

# Surface Transportation Board Rail Energy Transportation Advisory Committee

## Petroleum and Petrochemical Shippers

March 2026



# Disclaimer

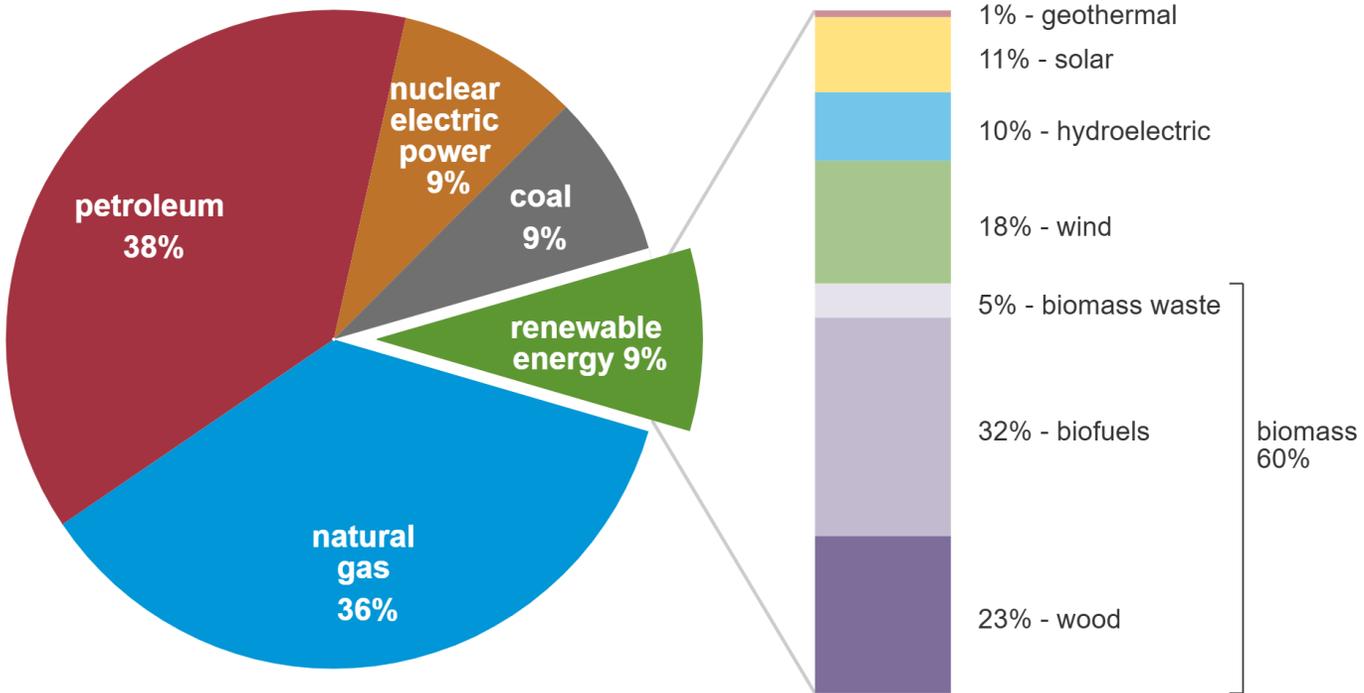
The information in this presentation and the accompanying views and analysis are based on publicly-available industry sources and do not necessarily represent the proprietary information, analysis , or outlook of LYB or other companies.

# Refining Overview

## U.S. primary energy consumption by energy source, 2023

total = 93.59 quadrillion  
British thermal units

total = 8.24 quadrillion British thermal units

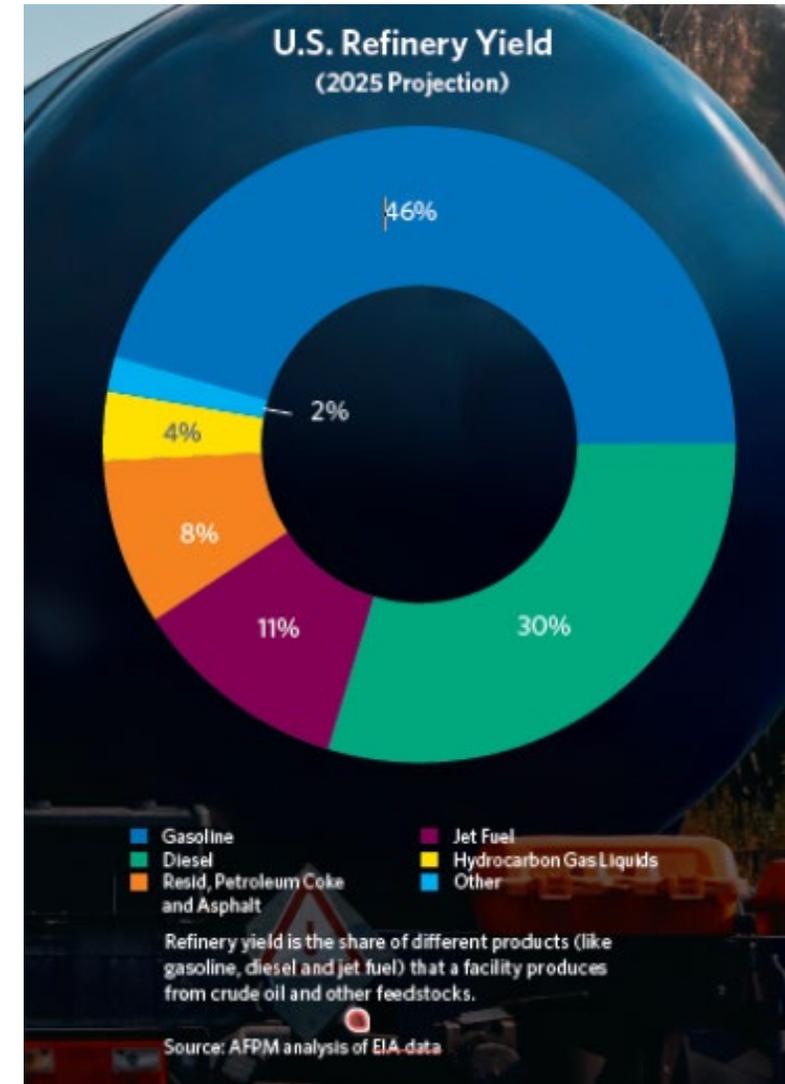


Data source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1, April 2024, preliminary data  
Note: Sum of components may not equal 100% because of independent rounding.



