

2023

# Progress report scope 1,2 and 3

7<sup>th</sup> of march 2024

Montfoort

**Department: Sustainability**



**Daiwa House**  
Modular Europe



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## 1. Introduction and justification

In this report, we report progress against the goals for our company. This full-year report provides an incentive to continuously work towards achieving the CO<sub>2</sub> reduction targets for scope 1,2 and 3. Given DHME's strong growth ambitions, combined with the high demand for housing, it is within expectations that emissions will increase in absolute terms in the coming years.

## 2. Progress reduction targets

In this document, scope 1, 2 and 3 CO<sub>2</sub> reduction objectives are presented. For each target, the business activity is presented with target, emissions, responsibility, improvement methods and status.

### Scope 1:

Scope 1	
Company activity	Gas usage for heating, fuel usage for transportation, generator and equipment
CO <sub>2</sub> -emission per kg/ m <sup>2</sup>	64.60 kg-CO <sub>2</sub> /m <sup>2</sup>
Goal	25% reduction, (target value: 3945 T-CO <sub>2</sub> ) in 2025 vs 2019
Responsible	Board
Measure	<ul style="list-style-type: none"> <li>▶ making fleet more sustainable;</li> <li>▶ managing driving behavior;</li> <li>▶ monitor fuel consumption;</li> <li>▶ replace gas-fired heaters;</li> <li>▶ apply hybrid generators;</li> <li>▶ purchase electric loading crane;</li> <li>▶ purchase electric/hydrogen-powered truck;</li> </ul>

### Analysis status 2023 H1:

#### General

- Goal scope 1: 25% reduction in 2025 towards 2019 (20% of total)
  - o Duration of 6 years: 25/6= 4.17% per year
  - o CO<sub>2</sub>-emission 2019: 5260 T-CO<sub>2</sub>
  - o CO<sub>2</sub>-emission 2023: 4939 T-CO<sub>2</sub>
  - o Decrease of 6%
- 2022: 4073 T-CO<sub>2</sub>/ 2023: 3939 T-CO<sub>2</sub> (gain of 21%)

### Specific

Topic	T-CO <sub>2</sub> 2019	T- CO <sub>2</sub> 2023	% gain
Natural gas business premises	303	619	105%
Diesel project sites	495	1819	268%
Petrol business travel	65	548	740%
Diesel business travel	657	898	37%
Diesel transportation trucks	3741	1040	-72%

Notable here is that the first four items all increased. This is mainly explained by growth in production and business. Bottom line, scope 1 is down 6% in 2023 compared to 2019. This is due to the large effect of the sale of the transport division, this partially offsets the growth of the company.

### Natural gas business premises

Since 2019, this emission post continues to grow; compared to 2022, this emission post also grew 20%. The common factor over the years is the addition of 2 leased new halls. Compared to 2022, the gain can be explained by the commissioning of an additional part of the rented halls. These halls are still gas-fired. To reduce most of the gas consumption (Montfoort), an agreement has been made with a specialized installation partner (SPIE) in making industrial halls more sustainable. Together with this partner we are currently working out a project plan with a outlook of 6 years.

In Montfoort, two new production halls were built in 2022. A highly sustainable installation was chosen. The halls are well insulated, equipped with underfloor heating, a heat pump and with solar panels on the roof. These halls generate more electricity than they consume; the remaining energy is used in other halls.

Degree-days 2022: 3071

Degree-days 2023: 2710

Gain of 13% (more gas used than expected)

### *planned activities:*

- Create a plan together with an external party to make production sites more sustainable

### Diesel project sites

The earthquake-proof houses in Groningen are responsible for much of the diesel increase at project sites. Because the houses are built urgently and grid connection cannot usually be realized, they have to be powered by hybrid generators.

In 2023 compared to 2022, 34% more diesel was consumed. In the summer of 2022, several large projects were commissioned, which significantly increased consumption.

Since by far the most consumption occurs on residential sites, as opposed to construction sites, ways to reduce this have been investigated. To this end, several solutions were examined for feasibility/ CO2 reduction and cost. These solutions were presented to the client, unfortunately



the solutions turned out not to suit the client. With this, DHME has made every effort to reduce CO2 on residential sites.

Diesel is also used on our construction sites. For this, a study is underway to apply batteries that will significantly reduce diesel consumption. The ultimate goal for 2030 is an emission-free construction site.

*Planned activities:*

- Decrease of projects using generators because of permanent power connection.
- Stay in close contact and try to convince the client for using alternative fuels

**Petrol and Diesel business travel**

Petrol and Diesel business travel is rising steadily. This is due to the rapid growth of the company and the increase in the number of employees and lease cars this entails.

