Comparison Guide

Emission Measurement Providers

September 2023

Drewry
Supply Chain Advisors

Comparison Guide: Emission Measurement Providers   **September 2023**

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1. Summary

To address growing interest in the subject among shippers/BCOs, freight forwarders and other stakeholders, Drewry publishes this **Comparison Guide** of Green House Gas (GHG) Emissions Measurement Providers. The findings within this Guide are based on our own independent research and seek to help logistics professionals quickly familiarise themselves with some of the alternative vendors currently available.

Drewry invited 19 vendors to participate in a structured questionnaire. Of the 9 that agreed to participate in the study, the three providers with the highest representative scores of the most likely 'best fit' for a typical BCO customer of Drewry Supply Chain Advisors, were:

1. **Searoutes**, with their products; Shipment API & Searoutes App
2. **Pledge Earth Technologies Ltd.**, with their product; Pledge
3. **Routescanner**, with their products; RouteReporter, RouteOptimizer & RouteDesigner

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

Company name	Accuracy	Fuel	Scope	Accreditation	Ease of use	Future	TOTAL
Searoutes SAS	1.6	1.0	0.8	0.5	3.0	2.0	8.9
Pledge Earth Technologies Ltd.	0.5	0.7	1.0	1.0	3.0	1.3	7.5
Routescanner	1.4	0.3	0.8	1.0	3.0	0.7	7.2
IVE mbH	1.6	1.0	1.0	1.0	1.0	1.3	7.0
BigMile	0.5	1.0	1.0	0.5	2.0	2.0	7.0
VesselBot	1.6	0.7	1.0	0.5	1.0	2.0	6.8
GreenRouter S.r.l.	0.8	0.7	0.8	1.0	2.0	1.3	6.6
Sustaining Supply Chains B.V.	0.1	0.3	1.0	0.5	3.0	0.7	5.6
Climatiq	0.4	0.3	1.0	0.5	1.0	0.7	3.9

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

	Drewry Score:
searoutes	**8.9**
Vendor Name: Searoutes SAS	
Product Name: Shipment API & Searoutes App	

Description

- Searoutes' APIs calculate carbon emissions based on vessel level data and proprietary routing algorithms.

Scope

- Searoutes provides CO2e emissions & certificates for WTW, WTT and TTW calculations for all modes of transport (sea, air, road, rail, inland barge).

Accuracy

- Searoutes' model / calculation methodology applies 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, LNG and biofuels; newer fuels like methanol will be added during the course of 2023.

Additional services

- Evaluating the client's current carbon footprint
- Forecasting future CO2 emissions under different transport scenarios
- Identifying the optimisation potential of the different scenario
- Verifying the actual versus planned emission reductions.

Drewry Score:

7.5

Vendor Name: Pledge Earth Technologies Ltd.

Product Name: Pledge

Description

- Pledge Earth Technologies Ltd.´s product called Pledge is a self-service SaaS service for calculating and reporting carbon emissions with a global geographic and multimodal coverage (i.e. road, rail, air, sea, inland waterways, logistics hubs).

Scope

- Pledge provides only CO2e emissions for WTW, WTT and TTW scope.

Accuracy

- Its calculation methodology applies default and modelled values for sailed distance and (accredited) default values for vessel speed, fuel consumption and teu loaded on board.
- The emissions can be differentiated by vessel and by port pair but not by loop.

New fuels

- Emissions are calculated for the standard fuel oils, LNG and biofuels; newer fuels like methanol will probably be added once the verified emission factors become available.

Additional services

- Clarity™ is a unique Pledge feature which provides the breakdown of emissions calculation, incl. comprehensive detail around calculation assumptions, factors and methodology used.
- Besides the calculated emissions, Pledge provides the possibility to generate carbon inventory reports.
- Pledge offers a curated marketplace enabling customers to procure 3rd-party verified insets and offsets.

