



Western NY PPTN Phase 2 Study Assumptions

Dawei Fan

*Supervisor, Public Policy and Interregional Planning
NYISO*

ESPWG/TPAS
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KCC

Public Policy Planning Process

◆ Phase I: Identify Needs and Assess Solutions

- *PSC identifies transmission needs driven by Public Policy Requirements and defines sufficiency criteria*
- *NYISO solicits solutions (transmission, generation, or EE/DR)*
- *NYISO evaluates viability and sufficiency of all solutions*
- *PSC reviews Viability and Sufficiency Assessment and confirms continued transmission need*

◆ Phase II: Transmission Evaluation and Selection

- *NYISO evaluates viable and sufficient transmission solutions to identify the more efficient or cost-effective solution*
- *NYISO issues draft Public Policy Transmission Planning Report*
- *NYISO Board may select a transmission solution for purposes of cost allocation and recovery under the NYISO Tariff*

Phase 2 Evaluation Metrics

◆ OATT Attachment Y 31.4.8.1

- *Capital Cost*
- *Cost per MW*
- *Expandability*
- *Operability*
- *Performance*
- *Property rights*
- *Schedules*
- *Criteria specified by NYPSC*
- *Other metrics (production cost saving, LBMP, demand congestion, load payment, generation payment, emission, TCC/congestion rent, ICAP)*

WNY PPTN Phase 2 Base Cases

- ◆ **Types: power flow, MAPS, and MARS**
- ◆ **Based on the WNY PPTN Phase 1 and the most recent reliability and economic planning databases**
- ◆ **Updated in accordance with NYISO procedures**
- ◆ **Extended by up to an additional 20 years, as appropriate**

MAPS Base Case

- ◆ **Starting point**
 - ***2016 CARIS Phase 2 (2016 – 2034)***
- ◆ **Updates**
 - ***Generation***
 - **Potential updates on Niagara modeling in MAPS: rather than relying on historic generation data, utilize forecasted generation reflecting projected water flows**
 - **Shoreham GT3 >4, and Freeport GT1 out of service**

