2019 Project Statistics

Transmission Expansion Advisory Committee

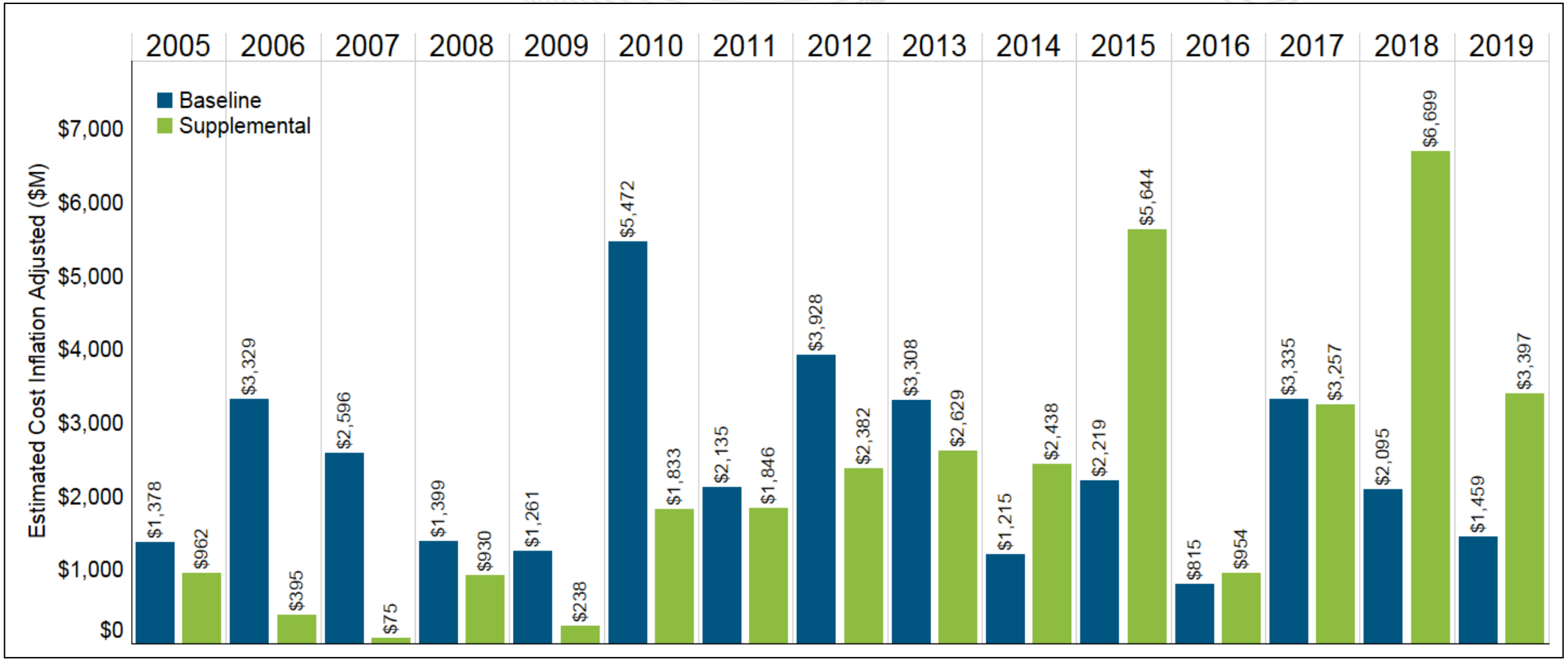
May 12, 2020

Overview

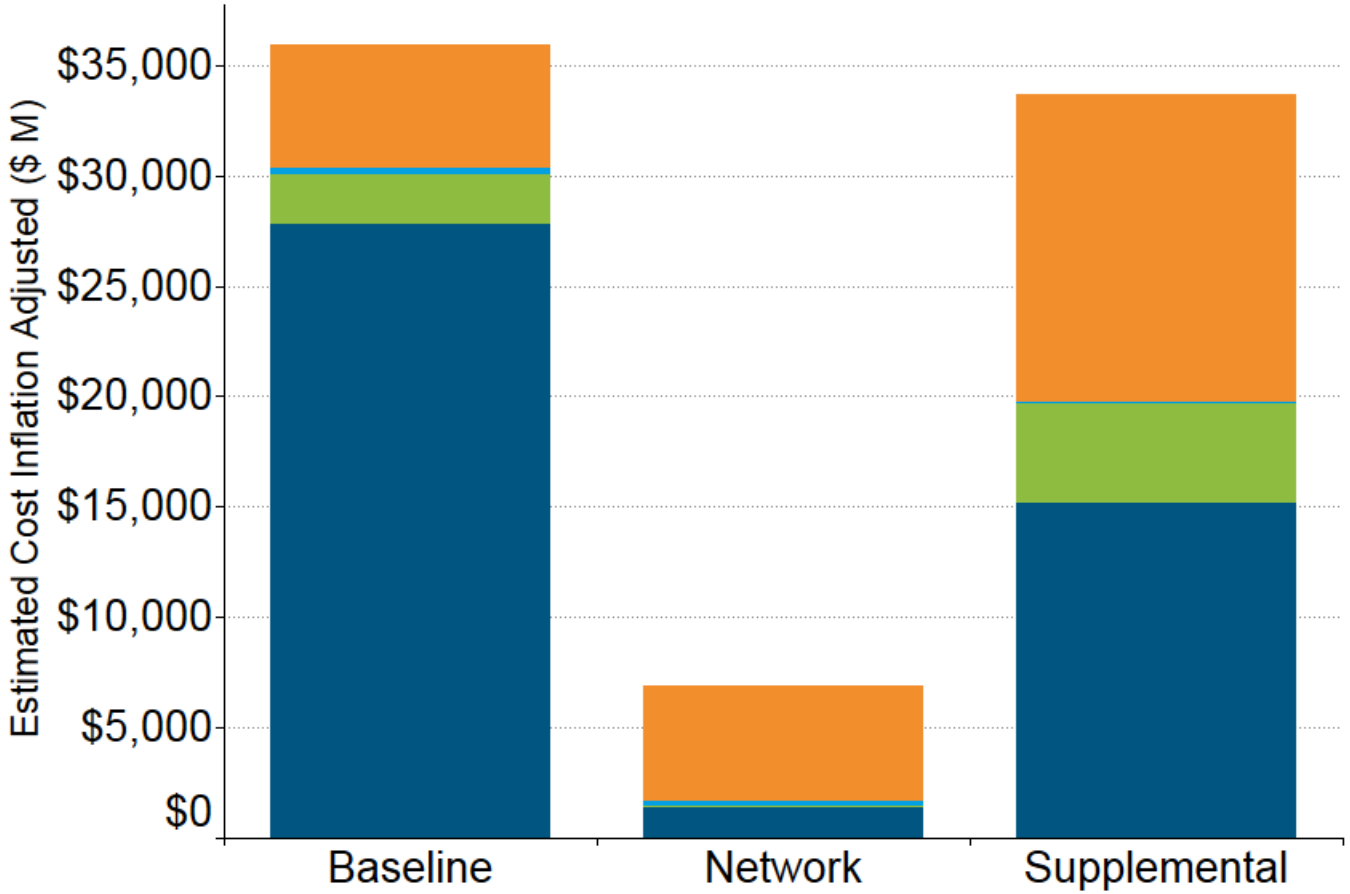
Each slide summarizes the estimated costs for projects presented at the TEAC or Sub-regional TEAC meetings:

