

Vopak

| Sector | Revenue | Emissions | Pledge | Transparency | Integrity |
|----------------------|-----------------|--------------------------------|------------------|--------------|-----------|
| Storage and handling | € 1.4 bn (2022) | 0.9 MtCO ₂ e (2022) | Net zero by 2050 | Low | Low |

| 1. Tracking & disclosure of emissions | | | Transparency & Integrity | |
|---------------------------------------|---|--------------------------|--------------------------|---------------|
| 0.9 MtCO ₂ e (2022) | ● | Subsidiaries are covered | 0,33 | 0,37 |
| Major emissions sources | Direct (S1, 36%) and energy-related emissions (S2, 21%). Purchased and capital goods for terminal construction and maintenance (S3, 43% for total S3). | | 0,19 | 0,02 |
| Disclosure | S1 and S2 comprehensively disclosed, but only lower location-based estimate in reported total. First-time complete and public disclosure of S3, but historical data is lacking. | | S1 | S2 |
| | | | S3 upstream | S3 downstream |

| 2. Setting emission reduction targets | | | Transparency | Integrity |
|---|---|--|--------------|-----------|
| Headline target or pledge | Ambition to become net zero by 2050 (S1 and S2) | | High | Low |
| Short- & medium-term targets (up to 2030) | - S1 & S2: 30% absolute reduction of GHG emissions by 2030 (2021 baseline), no offsetting - S3: no further targets | | | |
| Scope coverage | 1 2 3 | No benchmarks specifically for storage and handling industry. Vopak's targets fall short of global and fossil fuel industry milestones for 2030. | Low | Low |
| Own emission reductions (compared to full value chain in 2021) | 12% by 2030 (2021 baseline) | | | |
| Long-term vision (beyond 2030) | - S1 & S2: "net zero", offsets as a "last resort ... in case of any remaining emissions" - S3: no further targets | | Low | Low |
| Scope coverage | 1 2 3 | No specific emission reduction target alongside neutrality pledge. Current target most likely to fall short of global 1.5°C requirements. | | |
| Own emission reductions (compared to full value chain in 2019) | ? by 2050 | | | |

| 3. Reducing own emissions | | Transparency | Integrity |
|--|---|--------------|-----------|
| Emissions reduction measures | Climate policy focuses on hydrogen/ammonia, CO ₂ infrastructure, low-carbon fuels and feedstocks, and long-duration energy storage. No clear plan to phase out fossil-related infrastructure. Limited disclosure on expected impact of reduction measures - both for the company itself and for reductions due to the transition of products stored/handled for its customers. | Moderate | Low |
| Renewable electricity procurement | Virtually no disclosure of RE procurement constructs. Plans for flow battery electricity storage in industrial clusters and in collaboration with the utility provider. Vopak explores the option of balancing the grid load with an electric boiler. | Low | Low |

| 4. Climate contributions & offsetting | | Transparency | Integrity |
|--|---|--------------|-----------|
| Responsibility for unabated emissions | No information identified on how the company takes responsibility for unabated emissions. | Low | Low |
| Climate contributions | - No climate contributions identified. | N/A | Low |
| Offsetting claims today | - No current offsetting claims identified. | N/A | N/A |
| Offsetting plans for the future | Vopak excludes offsetting for its 2030 targets, but declares it a "last resort to achieve net zero in 2050", without specifying the maximum share to be offset or the future criteria to be used. | Low | ? |

RATINGS **Transparency** refers to the disclosure of information. **Integrity** refers to the quality and credibility of the approach.
Overall Average of sections 1-4 ■ High ■ Reasonable ■ Moderate ■ Low ■ Very Low;
Sections 1-4 Average of criteria in each section ■ ■ ■ ■ ■; **Rating criteria** See methodology for rating criteria ■ ■ ■ ■ ■.

