



**Report**  
**Amplify**  
**Goods.**

Product analysis

devera.

# Product Summary

Product	Carbon footprint kg CO <sub>2</sub> eq	Compared to the average	Score over 100	Global score	Page
<p><b>SUDZERO 5x4L Refill Pack SZ6005</b></p>  <p>5x Large Sachets</p>	<b>6,21</b>	<b>-87,71%</b>	<b>96,5</b>		<b>3</b>
<p><b>SUDZERO 12x350ml Refill Pack SZ6105</b></p>  <p>x12</p>	<b>1,60</b>	<b>-84,92%</b>	<b>94,5</b>		<b>15</b>

## SUDZERO 5x4L Refill Pack SZ6005



**BRAND**

Amplify Goods

**MODEL**

5x4L Refill Pack SZ6005

**TYPE**

Soap, cosmetics, hand wash

**CATEGORY**

Beauty

**LINK**

<https://www.amplifygoods.org/shop/p/sudzero-sample>

# Summary

Product carbon footprint → **6,21** kg CO<sub>2</sub> eq 

**Raw materials**  
 **2,43**  
kg CO<sub>2</sub> eq

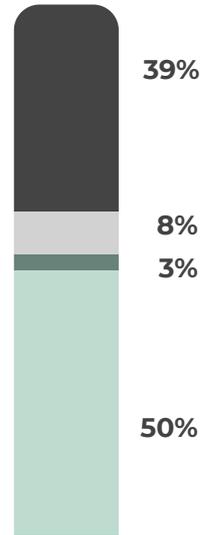
**Manufacturing**  
 **0,0016**  
kg CO<sub>2</sub> eq

**Transport**  
 **0,48**  
kg CO<sub>2</sub> eq

**Packaging**  
 **0,18**  
kg CO<sub>2</sub> eq

**Use**  
 **3,11**  
kg CO<sub>2</sub> eq

**End of life**  
 **0,011**  
kg CO<sub>2</sub> eq



Compared to the average → **-87,71%** 

 **50,53** kg CO<sub>2</sub> eq Average footprint of standard product

Sustainability score → **96,5/100** 

 **9,6 /10** Product footprint compared to market

 **9,75 /10** Brand sustainability

Score → 

## Conclusions

With a full inventory of 6,21 kg CO<sub>2</sub> eq for 20 000 hand-washes, the SUDZERO 5 × 4 L Refill Pack places its impact in a range unreachable for ready-to-use liquid soaps, which routinely exceed 60 kg CO<sub>2</sub> eq for the same service; the gap arises from coordinated decisions along the whole chain. By eliminating 100 % of formulation water, the product minimises both transported mass and the amount of rigid packaging required, so each compostable pack of sachets accounts for only 0,18 kg CO<sub>2</sub> eq throughout the packaging stage.

Ingredients, although they include electrically intensive fermented organic acids, sum to just 2,43 kg CO<sub>2</sub> eq, well below the diluted sulphated surfactants that dominate competitors. At plant level, a zero-carbon electricity supply leaves manufacturing with a near-zero residual value, showing how energy choice can remove production from the climate-responsibility picture altogether.

The use phase, where 10,077 L of tap water generate 3.11 kg CO<sub>2</sub> eq, concentrates the largest remaining footprint. The relatively low water consumption, compared to other alternatives, is attributable to the product being a foam soap, which facilitates faster rinsing and reduced water use..

Logistics, limited to intra-UK distances and the density of powder, adds only 0,48 kg CO<sub>2</sub> eq, underscoring the benefit of producing close to the main market. Taken together, the pack shows that a systemic approach—concentrating actives, minimising materials and operating on carbon-free energy—shifts environmental pressure away from the company and towards usage patterns that today define the true ceiling of reduction. This position, far below the sector average, resets the competitive bar: while the category still debates “natural” formulas or carbon offsets, SUDZERO proves that tangible climate advantage comes from rethinking how soap travels, is packaged and is dosed, giving customers a direct route to decarbonise hygiene without changing routines or compromising efficacy.

### Consolidated key points

- Category-leading footprint: 6,21 kg CO<sub>2</sub> eq per 20 000 washes puts the pack an order of magnitude below standard liquid soap; the water-free powder, low-emission electricity and a foam variant explain the edge.
- Circular packaging model: 88 g of compostable or recycled packaging, with reused liners and boxes, minimises waste and reinforces a circular-economy narrative.

## Opportunities for improvement

- **Optimise the delivery chain:** sachets currently travel 260 mi to the warehouse in light vans and then 8 – 400 mi to customers in  $\leq 3,5$  t vehicles; consolidating full pallets into rigid trucks  $> 7,5$  t—or pallet-network groupage—for the long haul would lower tonne-kilometre emissions, reserving vans for the final mile.
- **Reduce sachet-film impact:** the PLA/PBAT laminate accounts for most of the 0,18 kg CO<sub>2</sub> eq from packaging; lowering gauge, increasing recycled content or switching to a lower-intensity PLA could trim up to a further 15 % without compromising compostability.

## Breakdown by categories

### Raw materials → 2,43 kg CO<sub>2</sub> eq

The raw material stage for SUDZERO 5 × 4 L delivers a climate load of roughly 2,43 kg CO<sub>2</sub> eq per refill pack (five to six times lower than an equivalent volume of ready-to-use liquid soap). Most of that footprint (about 1,9 kg CO<sub>2</sub> eq) is driven by the two buffering agents produced via aerobic fermentation of glucose: sodium citrate and glucono delta-lactone. Their carbon is plant-based, yet the fermenters run on energy-intensive aeration and electrical drying, so the acids dominate the bill despite representing less than a third of the powder by weight.

