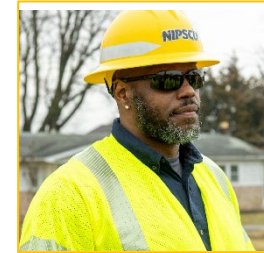




DSM: MPS AND IRP INPUTS

Jeffrey Huber, GDS Associates
Jesse Smith, Demand Side Analytics

November 03, 2026



OUR VISION IS TO BE A
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ENERGY PARTNER



DSM INPUTS FOR 2026 IRP

NIPSCO Ask: 2024 Model Updates and DSM Input Refresh

- **Model Updates**
 - GDS and Demand Side Analytics (DSA) engaged to leverage the 2024 MPS models and updated select key inputs
- **DSM Input Refresh**
 - Repull DSM inputs using the same bundle approach applied in the prior IRP
- **Three-Vintage Framework:**
 - **2027-2029:** Inputs aligned with the as-filed DSM Plan
 - **2030-2032:** Inputs based on updated MPS model results for the second three-year vintage
 - **2033 and beyond:** Inputs based on updated MPS model results for the final vintage
- **Scope of Updates**
 - No significant changes to be made to the underlying MPS methodology or DSM input development methodology
 - An updated MPS is expected to be conducted in 2027.

CHANGES TO INPUTS AND ASSUMPTIONS SINCE THE 2024 MPS AND IRP

Updated data came from two main sources:

Updated Data from NIPSCO

- **Overall Sales, Peak Load Forecast, and Customer Forecasts**
- **EV Forecast**
 - Lower than the prior study; lowers EV charging potential
- **Solar Forecast**
 - Similar to prior study; affects battery storage DR potential
- **NIPSCO Program Planning Assumptions**
 - EE: Used 2026 Plan incentives and non-incentive cost assumptions
 - DR: Smart Thermostat values used exactly (2027-2029 Plan)
 - DRL C&I DR values used as a guide rather than explicitly (2027-2029 Plan)
- **Data Centers are Excluded for both EE & DR**
 - Previously only excluded for EE
- **General Assumptions like Inflation and WACC**
- **Economic Assumptions**
 - Increase in avoided generation capacity
 - Minor changes to avoided energy cost, inflation rates, and WACC (discount rate)

Updated Data from Other Sources

- **Updated MISO Resource Adequacy hours**
 - Using 2026 update
- **Seasonal End-Use Load Shapes from NREL**
 - DR: Using 2026 shapes for Smart Thermostats (heating and cooling), EV Charging, Water Heating
- **Battery Cost Assumptions from NREL**
 - 2026 battery cost assumptions are lower than the ones used in the prior study
- **Refreshed the price elasticity of supply for C&I DR**
 - Based on historic PJM auction results
 - Same source as 2024, just more data

The accelerated development of IRP inputs did not allow for models to be redesigned, new measures to be added, or changes to the achievable potential scenarios

THE MODELING APPROACH AND OTHER KEY INPUTS STAYED THE SAME

- **Each season is modeled independently in case it is a binding constraint in the IRP (DR)**
- **Avoided cost of T&D capacity**
- **Line loss factors**
- **No material changes to market segmentation outside of updated forecasts**
- **Guiding principles of RAP, Enhanced RAP, and MAP**
 - No change to long-term adoption rate data and achievable potential scenario methodology
- **For demand response, IRP inputs include offerings that do not pass UCT screening**
 - EE measures are screened for cost-effectiveness
- **Time-varying rates become available in 2030 (DR)**
 - RAP is a default peak time rebate offering
 - MAP is default TOU with opt-in CPP

UPDATED SALES FORECAST USED IN MPS

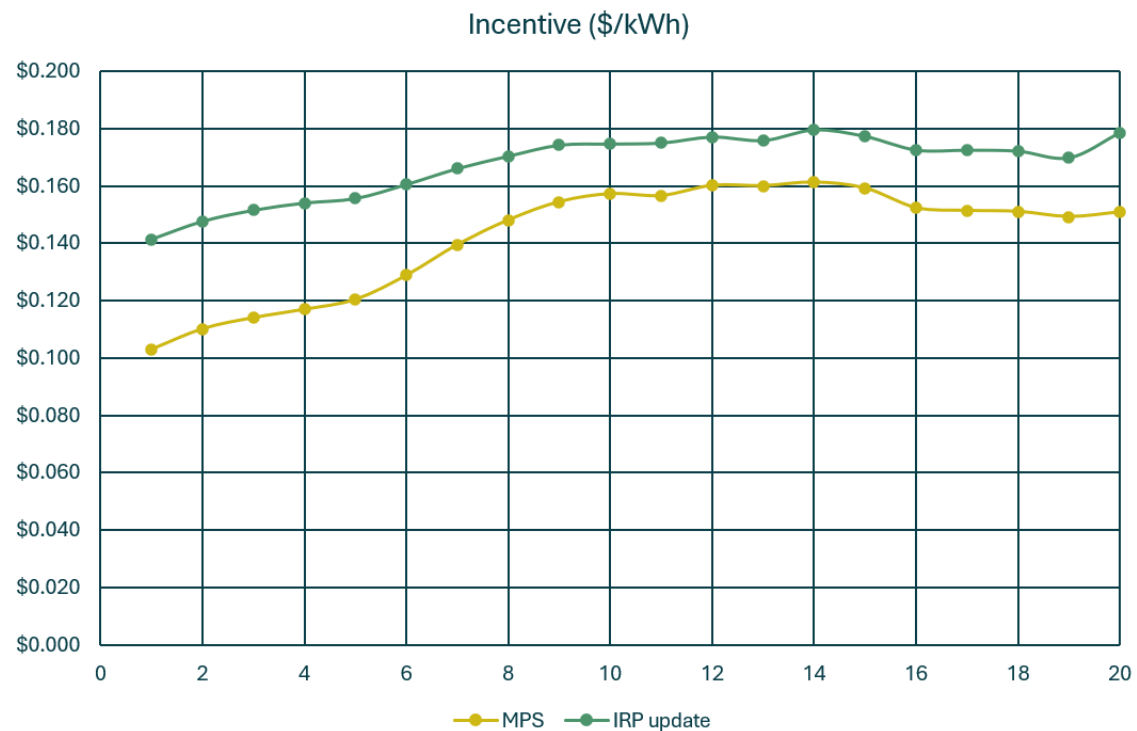
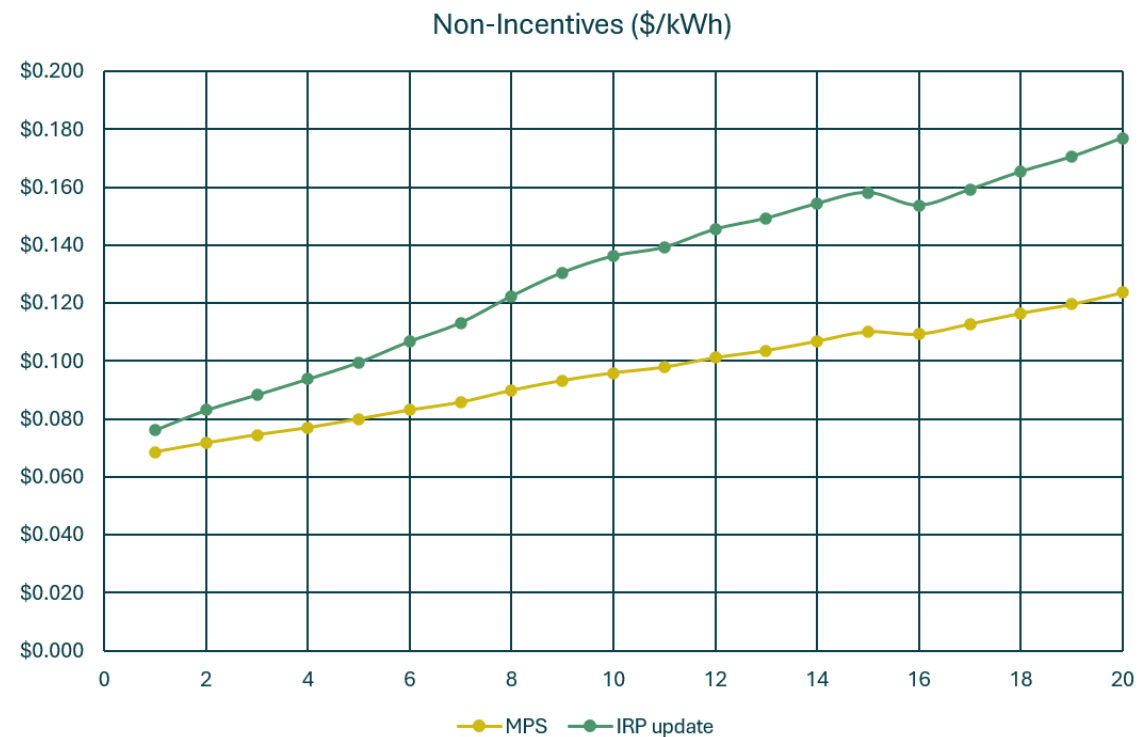
- NIPSCO provided its 2026 Updated Sales Forecast
- GDS made the same adjustments used in 2024 MPS
 - CRA adjusted 2024 NIPSCO forecast to remove implied DSM. GDS used the adjustment ratio seen in the 2024 MPS and applied to the 2026 NIPSCO forecast GDS applied the same opt-out rate % as used in the 2024 MPS



