<sub>2</sub> neutral electricity production from the wind turbines and the solar panels is excluded. The cause shall be found mainly in a reduced consumption of natural gas, which has a high CO<sub>2</sub> emission. Both electricity usage, wood pellets and district heating consumption has increased.

This year, once again, production volumes in Hesselager have increased, and if the total consumption converted to kWh is calculated, then we succeeded in increasing our energy efficiency, which shows how much energy we consume in the production of one kgs of filter insert. This figure has been reduced to index 52 when comparing to the starting year 2008 – ie. close to half the consumption.

If wind turbines, solar panels and transport are excluded, the CO<sub>2</sub> emissions are now at 18% of the 2008 level, where the project was started – another year with an improvement is thereby achieved.

In 2020, there have been four projects running:

- Windows have been replaced in the administration on Rødeledsvej 60.
- The light ribbon in the overhead windows on Rødeledsvej 60 have been replaced.
- Three air-to-air heat pumps have been installed on Rødeledsvej 60.
- 2 air-to-air heat pumps have been installed on Rødeledsvej 70.

The electricity production from the wind turbines was considerably reduced by 19.1%, and for the solar panels it dropped by 7.6%. In total this gives an reduction of 19% compared to 2020.

In 2018, we started to measure the CO<sub>2</sub> emissions from passenger transport. 2021 was marked with reduced travel due to the global Covid-19 pandemic. Compared to 2020, the reduction was 28,4T CO<sub>2</sub> in 2021. In 2021, the total emissions from transport were 168T CO<sub>2</sub>, and we will strive to keep a low level also after travelling starts again. For this reason 2021 welcomed a new policy of all company cars be EVs going forward, and therefore a number of charging stations have been installed at the head office, as can be seen from the front page.

With regards to heating, we already phased out oil furnaces in 2017, and we are well underway with replacing natural gas with head pumps and district heating. In 2021, we thus installed five heat pumps.

The largest future technical improvement projects will continue to be in Hesselager, where we consume most energy. Here we continue to work on the conversion of the drying process from steam to heat pumps, and this is a project we expect a great deal from. We consider it unique that C.C. JENSEN, despite very reduced wind and sun in 2021, continues to maintain a position as almost CO<sub>2</sub>-neutral. That makes us relevant for both customers, suppliers, and employees. The project continues with an increased scope of also including CO<sub>2</sub> emission from raw materials, and the steering committee will henceforth be constituted of Carl Aage Jensen, Lars Qvistgaard, and Jens Fich.

Thanks to everyone, who have contributed to the project since 2008. Good work and impressive results!



Carl Aage Jensen

Jens Fich

Lars Qvistgaard



# Main Conclusions 2021

## CO<sub>2</sub> emissions for the locations

Despite an increasing energy consumption in C.C. JENSEN from 2020 to 2021, the total CO<sub>2</sub> emissions decreased by 5,9% (the number excludes wind turbine and solar panels) to 413 tonnes CO<sub>2</sub>. This corresponds to a decrease of 25,937 kg CO<sub>2</sub>.

The main reason for the decrease is a reduction in the use of natural gas due to a change in heating source and a change in CO<sub>2</sub>-emissions from the various energy sources used. As an example, the conversion factor for natural gas is reduced by 2,5% because of increased use of biogas. The actual energy consumption has increased for all energy sources, except natural gas.