Ingredient shares are grounded in published supplier usage rates (e.g., 6% DLSS and 6% SLSA from Purenso Select and Lotioncrafter data, 35% sodium citrate from industrial patents, and 15% GDL from the Geogard Ultra TDS), so every carbon figure reflects a documented, market-realistic loading rather than an arbitrary assumption. Coconut-derived cleansers (DLSS, SLSA, SCI) contribute a compact 0,17 kg CO<sub>2</sub> eq per pack. Here, the hotspot is not farming but steam and spray drying at 90–110°C; switching to lower-temperature agglomeration or trimming active-surfactant strength could trim a further 0,1 kg CO<sub>2</sub> eq without affecting user performance.

Supporting ingredients tell a different story: maltodextrin and citric acid come from European starch mills that already recover process heat, so together they add only 0,11 kg CO<sub>2</sub> eq, while the “natural” pentylene glycol accounts for 0,04 kg CO<sub>2</sub> eq (a figure that would halve if its hydrogen source became renewable). Cold-pressed orange-peel oil stands at 0,07 kg CO<sub>2</sub> eq; because it is recovered from peel left over after juice extraction, assigning even part of the agricultural burden to food rather than fragrance would make its impact virtually disappear.

In market terms, this places SUDZERO at the low-carbon end of premium foaming hand soaps. Migrating the fermented acids to sites powered by renewable heat and electricity, optimizing surfactant drying, and sourcing green hydrogen for the pentylene-glycol step would push the pack below 2,0 kg CO<sub>2</sub> eq (leaving competitors based on water-rich liquids (often above 10 kg CO<sub>2</sub> eq for the same washing volume) far behind).

## ● Manufacturing → 0,0016 kg CO<sub>2</sub> eq

Smart meter readings show 0,0417 kWh sachet<sup>1</sup>, so the full pack uses 0,208 kWh. All plant utilities (mixers, filler, air compressor, HVAC and QC bench) pull from that single meter; we therefore allocate the kWh across the five unit processes with standard industry splits ( $\approx$  27% filling, 22% blending, 13% services, etc.) to keep the model transparent while avoiding double counting.

The supplier guarantees that no CO<sub>2</sub> is released at the turbine outlet, yet life-cycle accounting also counts the emissions embedded in building and fuelling those plants (steel and concrete for the nuclear block, uranium extraction, wind-tower fabrication, grid balancing, and end-of-life works). Using EDF's own 2024 output split ( $\approx$  94% nuclear, 6% renewables) and conservative literature values for their cradle-to-grave intensities, we attribute a small residual footprint to each kilowatt-hour. When that residual is applied to the metered 0,208 kWh, manufacturing adds only 1,6 g CO<sub>2</sub> eq per refill pack, still orders of magnitude below the steam-driven production common in liquid-soap plants.

No wet CIP was reported ("no water or solvents are used"), so we model a dry-clean blow-down and set water and NaOH to zero; this assumption should be revisited if the cleaning protocol changes. Absence of gas confirms the site is fully electric. Cardboard recovered on site is excluded here under the cut-off approach, but it strengthens the product's circularity story.

In short: the pack's plant-side impact is now driven almost entirely by low-carbon electricity; even modest efficiency tweaks (e.g., reducing filler idle time) translate into meaningful percentage savings, but the operation already sits at the very low end of the sector's footprint spectrum.

● **Transport**  **0,48 kg CO<sub>2</sub> eq** 

Transport for each SUDZERO 5 × 4 L Refill Pack is modelled from the routes supplied by Amplify Goods. One pack (0,338 kg: 250 g powder + 88 g packaging) travels 260 miles / 418 km from the contract packer to East London in a courier van < 3,5 t. From the warehouse, the same van reaches customers as near as 13 km and as far as 644 km. Because volumes for each destination are unknown, we show the footprint as a range—0,298 kg CO<sub>2</sub> eq at the short end and 0,725 kg CO<sub>2</sub> eq at the long end—and, for planning purposes, adopt a conservative weighted split in which 75% of shipments travel ≤ 161 km and 25% go 644 km; this yields 0,48 kg CO<sub>2</sub> eq per pack.

Distributors then move goods “within the local region”. UK last-mile studies cite 3–14 km loaded distances, so a conservative 10 km is assumed, with 70% of volume in vans and 30% in rigid lorries ≤ 7,5 t, reflecting the client’s wording.

No empty-return leg is added, in line with FMCG EPD practice for one-way courier streams and avoiding over-allocation.

Under these transparent, data-driven assumptions the transport stage contributes 0,48 kg CO<sub>2</sub> eq per pack.

## ● Packaging → **0,18** kg CO<sub>2</sub> eq

The refill pack uses only 88 g of packaging: five home-compostable sachets made from a 60% PLA / 40% PBAT film (20 g), one industrial-compostable starch / PLA polybag (5 g), a corrugated mailbox with ± 70% recycled fibre (56 g) and three paper labels printed on 100% recycled stock (7 g).

All emission factors use European industry-average cut-off datasets; PBAT is modelled with the most recent peer-reviewed value, and each polymer film includes the extrusion step. Adhesives and inks are < 1% of mass, so are excluded per ISO 14044. To reflect tertiary reuse, the shipper (1,0 kg box + 0,10 kg void-fill) is allocated over 5 rotation cycles and 40 packs per cycle—five uses are consistent with documented best-practice pilots in cosmetics, while conventional logistics typically achieve only 1–3—so the per-pack term remains small.

Including the reused tertiary shipper as above brings the cradle-to-gate footprint to 0,18 kg CO<sub>2</sub> eq/pack (+5,7 g versus the secondary-only tally). Under this reuse-and-load pattern, the tertiary layer is already efficient and contributes only marginally per pack. Compared with a conventional refill that would use virgin HDPE bottles, LDPE shrink-film and virgin corrugated board (≈ 0,35 kg CO<sub>2</sub> eq), the mix of biopolymers and high-recycled cardboard roughly halves greenhouse emissions while remaining fully curb-side recyclable or compostable, enhancing end-of-life recovery.

