



Insights from the Q2 Buyer-Supplier Roundtable at ACT Expo

APRIL 23, 2019

Background

On Tuesday, April 23, 2019, Future of Fuels convened 70 participants, representing fleet owners, logistics buyers, OEMs, and fuel providers, for its second buyer-supplier roundtable of 2019 at ACT Expo in Long Beach, CA. The roundtable focused on the following key objectives:

- Align on the most relevant and useful sustainable fuel/clean technology screening criteria
- Define the most useful ROI criteria, which help define the business case
- Identify additional criteria companies can use to evaluate the functionality of fuels beyond financials

This brief presents BSR's synthesis of the innovative ideas and implications gleaned from the conversation, which will directly influence the development of the Roadmap for Sustainable Fuels.

Roadmap for Sustainable Fuel Framing Overview

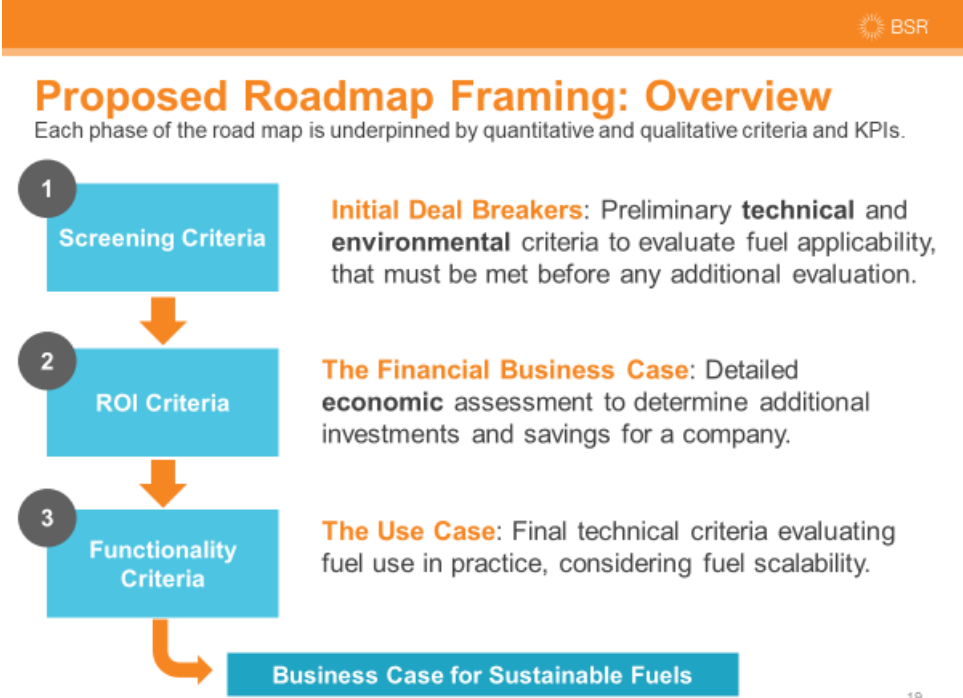
Future of Fuels is developing an assessment framework which will outline key financial and performance criteria which will provide fleets with the information needed to facilitate the development of a business case to aid their decision making and procurement processes. Specifically, the Roadmap for Sustainable Fuels will allow companies to assess at-market and near-market sustainable fuels and technologies for their fleets, specifically evaluating suitability, financial viability (ROI), and potential barriers to uptake/adoption.

The roadmap uses a 3-tier approach to guide fuel buyers through the fuel and technology evaluation process:

1. **Screening Criteria:** Preliminary technical and environmental criteria, considering fuel applicability which help **identify initial deal breakers**, that must be met before any additional evaluation.
2. **ROI Criteria:** Detailed economic assessment to determine additional investments and savings for a company, **to build the financial business case**.
3. **Functionality Criteria:** Final technical criteria evaluating fuel use in practice, considering scalability.

Evaluating the Roadmap for Sustainable Fuels

The following section presents BSR’s synthesis of the feedback gleaned from the conversation with the roundtable participants.



GENERAL FEEDBACK

- Roadmap Framing: The three-tiered approach helps streamline the decision-making process
- Criteria: Overall, all criteria are useful and impactful, with criteria regarding infrastructure availability and duty cycle being of particular importance

SUGGESTED REVISIONS

Roadmap Phase	Criteria	Feedback
	Emissions Reduction Potential	Expand description to include life cycle assessment to understand the full emissions impact across the supply chain (e.g. emissions impacts of batteries for electric fleets).
Screening Criteria	<i>Fuel source</i>	<i>Criteria to be added.</i> Buyers should consider the original source/feedstock of a fuel (e.g. renewable diesel from leftover vs. new feedstock) to evaluate the sustainability attributes.