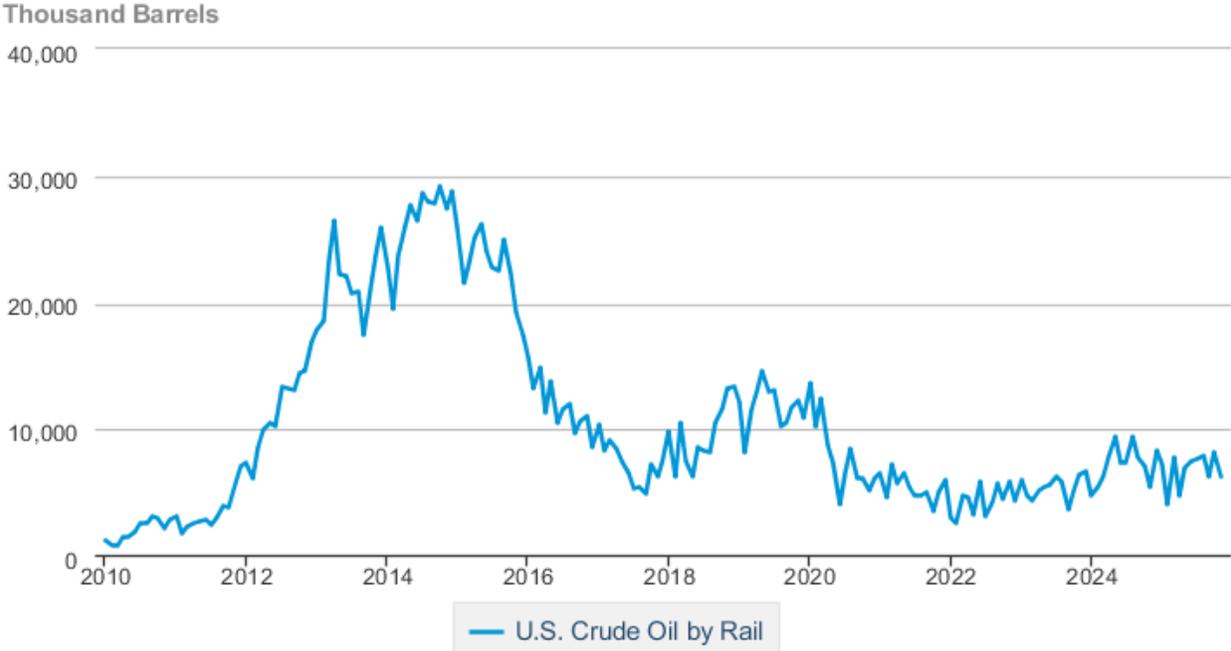
# Refining Overview

- In 2025, U.S. refineries produced 273 billion gallons of refined petroleum products to supply U.S. as well as global demand, including:
  - 122 billion gallons of gasoline,
  - 76 billion gallons of diesel, and
  - 28 billion gallons of kerosene and jet fuel
- The U.S. is a net exporter of refined petroleum products but both imports and exports refined products to minimize supply costs



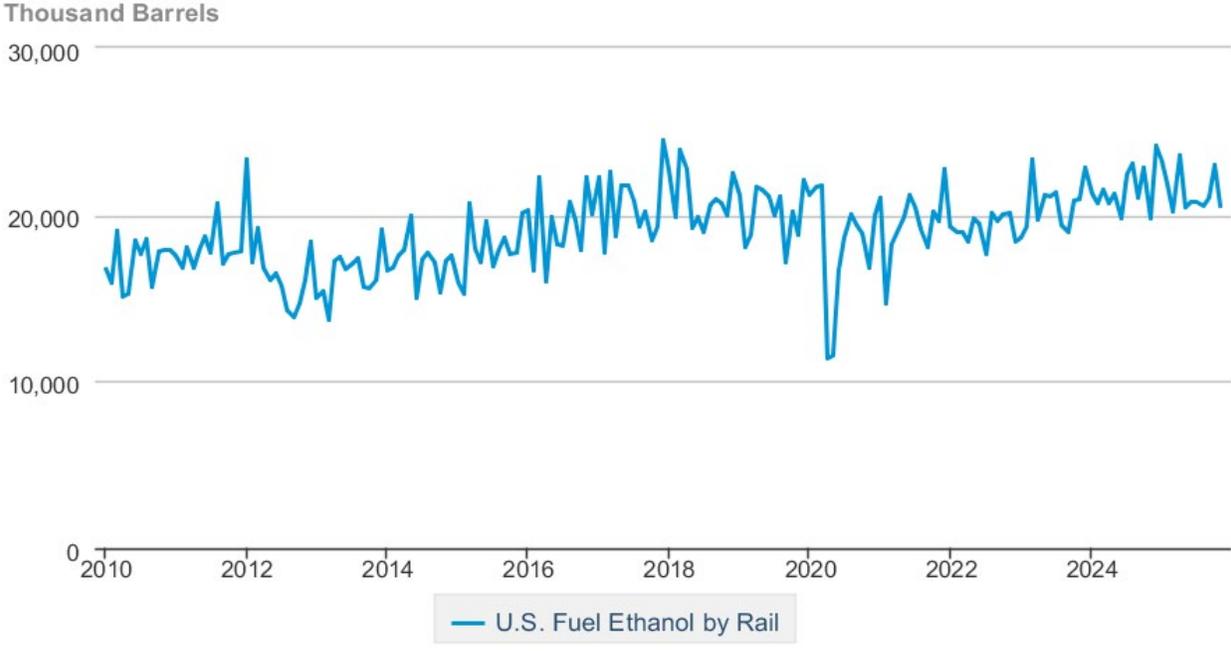
# Refining Overview

### U.S. Crude Oil by Rail



 Data source: U.S. Energy Information Administration

### U.S. Fuel Ethanol by Rail



 Data source: U.S. Energy Information Administration

# Refining Overview – Key Facts



**Footprint** - 130 refineries, with total capacity of ~18 million barrels per day (~17% of global capacity)



**Refining Infrastructure** - U.S. has the most complex refining industry in the world, capable of refining any grade of crude oil.



**Demand** - U.S. produces ~13.5 million bpd of crude oil and needs to import crude oil to meet refinery demand.



**North America** - 60% of crude oil processed by U.S. refineries is produced in the US and 25% is imported from Canada. Mexico is the third-largest source at 3%.

# Refining Recap

## Refined petroleum products remain essential to meeting global energy demand

- 1 Refined petroleum products supply more than 1/3 of US and global energy demand
- 2 Global demand for petroleum derived products is expected to continue to grow through 2050
- 3 U.S. has the most complex refining industry in the world, capable of refining any grade of crude oil
- 4 U.S. produces more refined products than any other country in the world

# Petrochemical Recap

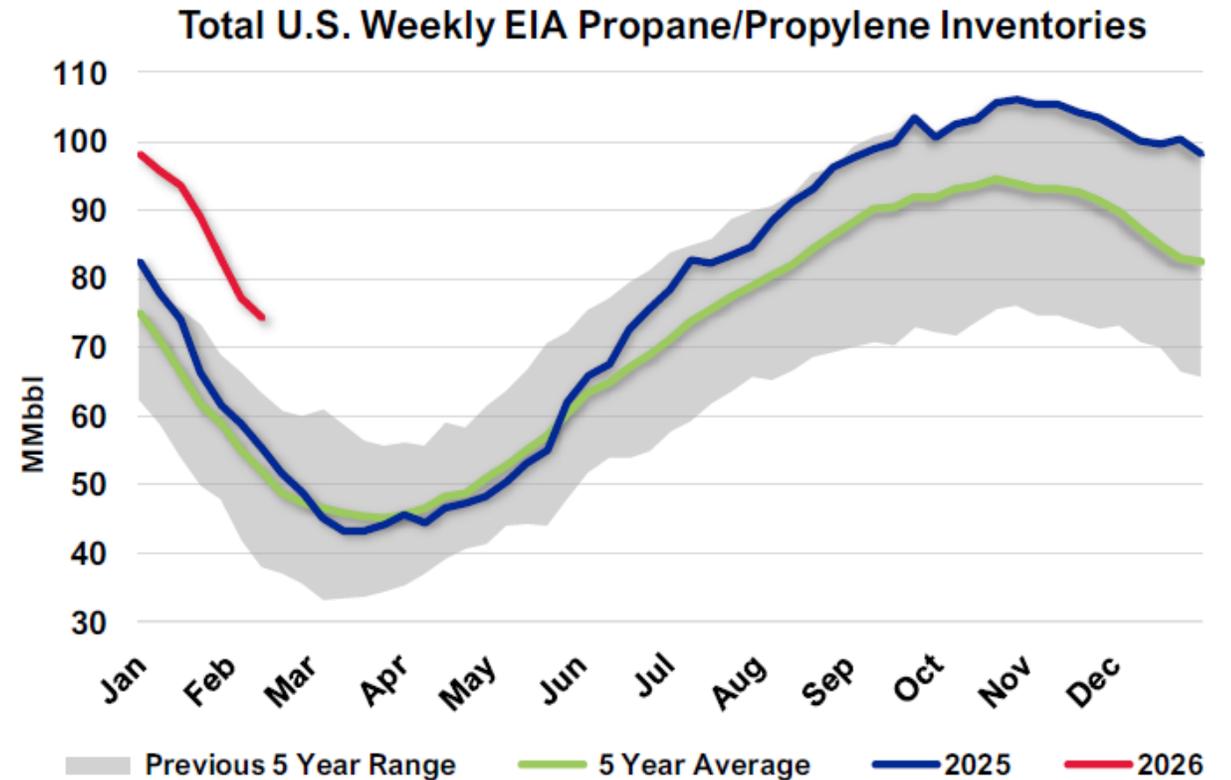
**While global markets are reeling from overcapacity and a regulatory onslaught, markets will stabilize and when they do the U.S. is positioned to be a leader**

