



## Energy assessment

NIPPON EXPRESS (NEDERLAND) B.V.

January 01, 2022 until December 31, 2022

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# 1. Introduction

In this document the energy assessment is elaborated with regard to the following points from ISO 50001:2018 (§6.2, §6.3, §6.6, §9.1 en §10.1):

- An outline analysis of current and historical energy consumption
- A more detailed analysis to identify the facilities, devices or processes that have a significant impact on energy consumption.
  - *This information can also be supplied separately as appendices (or reference to overview lists in the assessment). This includes an overview of vehicles, machines and important energy users or energy losses in the buildings (building scans). Adding power and operating hours can help with the impact determination. Of course, the large consumers can also be included in the measurement model as broken down meters, so that they are also visible in the graphs included in this report.*
  - *For a better insight, it can be useful to relate the important energy users to the business processes. This is already partly provided for in the function classification of the emission flows, such as heating, company cars, etc. This can be adapted to your own situation.*
- Identifying, prioritizing and documenting opportunities for improvement is fully included in the measure function. This includes the steering model with regard to the decision-making about whether or not to implement measures.

The depth of the analysis is such that an organization can trace at least 80% of its energy consumption to concrete energy users.

This document mainly serves to identify the opportunities for further CO<sub>2</sub> reduction and to monitor that the set reduction targets are achieved.

CO<sub>2</sub> emissions are explained as much as possible per emission category. This involves looking at scope 1 and 2 emissions and business traffic from scope 3 of the Green House Gas protocol. It is of course possible to extend the report with other scope 3 emissions, such as use of materials (upstream) or impact of products of delivered products (downstream).

This energy assessment has been viewed by a second person who can provide quality assessment from an independent role. The energy assessment is direct input for the management assessment.

## 2. Trend analysis

The graphs below show the absolute trend of energy use and CO<sub>2</sub> emissions. In addition, the performance is reflected in turnover and the estimated effect of the measures taken.

The absolute trend shows a stabilization in energy consumption compared to the previous two years, while after the relaxation of the Corona measures, more activities have taken place during 2022. The increase in the energy use for transport indicate this.

The gas consumption of 1,246,660 m<sup>3</sup> is almost 10% higher than in 2021. This is mainly due to the following two things:

- A defective heat pump at the Dardanellenstraat 90 location on the Maasvlakte. Due to the long delivery time parts, the heat pump cannot be repaired until this year. This has led to an increase in 2022 the gas consumption of this location of 55% (88,807 m<sup>3</sup>).
- The location at Nieuwesluisweg 100 in Botlek has been in use as from August 2022. The office is heated via a heat pump and the warehouse via gas-fired dark radiators. These dark radiators used 31,725 m<sup>3</sup> of gas.

The CO<sub>2</sub> emissions of the lease cars show a decrease of 12% compared to 2019. This doesn't seem like much, but the fleet is increased by 40% in the same period (+/- 21 cars). If we look at the largest types of fuel we see a decrease in diesel by 80% and an increase in gasoline and electricity of 30% and 15% respectively. So there is a trend towards less environmentally harmful cars observable. Currently, 60% of the lease fleet consists of cars with an A or B label.

