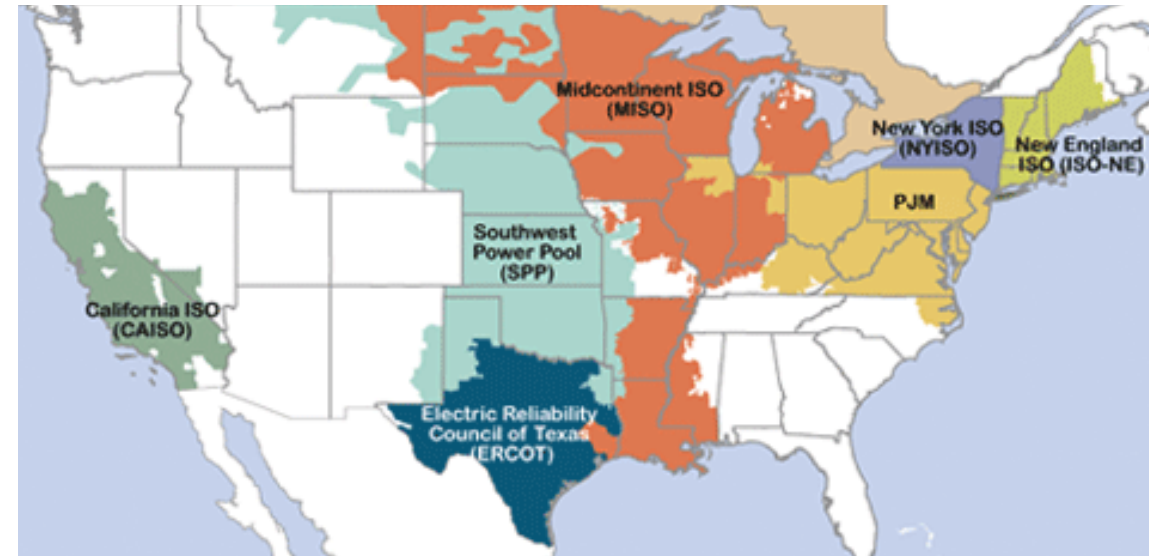# US 2020 Energy Market Value

Reference Case

Miles Evans
08/05/2021

Case Description

Value of Energy Shifting

- Hub-level across United States ISO/RTO regions
- Energy time shifting only
- Very simple storage model
  - 85% roundtrip efficiency
  - Variable duration (2-96 hours)
 - No auxiliary load, self discharge, minimum power, etc.

Setup

- Install command line version of DER-VET and StorageVET as a sub-module
- Download Reference Case .zip file and extract contents
- Move model parameters files to dervet folder
- Move run_all.bat to dervet folder
- Move timeseries data files to dervet\storagevet\data\Timeseries Files
- Move other data files to dervet\storagevet\data
- Run all cases at once with run_all.bat file on Windows
  - Open anaconda prompt
  - cd to dervet directory
  - Activate DER-VET virtual environment
  - Type "run_all.bat" and hit enter

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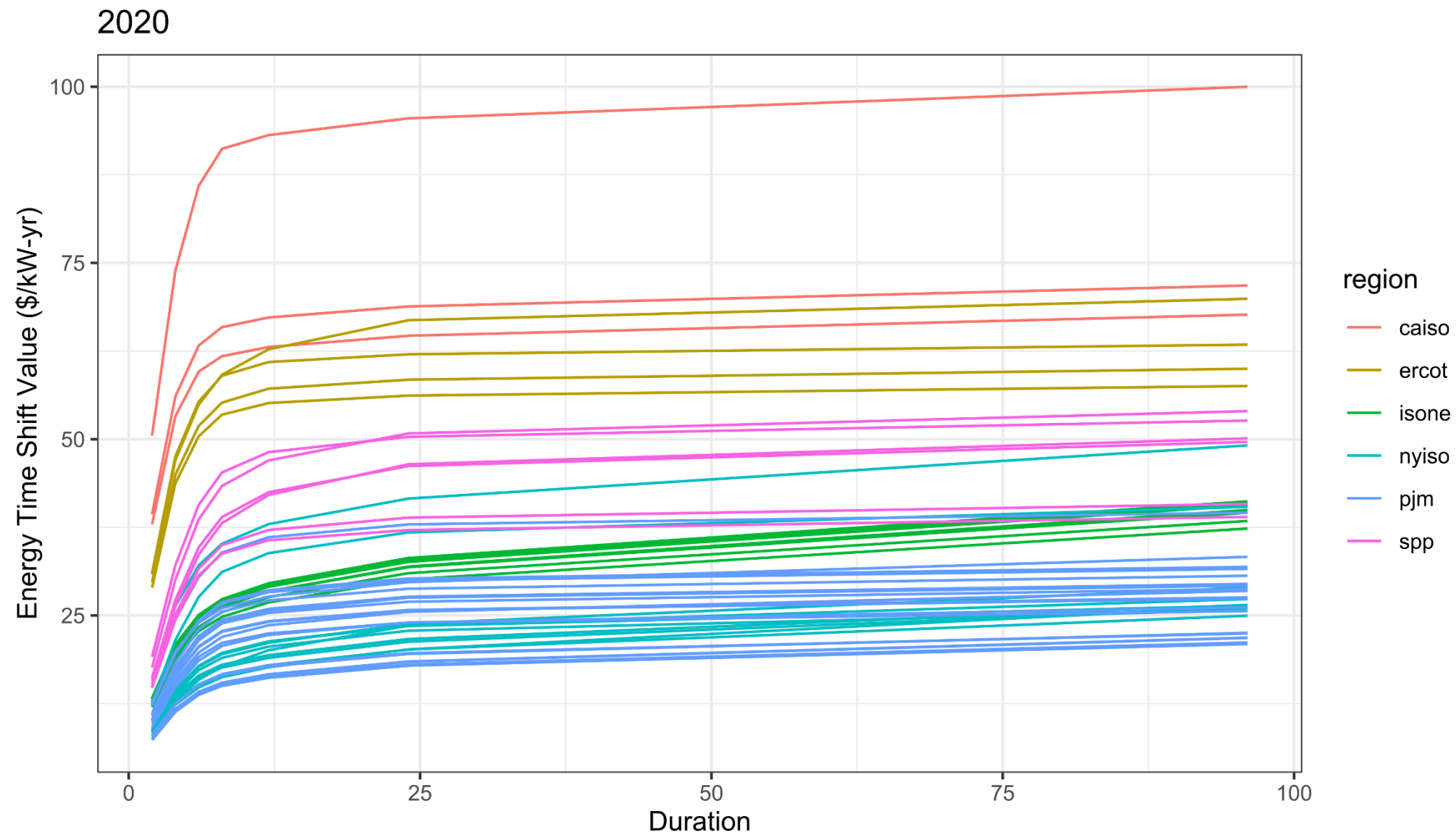
Results

