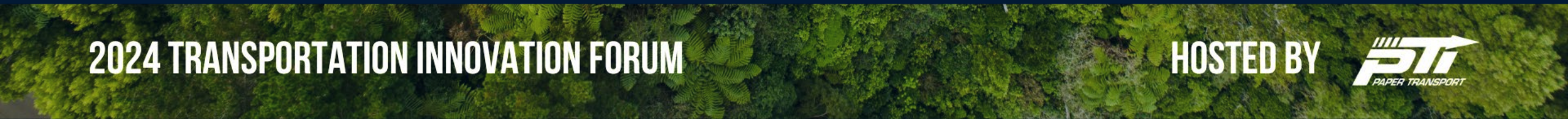
Capturing the Benefits of Sustainable Energy Choices



Breakthrough Ecosystem of Data

A partnership with Breakthrough gives you insight into one of the cleanest and most robust sets of transportation data in the U.S.

23+ MILLION

SHIPMENTS

$28+ BILLION

TRANSPORTATION SPEND

12 BILLION

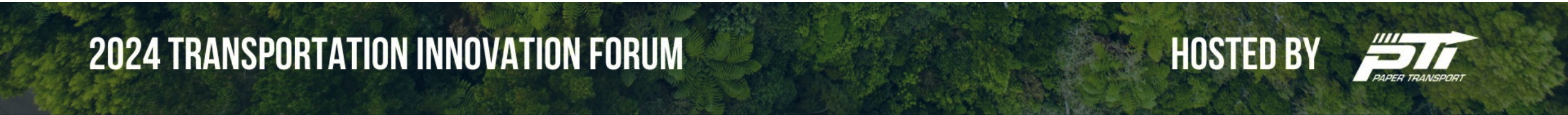
TRANSPORTATION MILES

1.5 BILLION

GALLONS OF DIESEL FUEL

Client Industries

- Retail
- Food & Beverage
- Consumer Packaged Goods
- Automotive
- Paper & Packaging
- Pharmaceuticals
- Durable Goods



Assessing the Benefits of Sustainable Energy

Emissions Benefit

Equipment Cost

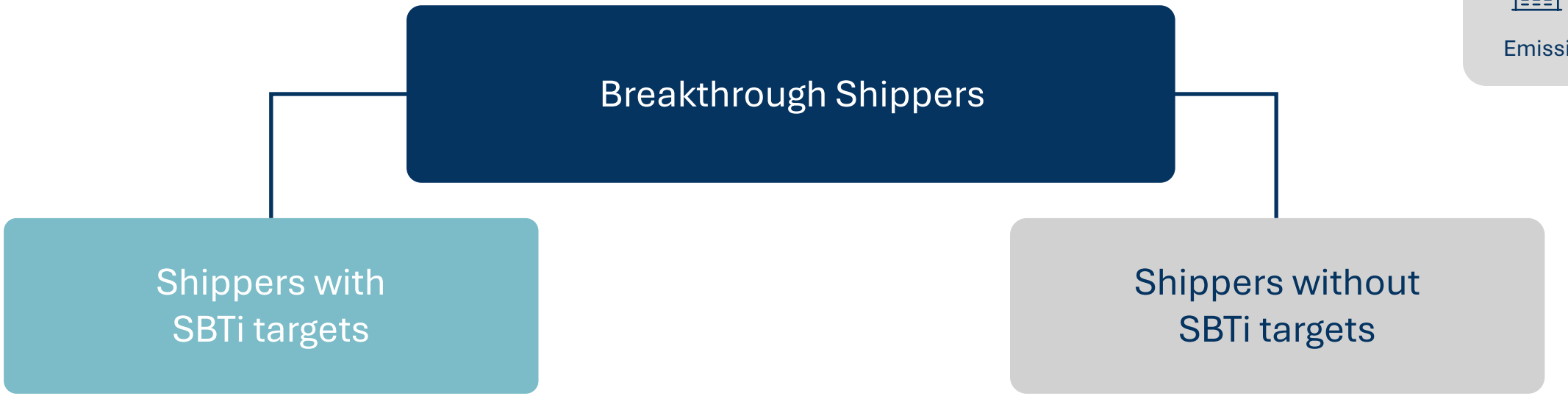
Availability

Fuel Cost

Emissions Benefit

Breakthrough Shippers

Emissions Benefit



Emissions Benefit

Breakthrough Shippers

Shippers with SBTi targets

Of shippers with SBTi targets, **96%** have Scope 3 targets

Shippers without SBTi targets

Emissions Benefit

Breakthrough Shippers

Shippers with SBTi targets

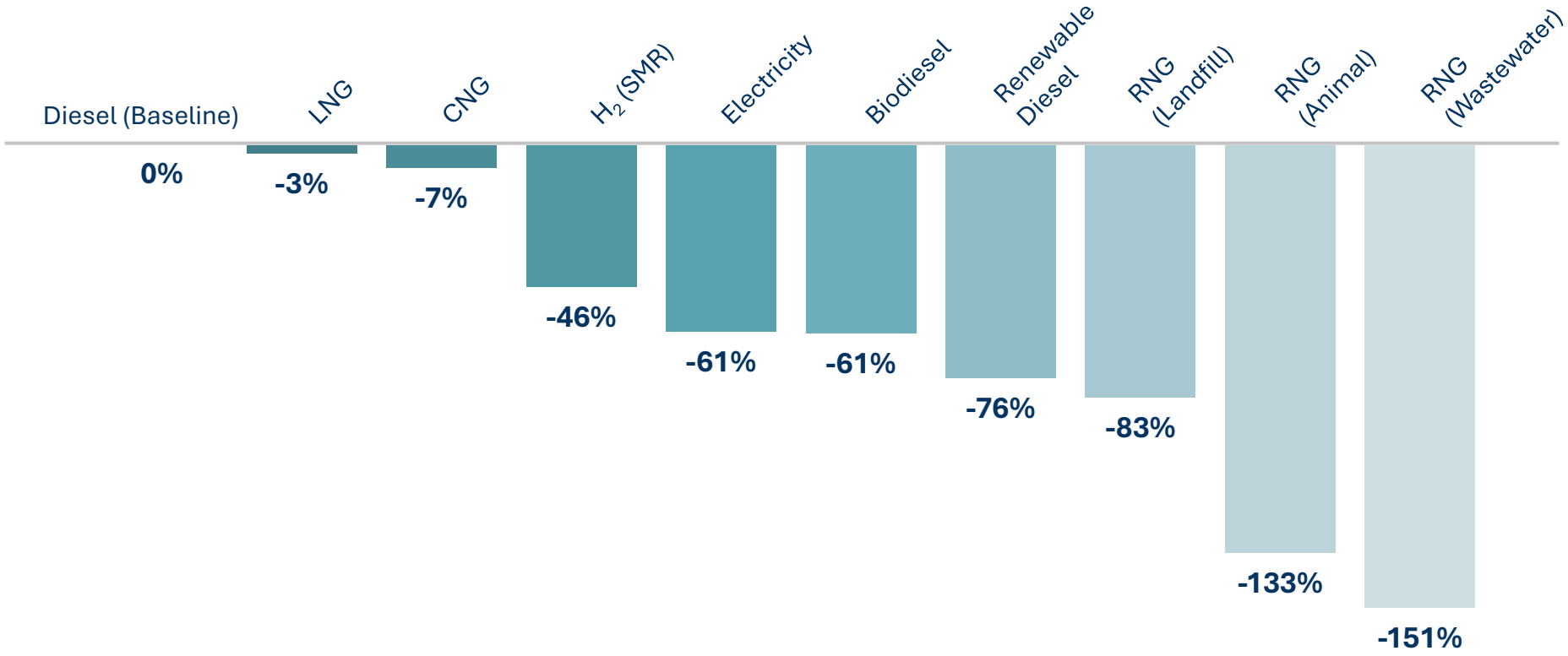
Of shippers with SBTi targets, **96%** have Scope 3 targets