- Baseline project was approved by the PJM Board
- Supplemental Project was presented at the TEAC or Sub-regional TEAC meetings
- Costs are provided by the Designated Entity or Transmission Owners. Cost estimation methods may vary by company. Estimated costs in this document may include cost caps or cost containment even though it isn't specifically noted
- Cost estimates may change over time as new information is known and incorporated into the estimate by the project sponsor, this document reflects the current estimates that are provided to PJM
- A single cost is provided for each project identifier, without any additional breakdown (for example, cost by state)
- Cost is based on estimation in January 2020, and is adjusted by inflation rate of 2.44%

Baseline and Supplemental Projects by Year



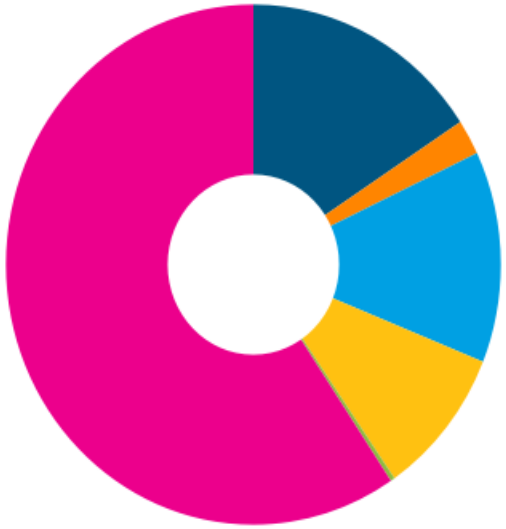
Project Status as of December 31,2019



	Baseline	Network	Supplemental
Engineering/Planning	$5,635	$5,221	$13,952
On Hold	$253	$217	$70
Under Construction	$2,244	$29	$4,499
In Service	$27,811	$1,411	$15,160
Total	**$35,944**	**$6,878**	**$33,680**

2019 Baseline Project Drivers

Project Drivers



Baseline Load Growth Deliverability & Reliability	$230
Congestion Relief - Economic	$32
Generator Deactivation	$192
Operational Performance	$135
Short Circuit	$4
TO Criteria Violation	$866
Total	$1,459

Projects Driven by TO Criteria Violations

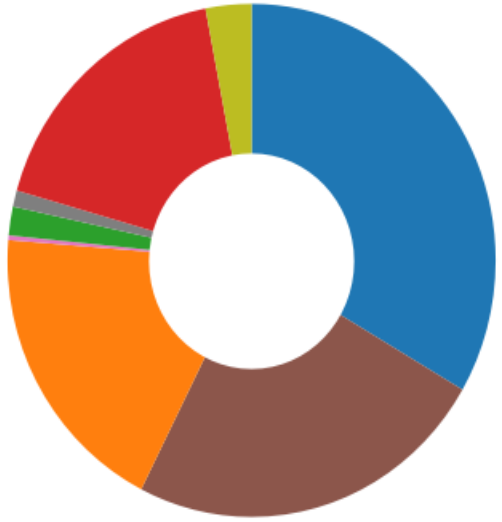
Voltage violation	$280
End of Life	$243
Thermal violation	$169
Thermal and Voltage Violation	$125
MW-Mile Criteria	$49
Short Circuit	$1
Stability	$1
Total	$866

2019 Supplemental Project Drivers

Project Driver

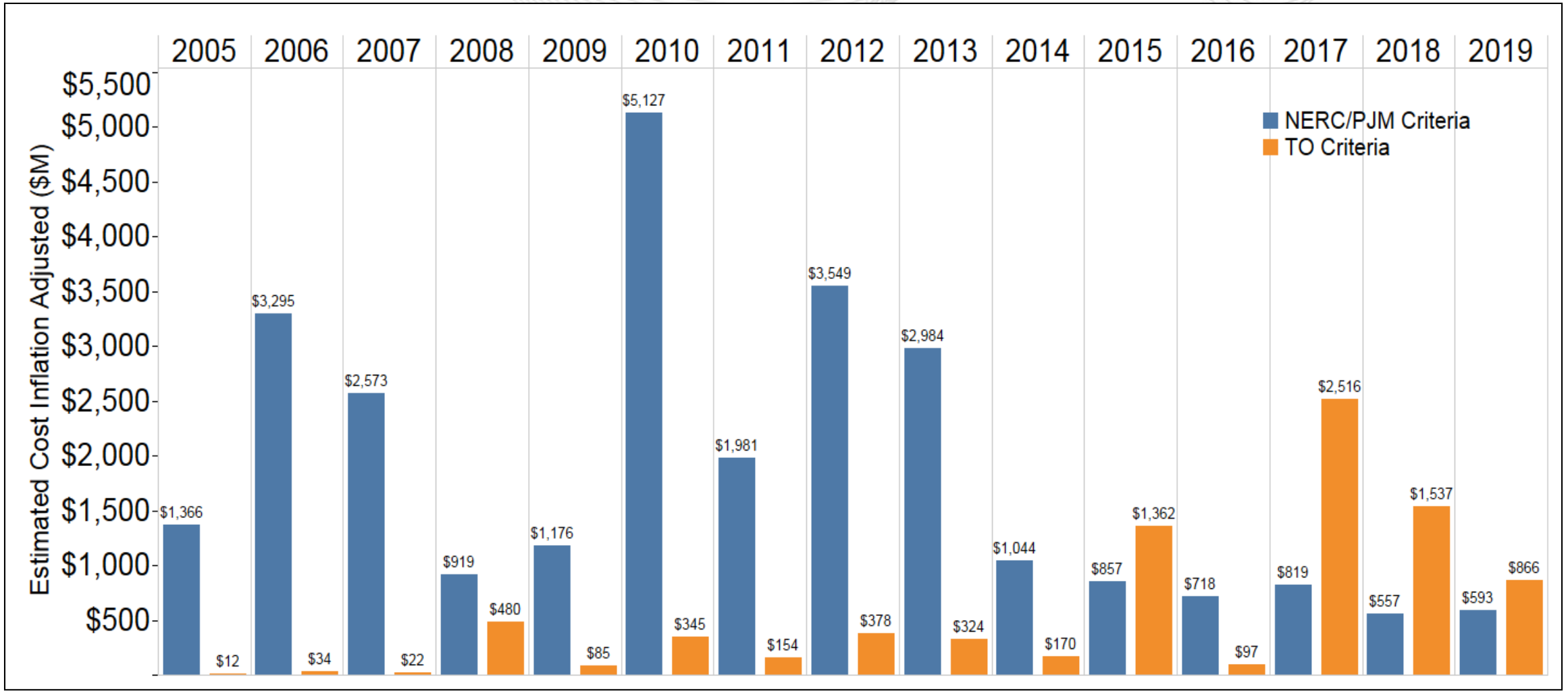
Equipment Material Condition, Performance and Risk	$1,461
Operational Flexibility and Efficiency	$151
Customer Service	$835
Other	$67
Multiple Drivers	$883
Infrastructure Resilience	$1
Total	$3,397

