



PCDS Meeting

October 23, 2024

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WECC

Case Comparison

- 2034 ADS V2 (No Tier3)
- 2034 ADS V2_10-16 (No Tier3)

Change Cases Applied

2034_ADS_PCM_V2(2024LnR)_V2.0_Living
Case_10-16b

- CleanGenlist_Order5.mdb
- States update_Order4.mdb
- Diff_ThermalGeneralFuel_Order1.mdb
- Fuels_Tech_Subtype_Cleanup_Order1.mdb
- T3_Turnoff_CAISO_DG_DR_T2_Order3.mdb
- GenRelocate_Greenlink_and_Other_Order2.mdb
- Diff_NCL_changecase2034to2032status.mdb
- SunZiaFixesMinor.mdb
- AS_Settings.mdb
- DG_DistributedByArea.mdb
- Diff_StationServiceSSturnedOff.mdb
- Storage_Next_to_WindSolar-HybridsUpdate_Order6.xlsx
- SunZiaTurnoff_NM_PV_Wind changecase
- Generator_LongID-Fixes LongID columns
- 2034_DemandResponse_wDistTable.mdb
- Other minor clean ups

Change Cases Applied

- Update titles of interfaces to include direction. EX. (W-E, N-S, S-N, E-W)
- Combined Cycle Pmax fix and a/b representation
- Fix for Combined Cycle units, gas units modeled separately from steam, fix to a/b configuration
- Correct fuels assignments and Pmin Pmax, CO2 groups
- Path 14, 15, 26, 66 corrections
- Inclusion of the NSONGS topology fixes
- Correction of the PCapMin and GCapMin in the PumpedStorage table to 0 instead of negative values.

Remaining Change Cases

- Update the hourly resource shapes for new units
- Update Reserves
- Energy Storage/Pump Storage aggregations (WECC GIS Specialist)-Runtime
- Move Wyoming Generic (Wind) unit from PNM to CISC
- Update the Monthly and Weekly Hydro data for Canadian hydro units per new data from PNNL

Keep in mind

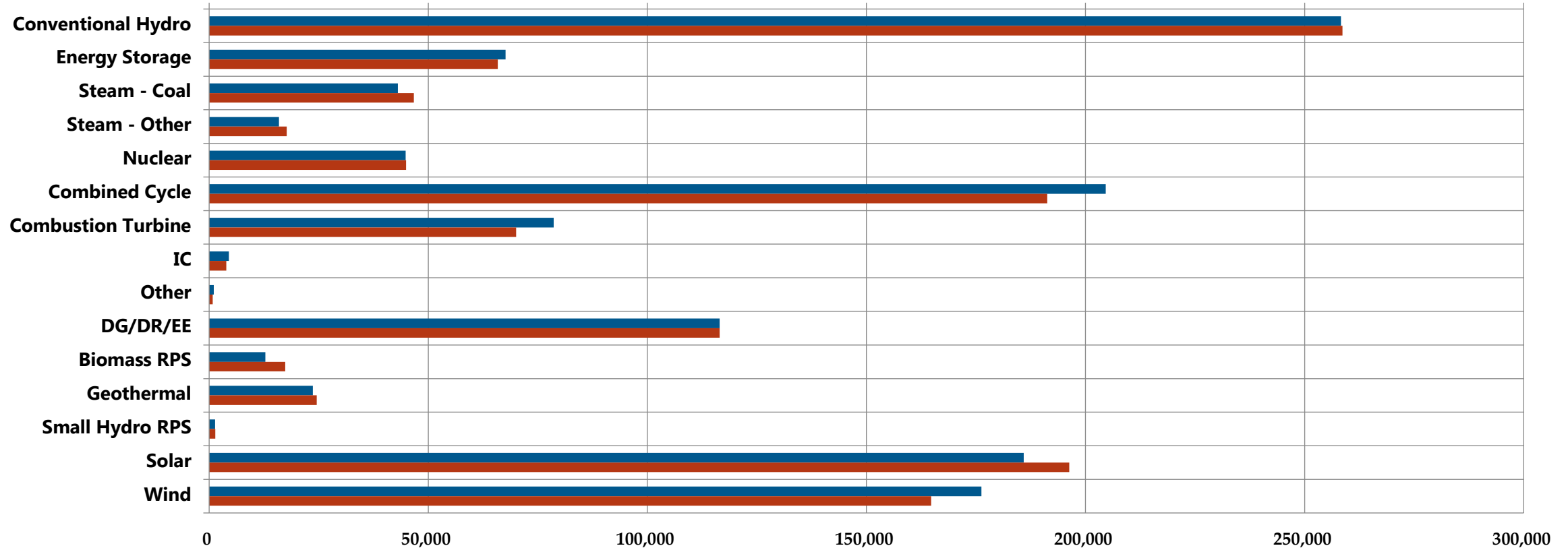
- Both cases were simulated with
 - Tier 3 resources turned off
 - MIO enabled
 - Look Ahead enabled