Room for improvement: the sachet film dominates the impact; switching to a higher-PLA or partly recycled PBAT grade, or optimising gauge, would cut the total by up to 15%. On the secondary pack, pushing the box to > 90% recycled fibre or right-sizing it for tighter volumetric efficiency would yield a further 5–10% reduction without affecting product protection.

Use → **3,11** kg CO<sub>2</sub> eq  

To model the use phase of the SUDZERO 5 × 4 L refill pack, we begin with the functional unit: 20,000 hand-washes delivered once the five 50 g sachets are re-hydrated with 20 L of tap water at the point of use. During each wash, the only material flow is the water that runs while users lather and rinse. A controlled laboratory trial recorded an average draw of 17 oz for foam soap—0,503 L per wash across 100 replicates at 97% confidence—providing a robust, observation-based reference volume. Multiplying that benchmark by the wash count and adding the reconstitution water defines the inventory for the use stage; thermal energy and wastewater treatment remain outside the cut-off boundary.

Independent field work in UK washrooms shows that exchanging liquid for foam formulations cuts the draw at the tap by 16–45%, so the laboratory figure represents a deliberately conservative saving relative to the dominant bulk liquids currently supplied to commercial facilities. Even at this reduction, a water-free concentrate for the same service lowers per-pack transport and packaging, leaving in-use water driven by flow and rinse time. Looking ahead, wider uptake of touch-free, low-flow dispensers and powder-to-foam concentrates is expected to shift competitive advantage: as utilities tighten and net-zero targets extend beyond factory gates, the products that demand the least water in use will define best practice in the soap market.

● End of life → **0,011** kg CO<sub>2</sub> eq  

**UK disposal statistics anchor the end-of-life flows:** fibre-based items (63,6% of the pack mass) follow an 82% recycling, 11% energy-from-waste (EfW) and 7% landfill split, while flexible PLA/PBAT films (28,4%) see only 7% recycling, with the balance channelled to EfW and landfill. Home and industrial-composting are modelled as 0% because current UK collection coverage for compostable packaging is negligible and robust data on successful home-composting are lacking; accordingly, the films are treated in the conventional flexible-plastics stream.

In comparative terms, a 5 L industrial hand-soap supplied in a rigid HDPE jerrycan ( $\approx$  160–300 g plastic) can add  $\approx$  0,15–0,35 kg CO<sub>2</sub>e at end-of-life under the same UK disposal mix. The ultra-concentrated refill studied here sends far less material to the waste stream, mostly cellulosic fibre-based materials such as paper and cardboard, that is widely recycled, so its residual footprint stays in the low range. End-of-life performance is therefore dictated by the packaging-to-product ratio: moving dilution to the point of use slashes material per litre and leaves the remaining impact driven mainly by the limited recycling routes for thin PLA/PBAT films rather than by the mass of the container itself.

Transport sensitivity illustrates geographic variability: replacing the 16–32 t EURO VI lorry with a 21 t municipal collection truck multiplies the haulage term by  $\approx$  +650%, trimming the net benefit to -0,028 kg CO<sub>2</sub>e. A Scottish scenario—household recycling roughly 10 points lower—would further shift board from recycling to EfW/landfill, reducing the climate credit but not reversing the sign. Clear documentation of material splits, disposal shares, and vehicle choice enables reviewers to recalculate impacts as local conditions evolve.

# Comparative

## ● Difference in footprint from the average → **-87,71%**

Comparative analysis using a functional unit of **20 000 hand-washes** exposes wide disparities across the category. Mainstream bottled liquid soaps, once rescaled to that usage volume, routinely exceed 60 kg CO<sub>2</sub>e, whereas concentrated pouch or tablet formats cluster around 15 kg CO<sub>2</sub>e. The arithmetic mean of all reviewed references stands at 50,53 kg CO<sub>2</sub>e, confirming that structural inefficiencies push the climate burden per dose far above the actual mass of active ingredients.

Water content is the single biggest driver behind this gap. A conventional liquid soap is 80–90% formulated water; hauling that fraction inflates transport emissions and multiplies packaging demand. Dose size compounds the effect: typical pumps deliver 2–3 mL per wash, while foam or powder systems work with 1 mL or less. Combining high water share with generous dosing explains why two chemically similar formulas can differ by more than an order of magnitude once normalised to identical usage frequency.

Packaging is the second source of variability. Products relying on rigid HDPE or PET bottles must manufacture, label and ship tens of grams of plastic for every refill. When those bottles are replaced by flexible sachets or by refill stations using reusable containers, material mass per wash drops sharply, and with it the share of emissions attributed to packaging. Several brands achieve apparent cuts of 50 % or more simply by switching delivery format, without touching the recipe.

