Energy Markets & Planning
BERKELEY LAB

Additional Figures

Interconnection Timelines and Costs for Distributed Energy Projects in the United States (2000-2025)

Kathryn Chelminski, Johnny Wong, Lisa Schwartz, Margaret Pigman, and Katherine Carlson

September 2026

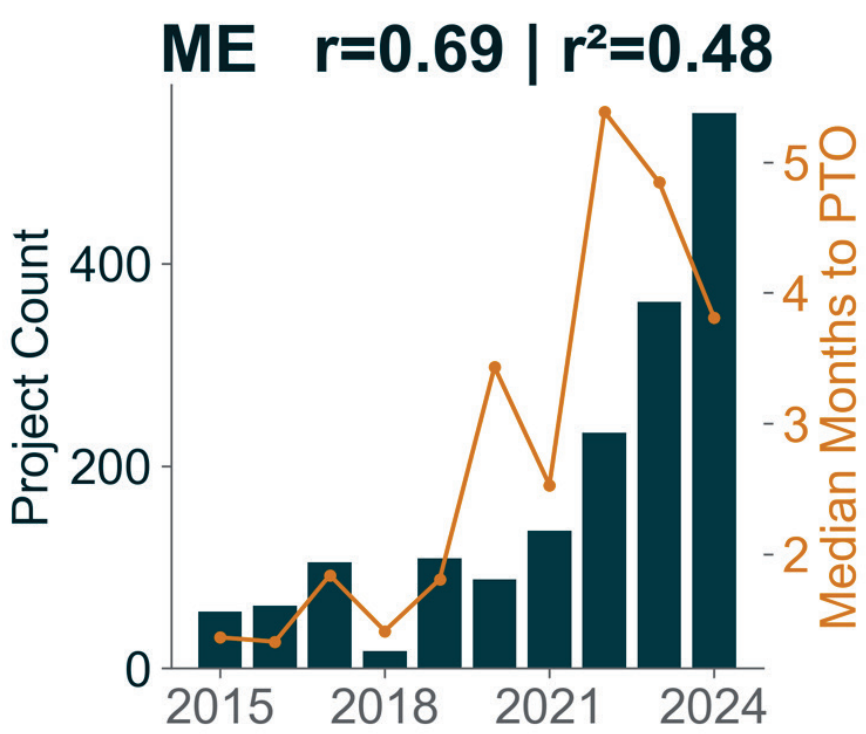
The U.S. Department of Energy's Interconnection Innovation Exchange (i2X), sponsored by the Office of Critical Minerals and Energy Innovation, supports this work under Contract No. DE-AC02-05CH11231.

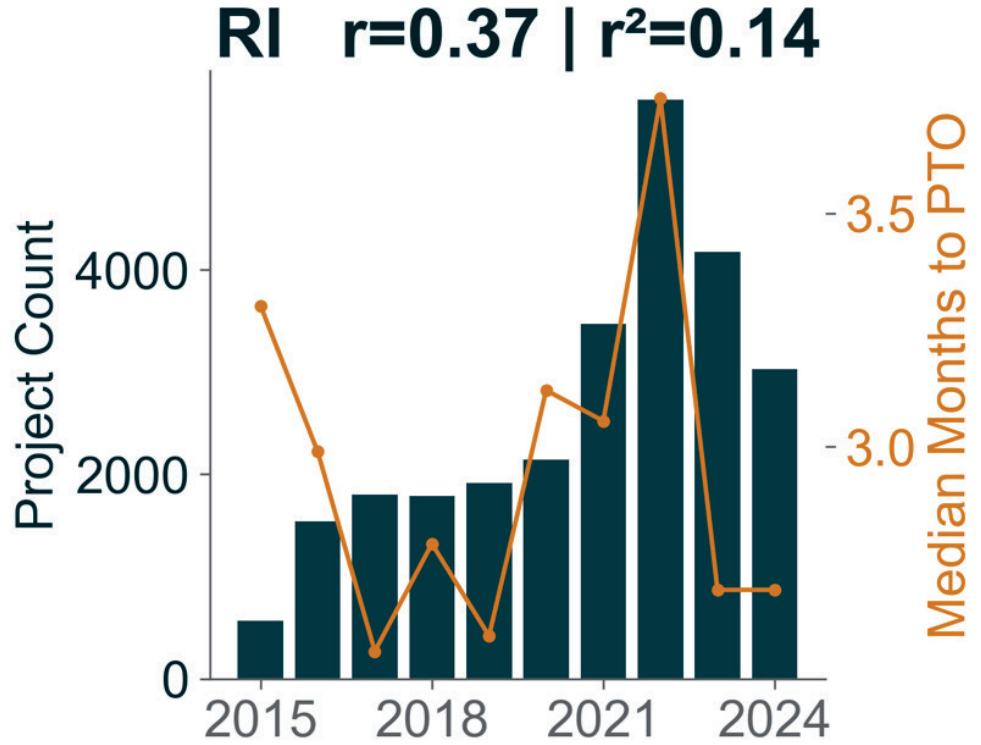
ENERGY TECHNOLOGIES AREA | ENERGY ANALYSIS DIVISION | ENERGY MARKETS & PLANNING

i2X INTERCONNECTION INNOVATION e-XCHANGE
U.S. DEPARTMENT OF ENERGY

Interconnection Applications Analysis

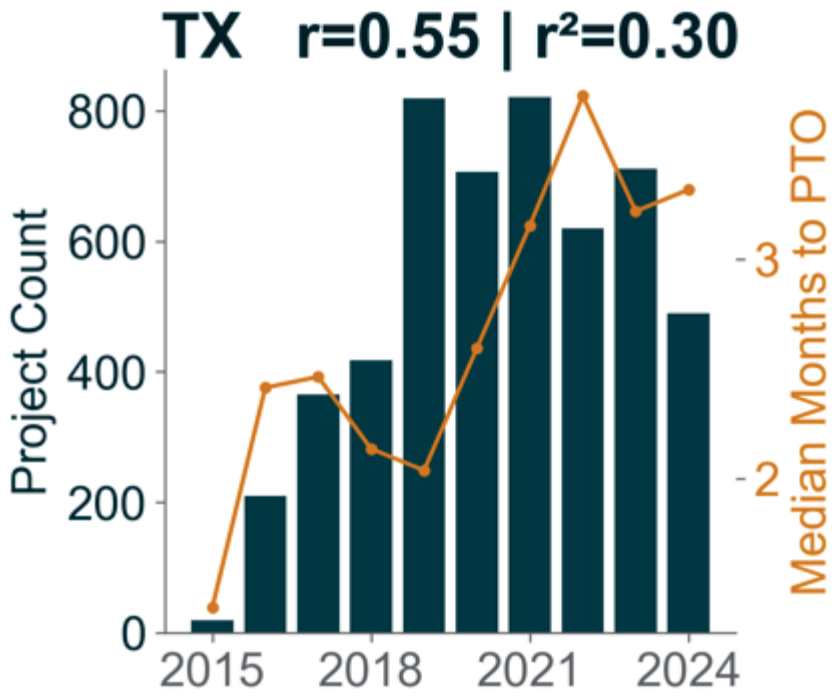
Interconnection Volume and Median Months to PTO by State (1)

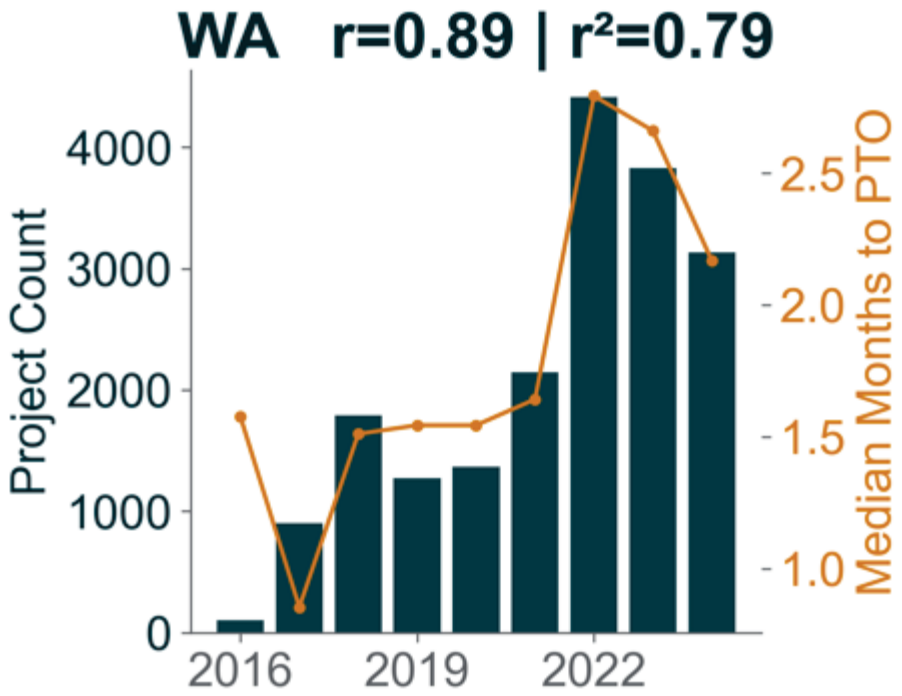




The x-axis uses a linear scale. Correlation is calculated between project count and median months to PTO.
See the Technical Appendix for full sample details.

