

# Translating Threat Information into Action: New York State

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**NYSERDA**

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# **Energy Market Monitoring and Industry Coordination: Gathering Actionable Intelligence**

# Energy Market Monitoring

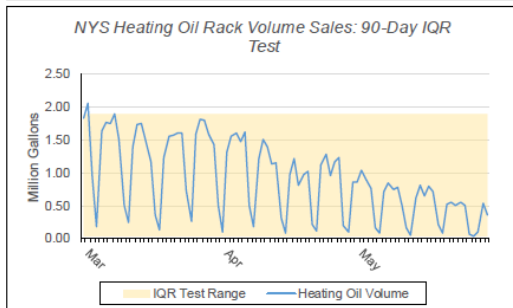
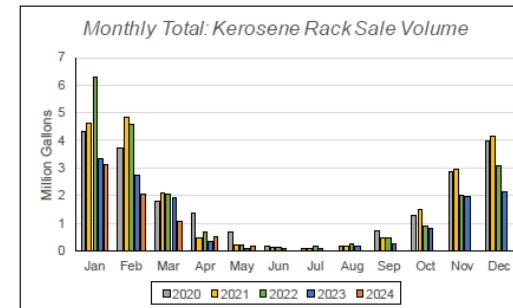
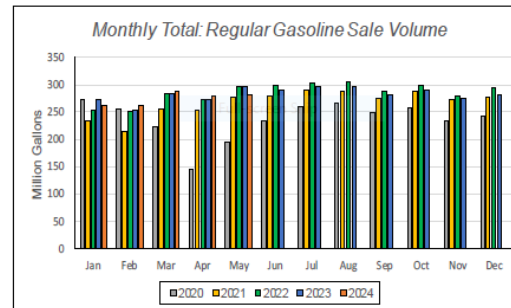
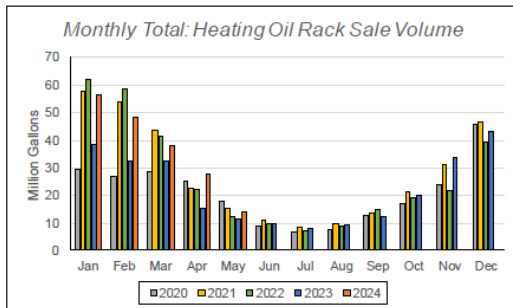
- Energy Market Statistics: EIA – inventories, prices, refineries, imports/exports
- Weather Data – NOAA Climate Prediction Center
- Energy Security – DOE CESER, DHS CISA, NYS DHSES, State Fusion Center
- Energy Market Trade Press: OPIS, Argus, Oil Daily, Butane-Propane News, Bloomberg (pricing dashboard, futures curves)
- Natural Gas Interstate Pipeline Electronic Bulletin Board (EBB)
- Weekly Energy and Fuels Markets Reports to industry stakeholders, partner agencies, and the public
  - Summary, inventories, prices (retail and spot), weather and degree-day outlook
  - <https://www.nyserda.ny.gov/About/Publications/Energy-Analysis-Reports-and-Studies/Weekly-Energy-and-Fuels-Markets-Reports>

# Energy Market Monitoring

Fuel volumes and demand – rack sales volume monitoring (DTN) – statistical analysis looking for patterns and outliers

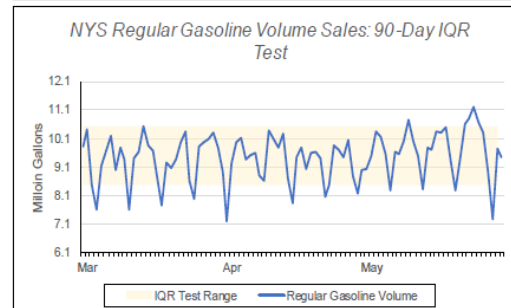
## Rack Sale Volume Monitoring

## Energy Markets



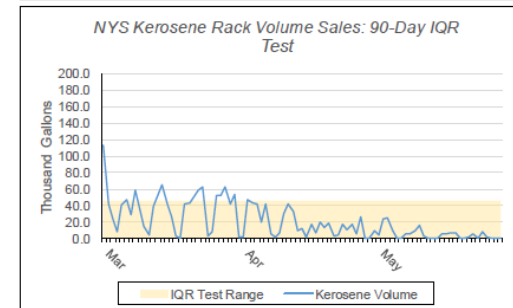
### Heating Oil Notes:

1. Heating oil represents Albany, Binghamton, Buffalo, Long Island, NYC, Newburgh, Rochester, Syracuse, and Utica rack cities.
2. Inter-quartile Range Testing factor is 0.5 for the current season. This may fluctuate due to the greater volumes anticipated to move during the winter.