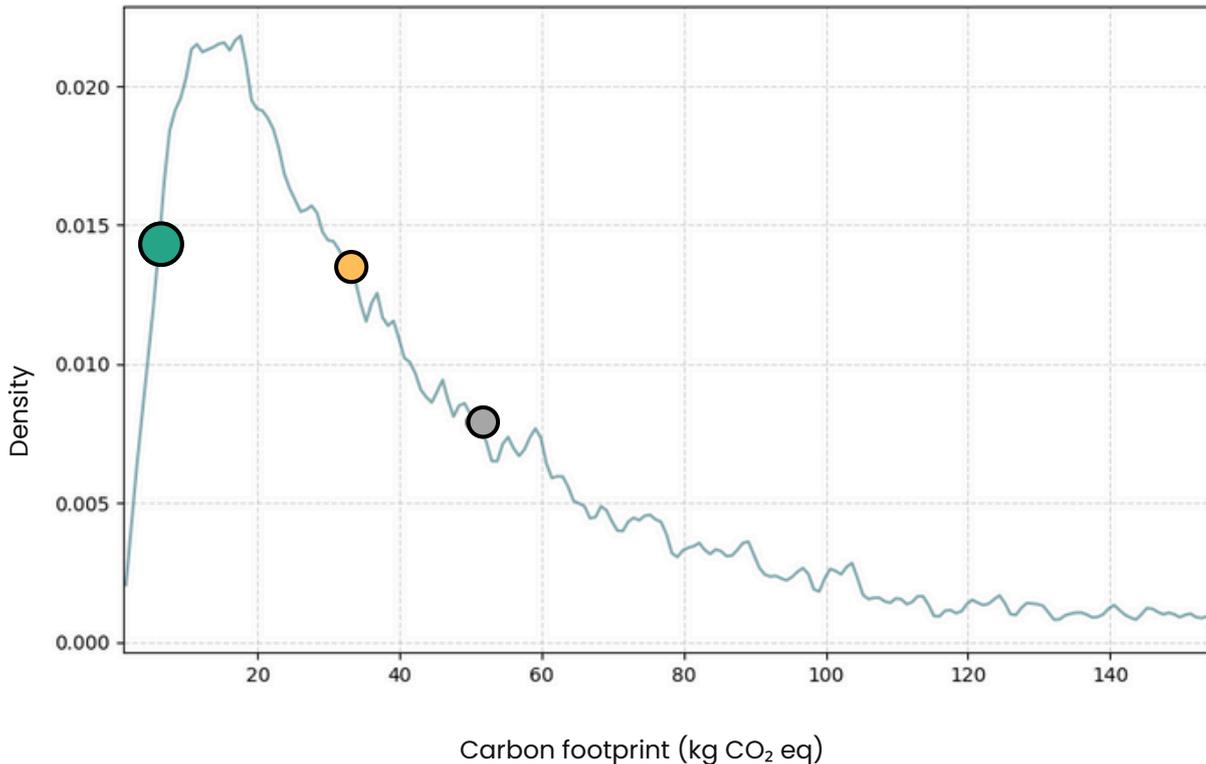
Finally, the plant's energy mix decides whether manufacturing is a major or a marginal contributor. Running on **certified zero-carbon electricity** effectively removes this stage, whereas facilities that blend grid electricity with gas steam add several kilograms of CO<sub>2</sub>e to the pack's total inventory.

Against this backdrop, **SUDZERO 5x4 L Refill Pack** posts 6,21 kg CO<sub>2</sub>e for 20 000 washes, placing it **87,71%** below the sector average. Its edge stems from four combined choices: no water in the traded product, a very low dose per wash, light compostable sachets instead of rigid plastic, and manufacturing powered by zero-carbon electricity. Together they show that the main lever for decarbonising hand-hygiene is the physical logistics of the product, not marginal tweaks to the ingredient list.

# Market chart

## Carbon footprint of your product compared to the market

Your product has a 87,71% lower carbon footprint than the market average.



### Interpreting the Chart

The blue line shows the distribution of carbon footprints for many products. The higher the line, the more common that footprint is.

### The highlighted dots indicate key values:



The median marks the midpoint: half of the products emit more CO<sub>2</sub> and the other half less. The mean shows the average emissions across the market.

### Key Conclusion

Your product has a very low carbon footprint compared to most products on the market.

# For marketing

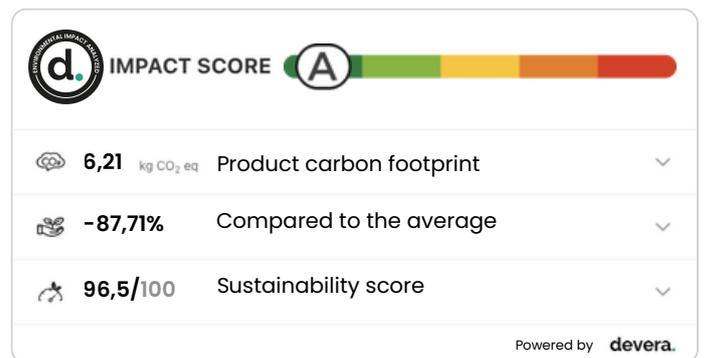
This report helps you improve transparency with stakeholders and support your communications with concrete data. This section gathers the key aspects you can highlight.

## — This product is special because:

- **Cuts carbon footprint by 87,71% vs. market average:** just 6,21 kg CO<sub>2</sub>e for 20 000 washes
- **Zero water in formula** = lighter, lower emissions, no compromise on performance
- Packaging is **fully compostable or recycled**, emitting only 0,18 kg CO<sub>2</sub>e
- Manufactured with **100% zero-carbon electricity, near-zero production impact**
- Uses **less water than conventional liquid soaps**
- **96,5/100 sustainability score** – among the best in the industry
- **50% of profits go to climate and mental health causes**

## — Add the QR with the Devera stamp.

Show this stamp as proof of commitment to transparent and responsible practices with the environment.