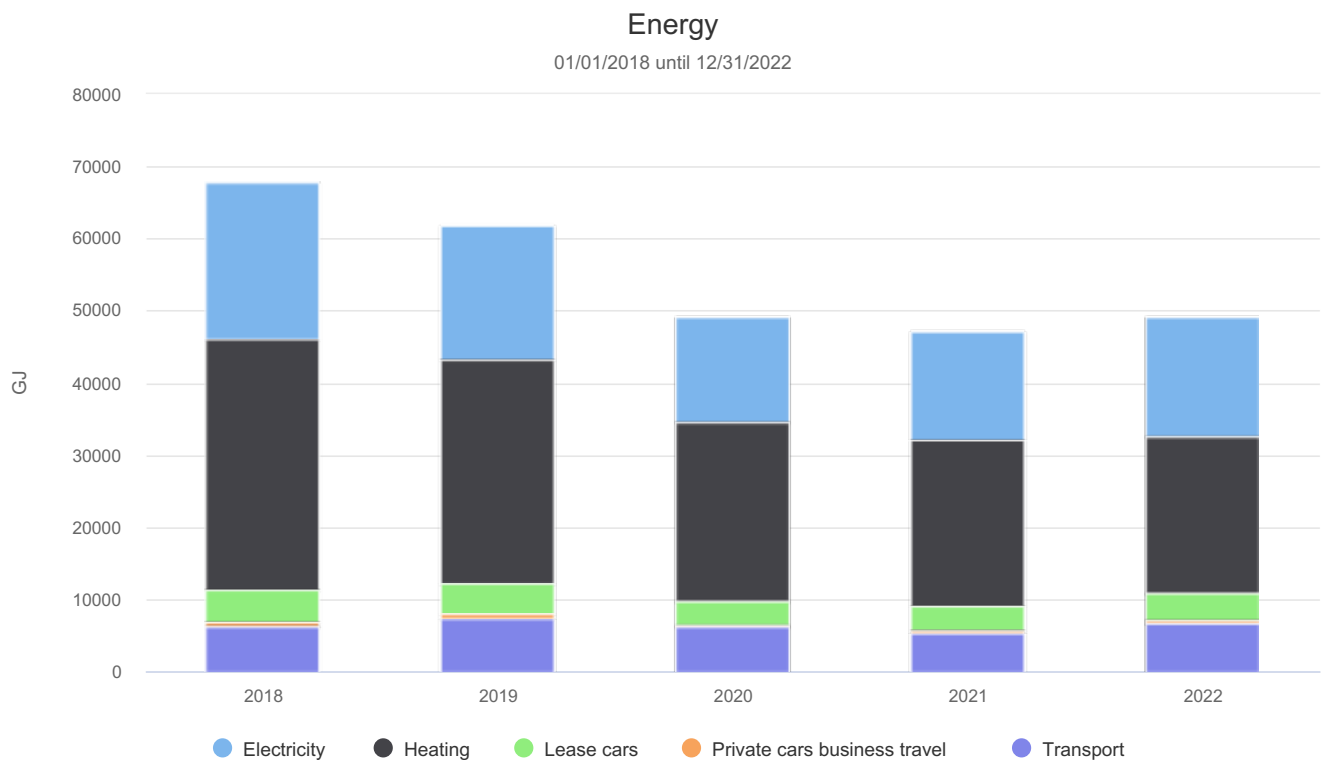
CO<sub>2</sub> emissions show a strong downward trend. This is mainly the result of the Guarantees of Origin (GoO's) that have been used to ensure green electricity usage and the commissioning of a PV installation:

- As of January 2022, we receive 2508 GoO's yearly from the PV installation at the Dardanellenstraat 90 location on the Maasvlakte.
- The PV installation at the Contour Avenue 31 location in Hoofddorp became operational at the end of May 2022. In the period June to December 2022, 33% of the electricity used at this location was supplied by this installation (141,423 kWh)
- 820 Guarantees of Origin have been purchased. All GoO's come from PV installations in the Netherlands.

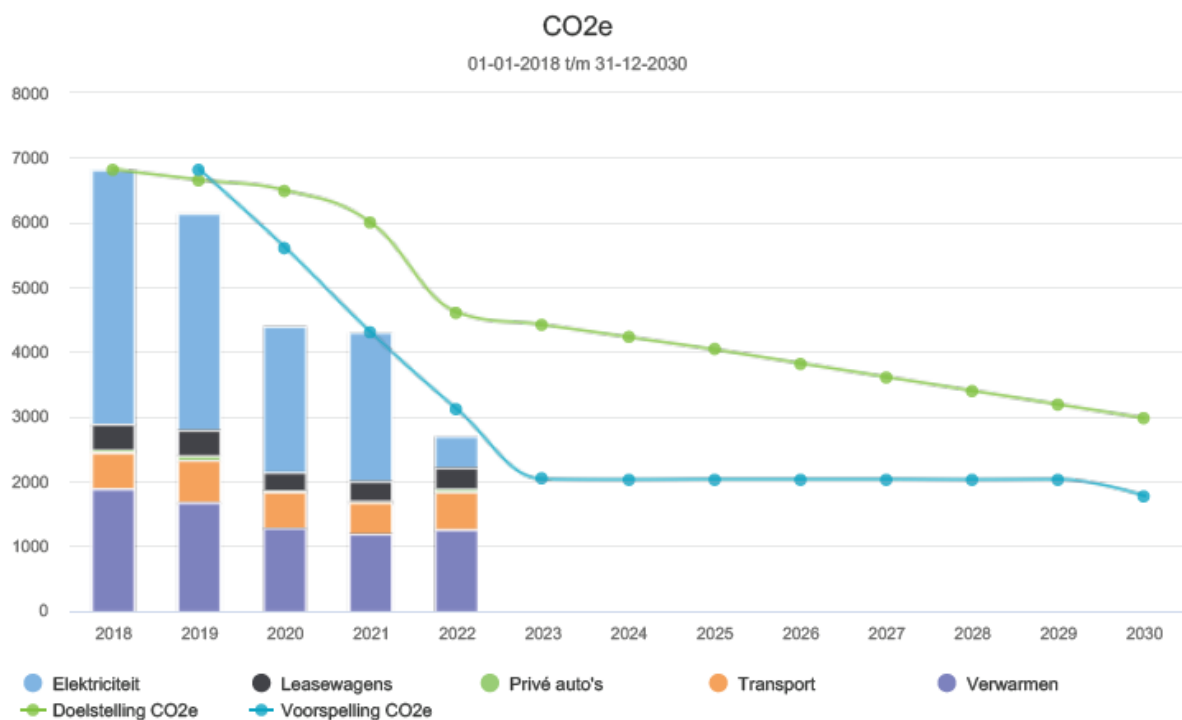
These GoO's in combination with the PV installation on the Contour Avenue 31 in Hoofddorp ensured that 78% of the electricity used in 2022 can be classified as green.