### Regular Gasoline Notes:

1. Regular gasoline cities represented for NY: Albany, Big Flats, Binghamton, Buffalo, Long Island, NYC, Newburgh, Rochester, Syracuse, and Utica rack cities.
2. Inter-quartile Range Testing factor is 0.50 for the current season. This may fluctuate due to the greater volumes anticipated to move during the winter.



### Kerosene Notes:

1. Kerosene cities represented for NY: Albany, Big Flats, Binghamton, Buffalo, Newburgh, Rochester, Syracuse, and Utica rack cities.
2. Inter-quartile Range Testing factor is 0.15 for the current season and is based on 75th–50th when seasonality bring the 25th percentile to be 0. This may fluctuate due to the greater volumes anticipated to move during the winter. Testing is still undergoing evaluation and may be adjusted.

### Sources:

1. DTN Rack Volume Datasets (subscription access)

# Petroleum Terminal Database

- New York Fuels Regional Resilience Assessment Program (RRAP) led by DHS CISA, NYSERDA, NYS DHSES, and NYS DPS
- Critical petroleum infrastructure across New York State including petroleum terminals, tank farms, marine docks, propane terminals, and storage caverns.
- Database can be sorted and filtered and includes:
  - Facility information (name, address, geospatial coordinates, elevation, contact information)
  - Facility description including fuel types, modes of receipt and distribution (pipeline, rail, truck, barge), waterbody, pipeline
  - Quantitative information – storage capacity, average throughput, service radius, number of truck racks
  - Facility hazards and mitigation measures
  - Electricity information – utility, substation, backup power capabilities
- Can use market intelligence to help determine impact from affected facilities
  - Specific waterbody or specific pipeline, estimates of capacity and throughput offline, identify nearby facilities

# Industry Coordination

## Industry Stakeholder Outreach

### **Fuels Availability and Supply Tracking (FAST) Survey**

- Heating fuel retail outlets (similar to SHOPP survey)
- Quantitative and Qualitative survey
- Quantitative – Score 1 - 5 by region – supply concern evaluation
- Qualitative – specific industry concerns, terminal specific and product specific outages, concerns, and allocations.

### **NYSERDA Energy Resilience and Emergency Preparedness point of contact emails to liquid heating fuels industry and critical infrastructure facility representatives**

- Critical petroleum facilities and industry stakeholders
- Provide situational awareness and intelligence

# Liquid Fuels Risk Rubric



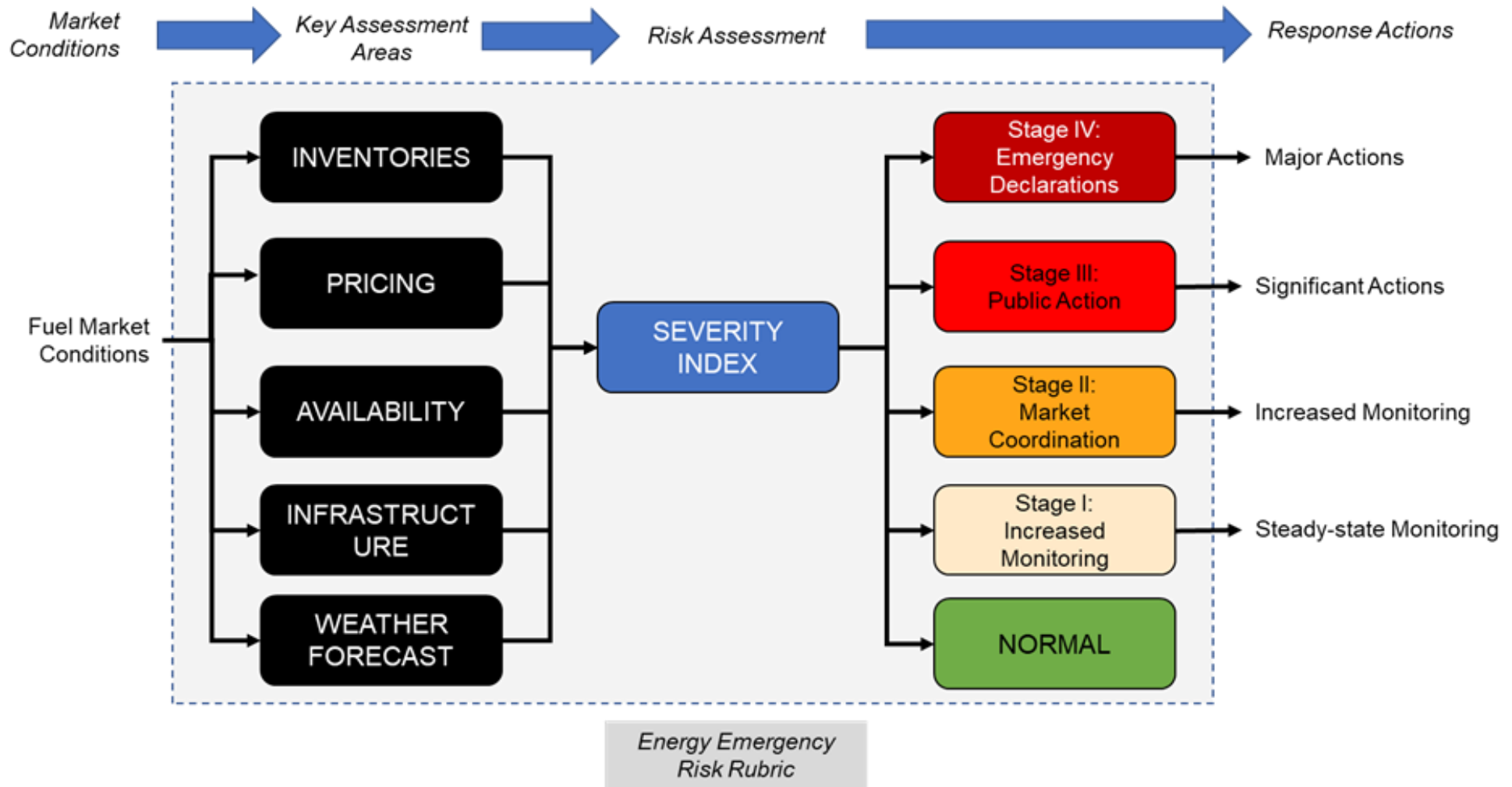
# New York State Liquid Fuels Risk Rubric