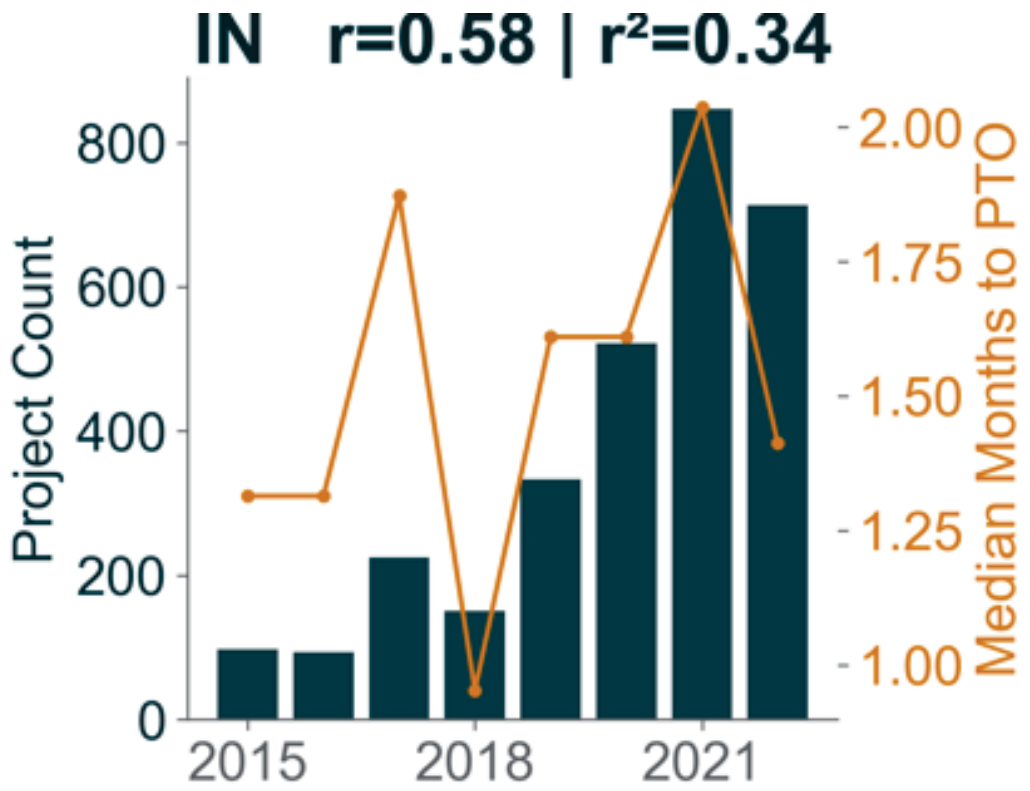
Interconnection Volume and Median Months to PTO by State (2)





The x-axis uses a linear scale. Correlation is calculated between project count and median months to PTO.
See the Technical Appendix for full sample details.

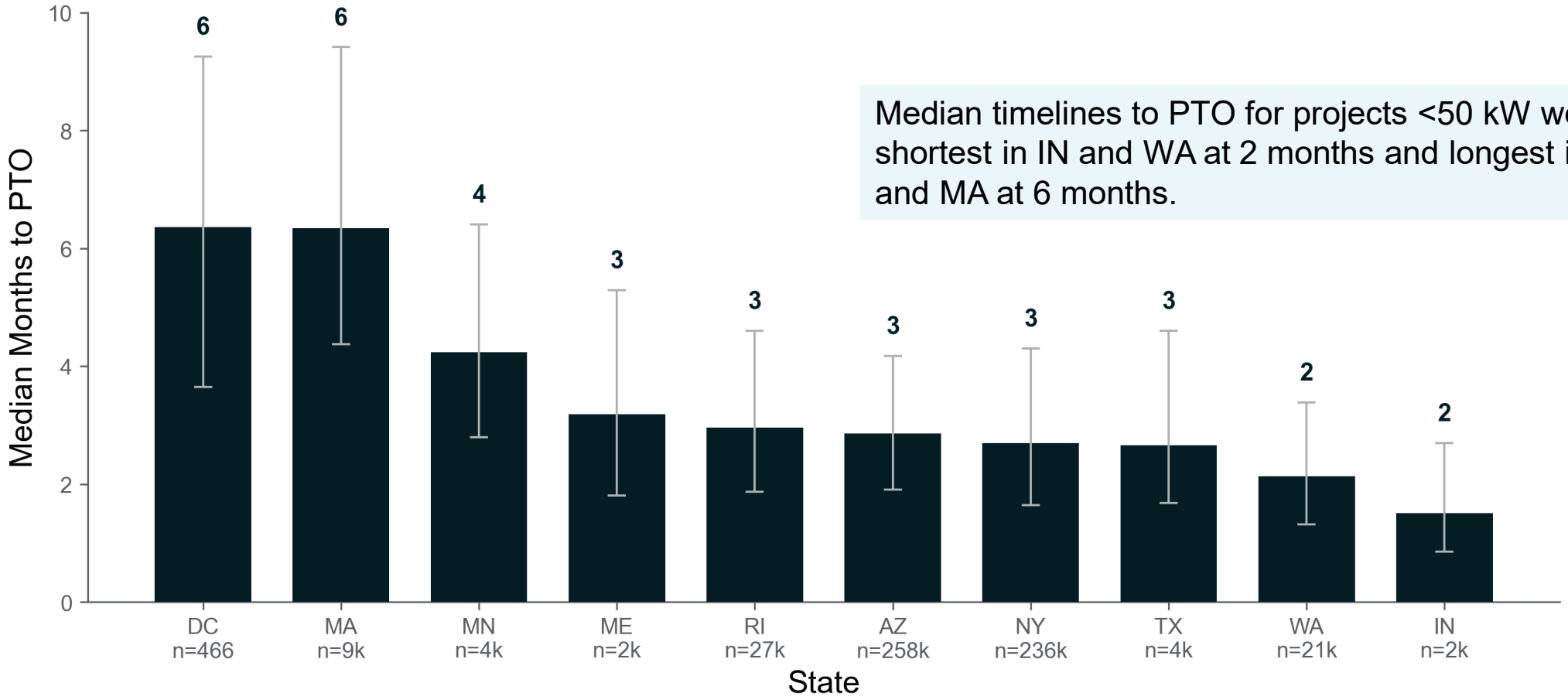
Interconnection Volume and Median Months to PTO by State (3)



The x-axis uses a linear scale. Correlation is calculated between project count and median months to PTO.
See Technical Appendix for sample size.