## 2.1. Energy usage

The graph shows the energy consumption and CO<sub>2</sub> emissions of scope 1 and 2 in accordance with the consolidation method operational and financial control.

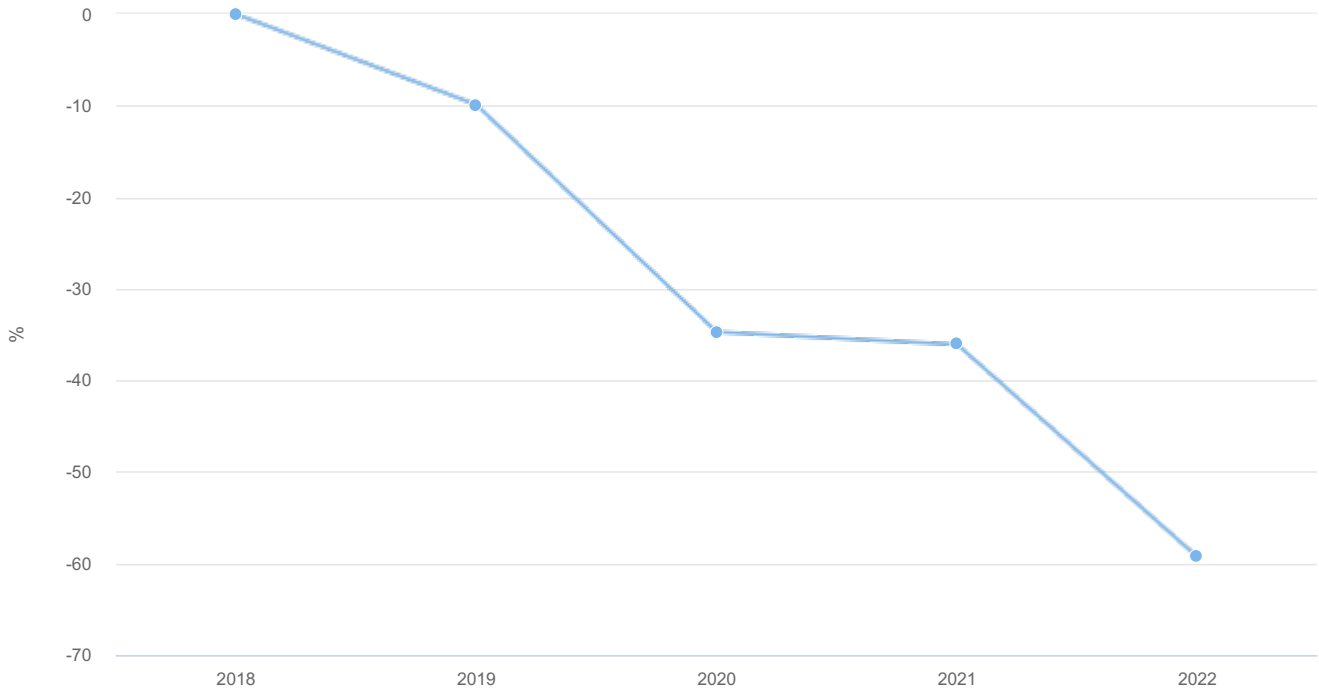


## 2.2. CO<sub>2</sub> emissions



## CO2e

01/01/2018 until 12/31/2022



CO2e (%)