**Objective:** *The risk rubric is designed to aid New York State in monitoring fuel market conditions, assessing the severity of fuel supply shortages, and responding to those shortages with appropriate response measures.*

## **Fuels Covered:**

- Petroleum Fuels
  - Gasoline
  - Ultra-low-sulfur diesel (ULSD)
  - Jet fuel
  - Kerosene
  - Propane
- Biofuels
  - Ethanol, which is needed to create finished gasoline.
  - Biodiesel, which, as of July 1, 2023, is required to be added to all heating oil in New York State to at least a B5 blend and must be blended into on-road diesel fuel for New York City owned vehicles.

# New York State Liquid Fuels Risk Rubric



# New York State Liquid Fuels Risk Rubric Severity Index

Severity Index	Description
Normal	Steady state. <b>No concerns.</b>
Stage I: Increased Monitoring	<b>Conditions warrant increased monitoring</b> of one or more portions of the fuel supply and/or distribution system.
Stage II: Market Coordination	Stage II events are characterized by impacts to energy supply chains and/or energy services that are largely remediated by industry with little to no need for support from the state or federal governments. State Energy Offices should enhance situational monitoring to understand if and when greater response actions are needed. <b>There is active coordination between the fuels industry and State agencies to moderate the effects of a potential emergency.</b>
Stage III: Public Action	Stage III events are significant disruptions to energy supply chains and/or energy services with longer timelines for restoration. Response to these events typically exceed local government resources. <b>Industry will also typically seek state government assistance in the form of waivers and resource management to expedite restoration of energy infrastructure or to mitigate impacts on affected populations or lifeline sectors.</b>
Stage IV: Emergency Declaration	Stage IV events are characterized by extensive disruption to energy supply chains and/or energy services with extended or indefinite timelines for restoration. <b>Stage IV events require a massive response at every level of government to assist and expedite restoration and to mitigate the impact on affected populations and lifeline sectors.</b> The Governor declares an energy of fuel supply emergency. Broad emergency powers are granted to the Governor or the Governor's designee.

# Interagency Coordination

# Interagency Coordination

## **New York State Winter Fuels Outlook**

- Annual meeting for state, federal, and city agencies along with industry stakeholders

## **New York and New England Winter Fuels Calls**

- Regional interstate coordination with New England States
- Industry stakeholder representatives
- Federal government agency coordination – DOE CESER/USCG

## **Winter Heating Fuels Calls –**

- NYS DPS/NYSERDA & Natural Gas and Heating Oil representatives.
- Scheduled regularly throughout winter but can schedule additional calls based on weather forecasts and need

## **New York State Multi-Agency Calls**

- Event specific

# Interagency Coordination

## **NYS Extreme Heat and Severe Winter Weather Annexes**

### **Winter Coordination Protocol**

- Department of Public Service (DPS), Department of Environmental Conservation (DEC), NYSERDA, Department of Transportation (DOT), and the NYISO
- Undertaken when electric generation unit fuel supply may be at risk
  - > Generator is low on fuel supply and inability to procure fuel resupply, generator could adversely affect electric system reliability
  - > Fuel supply or transportation availability issues are developing
  - > Weather conditions or forecasts pose risk to fuel availability
- NYISO Fuel Availability Dashboard (Cold Weather Fuel Survey)
- DEC Exception to Sulfur In Fuel – Exception Process
- Fuel Transportation Issues (DOT) – Hours of Service waiver