- 1** U.S. Petchem Manufacturing generates more than \$57B in labor income and contributes over \$180B to U.S. economy
- 2** The U.S. is a leader in the production of both ethylene and propylene
- 3** U.S. has feedstock advantage over global competitors (ethane and propane)
- 4** U.S. has a supply chain advantage over global competitors

# Propane Inventories Above Prior 5 Year Range

## Highlights

- The EIA reported total U.S. propane/propylene inventories had a draw of 3.1 MM bbl for the week ended February 13, which was less than industry expectations for a decrease of 3.4 MM bbl and below the average draw for the week of 3.2 MM bbl.
- Total inventories were 34% higher than the same period last year.» Purity propane stocks reported by the EIA were at 45.6 MM bbl, or 62% of total U.S. inventories, down 2.1 MM bbl from the prior reporting period.
- Mont Belvieu OPIS non-TET propane prompt prices were at 60.25 c/gal on February 18, down 1.13 c/gal, or 2%, from the previous week. WTI crude oil settled at \$65.19/bbl on February 18, up \$1.23/bbl, or 2%. As a result, the propane-to-WTI ratio decreased to 41%.
- Weekly exports of propane reported by the EIA were 2 MMb/d, up 169 Mb/d from the previous week and above the year-to-date average of 1.95 MMb/d.
- Total U.S. propane/propylene production increased week over week to 2.8 MMb/d.



# Petrochemical volumes to grow next year, but not uniformly

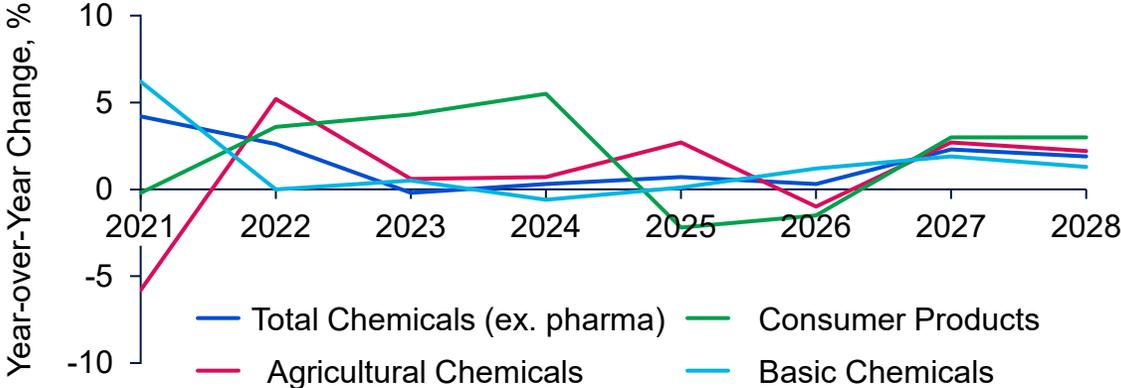
Ethylene, one of the main building blocks in the petrochemical industry, has seen years of global capacity increases outpacing demand.

Total US chemical volumes have grown four out of the last five years and are poised for continued growth near-term.

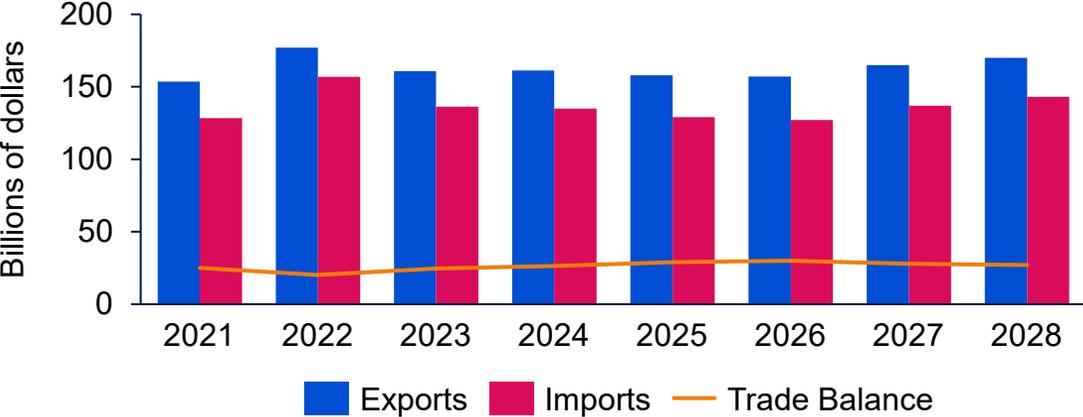
2026 is likely to see underwhelming demand through the first half of the year before optimism for a recovery builds in the second half.

2025 saw the value of exports decline by 2.0%, while imports declined 4.4%, leading to a slight increase in the trade balance. 2026 is forecast to see lower exports (-0.6%) and imports (-1.6%) as tariffs and uncertainty weigh on demand.

**Chemistry Volume Growth by Segment**



**US Chemical Trade (ex. pharma)**



# Freight Rail and the Refining / Petrochemical Industry

## Why Rail Matters to Us...

**Specialized Transport of Hazardous Materials** - Freight rail safely transports large volumes of hazardous fuels and chemicals using specialized tank cars with strict safety systems. Often these are shipments that can't be moved via other modes.

**Operational Resilience and Connectivity** - Rail networks provide reliable inbound and outbound flows critical for refining and petrochemical production continuity and market responsiveness.

**Economic and Environmental Benefits** - Rail freight offers energy-efficient, cost-effective transport with lower emissions supporting sustainability goals in chemical industries.

**Impact of Rail Disruptions** - Rail congestion and labor shortages cause supply chain disruptions, price volatility, and production interruptions in fuel and chemicals.