Annual Energy

Annual Generation by Category (GWh)

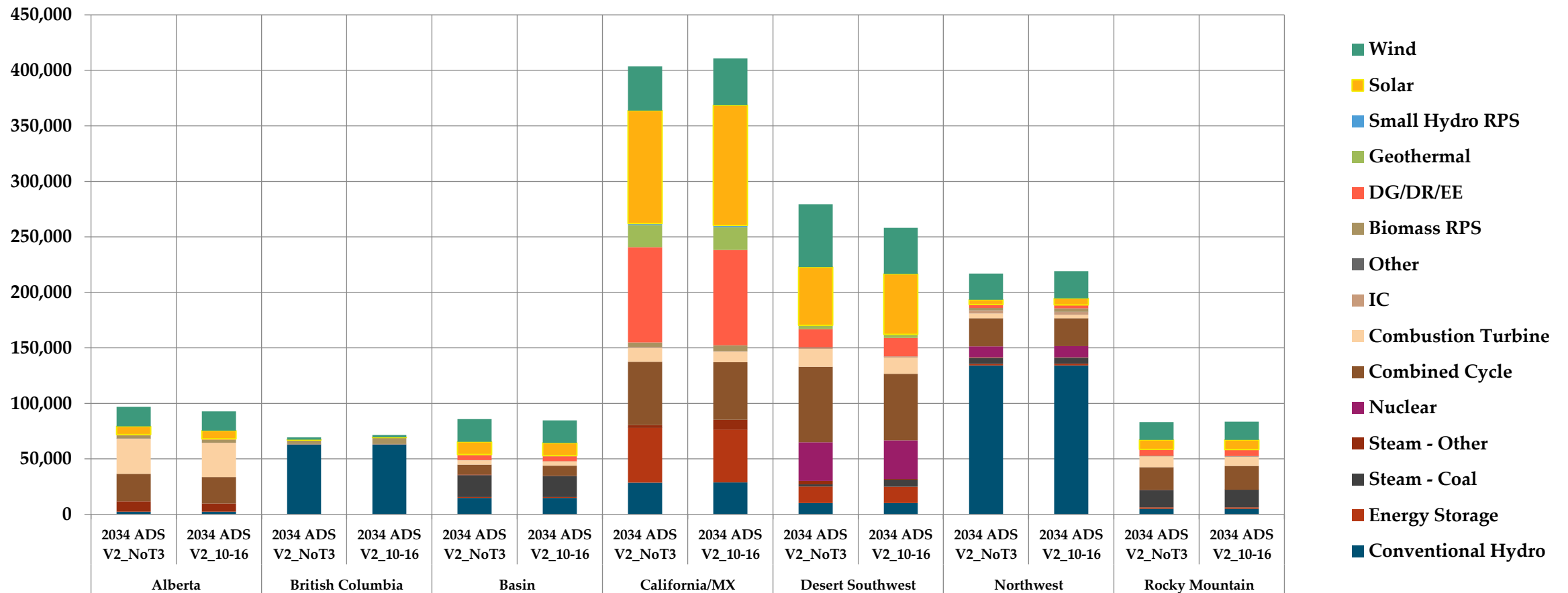
■ 2034 ADS V2_NoT3 ■ 2034 ADS V2_10-16

Total Increase = -14,354 GWh



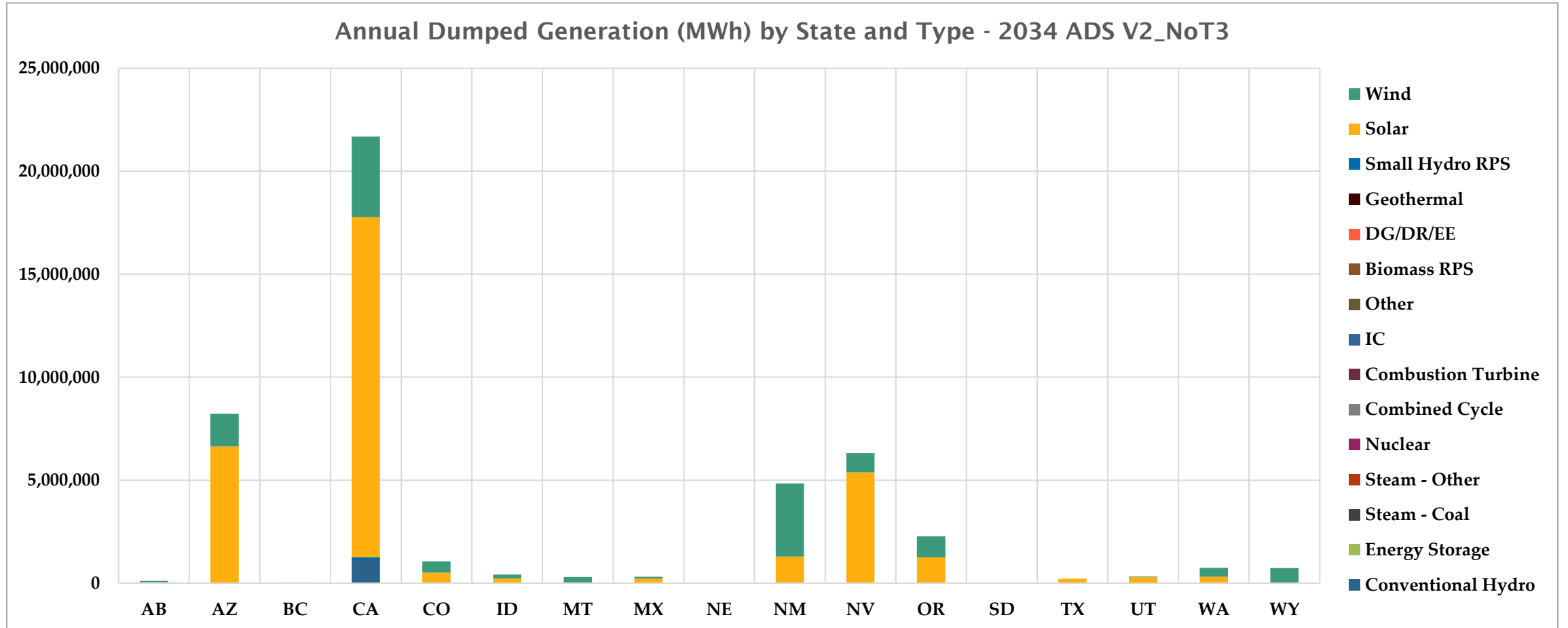
Annual Energy

Energy By Subregion (GWh)



