

# BOOK & CLAIM: EFFECTIVELY REDUCE TRANSPORT EMISSIONS







## HOW FOOD RETAILERS AND PRODUCERS CAN OPTIMISE THEIR SUPPLY CHAINS, DECARBONISE FASTER, AND MEET REPORTING OBLIGATIONS

**Logistics is facing momentous challenges: global demand for goods will double by 2050 compared to their 2015 levels. At the same time, the logistics industry must reduce its emissions by 80% to achieve global climate targets.**

With the increasingly tangible consequences of climate change, legislators are exerting more and more pressure on shippers, freight forwarders and logistics service providers to transport their goods with as little CO<sub>2</sub> impact as possible.

At the same time, reporting obligations for manufacturing companies are increasing and demand greater transparency about emissions within their own supply chain. Book & Claim plays a crucial role in reducing transport-related Scope 3 emissions. Read on to discover how food retailers and producers can use this innovative approach to decarbonise their supply chains, thereby meeting regulatory requirements and making a solid contribution to a more sustainable future.

### ACT SUSTAINABLY:

Improve your carbon footprint and achieve goals faster with **Book & Claim**.



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## ABOUT NAGEL-GROUP

Nagel-Group is one of Europe's leading food logistics companies with a workforce of more than 11,000 and delivers around 105,000 consignments every day. Around 7,000 trucks are deployed in 30 countries for the majority of European food retailers and producers. Sustainability is integral to the corporate strategy of the family-owned company, which was founded in 1935: Nagel-Group pledges to reduce its transport-related CO<sub>2</sub> emissions by 40% by 2030 and is aiming for complete greenhouse neutrality by 2045.



## ABOUT SHIPZERO

shipzero is the industry-leading data platform for effectively measuring and reducing CO<sub>2</sub> emissions. The company supports logistics service providers, freight forwarders and shippers in creating CO<sub>2</sub> transparency and facilitating the path to “net-zero”. shipzero's methodology is accredited by the Smart Freight Centre, fully aligned with the international GLEC Framework 3.0 and is ISO 14083:2023-compliant.



# COMPLEX CHALLENGES

## CO<sub>2</sub> reduction for food logistics

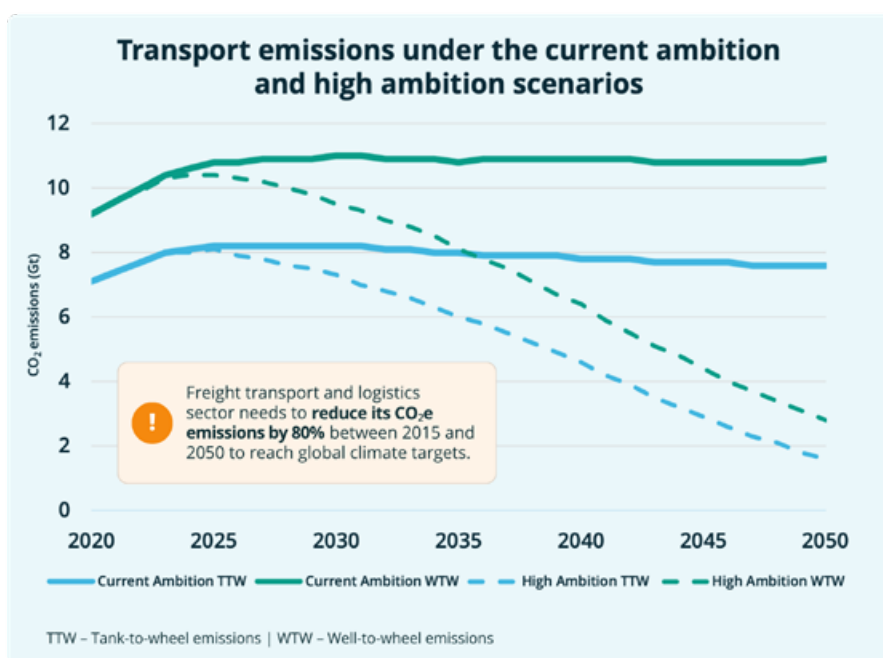
The international community reached a binding agreement at the 2015 Paris Climate Conference to limit global warming to well below 2°C compared to pre-industrial levels. Many companies are now aligning their sustainability strategies accordingly and setting themselves targets based on the SBTi (Science Based Target initiative). Achieving this goal will require intensive efforts and innovative solutions – including in logistics. Freight logistics accounts for around 11% of global CO<sub>2</sub> emissions. Around two-thirds of this is accounted for by truck transport alone.