Of shippers with SBTi Scope 3 targets, **64%** have transport-specific goals

Shippers without SBTi targets

A basket of alternative fuels offer Lifecycle GHG emissions reductions.

Emissions Benefit



Source: US DOE AFDC

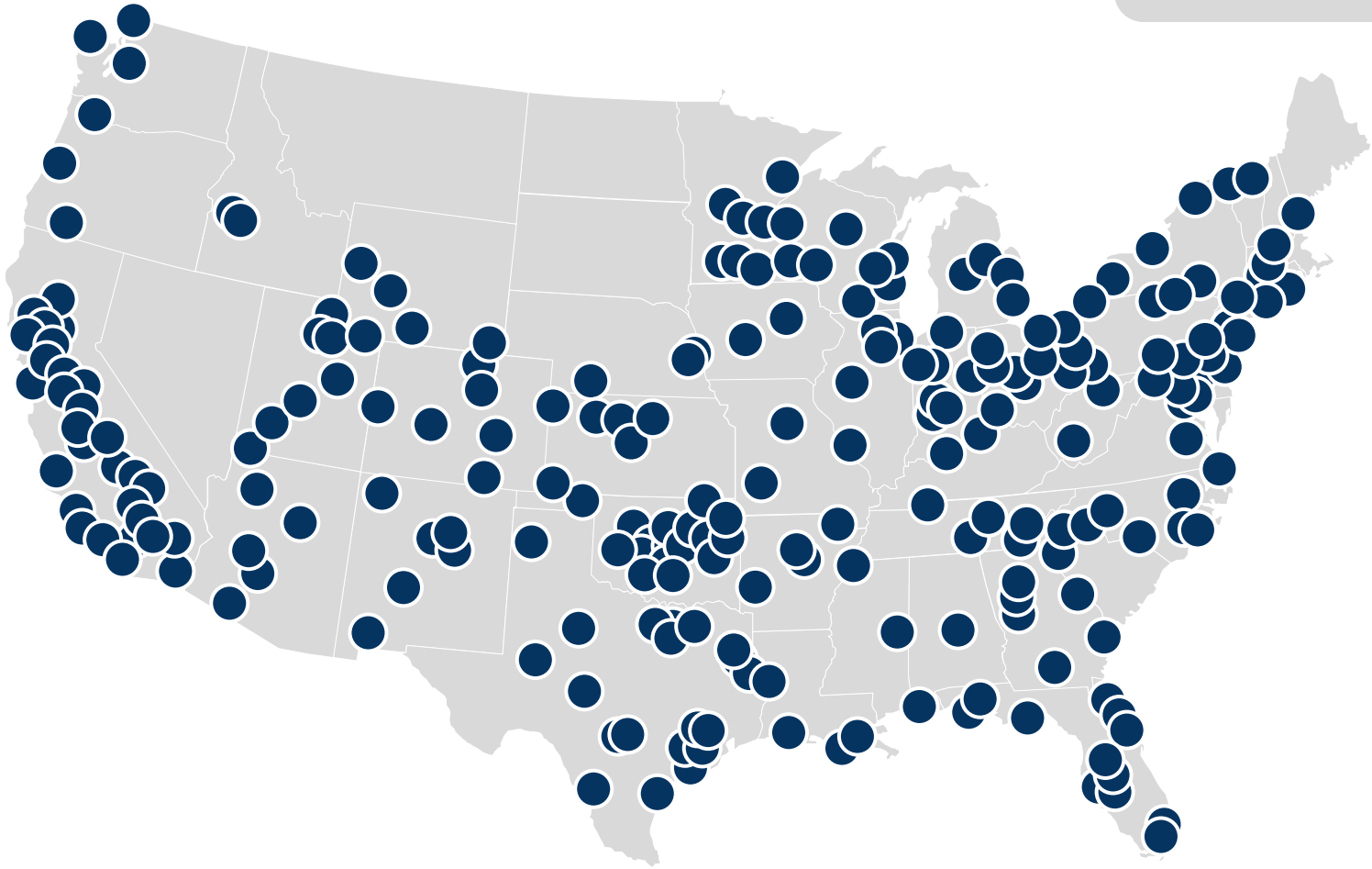
EPA Phase 3 HDV Emissions Standard aims to reduce emissions from heavy-duty vehicles for model year 2027 and beyond.

Equipment Cost

Most CNG stations can become RNG stations.

Availability

There are more than **600 public CNG stations** that are Class 8 accessible.



Source: AFDC

More U.S. states are adopting market-based policies to cut carbon emissions.