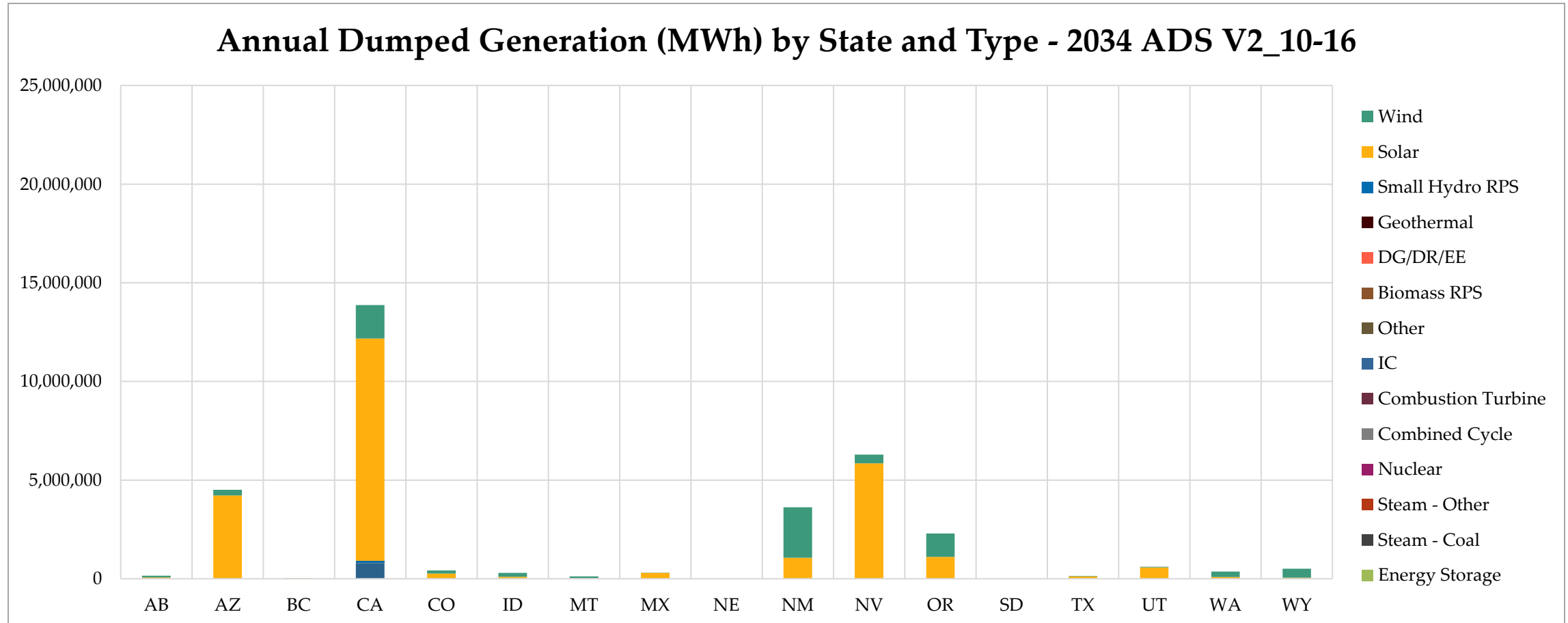
2034 ADS V2 No Tier3

Total: 47,597,277 MWh



2034 ADS V2_10-16 (No Tier3)