Scope 3 emissions in particular account for a large proportion of food retailers' CO<sub>2</sub> emissions due to complex supply chains with a large number of destinations and stakeholders. Producers are also looking for ways to reduce their carbon footprint in the supply chain, which is why the demand for decarbonisation options for Scope 3 emissions is gradually increasing.

Although the logistics companies they commission for transport have already made many technological advances to reduce emissions, there is still often only very limited widespread use.

At the same time, demand for alternative fuels such as hydrotreated vegetable oils (HVO) and low-emission transport solutions (LETS), which are often not yet available nationwide, is increasing.

There are also still high production costs, considerable investments in low-emission vehicles and the associated charging infrastructure as well as large geographical distances between fuel producers and consumers. In many cases, demand for decarbonisation solutions exceeds the supply available today. This poses far-reaching challenges, especially for general cargo forwarders with supra-regional networks.



Source: International Transport Forum: ITF Transport Outlook 2023 Summary





# ALTERNATIVE DRIVE TECHNOLOGIES

## Decarbonisation levers in transport

Although prices for alternative fuels have already fallen, HVO100 is still on average ten to 20 cents more expensive per litre than conventional diesel in Germany (as of Q2 2025). Biofuels can reduce CO<sub>2</sub> emissions by up to 90%, Depending on the mixing ratio, and at least serve as a stopgap for the slow expansion of the electric infrastructure.

The market for battery-powered trucks in Germany continues to develop, but is still showing restrained momentum. As of 1 January 2025, 92,312 e-trucks were registered nationwide – this represents a proportion of around 2.4% of the total truck fleet.

Battery-electric vehicles accounted for around 3.5% of new registrations in the first quarter of 2025. The shortfall is particularly marked in the area of heavy commercial vehicles and tractor units, where the electrification rate currently languishes below 1%.

Forecasts point out that a rapid expansion of infrastructure is crucial – according to the OECD, around 2,000 megawatts of charging points are needed in Germany just to achieve the goal of nationwide coverage by 2035.





# SUSTAINABILITY

Economy, ecology and social issues in harmony

A sustainability mindset is practised holistically at Nagel-Group. We see it as our responsibility as one of Europe's leading food logistics companies to actively contribute to a sustainable future. By acting responsibly, using environmentally friendly technologies and consistently driving forward ecological efficiency, we are doing our bit to make tomorrow's world a better place to live in.

Accordingly, Nagel-Group is pursuing a holistic strategy for low-emission mobility. Our modern truck fleet is being continuously expanded to make transport logistics in particular more sustainable. As well as electrification, we are also pursuing and testing the use of alternative drive options such as liquefied natural gas (LNG) and HVO100 and are also monitoring developments in hydrogen. The number of e-trucks in our network is continuously growing. We are testing innovative battery storage solutions and investing in expanding the charging infrastructure.

We open ourselves to be measured – and certified. Nagel-Group fulfils the ZNU standard for sustainable corporate management, relies on efficient energy management in accordance with the ISO standard and was awarded the EcoVadis Bronze Medal in August 2024 as one of the top companies in the industry for sustainable practices.

We think beyond the here and now. Our aim is to make the food supply sustainable and future-proof. We focus on collaboration: together with our customers and partners, we realise innovative sustainability projects in in a mutual wish to jointly reduce our ecological footprint. Because only by working together can we bring about real change. Sustainability is what drives us – today and in the future.