Projects Driven by Multiple Drivers



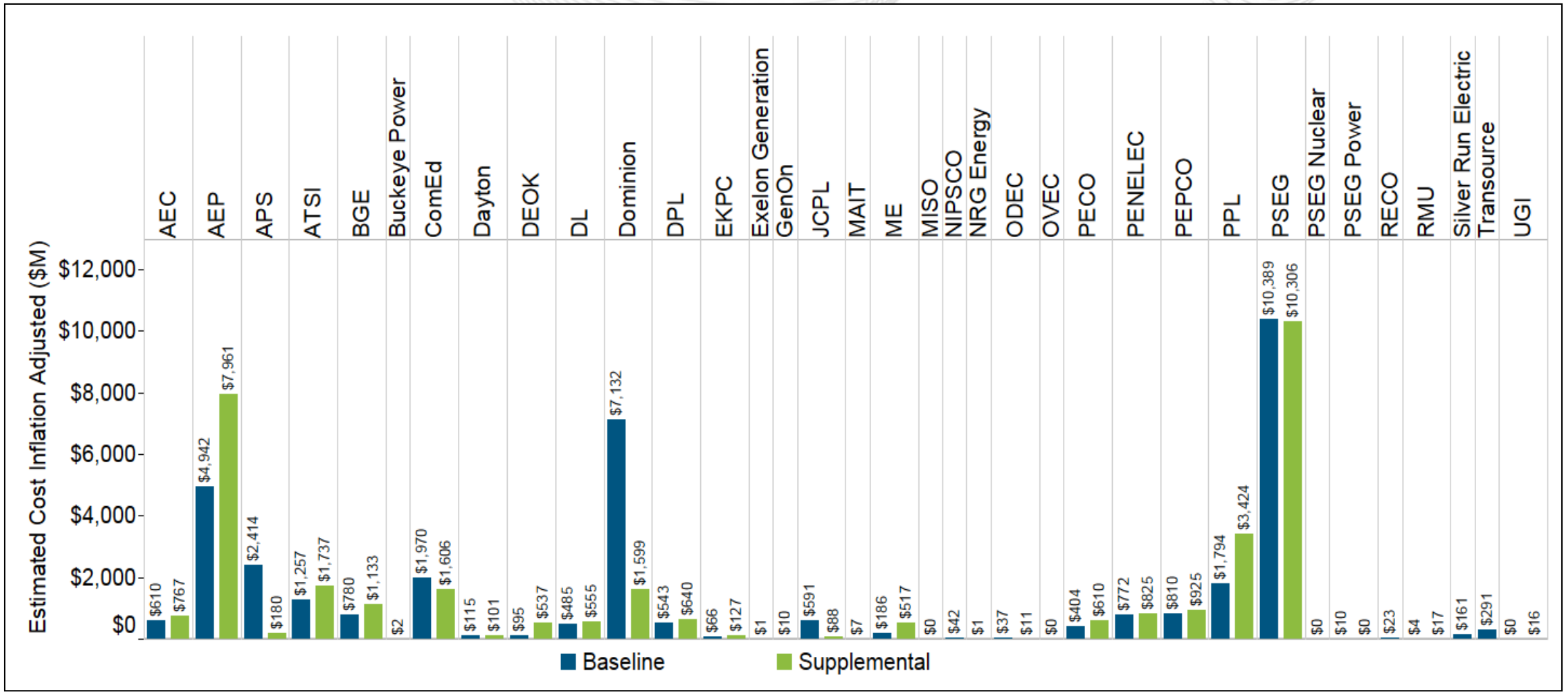
Equipment Material Condition, Performance and Risk / Customer Service	$295
Equipment Material Condition, Performance and Risk / Operational Flexibility and Efficiency	$212
Equipment Material Condition, Performance and Risk / Operational Flexibility and Efficiency / Customer Service	$166
Equipment Material Condition, Performance and Risk / Operational Flexibility and Efficiency / Infrastructure Resilience	$3
Infrastructure Resilience / Customer Service	$16
Operational Flexibility and Efficiency / Customer Service	$9
Operational Flexibility and Efficiency / Infrastructure Resilience	$155
Operational Flexibility and Efficiency / Infrastructure Resilience / Customer Service	$27
Total	$883

Baseline Project Driver since 2005



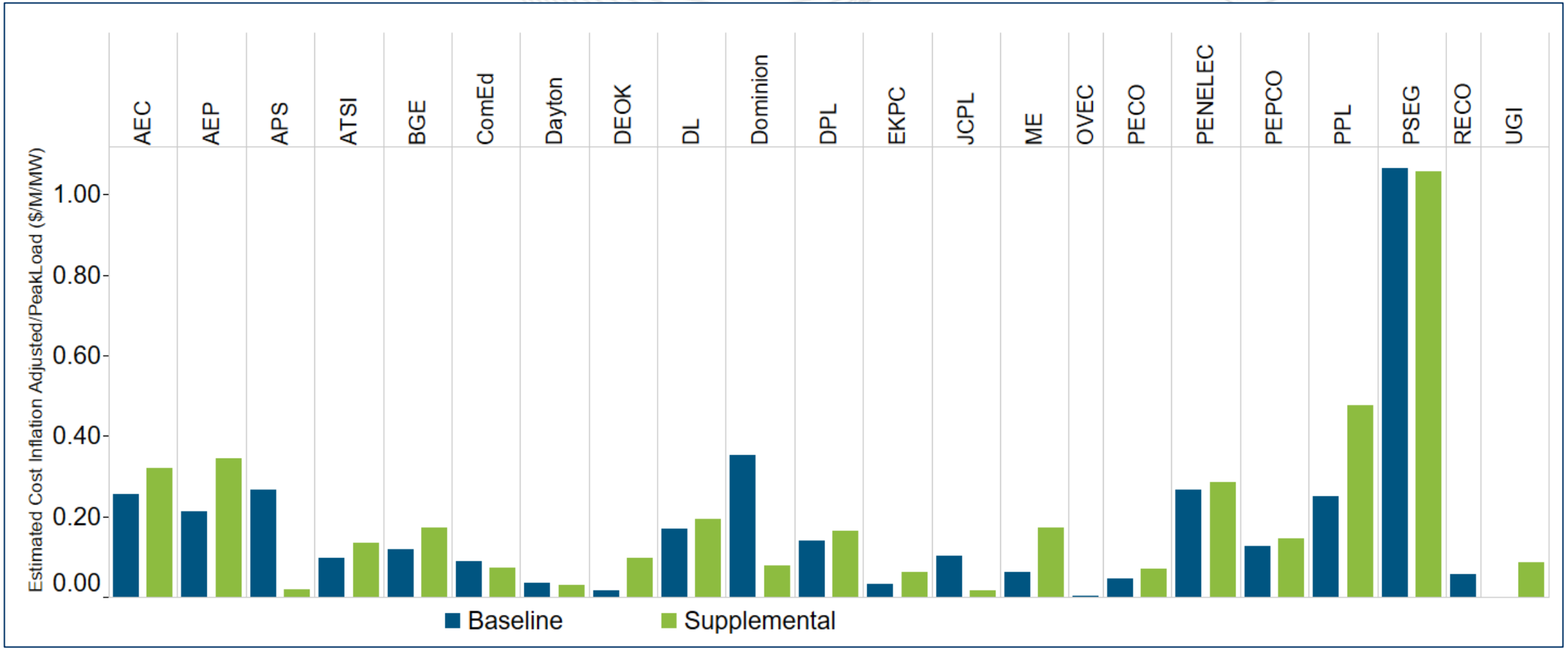
Baseline and Supplemental Project since 2005