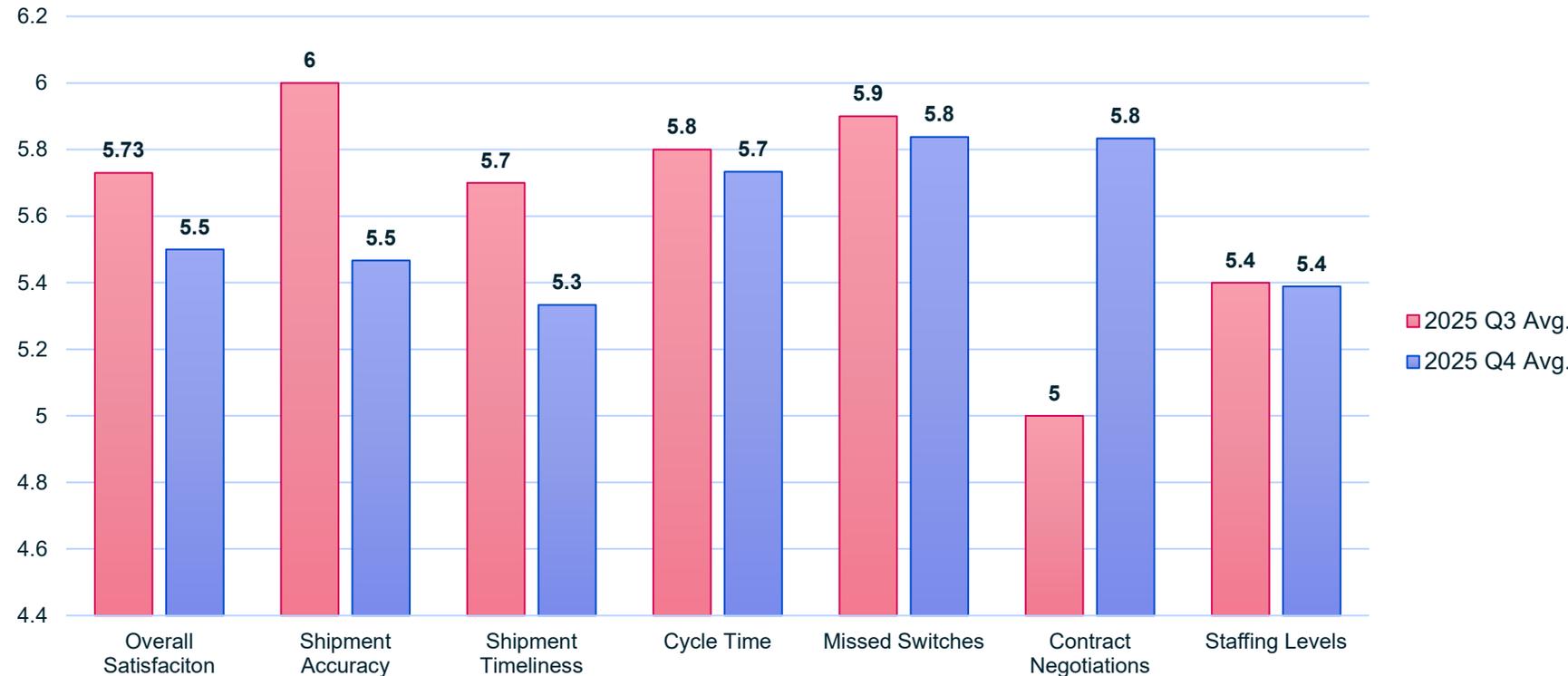
# AFPM Quarterly Rail Shipper Survey

## Industry Trends Aggregate (1-10)

### Key Insights

- Data shows industry wide data by issue against last quarter
- Overall contract negotiations are improving
- Timeliness and accuracy are worst performers
- More balance in ratings this quarter than past

Aggregate Rating Change by Issue Since Last Quarter



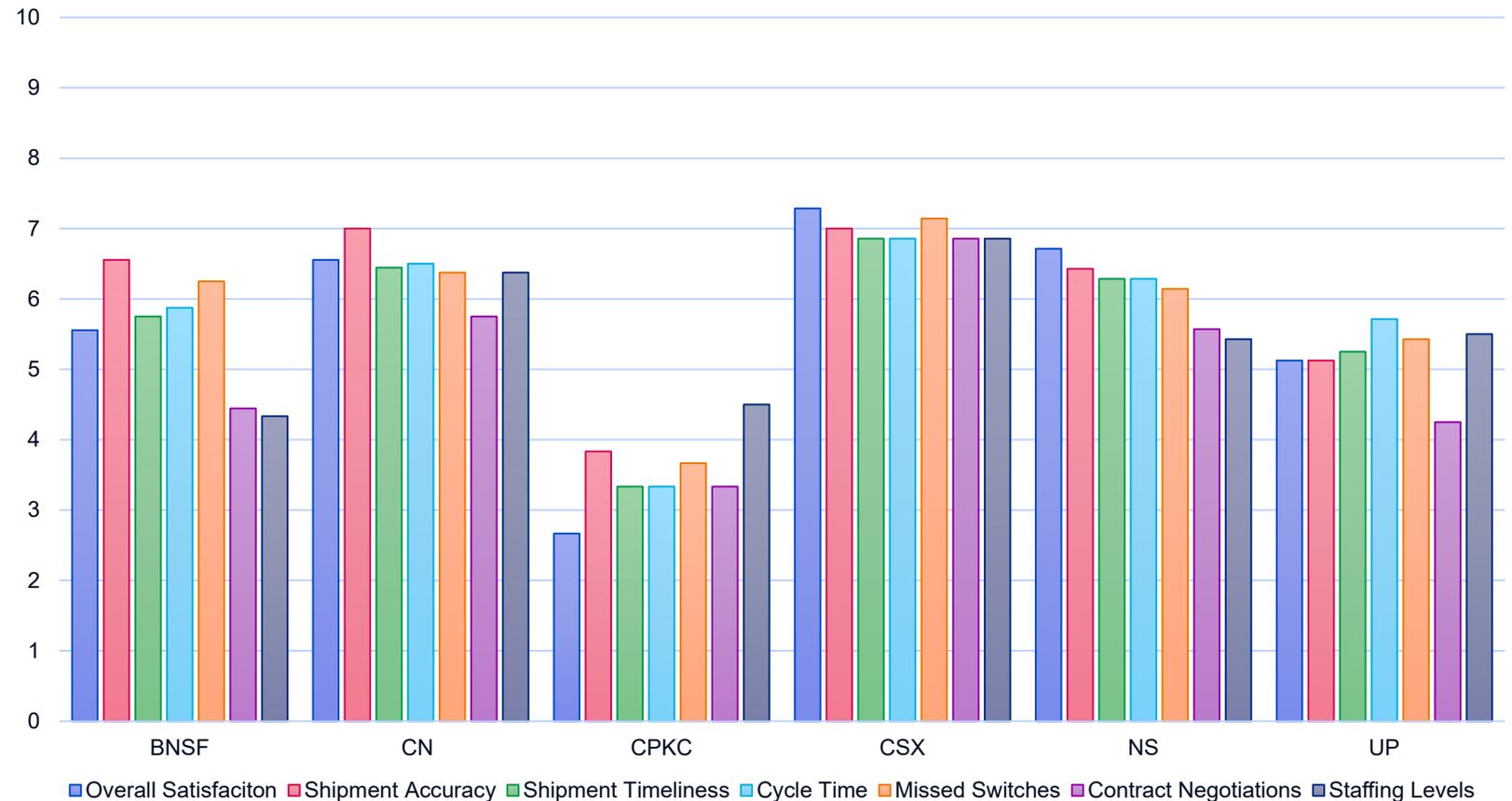
# AFPM Quarterly Rail Shipper Survey

## Industry Trends by Railroad (1-10)

All Class I for Each Issue

### Key Insights

- Data shows each railroad by each issue
- CPKC was the lowest rated in all categories and overall satisfaction is lowest
- CSX was the highest rated rail by all metrics
- Contract Negotiation was the lowest rated attribute overall



# Important Items to Petroleum and Petrochemical Shippers

- **Commercial Fairness**

- Competitive options
- Fair terms and conditions
- Adequate cost recovery for railcar ownership
- Commercial ramifications for poor service
- Clear definition of the common carrier and actionable remedies for shippers