2018 2019 2020 2021 2022

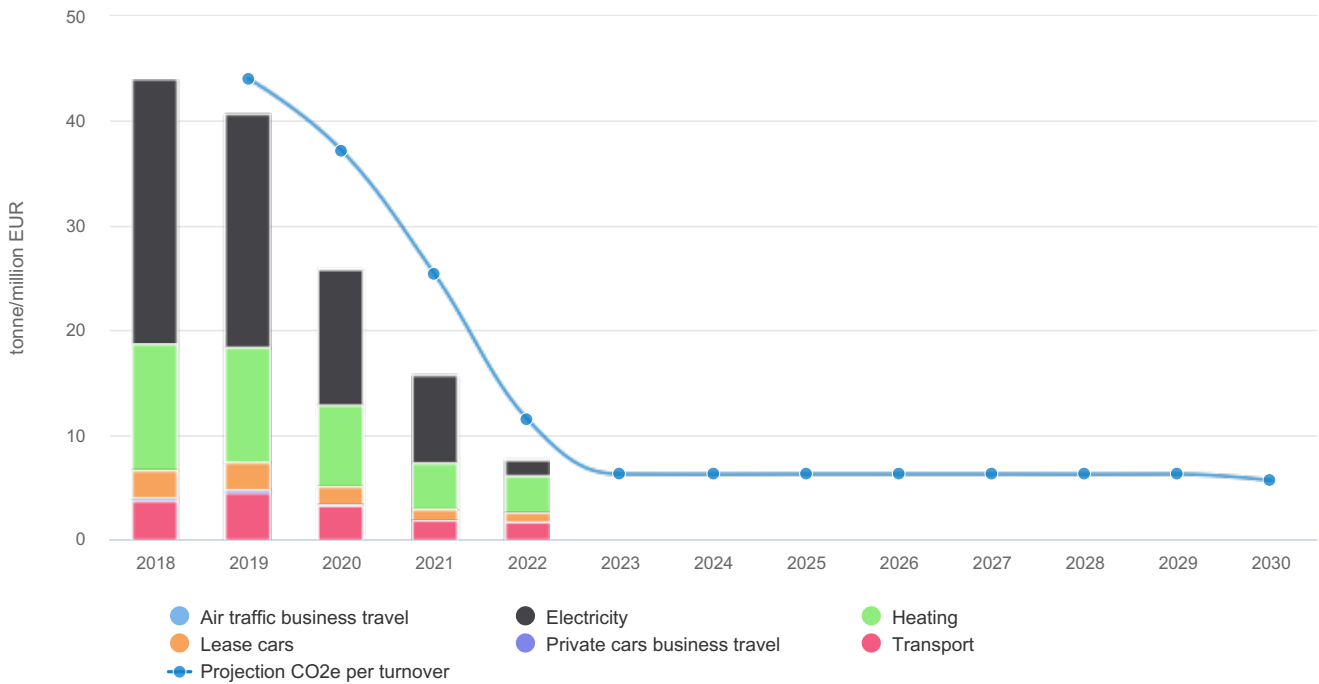
CO2e

0.00 -9.89 -34.68 -36.05 -59.25

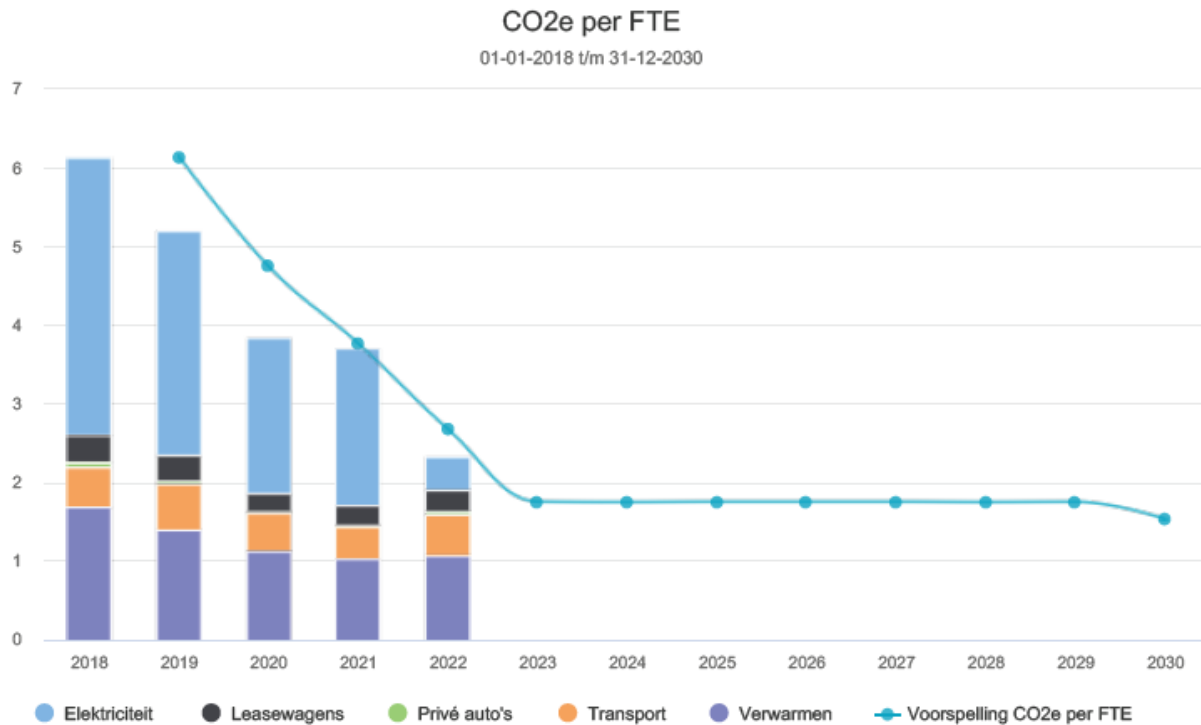
## 2.3. CO<sub>2</sub> per turnover

### CO2e per turnover

01/01/2018 until 12/31/2030



## 2.4. CO<sub>2</sub> per FTE



CO <sub>2</sub> e per FTE (tonne)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Air traffic business travel	0.00	0.00	0.00	0.00	0.00	0.09							
Electricity	3.54	2.85	1.97	1.99	0.45	0.66							
Heating	1.68	1.41	1.17	1.06	1.11	1.54							
Lease cars	0.35	0.33	0.25	0.25	0.28	0.27							
Private cars business travel	0.05	0.04	0.02	0.02	0.03	0.03							
Transport	0.51	0.57	0.49	0.42	0.52	0.54							
<b>Total</b>	<b>6.14</b>	<b>5.19</b>	<b>3.90</b>	<b>3.75</b>	<b>2.40</b>	<b>3.12</b>							
Projection CO <sub>2</sub> e per FTE		6.14	4.74	3.82	2.72	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.79

## 2.5. Mitigating measures

The following reducing measures have been taken in 2022:

- At the Cessnalaan 24 location in Schiphol-Rijk, the fittings in the boiler room have been insulated, which should have a positive effect on gas consumption.