Source: SEO Amsterdam Economics' interpretation of identified public documentation from Vopak

Vopak

Royal Vopak N.V. is a multinational company headquartered in the Netherlands that is specialised in the storage and handling of various products, including chemicals, oil, natural gas, LNG and biofuels. The company has committed to becoming net zero across its operations (S1 and S2) by 2050. In addition, Vopak has set an interim target for 2030 of reducing its absolute operational GHG emissions by 30 percent. It is challenging to assess the company's climate ambitions given that its long-term absolute emission reductions remain unclear. It is particularly important to consider how Vopak intends to reach its targets given the lack of a clear phase-out plan for its conventional fossil-related infrastructure, which is a significant aspect of its business operations.

About the tracking and disclosure of the GHG emissions of Vopak

Vopak's reporting on S3 emissions has been improved by disclosing total broken-down emissions for the first time. However, historical data are lacking and so is an estimate of the indirect emissions from its stored and handled products such as fossil fuels. Generally, the company provides comprehensive disclosure of S1 and S2 emissions, encompassing all subsidiaries, a detailed explanation of reporting boundaries, a breakdown by GHG (CO₂, CH₄, N₂O), and prominent references to methodologies employed (Vopak, 2023, pp. 109-111). New this year is the remark that a location-based approach is used to calculate S2 emissions, but – based on the CDP disclosure – it seems to produce a lower estimate than a market-based approach (Vopak, 2023, p. 108; n.d.-a, C5.2). Previously, Vopak (2022a, p. 102; 2023, p. 89) disclosed little information only on selected S3 emission categories, but this year's annual report details each S3 category. For 2021, previously reported S3 emissions totalled only 0.09 MtCO₂e, whereas 0.31 MtCO₂e is reported in Vopak's current CDP disclosure (2022a, p. 102; n.d.-a, C5.2). Despite that, the annual report provides no complete or broken-down data for 2021 – both of which are included in the CDP disclosure (Vopak, n.d.-a, C5.2). The reporting is aligned with the GHG Protocol, meaning that Vopak does not report on its indirect emissions from product use, which includes the emissions from consuming the fossil fuels stored and handled by the company. According to the Methodology by NCI (2023, Section 1.1.1), the lack of disclosure regarding these emissions deflects attention away from the fact that these emissions “form a highly significant impact of the climate impact associated with the business model” of such companies. Consequently, Vopak's decision not to disclose these emissions results in the company's climate impact to be “misunderstood”, and “unabated continuation of those business models may be fundamentally misaligned with the objectives of the Paris Agreement” (NCI, 2023, Section 1.1.1).

About emission reduction targets and neutralisation plans for the future

Vopak commits itself to an absolute GHG emission reduction of 30 percent by 2030 (below 2021 levels) for its own operations across S1 and S2, which falls short of medium-term benchmarks. As S1 and S2 cover 57 percent of the full value chain emissions and as the company has not set any S3 targets, these medium-term commitments equal an absolute reduction of 12 percent by 2030 compared to a 2021 baseline. This estimate does not consider the (undisclosed) emissions from the use phase of the commodities stored and handled by Vopak. While there are no specific benchmarks for the storage, logistics and handlings industry, it seems that Vopak is not aligned with a 1.5°C trajectory, both for global benchmarks as well as for milestones for the oil and gas sector. Along with the rest of the industry, Vopak should prioritise the determination of sector-specific milestones to decarbonise the sector.

About the use of offsets

Regarding Vopak's 2050 target of becoming 'net-zero' across its operations, it explicitly reserves the right to use offsets as a "last resort [...] in case any remaining emissions cannot be eliminated" (Vopak, 2023, p. 108). While its 2030 targets explicitly exclude the use of offsets, the substantiation of its long-term targets remains vague due to the unclear scale of offset utilisation and the absence of detailed policy principles. There is no maximum amount disclosed, nor are any conditions or limits specified considering the future potential of offsets to reach its targets. According to the Methodology by NCI (2023, Section 4.3.2), using offsets as a substitute for reducing own emissions is generally not considered a credible approach, and if utilised, it should be limited to only a few exceptional cases that meet highly stringent criteria.