- **Hesselager** has reduced CO<sub>2</sub> emissions by 42,988 kg CO<sub>2</sub> (electricity increased by 3.7%, wood pellets consumption increased by 18.4% and natural gas was reduced by 32.3%). The production measured in kg cellulose increased by 10.9% to a total of 678,922 kg.
- **Rødeledsvej 60** has increased CO<sub>2</sub> emissions by 7,784 kg CO<sub>2</sub> (the electricity consumption decreased by 7.4%, district heating increased by 0.3%).
- **Rødeledsvej 70** has contributed with reducing CO<sub>2</sub> emissions by 11,967 kg CO<sub>2</sub> (electricity increased by 27.9%, natural gas decreased by 10.4%).
- **Løvholmen 9-13** has increased CO<sub>2</sub> emissions by 16,789 kg CO<sub>2</sub> (electricity was reduced by 4.3% and natural gas increased by 21.5%).
- **Abildvej** has increased CO<sub>2</sub> emissions by 723 kg CO<sub>2</sub> (electricity increased by 14%, and natural gas increased by 7.9%).
- **Løvholmen 18** has increased CO<sub>2</sub> emissions by 1,515 kg CO<sub>2</sub> (electricity decreased by 3% and district heating increased by 13.7%).
- **Tværvej 23-25-27** has increased CO<sub>2</sub> emissions by 2,207 kg CO<sub>2</sub> (electricity decreased by 8.1%, natural gas increased by 12.1%, and the wood pellets consumption increased by 23.3%).

GO<sub>2</sub>Green

Besides the initiatives taken internally at C.C.JENSEN, we are initiator of and partner in the climate initiative GO<sub>2</sub>Green, working to reduce energy consumption and create green jobs in southern Funen.



## Wind turbines and solar panels

Electricity production from wind turbines decreased by 19.1%, and also the production from solar panels decreased by 7.6%. In total, it is a decrease by 19% when compared to last year (618,019 kWh).

Now, the total production of electricity from wind turbines and solar panels is 2,630,208 kWh. Converted to CO<sub>2</sub> emissions, the electricity production corresponds to 355,078 kg CO<sub>2</sub>.

## Employees

The total number of employees increased by 2% (208 employees in 2020 compared to 204 employees in 2019).

## Passenger transport

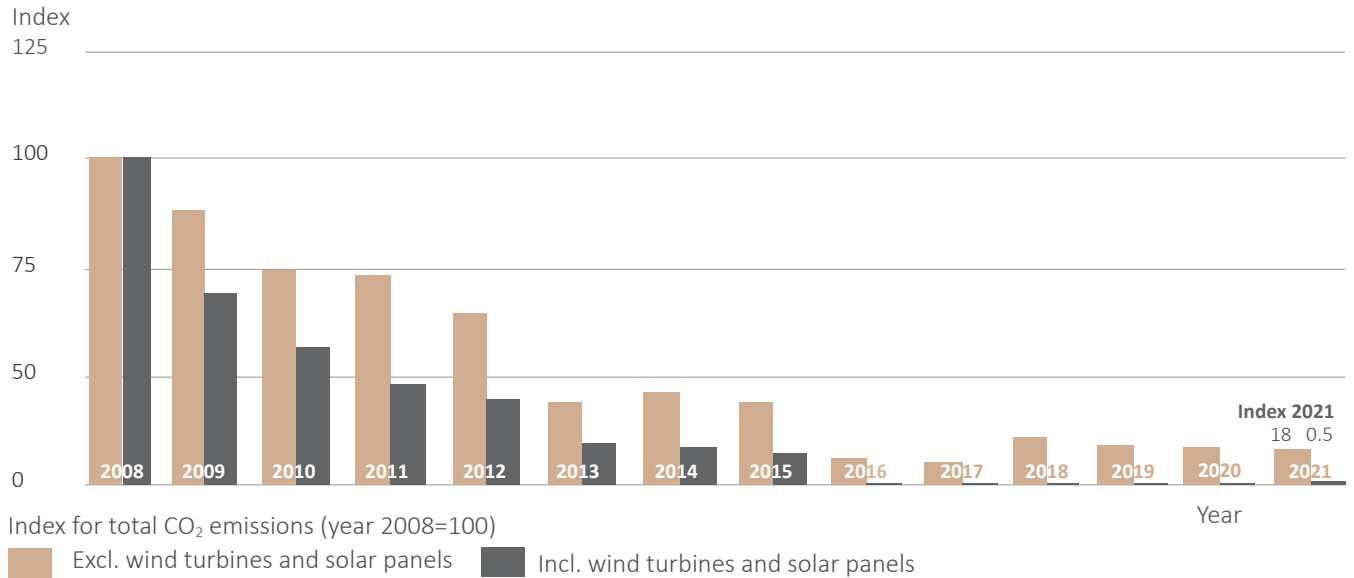
Now, CO<sub>2</sub> emissions from transport for C.C.JENSEN A/S has been registered for 4 years, and also 2021 was influenced by the Covid-19 pandemic, resulting in significantly reduced CO<sub>2</sub> emissions from transport.