- The PV installation at the Contour Avenue 31 location in Hoofddorp became operational at the end of May 2022. During the rest of the year 263,720 kWh has been produced

## 3. Improvement opportunities

In this chapter, we look at how the CO<sub>2</sub> emissions can be further reduced per function group.

### 3.1. Buildings

This section describes the ongoing initiatives for 2023:

#### General:

- in 2023 the illuminated signs on the buildings will be replaced. This is a result of the in 2022 introduced corporate identity. It will be investigated whether this LED signing can be made dimmable and what energy savings can be achieved if we let the signing burn less brightly at night. A LED that operates at 50% of its strength also consumes 50% energy.
- Savings on energy consumption are easy to achieve by consistently switching off equipment at offices and warehouses at the end of the working day. Stimulating such a "turn-off" culture will be one of the action items.

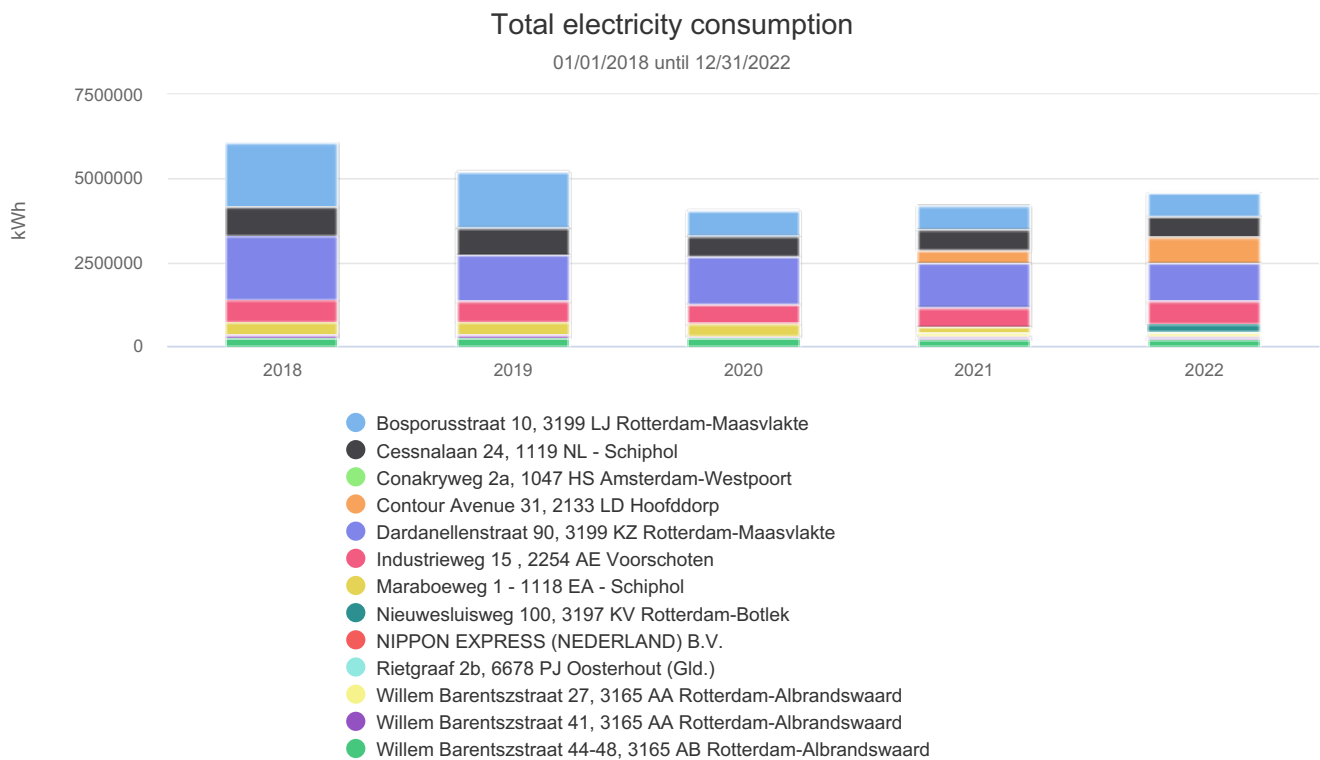
#### Location-based:

