Comparison Guide 2024

Emission Measurement Providers

November 2024

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Drewry
Supply Chain Advisors

Comparison Guide 2024: Emission Measurement Providers **November 2024**

Contents

1. Summary

To assist shippers/BCOs, freight forwarders and other stakeholders on their decarbonisation journeys, Drewry publishes this updated 2024 edition of our **Comparison Guide** of **Green House Gas (GHG) Emissions Measurement Providers.**

For the 2024 issue, Drewry invited 22 vendors (up from 19 in 2023) to participate in a structured questionnaire, of which 11 agreed to participate (up from 9 in 2023).

The major addition in this 2024 edition is the inclusion of air freight.

The 11 providers that participated in this year's survey are listed below together with the specific product they offer.

Vendor Name	Product name
BigMile	Carbon analytics
Breakthrough	CleanMile
IVE mbH	EcoTransIT World (ETW)
GreenRouter S.r.l.	GreenRouter platform
Greensee	Greensee Calculate
OceanScore	CargoFP
Pledge Earth Technologies Ltd.	Pledge
Routescanner	Route Optimization & Emission Reporting
Searoutes SAS	Carbon Report, Carbon Act, Carbon Plan
Sustaining Supply Chains B.V.	CO2 monitoring logistics
Squake	Squake
VesselBot	VesselBot Supply Chain Emissions Platform

The detailed scores of the 11 providers that participated in the Survey are listed in the tables below.

1.1. For air and ocean freight combined

The three providers with the highest representative scores of the most likely 'best fit' for a typical BCO customer of Drewry Supply Chain Advisors, for air and ocean freight combined, were:

1. VesselBot, with their product VesselBot Supply Chain Emissions Platform
2. Greenrouter, with their GreenRouter platform
3. Squake, with their product Squake

The detailed scores of the 11 providers that participated in the Survey are listed in the table below.

Company name	Airfreight score	Ocean freight score	Combined score
VesselBot	8.21	9.89	18.09
Greenrouter	7.93	8.72	16.65
Squake	7.71	7.86	15.57
Searoutes	6.75	8.72	15.47
Bigmile	7.10	6.86	13.96
Pledge	6.19	5.97	12.16
EcoTransIT World	5.30	6.75	12.05
Greensee	n/a	8.72	n/a
Breakthrough	n/a	7.14	n/a
Routescanner	n/a	6.28	n/a
OceanScore	n/a	5.17	n/a

For more details about what we covered under each criterion and how the individual criterion-scores were weighed to obtain the TOTAL score, please refer to the Methodology section.

1.2. For airfreight

The three providers with the highest representative scores of the most likely 'best fit' for a typical BCO customer of Drewry Supply Chain Advisors, for airfreight only, were:

1. VesselBot, with their product VesselBot Supply Chain Emissions Platform
2. Greenrouter, with their GreenRouter platform
3. Squake, with their product Squake

The detailed scores of the 11 providers that participated in the Survey are listed in the table below.

Company name	Accuracy	Fuel	Scope	Accreditation	Ease of use	Future	TOTAL
VesselBot	0.7	1.0	1.0	0.5	3.0	2.0	8.2
Greenrouter	0.5	0.8	0.7	1.0	3.0	2.0	7.9
Squake	0.7	0.8	1.0	1.0	2.3	2.0	7.7
Bigmile	0.4	1.0	1.0	0.5	2.3	2.0	7.1
Searoutes	0.1	0.5	0.7	0.5	3.0	2.0	6.7

Pledge	0.3	0.5	0.7	0.5	2.3	2.0	6.2
EcoTransIT World	0.5	0.3	1.0	0.5	3.0	0.0	5.3
Breakthrough's	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Greensee	n/a	n/a	n/a	n/a	n/a	n/a	n/a
OceanScore	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Routescanner	n/a	n/a	n/a	n/a	n/a	n/a	n/a

For more details about what we covered under each criterion and how the individual criterion-scores were weighed to obtain the TOTAL score, please refer to the Methodology section.

1.3. For ocean freight

The three providers with the highest representative scores of the most likely 'best fit' for a typical BCO customer of Drewry Supply Chain Advisors for ocean freight only, were:

1. VesselBot, with their product VesselBot Supply Chain Emissions Platform
2. Greenrouter, with their GreenRouter platform
3. Searoutes, with their products Carbon Report, Carbon Act, and Carbon Plan
4. Greensee, with their product Greensee Calculate

The detailed scores of the 11 providers that participated in the Survey are listed in the table below.