Reducing own emissions

While it presents some abatement measures to reduce the disclosed emission sources, it remains difficult to assess the integrity of Vopak's climate plan due to insufficient information regarding the measures' scale, status and reduction potential. Major reductions are (to be) achieved through energy efficiency (e.g. through optimised usage and LED lighting), electrification of its facilities, increased use of renewable electricity, and the recycling of steel and concrete, amongst other pilot measures. However, these actions lack clarity in terms of implementation status and future potential. Moreover, the disclosure of Vopak's renewable electricity procurement constructs is very limited. While disclosure of energy use in general is sufficient, the share of electricity that is renewable is only presented in its remuneration report (Vopak, 2023, p. 157). Apart from that, Vopak mentions projects for the development of solar power being in place without detailing the scale or timing. No information is provided on the renewable electricity constructs themselves. Last year, Vopak (2022a, p. 101) reported that Dutch subsidiaries had fully switched to green electricity. This was partly due to the Vopak Solar Park Eemshaven becoming fully operational by 2021, from which green energy certificates were sold to local companies.

Vopak (2023, pp. 65-67; n.d.-b) implemented a strategic shift concerning its commodity storage and handling portfolio, focusing on hydrogen, CO₂ infrastructure, low-carbon fuels and feedstocks, and long-duration energy storage. Hydrogen policies include the transportation and storage of green and grey hydrogen as well as (green) ammonia. Meanwhile, carbon infrastructure focuses on the storage and handling of CO₂ used in CCS and CCU supply chains, including the CO₂NEXT project in Rotterdam in collaboration with Gasunie. Low-carbon fuels include biofuels, including sustainable aviation fuel (SAF) and renewable diesel, for which Vopak repurposed existing oil storage tanks, for example. Finally, long-duration energy storage aims to store surplus renewable energy in flow batteries.

However, given these investment announcements, it remains unclear whether these measures may contribute to a lock-in of carbon-intensive infrastructure. Vopak has not committed itself to any targets covering the commodities it stores and handles and the associated lifecycle emissions. The company's claim that the use of natural (fossil) gas may contribute to achieving the goals of the Paris Agreement is contentious, particularly regarding Vopak's intention to rely on renewable energy sources while expanding its LNG business (Vopak, 2023, p. 109). Operational emissions associated with LNG have increased for Vopak (2023, p. 109; 2022b, p. 24), due to the higher energy requirements for storage and handling. Vopak (2023, p. 109; 2022b, p. 24) argues that increased LNG "can contribute to the climate goals, for instance in countries where LNG replaces coal for power generation" and can serve as "a lower-emission alternative to diesel and fuel oil in the transport sector". Studies by IEA (2021) and NCI (2021), however, note that there is an urgent need to reduce fossil gas exploration and consumption to meet the 1.5°C-aligned benchmarks. This urgency is especially relevant for sectors like transportation and energy supply, which already have available zero-emission alternatives.

Sources:

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Vopak

Low

Integrity assessment for short- and medium-term target(s) towards 2030

What do the short- and medium-term targets actually mean?

What are the targets for the short to medium term?

S1 and S2 GHG emissions:

- 30 percent absolute reduction by 2030 (2021 baseline), offsets explicitly excluded.

No further S3 emission reduction targets.

Furthermore, a 30 percent reduction of Volatile Organic Compounds (VOCs) and other air emissions by 2025 (2016 baseline).

How do these targets equate to emission reductions across the value chain (compared to a 2019 baseline)?

Compared to a 2021 baseline, these targets result in a reduction of 12 percent by 2030 across the full value chain – assuming constant S3 emissions. For 2019, no information is available on emissions from S3. Vopak (2023, p. 107) itself expects that the 30 percent reduction target, which is "including future growth" of its business, in fact will translate into a 45 to 60 percent reduction for its current operations. This implies that S3 emissions may in fact grow further towards 2030 if no broader targets are set. For operational emissions from S1 and S2, a 30 percent reduction compared to 2021 translates into a 1.1 percent reduction relative to 2019 levels. Vopak (2023, p. 184) states that a 2021 baseline was chosen as "this is the most recent year for which data are available as the target base year" and "the 2021 baseline reflects the major changes in the company's asset base (acquisitions and divestments) that took place prior to 2021".

