Economic Assumptions for 2024 Regional Transmission Plan (RTP) Economic Study

Julie Snitman, Pengwei Du
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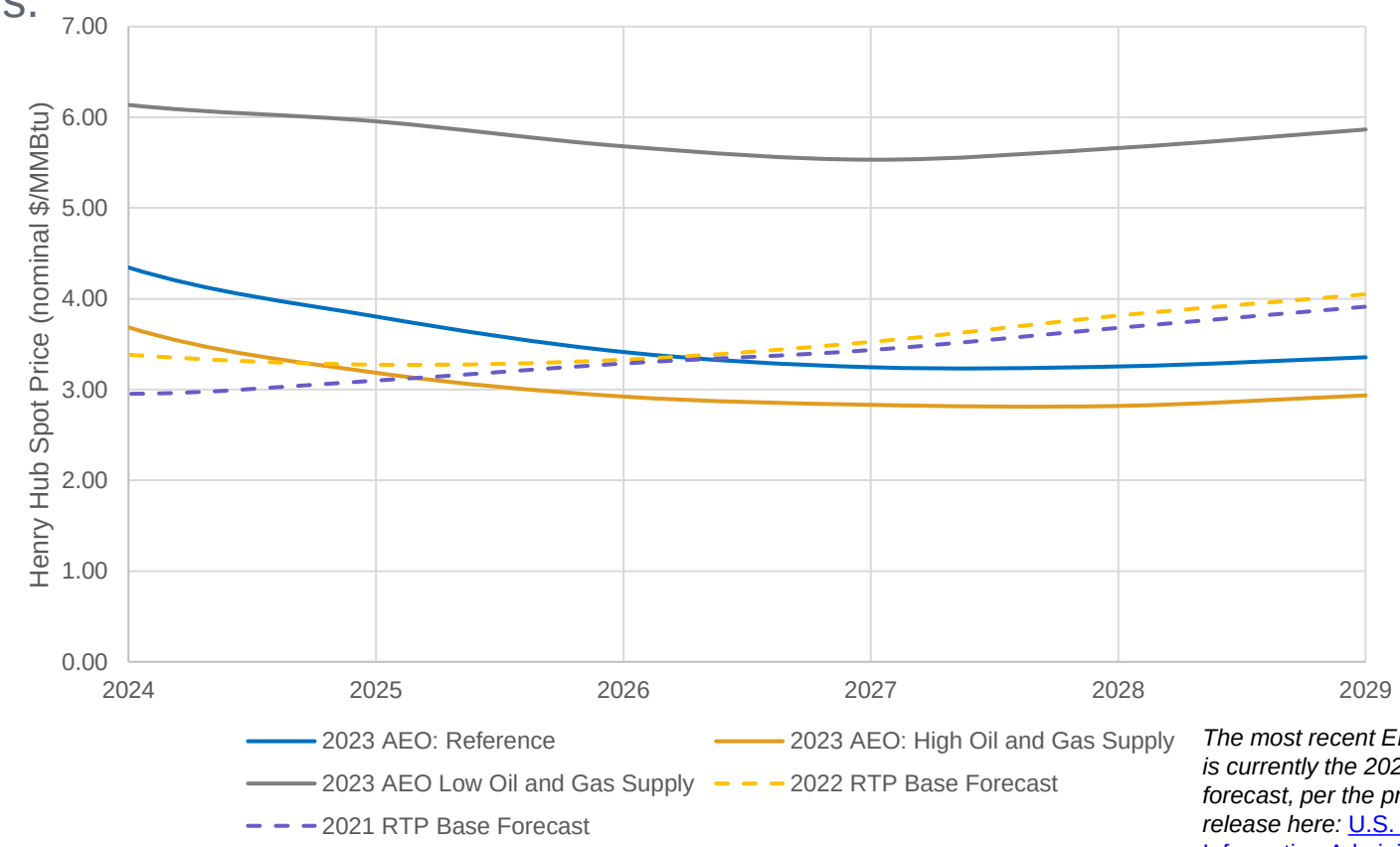
Agenda

- Natural Gas Forecast
- Weather Year Selection
- Emissions Costs
- Rooftop Solar Growth
- Electric Vehicle Charging Profile

Natural Gas Forecast

- The 2023 Energy Information Administration (EIA) Annual Energy Outlook (AEO) reference natural gas forecast will be used in the 2024 RTP economic analysis.