by Designated Entity



Baseline & Supplemental Projects since 2005

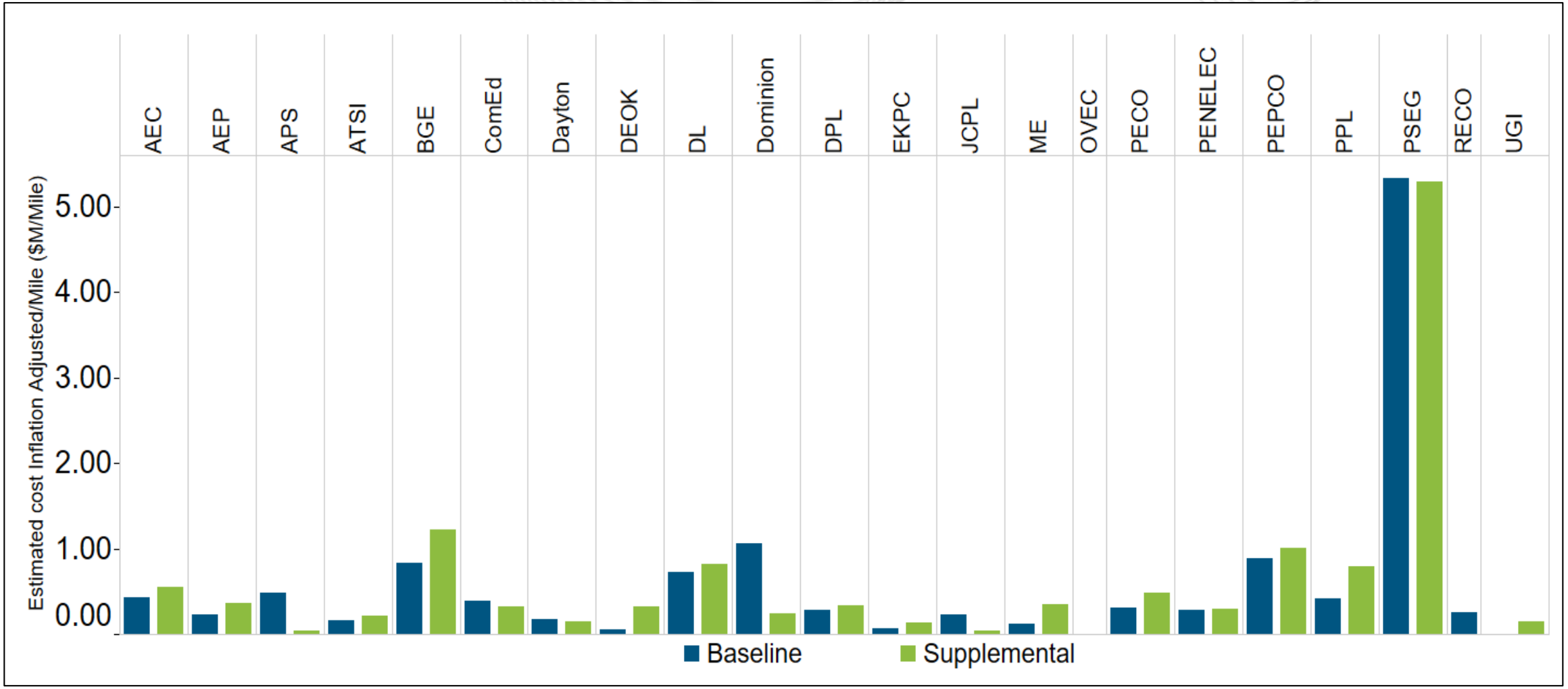
Adjusted by Peak Load



***Peak load is the average of forecasted summer peak load from 2021 to 2024 for each TO**

Baseline and Supplemental Project since 2005

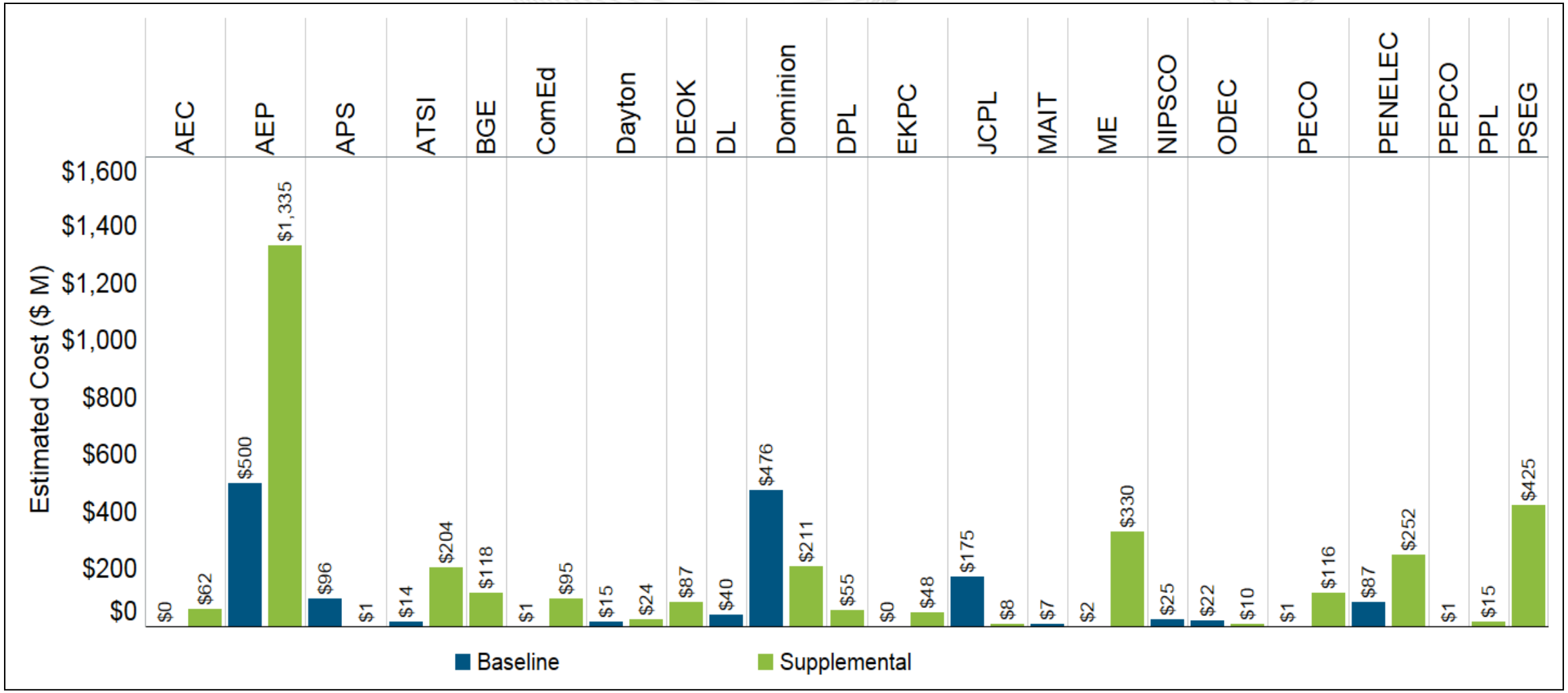
Adjusted by Transmission Line Circuit Miles