	Infrastructure availability	<i>Recommended to be included in Screening, rather than Functionality.</i> Earlier consideration of infrastructure will help Buyers determine if they need to build or invest in specific infrastructure, which can be factored into the ROI.
	Duty Cycle	<i>Recommended to be included in Screening, rather than Functionality.</i> Earlier consideration of duty cycle will help Buyers appropriately screen fuels before investing resources to evaluate the ROI.
ROI Criteria	Initial investment	Expand description to include truck residual value.
	Tax incentives/Benefits	Expand description to include incentives in addition to tax benefits (e.g. grants, etc.)
Functionality Criteria*	Driver acceptance	Expand criteria to assess user acceptance, to recognize that drivers and those supporting truck maintenance are critical stakeholders.
	<i>Brand reputation impact</i>	<i>Criteria to be added.</i> Buyers should consider the positive and negative impact procuring certain fuels will have on their reputation and brand value.
	<i>Speed of refueling/recharging</i>	<i>Criteria to be added.</i> Buyers should consider how the speed of refueling/recharging will impact their operations/routes and ability to scale.

**In addition, attendees recommend renaming Functionality Criteria to Scalability Criteria.*

OPPORTUNITIES FOR FURTHER IMPROVEMENT

- **Criteria Weighting:** Enable buyers to evaluate each Roadmap criteria **in context of their company**, functioning both as a prioritization and quantification tool.
- **Regulatory Landscape:** Provide guidance to enable buyers to evaluate the **positive and negative implications of upcoming regulations** at all levels (i.e. national/state/local), by fuel type. This includes but is not limited to pending regulations which would create tax benefits or penalties on certain fuels, government commitments to increase renewable energy and/or decrease GHG emissions, and regional infrastructure investments.
- **Technology Readiness:** Provide guidance on the **maturity of fuel technologies**, to understand the time and development horizons of potential fuels. This will help mitigate risk for early adopters and can allow a company to develop their portfolio of sustainable fuel options to account for future technologies.

Case Studies Key Outcomes

Participants reviewed four case studies to test the broad applicability of the Roadmap framework and to identify strengths and areas of improvement. The case studies prompted attendees to assess the viability of a specific fuel based on pre-identified parameters (e.g. specific vehicle class, location, fuel

availability, duty cycle, incentives, etc.). The section below summarizes the key outcomes of each of the case study sessions:

RENEWABLE NATURAL GAS IN CLASS 8 DIESEL FLEET

Financial incentives are critical for this scenario to be viable. Based on the Roadmap, this scenario would not pass the Screening phase, tied to the Market Availability criteria. In continuing to ‘stress test’ the Roadmap, attendees moved to the ROI phase, with the Initial Investment criteria ultimately causing participants to deem the case study to not be viable as-is.

Case Study Prompt	Key Outcomes
<ul style="list-style-type: none">• Objective: Assessing Renewable Diesel for a Class 8 diesel fleet.• The fleet operates about 20 hours a day, throughout the Midwest, stopping infrequently.• Limited State grants are available for vehicle replacement, some state incentives for RNG.• RNG availability varies by state.	<p>Overall Assessment: Some modifications needed to be viable</p> <ul style="list-style-type: none">• Positive Attributes:<ul style="list-style-type: none">○ RNG has a lower cost compared to diesel. A lower negotiated price with a supplier would increase viability.○ Lower fuel price could offset RNG’s lower fuel efficiency, decreasing the cost per mile to operate compared to diesel.○ Good emission reductions when switching from diesel to RNG with any feedstock.• Changes needed for viability:<ul style="list-style-type: none">○ Financial incentives are needed to lower significant initial investments for trucks and to build fueling infrastructure.○ Develop an adequate infrastructure is critical; mid- or end-route refueling is not ideal.○ Limited perceived secondary market value of a CNG truck presents challenges to fleets that lease or turn over vehicles frequently, vs. those that own and operate vehicles longer○ Improve RNG availability in Midwest and across the country more generally

ASSESSING RENEWABLE NATURAL GAS FOR A CLASS 6 GAS FLEET

Financial incentives would make this scenario clearly viable. Based on the Roadmap, this scenario would pass the Screening phase if conventional CNG could be used as a backup refueling option, thus reducing the barrier on the Market Availability criteria. This case study would pass the ROI phase if local or federal incentives were available (Tax Benefit/Incentive criteria).

