

**RWE**

# **PJM Generation Interconnection Workshop #2**

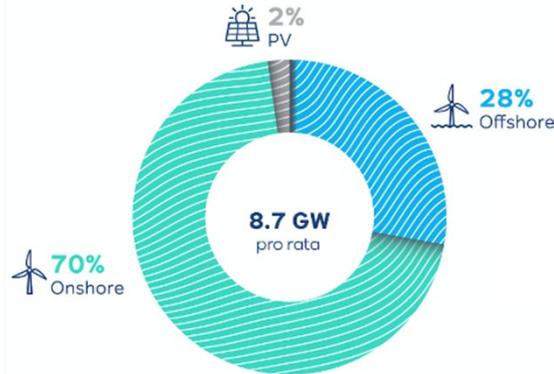
**RWE Renewables Americas Input**

12/11/2020

# RWE: international, future-oriented and broadly positioned. Ideal conditions for clean, reliable and affordable electricity.

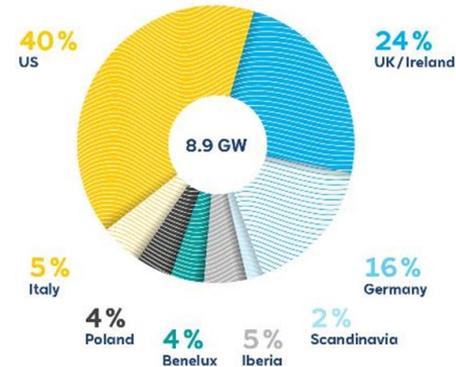
## A diversified portfolio ...

- Renewable capacity by technology



## ... and a global presence ...

- Renewable capacity by country



... ensure a strong starting position in the renewables market,  
and support the company goal of being climate-neutral by 2040.

# PJM Interconnection Process

## Continuous Improvement and Increasing Challenges

**RWE's view is PJM should improve upon the existing process (rather than a complete overhaul).**

- RWE identifies five main areas of improvement:
  - Queue volume management
  - Schedule optimization
  - Mechanisms to Incentivize Shared Upgrades
  - Affected Systems Coordination Improvement
  - Public Policy and Multi-Driver Upgrades
- At this stage PJM should compare its process with other RTO/ISO's in the Country, and identify best practices.

# Interconnection Process Main Goals For Interconnection Customers (“IC”)

## Predictable schedule and COD



- Long process that can take five years or more from queue entry to Commercial Operation.
- Need to align this schedule with permitting, procurement, financing, construction etc.
- Firm deadlines with offtake and to be eligible for tax credits.

## Economic Upgrades and Budget



- A project cannot fully know its network upgrades and costs at queue entry.
- However, we expect clear, fair and reasonable cost allocation and cost causation rules.
- If upgrades bring other benefits (public policy support, economic or reliability benefits) cost allocation rules should reflect that.

## Quality Interconnection Product and Service



- Studies need to be accurate and replicable.
- Projects needs to connect reliably and with minimized risk of congestion and curtailment.
- Network upgrades, if needed, should be identified as part of the interconnection process.
- Uncertainties addressed before signing an ISA.

# Improvement Area 1

## Increased Queue Sizes

**Problem:** Exploding queue sizes impact the ability to perform studies and inflates the identified upgrades. Yet, historically 15% or less of requests get built. Not an easy fix, as the need for generation decarbonization and economic competitiveness of renewables will be a driver of new generation applications for the foreseeable future.

### Potential Improvements

- Additional readiness criteria: new Site Control requirements, financial milestones at risk, or others. Not a silver bullet, but can eliminate speculative projects and make queue attrition more dynamic.
- Interconnection capacity heat maps and early network upgrade input to inform prospective generator customers.
- Monitor effectiveness of MISO and SPP implemented changes.

## Improvement Area 2

### Schedule Optimization

**Problem:** Schedules are delayed, mainly due to high volume of projects. To PJM's credit there have been clear improvements on Feasibility and SIS on-time completion and more resources applied to Facilities Studies.

### Potential Improvements

- Separate the Facilities Study for Attachment and Interconnection Facilities, and those for Network Upgrades.
- Common schedule for all Facilities Studies and ISAs in a given queue and region. This already happens on the Feasibility Study stage, and to some extent on the SIS stage.
- Current suspension rules create uncertainty. A compromise could be to keep the default 1-year suspension option but grant up to a 3-year suspension only for causes of force majeure. PJM should make the dates of suspension and expiration of suspension rights public.

## Improvement Area 3

### Facilitate Shared Upgrades

**Problem:** First project signing a ISA with a shared upgrade needs to provide 100% security, even if its allocation is a fraction of that, OR if there are other project ahead in the queue with allocations that haven't been tendered an ISA. Need ways to incentivize the coordinated securitization of shared network upgrades.

### Potential Improvements

- Issue all Facilities Studies and tender the ISA for execution in the same queue and region at the same time.
- Implement an iterative process for projects to accept their cost allocation (similar to NYISO Class Year) at Facilities Study completion or even at SIS completion.
- Make more clear the cost sharing mechanisms across queues, and the updated cost allocations after re-tools. Could PJM use the Network Upgrade online tracking tool with the cost allocation for each queue and region updated quarterly?

## Improvement Area 4

### Affected Systems and Deactivations

**Problem:** Affected System issues remain a source of uncertainty in the process, even after FERC recent orders on the matter. Likewise, deactivations that are not firm are a source of uncertainty.

#### Potential Improvements

- Detailed definition in the PJM Manuals and the Joint Operating Agreements with those neighboring systems.
- With the generation fleet change being accelerated, the affected system issues will become even more acute in the Eastern Interconnect and PJM will need to be proactive.
- Better definition on how deactivations are considered in the interconnection studies (recent examples in Illinois).

## Improvement Area 5



# Public Policy and Multi-Driver Upgrades

**Problem:** Public Policy upgrades have not been approved to date. Generation interconnection network upgrades can bring other benefits (public policy support, economic or reliability benefits) but currently are cost allocated to generators only.

## Potential Improvements

- Recent announcement on New Jersey's request to work under the State Agreement Approach is a step in the right direction.
- Provide a detailed quarterly report to the PC or TEAC on what type of generation upgrades are being triggered on each queue and region. This would allow different stakeholders to study the alignment (and even substitution) of those upgrades with other reliability, supplemental, economic or public policy upgrades in RTEP.
- Re-study the Multi Driver Network Upgrade category and new shared cost allocation options.

# RWE

## Thank you

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