MAPS Base Case

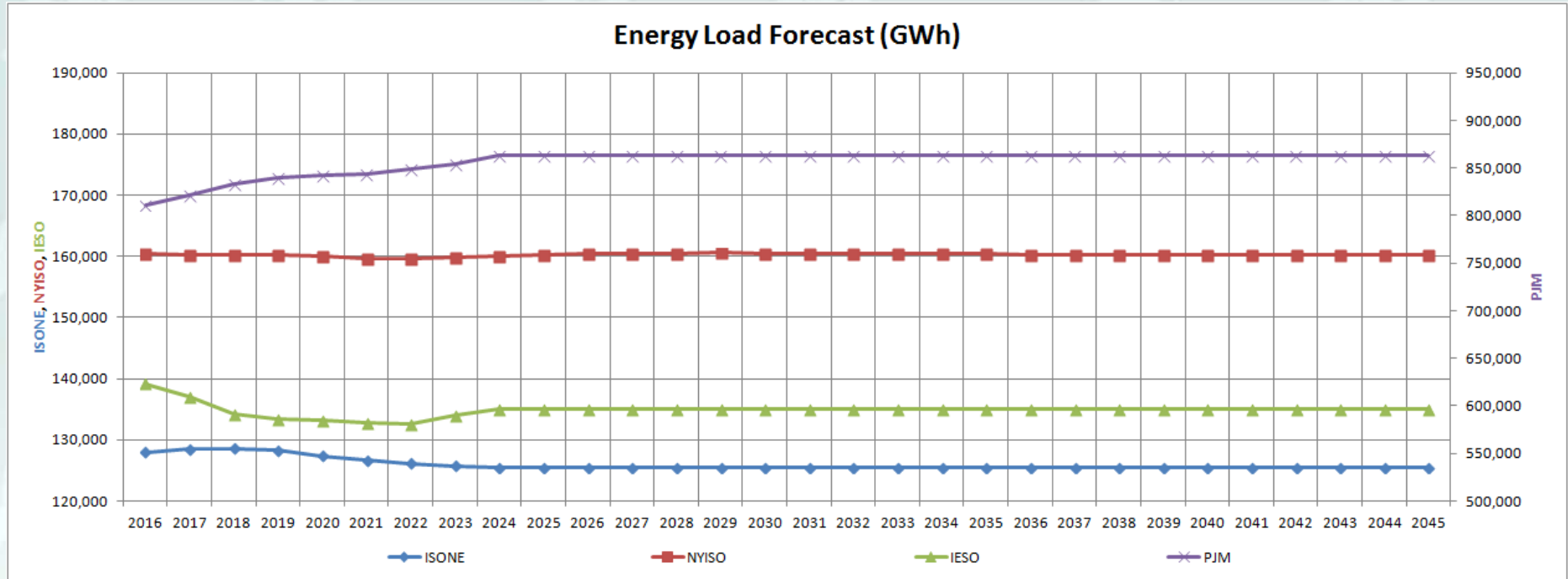
■ *Transmission*

- Stolle - Gardenville 230kV line #66 terminal upgrades – In service
- Clay – Pannell 345kV lines PC1 and PC2 terminal upgrades – proposed in service in 2019
- Oakdale 345/115kV transformer and 345kV bus reconfiguration in service in 2021

◆ **Extensions**

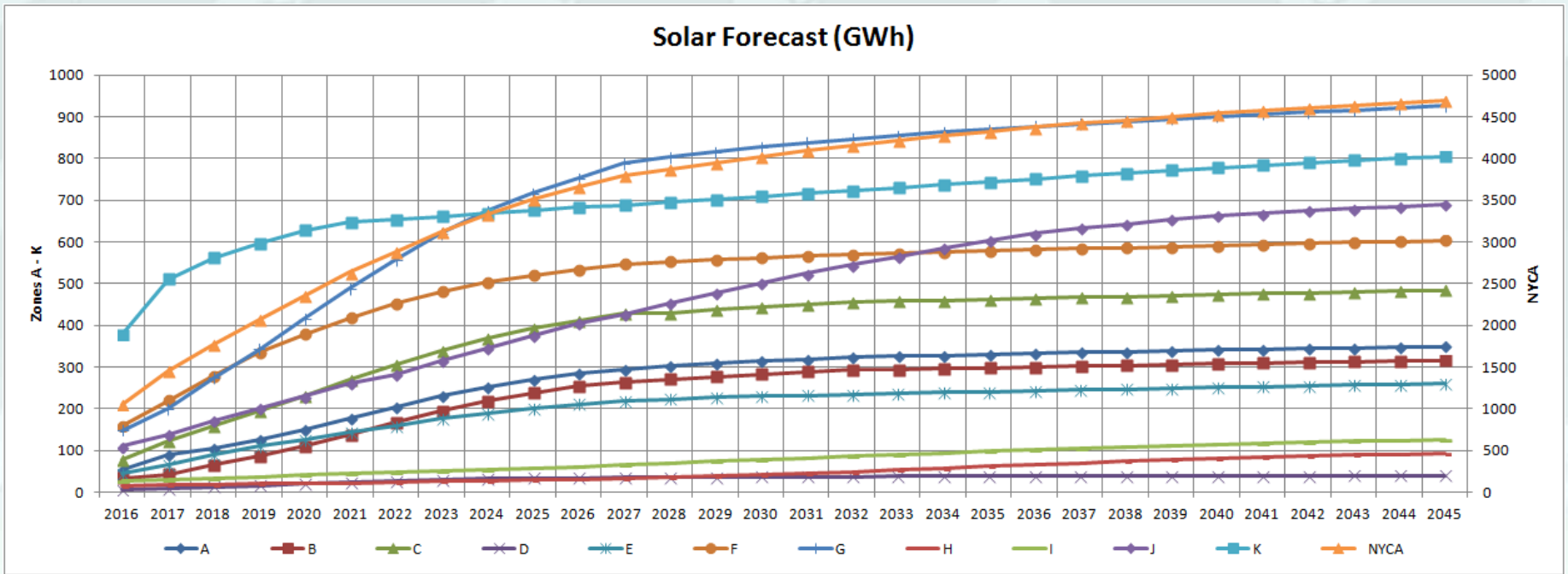
- *Base case period: 2016 – 2045*
- *Compensatory MW to maintain a reliable system*
- *Load, fuel, and emissions*