Do these targets cover both the short term (within 5 years) and medium term (up to 2030)?

Apart from the 2025 other air emission target, Vopak does not state any short-term targets within the coming five years.

Do these emission reduction commitments align with a 1.5°C trajectory for the sector according to available literature?

Global benchmarks: The IPCC's Sixth Assessment Report stresses that global CO₂ emissions must be reduced by net 48 percent by 2030, compared to 2019 levels, to ensure a reasonable chance of limiting global warming to 1.5°C (IPCC, 2022). In the same period, global GHG emissions must decrease by 43 percent. The Sixth Assessment Report thus reaffirms the findings of the IPCC's Special Report on 1.5°C (IPCC, 2018). Based on the scientific insights from the latter report, the Hague District Court ordered Shell to reduce CO₂ emissions across all emission scopes by net 45 percent by 2030 below a 2019 baseline (The Hague District Court, 2021). Vopak will likely not meet these global benchmarks.

Sector-level benchmarks: The existing literature does not provide specific milestones for the storage, logistics and handling industry, making it challenging to independently analyse the medium-term targets aligned with the Paris Agreement in this sector. This literature gap hinders a conclusive assessment of sector-specific decarbonisation efforts aligned with a 1.5°C trajectory. Therefore, it is important for Vopak and the rest of the storage, logistics and handling industry to prioritise the determination of sector-specific decarbonisation milestones through a transparent, scientific and verifiable process.

In this context, Vopak must consider setting specific milestones for decarbonisation within the oil and gas sector, considering its pivotal role in the value chain of this industry. UNFCCC (2021b, p. 17) finds that global emissions from the production of oil and gas should be reduced by 40 percent below 2019 levels to be 1.5°C-aligned. IEA (2021, pp. 20-21) and IISD (2022, p. iv) further note that by 2021-2022 there should have been no new approvals for the development of oil and gas fields. Additionally, IISD (2022, pp. iv-v) notes that by 2030 worldwide oil and gas production should decrease by 15 and 30 percent, respectively, and by 2050 by 65 percent, relative to a 2020 baseline. These milestones, aimed at phasing out global oil and gas production, hold relevance for Vopak's main business activities involving the storage and handling of fossil

fuels in the future. For instance, the storage and handling of LNG face significant risks of incompatibility with limiting global warming to 1.5°C, posing challenges related to fossil fuel infrastructure lock-in and transition risks (NCI, 2021).

Low

Integrity assessment for long-term target(s) (post-2030)

What do the long-term targets actually mean?

What are the targets for the long term beyond 2030?

S1 and S2 GHG emissions:

- "net zero", offsets may be used a "last resort [...] in case any remaining emissions cannot be eliminated".

No further S3 emission reduction targets.

How do these targets equate to emission reductions across the value chain (compared to a 2019 baseline)?

No assessment possible as it is not clear what share of emissions may (at most) be compensated and what share will be (minimally) reduced in absolute terms. Assuming no use of offsets and therefore a 100 percent reduction across S1 and S2, the full value chain emissions would be 57 percent lower by 2050 compared to a 2021 baseline – if S3 emissions were to remain constant.

Do these emission reduction commitments align with a 1.5°C trajectory for the sector according to available literature?

The long-term targets cannot be equated to an absolute emission reduction estimate, but nonetheless it is clear that the reduction targets of Vopak fall short of a 1.5°C trajectory as the company does not include any S3 categories in its climate plan. The above calculations do not even consider the role of Vopak in the supply chain of the fossil fuel industry. Teske (2022, p. 319) concludes that oil sector emissions should decrease by 98 percent across the full value chain by 2050 (compared to 2019 levels), and for the gas sector the overall reduction requirement is 94 percent.