Updates
> Approach to Natural Gas

Discuss and resolve process and organizational issues
> Scope of Work Topics
> Subgroups
> Principles

Discuss and resolve the engagement we want with others

Finalize Work Plan

Overview of various studies (recent and current) under way at State agencies
New Proposal: Approach to Natural Gas

> Power Gen panel
  • Transitioning power system from natural gas to carbon-free power, while maintaining system reliability. Includes exploration of options such as hydrogen, renewable natural gas, CCUS, synthetic methane etc.
  • Leaks in natural gas infrastructure

> Energy Efficiency & Housing panel
  • Transitioning buildings from natural gas (e.g., for space and hot water heating) to renewable solutions (e.g., electrification, geothermal heat pumps)

> Just Transition panel
  • Impact of natural gas transition on workforce, including job creation and retention and workforce development to plug skills gap

> Other panels
  • Explore transitioning from natural gas as needed
## Scope of Work Topics

### Resource Mix
- Electrification of Buildings and Transportation
- Natural Gas System
- Downstate Peakers
- Instate Renewables
- Regional Connections (beyond NYS)
- Downstate Renewables
- Resource Transition/Ramping Fossils Down
- Energy Conservation
- Local/DER
- Energy Storage

### Solutions Needed for Future
- Reliability of the Future Grid – Storage, Flexible/Dispatchable Resources
- "Last" Clean Megawatts (Final X%)
- Encouraging the Needed Investment
- Markets for the Future (Including Resource Adequacy, Carbon)
- Needed Innovation
- Energy Delivery

### Equity
- Equity - access to clean solutions
- Community impacts
- Affordability
- Jobs/Prevailing Wage/Equity of access

### (Potential) Barriers
- Clean Energy Siting
- Energy Delivery
- Interconnections

### Discussion:
- Leave possible “split” of Resource Mix up to that subgroup?
- Maintain Equity as a subgroup or imbed within all topics as an underlying principle instead?
# Areas of Cross-Panel Engagement

<table>
<thead>
<tr>
<th>Topic</th>
<th>Panel</th>
<th>Time/Date</th>
<th>Format</th>
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<td>Vehicle Electrification</td>
<td>Transportation Advisory Panel</td>
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<td>Building Electrification</td>
<td>Energy Efficiency &amp; Housing Advisory Panel</td>
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<td>Clean Energy Siting and Power Plant Site Reuse</td>
<td>Land Use &amp; Local Government Advisory Panel; Agriculture &amp; Forests Advisory Panel</td>
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<td>Energy Jobs Transition</td>
<td>Just Transition Working Group</td>
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<td>Resilience &amp; Adaptation</td>
<td>Land Use &amp; Local Government Advisory Panel</td>
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## Subgroup Membership

### Power Generation Subgroups:

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>John Rhodes</th>
<th>Corinne DiDomenico</th>
<th>Cecilio Aponte</th>
<th>Rory Christian</th>
<th>Betta Broad</th>
<th>Lisa Dix</th>
<th>Annel Hernandez</th>
<th>Kirt Kennedy</th>
<th>Emilie Nelson</th>
<th>Shyam Mehta</th>
<th>John Reese</th>
<th>Stephan Roundtree</th>
<th>Jenn Schneider</th>
<th>Darren Suarez</th>
<th>Laurie Wheeelock</th>
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<tr>
<td>Resource Mix</td>
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### Work with Other Panels:

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<thead>
<tr>
<th>Panel</th>
<th>Siting</th>
<th>Building Electrification</th>
<th>Transportation Electrification</th>
<th>Energy Job Transition</th>
<th>Adaptation and Resilience</th>
<th>CJWG and EJAG</th>
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Subgroup/Panel Structure

> **Subgroup Role**
- Teams that own the work of digging into the topics, wrestling with the issues, and actively engaging (educating, briefing, discussing) with the Panel as a whole
- **Discussion**: Means that both subgroup and whole Panel will have a voice. OK?
- Will also engage with other panel subgroups to work topics of mutual interest
- Meetings do not have to be public, but notes should be taken to provide to the Panel and for public posting

> **Landing our recommendations**
- Aim for consensus where possible and document dissenting views where necessary
- Consensus by simple majority

> **Panel Member Input**
- Invitation to share your views on topics and priorities in writing in the next week
- Will be incorporated into 2-page issue briefs to advance discussion of topics and recommendations
Principles

- Reliability
- Equity
- Cost
- Clean
- Timeliness

**Discussion:**
- Expand upon Equity to include Affordability, Job Creation and Community?
- Develop into phrases?
External Engagement

> Panel Email
  • General account established for public input: PowerGenPanel@dps.ny.gov

> Public Forum – for Discussion
  • January 2021 forum to receive broad based public input on emerging recommendations

> Key Group Engagement – for Discussion
  • Should we convene specific groups?
  • Are there speakers we should invite?