Interconnection Timelines

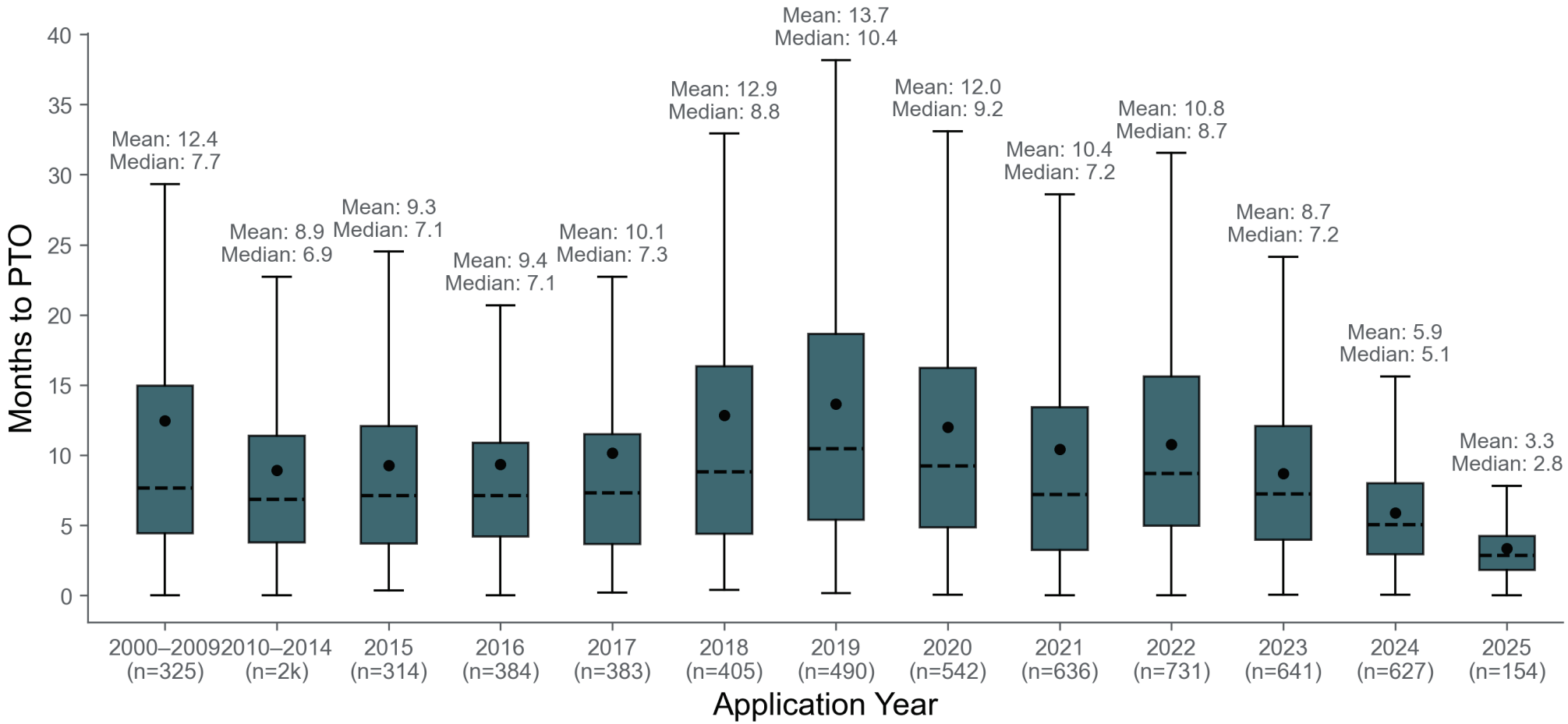
Median Number of Months From Application to PTO by State (2020-2025, <50 kW)



Median timelines to PTO for projects <50 kW were shortest in IN and WA at 2 months and longest in DC and MA at 6 months.

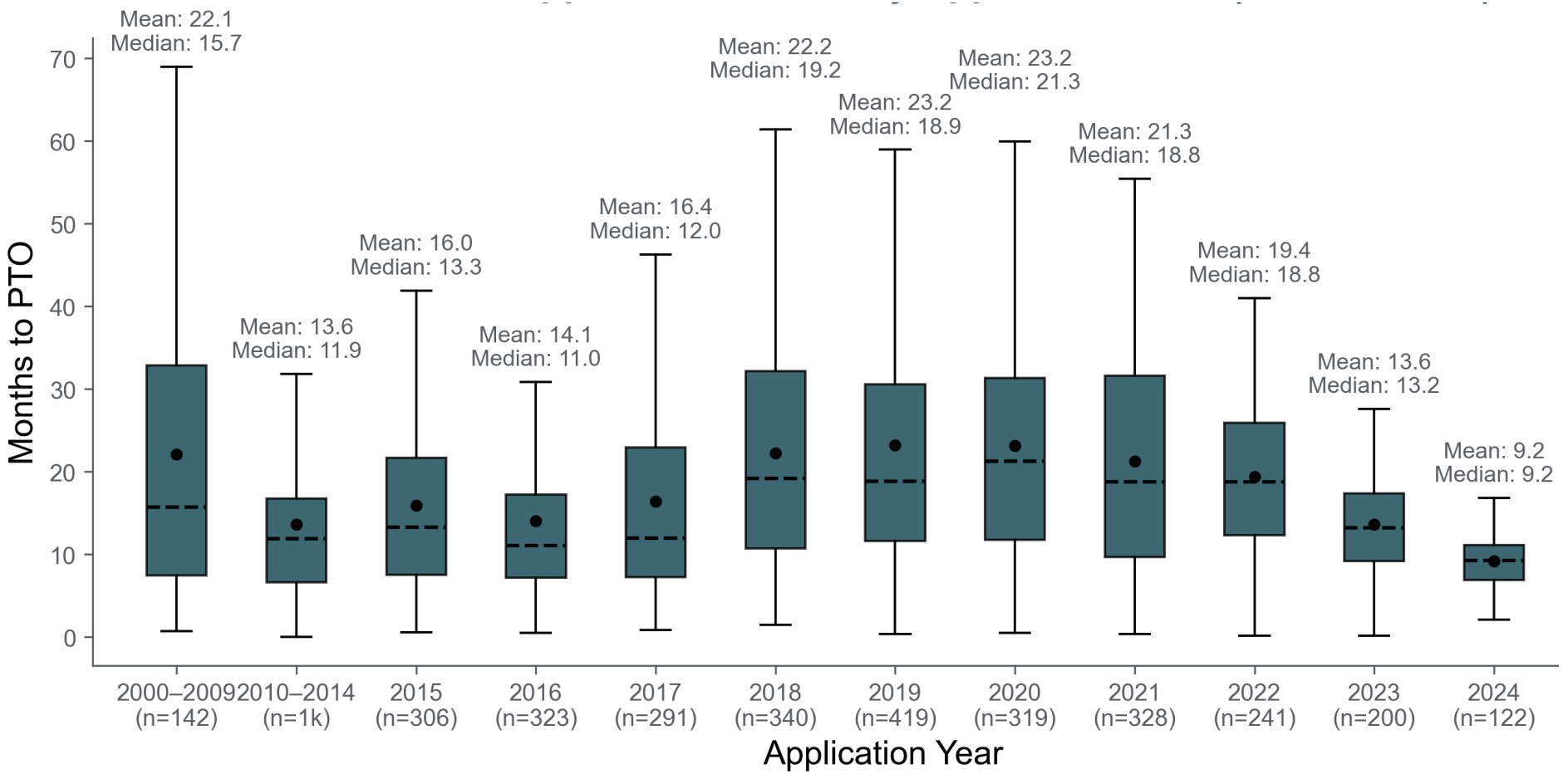
Excludes states with fewer than 10 projects. The sample includes only projects in process or in service; it excludes withdrawn or cancelled projects.
See the Technical Appendix for full sample details.

Months From Application to PTO by Application Year (≥30–100 kW) (2000-2025)



