

Chart of the Week #2023-24

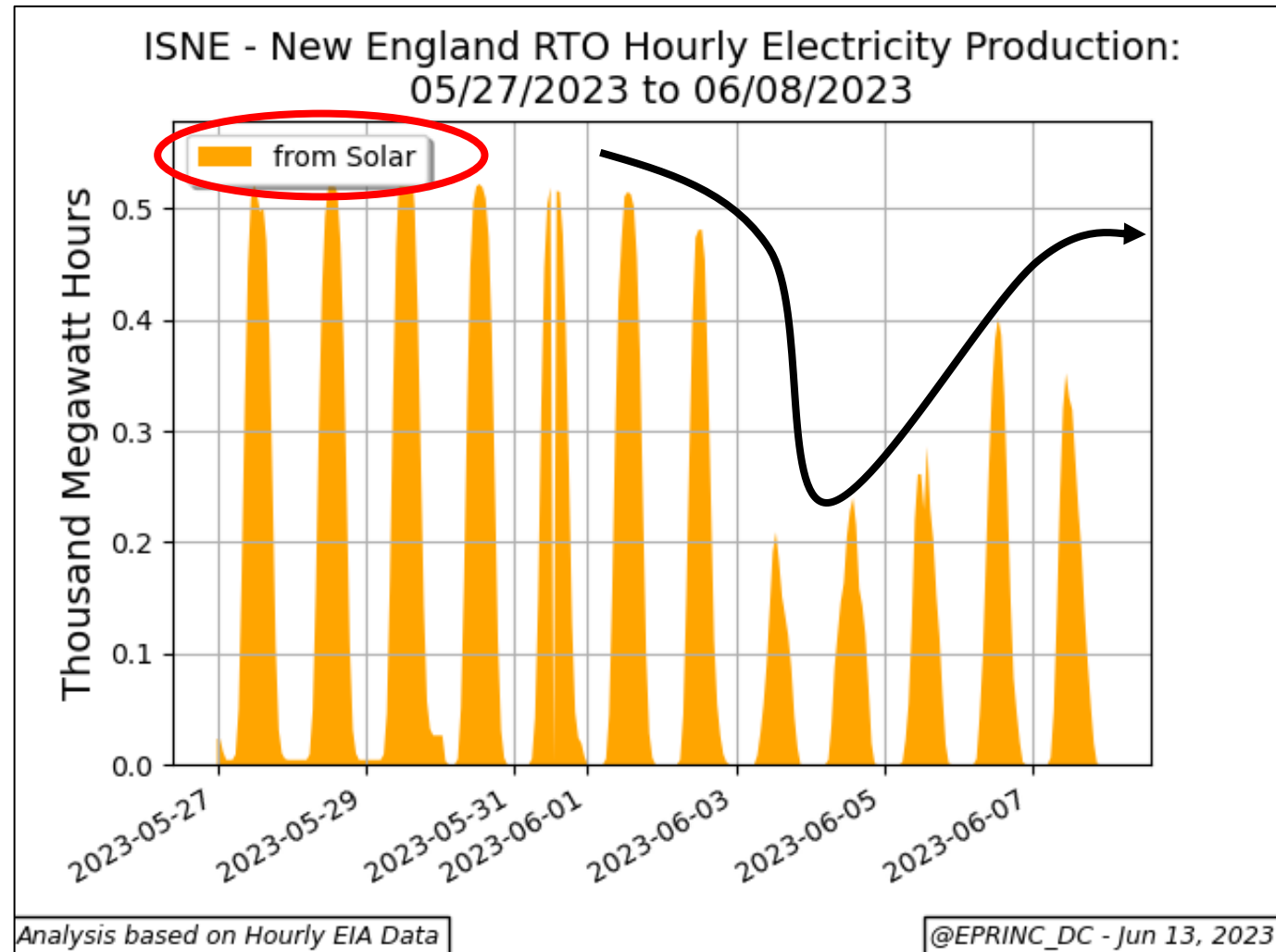
Impact from Canadian Wildfire Smoke On Solar Generation in the Northeastern U.S.

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Washington, DC

smoke

Plumes from the Canadian fires
reaching the American East Coast.
Source: European Union,
Copernicus Sentinel-3 imagery

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- From June 5th through 8th 2023, the Northeastern U.S. experienced intense smoke blown in from Canadian wildfires. While Canadian wildfires are not unusual during this period, weather systems that move smoke southward and maintain it at ground level for an extended three days are.
- During the recent smoke from Canadian wildfires, ISO-NE generated between 40% and 80% of the usual 0.5 thousand megawatt hours during this period.
- With the vast reconfiguration of the U.S. electricity system that began in the 1990s, the six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) formed ISO New England (ISO-NE), an RTO (Regional Transmission Organization) that manages area-wide electricity generation and transmission for the member states.
- In order to lower GHG emissions from electricity generation, most of the ISO-NE states have adopted aggressive RPS (renewable portfolio standards) mandating increasing amounts of generation from solar and wind facilities.
- While ISO-NE's installed solar and wind capacity and generation are small currently, they are required to grow considerably. Maine and Massachusetts' RPS is required to be 50% by 2040; New Hampshire's RPS is conservative at authorizing only 10%. Rhode Island and Vermont are aggressive seeking to raise RPS to 100% and 75%, respectively.
- Monitoring and forecasting weather systems are critical for the integration of increasing renewable generation into grids. Backup dispatchable systems need to be maintained and available in the event of loss of solar or wind generation.
- This slide deck is available at: <https://eprinc.org/chart-of-the-week/>
- For more information on this chart, please contact Max Pyziur (maxp@eprinc.org).