***Transmission line circuit mile is based on TO's FERC Form 1 filed in 2019 or EIA-411 Schedule 6A for 2019**

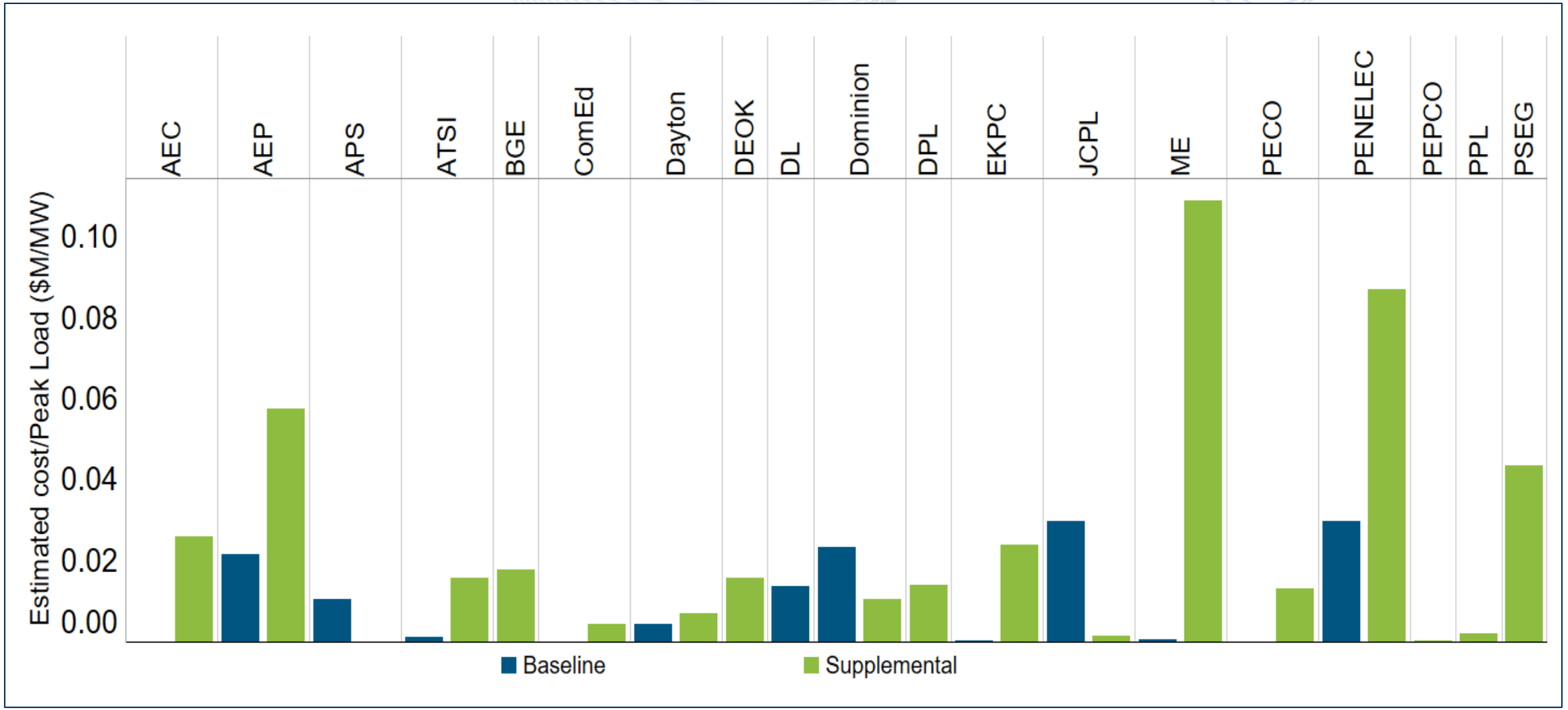
Baseline and Supplemental Project 2019

by Designated Entity



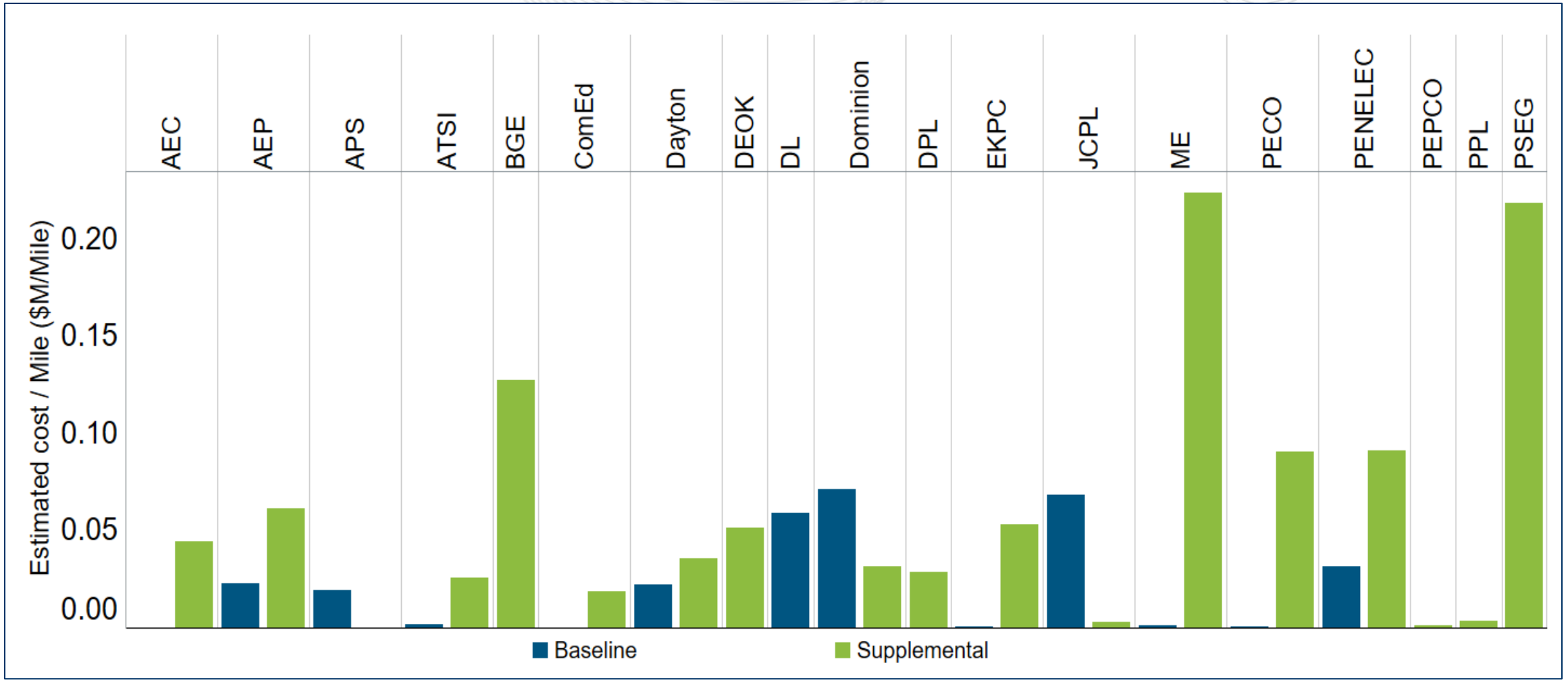