## SUSTAINABILITY AT A GLANCE

- **2017:** first logistics company with ZNU "Sustainable Management" certification. Meanwhile ZNU certified at 10 locations.
- **2022:** first e-truck in regular use
- **2024:** EcoVadis Bronze Medal
- **2024:** Truck charging infrastructure in operation at 4 locations
- **2024:** over 200 fully electric cars
- **2025:** E-truck fleet will more than triple
- **by 2030 and 2045:** Reduction of emissions in transport and stationary energy



# BOOK & CLAIM: BACKGROUND

Book & Claim is a collaborative approach to sustainable transport, and as such fits in with both Nagel-Group's philosophy and its network. The challenges of limited supply and regional availability can be overcome with this innovative approach. Sustainability attributes (reduction of CO<sub>2</sub>e\* emissions) are decoupled from physical activity. The mechanics behind it are that a certain amount of sustainable fuel or the use of a battery electric vehicle is "booked" at one location and can potentially be "claimed" at another location.

Book & Claim enables Nagel-Group to offer its customers sustainable transport services. This gives them greater transparency with regard to their CO<sub>2</sub> emissions, gives them flexible access to alternative fuels and battery-electric vehicles and enables them to reduce their Scope 3 emissions quickly, effectively and with minimal effort in their own supply chain. This makes it easier and more effective to achieve sustainability goals.



Nagel-Group regularly refuels HVO at its Hamburg site and uses several battery-electric trucks for distribution, which reduces CO<sub>2</sub> emissions in the transport network.

The environmental attributes are recorded and forwarded to shipzero to calculate the total CO<sub>2</sub> reduction.

The emissions are uploaded as "bookings" to a corresponding database.

The emissions can now be claimed by any customer of the Nagel-Group.

No alternative solutions are currently being used in Schweitenkirchen. However, a local customer wants to reduce its CO<sub>2</sub> footprint and is claiming the savings from Hamburg for itself.

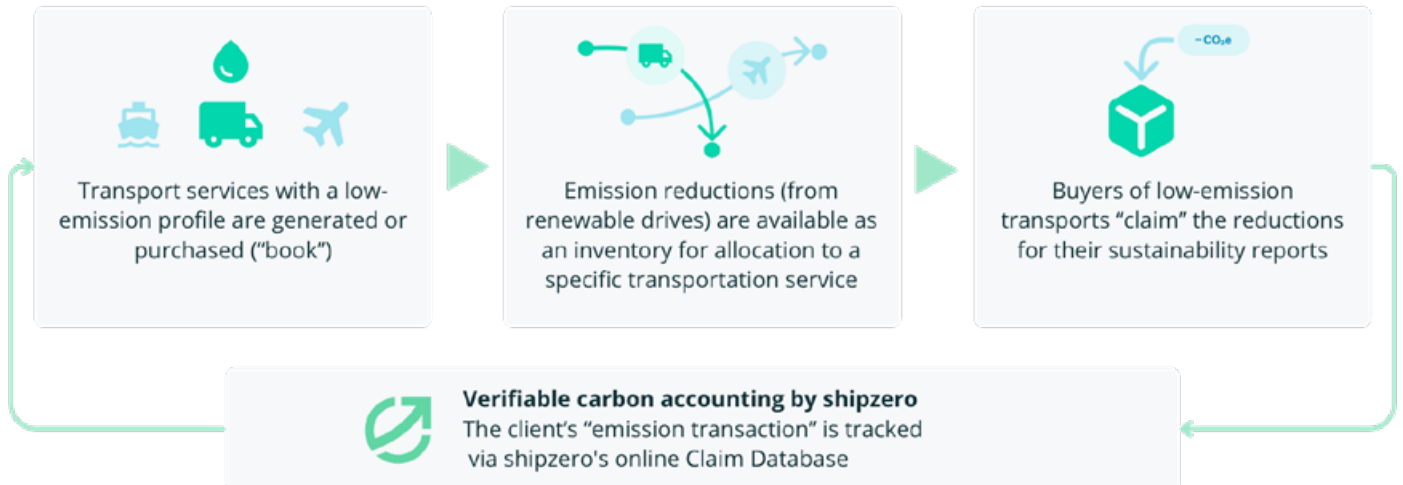
\* CO<sub>2</sub>e = CO<sub>2</sub> equivalents



