Scenario 1B Sensitivity: With/Without Demand Response

SAAC Meeting

6/23/2015

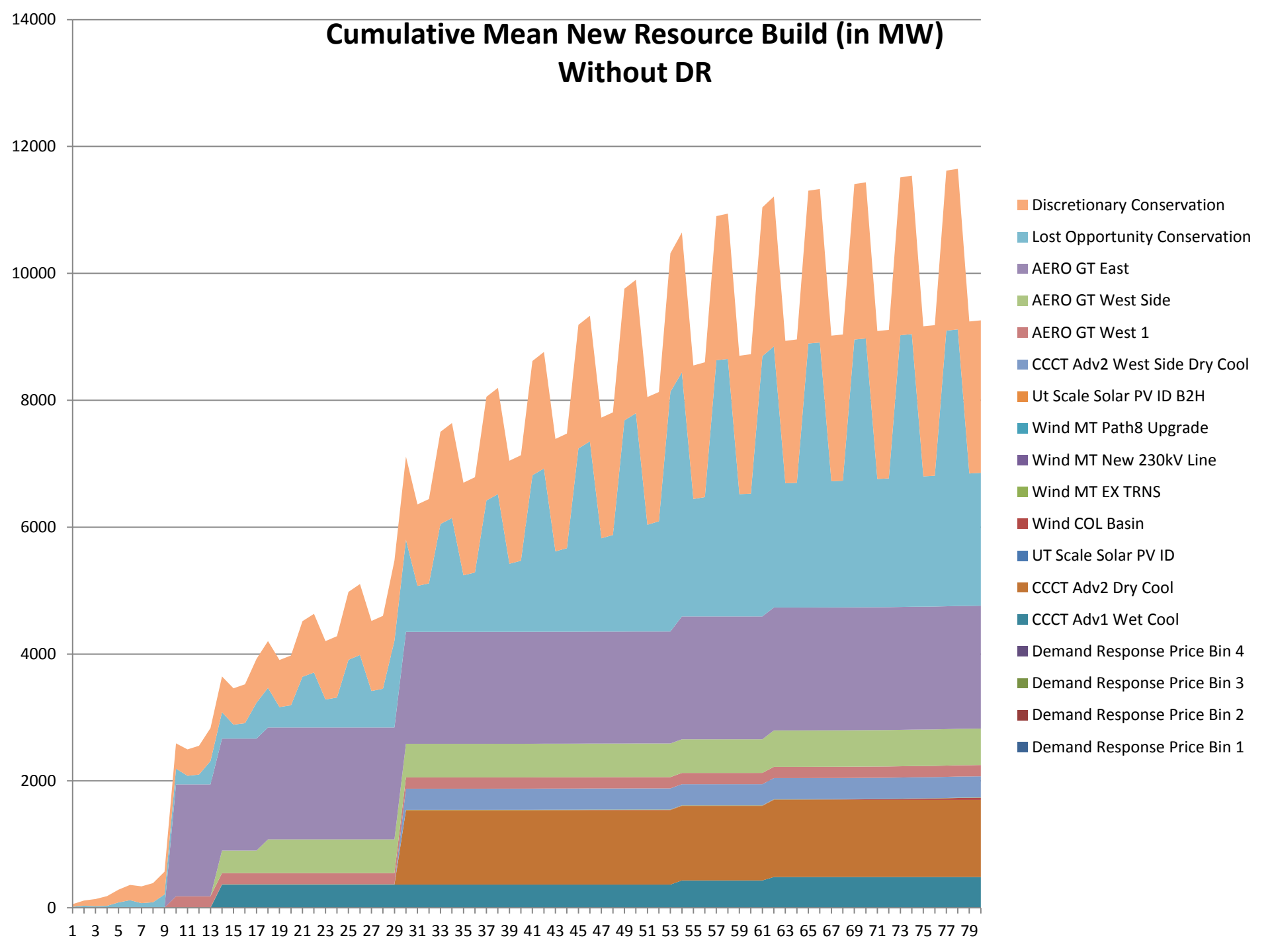
Main Results

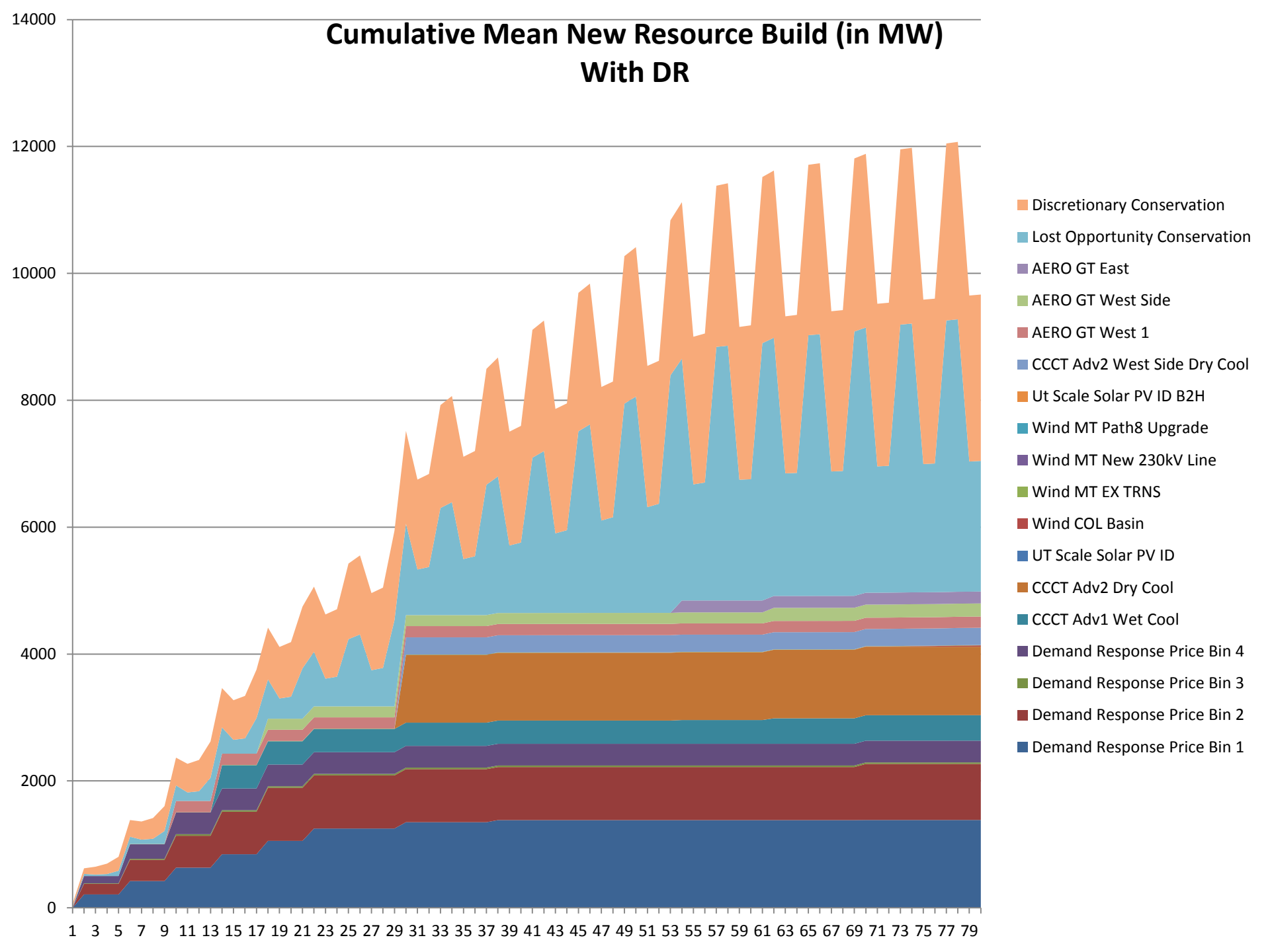
If Demand Response were not available…

1. The system cost would be 4 billion dollars more.
   - Based on delta of NPV (in 2012 $) without adequacy penalties.
   - Closer to 14 billion dollars more when including adequacy penalties.
2. The system is WAY more risky.
   - CVAR is over 90 billion dollars more.
   - System is more adequate with DR and Conservation initial response to a peak adequacy need than a SCCT and Conservation response.

Major Drivers of Results in RPM

- Timing:
  - About 1000 MW of DR resources can be optioned and built before SCCT can be built (Q1 2018)
  - DR defers the size of the SCCT build until after 2030.
- Resource Size/Attributes:
  - DR and Conservation can meet the adequacy need more efficiently, the SCCT has to build more than is needed.
  - DR effectively reduces need for SCCT builds early in study period in almost all cases, and reduces the likelihood for CCCT builds in some cases later in the study.


Cumulative Mean New Resource Build (in MW)
Without DR
14000
12000
10000
8000
6000
4000
2000
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79
Discretionary Conservation
Lost Opportunity Conservation
AERO GT East
AERO GT West Side
AERO GT West 1
CCCT Adv2 West Side Dry Cool
Ut Scale Solar PV ID B2H
Wind MT Path8 Upgrade
Wind MT New 230kV Line
Wind MT EX TRNS
Wind COL Basin
UT Scale Solar PV ID
CCCT Adv2 Dry Cool
CCCT Adv1 Wet Cool
Demand Response Price Bin 4
Demand Response Price Bin 3
Demand Response Price Bin 2
Demand Response Price Bin 1


Cumulative Mean New Resource Build (in MW)
With DR
14000
12000
10000
8000
6000
4000
2000
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79
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Demand Response Price Bin 4
Demand Response Price Bin 3
Demand Response Price Bin 2
Demand Response Price Bin 1