## SUDZERO 12x350ml Refill Pack SZ6105



### BRAND

Amplify Goods

### MODEL

12x350ml Refill Pack SZ6105

### TYPE

Soap, cosmetics, hand wash

### CATEGORY

Beauty

### LINK

<https://www.amplifygoods.org/products#sudzero>

# Summary

Product carbon footprint → **1,60** kg CO<sub>2</sub> eq 

**Raw materials**  
 **0,58**  
kg CO<sub>2</sub> eq

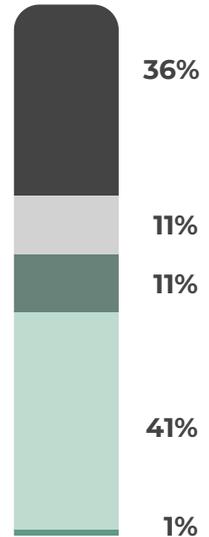
**Manufacturing**  
 **0,0004**  
kg CO<sub>2</sub> eq

**Transport**  
 **0,18**  
kg CO<sub>2</sub> eq

**Packaging**  
 **0,18**  
kg CO<sub>2</sub> eq 

**Use**  
 **0,65**  
kg CO<sub>2</sub> eq

**End of life**  
 **0,01**  
kg CO<sub>2</sub> eq 



Compared to the average → **-84,92%**  

 **10,61** kg CO<sub>2</sub> eq Average footprint of standard product

Sustainability score → **94,5/100** 

 **9,4 /10** Product footprint compared to market

 **9,75 /10** Brand sustainability

Score → 

## Conclusions

With a footprint of **1,60 kg CO<sub>2</sub> eq** for 4,200 washes, the SUDZERO 12 × 350 ml demonstrates that the powder-without-water logic can be scaled to low-turnover formats without losing climate efficiency, something uncommon in a market where impact reduction is usually associated with bulk packaging. Its performance is the result of three strategic decisions working together: concentrating the active ingredient to eliminate water from the formulation, supporting production with zero-carbon electricity, and maintaining a circular chain that recovers cardboard and uses compostable films, all without sacrificing the user experience or the social narrative that defines the brand. This balance positions the product as a viable alternative in offices, cafeterias, and boutique accommodations that would not consume an industrial pack, proving that volume flexibility is compatible with a record low footprint.

The model, however, reveals two limitations: by reducing the served volume by almost 80% compared to its larger counterpart, the fixed weight of the box becomes more prominent and increases packaging intensity, so redesigning the cardboard or reducing its thickness emerges as the most direct lever to bring both results closer together. Furthermore, distribution in small batches relies more heavily on light vans, so consolidating shipments on pallets and transferring long-distance transport to rigid vehicles would allow the logistics efficiency of the 20L format to be emulated.

Despite these areas for improvement, there is an added value: the small pack retains the advantage of decarbonizing hygiene without altering the end-user routines, reinforcing the perception of a product family that offers the same climate solution across very different consumption scales. In summary, its main strength lies in expanding the commercial reach of the SUDZERO concept, and with it, emission reductions while its greatest challenge is refining packaging and delivery routes to ensure that practicality does not erode the environmental excellence that defines the brand.

## Breakdown by categories

### Raw materials → 0,58 kg CO<sub>2</sub> eq

The raw-materials stage of a 60 g pack of sachets that re-creates 4,2 L of Total Soap carries a footprint of 0,58 kg CO<sub>2</sub> eq, a quarter of the carbon typically left by a similar amount of conventional hand soap packaged in 350 ml bottles. Because the formula is the same as its 4 L “big brother”, the climate drivers are identical: bio-fermented buffers first, coconut surfactants second, and the bio-based moisturiser a distant third. What changes is scale. With far less mass to dry and ship, the absolute load shrinks dramatically; yet, on a per-litre basis, the 20 L format is lower (~0,31 kg CO<sub>2</sub>-eq·L<sup>-1</sup>) than the 4,2 L format (~0,38 kg CO<sub>2</sub>-eq·L<sup>-1</sup>) due to packaging and transport economies.

For the consumer, the message is still strong: every pouch avoids transporting 290 mL of water and the plastic bottle that would normally hold it, while all active ingredients stay biodegradable and free from sulphates or petro-solvents. Within the soap market (where ready-to-use liquids can exceed 10 kg CO<sub>2</sub>-eq per service volume), both SUDZERO formats rank at the low-carbon end; the smaller pack simply offers flexibility for lighter users or travel without giving up the environmental edge. Continued moves to renewable power in fermentation, lower-temperature spray-drying and green hydrogen in the moisturiser supply chain would cut a further tenth from either size, ensuring the brand stays ahead of tightening climate benchmarks.

● **Manufacturing** → **0,0004 kg CO<sub>2</sub> eq**  

The meter shows 0,0098 kWh per sachet, so a full pack needs 0,118 kWh. Because every kilowatt-hour comes from EDF's zero-fossil contract ( $\approx$  94% nuclear balanced with on-shore wind), the residual cradle-to-gate factor is tiny: the whole batch carries only 0,40 g CO<sub>2</sub>-eq. That is one quarter of the 5 × 50 g pack (1,6 g) and less than 1% of the footprint typically reported for a bottle of liquid soap cooked with steam and supplied from the average UK grid.

All unit operations (powder blending, sachet filling, the air compressor that powers the VFFS line, lights and HVAC) draw from one smart-meter; no gas is burned, no process water or caustic is needed because the equipment is dry-cleaned with compressed air. We allocate the measured kilowatt-hours across five unit processes, but electricity still accounts for > 95% of the manufacturing impact; every other flow rounds to zero. The combination of low-carbon electricity, water-free processing, and modest batch size explains why the "little brother" lands so far below sector norms.

This means the smaller refill already sits at the cutting edge of the soap market's climate performance. Minor actions (tightening filler idle time or plugging air leaks) will reduce the footprint in direct proportion to the energy saved, yet even today the product pairs a near-negligible plant-side impact with the social value of inclusive hand-packing and the refill-and-reuse system that keeps glass dispensers in circulation.

## ● Transport → 0,18 kg CO<sub>2</sub> eq

Each SUDZERO Powder-to-Foam Hand Wash SZ6105 pack carries just 0,130 kg—60 g of powder plus 70 g of packaging—yet follows the same logistics chain as the larger 5 × 4 L format: 418 km by light van from the contract packer to East London, then between 13 km (nearest customer) and 644 km (furthest) in the same vehicle class before distributors add a 10 km local drop with a 70% van / 30% rigid-truck mix. Light vans emit more per t-km than heavy lorries, but they reflect the parcel-size consignments actually dispatched, so we keep them in the model and exclude empty-return legs, as is standard for one-way courier flows.