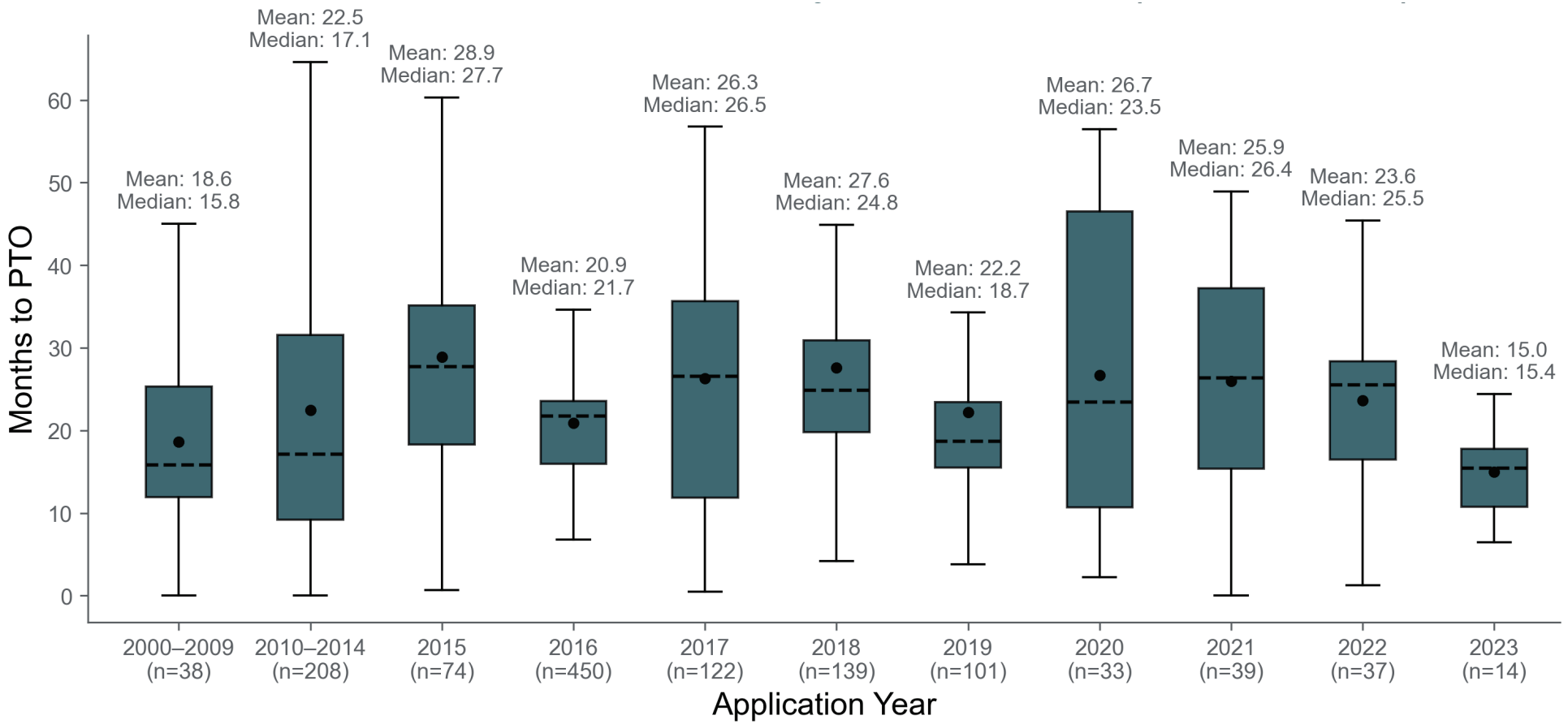
The sample includes only projects in process or in service; excludes withdrawn or cancelled projects.
States represented include: AZ, DC, IN, MA, ME, MN, NY, OR, RI, TX, WA but the majority of data is represented by NY data (48%), AZ data (20%) and MA (19%).
See Technical Appendix for full sample details.

Months From Application to PTO by Application Year (>100–500 kW) (2000-2024)



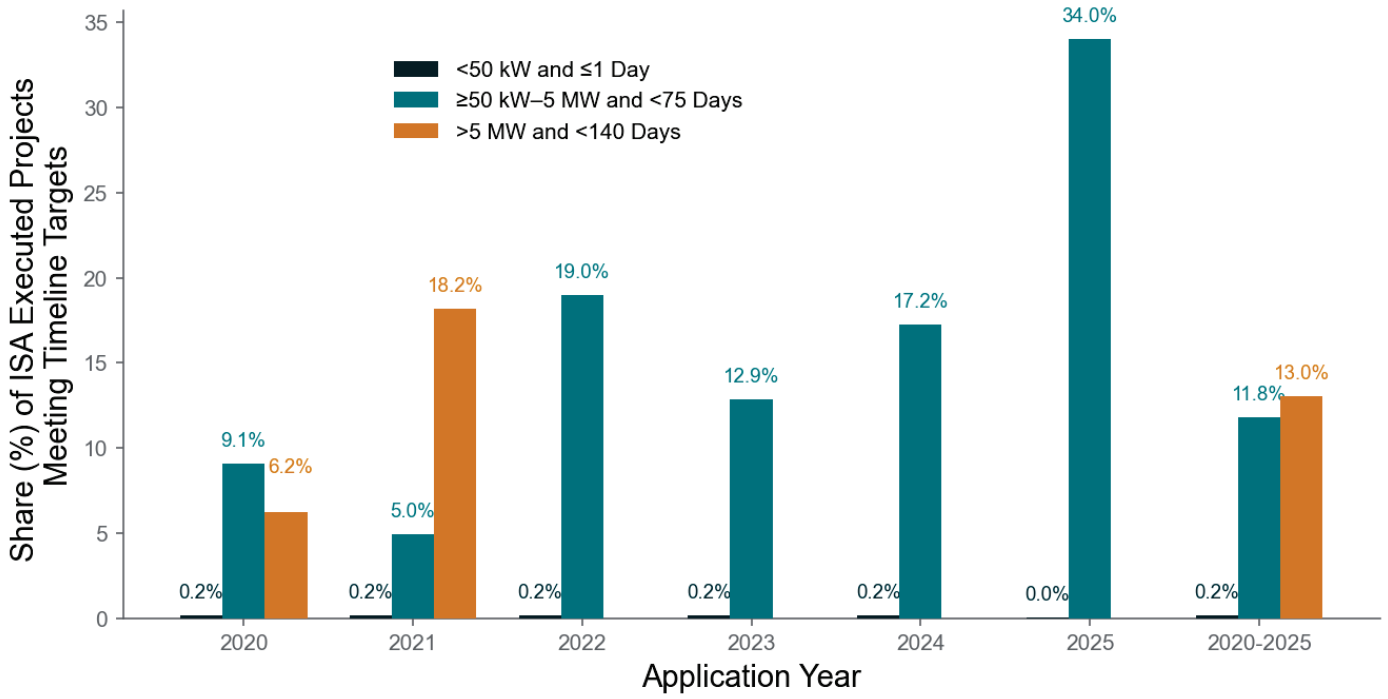
The sample includes only projects in process or in service; excludes withdrawn or cancelled projects.
States represented include: AZ, CT, DC, IN, MA, ME, MN, MT, NY, OR, RI, TX, but the majority of data is represented by NY data (40%), MA data (30%), AZ (21%).
See the Technical Appendix for full sample details.

Months From Application to PTO by Application Year (>500 kW-1 MW) (2000-2023)



The sample includes only projects in process or in service; excludes withdrawn or cancelled projects.
States represented include: AZ, CT, DC, IN, MA, MD, ME, MN, MT, NY, OR, RI, TX, but the majority of data is represented by MN data (44%), NY data (21%) and MA (18%).
See Technical Appendix for full sample details.

Share of Projects Meeting i2X ISA Timeline Target (2020-2025)