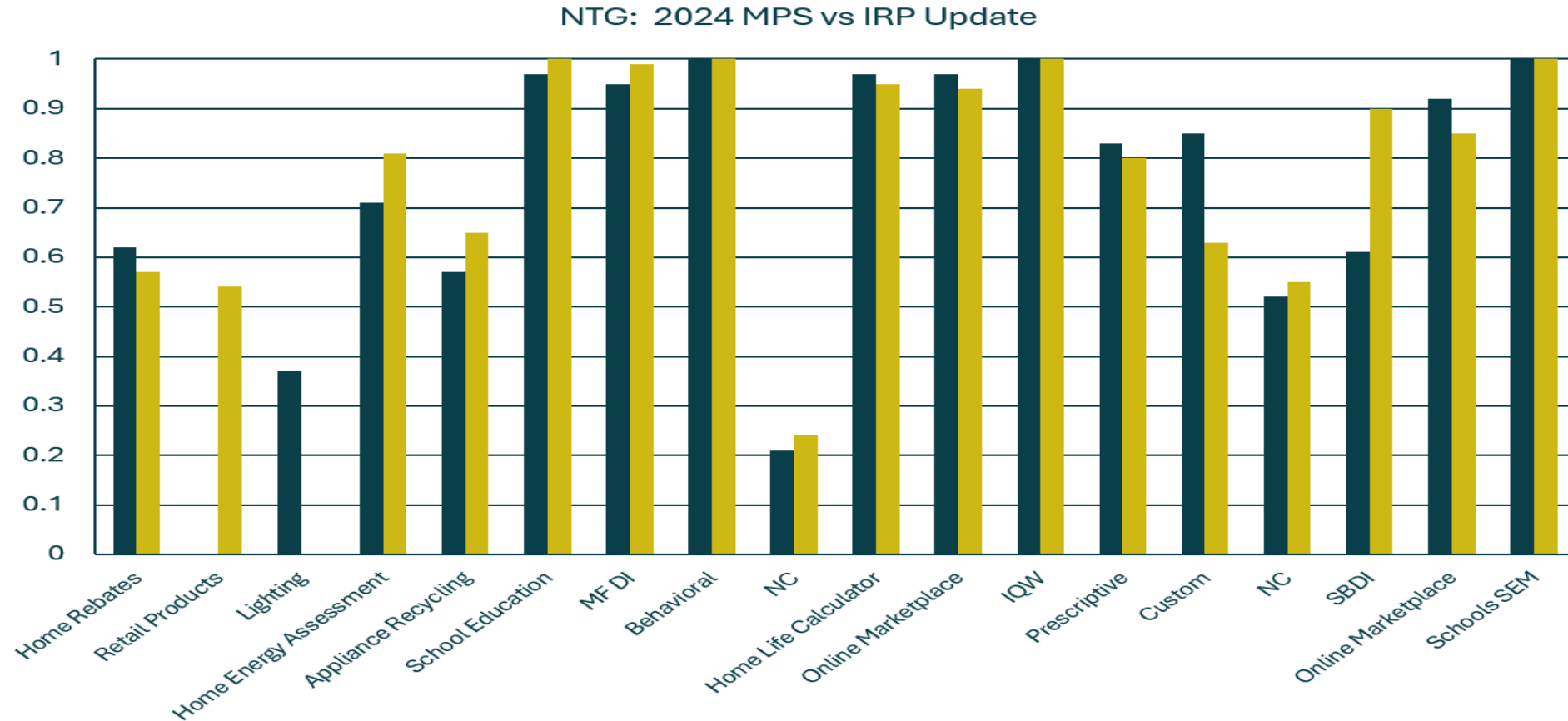
INCENTIVE AND NON-INCENTIVE COSTS PER KWH COMPARISON

- **Considered three options for updating incentive and non-incentive costs**
 - Option1: Inflating incentives and non-incentives from 2024 MPS annually across the study timeframe
 - Option2: 2026 incentive levels (steady throughout timeframe), 2026 non-incentive levels (inflated annually)
 - Option3: 2027 incentive levels (steady throughout timeframe), 2027 non-incentive levels (inflated annually)
- **Selected Option 2**
 - Option 2 incentives increased from \$0.10 per kWh to \$0.14 per kWh (all sectors combined – gross kWh)
 - Non-incentives have increased from \$0.069 per kWh to \$0.076 per kWh (all sectors combined – gross kWh)

INCENTIVE AND NON-INCENTIVE COSTS PER KWH COMPARISON



INCENTIVE AND NON-INCENTIVE COSTS PER KWH COMPARISON



- IRP Update incorporated additional two years of EM&V results
- Weighted Commercial Prescriptive to include Prescriptive, SBDI, and NC