In practice, this means that a logistics service provider, for example, Nagel-Group, which can use alternative fuels or battery electric vehicles regionally and efficiently at location A, first “books” an emission credit. By prior agreement, this can then be assigned to interested Nagel-Customers. The customer “claims” the credit for itself and can prove a reduction in its indirect transport emissions with a certificate for its own climate targets. It is important to note here that the approach only works within the same transport mode. In addition, only savings generated within the transport network can be taken into account.

Savings from, for example, an electric car fleet or PV systems on properties are not taken into account. All bookings that have been requested once in the “Book & Claim” database are marked and deleted to maintain the integrity of the system. This prevents the same booking from being sold more than once.

Book & Claim does not constitute carbon offsetting, as it does not offset emissions through external projects such as reforestation and renewable energies. On the contrary: the approach helps to solve the current imbalance between supply and demand for low-emission transport solutions. The benefits for your own CO<sub>2</sub> emissions are redeemed and paid for directly where demand arises.







# WHAT BENEFITS DOES BOOK & CLAIM OFFER SHIPPERS?

## REDUCED CO<sub>2</sub> FOOTPRINT:

Customers can get the benefit of sustainable transport without having to adapt their own logistics processes and thus achieve their short and medium-term climate targets more efficiently.

## PROMOTING SUSTAINABLE SUPPLY CHAINS:

The demand for Book & Claim supports the expansion of renewable fuels/alternative drive options and thus contributes to the decarbonisation of the entire industry in the long term.

## PROOF OF SUSTAINABILITY:

Certified carbon credits (ISO 14083 standard and GLEC framework) provide companies with transparent documentation of their current emissions and the corresponding CO<sub>2</sub> reduction in their own supply chain.

## FLEXIBILITY AND SCALABILITY:

Customers benefit from climate-friendly transport solutions, regardless of the physical availability of alternative fuels at specific locations.





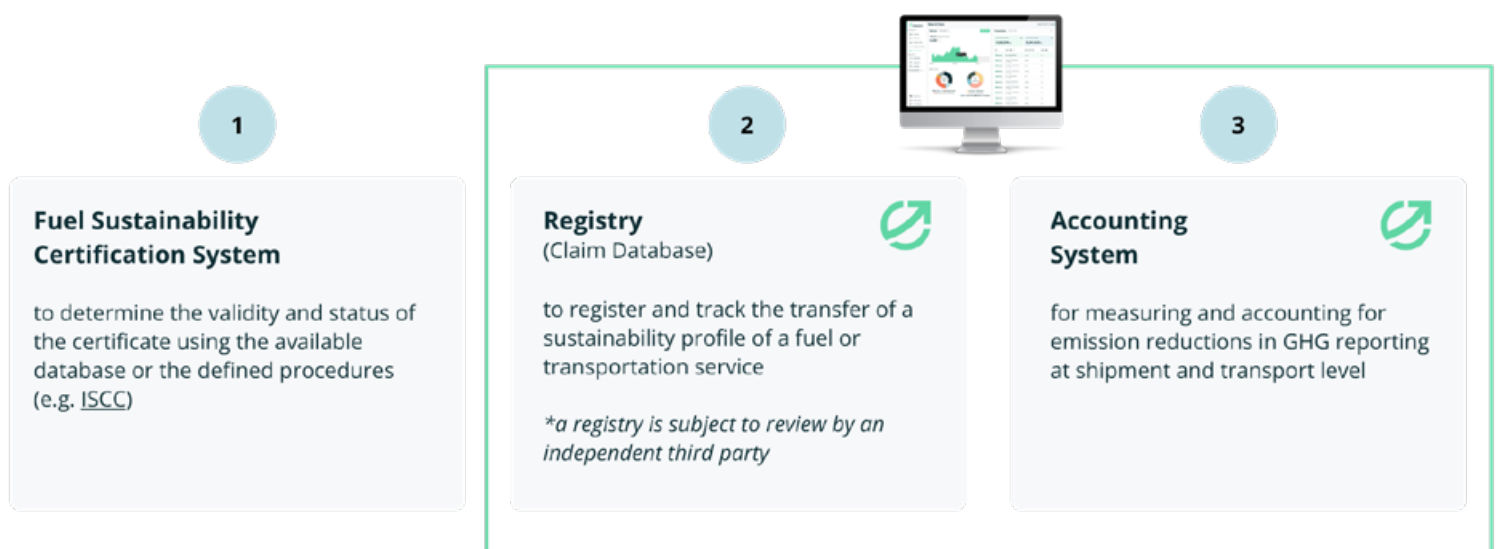
# BOOK & CLAIM FROM AN INDEPENDENT PROVIDER