The most recent EIA forecast is currently the 2023 AEO forecast, per the press release here: U.S. Energy Information Administration - EIA - Independent Statistics and Analysis

Weather Year Selection

- 15 weather year scenarios are ranked by demand energy, peak demand, wind energy (Coastal/Panhandle and other), wind capacity factor, solar energy, and solar capacity factor.
- The 2013 weather year, which represents an average weather year measured by the metrics above, is selected as the base weather year for the 2024 RTP economic analysis.

Weather Year Selection

	Gross Demand Energy (MWh)	Gross Peak Demand (MW)	Solar Generation MW	Average of Solar (%)	Coast Wind Generation MW	Other Wind Generation MW	Panhandle Wind Generation MW	Average of Coastal Wind (%)	Average of Other Wind (%)	Average of Panhandle Wind (%)
2011	1	1	1	1	1	1	2	1	1	2
2008	11	9	3	4	3	3	1	3	3	1
2010	3	2	4	3	6	4	9	6	4	9
2014	8	13	10	10	2	2	4	2	2	4
2022	2	4	2	2	10	13	8	10	13	7
2012	9	3	5	5	12	6	7	12	6	8
2013	6	8	6	6	5	12	11	5	11	11
2018	4	7	14	14	7	9	6	7	9	6
2009	10	10	8	8	4	8	13	4	7	13
2020	12	12	11	11	11	7	5	11	8	5
2017	15	15	7	7	8	5	12	8	5	12
2016	13	11	9	9	15	10	3	15	12	3
2019	5	14	13	13	9	11	10	9	10	10
2015	7	6	15	15	13	15	14	13	15	14
2021	14	5	12	12	14	14	15	14	14	15

*2013 will be used as the base weather year.

Emissions Costs

- Texas is a part of Cross-State Air Pollution Rule (CSAPR) Group 2 and only subject to seasonal NOx limits
  - Seasonal NOx apply to the months during "Ozone Season" which are generally March - November in most of Texas according to EPA and TCEQ's website:
    - https://aqs.epa.gov/aqsweb/documents/codetables/ozone_seasons.html
    - https://www.tceq.texas.gov/airquality/monops/ozonefacts.html
- $166 per ton for seasonal NOx for 2024 RTP study
  - https://www3.epa.gov/airmarkets/progress/reports/market_activity_figures.html

Rooftop Solar

- Rooftop solar profile has been created as the hourly power production forecast based on the 2013 weather year.
- This forecast represents the anticipated rooftop solar growth by the study year dates.
- The rooftop solar hourly profile was subtracted from the hourly gross load forecast to calculate the net load forecast.

Study Year	Total Installed Rooftop Solar Capacity (MW)
2026	6,647
2029	7,392

EV Charging Profile

- ERCOT will incorporate the EV charging load in 2024 RTP economic study, per the methodology presented by Brattle at October 2022 RPG meeting.

Season	Peak Charging Power (MW)- 2026	Charging Energy Demand (MWh) - 2026	Peak Charging Power (MW) - 2029	Charging Energy Demand (MWh) -2029
Spring	492	462,730	1,261	1,250,014
Summer	570	549,152	1,467	1,494,444
Fall	570	496,267	1,467	1,340,882
Winter	524	479,611	1,337	1,271,176