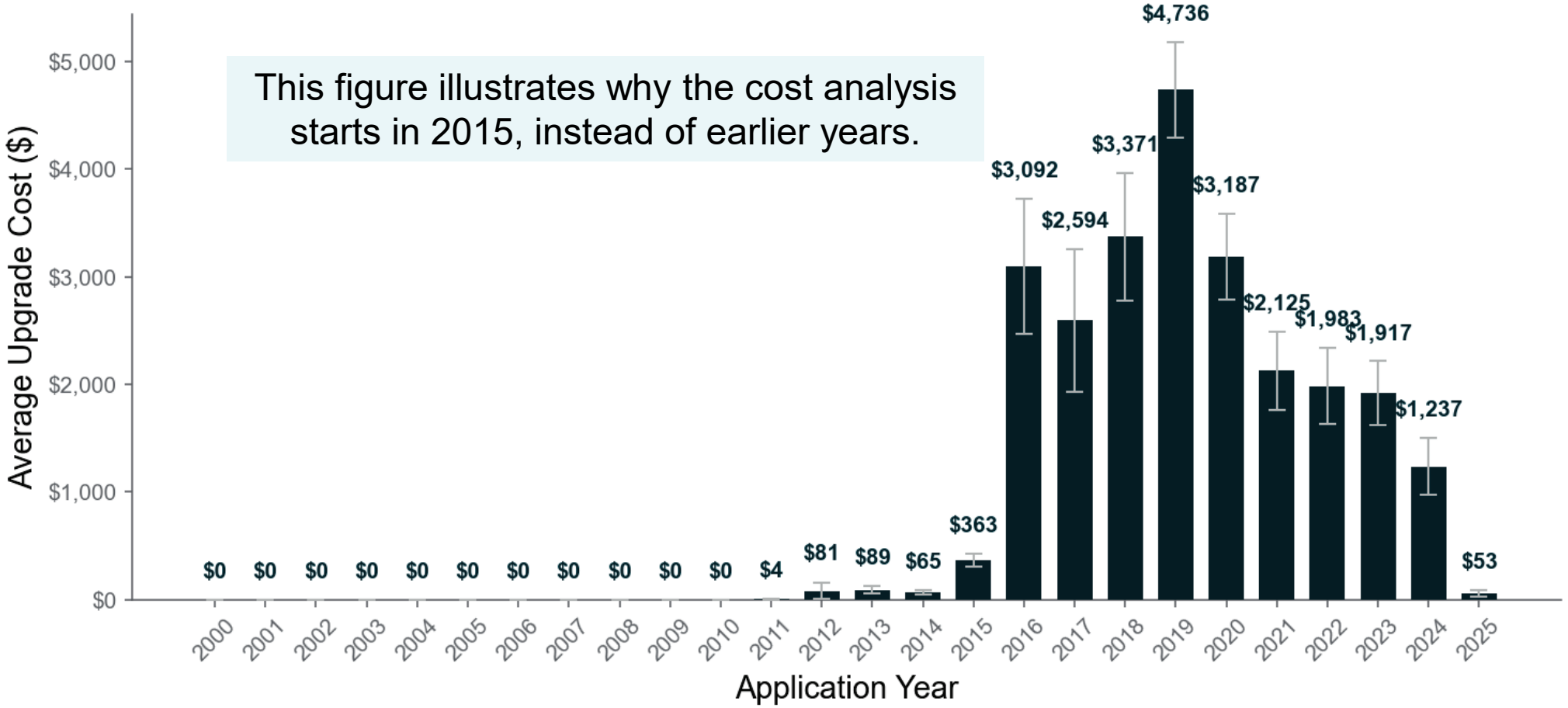


The sample includes only projects in process or in service; it excludes withdrawn or cancelled projects.
The figure excludes cohorts with <10 projects.
92% of the data for this analysis is for NJ projects.
See Technical Appendix for full sample details.

- LBNL analyzed timeline data to determine the share of projects that applied for interconnection from 2020 to 2025 and achieved ISA.
  - The ISA specifies technical requirements for the project to interconnect to the grid.
- DOE established 2030 targets for this metric.
  - Few projects <50 kW met the target for executing an ISA within 1 day.
  - Only 11.8% of projects ≥50 kW-5 MW met the target of executing an ISA in <75 days.
  - Just 13% of projects >5 MW met the target of executing an ISA in <140 days.
- However, utilities are making progress to reduce interconnection delays. The average time from application to ISA improved by 26% on average, across projects of all sizes, from 2020 to 2025 for the states analyzed.
  - Timelines for small projects improved most.

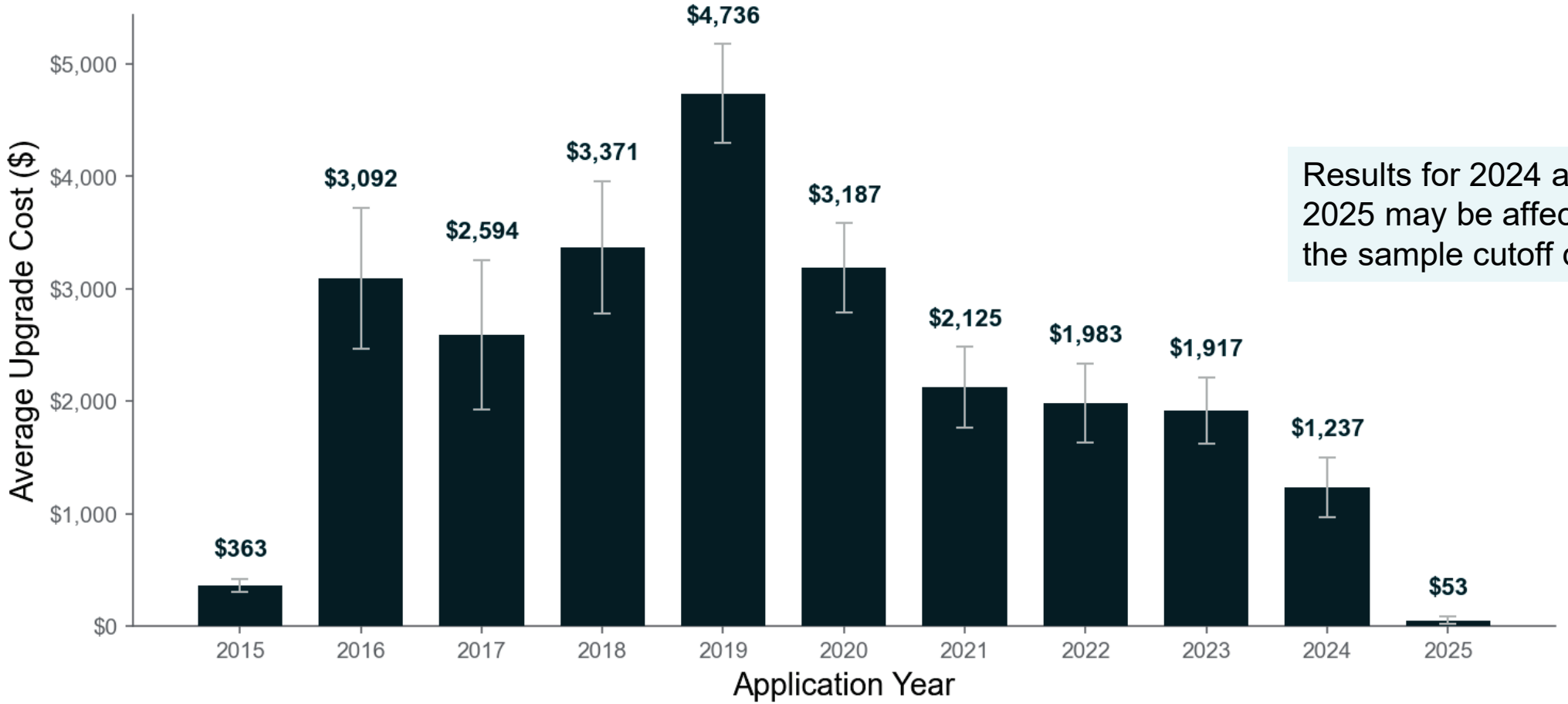
Interconnection Costs

Average Interconnection Upgrade Cost by Application Year (2000-2025)



The sample includes only projects in process or in service; excludes withdrawn or cancelled projects.
States represented: CO, CT, NY, RI, with the majority of data representing NY (>99%).
See Technical Appendix for full sample details.

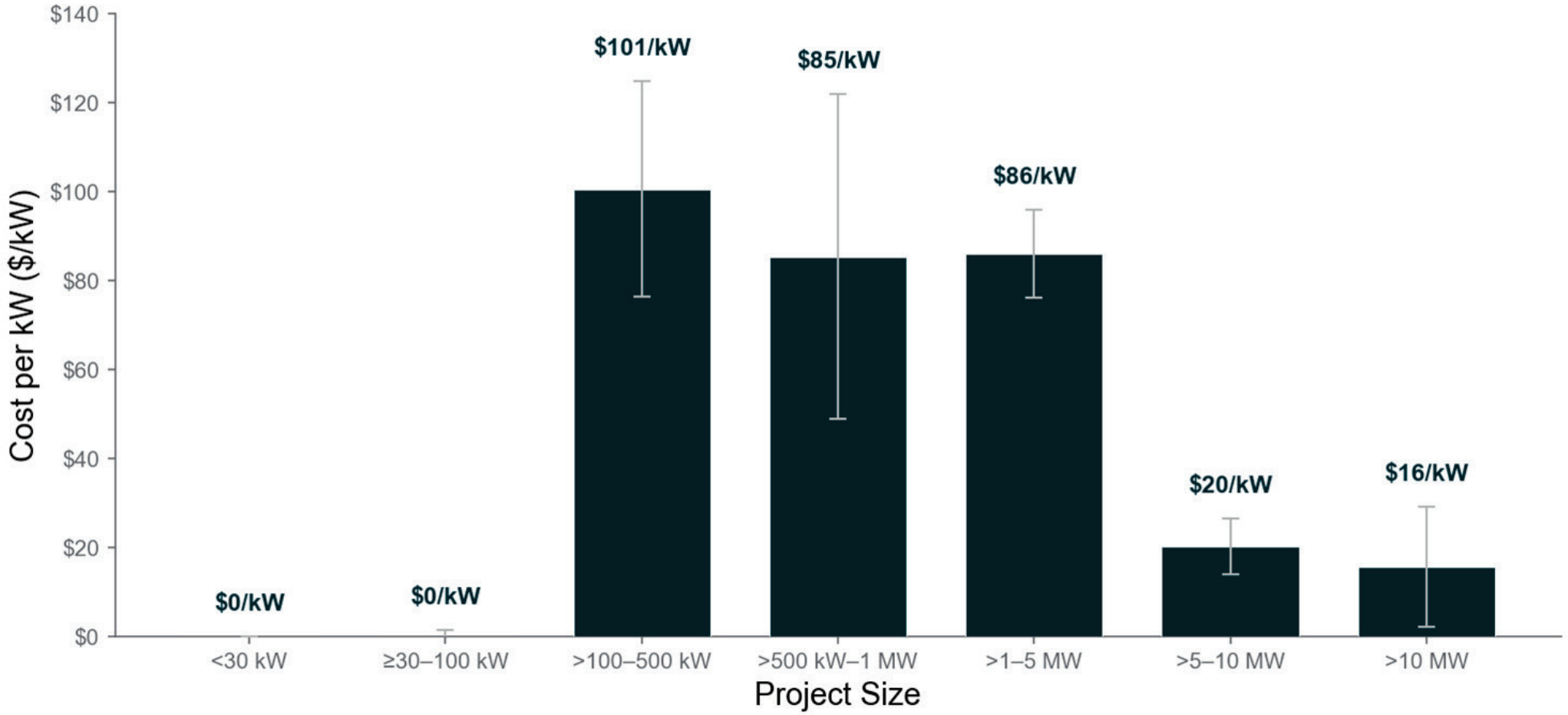
Average Interconnection Upgrade Cost by Application Year