IQW AND IQ-HEAR

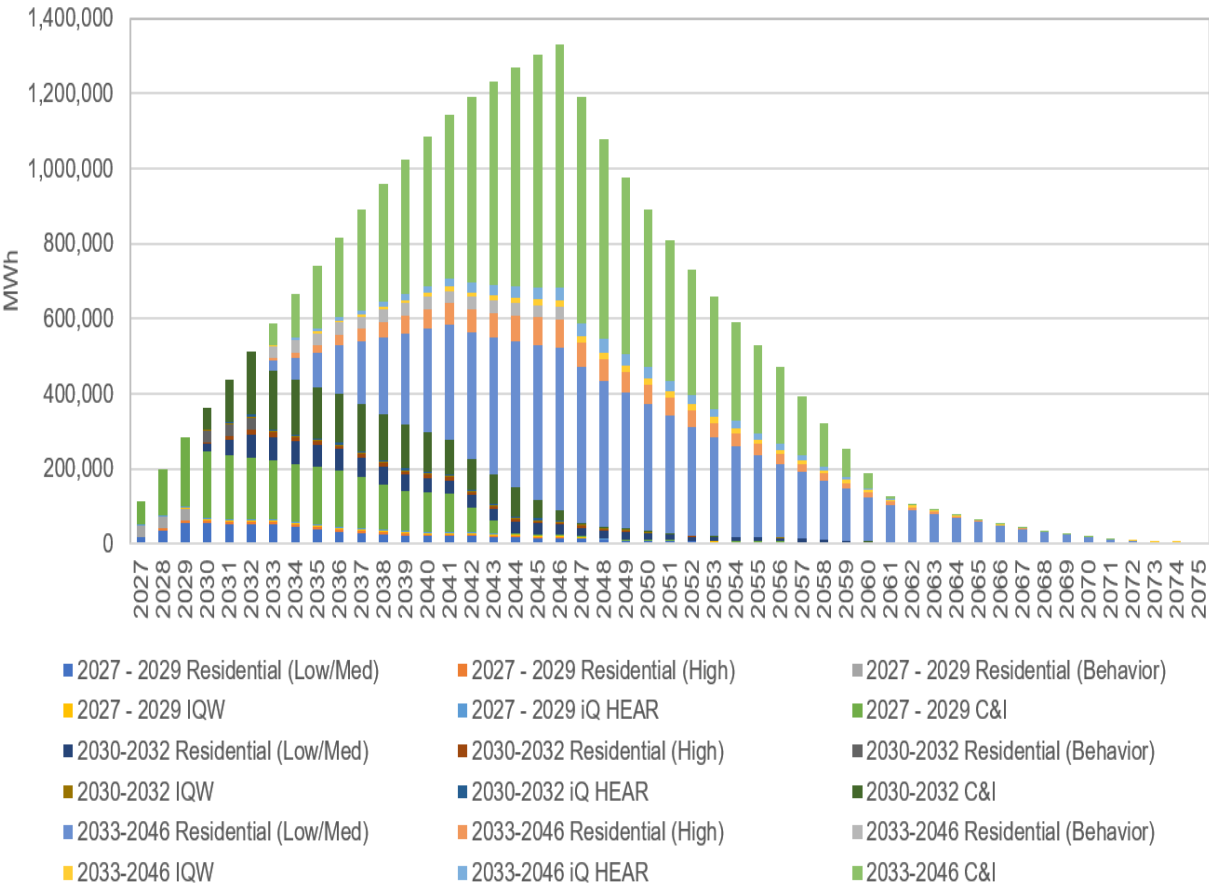
- **Measures modeled as IQW based on current NIPSCO program offering**
- **IQ-HEAR savings largely removed from bundles due to expectation that federal funding will no longer be available in 2030 and beyond**
 - 20% of the savings and costs from the IQ-HEAR measures were shifted and included in the IQW bundle
 - This assumes the possibility of some program expansion to provide additional high-cost measures (like heat pumps equipment replacements) in future IQW programs and limited levels
 - The remaining 80% of the 2024 MPS IQ-HEAR was not included in the IQW bundle

EE INPUTS: 2024 VS 2026 COMPARISON (NET CUMULATIVE ANNUAL SAVINGS)

