

Interconnection Workshop Discussion

PRESENTED TO:

The PJM Interconnection Workshop

PREPARED BY:

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PREPARED FOR:

The American Wind Energy Association

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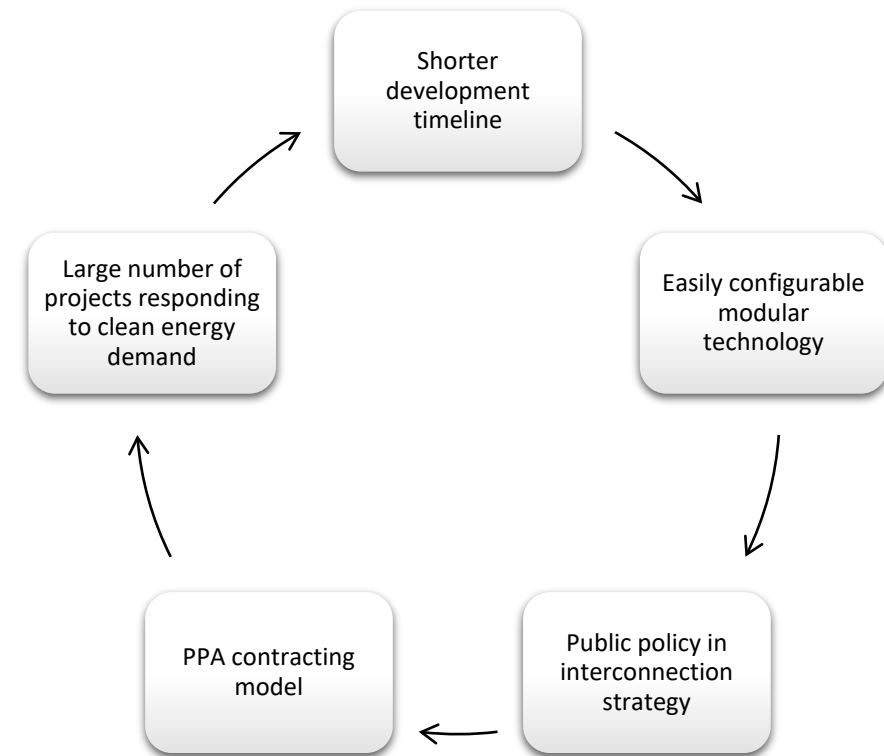


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Optimizing planning and interconnection processes for changing industry

- Transmission expansion enables clean energy transformation
- 20-year-old interconnection process developed to provide open access for large centralized generators
- Many factors are contributing to an increasingly unsustainable queue process
- Negative feedback loop created when developers seek different strategies to manage significant study delays
- Tangible need to improve queue administration near-term and vet broad reforms over mid- and long-term

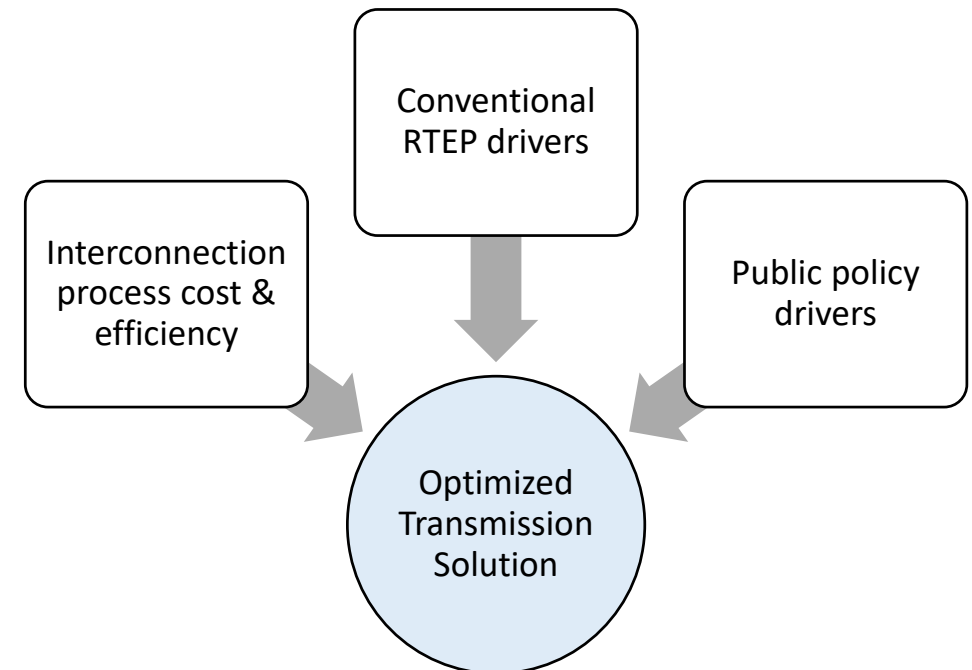


- **Need to adopt first-ready-first served interconnection policy**
 - Ensure projects are ready when entering queue
 - Use collateral requirements as a “carrot” and a “stick”
- **Existing tools can solve tension between developer flexibility and efficient queue administration**
 - “Skin in the game” materially impacts development strategy
 - Link collateral at risk to upgrade cost estimate
 - Add resources to process interconnection customer studies
- **Timely, reliable, and “bankable” interconnection studies**
 - Improve quality of Feasibility Study report to make results a viable “off ramp”
 - Opportunity to streamline and combine ISA/CSA documents
- **Transition to queue clustering model to more efficiently manage study process**
 - Well accepted paradigm used successfully in neighboring regions
- **A need for improved and better functioning, beneficiaries-based cost allocation methodologies**
 - Consider interconnection costs and timeline as potential driver for conventional transmission planning solutions

For Discussion: Conceptual Longer-Term Optimization Framework

Optimizing interconnection process and transmission planning functions

- There is a need to harmonize interconnection and transmission planning drivers
- This concept offers one way of starting to think through ways to do so
- Public policy and aging infrastructure replacement likely primary drivers of transmission development in absence of material load growth
- Cost allocation to interconnection customers that benefit from enhanced transmission solution
- Ensure process focuses on “best value” solutions



Note: This concept is offered for discussion purposes only and is not an AWEA endorsed proposal at this time

Example for Discussion: Existing 230 kV Line Replacement



- Aging infrastructure replacement issues are pending before FERC (this presentation takes no position on those issues)
- New PJM planning process determines that expanding aging infrastructure replacement solution to build a new 345 kV line provides more efficient solution for interconnection customers
 - Planning and cost allocation for allocating estimated cost of of 230 kV aging infrastructure replacement project as determined in pending FERC orders
 - Incremental cost of 345 kV line allocated to beneficiary interconnection customers
 - Interconnection customers post restricted collateral for project's share of incremental costs
- Example
 - 230 kV cost \$25 million
 - 345 kV line costs additional \$20 million
 - 10 interconnection customers benefit, each assigned a share of the incremental \$20 mm