Results for 2024 and 2025 may be affected by the sample cutoff date

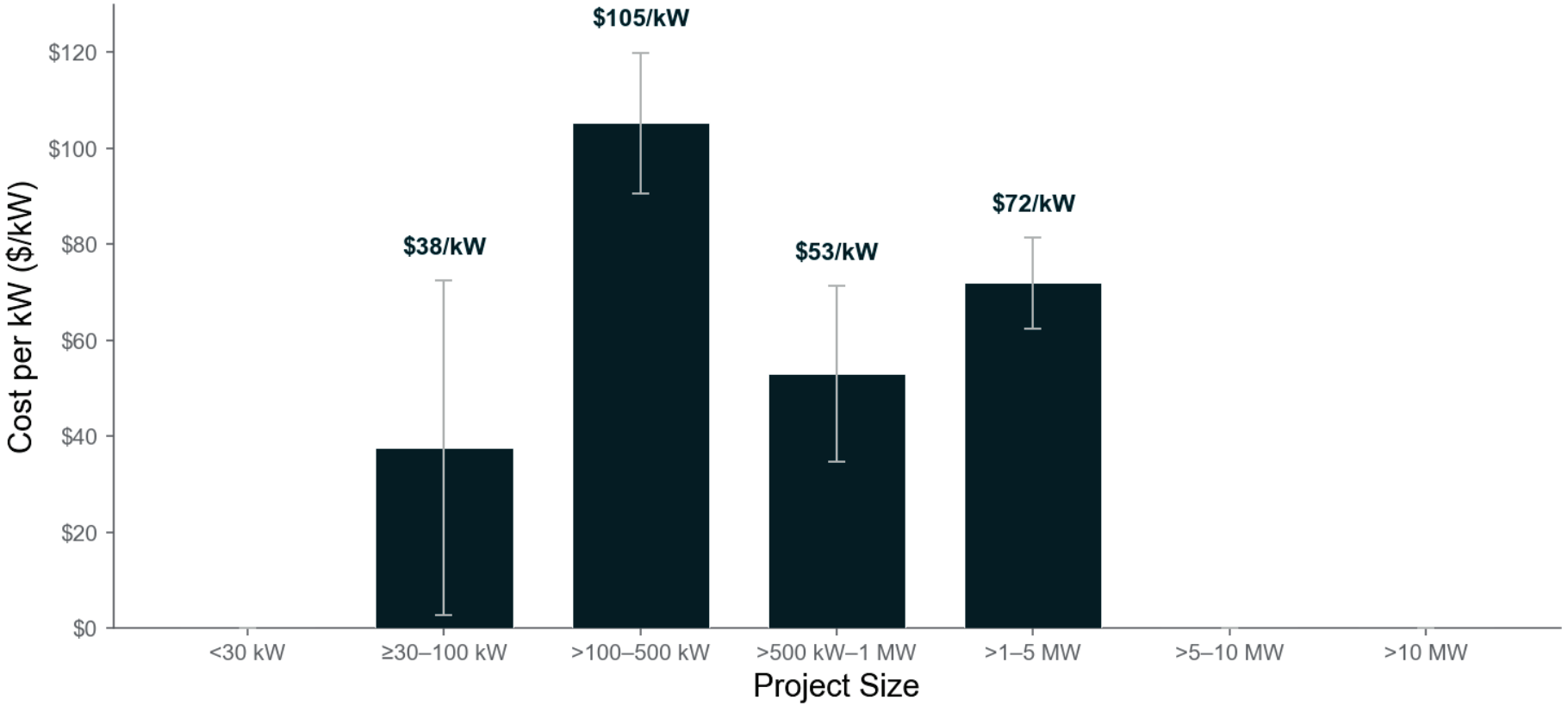
Includes only projects in process or in service; excludes withdrawn or cancelled projects.
States represented: CO, CT, NY, RI, with the majority of data (>99%) representing NY.
See Technical Appendix for full sample details.

New York Median Interconnection Upgrade Costs by Project Size (2015-2025)



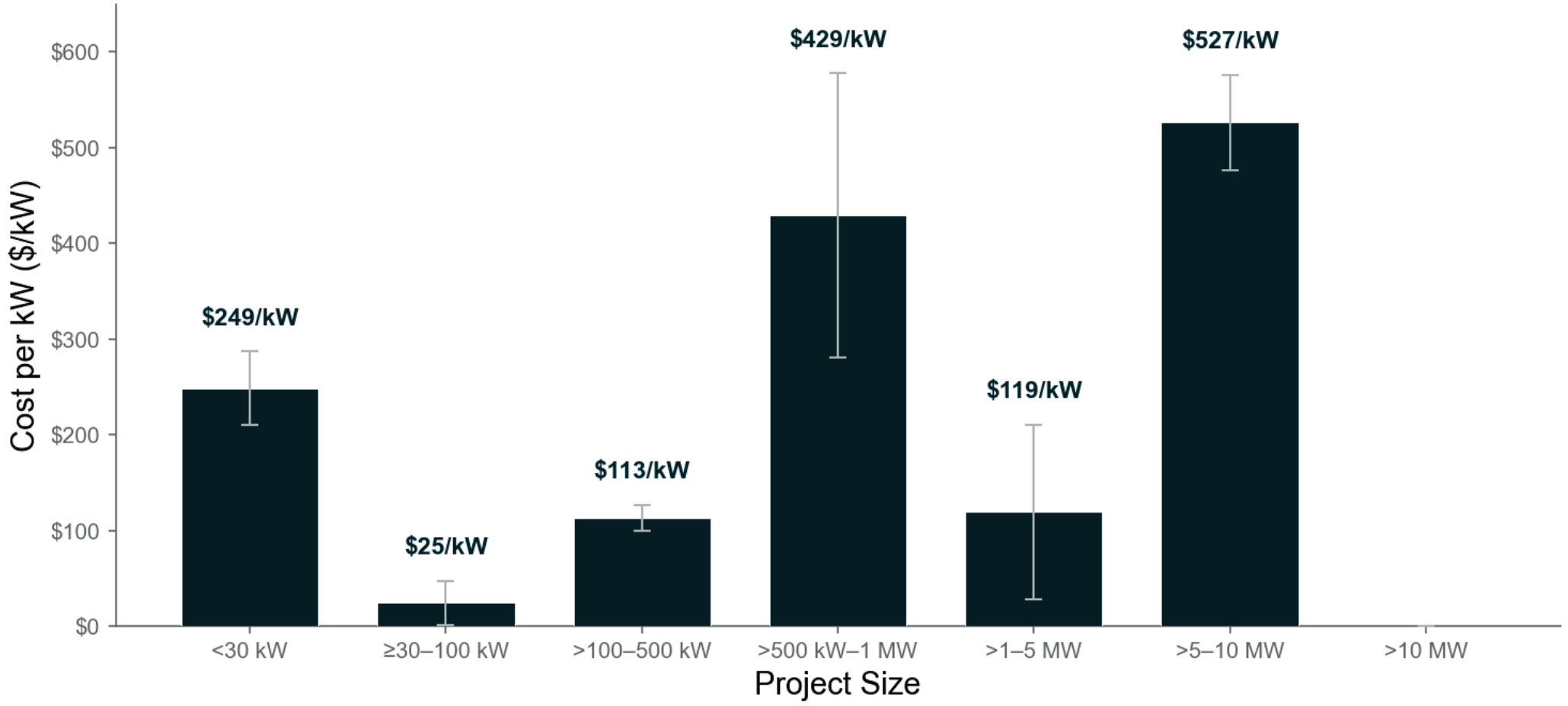
Includes only projects in process or in service; excludes withdrawn or cancelled projects.
See Technical Appendix for full sample details.