> Public Meetings – for Discussion
  • Approximately monthly meetings are scheduled through March (with 2 meetings in November and February)
  • Need to determine topics for discussion
Finalize Work Plan

> **Approach**
  - Staff Team to update Work Plan that was circulated Oct. 2\textsuperscript{nd} to reflect this discussion, including:
    - Scope of Work Topics
    - Areas of Cross-Panel Engagement
    - Subgroup Membership
    - Subgroup/Panel Structure
    - Principles
    - External Engagement

> **Schedule**
  - Friday Oct. 23: Circulate revised Work Plan
  - Wednesday Oct. 28: Panel members provide feedback or approval of revised Work Plan
  - Friday Oct. 30: Finalize Work Plan for public posting
Studies Under Way

> **Electrification**
  - Carbon Neutral Buildings Roadmap, Building Electrification Roadmap, and Clean Transportation Roadmap underway
  - Anticipate engagement on building studies starting in November
  - Engagement on transportation study likely in 2021

> **Power Plant Inventory**
  - The JTWG has formed a subgroup (which includes John Rhodes) on the power plant-related work
  - Subgroup will be meeting to advance key deliverables:
    - Power plant inventory
    - Identification of opportunities and issues presented by site reuse
  - Preliminary insights anticipated in December
  - Envision close cross-panel engagement between JTWG and Power Gen on this work

> **Grid Modernization**
  - Studies underway with anticipated Q1 2021 results
Grid
Modernization
Presentation
Bulk vs Distribution System

BULK SYSTEM
• Generation: NYISO administers market for large facilities (typically > 5 MW)
  • Independent competitive generators
  • NYISO operates competitive electric wholesale markets
• Bulk Transmission: NYISO administers planning for the Bulk Power Transmission System (generally 230 kV and above)
  • FERC sets rates for bulk system investments
  • NYS transmission facilities primarily owned by NYS utilities, along with independent developers

DISTRIBUTION SYSTEM
• Local transmission and distribution carried out by regulated utilities, PSC as regulator
• PSC approves funding of local transmission and distribution investments
  • Duty to ensure reliability at “just and reasonable rates”
• Retail activities: Carried out by utilities as well as independent energy service companies
Rate Case Process

• Primary mechanism for establishing utility capital and operating expenditure levels
  • Public window for guiding utility expenditures
  • Opportunity to receive comments on the implementation of the State priorities
  • Expert testimony provided by staff and interested parties; Commission decision based on full record though settlement or hearings
  • Balance between investments for system reliability, implementation of state programs and rate impacts to consumers

<table>
<thead>
<tr>
<th>NYS Electric Utility Operating Revenues ($000)</th>
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<tbody>
<tr>
<td>Central Hudson                                $ 529,240</td>
</tr>
<tr>
<td>Con Edison                                    $ 8,086,284</td>
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<tr>
<td>National Grid                                 $ 2,614,978</td>
</tr>
<tr>
<td>NYSEG                                         $ 1,239,136</td>
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<tr>
<td>Orange &amp; Rockland                             $ 480,601</td>
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<tr>
<td>PSEG-LI                                       $ 3,604,153</td>
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<tr>
<td>RG&amp;E                                          $ 603,886</td>
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<tr>
<td>Total                                         $ 17,158,279</td>
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</tbody>
</table>
Notes:

- All bills are at 600 kWh per month except Con Edison NYC which is at 300 kWh.
- For upstate companies, taxes represent approximately 15% of the total monthly bill.
- For Con Edison, taxes represent approximately 25% of the total monthly bill.