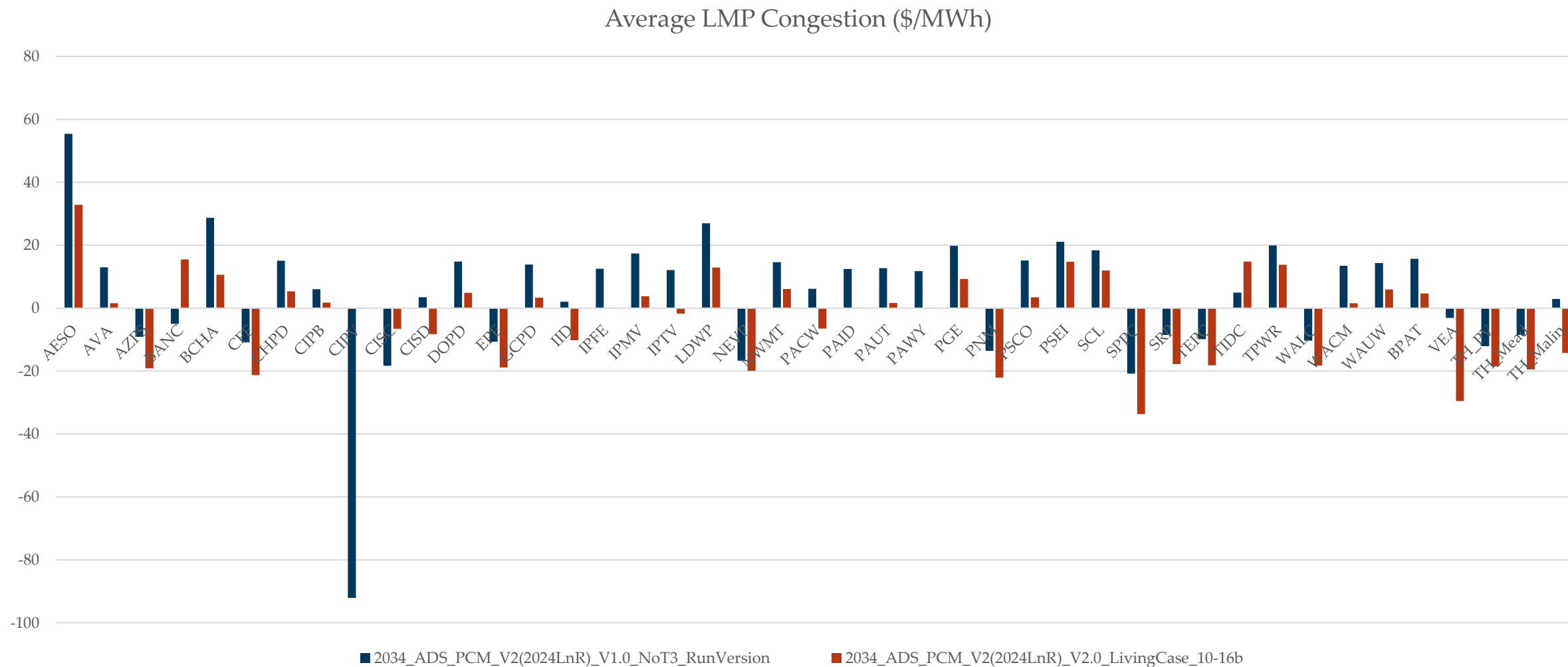
Total: 33,547,376 MWh



Unserved Load

- No unserved load observed in either of the 2034 ADS cases.