The complexity of the “Book & Claim” system requires clearly structured processes in order to thoroughly evaluate the required data and ensure its flawless quality. All transport processes must be recorded and documented correctly – especially as bookings can no longer be cancelled once they have been activated.

Typically, a special registry – a platform that records and verifies all information on fuel and transport – creates certificates for the total amount of reduced emissions and makes them available to its users. However, correct allocation for CO<sub>2</sub> reporting – carbon accounting – is then the respective customer’s responsibility. The assignment to routes, for example, can be implemented either via an interface or in a simple process within the shipzero platform.

shipzero’s emissions management platform combines the required claim database for the clear allocation of claim activities with the Voluntary Market Based Measures Framework for Logistics Emissions Accounting and Reporting published by the Smart Freight Centre (SFC) 2023. This enables compliant recording and allocation of “Book & Claim” transactions with an integrated, shipment-accurate accounting system for CO<sub>2</sub> reporting at the touch of a button.

Customers can therefore rely on a full-service provider without conflicts of interest: shipzero works as a neutral service provider whose results can be used for external audits and covers the entire process: from the calculation of regular emissions, the verification and definition of CO<sub>2</sub>e reductions through the alternative fuel to the customer and consignment-specific allocation of the emission reduction – the “claim”.







### Claim Database



- ✓ Completeness of input data (fueling event, LETS or claim for rebook)
- ✓ Proof of purchase and fuel sustainability tracking (fuel cards, FMS, product sheet)
- ✓ Defining and tracking booking event validity (<= 12 months)
- ✓ No double-counting (no double entry, no double claim)
- ✓ Management of the eligible inventory of GHG reductions
- ✓ Visibility and download option of booking events available for claim by mode, TOC, fuel type, validity
- ✓ Visibility of claims with detailed transaction information (authorization, customer, TOC, time period, delta for emissions and emission intensity)



### Accounting System



- ✓ Calculation of GHG transport emissions at shipment level
- ✓ Allocation of reductions to individual customers or transport operating categories
- ✓ Data quality and clarification management
- ✓ ISO 14083 compliance
- ✓ Standardized output formats (reports)
- ✓ Assignment of emissions to GHG scopes for regulatory reporting
- ✓ Confirmed claims are publicly available for verification (via unique ID via website)

With shipzero, logistics companies manage the transactions of their emissions in accordance with international standards: the calculation methodology for Book & Claim complies with the ISO 14083:2023 standard and is based on the SFC framework mentioned above. Based on these

cross-modal rules for road, sea and air transport, freight carriers and logistics service providers can demonstrate real CO<sub>2</sub>e reductions at customer and consignment level for the use of alternative fuels and drives thanks to the integration of primary data.



# HOW BOOK & CLAIM WORKS VIA NAGEL-GROUP

Because they are working with shipzero, Nagel-Group's book & claim process is externally validated and monitored. Platform users can transparently track and prove successful CO<sub>2</sub>e reductions in their supply chain.