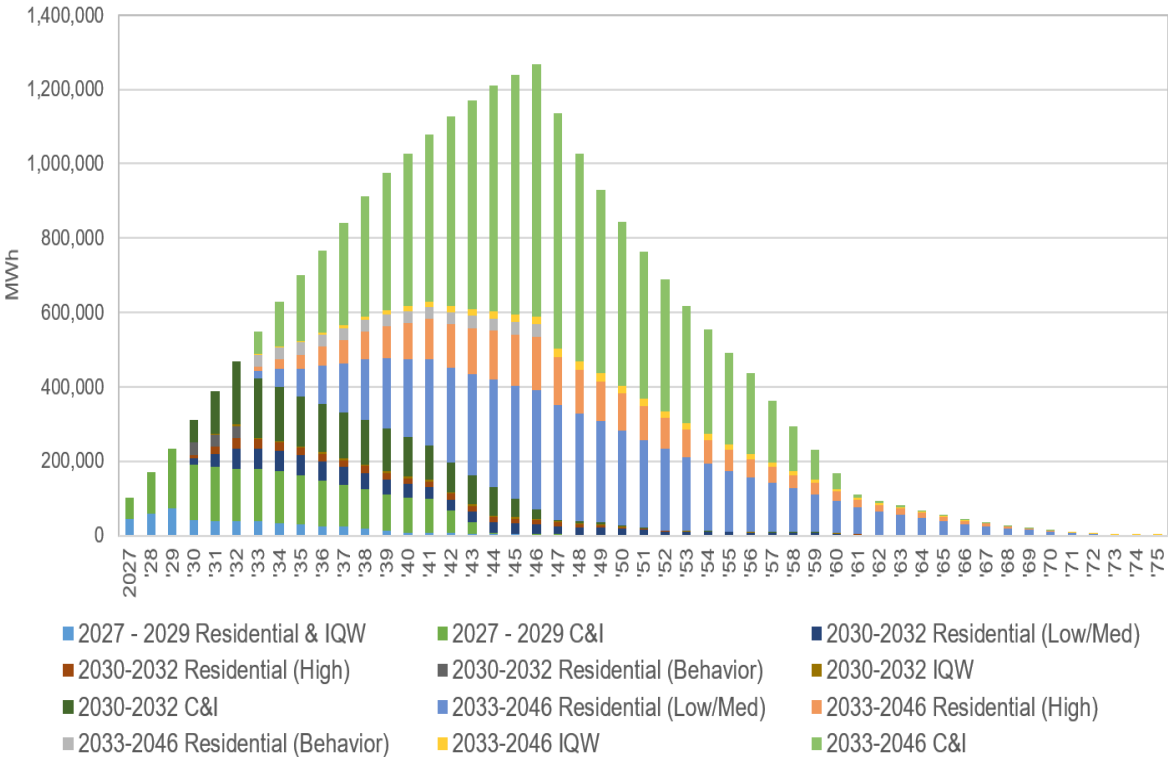
2024

2026

Total MWh Savings - RAP



Total MWh Savings - RAP

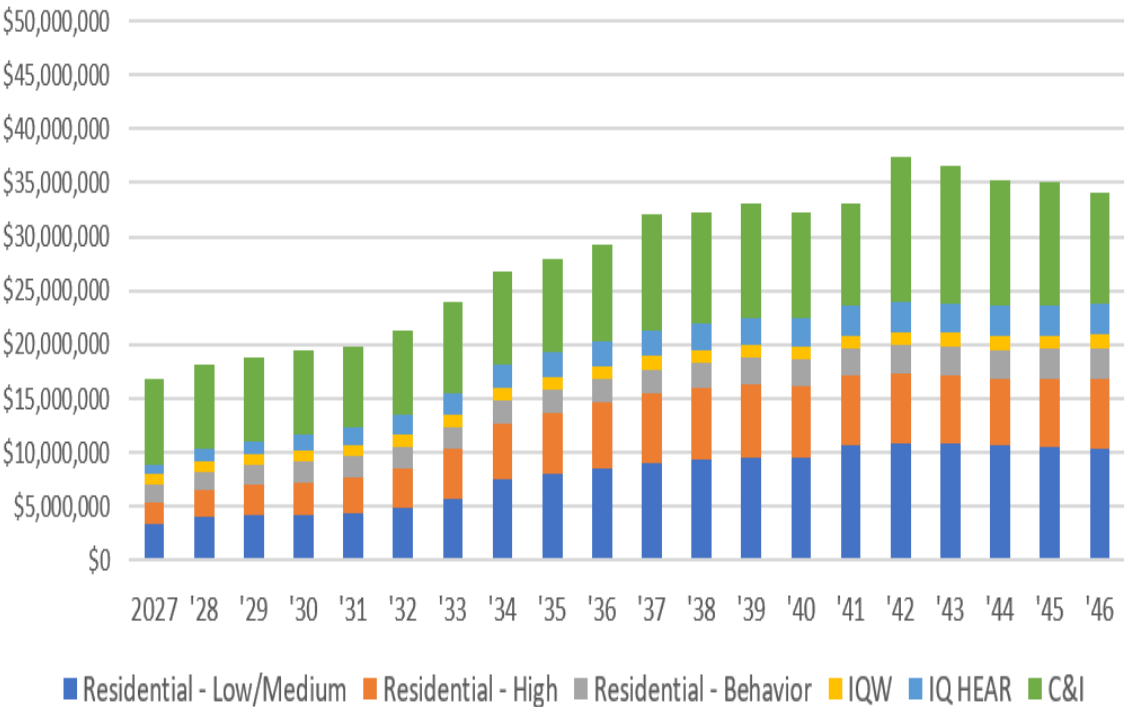


EE INPUTS: 2024 VS 2026 COMPARISON (BUNDLE COSTS, net T&D)

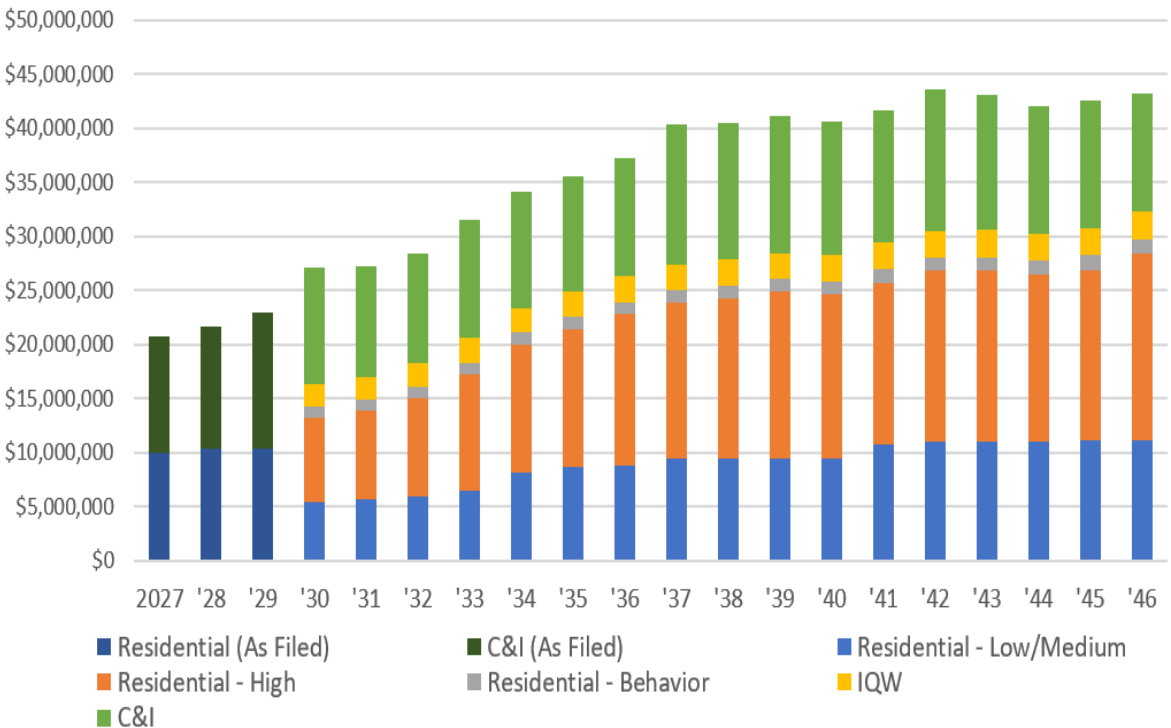
2024

2026

Annual EE Costs



Annual EE Costs



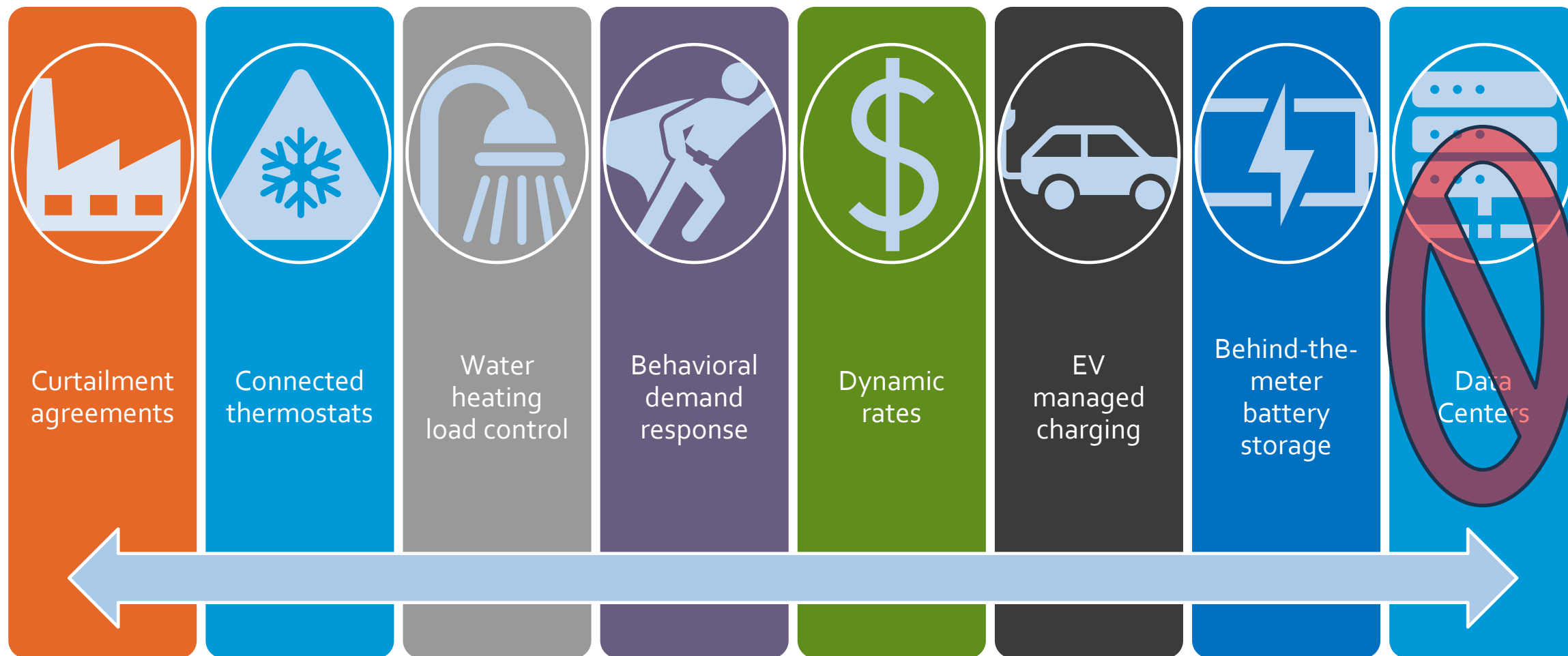
EE INPUTS: LEVELIZED COST COMPARISON (2024 VS 2026 RAP)