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route ⋯ scanner

Drewry Score:

7.2

Vendor Name: Routescanner

Product Name: RouteReporter, RouteOptimizer & RouteDesigner

Description

- Routescanner has several products, called RouteReporter, RouteOptimizer and RouteDesigner. Around its door-to-door routing algorithm sit various modules for estimating, reporting and optimising emissions.
- RouteDesigner enables customers to analyse and redesign all their trade lanes on parameters including emissions, lead time, frequency, and cost.
- Both data consumption and production can be tailored to customers' capabilities and needs.

Scope

- The transport modes covered are: sea, barge, rail, truck.
- Routescanner products provide CO2e emissions for WTW, WTT and TTW scope.

Accuracy

- Its calculation methodology applies accurate inputs for sailed distance and vessel speed (carrier schedules and AIS) but uses (GLEC accredited) default data for fuel consumption and teu loaded on the vessel.
- The emissions can be differentiated by port pair, terminal, carrier and loop.

New fuels

- Emissions are calculated for the standard fuel oils; emissions for LNG, biofuels and methanol will be added once the verified emission factors become available.

Additional services

- None.

	Drewry Score:
EcoTransIT World	**7.0**
Vendor Name: IVE mbH	
Product Name: EcoTransIT World	

Description

- IVE mbH's product called EcoTransIT World contains an emission calculation engine able to handle the complete transport chains across all modes of transport (truck, train, ocean vessel, inland waterways, aircraft) including transhipments and warehousing worldwide. Several options are available both for data consumption and production (API, website, consultancy).

Scope

- EcoTransIT World provides emissions of CO_2, CO_2e and air pollutants SOx, NOx, NMHC and PM10, for WTW, WTT and TTW scope.

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

- Emissions are calculated for the standard fuel oils and biofuels; LNG will be added in 2024; there are as yet no firm plans to add calculations for methanol

Additional services

- Besides the calculated emissions via API, EcoTransIT World provides the possibility to quantify external costs, and offers consultancy services to calculate, analyse and present customer-specific transports.

Drewry Score:

7.0

Vendor Name: BigMile

Product Name: Carbon analytics

Description

- BigMile's product called Carbon analytics contains a carbon calculation engine that can provide emission data via API, and carbon footprint visualisations that allow customers to make steps towards a greener supply chain in the future.

Scope

- Carbon analytics provides CO_2 and CO_2e emissions for multimodal transports, with WTW, WTT and TTW scope.

Accuracy

- Its calculation methodology applies inputs of varying degrees of accuracy.
- The emissions can be differentiated by port pair and by carrier but not by loop.

New fuels

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

Additional services

- Besides the calculated carbon emissions via API, BigMile provides the possibility to calculate NOx emissions and can provide consultancy services.

	Drewry Score: 6.8
Vendor Name: Vesselbot	
Product Name: VesselBot Scope 3 Emissions Monitoring System	

Description

- VesselBot's product called VesselBot Scope 3 Emissions Monitoring System contains a carbon calculation engine as well as various data analytics to support decision making.

Scope

- VesselBot provides CO_2e, NOX, SOX, and other gas emissions for WTW, WTT and TTW scope, covering all modes of transportation (air, truck, ocean, rail).

Accuracy

- Its calculation methodology applies the most sophisticated inputs available for the criteria we tested, and among all panellists.
- The emissions can be differentiated by vessel, port pair, carrier and loop.

New fuels

- Emissions are calculated for the standard fuel oils; newer fuels like LNG and methanol are scheduled to be included, respectively, in 3Q23 and 4Q23. Biofuel usage is a functionality that is already under development.

Additional services

- Besides the calculated emissions via API, VesselBot Scope 3 Emissions Monitoring System provides various data analytics to support its customers decision making for example emission projections and optimal carrier selection by port pair (for bookings), Trade Lane indices and Carrier Indices for benchmarking, market analytics for identifying hotspots.
- VesselBot also offers emissions forecasting services.

GreenRouter

Drewry Score:

6.6

Vendor Name: GreenRouter S.r.l.

Product Name: GreenRouter

Description

- Greenrouter's product called Greenrouter 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 provides CO2e emissions for WTW, WTT and TTW scope, and PMx emissions.

