

2023/24 Winter Outlook Scenarios



Introduction – 2023/24 Winter Scenarios

- The ISO routinely performs scenario assessments to prepare for the winter
- The following slides illustrate the qualitative and quantitative aspects of three scenarios
 - Scenario 1 assumes a mild winter as represented by the 2021/22 winter
 - Scenario 2 assumes a moderate winter, but with a 13 day cold spell, as represented by the 2017/18 winter
 - Scenario 3 assumes a severe winter as represented by the 2013/14 winter
- The ISO's 21-day energy forecast tool will signal any potential energy emergencies, thereby alerting the market to procure necessary fuel replenishments, both to meet their obligation and to protect against scarcity

2023/24 Winter Assumptions

- Peak load for moderate winter is 19,600 MW
- Peak load for severe winter is 20,300 MW
- Behind the Meter PV is ~6400 MW
 - Loads and energy demand are reduced accordingly
- Incremental fuel of ~3Bcf LNG and ~10 million gallons of oil assumed from the Inventoried Energy Program*
 - As a reminder, the 2022/23 assumptions included that the oil inventory would be at ~50% and LNG volumes would be ~31 Bcf
- Imports held at 1500 MW when temperatures dip below 20° F, and vary from 3000 – 4000 MW when temperatures are above 20° F
- No significant, multiple, or long-duration generator or transmission contingencies

*This estimate is on the lower end of expected incremental fuel

Scenario 1 – Mild Winter, Similar to 2021/22

- Winter 2021/22 overview:
 - Milder than normal winter with very few days staying below freezing
 - Average temperature departure from normal was +1.0°F (i.e., warmer than normal)
 - Winter peak load of 19,623 MW
 - Approximately 80M gallons of fuel oil was burned
- Under this scenario, the ISO anticipates that there would be sufficient capacity and energy available to meet the expected peak loads and energy

Scenario 2 – Moderate Winter with a Deep and Prolonged Cold Spell; Similar to 2017/18

- Winter 2017/18 characteristics:
 - Milder than normal outside of a two-week span of significantly below normal temperatures
 - Average temperature departure from normal was +0.5°F degrees
 - The region was impacted by an extended stretch of cold weather between December 25 and January 9; all major cities in the region experienced temperatures below normal for at least 13 consecutive days, of which 10 days averaged more than 10°F below normal
 - Winter peak load of 20,631 MW
- Under this scenario, the ISO anticipates that there would be sufficient capacity and energy available to meet the expected peak loads and energy

Scenario 3 – Cold Winter with Several Cold Stretches; Similar to 2013/14

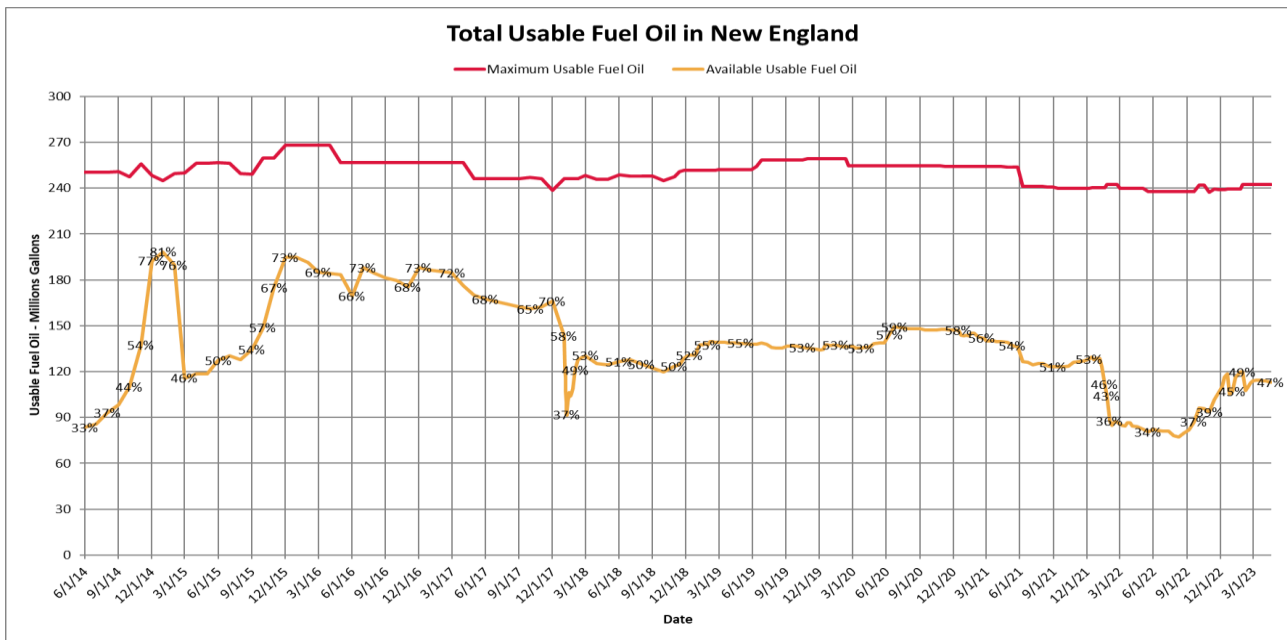
- Winter 2013/14 characteristics:
 - Colder than normal overall highlighted by a polar vortex event which resulted in significant stretches of cold weather in New England and surrounding areas
 - Average temperature departure from normal was -2.3°F degrees
 - The region experienced six cold weather stretches of four or more consecutive days, including a stretch of ten consecutive days at or below freezing
 - Winter peak load of 21,514 MW
 - Significant energy usage caused high demand on both the electric and natural gas systems
- Under this scenario, the ISO expects that capacity deficiency actions under OP-4 may be necessary across a few days
 - OP-7 actions are unlikely to be needed



Other Information



Currently, aggregate Fuel Oil Inventories are close to pre-winter levels



Looking Forward – World Gas Prices

- Current forward prices for European and Asian natural gas are ~\$18 to \$19
 - Prices below are from mid April

Month	Dutch TTF USD/MMBtu	Asian JKM USD/MMBtu	AGT USD/MMBtu
November 2023	18.406	17.970	5.78
December 2023	19.076	19.025	13.71
January 2024	19.217	19.160	17.41
February 2024	19.228	19.145	16.56
March 2024	18.900	16.665	7.47

Winter 2023-24 Preparations

- ISO will model 90-day forward looking energy analysis in advance of the winter and provide an update to stakeholders in October/November 2023
- Winter weather forecast will be an important factor
- ISO will continue its robust communication protocol with stakeholders, states, and federal agencies in advance of the winter
- Inventoried Energy Program will be in place for winter 2023/2024 and 2024/2025