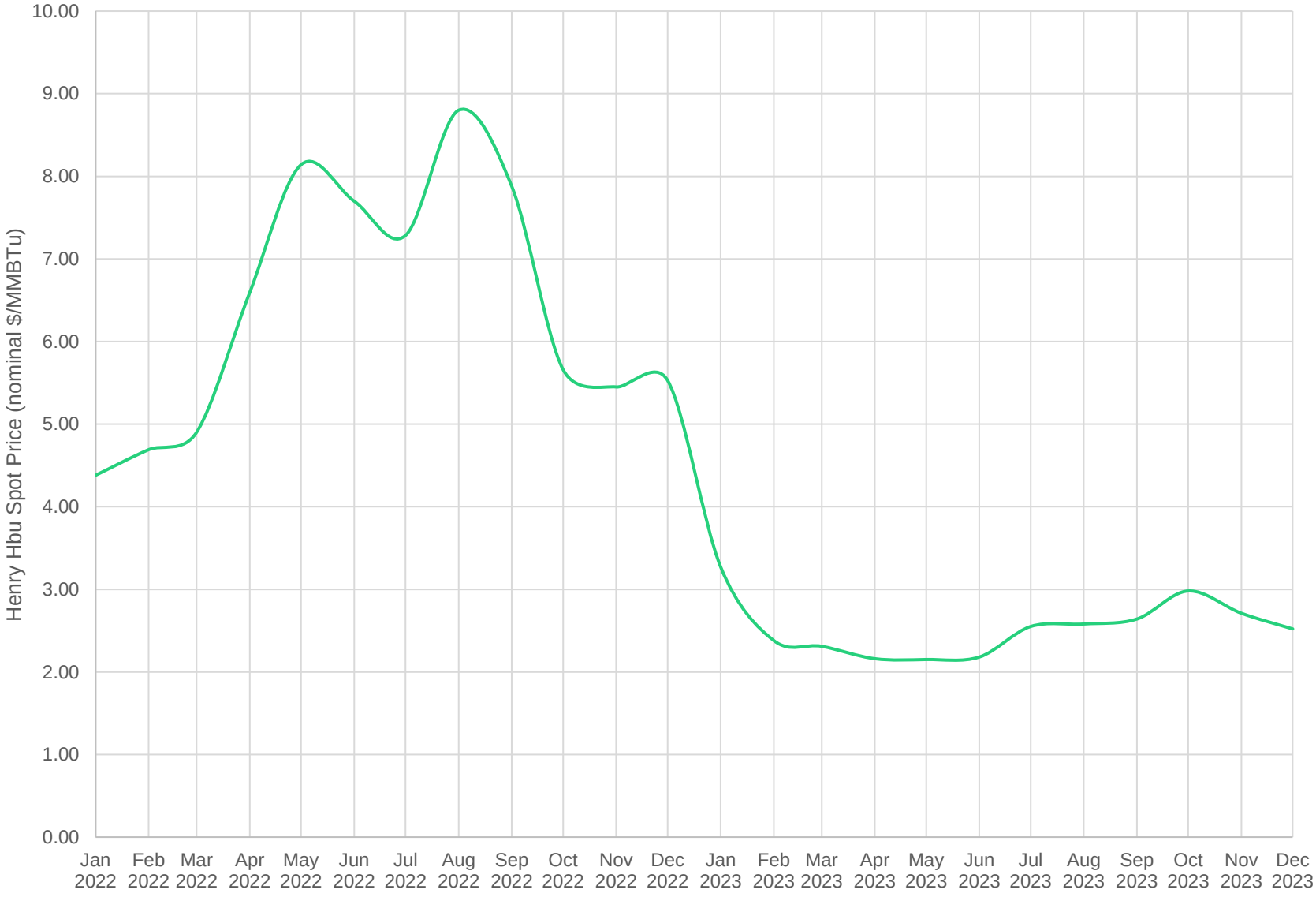
Questions

Pengwei Du: Pengwei.du@ercot.com

Ping Yan: Ping.yan@ercot.com

Appendix

Natural Gas Price Historical Prices (2022-23)



Natural Gas Forecast – Short-Term vs. AEO