The total emissions have decreased from 196.6 tonnes CO<sub>2</sub> in 2020 to 168.2 tonnes CO<sub>2</sub> in 2021.

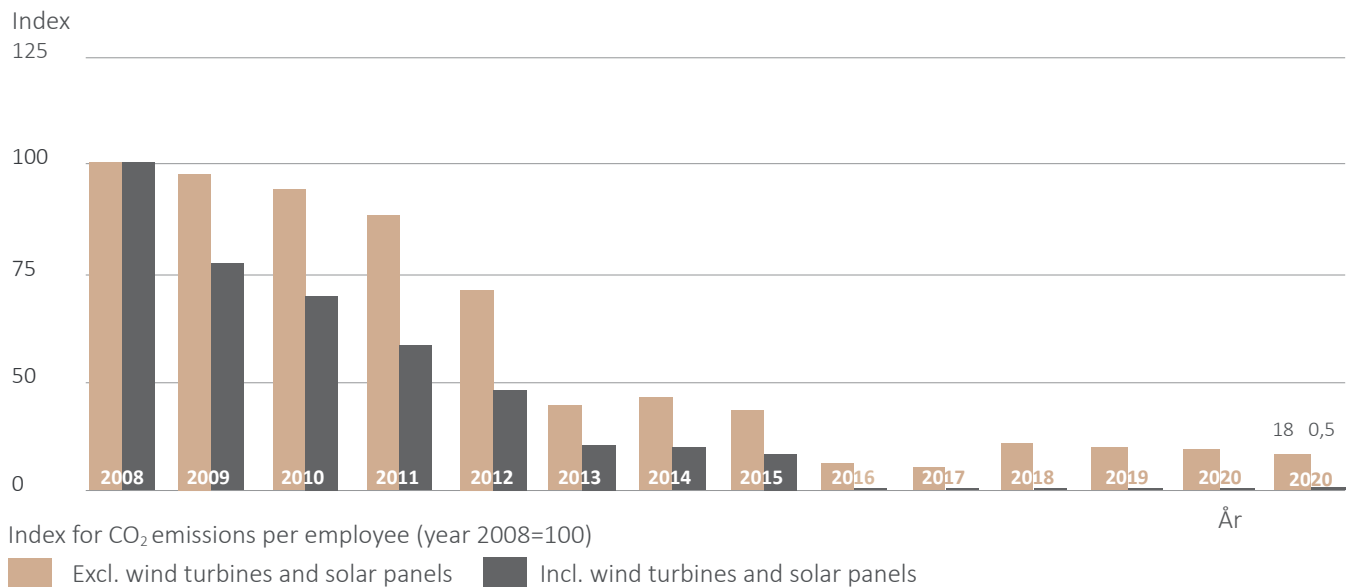
The reduction is primarily due to reduced emissions from car transport, which fell from 172.3 tonnes of CO<sub>2</sub> to 148.3 tonnes of CO<sub>2</sub>, but also air transport has dropped by 4.4 ton CO<sub>2</sub> so that the total emission from air transport is now 19.9 tonnes of CO<sub>2</sub>.

# CO<sub>2</sub> Development excl. passenger transport

Total CO<sub>2</sub> emissions per year



CO<sub>2</sub> per employee per year



## Reduction

CO<sub>2</sub> emissions have been reduced continuously since 2008 - both in terms of total CO<sub>2</sub> emissions and in terms of CO<sub>2</sub> emissions per employee. In 2021, it fell slightly further, mainly due to less use of natural gas and conversion to heat pumps.

In 2021, the wind blew considerably less, so the production of our wind turbines was reduced. This had led to the index figure no longer being 0, but now 0.5 in 2021.