Baseline and Supplemental Project 2019

Adjusted by Peak Load

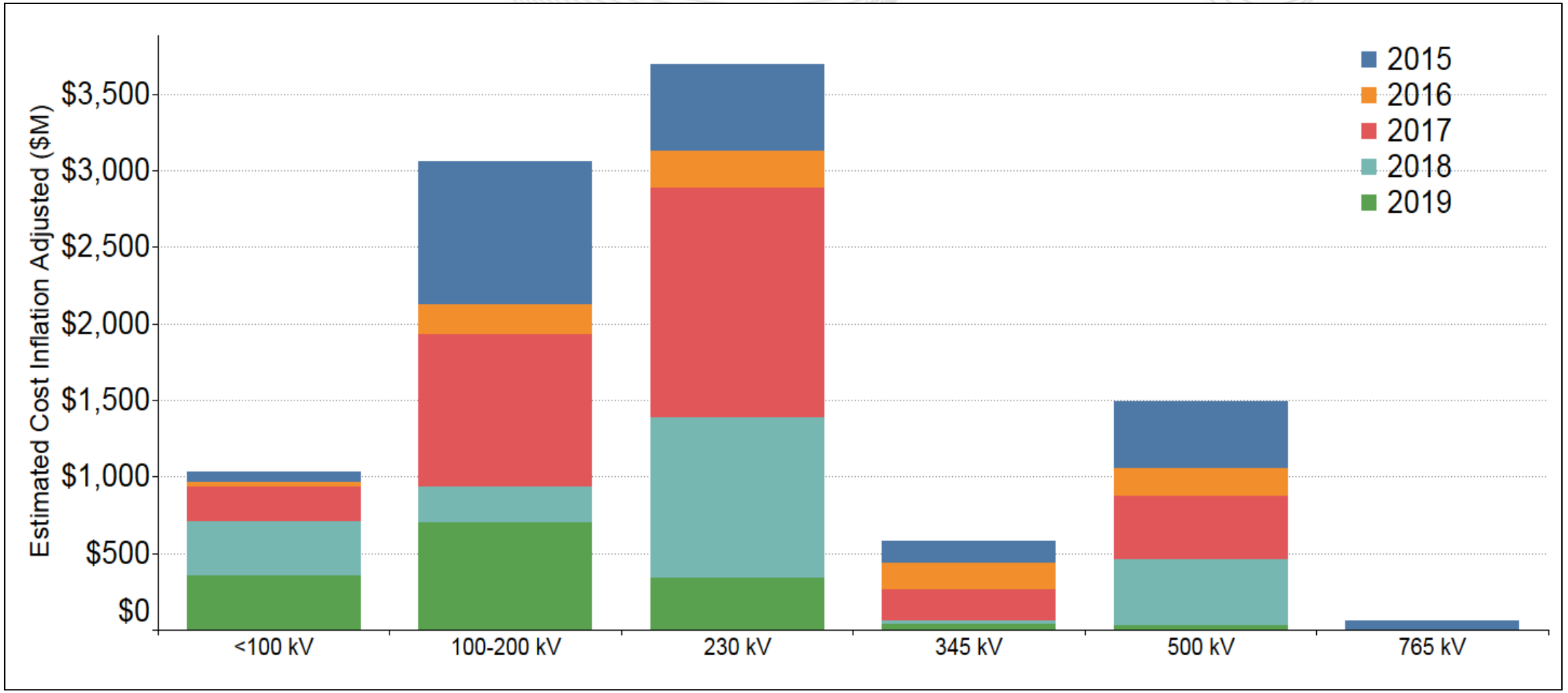


Baseline and Supplemental Project 2019

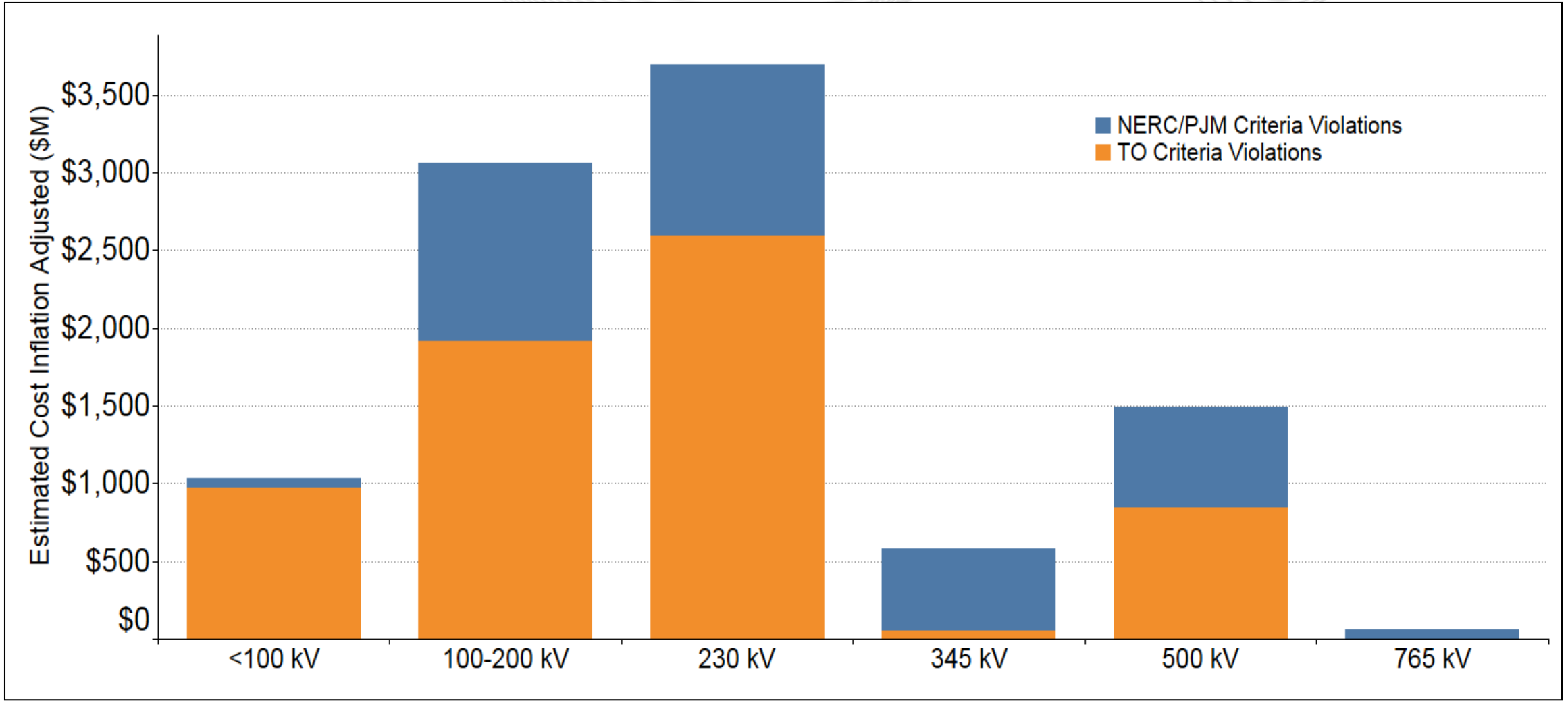
Adjusted by Transmission Line Circuit Miles