## THE PROCESS IN BRIEF:

- 1.** Nagel-Group provides evidence of the fuel or energy consumed for transport in its own network via product data sheets or primary data for the Book & Claim database.
- 2.** After automated validation checks of the input data, the base emission profile of a fossil comparative value and the actual attribute-specific emissions of the booking event are calculated.  
Example: The difference between the calculations for transport using sustainable fuel such as HVO100 and transport using a conventional diesel mix (B7) gives the actual CO<sub>2</sub>e reduction (see diagram on page 9). All calculated emissions and reductions are checked for data completeness and accuracy.
- 3.** After thorough checking and validation, the data is transferred to the database as a booking event.
- 4.** Logged-in customers can filter by modal, transport section and fuel type and immediately see the impact on their own CO<sub>2</sub>e reduction after making the appropriate selection.
- 5.** Any claims are allocated to corresponding customers via Nagel-Group after prior agreement and the resulting effects are recognised in the customer's balance sheet.
- 6.** Confirmed claims – the “claim statements” – can be viewed publicly via a unique ID on the shipzero website, even by users who are not logged in, checked for content accuracy at any time and sent to customers if required. The buyer's certificate indicates, among other things, the quantity of alternative fuels for which it has paid.





## Claim Statement

Print

Valid Version 1.1.2

shipzero confirms that under Claim Statement  
DCFC58F3F090568A8C5A3F768AD16B5D issued on 3.12.2024, the  
following Book & Claim Units (BCU) have been allocated from:

Book & Claim Unit provider

**Shipzero**

Unique Company ID : DE320103106

To the greenhouse gas inventory of:

Book & Claim Unit recipient

**Agronord**

Unique Company ID : DE81248181

Total CO<sub>2</sub>e Reduction

**50,000 kg**

Transport Activity

**1,004,697 tkm**

LETS Emission Intensity

**26.2 g/tkm**

Total CO<sub>2</sub>e Emissions of LETS<sup>1</sup>

**26,341 kg**

Booking Period

8.12.2023 - 8.3.2024

Allocation Period

1.1.2024 - 30.11.2024

Mode

Road

### Book & Claim Scenario

Scenario

Direct Claim

Booking type

Bundled

SFC Conformant

No

### Transport Activity Definition

Allocation period

1.1.2024 - 30.11.2024

Transport Operating Category

road

Number of shipments

84

Transport activity in tkm

1,004,697

### Sustainability Information

Low Emission Transport Service Origin

Italy

France

Feedstock (if applicable)

-

-

Nabisis Code

ELEC100

ELEC100

Sustainability Certificate

CERT-ELEC-FFF4992

CERT-ELEC-FFF4992

Certificate Scheme

EU-BM-13-22061002-284

EU-BM-13-22061002-284

Fuel Name

HVO100

HVO100

Quantity

14,827 L

2,022 L

Energy Emission Factor (well-to-wheel)

4,066 gCO<sub>2</sub>e/MJ

4,066 gCO<sub>2</sub>e/MJ

Fossil Fuel Baseline Value

92.20 gCO<sub>2</sub>e/MJ

92.20 gCO<sub>2</sub>e/MJ

Fossil Fuel Baseline Reference

-

-

Region of LETS application (additionality reference)

IT

FR

Emission Intensity in gCO<sub>2</sub>e/tkm of the Fuel Events

-

-

Emission Intensity in gCO<sub>2</sub>e/tkm of Fossil Baseline

-

-

Additionality

not specified

not specified

Total emission figures in this claim statement usually represent a subset of emissions for sustainability interventions and do not replace a complete transport greenhouse gas inventory between the parties. The emissions stated here exclude hub emissions, but may include additional emissions due to cooling of goods. Numbers can include rounding differences. All dates and timesteps refer to UTC.