Because freight impacts rise almost linearly with payload, trimming the shipped mass from 0,338 kg to 0,130 kg lowers transport emissions to 0,11 kg CO<sub>2</sub>-eq per pack for the short 13 km case, 0,28 kg for the long 644 km case, and 0,18 kg under a conservative weighted split in which three-quarters of volume travels within 161 km and the rest to the farthest customer. The broad range makes clear that kilometres, not fuel type, dominate the result, while the sharp drop against the larger pack shows how concentrated sachets decouple climate cost from use volume: traditional liquid soaps often haul up to 90% water over the same distances. With the product mass pared back, packaging now represents more than half of what is moved, so any further light-weighting of the sachets will yield larger savings than tweaking routes or vehicles alone.

## ● Packaging → 0,18 kg CO<sub>2</sub> eq

The 12-sachet refill pack (SZ6105) is modelled with three layers; primary sachet, a 12-unit secondary box, and a tertiary shipper reused across 20 packs (using the client-provided masses for the secondary and tertiary components). Allocating the reused shipper (box 0,25 kg + void-fill 0,10 kg) to one pack, the base packaging (excluding the home bottle) comes to 0,104 kg CO<sub>2</sub>-eq/pack.

The profile is dominated by the fixed secondary box and labels at pack level, while the tertiary contributes little once spread over repeated uses and the sachet film remains a minor share. In the market, two reuse archetypes coexist for in-home dispensing: refillable plastic bottles (lower upfront impact, typically fewer effective reuses) and refillable glass bottles (higher upfront impact, designed for extended reuse). Drawing on technical data and manufacturer durability tests, glass bottles with quality pumps can exceed 50 reuses; we adopt 50 as a conservative hypothesis. As a contrast, we retain a plastic (PET+PP) bottle at 25 reuses. Prorated to the pack of 12, the glass+metal bottle adds 0,08 kg CO<sub>2</sub>-eq/pack (total 0,18 kg; ≈ 0,015 kg/sachet), whereas the PET+PP bottle would add 0,118 kg CO<sub>2</sub>-eq/pack (total 0,222 kg; ≈ 0,019 kg/sachet). The determinant is the achieved reuse rate: at 25 reuses for PET, glass breaks even at about 34 reuses and, at 50, delivers a -17 % lower pack total. Because the client sells a glass bottle, we report the glass scenario as the primary result and keep the plastic scenario as decision-useful sensitivity.

Use → **0,65 kg CO<sub>2</sub> eq**  

The 12 × 350 mL SUDZERO pack delivers 4,200 foaming hand-washes once its twelve 5 g sachets are mixed with 4,2 L of tap water. Applying the same measured draw of 0,503 L per wash used for the larger pack leads to a use-phase flow of 2,112 L, or 2,116 L after adding the dilution step. Scaled to the dataset for tap water, that equates to 0,65 kg CO<sub>2</sub>-eq attributed solely to user behaviour. Although dose and lather efficiency are identical, the smaller pack is oriented to households and other low-throughput settings (alongside offices, cafés and mobile services) where a 20 L equivalent would be impractical to store or empty before expiry. By matching volume to demand it prevents product waste, halves the storage footprint and eases manual handling regulations, while still reaping the water-saving advantage of the foam format over conventional liquids.

When the two packs are normalised per wash, their use-phase impacts align, yet in absolute terms the larger variant embodies over twelve times more water and therefore dominates the carbon balance sheet. Across both formulations, the use stage outweighs every upstream process—sachets, secondary packaging, transport and even the powder manufacturing itself. This highlights a structural challenge for the sector: once packaging is minimised, the next frontier for climate performance is to influence what happens after the dispenser is pressed. Low-flow aerators, timed-flow taps and user guidance can further compress the water column and bring the total product footprint back in line with the reductions already achieved in production and logistics.

● **End of life** → **0,01** kg CO<sub>2</sub> eq  

UK cut-off modelling with 82% paper recycling, 7% flexible-film recycling and a 50 km Euro VI haul gives an end-of-life result of ~0,006 kg CO<sub>2</sub>-eq per pack for the 12 × 350 ml refill (reported as 0,01 after rounding). About nine-tenths of the 71 g packaging is cellulosic fibre-based materials such as paper and cardboard, which follow mature recycling routes and leave only modest residual emissions. Given its long in-use lifetime, the glass dispenser's end-of-life burden is negligible at pack level and is therefore not material. The remaining PLA/PBAT film, by contrast, is scarcely recovered and therefore dominates the footprint once the fibre share is diverted to recycling.

Usage scenarios are hypothetical and used only to illustrate scale effects: if the 4 L pack is chosen for high-throughput refilling (e.g., offices or janitorial supply) and the 350 ml pack for occasional home use, the low material-per-litre ratio of the bulk format keeps its EoL more resilient. Context therefore shapes end-of-life outcomes as much as convenience. In offices, schools or janitorial closets, on-site dilution maximises the low-impact profile of the 4 L format; in homes, the 350 ml option remains practical and still outperforms single-use PET, but with a tighter credit "head-room".

Logistics emphasise the gap: swapping the EURO VI truck for a high-emission municipal collector increases the transport term by ≈ +650%, trimming the bulk pack's net benefit by 14% yet shrinking the small pack's by 26%. In short, the lower the packaging per litre, the more resilient the end-of-life climate gain, making pack size a key lever when setting refill strategies.