# Energy & CO<sub>2</sub> Saving Projects

The Steering Group works closely with department heads on the ongoing projects. There are still major savings to be made, which can accumulatively reduce CO<sub>2</sub> emissions for the entire business.

Location	Project	Timing
Rødeledsvej	Plaster ceilings and insulation at model carpentry & warehouse	Concluded 2016
Rødeledsvej	Insulation at casting - room for storage of ISO pipes etc.	
Rødeledsvej	Changing 1-layer windows to thermo windows in casting	
Subsidiaries	Pass on experience from Svendborg to subsidiaries	
Løvholmen 9	2 new electrical vans for the maintenance department	
Abildvej	Insulation	
Hesselager	Replacement of wood pellets with wood chips (step 1)	Concluded 2017
Hesselager	LED lights in hall 4	
Rødeledsvej	Exchange of oil furnace with district heating	
Rødeledsvej	Insulation and lighting optimization	
All locations	Energy Audit	
All locations	Employees are offered a free energy audit of their homes	
Løvholmen 11	LED lights in standard filter factory	Concluded 2018
Løvholmen 11	Ventilation control in standard filter factory	
Løvholmen 18	LED lights	
Rødeledsvej 60	LED lights in welding workshop	
Rødeledsvej 60	LED lights in SFU department	
Rødeledsvej 70	LED lights in service and test department	
Hesselager	Faster runtime dry zone Hesselager	Concluded 2019
Rødeledsvej 60	Gas boiler in SFU Rødeledsvej 60 replaced by heat pump	
Rødeledsvej 60	Changing of windows in the administration building	Concluded 2020
Rødeledsvej 70	Installation of air-to-air heat pump in shipping department	
Rødeledsvej 60	Change of windows in the administration	Concluded 2021
Rødeledsvej 60	3 air-to-air heat pumps installed in the administration	
Rødeledsvej 60	Change of light ribbons in the overhead windows	
Rødeledsvej 70	2 air-to-air heat pumps in the shipping department	
All locations	Phasing out of natural gas as a heat source	Continues
All locations	Reduction of products' energy consumption	Continues
Hesselager	Optimization of steam drying	Continues

**Your ideas**

Where do YOU think we can reduce energy consumption?

The best ideas are rewarded!

Send your suggestions to [lq@cjc.dk](mailto:lq@cjc.dk)

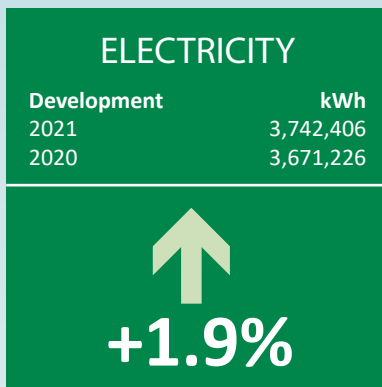


# Development of the Energy Sources

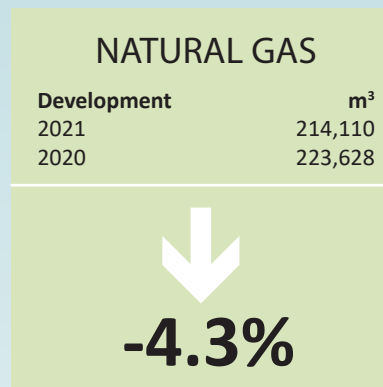
## 2020-2021

After eliminating oil-based heating in 2017, the focus is now on eliminating the use of natural gas for heating. In 2021, we have experienced an increase in the consumption of all energy sources, except natural gas, which is significant. The wind turbines produce much less than last year, and also the solar panels it has been a sunny year with increased production from the solar panels' production dropped.

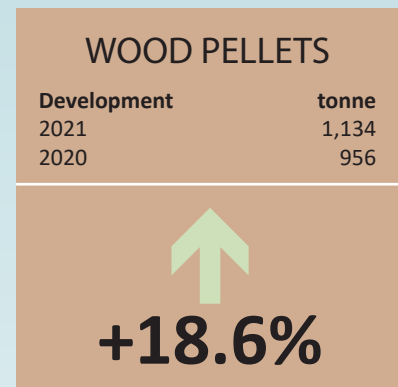
Increased production in Hesselager increases energy consumption, but the use of natural gas has been reduced considerably.