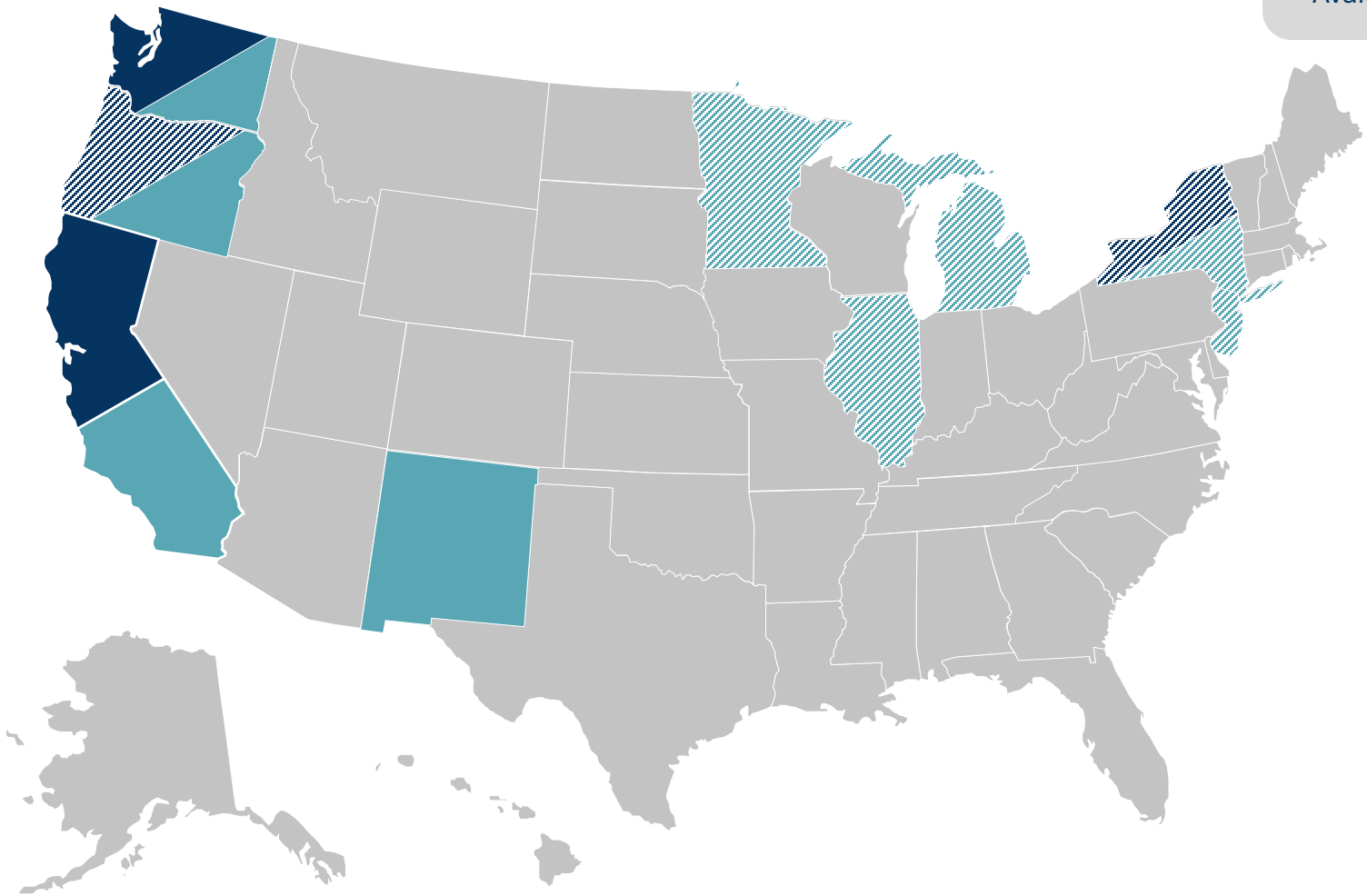
Availability

Cap-and-Trade

Active *Planned*

Clean Fuel Standard

Active *Planned*



Risk reduction is an unexpected benefit from sustainable energy.

Fuel Cost

U.S. Diesel Price History 2019 to Present

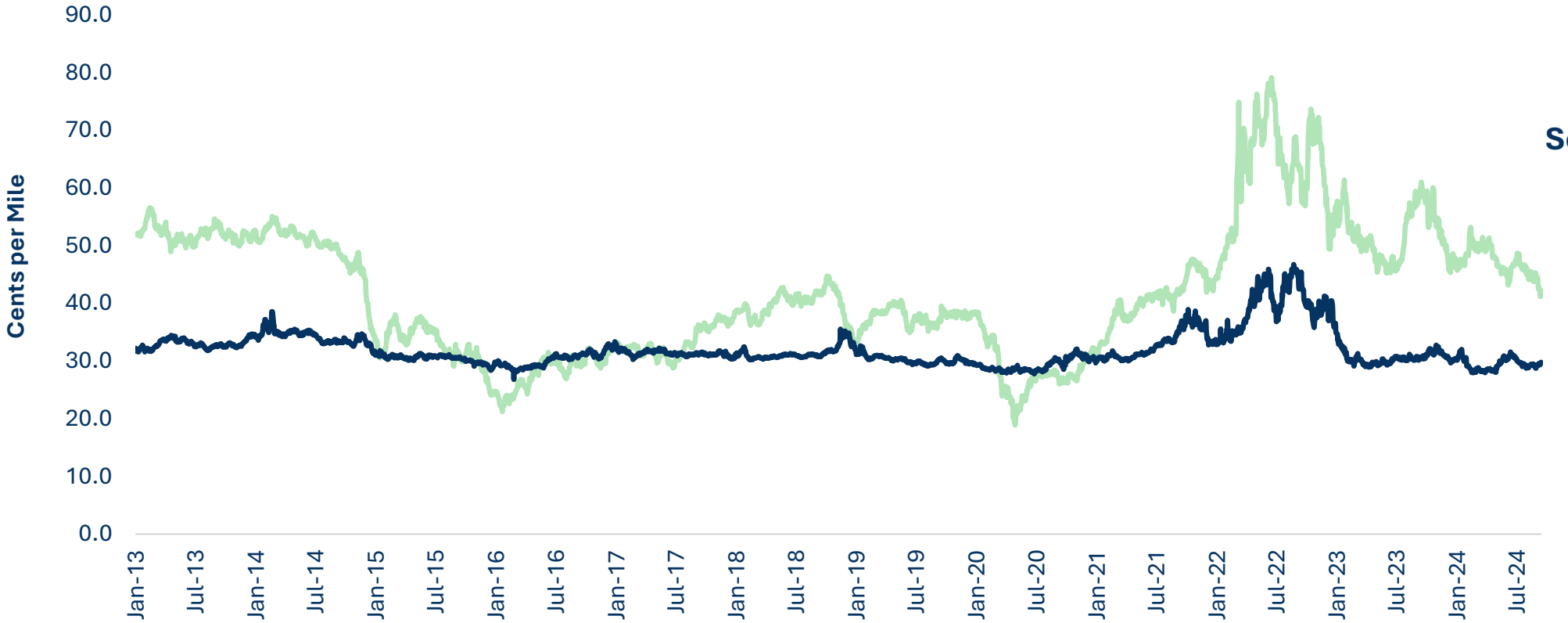
September Average

TL Wholesale
300.3¢

Risk reduction is an unexpected benefit from sustainable energy.