## Comparative

### ● Difference in footprint from the average → -84,92%

With a cradle-to-grave footprint of **1,6 kg CO<sub>2</sub> e** for 4,200 hand-washes, the SUDZERO 12 × 350 ml Refill Pack (SZ6105) sits far below the sector average of 10,61 kg CO<sub>2</sub>e calculated for the same functional unit, delivering an **84,92%** saving and earning a score of 9,4 / 10—clear proof that even a lower-traffic format retains a decisive climate edge over mainstream liquid soaps.

The reduction follows the same logic as its larger-scale sibling: water-free powder supply and a 1 ml foam dose. Because the pack holds less ready-to-dilute product, the relative mass of packaging rises. Compostable sachets plus an FSC carton add 0,10 kg CO<sub>2</sub>e, or 6,7% of the total, versus the 2,9% seen in the larger pack. This shift explains the small gap in scores between the two formats and highlights how packaging gains weight in the inventory when the service unit shrinks. In addition to higher unit packaging, the household refill carries the amortised burden of its reusable dispenser—absent from the bulk system boundary—which helps explain the remaining gap between formats.

Of the residual footprint, the largest share is the 0,65 kg CO<sub>2</sub>e tied to the soap that is rinsed away during each wash. This component depends on user behaviour and tap flow rather than on manufacturing or logistics, so even the most efficient brands can influence it only indirectly through dose guidance. Packaging and transport together contribute under 0,36 kg CO<sub>2</sub>e—roughly one-tenth of the impact typically observed in bottled liquids—yet they also account for the slight difference with the 20,000-wash format: the compact pack accepts a few extra grams of material to suit the consumption pattern of offices and boutiques while still outperforming the market average by a wide margin.

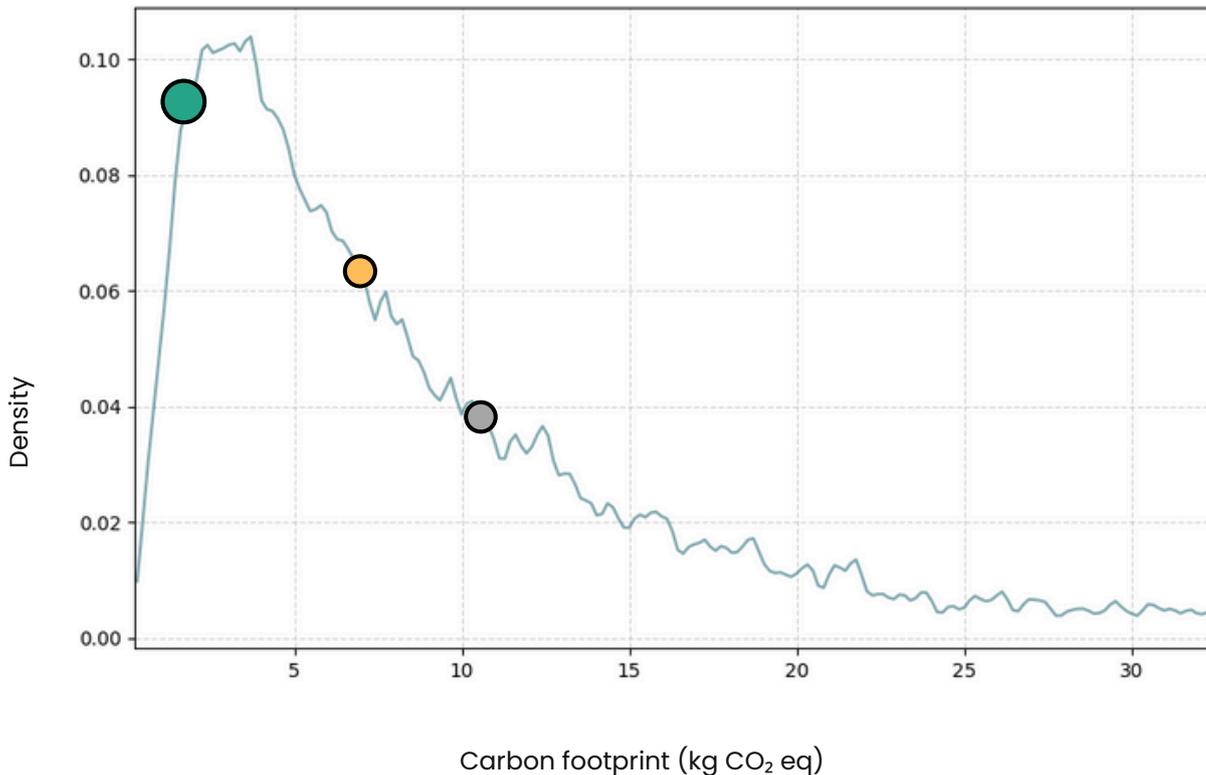
In such settings, a standard liquid soap would require about twelve 350 ml bottles and emit >10 kg CO<sub>2</sub>e, whereas the SZ6105 delivers identical hygiene with a fraction of the impact and no rigid plastic.

Overall, the pack's performance confirms that the real levers of decarbonisation—eliminating transported water, lightening packaging and running on renewable energy—work just as effectively at smaller scales. Although the higher relative packaging share slightly lowers its score, the product remains in the top tier of environmental performance for the category, demonstrating that the refill strategy can scale down without losing climate efficiency.

# Market chart

## Carbon footprint of your product compared to the market

Your product has a **84,92%** lower carbon footprint than the market average.



### Interpreting the Chart

The blue line shows the distribution of carbon footprints for many products. The higher the line, the more common that footprint is.

### The highlighted dots indicate key values:



The median marks the midpoint: half of the products emit more CO<sub>2</sub> and the other half less. The mean shows the average emissions across the market.

### Key Conclusion

Your product has a very low carbon footprint compared to most products on the market.