2024 (RAP)							2026 (RAP)					
NPV Levelized Cost (\$/LT-MWh)			NPV Lifetime MWh Saved				NPV Levelized Cost (\$/LT-MWh)			NPV Lifetime MWh Saved		
	V1	V2	V3	V1	V2	V3	V1	V2	V3	V1	V2	V3
Residential (As Filed)	-	-	-	-	-	-	\$77.84			343,626		
C&I (As Filed)	-	-	-	-	-	-	\$26.89			1,121,674		
Res Low/Med	\$25.42	\$24.49	\$27.35	400,226	476,221	2,904,783	-	\$34.83	\$38.20	-	424,987	2,104,739
Res High	\$96.75	\$100.58	\$105.17	65,129	88,245	505,971	-	\$120.30	\$133.44	-	181,394	915,198
Res Behavior	\$83.36	\$62.13	\$73.47	55,238	82,734	283,017	-	\$30.72	\$35.93	-	83,255	277,817
IQW	\$73.24	\$78.26	\$85.76	35,938	35,984	122,176	-	\$131.32	\$138.09	-	42,951	149,474
IQ-Hear	\$84.26	\$89.97	\$98.13	32,506	47,039	221,144	-	-	-	-	-	-
C&I	\$15.25	\$18.42	\$22.03	1,347,155	1,104,914	4,027,795	-	\$25.89	\$25.23	-	1,080,704	4,021,202

EE INPUTS: LEVELIZED COST COMPARISON (2026 RAP VS 2026 E-RAP)

2026 (RAP)							2026 (E-RAP)					
NPV Levelized Cost (\$/LT-MWh)				NPV Lifetime MWh Saved			NPV Levelized Cost (\$/LT-MWh)			NPV Lifetime MWh Saved		
	V1	V2	V3	V1	V2	V3	V1	V2	V3	V1	V2	V3
Residential (As Filed)	\$77.84			343,626			\$77.84			343,626		
C&I (As Filed)	\$26.89			1,121,674			\$26.89			1,121,674		
Res Low/Med	-	\$34.83	\$38.20	-	424,987	2,104,739	-	\$33.45	\$37.89	-	429,881	2,088,595
Res High	-	\$120.30	\$133.44	-	181,394	915,198	-	\$104.72	\$122.20	-	296,482	1,566,446
Res Behavior	-	\$30.72	\$35.93	-	83,255	277,817	-	\$30.72	\$35.93	-	83,255	277,817
IQW	-	\$131.32	\$138.09	-	42,951	149,474	-	\$132.10	\$140.73	-	42,717	146,911
IQ-Hear	-	-	-	-	-	-	-	-	-	-	-	-
C&I	-	\$25.89	\$25.23	-	1,080,704	4,021,202	-	\$30.50	\$28.03	-	1,123,134	4,221,757

PROGRAM TYPES CONSIDERED IN THE 2026 INPUT REFRESH FOR DEMAND RESPONSE



Data Centers were not included in the 2026 Input Refresh as they are now being served by a different entity.

PEAK LOAD FORECAST BY SEASON



- Study forecast only includes firm load (No T2, T3, or Data Center)
- Rate 531 Firm load is also excluded from the eligible study load
 - If this load was flexible, these customers would not have designated it as firm.
- Loads are forecasted to be highest in the Summer over the duration of the study horizon
- Spring is being treated as a cooling season (afternoon peaking) in the 2026 IRP Input Refresh, but was a heating season (morning peaking) in the prior study

THE AVOIDED COST OF GENERATION CAPACITY INCREASED SIGNIFICANTLY

Year	2024 MPS	2026 Input Refresh	Percent Increase	No Change
	Generation Capacity (\$/kW-year)	Generation Capacity (\$/kW-year)		T&D Capacity (\$/kW/year)
2027	\$173.83	\$270.66	56%	\$27.70
2028	\$177.51	\$271.29	53%	\$28.31
2029	\$181.26	\$271.93	50%	\$28.91
2030	\$185.14	\$272.58	47%	\$29.55
2031	\$189.21	\$273.25	44%	\$30.18
2032	\$193.39	\$273.93	42%	\$30.81
2033	\$197.64	\$274.63	39%	\$31.47
2034	\$201.93	\$275.34	36%	\$32.16
2035	\$206.22	\$276.06	34%	\$32.87
2036	\$210.58	\$276.81	31%	\$33.60
2037	\$215.06	\$277.56	29%	\$34.33
2038	\$219.69	\$278.34	27%	\$35.06
2039	\$224.36	\$279.12	24%	\$35.80
2040	\$229.20	\$279.93	22%	\$36.56
2041	\$234.22	\$280.75	20%	\$37.35
2042	\$239.32	\$281.59	18%	\$38.14
2043	\$244.51	\$282.45	16%	\$38.96
2044	\$249.83	\$283.32	13%	\$39.82
2045	\$255.34	\$284.22	11%	\$40.68
2046	\$260.99	\$285.11	9%	\$41.56

- Short-term increase in the avoided cost of generation capacity is based on current market conditions
- Current values are not assumed to grow at the same trajectory as the prior study given the elevated starting point
- Higher avoided costs allow for larger incentive levels
 - More enrollment
 - Improved UCT ratios
- Like the 2024 MPS, we treat T&D benefits as a cost reduction to facilitate an apples-to-apples economic comparison with other resource types

2027-2029 DSM PLANS WERE INCORPORATED INTO THE 2027 IRP INPUTS FOR TWO PROGRAMS

Connected Thermostats

- The 2027-2029 DSM plan forecasted enrollment is between the RAP and MAP cases from the 2024 MPS
- The 2026 Input Refresh takes the DSM plan forecasted enrollment as a given for both RAP and MAP and then modeling takes place from 2030 forward