Baseline Load Forecast

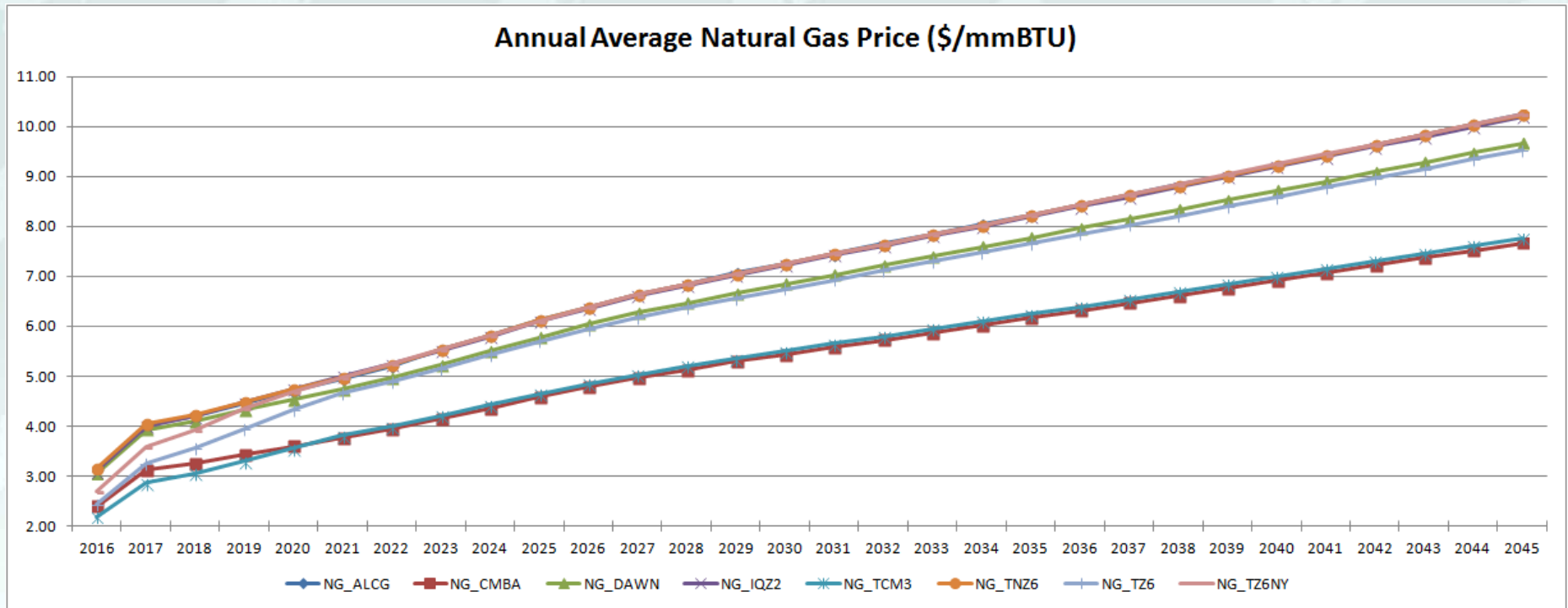


Note: External loads are frozen starting 2024.