Results
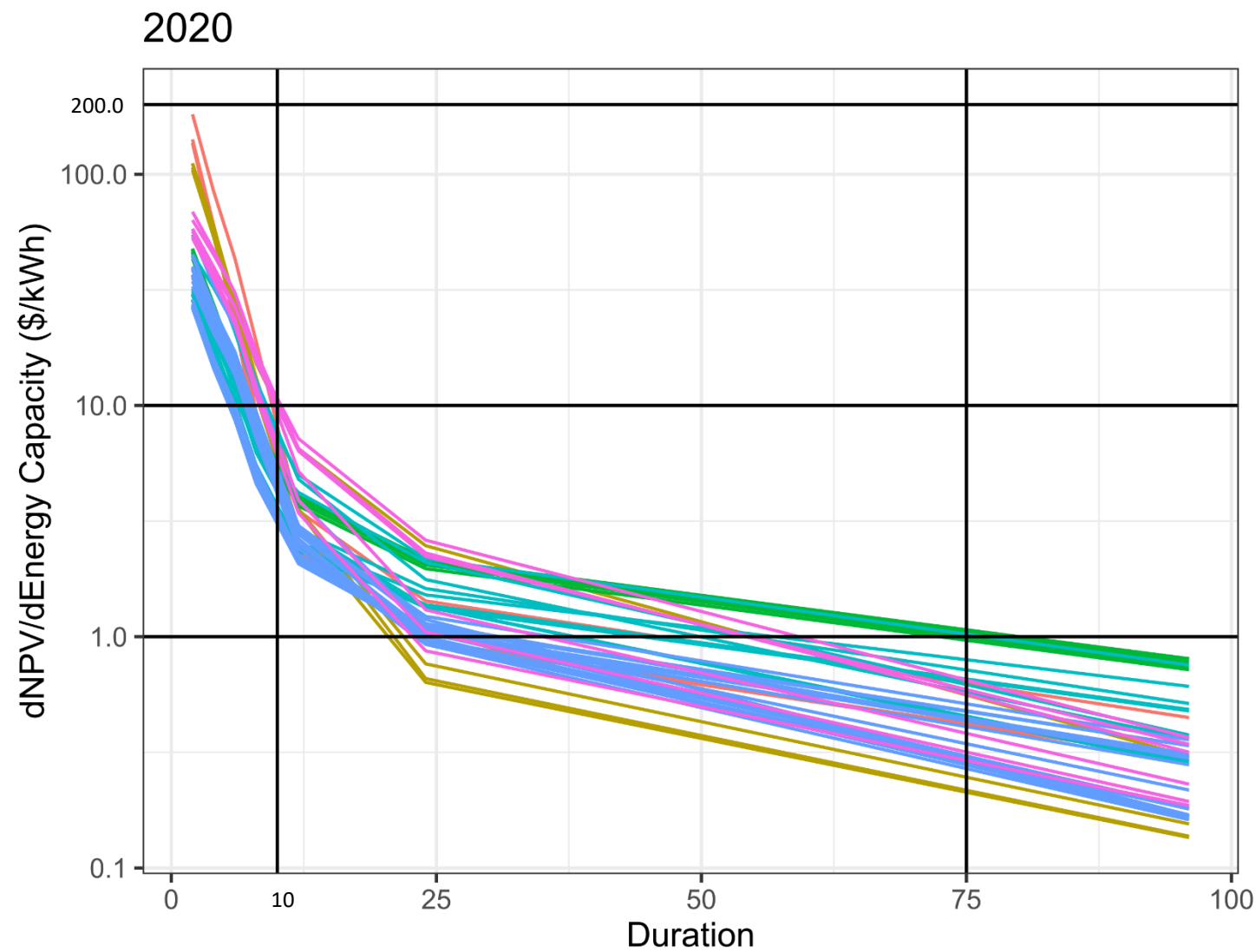
2020

Assuming 10yr life and 7% discount rate

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Conclusion

- No capacity value or other services (note, ERCOT is included)
  - Future work could add in capacity value, where applicable
- Only looked at one historical year of data (2020)
  - Future work could bring in projections
- Only highly simplified Li-ion reference specs were used
  - Longer lived, lower efficiency technology options would be interesting, especially for the longer durations.
  - More detailed technology specs could improve results

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