Case Study Prompt:

- **Objective:** Assessing renewable natural gas for a class 6 gas fleet.
- The fleet operates about 18 hours a day, locally in Bergen County, NJ, stopping frequently.
- Limited State incentives.
- Limited RNG availability.

Key Outcomes

Overall Assessment: Viable only with incentives

- Positive Attributes:
 - RNG has strong potential for GHG emission reductions.
- Changes Needed to Enhance Viability:
 - Improve fuel availability.
 - Increase state incentives to bolster ROI.

Additional Considerations:

- Electric could be a more viable option for a class 6 fleet.

ASSESSING ELECTRICITY FOR A CLASS 6 GAS FLEET

Given the favorable market conditions for electric vehicles in California, this case study scenario would be viable with no hesitation across the Screening and ROI phases. Additional charging infrastructure would make this scenario an even better option.

Case Study Prompt:

- **Objective:** Assessing electricity for a class 6 gas fleet.
- The fleet operates about 12 hours a day, in Southern California, stopping frequently.
- Strong state incentives.
- Moderate electricity availability.

Key Outcomes

Overall Assessment: Viable

- Positive Attributes:
 - Increased supply of Class 6 EVs from OEMs.
 - Good and increasing availability of electricity charging stations, which is unlikely to decrease.
- Changes Needed for Viability:
 - Build out charging infrastructure to meet demand.

Additional Considerations:

- Additional information is needed to assess GHG emissions reduction potential, given varying fuel sources for electricity generation and the lifecycle impacts of battery production.

ASSESSING HYDROGEN FOR A CLASS 8 DIESEL FLEET

This case study would not pass the initial Screening phase, given that Hydrogen is not yet a viable fuel option. The participants focused the conversations on potential scenarios that would help scale Hydrogen and build the market.

Case Study Prompt:

- **Objective:** Assessing hydrogen for a class 8 diesel fleet.
- *Note: This case study was created during the workshop by participants.*

Key Outcomes

Overall Assessment: Significant modifications needed to be viable

Changes Needed for Viability:

- Hydrogen fuel source must be known to evaluate sustainability attributes
- Improve hydrogen viability to enable scaling
- Reduce manufacturing costs for suppliers

Additional considerations:

- Innovative contractual agreements could be a way to minimize risk and price volatility, while also creating an incentive for infrastructure development.

Broader Considerations for the Roadmap

The outcomes of the case study exercise confirm that there are still significant market improvements needed to make sustainable fuels widely applicable for fleets. Interest in sustainable fuels and related technologies has significantly increased both for fleets and OEMs, given the potential GHG emissions reduction benefits. However, the following issues remain critical barriers to adoption: 1) regulatory fragmentation in the US makes it difficult to deploy/scale certain fuels nationally, 2) significant investment is needed to test and scale emerging technologies, 3), existing procurement and financing mechanisms do not spur investment, and 4) value chain partnerships are needed to solve technical and scalability issues.

The following insights capture potential solutions that could alleviate the main barriers to fuel viability reflected in the meeting, and that could be considered more broadly for the roadmap:

- **Strategic Partnerships to Scale Infrastructure Availability:** Companies could partner with OEMs and/or fuel suppliers to provide an incentive for fuel availability/infrastructure development.
- **Linking Environmental Performance to Truck Maintenance:** Companies could partner with OEMs to develop a truck maintenance package which would include environmental sustainability criteria.
- **Create the Power Purchase Agreement for Mobility:** Leveraging contractual agreements such as PPAs, which have galvanized renewable energy purchases for companies, could be a viable option to help grow the sustainable fuel market. These agreements would reduce the risk

of price volatility for companies, secure usage for fuel suppliers, and could also incentivize the infrastructure that must be built to scale the market.

- **Total Cost of Ownership:** Total cost of ownership is a more reliable KPI to evaluate financial viability.

More Information

To learn more about the event, Future of Fuels, and the Sustainable Fuel Buyers' Principles please contact [Denielle Harrison](#) and [Lea Farnier](#).

About Future of Fuels

BSR's [Future of Fuels](#) works with its corporate members and more than 600 stakeholders to improve fuel choices as a critical piece of the global freight agenda, and ultimately to drive a sustainable transition to sustainable commercial freight. In 2017, the group has released the Sustainable Fuel Buyers' Principles, which provide a robust framework to catalyze lasting change to the road freight fuel system.

About BSR

[BSR](#) is a global nonprofit organization that works with its network of more than 250 member companies and other partners to build a just and sustainable world. From its offices in Asia, Europe, and North America, BSR develops sustainable business strategies and solutions through consulting, research, and cross-sector collaboration. Visit www.bsr.org for more information about BSR's 25 years of leadership in sustainability.

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