Rødeledsvej 70 represents the largest increase (62,240 kWh). The largest reduction is at Rødeledsvej 60, where the consumption is reduced by 67,102 kWh.

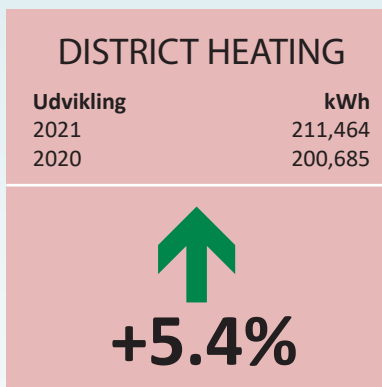


Hesselager's natural gas consumption has decreased by 32.3%, corresponding to 22,270 m<sup>3</sup>.

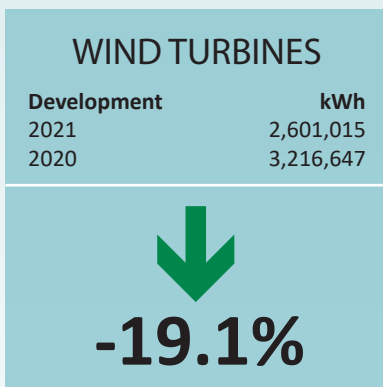


The consumption of wood pellets has increased in all locations, where it is used.

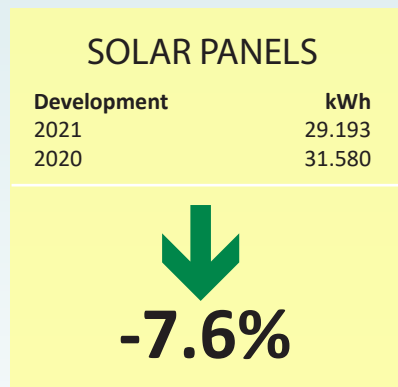
### ELECTRICITY PRODUCTION



Practically all of the increase in district heating can be linked to Løvholmen 18.



In total, the production of electricity by the wind turbines dropped by 615,632 kWh.