- Contour Avenue 31, Hoofddorp:
  - This is a 24/7 location. In the evening and night, the lighting in the parking garage is on while there are only a few movements. At the beginning of 2023, this lighting will be switched via sensors in the cars and pedestrian entrances. The lighting in the office space on the 2nd and 3rd floors of the building will also be adjusted so that it is controlled at night by motion detectors.
  - A part of the production of the PV installation is returned to the grid. The Guarantees of Origin issued for these returns do not benefit us. At CertiQ (as of January 1, 2023 Verticer), the issuer of GoOs in the Netherlands, an application to become a trader is pending, so that we can transfer the GoOs to our own end-user account. It is expected that there will be approximately 200 GoOs annually, with which we can green the electricity purchased from the grid for this location. This initiative leads not to a decrease in energy consumption, but to a reduction in CO<sub>2</sub> emissions
- Cessnalaan 24, Schiphol-Rijk:
  - Frequency-controlled pumps for heating boilers. Because the combustion system consists of three boilers, three pumps need to be replaced. This involves an investment of approximately €50,000. To assess the feasibility of this investment, an external party calculates how much savings can be achieved.
- Willem Barentszstraat 44-48, Rotterdam:
  - This building dates from 1990. This year the outer facade of the warehouse will be replaced. The insulation value of the new facade is better than that of the existing facade. The effect of the new facade on the energy consumption of this location will become clear during the course of the year.
- Dardanellenstraat 90, Maasvlakte:
  - An analysis will be made to determine whether the application of AI software to the BMS is possible and, if so, what savings in energy consumption can be achieved. Savings of 10 to 20 percent in cost (= energy consumption) appear to be possible with this application.
  - The heat pump is being repaired. This will lead to an increase in electricity consumption and a decrease in gas consumption. It is expected that this will reduce CO<sub>2</sub> emissions.
- Industrieweg 15, Voorschoten:
  - This is a rental property, which still has fluorescent lighting. The investment in LED of approximately €225,000 cannot be recouped within the term of the rental contract and the current energy contract. However, with the current price level of electricity this could be possible. Research into the possibilities is ongoing. Installation of LED leads to a significant decrease in electricity use.