Colorado Median Interconnection Upgrade Costs by Project Size (2015-2024)



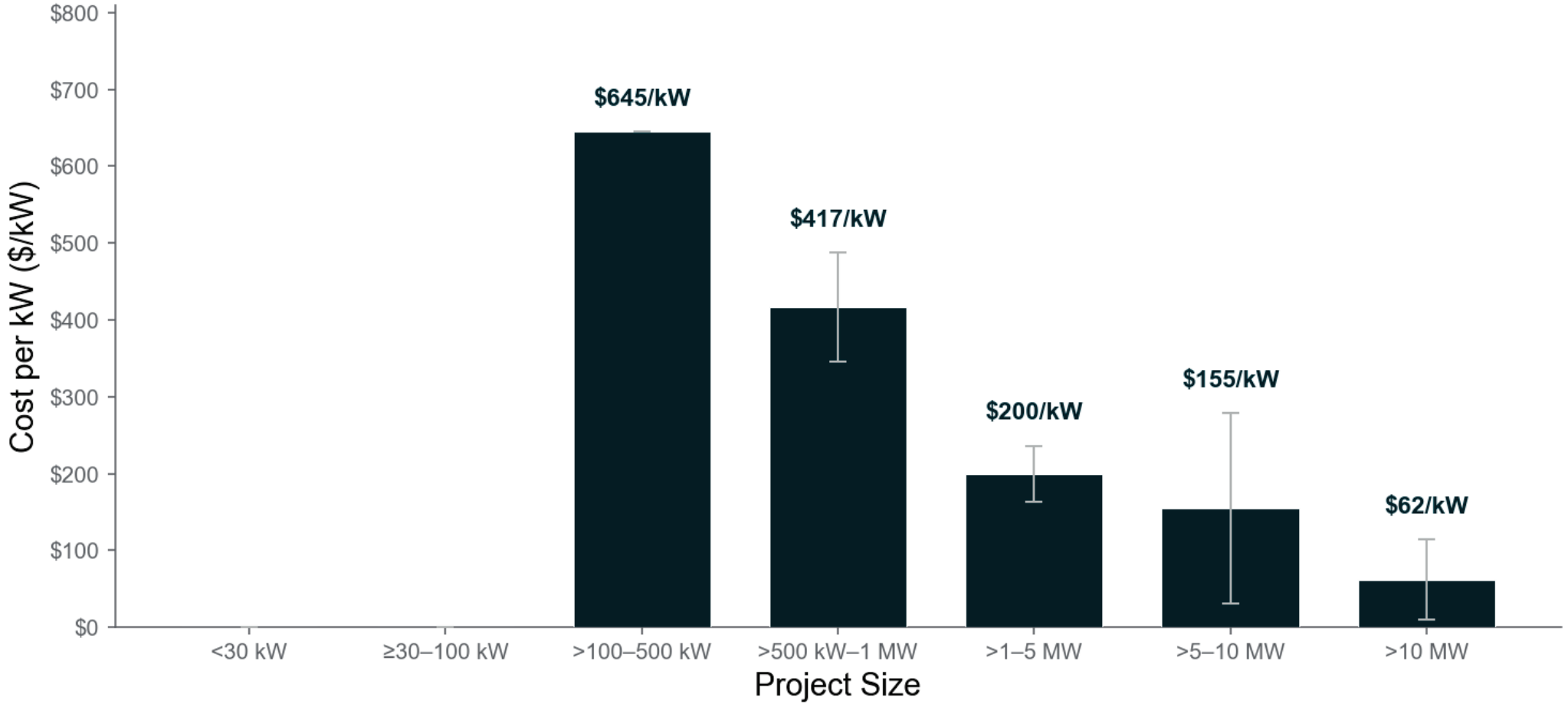
Includes only projects in process or in service; excludes withdrawn or cancelled projects.
Data availability limited to 2015-2024.
See Technical Appendix for full sample details.

Rhode Island Median Interconnection Upgrade Costs by Project Size (2015-2025)



Includes only projects in process or in service; excludes withdrawn or cancelled projects.
See Technical Appendix for full sample details.

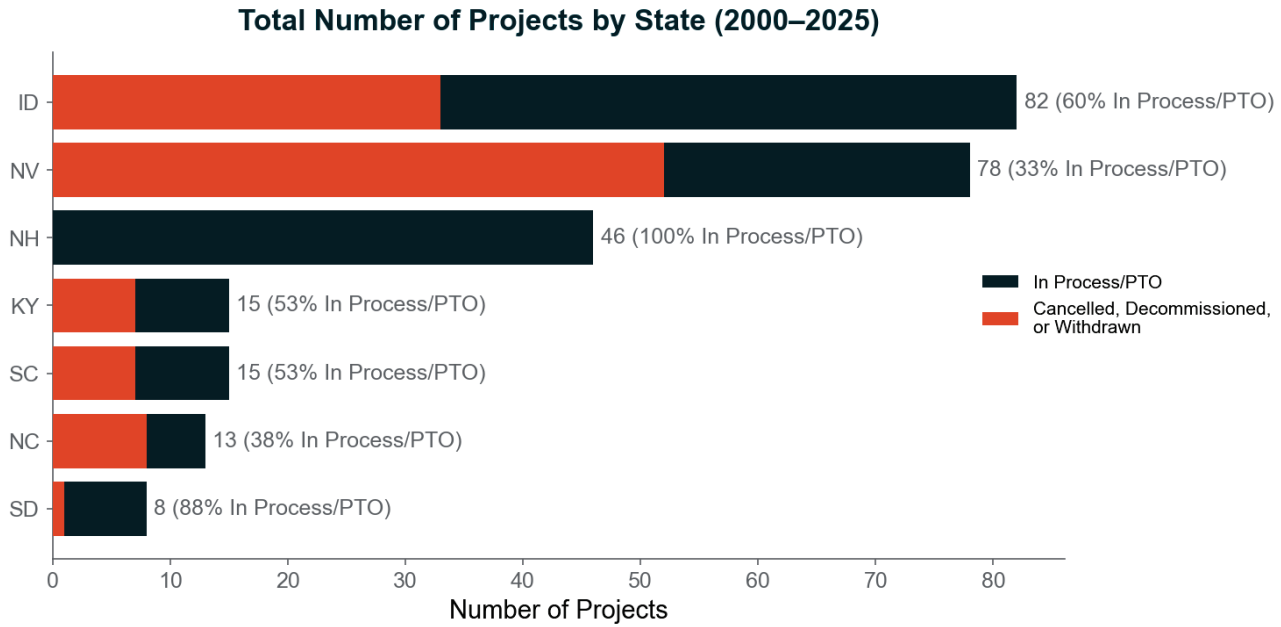
Connecticut Median Interconnection Upgrade Costs by Project Size (2020-2025)

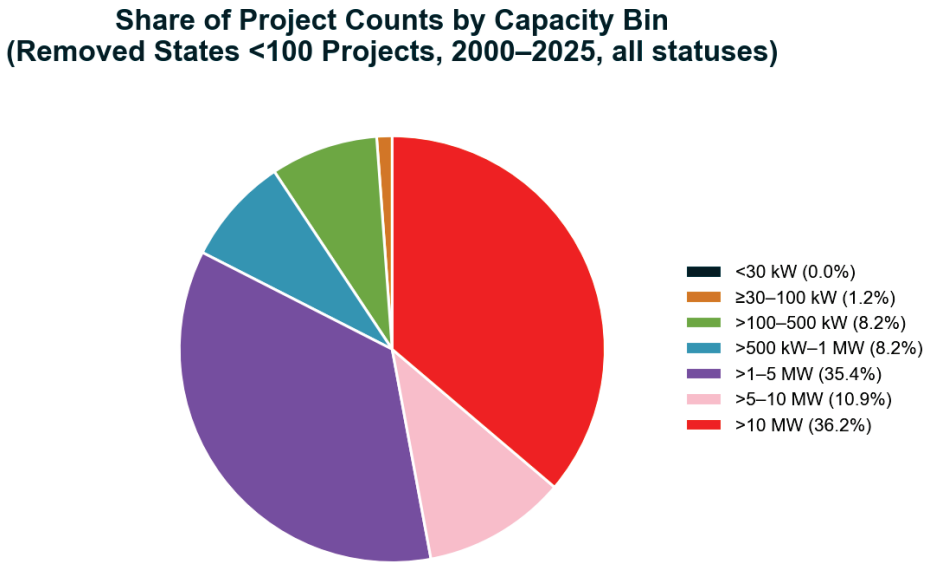


Includes only projects in process or in service; excludes withdrawn or cancelled projects.
Data availability limited to 2020-2025.
See Technical Appendix for full sample details.