# For marketing

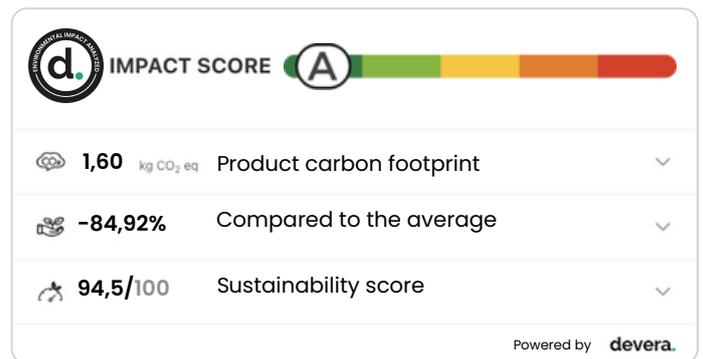
This report helps you improve transparency with stakeholders and support your communications with concrete data. This section gathers the key aspects you can highlight.

## — This product is special because:

- **Cuts CO<sub>2</sub> by 84,92% vs. standard soaps:** just 1,60 kg CO<sub>2</sub> eq for 4 200 washes.
- **Top scores:**
  - 94,5/100 sustainability
  - 9,4/10 for product footprint
- **No water, no plastic bottle:**
  - Powder avoids 290 ml water per refill
  - Fully compostable or recycled packaging
- **Ultra-efficient manufacturing:**
  - Just 0,0004 kg CO<sub>2</sub> eq, using zero-fossil electricity
- **Replaces 14 plastic bottles with a single compact refill**

## — Add the QR with the Devera stamp.

Show this stamp as proof of commitment to transparent and responsible practices with the environment.



## Brand sustainability → 9,75/10

Amplify Goods shows a strong ESG profile, combining circular product design, social impact, and responsible sourcing. With a score of 9,75 out of 10, it ranks among the most advanced brands in sustainability performance. The company integrates environmental and social values across its operations, but some gaps in energy transparency and emissions reporting remain.

### Positive aspects

- Certified by Social Enterprise UK, Vegan Society, WeConnect, and Neutral Carbon Zone
- Uses less than 25 % virgin non-renewable materials
- Sources over 50 % of suppliers within 400 km
- Packaging is compostable, recyclable and part of a refill system with reusable glass bottles
- Products are vegan, naturally derived and free from harmful chemicals
- 50 % of profits invested in climate and mental health initiatives
- Work integration for people facing barriers (e.g. homelessness or disability)
- Social impact measured: £477k SROI by end of 2024
- 0 % gender pay gap, equality plan in place, and employee satisfaction tracked

### Areas to improve

- No reported percentage of energy from renewable sources
- No disclosure of Scope 2 or Scope 3 emissions
- No time-bound targets for emissions or material reduction
- Impact data from the reuse system not yet published

### Recommendations

- Report the share of renewable energy used in operations
- Set measurable goals (e.g. reduce virgin materials, increase reuse participation)
- Publish participation metrics from the refill system to support circularity claims

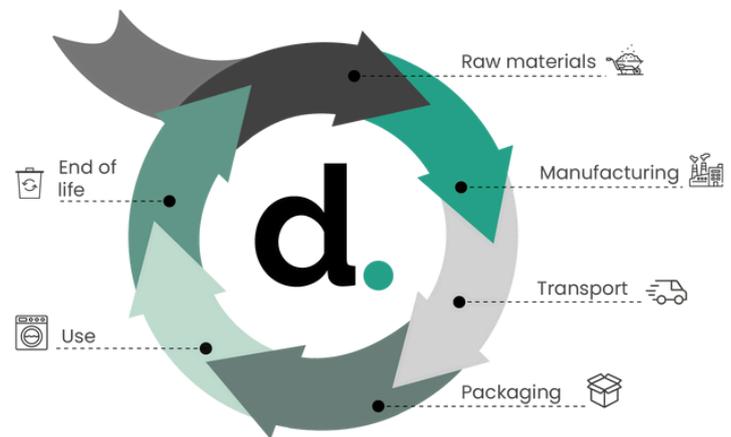
Amplify Goods stands out as a purpose-driven brand with low-impact product strategies and meaningful social action. By improving its environmental reporting and setting clear performance targets, it could further lead best practice in the personal care sector.

# Calculation methodology

Devera's life cycle assessment (LCA) takes a comprehensive "Cradle to Grave" approach, assessing the environmental impact of a product from the extraction of raw materials to its recycling or reuse. Aligned with ISO 14040 and ISO 14044, the process identifies opportunities for environmental improvement and supports the transition towards sustainable and responsible models.

## LCA stages:

1. **Raw materials:** Extraction, processing and transport.
2. **Manufacturing:** Transformation of raw materials, energy consumption and emissions.
3. **Transport:** Emissions from the factory to the point of sale.
4. **Packaging:** Impact of packaging material and its management as waste.
5. **Use:** Resources and energy consumed during the product's lifetime.
6. **End of life:** Recycling, incineration or landfill disposal.



## LCA process:

- **Inventory:** Collection of data on raw materials, energy and emissions at each stage.
- **Impact assessment:** Quantification of effects such as climate change or resource depletion.
- **Interpretation:** Identification of improvements and communication of results.

## LCA automation:

Devera uses the latest technological advances to facilitate the automation of the LCA throughout the different processes required. We particularly highlight:

- Extraction of supplier and market data through websites and documents provided.
- Identification of the most relevant emission factors associated with each case, mainly through the Ecoinvent database.
- Extraction of benchmarks to model each comparable product with mathematical models.

## Sustainability Score Calculation:

- **Total (0-100):** 80 carbon footprint points and 20 brand sustainability points, following social and environmental criteria.
- **Letters A-E:** They are assigned according to the total score.  
81-100 points → A   61-80 points → B   41-60 points → C   21-40 points → D   0-20 points → E

→ [More information on the methodology and calculations here.](#)

devera.

decode. decide. decarbonize.