Season	Peak Type
Summer	Cooling
Fall	Cooling
Winter	Heating
Spring	Cooling

Spring was modeled as a heating peak in the 2024 MPS

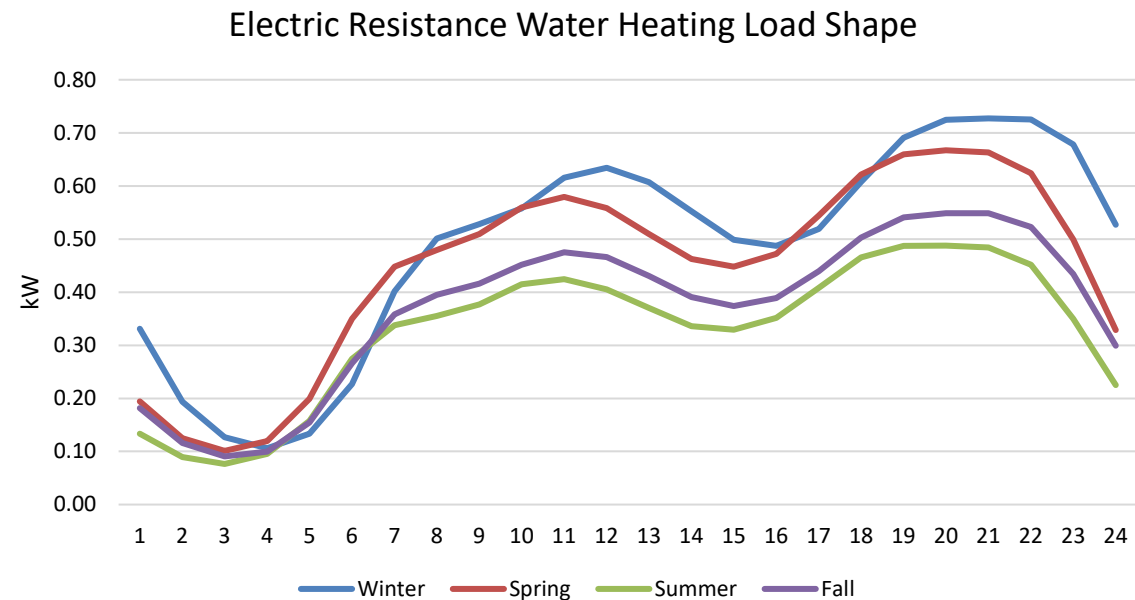
Non-Residential

- Enrollment to date has lagged plan projections
- Incentive and administrative costs are lower in the plan than the 2024 IRP
- 2027-2029 MW projections in 2027 IRP are roughly in line with the DSM plan
 - Cost per MW is higher
 - Using modeled costs for 2027-2029 allows for a smooth transition into the 2030-2046 period
- **MISO reforms take effect in 2028-2029**
 - Enhanced testing requirements
 - Shorter lead time allowances

SEASONAL PEAK LOAD CONTRIBUTIONS ARE BASED ON MISO RESOURCE ADEQUACY (RA) HOURS

Hour Ending	Winter	Spring	Summer	Fall
1	0.6%	0.0%	0.0%	0.0%
2	0.6%	0.0%	0.0%	0.0%
3	0.6%	0.0%	0.0%	0.0%
4	0.6%	0.0%	0.0%	0.0%
5	0.6%	0.0%	0.0%	0.0%
6	0.6%	0.0%	0.0%	0.0%
7	1.1%	2.9%	0.0%	0.5%
8	7.3%	2.9%	0.0%	2.1%
9	9.6%	2.2%	0.0%	1.5%
10	7.3%	1.4%	0.0%	1.5%
11	6.8%	1.4%	0.0%	1.5%
12	5.1%	2.2%	0.0%	0.5%
13	2.8%	2.9%	2.6%	3.1%
14	0.6%	5.8%	6.7%	6.2%
15	0.6%	7.2%	10.3%	9.7%
16	1.1%	7.2%	13.8%	13.3%
17	1.7%	9.4%	16.4%	14.9%
18	4.5%	11.6%	18.5%	15.4%
19	11.9%	12.3%	16.4%	16.9%
20	12.4%	15.9%	9.7%	11.8%
21	9.6%	13.0%	4.1%	1.0%
22	7.9%	1.4%	1.5%	0.0%
23	4.5%	0.0%	0.0%	0.0%
24	1.7%	0.0%	0.0%	0.0%

- End use load shapes are multiplied by the distribution of seasonal RA hours to determine the available load for DR



<https://cdn.misoenergy.org/RA Hours PY 26723002.xlsx>

REALISTIC ACHIEVABLE POTENTIAL (RAP)

System-level MW potential in 2046 by season and program type

Program	UCT Result	Spring	Summer	Fall	Winter	Change From 2024 Study
Connected Thermostats	Pass	18.8	55.3	33.9	24.1	↑
Water Heaters	Fail	1.4	0.8	1.0	1.5	↑
Behavioral DR	Pass	8.4	7.5	7.5	8.4	↑
Dynamic Rates	Pass	46.4	66.9	55.6	30.7	↑
EV Managed Charging	Pass	8.6	7.6	8.0	9.1	↓
BTM Storage	Pass	2.6	2.6	2.6	1.3	↑
C&I Load Curtailment	Pass	30.3	34.8	32.3	31.4	↑
Total		116.5	175.5	140.9	106.5	↑
Total with UCT > 1		115.1	174.7	139.9	105.0	↑

DR potential increased overall in the 2026 Input Refresh relative to the 2024 MPS, excluding Data Centers

MAXIMUM ACHIEVABLE POTENTIAL (MAP)