# Situation Reporting and Past Examples

# Energy Emergency Status Report

*Used during 2022-2023 petroleum market upheaval (price volatility, low inventories) due to conflict in Ukraine*

- **Ongoing Response Actions:** Identify Energy Emergency Stage and provide ongoing actions: NYSERDA actions and Energy Emergency Stages 1-4
- **NYS DHSES and EOC Status:** Steady state to increased monitoring to partial to full activations
- **Industry and Government Coordination:** Completed and upcoming meetings, additional outreach
- **Market Impact Assessment:** Key inventories (distillate and kerosene), pricing (spot and retail, volatility), and critical infrastructure
- **Market, Supply, and Industry Concerns:** Price volatility, supply challenges, truck drivers, dual fuel customers
- **Weather and Storm Monitoring:** Major storms and degree-day forecasts
- **Key Supply Sources:** Refineries (utilization %), pipelines, imports
- **NYS Fuel Terminal Issues:** Power outages, supply run outs, allocation



# Fall 2023 Liquid Fuels Risk Rubric – distillate and kerosene supply concerns

	GASOLINE	ULSD	JET FUEL	KEROSENE	ETHANOL	BIODIESEL	PROPANE
A. INVENTORIES	Total Motor Gasoline	Distillate Fuel Oil	Kerosene - Type Jet Fuel	Kerosene	Fuel Ethanol	Biodiesel	Propane/Propylene
Update Intervals	Wednesdays @ 10:30 AM	Wednesdays @ 10:30 AM	Wednesdays @ 10:30 AM	Last Day of the Month	Wednesdays @ 10:30 AM	Last Day of the Month	Wednesdays @ 10:30 AM
PADD Region	PADD 1B	PADD 1B	PADD 1	New York	PADD 1	PADD 1	PADD 1B
Timeframe	10/13/23	10/13/23	10/13/23	7/1/2023	10/13/23	7/1/2023	10/13/23
Inventories (thousand barrels)	29,468	12,703	12,510	199	6,589	1,368	6,383
% Difference vs 5-yr Avg	-2%	-34%	24%	-45%	-6%	23%	17%
Severity Points	0	2	0	2	0	0	0
B. PRICING - REGIONAL Spot VS. FUTURES BENCHMARK (\$/gallon) - updated on weekdays between 7:30 - 8:30 AM							
Price Date	23-Oct						
Regional Spot Price (NYSERDA Source)	Gasoline (RBOB)	ULSD	OPIS NYH Jet Fuel	OPIS NYH Barge 55Kero	OPIS NY Ethanol Spot	OPIS Biodiesel B100	Butane/Propane Newsletter
Regional Spot Price (NYH)	2.36	3.06	\$ 3.02	\$ 3.58	\$ 2.51	\$ 5.51	\$ 1.03
NYMEX Prompt Month Futures Source	Gasoline - RBOB	Heating Oil	Heating Oil	Heating Oil	Gasoline - RBOB	Heating Oil	Propane - Mt. Belvieu Spot
NYMEX Futures	2.285	3.177	3.177	3.177	2.285	3.177	0.66
Difference	\$ 0.07	\$ (0.12)	\$ (0.16)	\$ 0.41	\$ 0.23	\$ 2.33	\$ 0.37
Severity Points	0	0	0	0	0	0	0
C. FUEL AVAILABILITY							
Status	No Issues	ckeye Rochester Outage (Ten	No Issues	Fast Survey Reporting	No Issues	No Issues	No Issues
Severity Points	0	1	0	1	0	0	0
D. KEY INFRASTRUCTURE STATUS							
Fuels Infrastructure (status)							
Roadways	0						
Terminals	0						
East Coast Refineries	1						
New York Harbor	0						
Hudson River	0						
Port of Albany	0						
Other Ports	0						
Colonial Pipeline	0						
Buckeye Pipeline	0						
Sunoco Pipeline	0						
Railways	0						
Enterprise Propane Pipeline							0
UG Propane Storage							0
Interdependent Infrastructure							
NG Infrastructure	0						
NYISO	0						
Severity Points	1	1	1	1	0	0	0
E. WEATHER FORECAST							
Timeframe	10/24/2023						
Low Temperature Over Next 3-Days (°F)	53.0						
Sum of Upcoming 3-Day Snowfall Forecast (inches)	0						
Severity Points	0						
SEVERITY INDEX (A + B + C + D + E)							
Sum Severity Pts	1	4	1	4	0	0	0
Severity Level	Stage I: Increased Monitoring	Stage II: Market Coordination	Stage I: Increased Monitoring	Stage II: Market Coordination	Normal	Normal	Normal

# Questions and Discussion

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