- **Known Equipment Standards**

- Finalize equipment regulations to justify investment in 50-year assets

- **Consistent Service and Service Recovery**

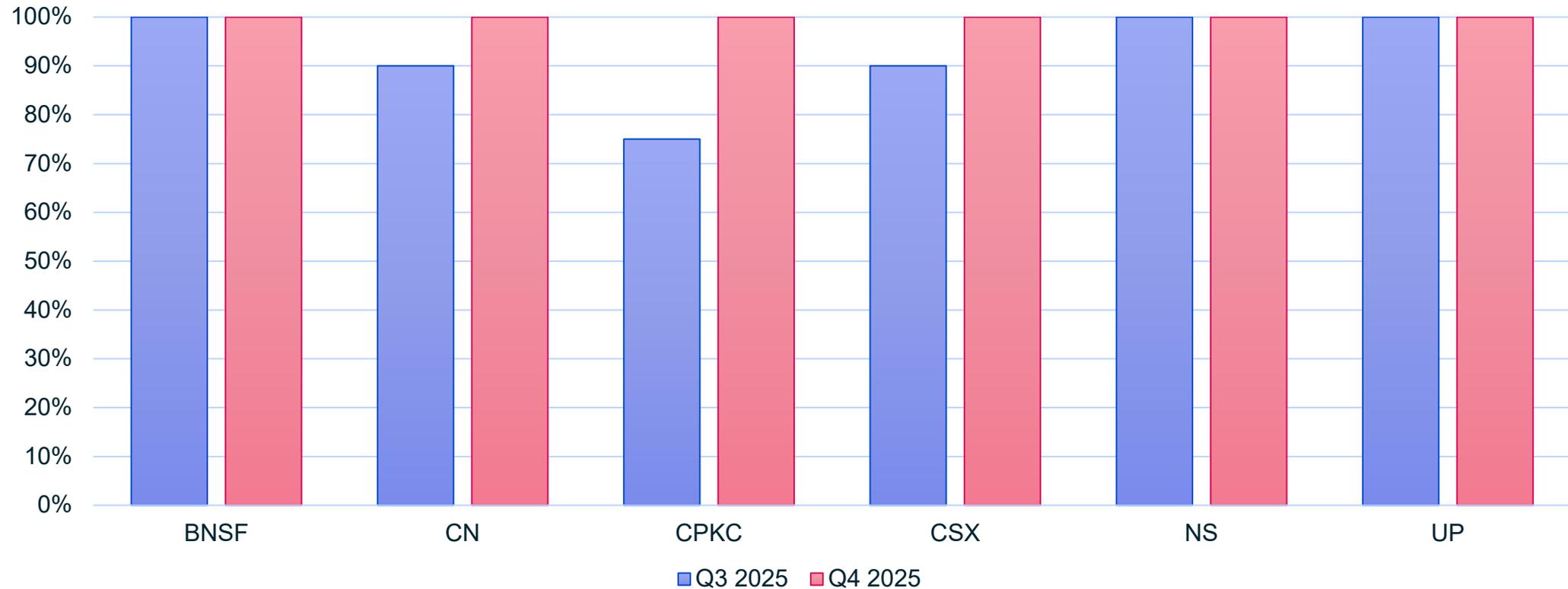
- Consistent service expectations
- Rapid recovery plans

# Appendix – AFPM Shipper Survey

# Rail Survey General Questions

# Railroads Utilization

AFPM Members use all major class I railroads

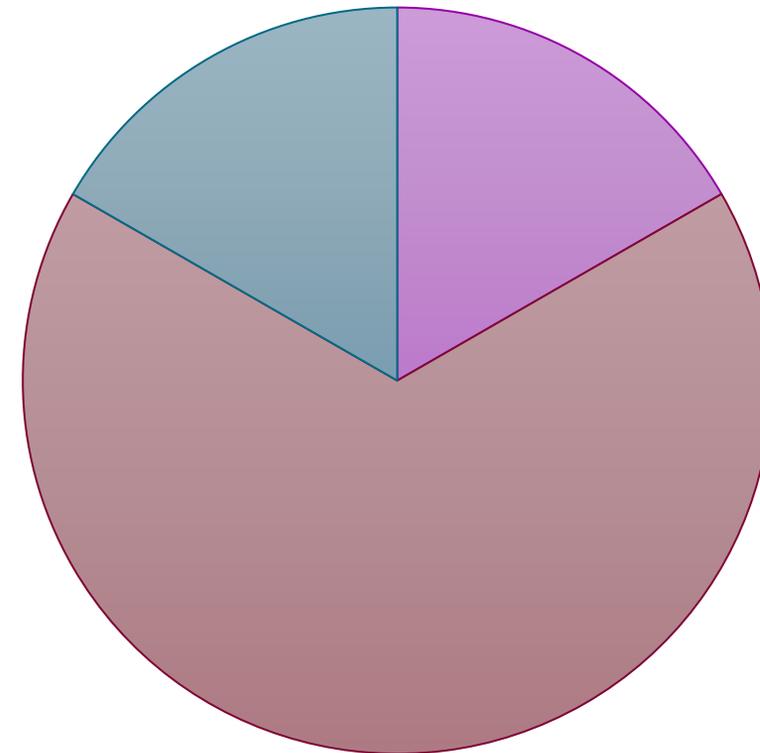


# Rail Survey - Captive Facilities

## AFPM Members are largely captive

- AFPM respondents show most members have captive facility exposure
- Results are consistent with previous estimates of over 70% captive in our industry is captive

Captive Facilities



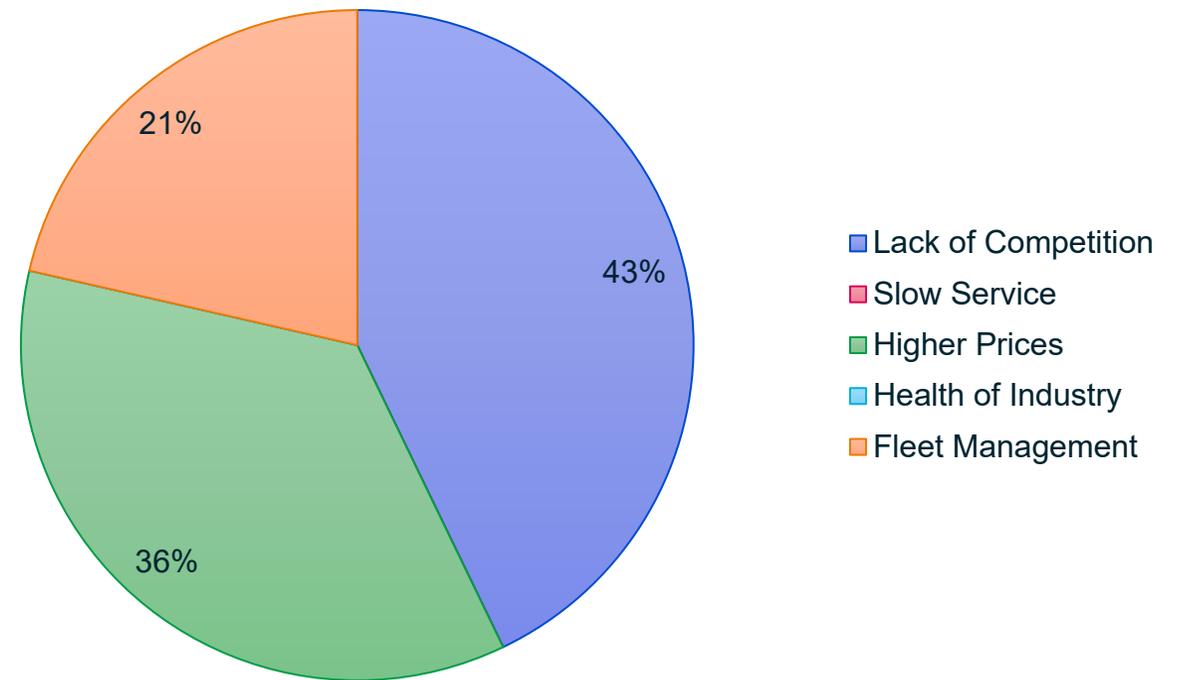
■ None 
 ■ 0-25% 
 ■ 25-50% 
 ■ 50-75% 
 ■ 75-100%