Fuel Cost

Market Diesel vs CNG Price History



September Average

TL Wholesale
42.7¢
per mile

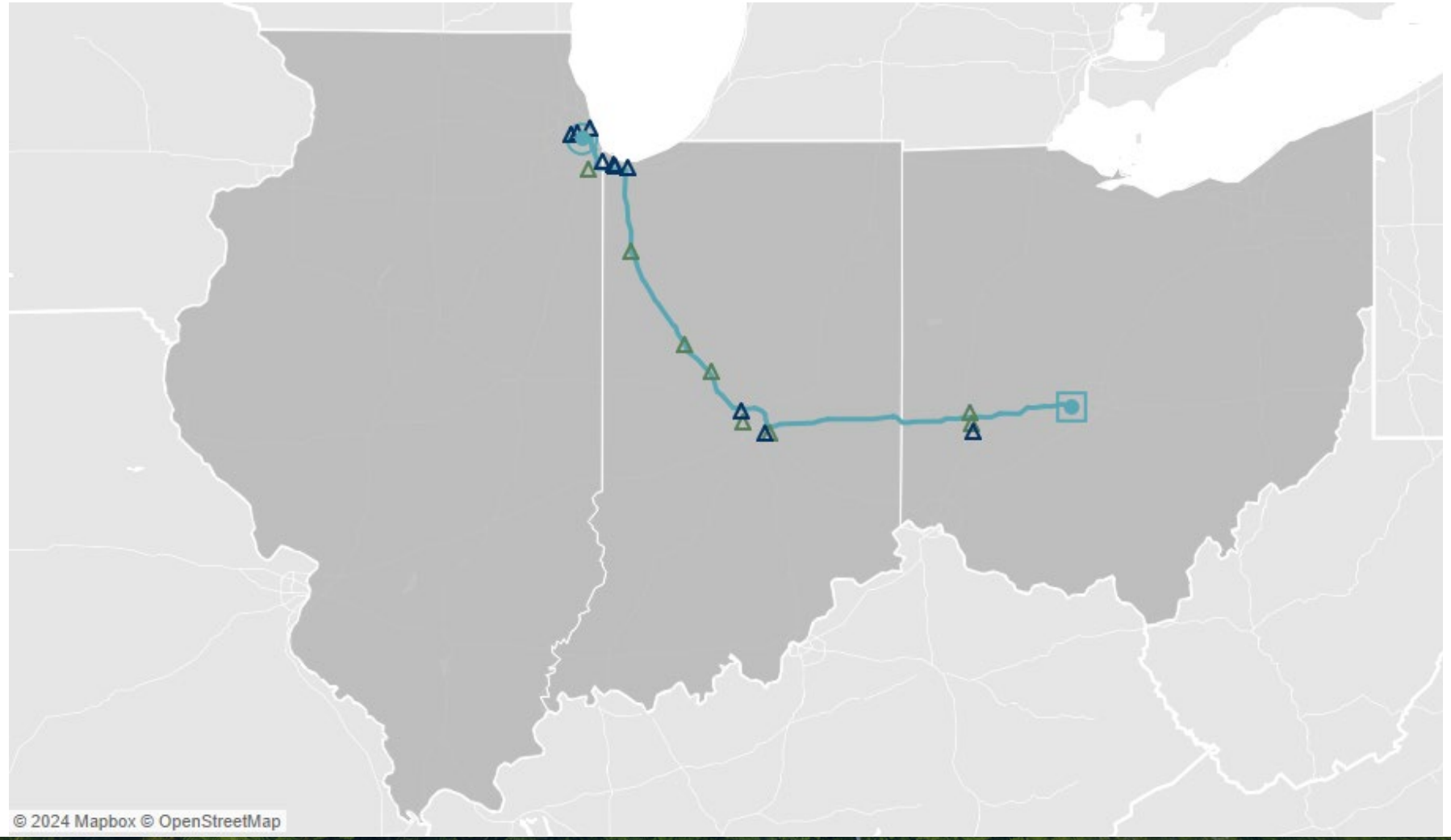
CNG
29.5¢
per mile

Opportunities are created by economics and execution.

Bedford Park, IL 60638 to
W Jefferson, OH 43162

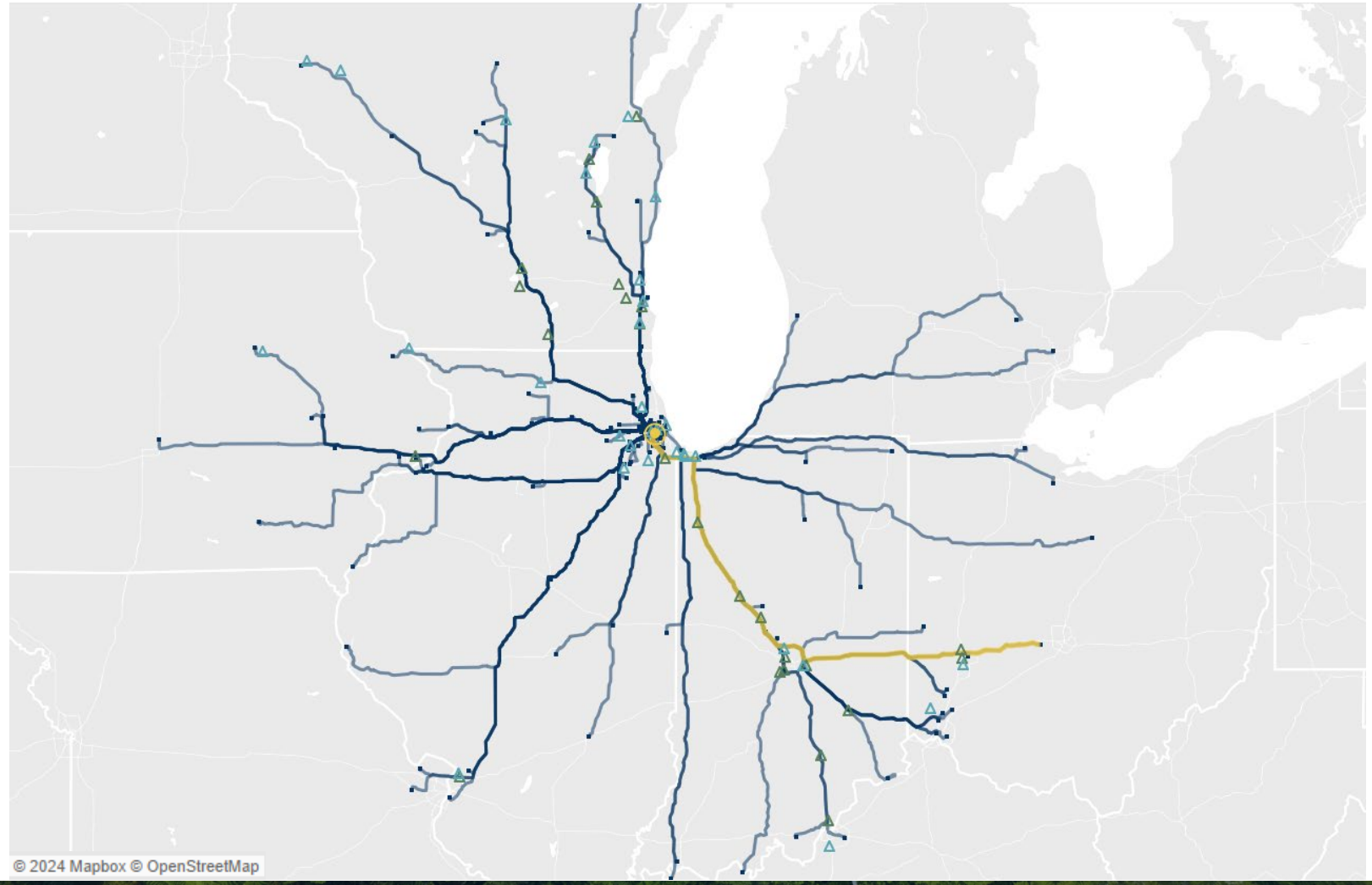
△ CNG Station

△ RNG Station



Source: AFDC

Opportunities are created by economics and execution.