System-level MW potential in 2046 by season and program type

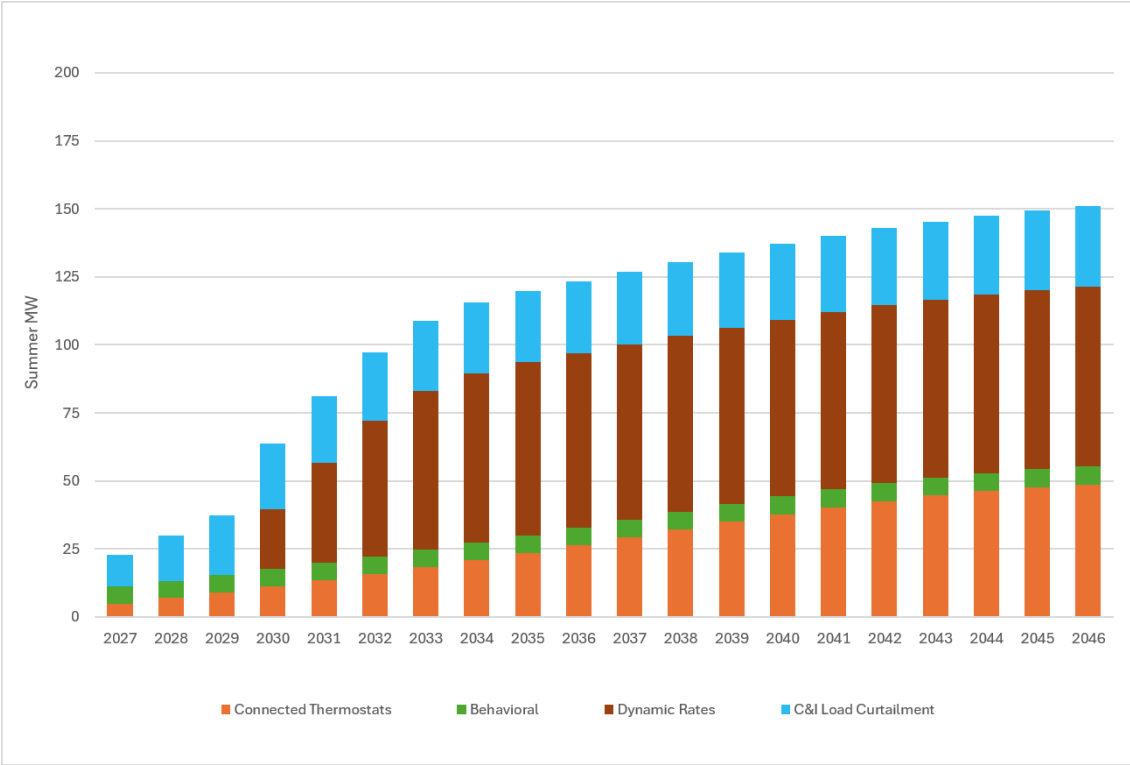
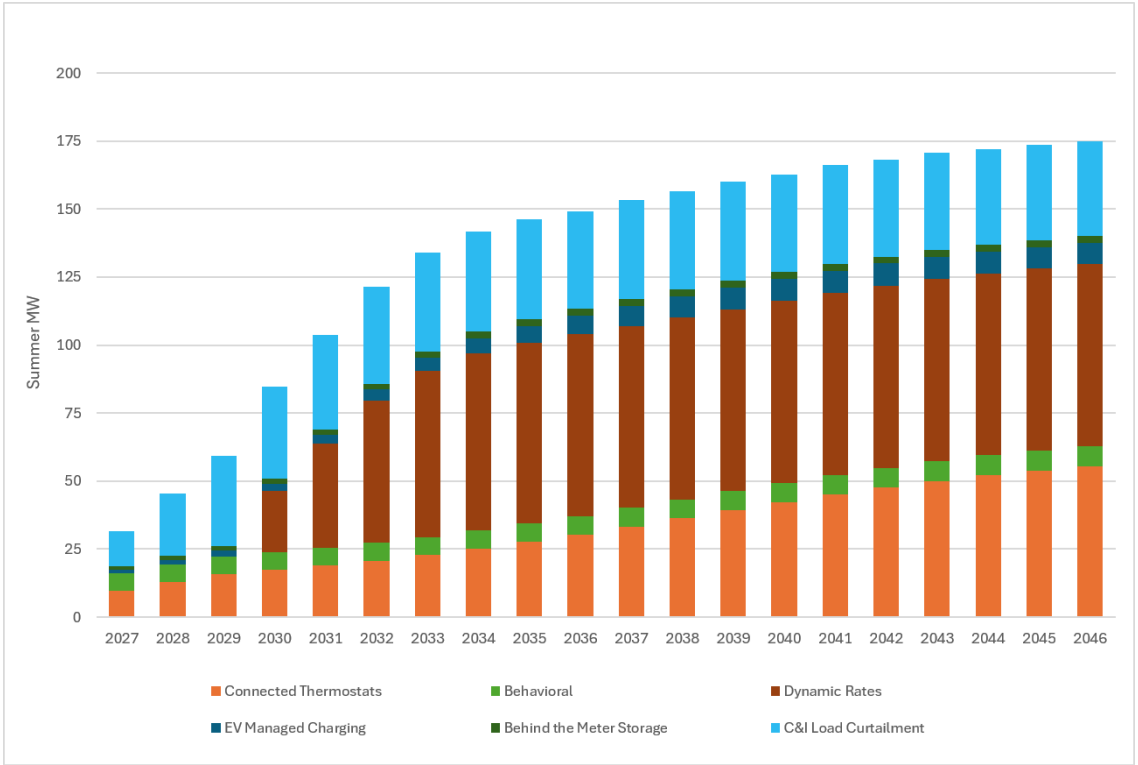
Program	UCT Result	Spring	Summer	Fall	Winter	Change From 2024 Study
Connected Thermostats	Pass	25.1	73.8	45.3	36.2	↑
Water Heaters	Fail	2.2	1.2	1.7	2.4	↑
Behavioral DR	Pass	11.2	13.4	13.4	11.2	↑
Dynamic Rates	Pass	59.2	85.4	70.9	39.1	↑
EV Managed Charging	Pass	15.2	13.5	14.3	16.1	↓
BTM Storage	Fail	5.3	5.3	5.3	2.6	↑
C&I Load Curtailment	Pass	60.8	69.8	64.8	63.1	↑
Total		179.0	262.4	215.7	170.7	↑
Total with UCT > 1		171.5	255.9	208.7	165.7	↑

DR potential increased overall in the 2026 Input Refresh relative to the 2024 MPS, excluding Data Centers