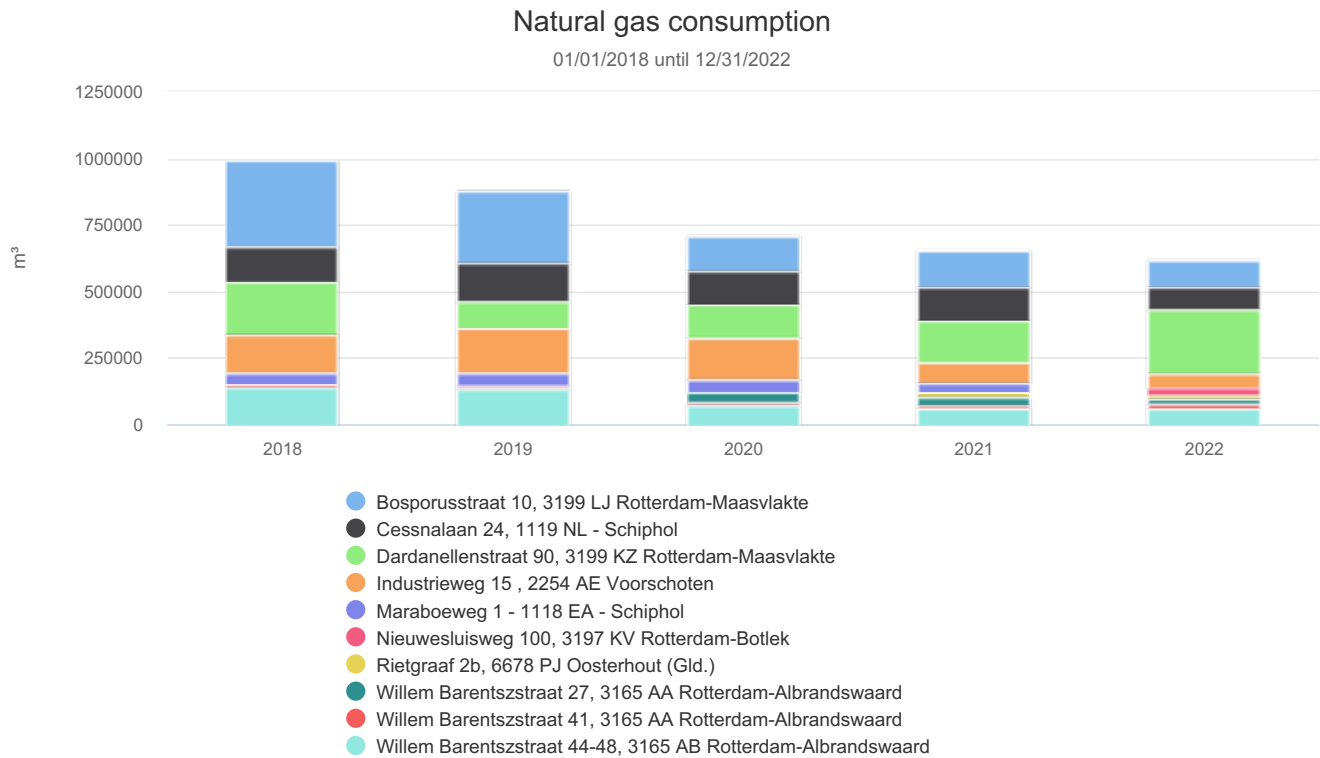


- Rietgraaf 2B, Oosterhout:
  - There is a project underway by the building owner to distribute the electricity generated by the PV installation to the tenants. This does not lead to a decrease in energy consumption, but does contribute to reducing the CO2 footprint.
- Conakryweg 2A, Amsterdam:
  - This rented location has relatively low electricity consumption. This is due to the existing PV installation, the electricity generated from which is used in our operation. However, it is not clear how much electricity is involved. A solution must be found in consultation with the landlord. This initiative does not lead to a change in the CO2 footprint, but it does lead to a better understanding of the actual energy consumption of this location.