# UPNS Merger Concerns

## AFPM Members are concerned about UPNS

- Added an additional question about the UPNS merger
- 100% of respondents voiced concern over the UPNS merger
- Biggest concerns were lack of competition and increased costs
- Individual railroad survey results highlight other concerns with UP and NS

## Leading Concerns with the UPNS Merger



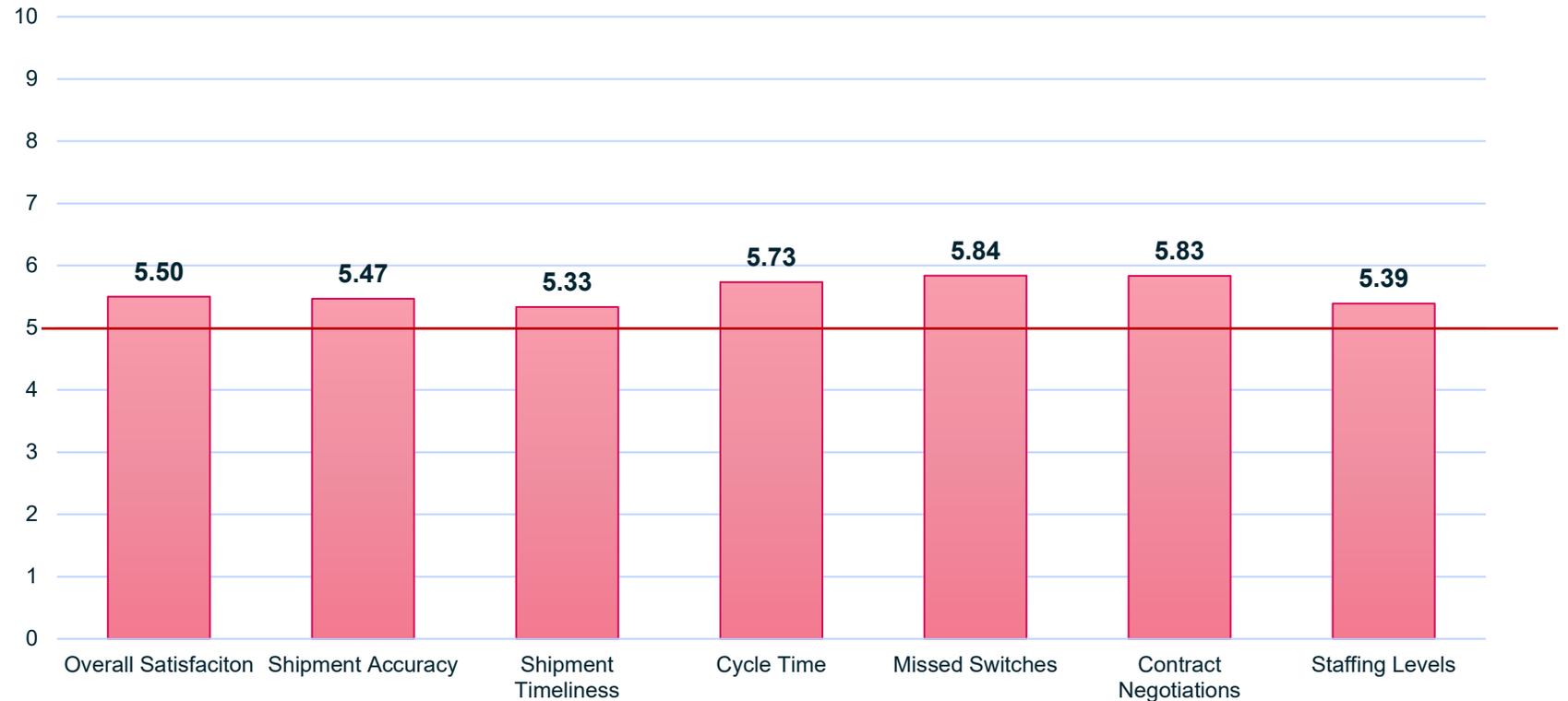
# Railroad Sentiment Survey

# Industry Trends Aggregate (1-10)

## Key Insights

- Data shows industry-wide data by issue
- Since last quarter things appear to be status quo or slightly improving
- Getting used to mediocre
- No meaningful delineation on the specific issues
- Shipment Accuracy was the lowest rated attribute overall but not by much