Company name	Accuracy	Fuel	Scope	Accreditation	Ease of use	Future	TOTAL
VesselBot	1.9	1.0	1.0	1.0	3.0	2.0	9.9
Greenrouter	1.4	0.7	0.7	1.0	3.0	2.0	8.7
Searoutes	1.6	1.0	0.7	1.0	3.0	1.5	8.7
Greensee	1.2	1.0	1.0	1.0	3.0	1.5	8.7
Squake	0.6	1.0	1.0	1.0	2.3	2.0	7.9
Breakthrough's	1.7	1.0	0.7	0.5	2.3	1.0	7.1
Bigmile	0.9	0.7	1.0	0.5	2.3	1.5	6.9
EcoTransIT World	1.5	0.0	1.0	1.0	2.3	1.0	6.8
Routescanner	1.1	0.0	0.7	1.0	3.0	0.5	6.3
Pledge	0.6	1.0	0.7	1.0	2.3	0.5	6.0
OceanScore	1.7	0.7	0.3	0.5	1.5	0.5	5.2

For more details about what we covered under each criterion and how the individual criterion-scores were weighed to obtain the TOTAL score, please refer to the Methodology section.

2. Vendor Profiles

VesselBot Enabling Sustainable Supply Chains	Drewry Score: **18.09**
Vendor Name: VesselBot	
• Product Name: VesselBot Supply Chain Emissions Platform	

Description

- VesselBot's product called VesselBot Supply Chain Emissions Platform contains an emission calculation engine built on proprietary digital twin models (for the entire merchant and freighter fleet) to generate shipment/order/product and voyage-specific emissions calculations.
- It also provides various data analytics to support a wide range of decision making.

Scope

- VesselBot provides CO2e, NOX, SOX, Particulate Matters and other gas emissions for WTW, WTT, and TTW scope, covering all modes of transportation (air, truck, ocean, rail, last mile and parcels).

Accuracy

- Its calculation methodology applies highly sophisticated inputs across all the criteria we tested.
- The emissions for both Air and Ocean can be differentiated by vessel/airplane, (air)port pair, and carrier/loop.

New fuels

- Emissions are calculated for the standard fuel oils and newer fuels like biofuel, ammonia, LNG and methanol.

Additional services

- VesselBot Supply Chain Emissions Platform provides various data analytics to support its customers decision making for example emission projections, optimal carrier selection by port pair (for bookings), Trade Lane indices and Carrier Indices for benchmarking, market analytics for identifying hotspots and exploring alternative transportation options.
- VesselBot consultants also assisted clients to minimize their carbon footprint through bespoke consulting projects e.g. network optimization projects, alternative fuel and EV projects etc.
- VesselBot services are offered via API and a User Interface/platform.

GreenRouter	Drewry Score: 16.65
Vendor Name: GreenRouter S.r.l.	
Product Name: GreenRouter platform	

Description

- Greenrouter's product called Greenrouter platform contains a carbon calculation engine as well as various modules for reporting and scenario analysis. Both data consumption and production can be tailored to customers' capabilities and needs.

Scope

- GreenRouter calculates CO2e emissions for WTW, WTT and TTW scope, and PMx emissions for all regular shipping and airplane fuel types.
- It can handle the complete worldwide transport chain across all modes of transport (truck, train, ocean vessel, inland waterways, aircraft) including the emissions calculation and reporting for transhipments and warehousing.

Accuracy

- Its calculation methodology applies Actual inputs for distance and teu loaded and Modelled inputs or actual (if available) for fuel consumption.
- The emissions can be differentiated by port pair, by carrier and by loop.

New fuels

- Emissions are calculated for LNG and biofuels; the platform is ready to handle newer fuel types like green methanol and ammonia while awaiting the availability of verified emission factors.

Additional services

- GreenRouter can store historical GHG data in a structured data warehouse, for scenario analysis and bespoke network redesign consultancy services.
- Issuing certified reports of transport and logistics sites energy consumption and emissions compliant with ISO 14083.

SQUAKE

Drewry Score:

15.57

Vendor Name: SQUAKE

Product Name: SQUAKE

Description

- SQUAKE offers carbon emissions calculations, compensation, CO2 reporting and CO2 at POS.

Scope

- SQUAKE provides CO2 and CO2e emissions & certificates for WTW, WTT and TTW calculations for all main modes of transport (sea, air, road).
- Emissions can be calculated for the standard fuel oils and biofuels.

Accuracy

- SQUAKE uses a mixture of Default, Modelled and Actual inputs but does include input directly from ocean and airline carriers.
- For air freight, emissions can be differentiated by airport pair, carrier and aircraft type.
- For ocean freight, emissions can be differentiated by port pair but not by service / loop or vessel.
- SQUAKE also differs between dry and reefer containers.

New fuels

- Emission calculations for LNG, green methanol and ammonia are scheduled for end 2024.