Baseline Solar Forecast

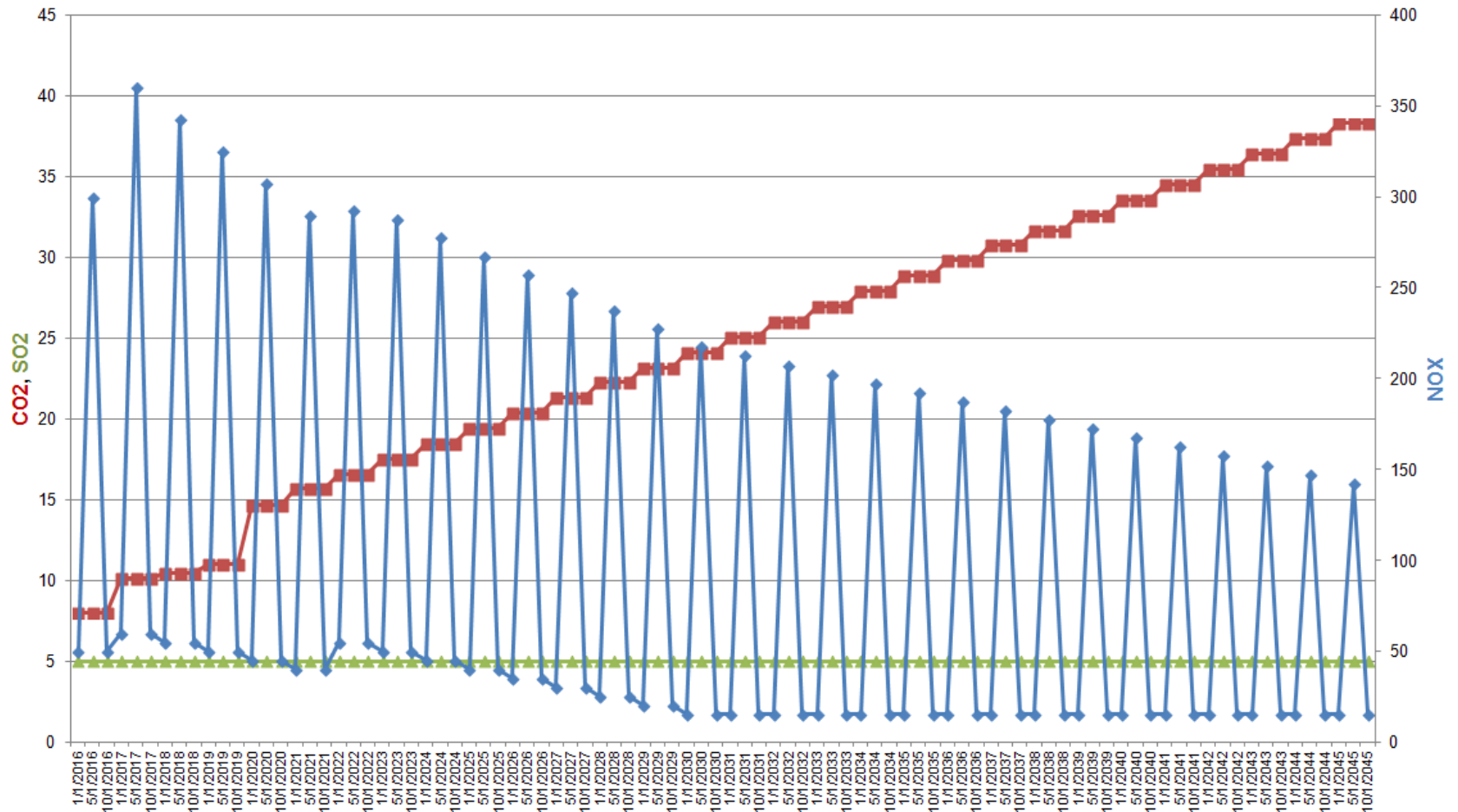


Natural Gas Price



Emission Forecast

Projected Emission Price for New York (\$/Ton)



MARS Base Case

- ◆ **Starting point**
 - *2016 RNA base case*
- ◆ **Updates**
 - *Generation*
 - Shoreham GT3 >4, and Freeport GT1 out of service
 - *Topology*
 - LIPA import/export updates
- ◆ **Extensions**
 - *Study period: up to 2045*
 - *Load*