CNG Station

RNG Station

Source: AFDC

Assessing the Benefits of Sustainable Energy

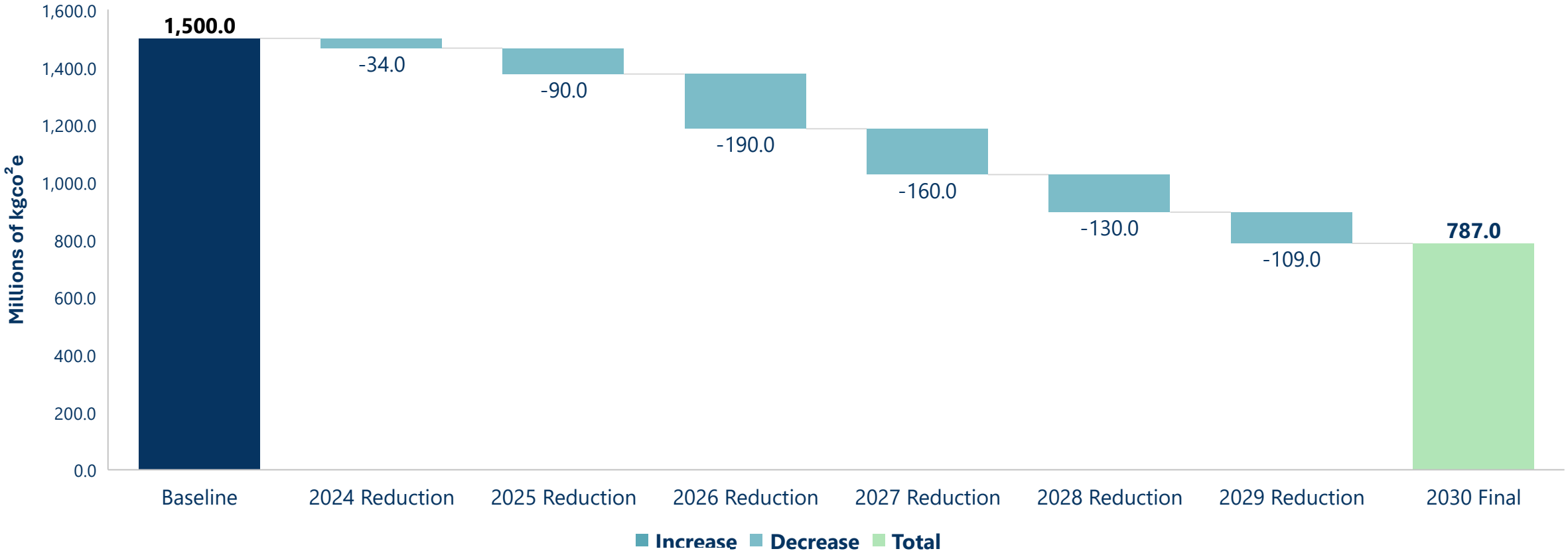
Emissions Benefit

Equipment Cost

Availability

Fuel Cost

Example: 2023 to 2030 Emissions Reduction Roadmap



Example: 2023 to 2030 Emissions Reduction Roadmap

Solutions to Capture Sustainability Benefits

The Need for Mass Balance and Book & Claim

Corporate customers can utilize certificates—separate from the physical sustainable product—that represent the certified lifecycle emissions reductions from cleanly-fueled trips.

These certificates can be used in corporate emissions reporting, with an auditable and credible trail of ownership.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

GREENHOUSE GAS PROTOCOL

Smart Freight Centre

SMART FREIGHT CENTRE ACCREDITATION

IN ACCORDANCE WITH THE GLEC FRAMEWORK

2024 TRANSPORTATION INNOVATION FORUM

HOSTED BY PTI PAPER TRANSPORT

Chain of Custody Models

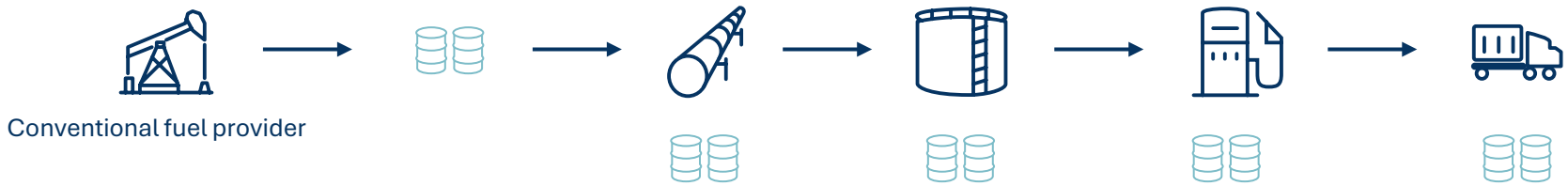
Physical Separation

Mass Balance

Book & Claim

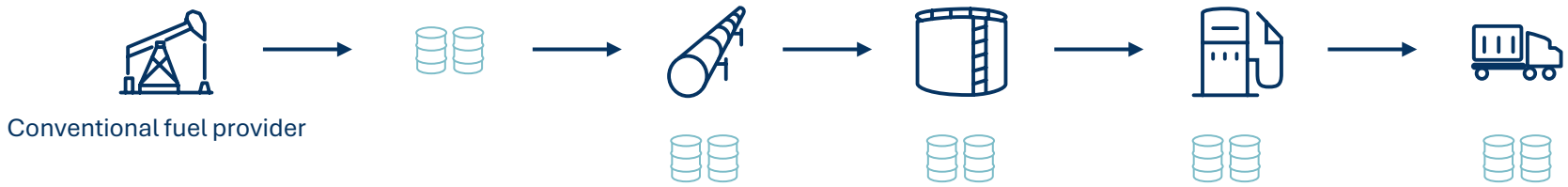
Physical Separation

Different fuels (e.g., renewable diesel and petroleum diesel) are kept physically separate as they move through infrastructure to the end user.

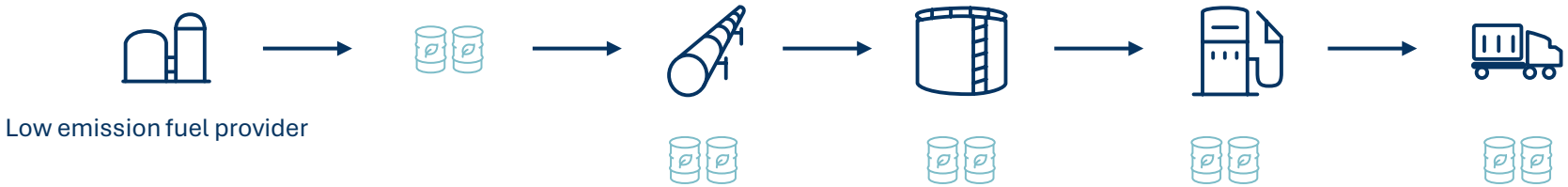


Physical Separation

Different fuels (e.g., renewable diesel and petroleum diesel) are kept physically separate as they move through infrastructure to the end user.