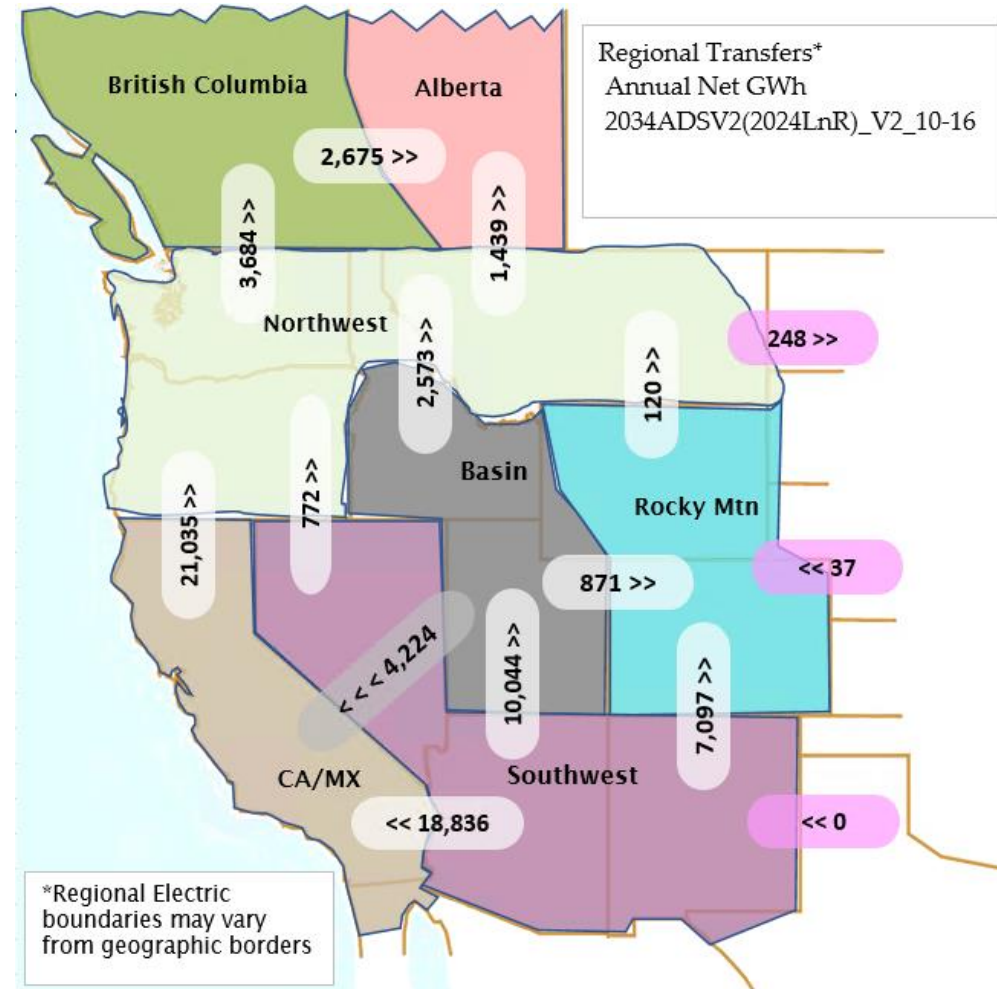
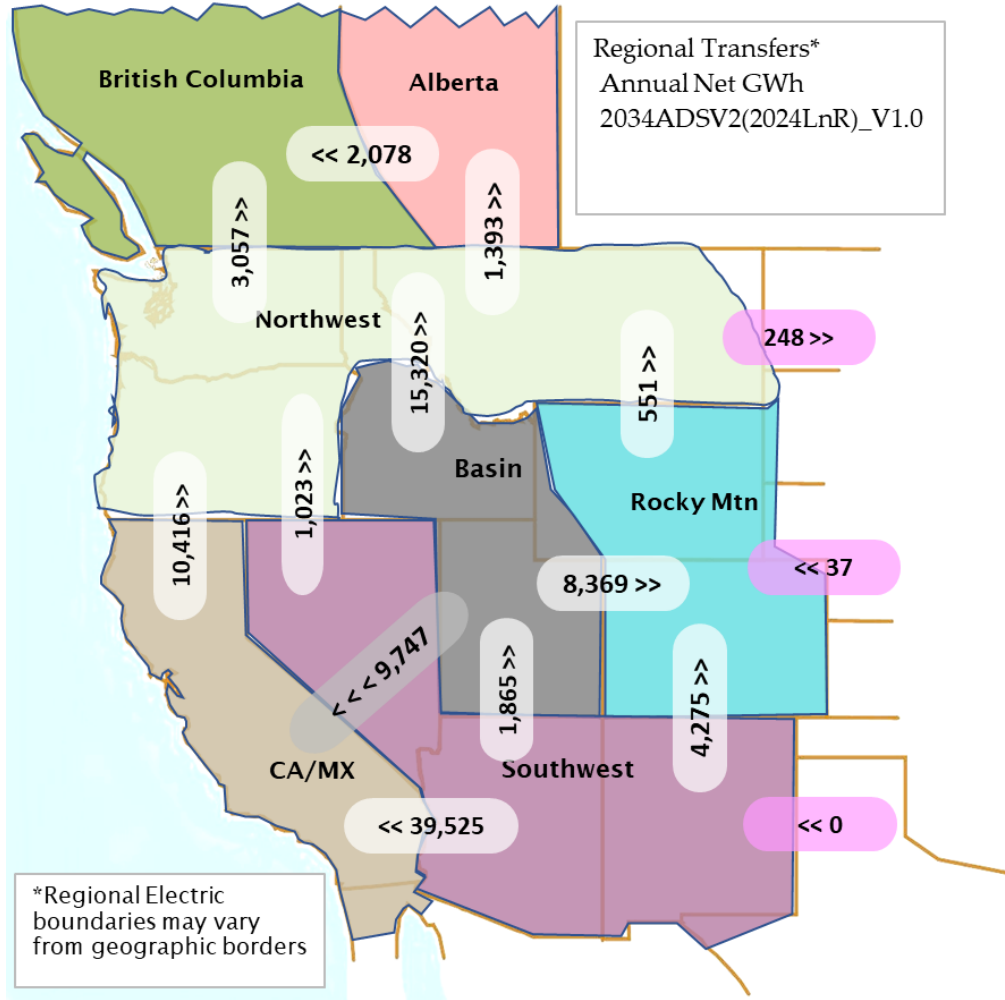
Average LMP Congestion (\$/MWh)



Transmission Congestion hours

- 2034 ADS V2 No Tier3
 - 190,754 hours
- 2034 ADS V2_10-16 (No Tier3)
 - 90,338 hours