Additional services

- Sustainability Consulting and Advisory Services.
- Custom Implementation Plans.
- Trainings and workshops.
- Technology Integration and Support.
- Carbon Credit Management and Procurement.
- Compliance Assistance.
- Sustainability Reporting.

searoutes

Drewry Score:

15.47

Vendor Name: Searoutes SAS

Product Name: Carbon Report, Carbon Act, Carbon Plan

Description

- Searoutes' GHG calculation engine leverages vessel-level data and proprietary routing algorithms. Searoutes provides services for reporting (both GLEC and ISO compliant) as well as carbon insights integrated throughout the supply chain - from tender / quotation and the execution of bookings, through to invoicing and documentation management.

Scope

- Searoutes provides CO2e emissions & certificates for WTW, WTT and TTW calculations for all modes of transport (sea, air, road, rail, inland barge).
- Emissions can be calculated for the standard fuel oils, biofuels, LNG and methanol.

Accuracy

- Searoutes' model and calculations apply vessel-level inputs for sailed distance, vessel speed, and fuel consumption but uses an (accredited) default number for the number of teu loaded on the vessel.
- The emissions can be differentiated by port pair, carrier, service / loop and vessel.

New fuels

- Emissions are calculated for the standard fuel oils, biofuels, LNG and methanol.

Additional services

- Evaluating the client's current carbon footprint and forecasting future CO2 emissions under different scenarios (carrier, service, mode, fuel etc).
- Identifying the optimisation potential (both CO2e and €) of the different scenario.
- Verifying the actual versus planned emission reductions.
- EU ETS breakdowns for carrier discussions.
- Execution API providing cleaned schedule information enhanced with CO2e data.

	Drewry Score: **13.96**
Vendor Name: BigMile	
Product Name: Carbon analytics	

Description

- BigMile's product called Carbon analytics integrates with their client's ERP / TMS and provides verified insights in emissions data both via API and through sustainability reports. It also offers benchmarking tools to enable companies to compare their performance metrics.

Scope

- Carbon analytics provides emissions for multimodal transport (land, air and ocean) and buildings (offices, warehouses and hubs).
- Emissions data is provided for CO2 and CO2e, with WTW, WTT and TTW scope.
- All main fuel types for trucks, vessels and airplanes are covered.

Accuracy

- Its calculation methodology applies inputs of varying degrees of accuracy.
- The emissions can be differentiated by various dimensions including port pair, carrier, customer, origin, destination etc.

New fuels

- Emissions for new fuels will be added as soon as their emission data is included in the GLEC framework.

Additional services

- Adjacent services include SSO, Bulk Upload and Export API, Viewer login, Subcontracter portal, Fuel shift scenario, data sharing functionality, onboarding and yearly support/consultancy.

pledge	Drewry Score: **12.16**
Vendor Name: Pledge Earth Technologies Ltd.	
Product Name: Pledge	

Description

- Pledge is a cloud-native self-service SaaS product for calculating and reporting multimodal carbon emissions, accredited by the Smart Freight Centre for conformance with the GLEC framework and aligned with ISO 14083.

Scope

- Pledge provides CO2e emissions & certificates for WTW, WTT and TTW scope as well as other greenhouse gases and air pollutants such as SOx, NOx, NMHC and PM for relevant modes of transport.
- Transport modes covered include road, rail, air, sea, inland waterways, logistics hubs with global geographic coverage, including containerised shipments based on ISO codes.
- All standard fuel types are covered incl. biofuels.

Accuracy

- Its calculation methodology applies modelled values for sailed distance (AIS data) as well as airplanes' flown distance and fuel consumption, and (accredited) default values for teu loaded on board.
- The emissions can be differentiated by vessel and by port pair but not by loop.
- Furthermore, Pledge provides vessel-specific emission factors (primary data) based on the EU-MRV system.
- Pledge supports automatic identification of aircraft details (e..g, model, iata and icao codes) as well as stopovers based on flight number.

New fuels

- Emissions for LNG, methanol and ammonia will be added once the verified emission factors become available.

Additional services

- Clarity™ and Accuracy™ are unique Pledge features which provide a breakdown of calculated emissions as well as a Data Quality Indicator (DQI), developed in accordance with Smart Freight Centre end-to-end guidance.
- Besides the calculated emissions, Pledge provides the possibility to generate carbon inventory reports.
- Scenario analysis and application of custom emission factors.
- Pledge offers supplier data collection and onboarding services, as well as frictionless integration with modern APIs and out-of-the-box TMS connectivity (e.g. Cargowise via eAdaptor).
- Pledge offers a curated marketplace enabling customers to procure 3rd-party verified insets and offsets.