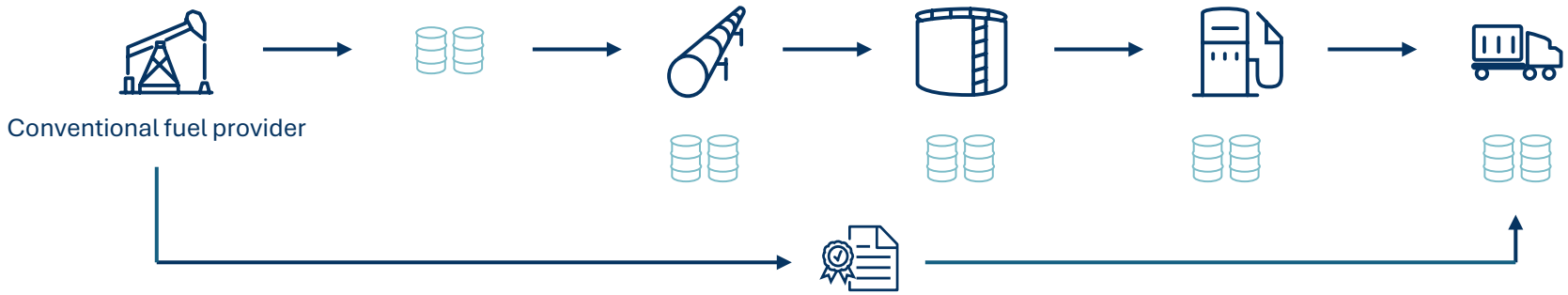
Conventional fuel provider

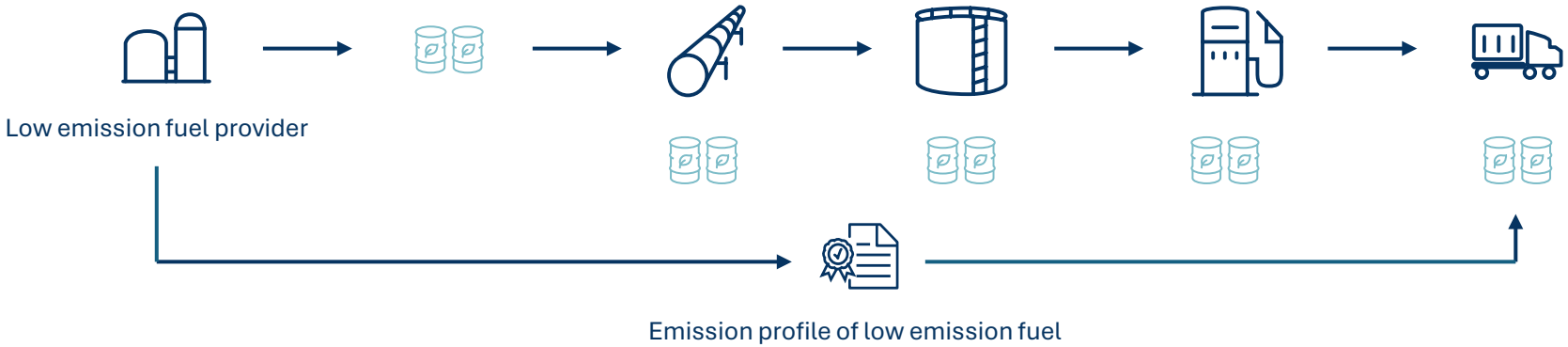


Low emission fuel provider

Physical Separation

Different fuels (e.g., renewable diesel and petroleum diesel) are kept physically separate as they move through infrastructure to the end user.





Mass Balance

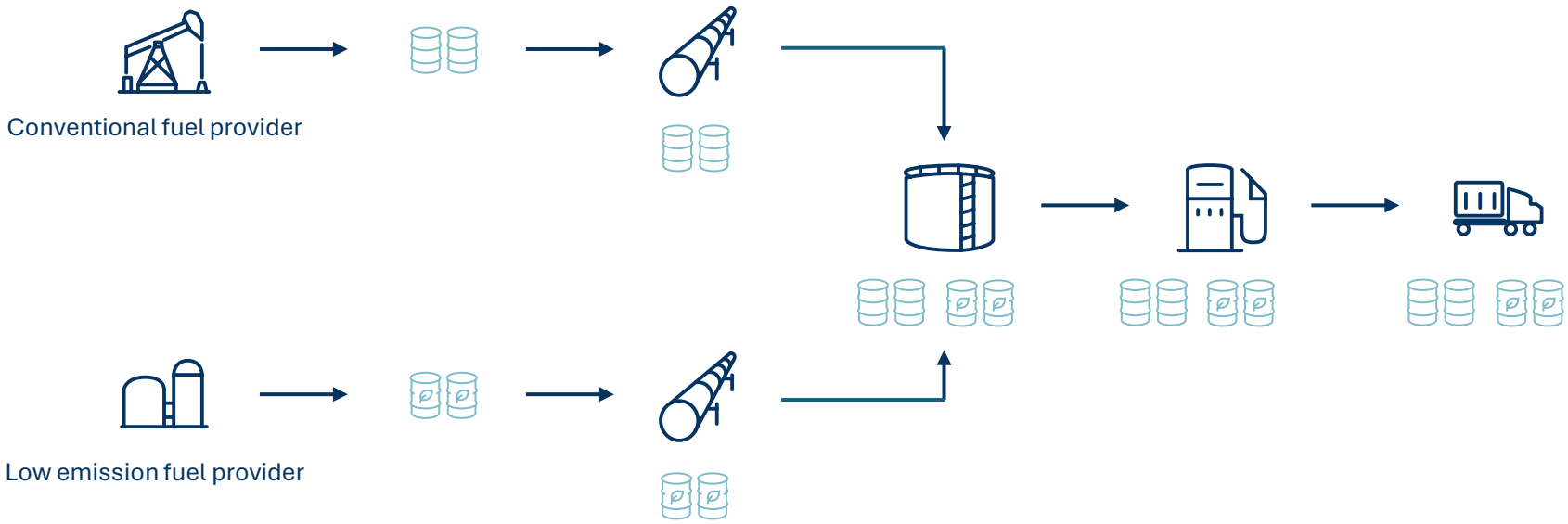
Involves the physical mixing of fuels (e.g., renewable diesel and petroleum diesel or CNG and RNG), but the volume and attributes of the alternative fuel are tracked and accounted for by end customer seeking the use of alternative fuel.