Aggregate Rating for All Class Is by Issue

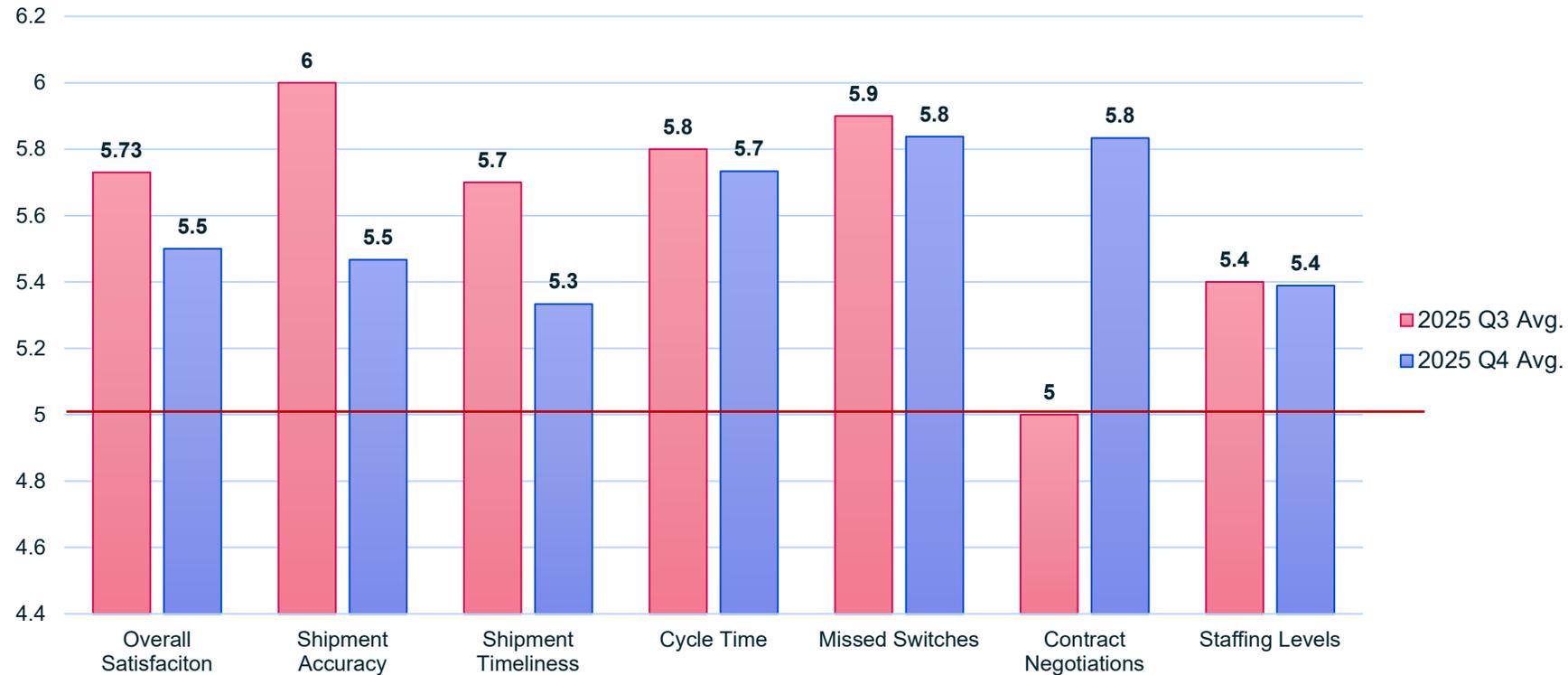


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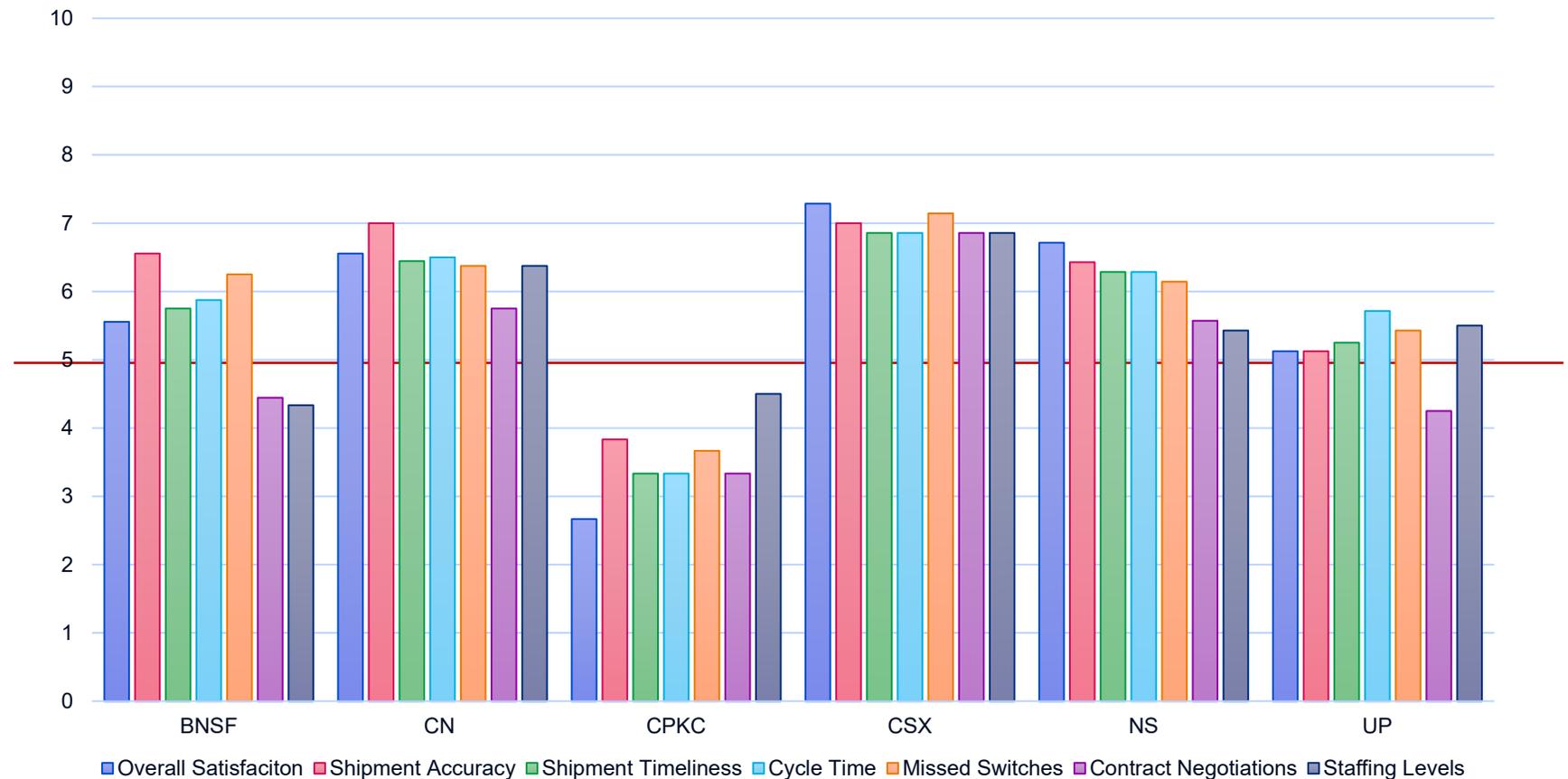


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All Class I for Each Issue

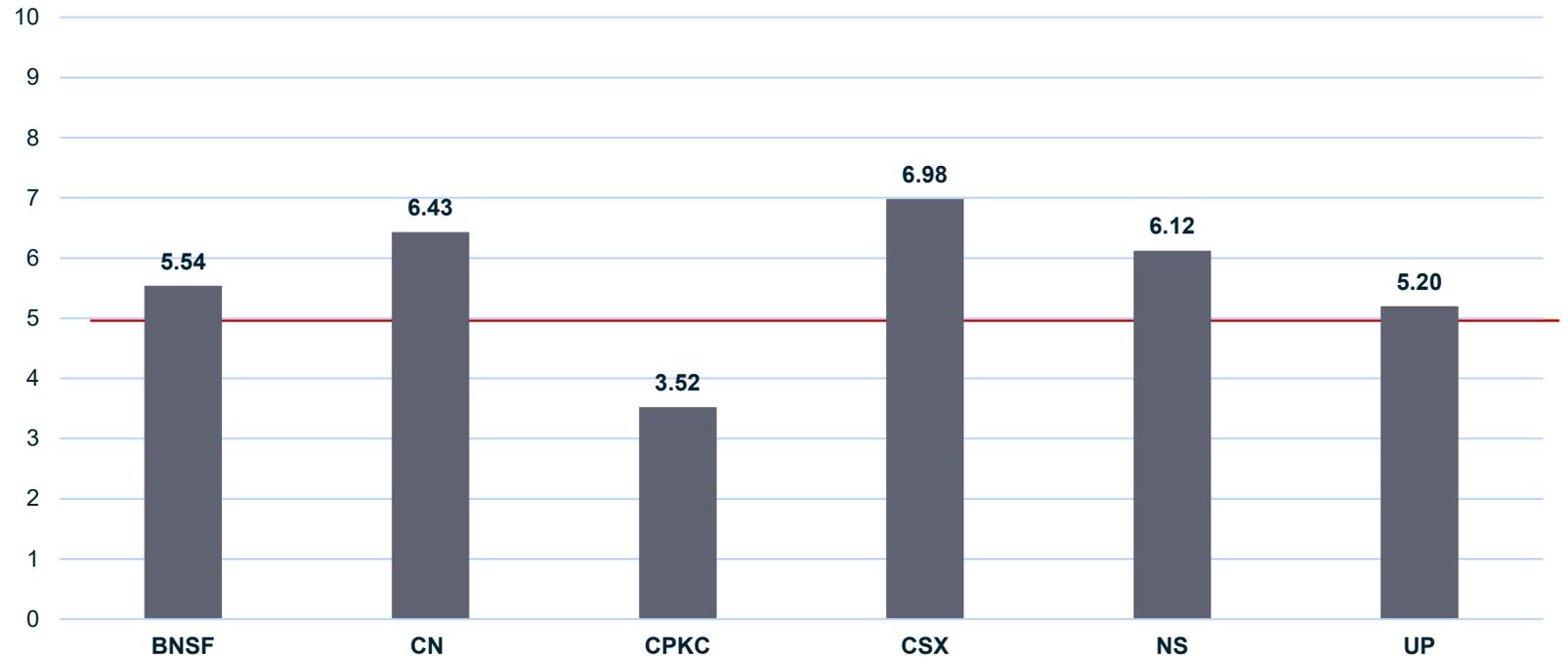


# Industry Trends Aggregate (1-10)

## Key Insights

- Shows all issue ratings averaged by each railroad
- Overall rating shows CPKC service is getting worst
- All other Class I's are improving or status quo
- CSX showing most meaning improvement