Net Regional Transfers



Run Time

- 2034 ADS V2 No Tier3
 - ~24 hours
- 2034 ADS V2_10-16 (No Tier3)
 - ~20 hours

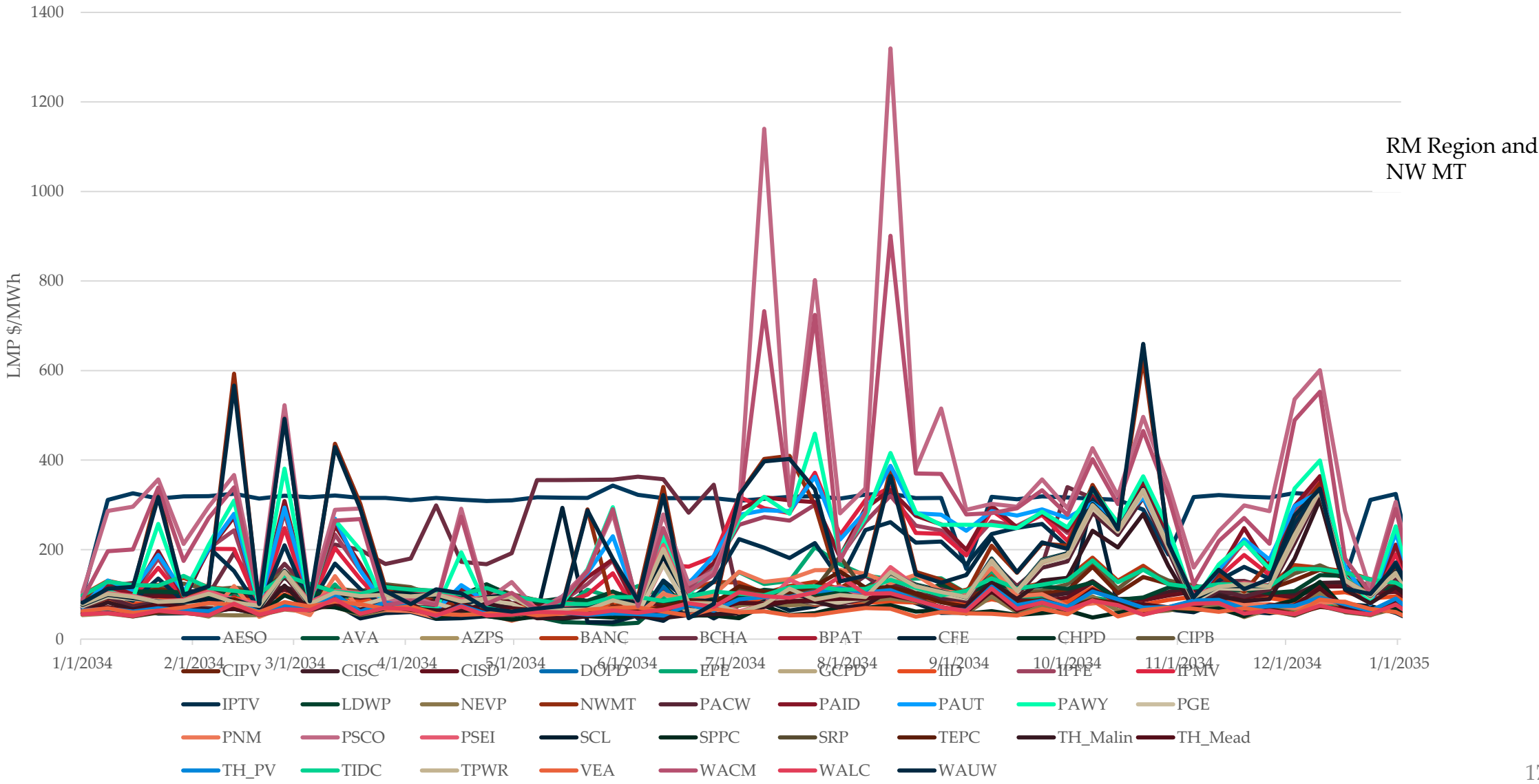
Effects of Tier 3 Resources on LMPs

To address the Average LMP spikes in the simulation on the 2034 ADS V2_10-16 (No Tier3) case, 2 largest Thermal/Hydro Tier 3 units and 1 largest energy storage Tier 3 unit were enabled for testing