Accuracy

- Its calculation methodology applies accurate inputs for sailed distance and teu loaded on the vessel, but not for vessel speed or vessel fuel consumption.
- The emissions can be differentiated by port pair, by carrier and by loop.

New fuels

- Emissions are calculated for the standard fuel oils, LNG and biofuels; newer fuels like methanol will be added once the verified emission factors become available.

Additional services

- Besides the calculated emissions via API, GreenRouter provides the possibility to store environmental data in a structured data warehouse, to simulate the environmental impact of your supply chain in different scenarios, dedicated consultancy services related to green network redesign and green supply chains, the possibility to calculate and store environmental data related to logistics sites, and to receive certified reports of transport and logistics sites energy consumption and emissions.

Sustaining Supply Chains

Drewry Score:

5.6

Vendor Name: Sustaining Supply Chains B.V.

Product Name: CO2 monitoring logistics

Description

- Sustaining Supply Chains B.V.'s product called CO2 Monitoring Logistics delivers accredited CO2 calculations for logistics based on shipment data for multiple modality types with a global coverage. The emissions are provided through state-of-the-art dashboards that enable customers to review emissions and identify opportunities to reduce their logistics emissions.

Scope:

- Sustaining Supply Chains B.V. typically provides CO2e emissions (CO2 only is possible though) for WTW, WTT and TTW scope.

Accuracy

- Its calculation methodology applies (accredited) default data for most inputs.
- The emissions can't be differentiated by port pair, carrier or loop.

New fuels

- Emissions are calculated for the default fuel type for now, but LNG, biofuels and methane will be offered once the verified emission factors become available.

Additional services

- Besides the calculated emissions (possible via API), Sustaining Supply Chains B.V. provides advise on logistic sustainable strategy, workshops, roadmap developments, training, and scenario calculations.

Drewry Score:

3.9

Vendor Name: Climatiq

Product Name: Carbon Calculation API

Description

- Climatiq's product called Carbon Calculation API is a carbon calculation engine only. The calculated emissions are provided via API to their customers; Climatiq does not provide their own dashboards or visualization.

Scope

- Its coverage spans different sectors including energy, real estate, travel and cloud computing, which may be a plus for BCO's.
- It provides both CO2 and CO2e emissions for WTW, WTT and TTW scope.

Accuracy

- Its calculation methodology applies accurate inputs for sailed distance and (accredited) default values for vessel engine consumption or vessel speed.
- The emissions cannot be differentiated by port pair, carrier or loop.

New fuels

- Emissions are calculated for the standard fuel oils and for LNG; currently Climatiq has no plans to add 'newer' fuels like biofuels or methanol, although the user can use their own inputs for these fuel types to override the API assumptions.

Additional services

- Besides the calculated emissions via API, Climatiq provides adjacent services in the field of data advisory and solution engineering.

3. Methodology

Drewry invited 19 vendors to participate in a standardised Market Survey aimed at assessing their functional capabilities and identifying those that Drewry considers the most likely 'best fit' provider for a typical BCO customer of the Drewry Supply Chain Advisers. Nine 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, speed, fuel consumption and utilisation. Lower scores indicate more usage of (accredited) default values, while higher scores reflect more efforts to obtain more accurate 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 bio-fuel.

Scope: refers to whether the emissions are provided for Tank-to-Wake or Well-to-Wake scope, and whether CO_2 emissions or CO_2e emissions were provided.

Accreditation: refers to whether the measurement service is accredited by GLEC, and whether data inputs direct from ocean 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 and 3/ the data could be incorporated as independent inputs into a bid sheet.

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.

The nine providers that participated in this survey are listed in the table below together with the specific product they offer in this market.

Vendor Name	Product name
BigMile	Carbon analytics
Climatiq	Carbon Calculation API
GreenRouter S.r.l.	GreenRouter

IVE mbH	EcoTransIT World
Pledge Earth Technologies Ltd.	Pledge
Routescanner	RouteReporter, RouteOptimizer & RouteDesigner
Searoutes SAS	Shipment API & Searoutes App
Sustaining Supply Chains B.V.	CO2 monitoring logistics
VesselBot	VesselBot Scope 3 Emissions Monitoring System

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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