In 2023, emissions were 9% higher than in 2022.

The number of leased cars increased by 12% in this period. The percentage of electric vehicles increased from 11% to 14%.

In the new rules and regulations of choosing a vehicle, it is strongly recommended to choose an electric vehicle. The employee must have a clear argument why he needs a vehicle running on fossil fuel.(distance to travel) it is to be expected that the % of electric vehicles will rise dramatically.

*Planned activities:*

- Apply research HVO / Premium fuel for passenger cars and commercial buses

**Diesel transportation trucks**

As of 1 January 2022, Jan Snel's transport department has been sold, only a few trucks remain to transport modules. The decrease in diesel usage in 2022 was entirely within expectations. A number of trucks were added at the end of 2022 and in H1 2023: from 9 to 12 (33% gain). Diesel consumption increased by 21% in 2023 compared to 2022, fully within expectation. These emissions were also there before, however, the required transport movements were chartered at the time and thus fell under scope 3.

*Planned activities:*

- Apply research HVO for trucks
- Apply research for alternative fueled trucks (non-diesel)

**Scope 2:**

Scope 2 + Business travel	
Company activity	Non-direct emissions: electricity generation and air travel
CO <sub>2</sub> -emission per kg/ m <sup>2</sup>	01,71 kg-CO <sub>2</sub> /m <sup>2</sup>
Goal	80% reduction, (target value : 220 T-CO <sub>2</sub> ) in 2025 vs 2019
Responsible	Board
Measure	<ul style="list-style-type: none"> <li>▶ travelling by train as an alternative to short flight;</li> <li>▶ install PV systems on (new) halls;</li> <li>▶ continue to buy 100% Dutch green electricity.</li> <li>▶ continue to investigate possibility of charging electric cars with green electricity, off-site</li> </ul>

**Analyze status 2022 H1:**

**General**

- Goal scope 2: 80% reduction in 2025 towards 2019
  - o H 2019= 1100 T-CO<sub>2</sub>
  - o H 2023= 131 T-CO<sub>2</sub>
  - o Decrease of 89%
- 2022: 36 / 2023: 131 (gain of 265%)

**Specific**

Topic	T-CO <sub>2</sub> 2019	T-CO <sub>2</sub> 2023	% gain
Electricity	556	0	-100%
Charging during travel	0	23	n.v.t.
Air travel	25	107	328%

**Electricity**

Because all the electricity we buy is green, the current calculation method dictates that no CO<sub>2</sub> impact can be calculated for this. Electricity consumption is expected to continue to rise in the coming years. This is due to the electrification of existing properties, building and renting new halls/offices and electrifying the vehicle fleet.

**Charging during travel**

The emission post 'charging during travel' was added in 2021. We are getting more and more electric vehicles, which also charge outside our production sites. In doing so, we have no control over the origin of the electricity. We have therefore chosen to assume that this is grey electricity and therefore has CO<sub>2</sub> emissions. In fact, this is a positive development, as electricity is used as opposed to petrol or diesel.

Consultations have been held with the supplier of the charging cards, however, it remains impossible to charge with green electricity. As soon as a solution to this is found, DHME will be contacted.

*Planned actions:*

- Inquire again with supplier for charging with green electricity (GVOs)

**Air travel**

Emissions from air travel are 337% more than 2022, however, this development can be explained. Jan Snel was acquired in 2021 by Daiwa House Industry Co., Ltd. DHME's strategy envisaged strong growth internationally, resulting in an increase in flights.

In particular, the addition of flights from German and English colleagues explain this increase. During the period when factories and departments are being set up, a lot of consultation and explanation is needed. Initially, this is done as much as possible through MS Teams, however, especially in the primary process, this cannot be done remotely.

In addition, the data collection has been improved, resulting in more flights being identified.

*Planned actions:*

- The Company Policy states that trips under 700 km will be made by train, provided this can be done in a realistic timeframe.

**Scope 3:**

Supply chain analysis has not changed compared to last year and therefore the same dominance is maintained (materials and waste). Should business operations change to such an extent that changes can be expected here, the dominance analysis will be carried out again.