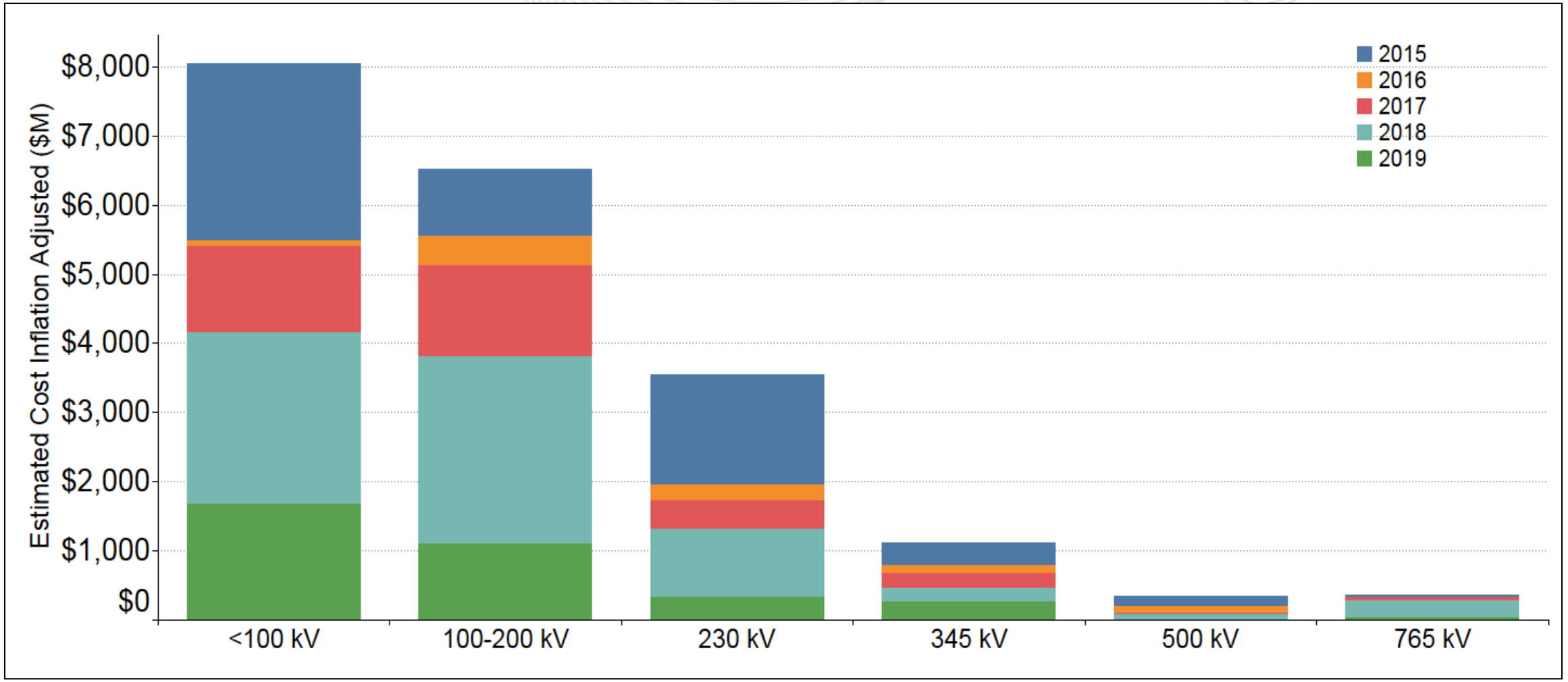
Baseline Projects by Voltage 2015 - 2019



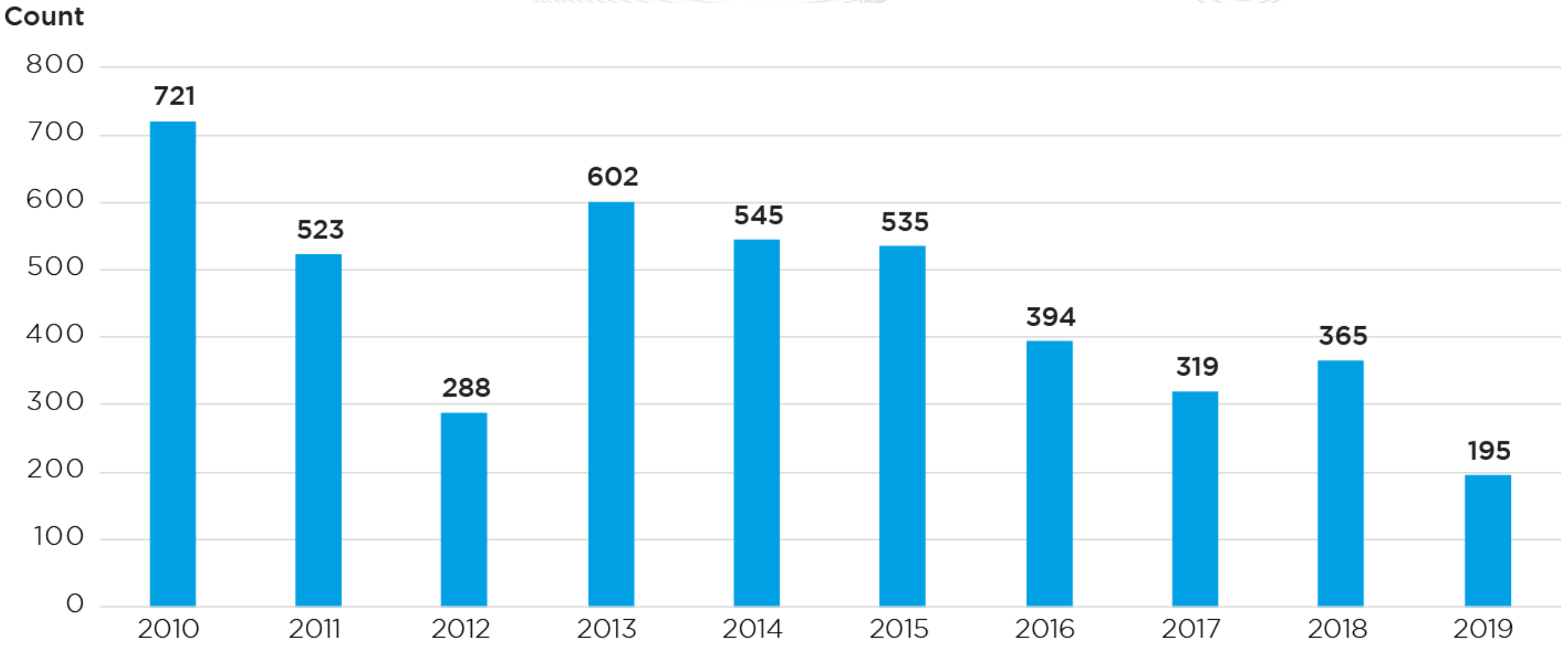
Baseline Projects by Voltage
2015 - 2019