### 3.1.1. Electricity consumption



### 3.1.2. Natural gas consumption

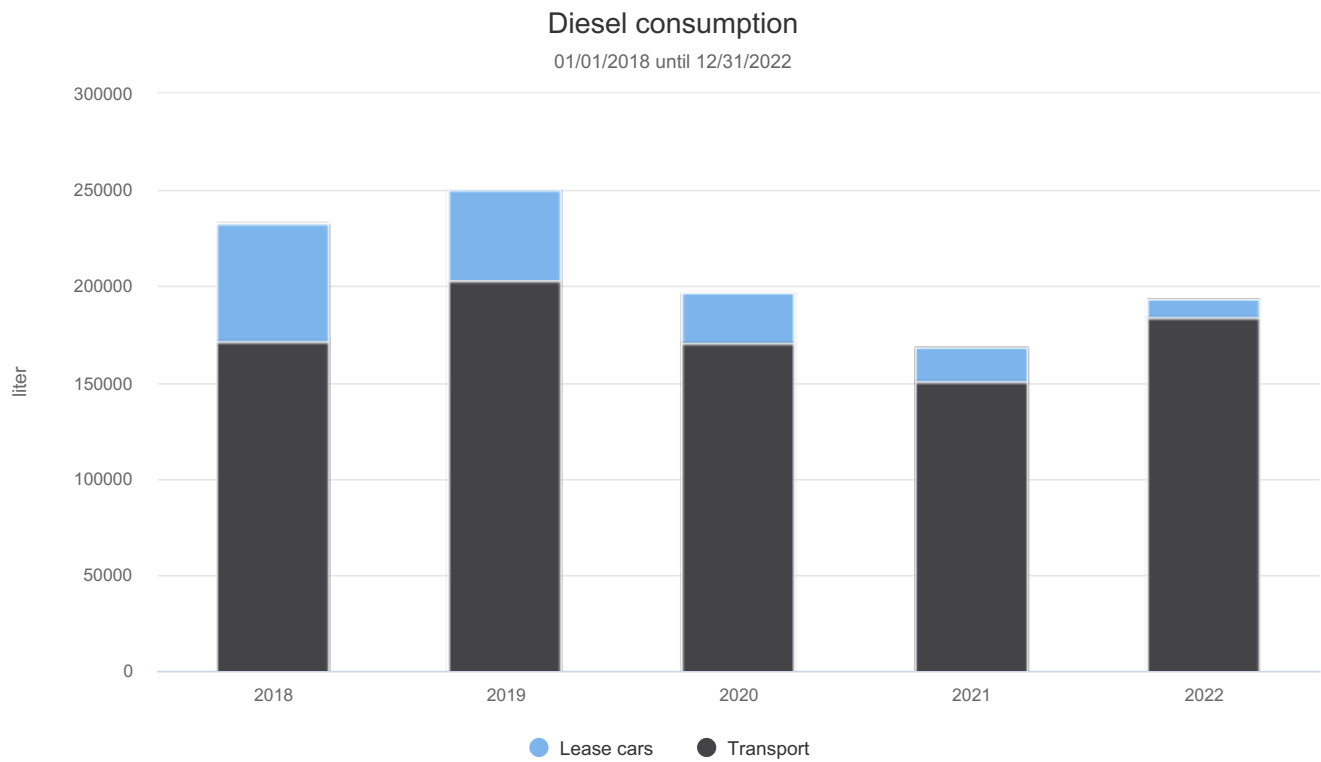


### 3.2. Fuel consumption mobility and machines

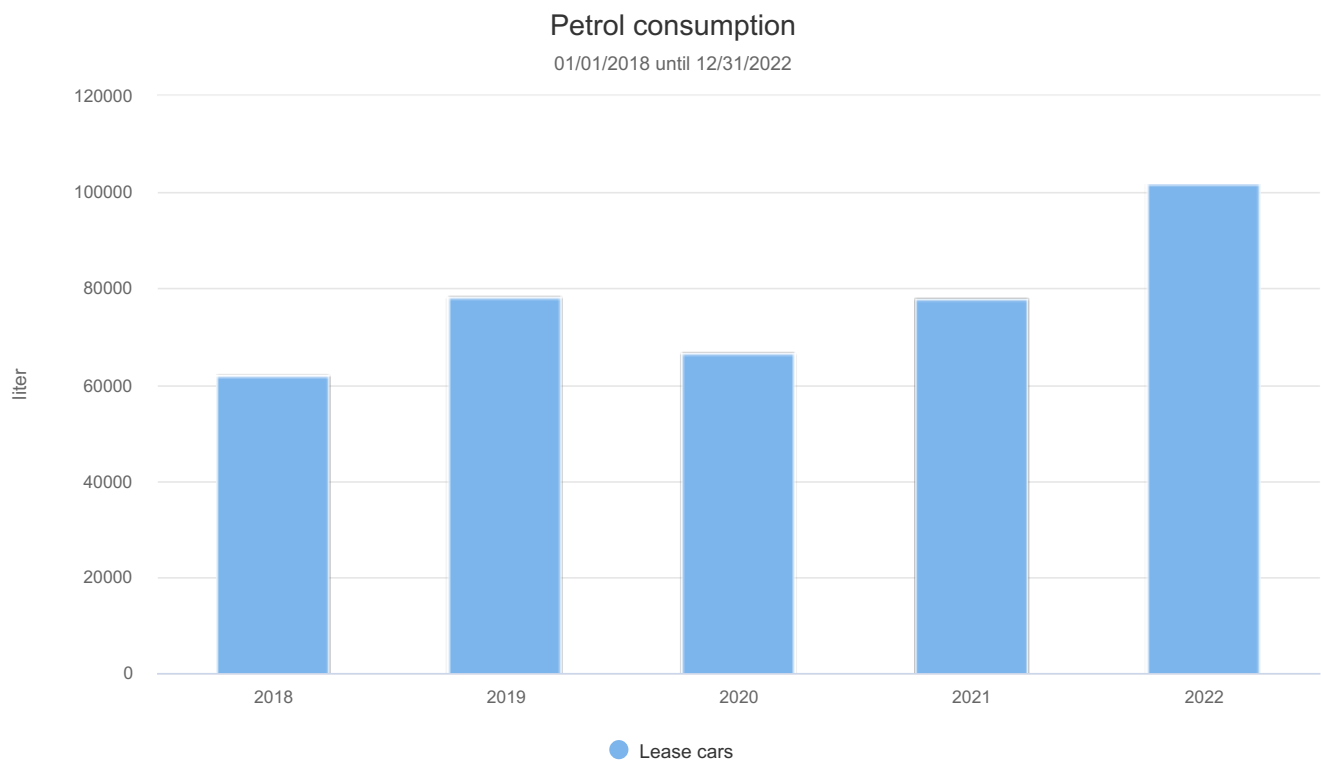
This mainly concerns our own trucks. The following initiatives are underway for this fleet:

- The fleet will be replaced in July 2023 (planning), with which we will also make the switch to a different fuel: HVO100. With sufficient availability, CO2 emissions will be reduced by 90% compared to the current fleet.
- In February there will be an information meeting at Volvo about the possibilities regarding electrification. Our fleet includes a truck that is also used for Removal. Although the operating costs are considerably higher (factor 2.5) and the operating radius is limited, this unit could be eligible for electrification due to the environmental zones in urban areas.

### 3.2.1. Diesel usage



### 3.2.2. Petrol usage



## 4. Recommendations

### Organizational:

- LED monitors are present in canteens / warehouses at almost all locations. By also providing the remaining branches with screens and linking everything to the network, the possibility is created to share information with all attendees from a central point. In this way, information regarding CO2 can also be communicated via one channel.

### Technical:

- It is recommended to investigate whether a PV installation can be installed at our own buildings at Schiphol-Rijk and in Rotterdam. On the one hand so that we can generate electricity without emissions and on the other hand because our energy contract expires at the end of 2023, which means we will be confronted with significantly higher energy costs. Because the development of energy prices can only be speculated on, it is better to invest in the generation of energy for own use.