Avg Overall Rating of Each Class 1



# Railroad Supplemental Insight

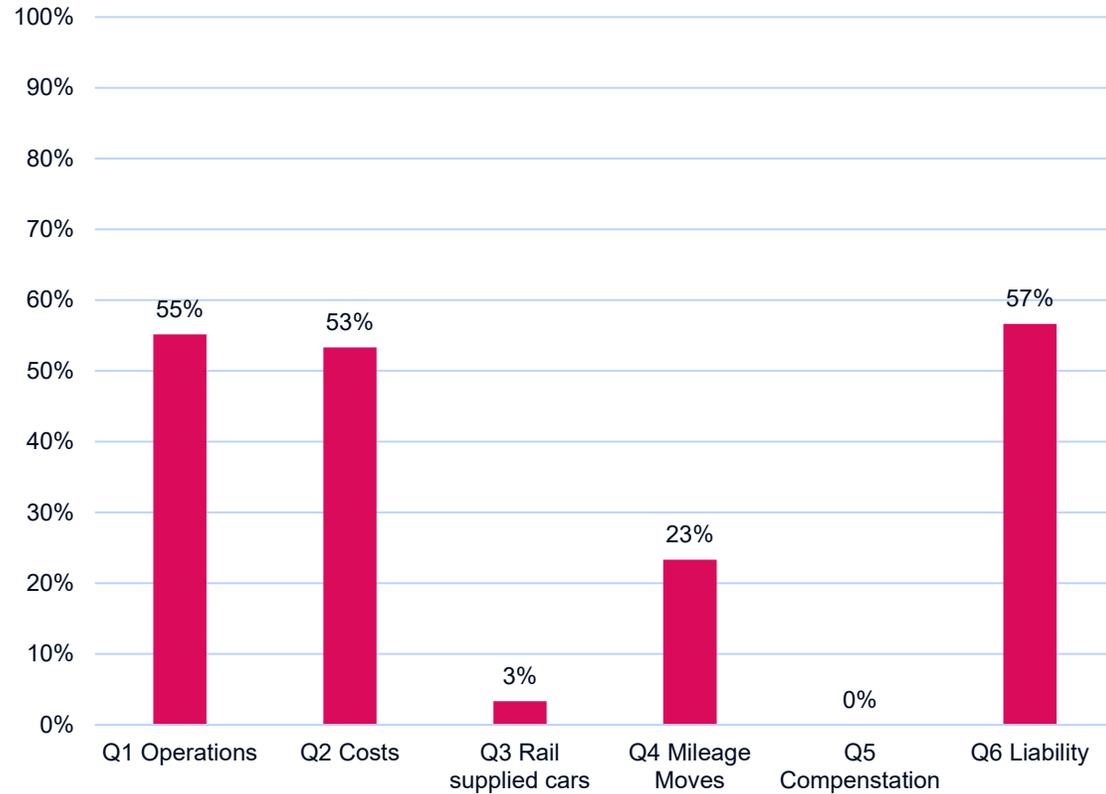
# Industry Trends Supplemental

## Supplemental Questions (yes or no)

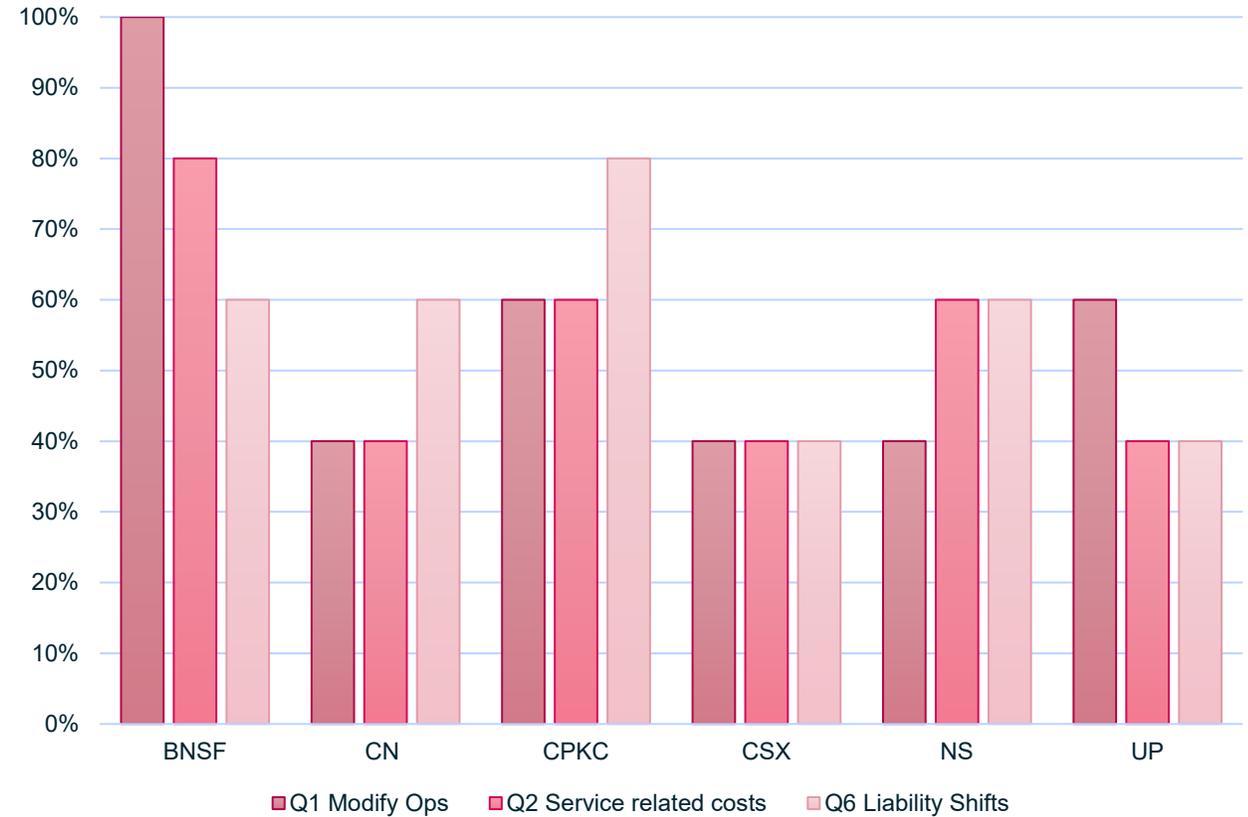
- Have you had to modify operations due to poor rail service?
- Have you incurred service-related costs due to poor rail service?
- Are railroads supply cars for you?
- Are you being fairly compensated for empty movements?
- Have you experience Liability shifts to your company in contract negotiations?

# Industry Trends

### Supplemental Aggregate



### Supplemental Questions (Top Three) by Railroad



# Rail Survey Insights

## Rail Survey Summary – Key Takeaways



Overall rail service remains steady but not great, CPKC performance is worst performer, and CSX is best performer.



Shifting liability, service-related costs and contract negotiations are biggest concerns



All AFPM Members are concerned about the proposed UPNS merger and no AFPM members feel like they are adequately compensated for empty movements