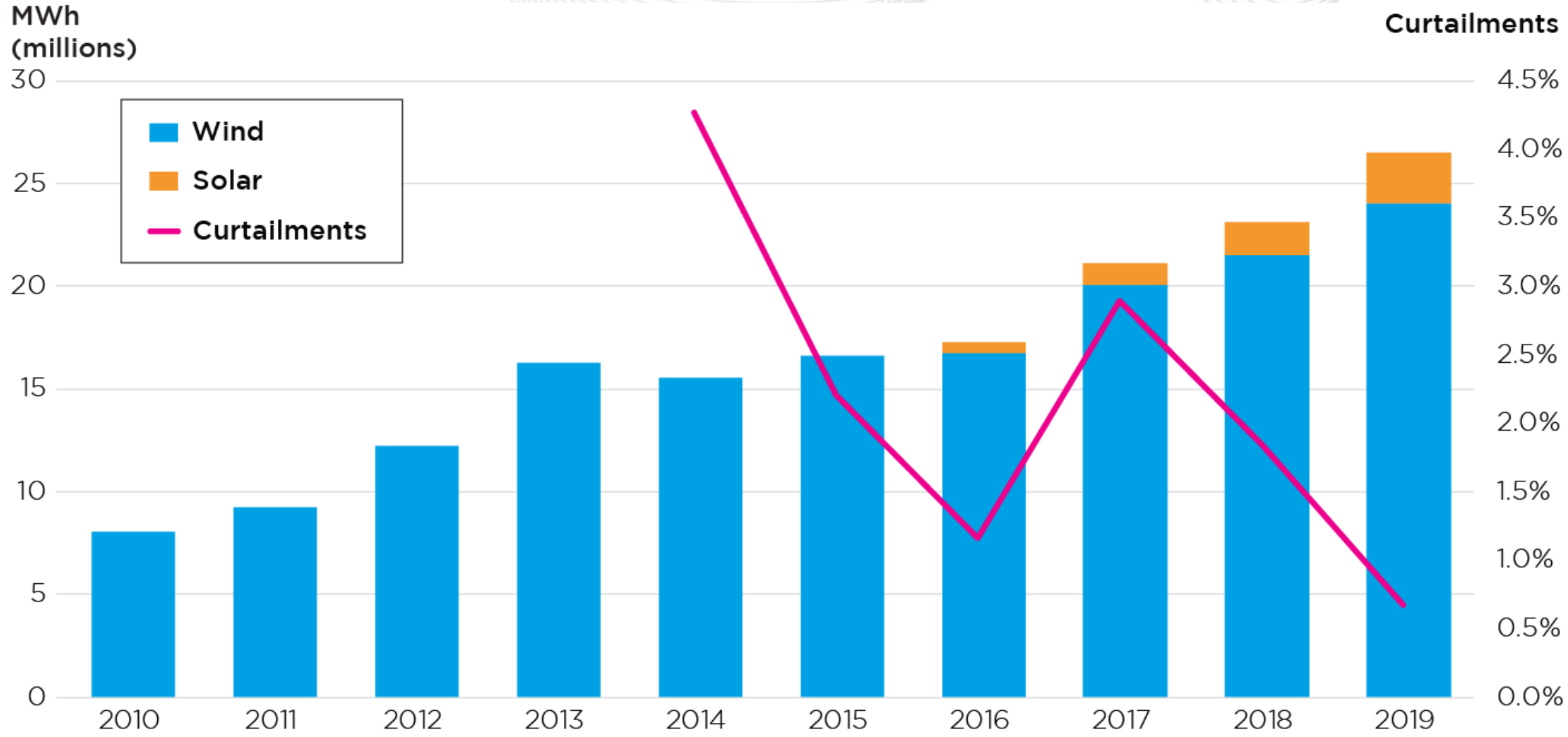
Supplemental Projects by Voltage
2015 - 2019



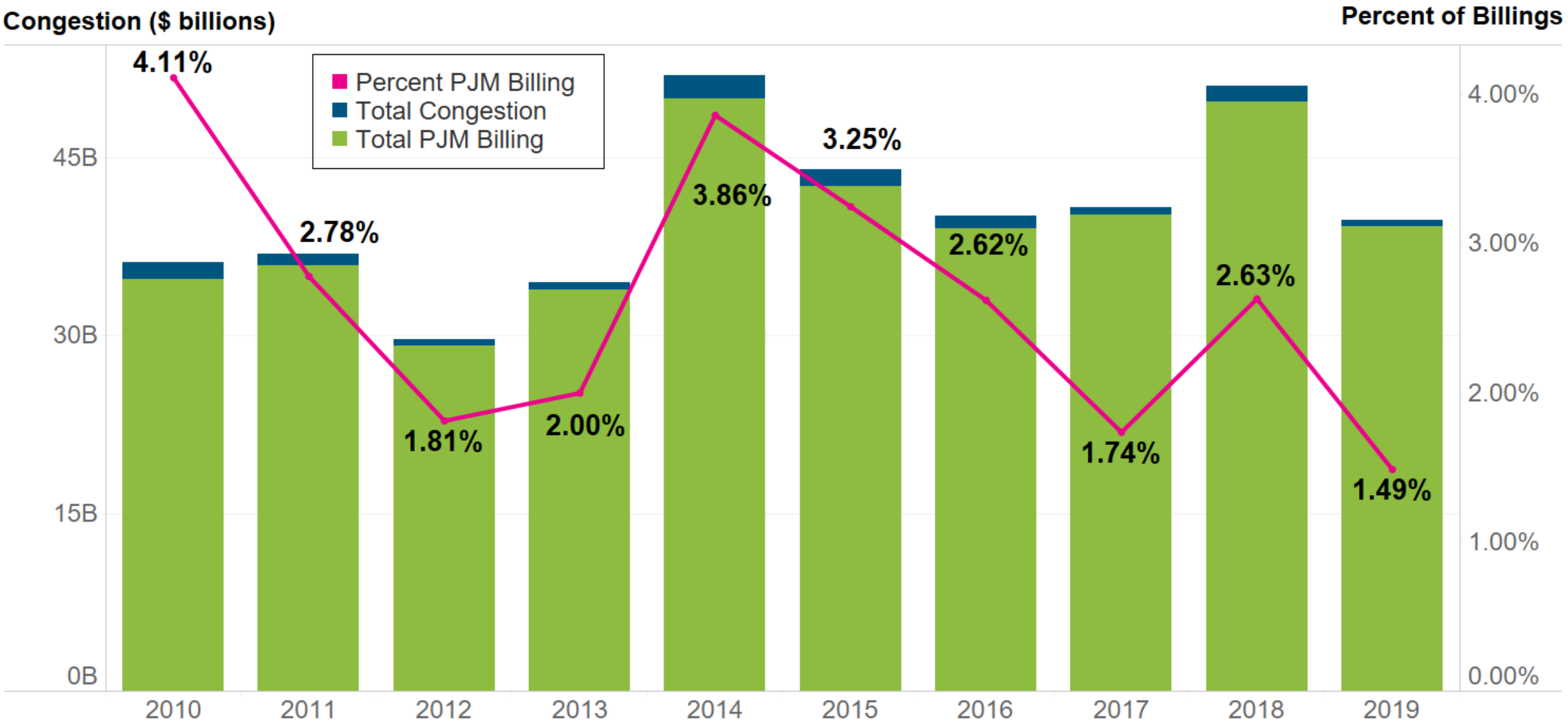
PCLLRW Count by Year



Renewable Production and Wind Curtailments



System Congestion Costs



Revision History

- V1 - 5/5/2020 – Original slides posted