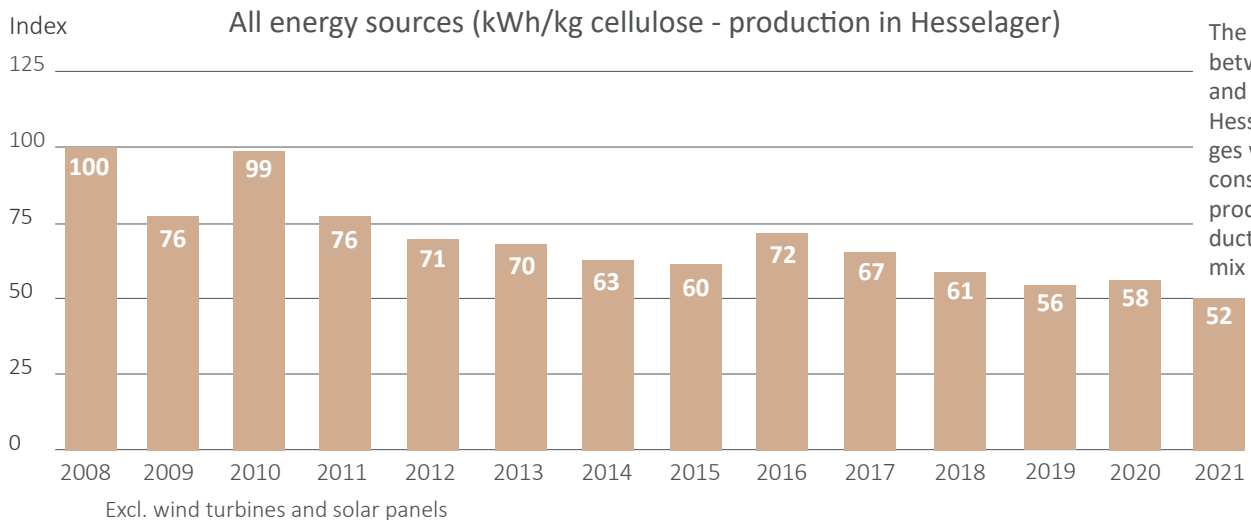
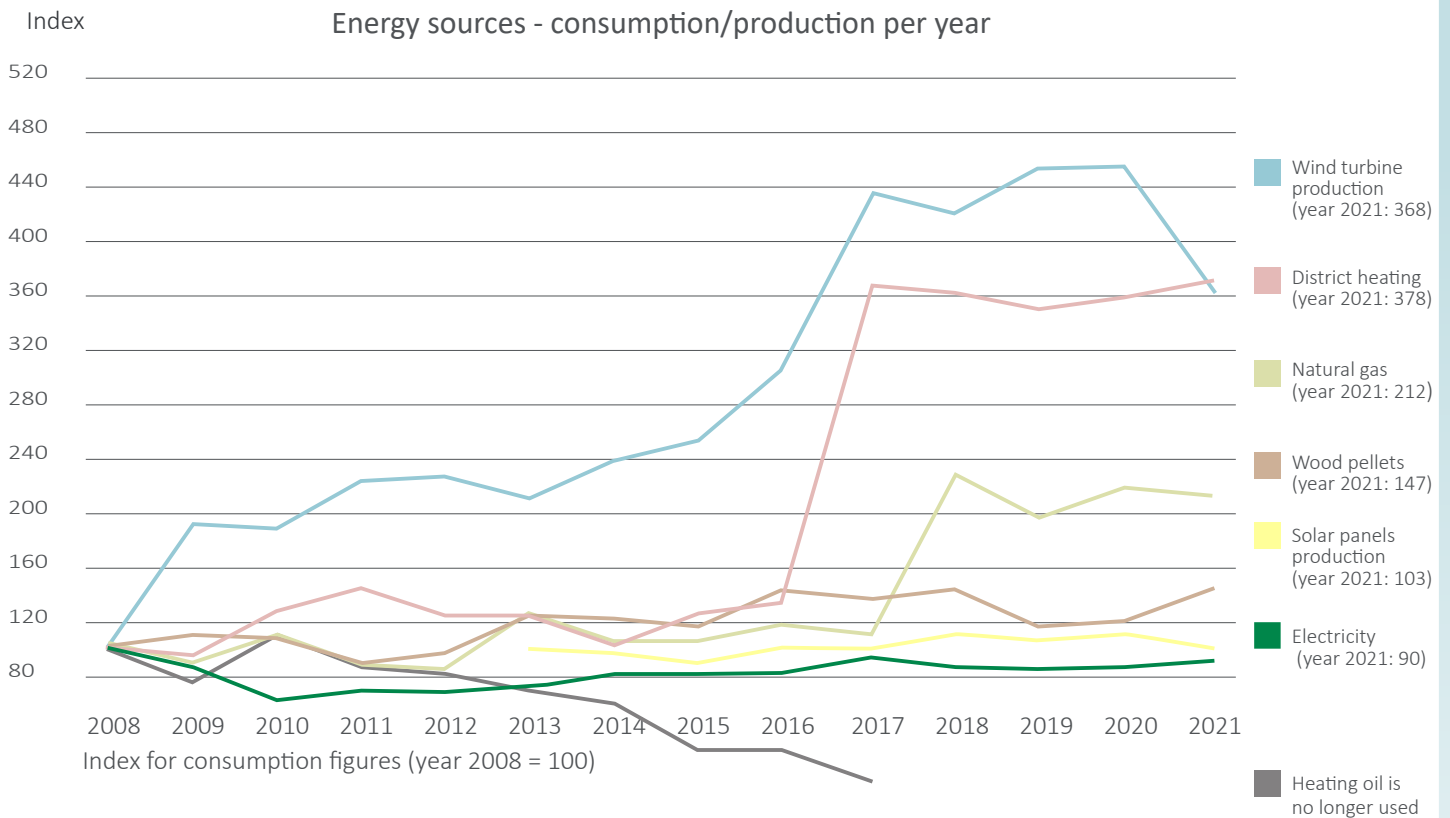


Electricity from solar panels is 10.5% of the electricity consumption at Løvholmen 9-13.