EcoTransIT World	Drewry Score: **12.05**
Vendor Name: IVE mbH	
Product Name: EcoTransIT World (ETW)	

Description

- IVE mbH's product called EcoTransIT World (ETW) is built around an energy-based, bottom-up emission calculation engine that draws on collaborations with independent research institutes (ifeu, infras, Fraunhofer IML) and third-party data providers (OAG, Alphaliner, Skailark, Clean Cargo, ...).

Scope

- ETW can handle the complete transport chain across all modes of transport (truck, train, ocean vessel, inland waterways, aircraft) including transhipments and warehousing worldwide.
- For air and ocean ais- and satellite-based vessel data are used to identify the used vessels and routes
- ETW can provide emissions of CO2, CO2e and air pollutants (SOx, NOx, NMHC and PM10) with WTW, WTT and TTW scope. ETW can also provide external cost of freight transports.
- Emissions are calculated for the standard fuel oils mixed with alternative fuel including different feedstocks. Electrified transports are calculated based on country-wide market-based measurement.
- ETW allows the integration of primary data via user-specific calculations (e.g. own TTW fuel consumptions or WTW emission factors with different units).

Accuracy

- Its calculation methodology applies accurate inputs for all the criteria we tested.
- The emissions can be differentiated by port pair, carrier and loop.

New fuels

- LNG is included, but within a default share. A flexible selection will be added in 2025; green methanol and ammonia will be integrated later.

Additional services

- ETW provides an intelligent intermodal route determination.
- ETW provides all kinds of API (REST, Soap, CSV-based upload solution)

3. BAF and ETS Policy Support from Drewry

Standardise BAF and ETS charges for all your service providers to improve transparency and reduce cost. Our standard BAF policy is accepted by the main carriers. Below we outline some of the key features.

- A transparent bunker program policy bespoke to your company, to communicate to providers ahead of launching your next bid event;
- Drewry fuel trade coefficients by lane and by equipment type, for FCL, for all existing fuel types;
- A BAF adjustment schedule with recommended lead times to fit with your contract;
- Ongoing support of Drewry consultants to answer providers' questions;
- Additional option of Drewry maintaining the BAF policy for the duration of your annual contract.

Find out more

Contact a member of our ocean freight advisory team at supplychains@drewry.co.uk to find out more about how your organisation could benefit.

4. Methodology

Drewry invited 22 vendors to participate in this standardised market survey assessing their functional capabilities and identifying those that Drewry considers the most likely 'best fit' provider for a typical BCO customer of Drewry Supply Chain Advisers. 11 agreed to participate.

The criteria used in the standardised questionnaire addressed the following areas:

Accuracy: refers to the level of accuracy of measurements of key inputs like the vessels' sailed distance / airplanes' flow distance, speed, fuel consumption and utilisation. Lower scores indicate more usage of (accredited) default values, while higher scores reflect higher performance when obtaining more accurate (more 'actual') measurements.

Fuel: refers to different fuel types for which the emissions are provided like VLSFO, LSMGO and LSMDO (sulphur content of max 0.1%), and biofuels.

Scope: refers to whether the emissions are provided for Tank-to-Wake or Well-to-Wake scope, and whether CO2 emissions or CO2e emissions were provided.

Accreditation: refers to whether the measurement service is accredited by GLEC, and whether data inputs direct from ocean and/or air carriers were used into the emission estimating models.

Integration / Ease of use: refers to how easily a typical Drewry customer could extract the maximal amount of value from the service. We asked the providers whether 1/ the data could be provided on demand via API, 2/ they provided monthly measurements reports based on actual shipments via an online interactive tool, 3/ the data could be incorporated as independent inputs into a bid sheet, and 4/ advisory services around the GHG measurements were provided to help identify and implement opportunities for reduction of GHG emissions.

Future: refers to the existence and timing of plans to enable measurement of GHG emissions for alternative, greener fuel types including LNG and (green) methanol.

Drewry translated the survey responses, containing both quantitative and qualitative responses into a single score using a weighing of the criteria in a way that represents the importance the average freight leader in Drewry's network would attach to them. In this, Drewry is informed through its regular contacts with more than 100 BCO in Drewry's Benchmarking Club as well as its regular interactions with a global network of freight forwarder market sources in spot markets worldwide.

This resulted in the following weighing:

Criteria	Accuracy	Fuel	Scope	Accreditation	Integration	Future
Weight	2	1	1	1	3	2

The scores of the Survey Responses were all numbers between 0 and 1. By multiplying them with the 10 weighing points, we get a weighted average score which represents a score out of 10.

Low scores should not be misunderstood as a poor judgement of the vendor. Instead it should be read as likely a 'poor fit' with a typical Drewry client.

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