Scope 3 - Materials	
Company activity	Emissions in the supply chain by use of materials
CO <sub>2</sub> -emission per kg/ m <sup>2</sup>	168.8
Goal	20% reduction, (target value : 11.106 T-CO <sub>2</sub> ) in 2026 vs 2021
Responsible	Board
Measure	<ul style="list-style-type: none"> <li>▶ explore and deploy alternative materials to replace high-impact (top 3) materials.</li> <li>▶ continue development of new floor</li> </ul>

**Analyse status 2023 :**

- Goal: 20% reduction in 2026 vs 2021
- 2022: 12.865 T-CO<sub>2</sub> total
- 2023: 12.909 T-CO<sub>2</sub> total
- Gain of 0.34%

The gain is caused by increasing production. We are constantly looking for ways to reduce CO<sub>2</sub> emissions per m<sup>2</sup> produced. We follow the various developments in the market such as bio-based or recycled materials, but finding materials that meet the requirements remains a challenge. Bio-based materials do not always meet fire-resistant properties, for example. We keep on doing research, talking to various parties about this, so we always stay aware of new developments.

Beside this we work on various development projects. For instance, we are working on the further development of our floor, looking at the possibility of working with wood or alternative types of concrete.

Scope 3 - Waste	
Company activity	Waste emissions in supply chain
CO <sub>2</sub> -emission per kg/ m <sup>2</sup>	84
Goal	10% reduction, (target value : 5.486 T-CO <sub>2</sub> in 2026) vs 2021
Responsible	Board
Measure	<ul style="list-style-type: none"> <li>▶ Further subdivide waste streams into mono streams, identify processors to optimally process streams and initiate processes to ensure proper waste sorting.</li> </ul>

- 2022: 5690 T-CO<sub>2</sub>
- 2023: 6391 T-CO<sub>2</sub>
- Gain of 12%

#### Specific

Topic	T-CO <sub>2</sub> 2022	T-CO <sub>2</sub> 2023	% gain
Mono	2628	3229	23%
Mixed	3043	3149	3%
KCA	19	12	-36%

The ratio of mono to mixed has improved compared to 2022 (52% vs 48% mono streams). This is a positive development as it means better waste separation. In H2 2022, a study was conducted with an external party on how we can separate better. This led to a number of conclusions, which will be taken up in a project to further reduce and separate waste. The first stages of this project have been concluded and gave us good insight into the need of our employees to separate waste even better.

### 3. Measures

For H1 2023 no measures were planned.

For H2 2023 the following measures were planned:

#### Selection of SKAO list of measures:

Between 5% and 25% of electricity use is covered by own generation of renewable electricity (via own investment or lease) (07/2023) → Only achieved for main production site. Further solar installments will be suggested in the project together with SPIE
At least 5% of the electricity consumption of all business premises is covered by own generation of renewable electricity (via own investment or lease) (07/2023) → Not achieved due to the commissioning of the new factory.
The company can demonstrate that it operates at least one mobile tool based on zero CO <sub>2</sub> emission technology. (07/2023) → Aerial platform in Montfoort is zero emission.



At least 100% electricity for consumption at work (construction site) is green electricity and/or covered by national GVOs. (12/2023) → Postponed due to capacity
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In projects where the company as main contractor provides fuel on the construction site, the company ensures that at least 10% of the total fuel refueled on the construction sites is demonstrably renewable fuel. (12/2023) → Postponed due to capacity
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*Own initiative (following year):*

Proactively assess and address suppliers on sustainability aspects (12/2023) → Postponed due to capacity
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Create a plan together with an external party (SPIE) to make production sites more sustainable. (04/2024)
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Phase out NCG projects (natural attrition) (04/2024)
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Apply research HVO / Premium fuel for passenger cars and company buses (04/2024)
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Apply research HVO for trucks (04/2024)
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Inquire again with supplier of charging passes for green electricity (GVOs) (12/2023) → Postponed due to capacity
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The Company Policy will include that trips under 700 km will be made by train, provided this can be done in a realistic timeframe. (01/2024)
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Explore and deploy alternative materials to replace high-impact materials (top 3). (04/2024)
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Continue new floor development process (12/2023) → project is in progress
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Further subdivide waste streams into mono streams, identify buyers to optimally process streams and initiate processes to ensure proper splitting. (ongoing)
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#### 4. Progress uncertainties and estimates

The results presented should be seen as the best estimate of the actual values. Virtually all data used to calculate the carbon footprint are based on invoices, data from insight portals or supplied by the supplier. As a result, the margin of uncertainty is small.

An uncertainty lies in the possible human errors that can be made. First, the supplier may, for example, transmit the wrong time period, which will quickly be noticed because certain months will remain blank, for example.

Secondly, typos can be made in copying the data, however, this chance is small as DHME works with a 4-eye principle. Copied data and references are (randomly) checked by another employee than the one copying the data.

#### Forecast

For ~~H2 2023~~ **H2 2024**, there are a number of expectations that may impact CO2 emissions:

- ▶ Strong employee growth may impact fuel/electricity consumption;
- ▶ ~~Start production of new halls/locations will impact on gas and electricity consumption.~~