Power Flow Base Case

- ◆ **Viability and Sufficiency Assessment (VSA)**
 - *2014 CRP baseline (2024 summer) with updates*
- ◆ **Transfer analysis in Phase 2**
 - *Same power flow cases as used in VSA*
 - *Updates in Western NY: Stolle - Gardenville 230kV line #66 terminal upgrades*

Non-BPTF Upgrades for Projects

- ◆ **10/13/2016 PSC Order: The commission expects National Grid to undertake the necessary upgrades on non-BPTF recommended by NYISO.**
 - *Terminal upgrades for Gardenville-Depew 115kV #54 line*
 - *Reconductoring for Niagara-Packard 115kV #193 and #194 lines.*
- ◆ **Modeling of the three non-BPTF upgrades**
 - *The same way for all the viable and sufficient projects*
 - *Back out portions of proposed projects intended to address the overloads, if any.*
- ◆ **Cost of these upgrades not a distinguishing factor for selection among competing projects**

Potential Scenarios

- ◆ **Load forecast**
- ◆ **Natural gas price forecast**
- ◆ **CO2 emission price forecast**
- ◆ **AC Transmission upgrades**

Next Steps

- ◆ **Further questions regarding WNY PPTN evaluation and selection can be sent to PublicPolicyPlanningMailbox@nyiso.com**
- ◆ **12/21/2016: deadline for questions to be submitted to NYISO**
- ◆ **FAQ document will be posted in January 2017**

The mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability*
- *Operating open, fair and competitive wholesale electricity markets*
- *Planning the power system for the future*
- *Providing factual information to policy makers, stakeholders and investors in the power system*

www.nyiso.com



Updates on Western NY PPTN Phase 2 Study Assumptions

Dawei Fan

*Supervisor, Public Policy and Interregional Planning
NYISO*

**ESPWG/TPAS
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KCC**

Overview

- ◆ **NYISO presented “Western NY PPTN Phase 2 Study Assumptions” at the December 7, 2016 ESPWG/TPAS meeting**
- ◆ **Updates on two issues today**
 - *Non-BPTF upgrades*
 - *Power Flow cases for transfer analysis*
- ◆ **FAQ to address all written questions**

Non-BPTF Upgrades

- ◆ **10/13/2016 PSC Order: The commission expects National Grid to undertake the upgrades necessary on the non-bulk system, such as those identified by the NYISO.**
- ◆ **Non-BPTF upgrades recommended in WNY PPTN Viability and Sufficiency Assessment (VSA)**
 - *Gardenville-Depew 115kV #54 line*
 - *Niagara-Packard 115kV #193 and #194 lines.*

Non-BPTF Solutions

- ◆ **In evaluating projects, assume non-BPTF issues resolved per PSC Order**
- ◆ **#54 line**
 - *Include specific National Grid LTP in the pre-project cases to address the issue*
 - *Back out the proposed components intended to address the overloads, if any*
- ◆ **#193 and #194 lines**
 - *National Grid is expected to identify the upgrades prior to the selection*

Non-BPTF Solutions

- ◆ **#193 and #194 lines (cont.)**

- *NYISO evaluation backs out the proposed components intended to address the overloads, if any, and model generic solutions by assuming adequate ratings*
- *NYISO will include the upgrades as part of the Public Policy Transmission Project*
- *Per PSC Order, cost of these upgrades not a distinguishing factor for selection*

Power Flow

- ◆ **VSA: 2014 CRP baseline with updates**
- ◆ **Transfer analysis in Phase 2**
 - ***Baseline:***
 - **Start with the VSA power flow case**
 - **Updates: Stolle - Gardenville 230kV line #66 terminal upgrades, and LTP for line #54**
 - ***Scenarios:***
 - **Other recent updates could be captured**
 - **Can be considered when selecting a project**

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