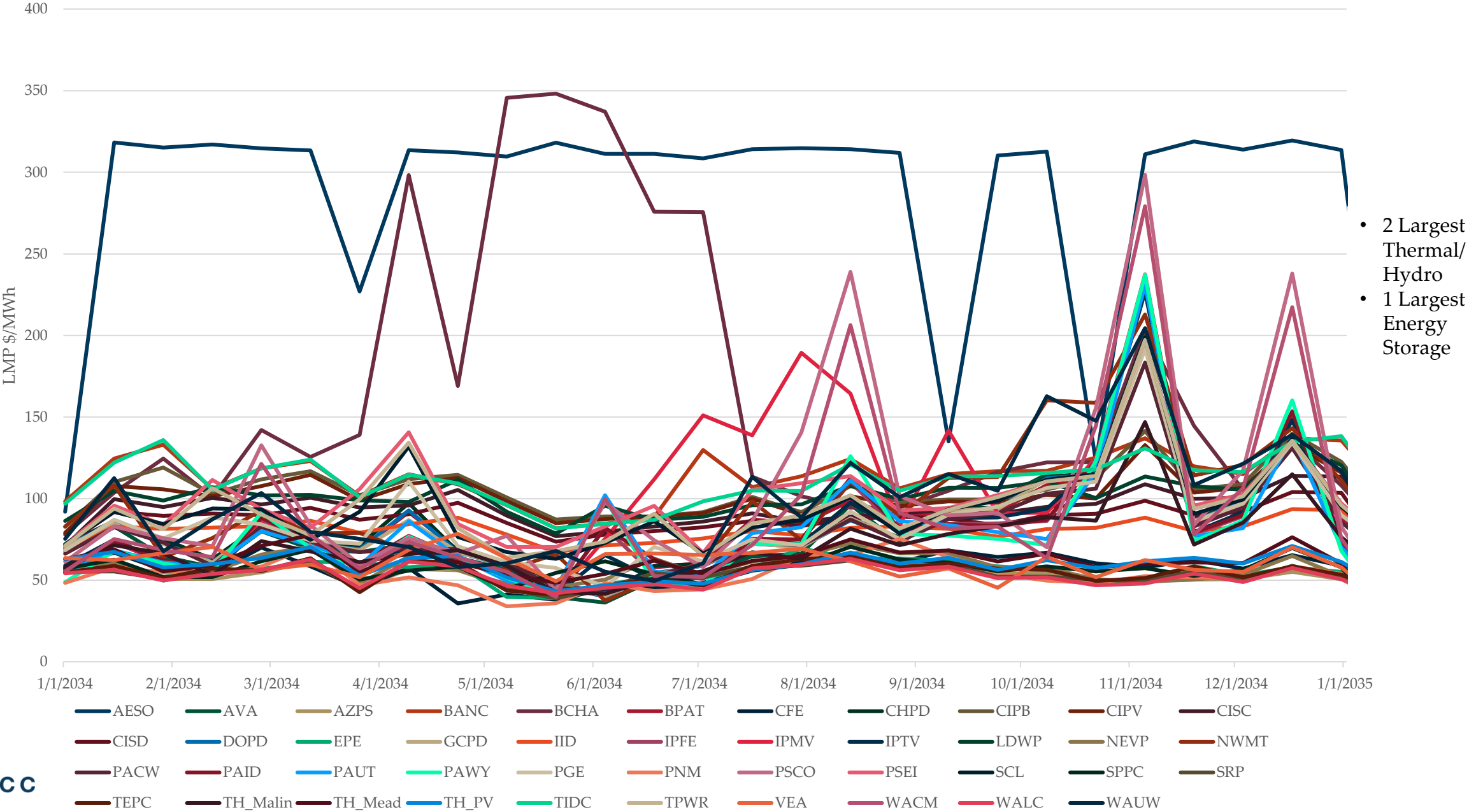
2034 ADS V2_10-16 (No Tier3)

Highest LMP by week

Reference



2034 ADS V2_10-16 (No Tier3) case with few T3 Resources enabled
Highest LMP by week





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