Conventional fuel provider

Low emission fuel provider

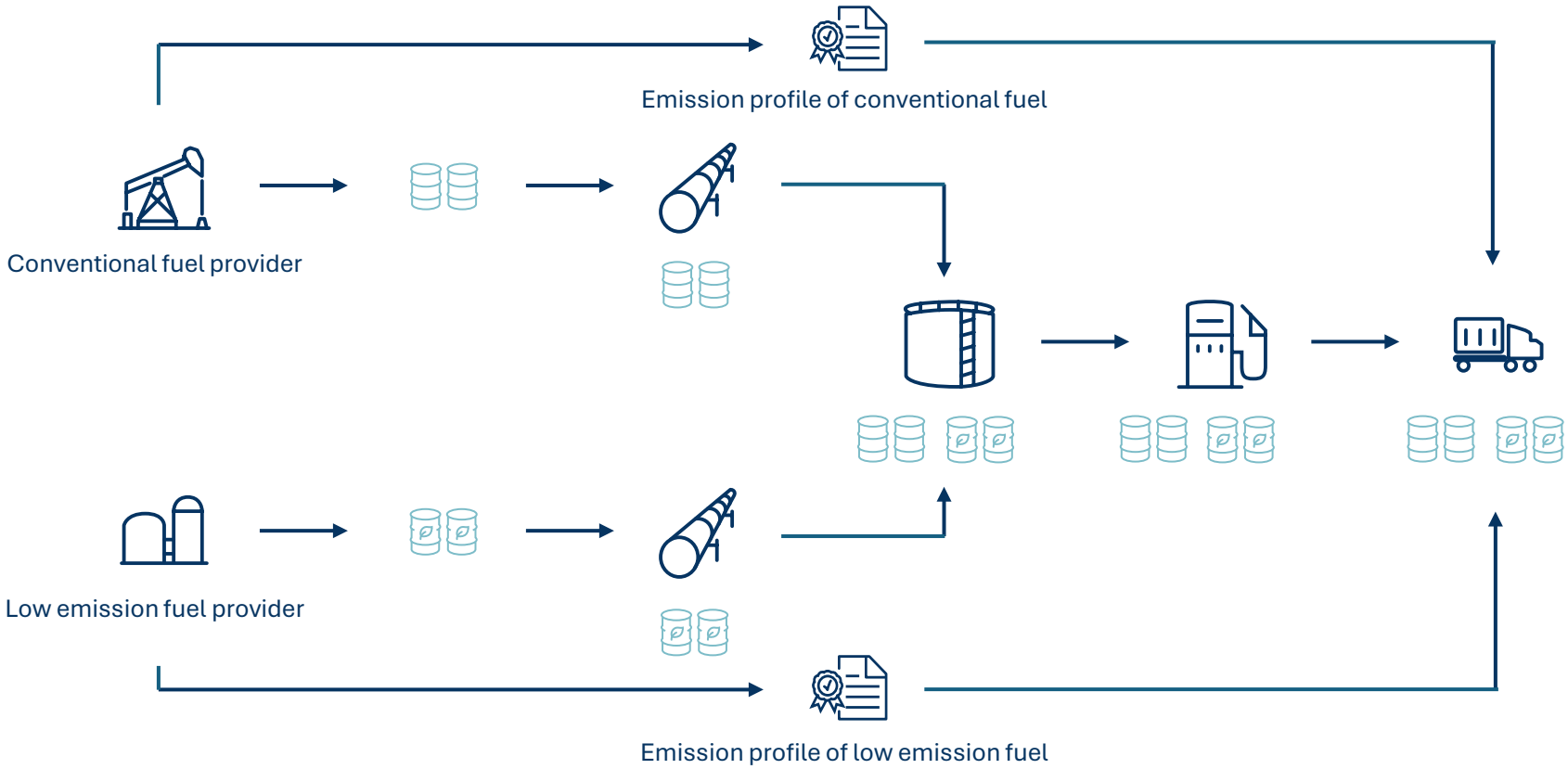
Mass Balance

Involves the physical mixing of fuels (e.g., renewable diesel and petroleum diesel or CNG and RNG), but the volume and attributes of the alternative fuel are tracked and accounted for by end customer seeking the use of alternative fuel.



Mass Balance

Involves the physical mixing of fuels (e.g., renewable diesel and petroleum diesel or CNG and RNG), but the volume and attributes of the alternative fuel are tracked and accounted for by end customer seeking the use of alternative fuel.



Book & Claim

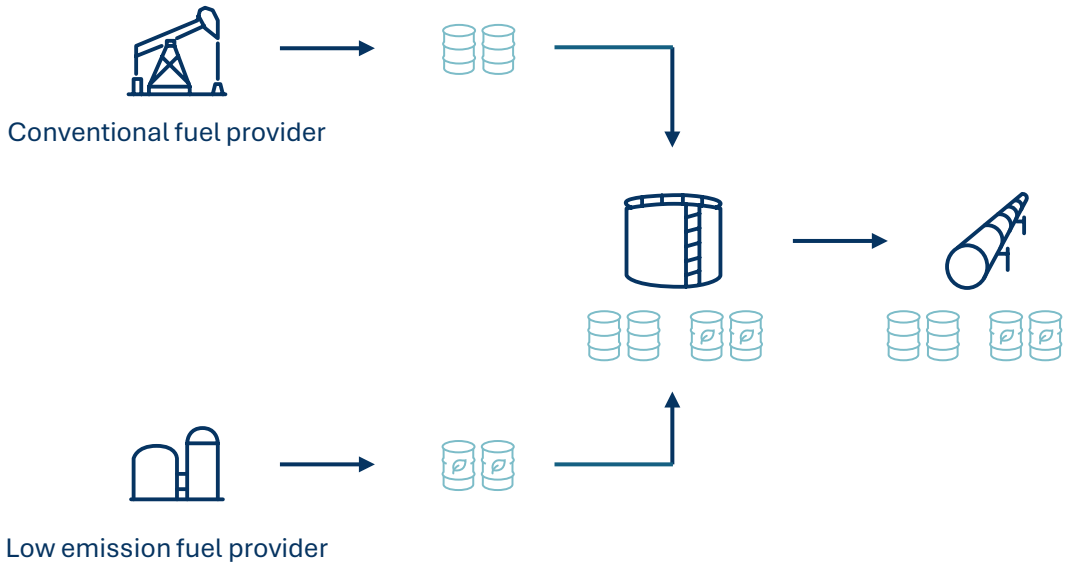
Book & Claim can be executed in a myriad of ways, depending on the transportation type (aviation, maritime, road, etc.) and the types of participants. Below is a simplified infographic depicting general relationships that may exist in Book & Claim.