Bill Assistance:
- 927,000 Customers,
- $237 Million
Recent Statewide Reliability Metrics

Statewide Five Year Frequency History
(Excluding Major Storms)

Statewide Five Year Duration History
(Excluding Major Storms)

Note: Con Edison Has Significant Underground Facilities
Integration of New Resources

• **Goal**: Integrate Reliably and Cost-effectively

• Non-wires Alternatives
  • Utilities applying NWA suitability criteria to capital plans to identify potential NWAs
  • Currently over 40 NWAs are being pursued or under consideration

• Distributed Energy Resources
  • Solar target - 6000 MW by 2025
    • Over 2400 MW installed
    • Approximately 4700 MW in utility queues
  • DPS staff ombudsman and interconnection working groups
  • Access to compensation through both retail compensation and NYISO markets
Integration of New Resources (continued)

• Storage
  • Target: 1500 MW by 2025; 3000 MWs by 2030
    • 936 MW operational/awarded, all programs
    • Approximately 1200 MW in utility queues
  • Utilities also pursuing storage projects through rate cases or PSC proceedings
  • Use cases:
    • Customer sided
    • Distribution system
    • Bulk system
Integration of New Resources (continued)

• Beneficial Electrification
  • Electric Vehicles
    • PSC Make-Ready Order
      • Provides for utility funding of EV charging station through 2025
      • Sized to meet the NYS ZEV goal
      • Locational/System considerations
  • Building Electrification
    • PSC Order
      • Established targets and budgets for heat pumps
      • $454 million in funding to achieve 3.6 TBtu
NYS Electric System Planning

• CLCPA
  • Establishes targets for the reduction in greenhouse gas (GHG) emissions, renewable generation, and development of off-shore wind
  • Need to site renewable energy in a timely, balanced and cost-effective manner

• Accelerated Renewable Energy Growth Act
  • Expand and streamline renewable energy deployment
    • Office of Renewable Energy Siting
    • Build Ready
    • Power Grid Study & Investment Plan
NYS Electric System Planning (Power Grid Study)

• Power Grid Study & Investment Plan
  • PSC to establish State transmission and distribution plans to meet CLCPA goals
    • May 14, 2020 PSC Order (C. 20-E-0197) - initiated planning proceeding
  • System studies needed to inform the Plan are underway
    • Three components of Power Grid Study
      – 100x40
      – Offshore Wind
      – Utility Local T&D
  • Initial results due end of 2020
  • In early 2021,
    • PSC will identify bulk level and local T&D investments and needs
    • Establish guidelines for integrating CLCPA goals in utility planning processes
  • PSC will revisit the plan and progress toward CLCPA goals by January 1, 2023 and every 4 years thereafter
NYS Electric System Planning (Power Grid Study)

• 100x40 Study  
  • Objective – evaluate transmission, generation and storage scenarios for meeting New York’s 100% carbon free electricity goal by 2040 in a manner that provides adequate, reliable and lowest system cost service to New York’s electric consumers  
  • Preliminary results expected by end of 2020

• Offshore Wind Study  
  • Objective – recommend long-term transmission and storage strategies to the state that will best support the development of 9 GW of OSW by 2035 in a manner that provides adequate, reliable and lowest system cost service to New York’s electric consumers. Preliminary results expected by end of 2020  
  • Preliminary results expected by end of 2020
NYS Electric System Planning (Power Grid Study)

• Utility Distribution & Local Transmission Study
  • Objective – NYS utilities will develop proposed distribution and local transmission upgrades that will help the State achieve the targets of the CLCPA
    • Submit proposals for selecting, prioritizing, and funding
    • Identify advanced technologies
  • Report due November 2, 2020
  • Commission action expected early 2021

• Stakeholder Engagement
  • October Technical Conference
  • November Technical Conference
NYS Electric System Planning (NYPA PTPs)

- July 2 NYPA/DSP petition
  - Criteria for identifying PTP and Northern NY PTP
  - Commission decision – October
    - Adopted criteria for identifying priority transmission projects
    - Identified NYPA’s proposed Northern New York project as a PTP
      - Benefits economy in Northern NY, unlocks between 950 to 1,050 MW of clean energy, avoids 1.16 million tons of CO2 emissions annually and save $447 million in annual congestion costs

- July 13 NYPA petition
  - Western NY PTP
  - No action taken yet
NYS Electric System Planning (PPTPP)

• LIPA July 30 PPTN Referral Letter
  • LIPA determined a transmission need exists on LI driven by 2018 PSC OSW Standard
  • Requests that the PSC refer the Public Policy Transmission Need to the NYISO for solicitation and evaluation of potential solutions

• NYISO Public Policy Transmission Planning Process
  • 2020 cycle initiated August 2020
  • 15 proposals were submitted by October 2 identifying transmission needs being driven by Public Policy Requirements for which transmission solutions should be requested and evaluated
  • PSC to determine whether there is a Public Policy Transmission Need
Questions?