The total number of employees has increased by 2%, equal to 4 employees more from 2020 to 2021.



# Energy Sources since 2008



## Energy Sources

The consumption of all energy sources, except from natural gas, has increased from 2020 to 2021, which is due to increased production, that is basically a good thing.

- The considerably reduction in **natural gas**-consumption is due to a reduction in **Hesselager**.
- **The wind turbines** electricity production fell in 2021 by 19.1%.
- **The solar panels** have produced less power in 2021, which matches with considerably less sunshine hours in 2021 (1,640 hrs) compared to 2020 (1,819 hrs).

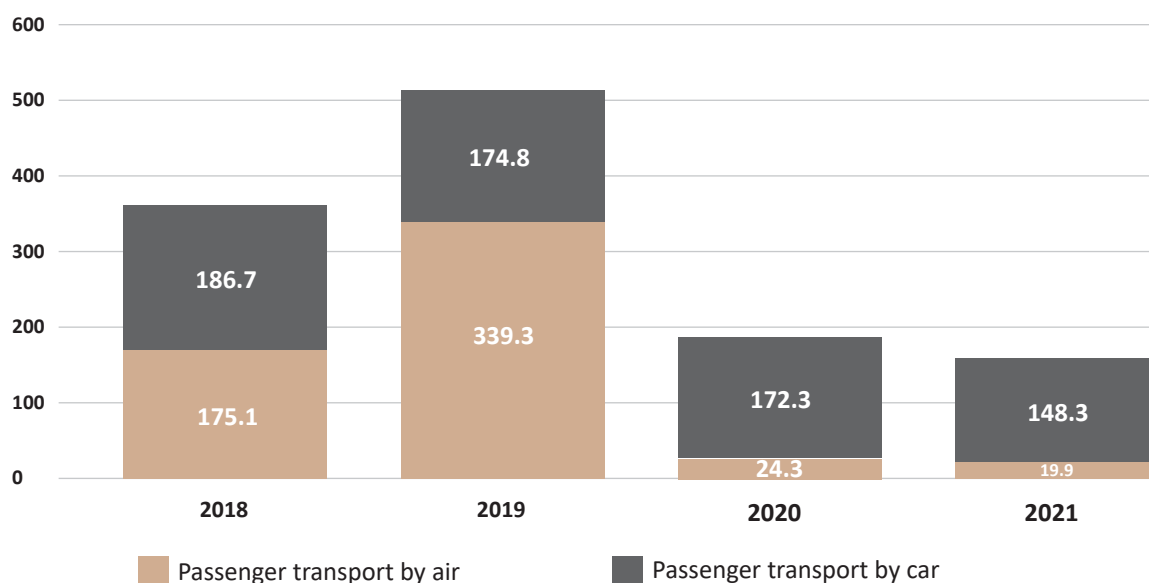


# Passenger transport

Primarily due to the global COVID-19 pandemic and a changed sales pattern, air transport has been reduced significantly, and also local transport by car has dropped.

In 2021, C.C.JENSEN has implemented a policy that all company cars must be electric vehicles, and in doing so we want to contribute to a further reduction of emissions from fossil fuels.

## CO<sub>2</sub> emission from passenger transport



We make an effort to maintain and develop the company by always making things a little better. When we save CO<sub>2</sub>, we also create the opportunity to invest in the company, which leaves room for the next generation of CCJ employees, which is why passenger transport is also important.

We can still save energy and it is you who can discover the potential CO<sub>2</sub> savings. You see them every day, but maybe you just don't notice them.

Open your eyes to the potential, and **send your CO<sub>2</sub> saving ideas to Lars Qvistgaard, [lq@cjc.dk](mailto:lq@cjc.dk)**



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