Conventional fuel provider

Low emission fuel provider

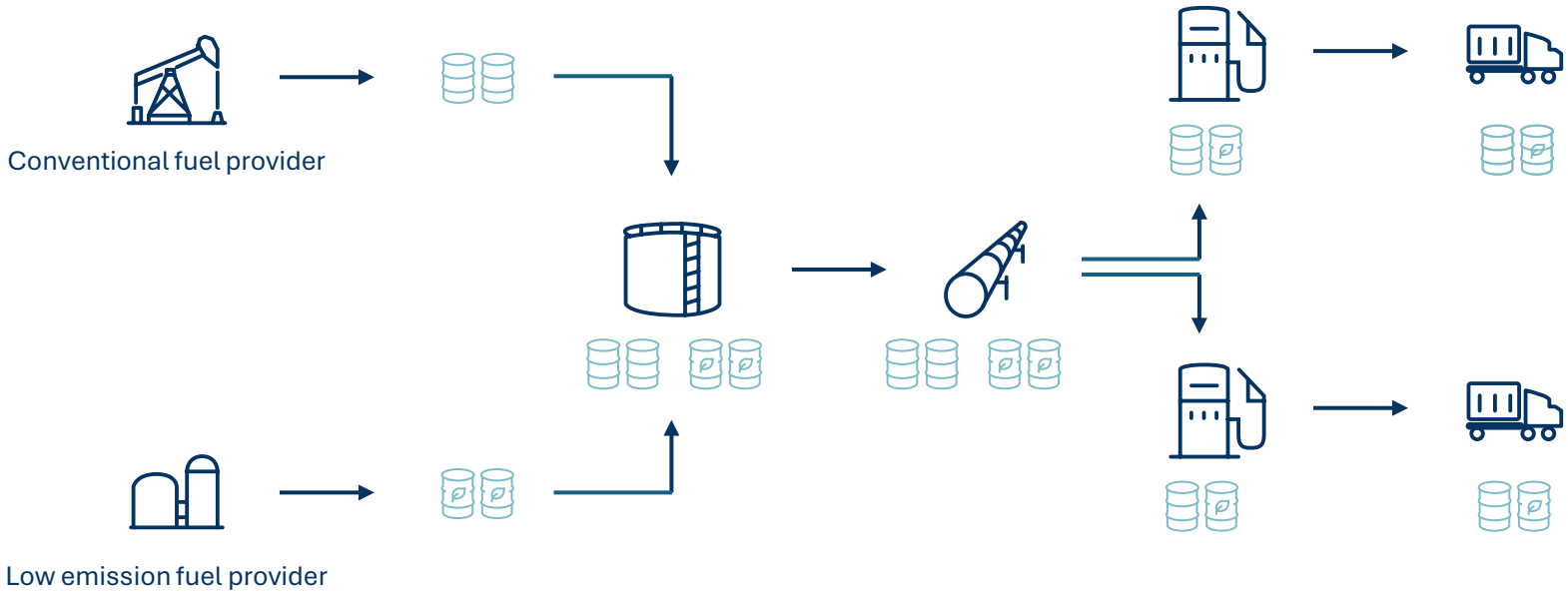
Book & Claim

Book & Claim can be executed in a myriad of ways, depending on the transportation type (aviation, maritime, road, etc.) and the types of participants. Below is a simplified infographic depicting general relationships that may exist in Book & Claim.



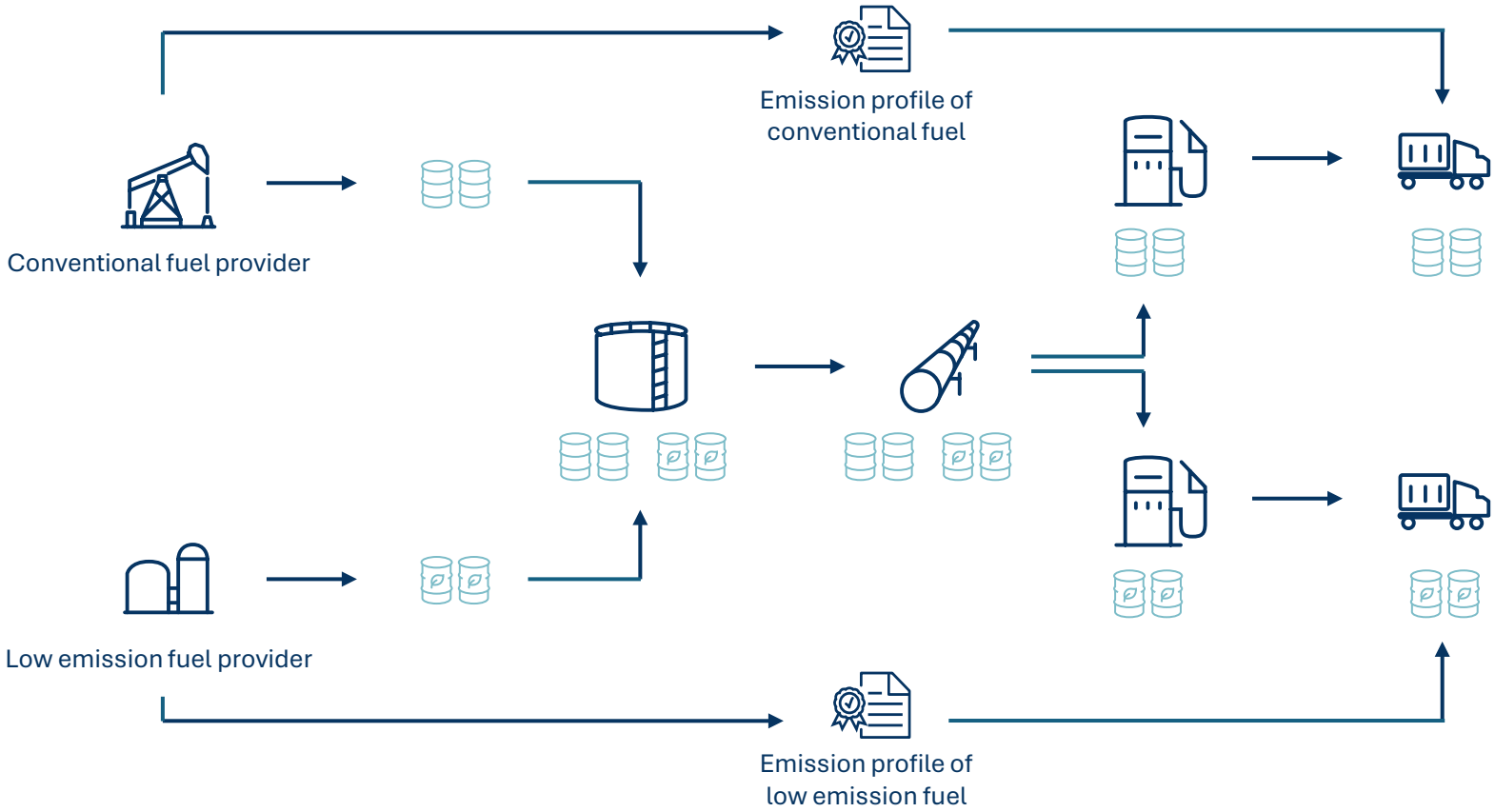
Book & Claim

Book & Claim can be executed in a myriad of ways, depending on the transportation type (aviation, maritime, road, etc.) and the types of participants. Below is a simplified infographic depicting general relationships that may exist in Book & Claim.



Book & Claim

Book & Claim can be executed in a myriad of ways, depending on the transportation type (aviation, maritime, road, etc.) and the types of participants. Below is a simplified infographic depicting general relationships that may exist in Book & Claim.



The book & claim model is actively used in freight transportation.

12 shippers, through the Zero Emissions Maritime Buyers' Alliance (ZEMBA), committed to purchase the environmental attributes associated with over 1 billion twenty-foot shipping container miles of zero-emission shipping.

Key Takeaways

Collaborate with a partner to create a strategic plan identifying the most viable lanes for implementation.

Proactively work with your carriers and energy providers to secure emissions benefits.

Utilize tools to ensure you capture the benefits of the sustainable energy choices in your supply chain.

Thank You

Matt Muenster

Chief Economist

John McCaw

Vice President, Sustainable Solutions