# Q&A

## The most important facts about Book & Claim

### 1. WHEN WOULD BOOK & CLAIM BE OF INTEREST TO ME AS A CUSTOMER?

The approach is particularly relevant for companies that have set their own climate targets and want to reduce emissions within the supply chain in this context.

**The advantage being:** no conversion of existing logistics processes is required and savings can be generated, irrespective of where emissions are generated today and where they can be reduced.

### 2. WHAT STANDARDS DOES THE PROCESS FULFIL?

The entire process, including certification of CO<sub>2</sub>e savings, is carried out in accordance with the current ISO 14083 standards.

### 3. WHO CAN USE NAGEL-GROUP'S BOOK & CLAIM MODULE AND CLAIM POSSIBLE CO<sub>2</sub>E SAVINGS FOR THEMSELVES?

All Nagel-Group customers are welcome to make claims and claim savings after signing a preliminary agreement.

### 4. AS A CUSTOMER, HOW CAN I USE BOOK & CLAIM VIA NAGEL-GROUP?

Talk to your current Nagel-Group contact directly or get in touch with our experts from the sustainability team.

### 5. HOW MUCH DOES IT COST TO USE BOOK & CLAIM?

Talk to your current Nagel-Group contact directly or get in touch with our experts from the sustainability team.

### 6. HOW MUCH EMISSIONS CAN I SAVE WITH BOOK & CLAIM?

In principle, the amount of potential savings is flexible and depends on the amount of reduction you are seeking. However, a maximum of 100% of the emissions caused by transport with Nagel-Group can be reduced. Overcompensation is not possible.





## KEY TAKE-AWAYS

Being able to react flexibly to regulatory changes and technological advances is becoming an increasingly decisive factor for the competitiveness and resilience of companies in the supply chain.

Book & Claim creates a scalable, efficient and customer-centred win-win situation: logistics service providers can give their customers supra-regional access to decarbonisation measures by using sustainable fuels or battery-electric drives.

Companies that ship food and other goods have flexible access to sustainable options despite

limited availability. This enables them to reduce their Scope 3 emissions, fulfil their own reporting obligations and achieve sustainability targets more quickly.

This means that all stakeholders can use Book & Claim to respond individually to changing demand behaviour, meet the increased requirements of both shippers and increasingly stringent regulatory requirements, and work together to reduce CO<sub>2</sub> emissions in the supply chain.

### ANY QUESTIONS?

Feel free to contact us by e-mail at [maurice.landwehr@nagel-group.com](mailto:maurice.landwehr@nagel-group.com) to discuss your individual challenges and solution strategies in a free, without-obligation expert discussion.

Would you like to talk to shipzero directly? Please contact Martin Jacobs, Director Client Solutions, at [martin@shipzero.com](mailto:martin@shipzero.com).



## LIST OF SOURCES

### **Federal Association of Road Haulage, Logistics and Disposal:**

Unter geltenden Rahmenbedingungen bleibt das Klimaziel 2030 Utopie (Under current conditions, the 2030 climate target remains utopian)

### **European Union:**

Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information

### **Fraunhofer IML:**

Mehr Effizienz durch neue Technologien – Nachhaltigkeit in der Logistik

### **ISO:**

ISO 14083:2023

### **ITF Transport Outlook 2023**

### **Karlsruher Institut für Technologie:**

Wissenswertes über den Kraftstoff HVO

### **McKinnon, Alan: Decarbonizing Freight Transport:**

A Review of Technical, Managerial and Operational Options

### **McKinsey:**

Tackling Scope 3 emissions through supplier collaboration

### **Oliver Wyman:**

Net zero Game Changer

### **shipzero:**

Why primary data is crucial for measuring CO2 emissions in transport and logistics

### **strategy&:**

Durchbruch von E-Lkw rückt näher

### **Smart Freight Centre:**

New Accounting Framework to Address Barriers to Transport Decarbonization

### **Smart Freight Centre:**

The GLEC Framework

### **United Nations:**

The Paris Agreement

CONNECTING THE WORLD OF FOOD®



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