Removed Projects

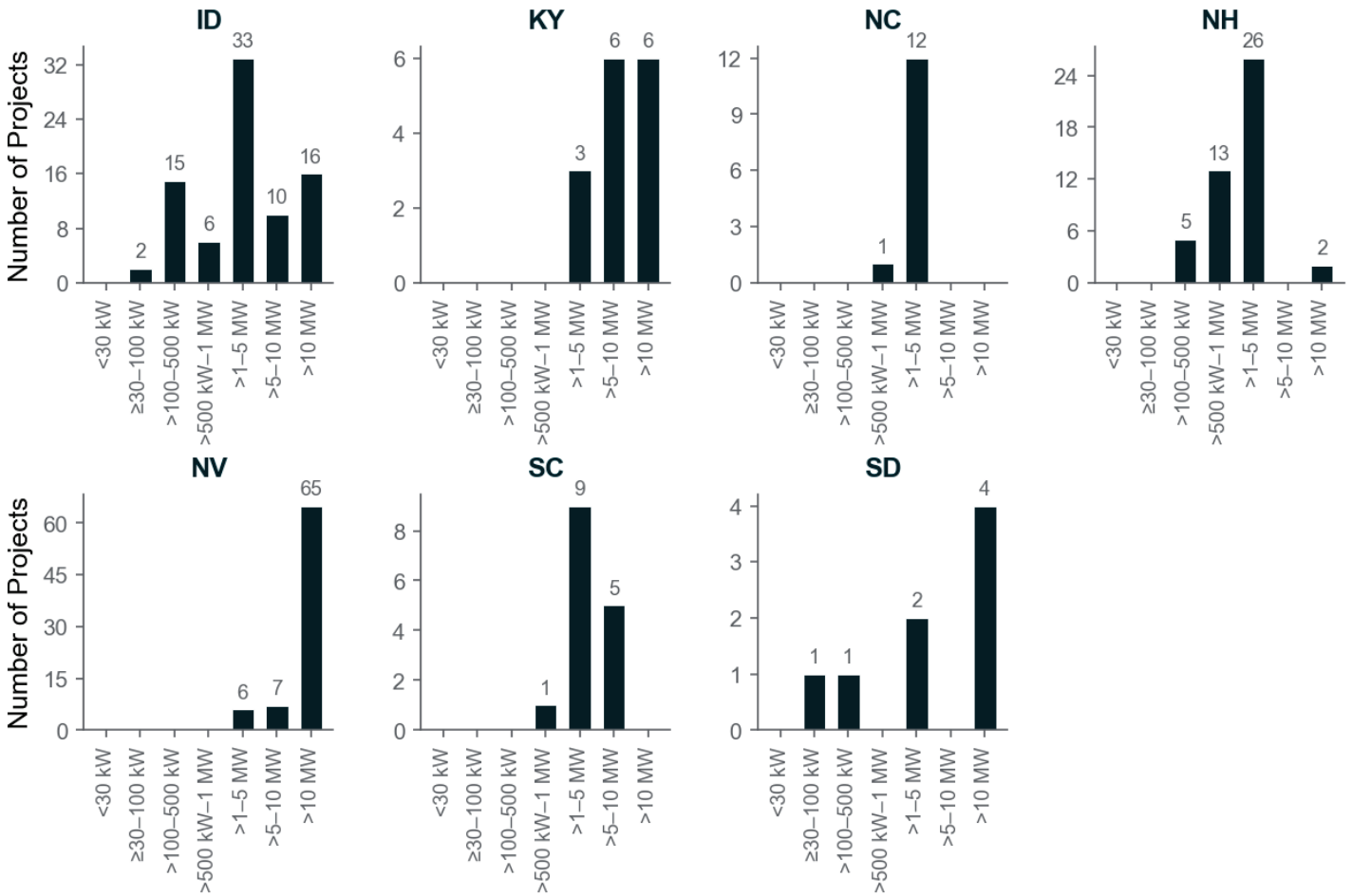
Projects Removed by State and Project Size (1)





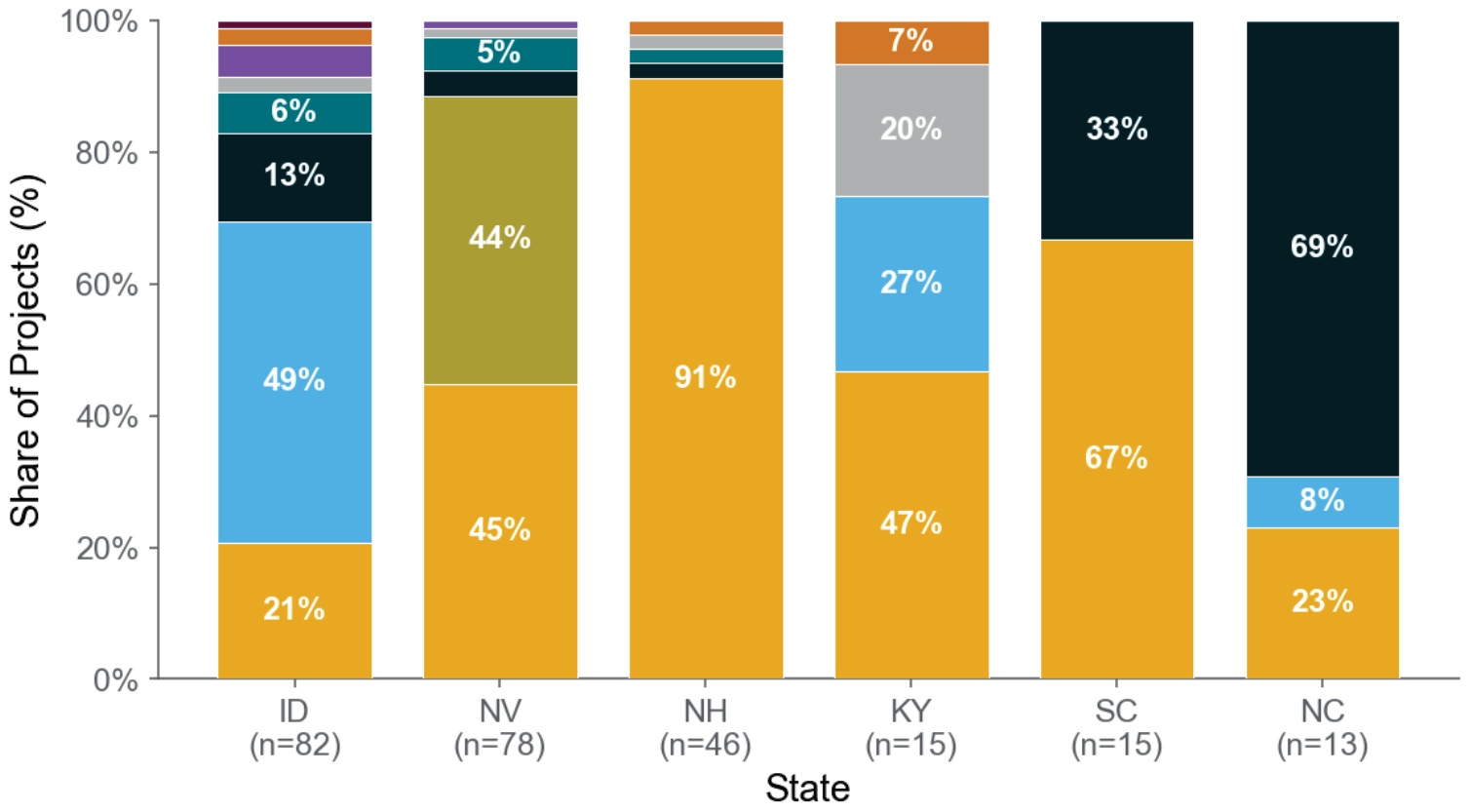
See the Technical Appendix for full sample details.

Projects Removed by State and Project Size (2)



See the Technical Appendix for full sample details.

Projects Removed by State and Technology (2000-2025, All Statuses)



Removed states with <100 projects from LBNL's sample

- Solar
- Hydropower
- Geothermal
- Storage
- Hybrid
- Other
- Biofuels/Biomass
- Natural gas/Oil
- Nuclear

See the Technical Appendix for full sample details.