Transmission for Renewables:

Optimizing Transmission Investments in Support of New York State’s Renewable Energy Goals

Renewable Energy & Transmission Town Hall
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Today’s System

Interconnection points that can efficiently accommodate large renewable generation project in upstate NY are becoming much harder to find.

Generation development and transmission development are siloed.

New flow patterns across networks are creating the growing issue of curtailments in renewable generation.

Generation development continues to outpace those of transmission investments.

Result: Sub-optimal solutions for rate payers.
National Grid has examined parts of its local network (The *Byways*) and focused on creating upgrades that are able to deliver renewable resources to the Bulk Transmission (*The Highways*).  

- Light load conditions
- Minimize curtailments
- Operational Load Flows / Production Cost models.
- Optimally sized upgrades using a REC based Benefit approach

**Multi-Value Transmission** (MVT) are network solutions that effectively address both traditional utility needs and State transmission needs. MVT is largely a *Byway solution*

In some cases the *least cost* Byway solution is a greenfield project used to deliver renewables; Collector Stations... *IRP (Integrated Resource Planning)*
Future of Transmission Planning

The Accelerated Renewable Energy Growth and Community Benefit Act (the Act) specifically identifies processes to address Bulk Transmission upgrades.... *Highway needs.*

- Supports broader market efficiencies
- Supports Highway deliverability
- Supports any interconnection at 200kV and above.

*There is still a gap on how best to address Byway needs.*

- **Market Based IRP** = Generation awards and Transmission planning are no longer siloed.
  - Generation sites are known
  - Transmission needs are developed
  - Generation deliverability is known
  - Scale economies - provides the lowest delivered $/MWh
  - Caps RECs to the know export quantity
  - Overseen by the State

- Challenges
  - Cost Allocation?
  - Cost Recovery?
  - Total Cost will be transparent
  - Generator Collaboration?
  - No physical rights
  - Overseen by the State

National Grid