2024 VS. 2026 STUDY RAP BY YEAR AND PROGRAM FOR SUMMER – WITH UCT SCREENING

2024

2026

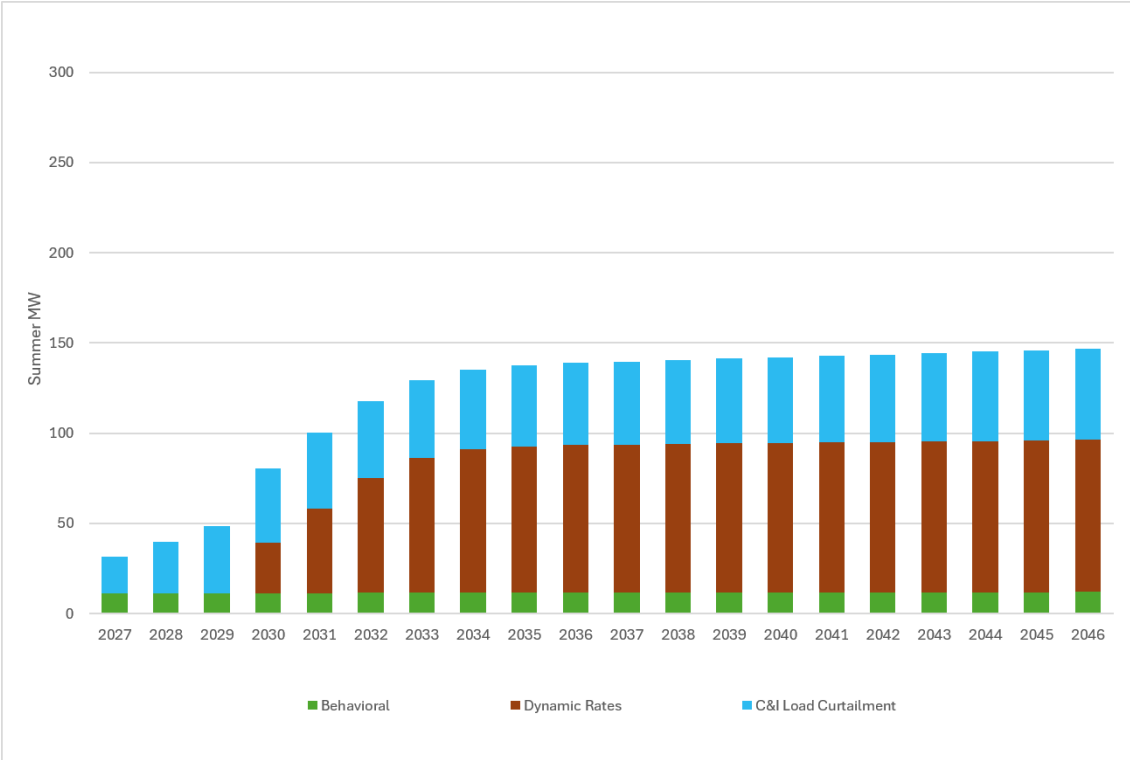
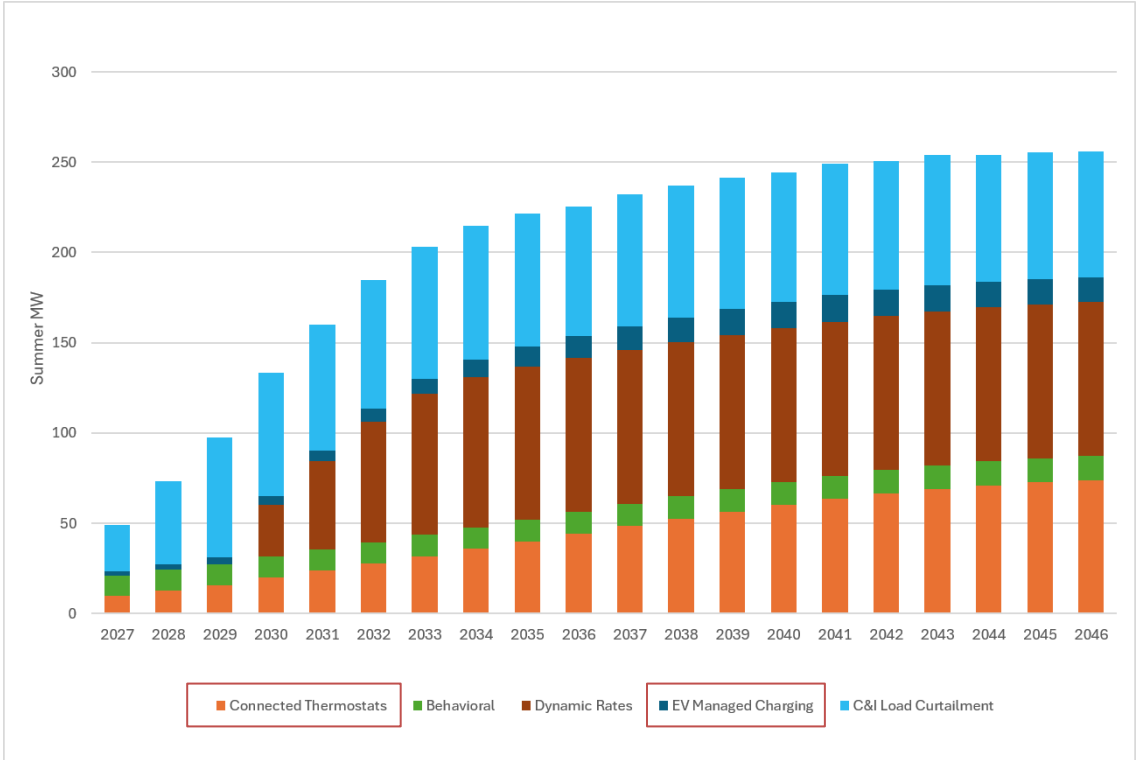


Potential is higher in the 2026 Input Refresh. Higher potential is due to more programs passing economic screening and higher estimated potential for most programs.

2024 VS. 2026 STUDY MAP BY YEAR AND PROGRAM FOR SUMMER – WITH UCT SCREENING

2024

2026



Potential is higher in the 2026 Input Refresh. Higher potential is due to more programs passing economic screening and higher estimated potential for most programs.

IRP INPUTS – SUMMER RAP

With T&D benefits treated as a reduction in cost

Year	RAP													
	Connected Thermostats		Water Heaters		Behavioral		Dynamic Rates		EV Managed Charging		Behind the Meter Storage		C&I Load Curtailment	
	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)	DR MW Season Peak Impact (Cumulative)	Annual Program Costs (Nom \$/kW-yr)
2027	9.77	\$176.98	2.90	\$841.19	6.35	\$86.22			1.33	\$590.52	1.34	\$1,113.52	12.75	\$106.46
2028	12.90	\$97.16	2.77	\$139.04	6.40	\$63.73			1.71	\$228.60	1.46	\$247.62	22.83	\$105.29
2029	15.77	\$92.61	2.65	\$142.70	6.44	\$64.88			2.16	\$218.07	1.62	\$263.22	33.20	\$106.14
2030	17.28	\$93.44	2.52	\$146.75	6.49	\$66.06	22.62	\$247.09	2.70	\$210.13	1.80	\$260.79	33.93	\$108.29
2031	18.94	\$94.53	2.41	\$151.13	6.54	\$67.23	38.22	\$151.12	3.33	\$202.70	2.01	\$262.44	34.69	\$110.47
2032	20.78	\$95.78	2.29	\$156.71	6.59	\$68.42	52.21	\$135.29	4.03	\$195.59	2.23	\$256.95	35.49	\$111.41
2033	22.83	\$97.13	2.18	\$164.12	6.64	\$69.62	61.07	\$122.19	4.77	\$188.85	2.40	\$229.99	36.30	\$113.68
2034	25.12	\$98.54	2.07	\$172.87	6.69	\$70.84	65.05	\$113.94	5.51	\$182.09	2.54	\$220.29	36.84	\$116.02
2035	27.66	\$99.99	1.95	\$183.27	6.75	\$72.09	66.36	\$110.98	6.22	\$175.54	2.56	\$178.89	36.68	\$118.46
2036	30.41	\$101.40	1.84	\$195.66	6.81	\$73.37	66.70	\$111.36	6.85	\$169.40	2.54	\$170.06	35.82	\$120.98
2037	33.32	\$102.75	1.73	\$210.39	6.87	\$74.65	66.77	\$113.15	7.36	\$163.24	2.52	\$173.17	36.59	\$123.47
2038	36.34	\$104.08	1.62	\$227.84	6.94	\$75.95	66.79	\$115.41	7.75	\$157.85	2.50	\$177.60	36.37	\$126.06
2039	39.37	\$105.37	1.51	\$248.42	7.00	\$77.27	66.81	\$117.82	8.01	\$153.46	2.50	\$189.39	36.38	\$128.69
2040	42.32	\$106.62	1.40	\$272.58	7.07	\$78.59	66.83	\$120.27	8.14	\$150.11	2.52	\$199.52	35.69	\$131.41
2041	45.12	\$107.88	1.29	\$300.86	7.15	\$79.92	66.85	\$122.76	8.21	\$147.13	2.55	\$210.39	36.26	\$134.10
2042	47.70	\$109.20	1.18	\$335.21	7.22	\$81.27	66.87	\$125.30	8.19	\$145.05	2.56	\$202.05	35.50	\$136.93
2043	50.03	\$110.59	1.09	\$373.41	7.30	\$82.64	66.88	\$127.91	8.10	\$143.93	2.58	\$213.74	35.92	\$139.75
2044	52.08	\$112.09	0.99	\$416.34	7.38	\$84.03	66.90	\$130.56	7.96	\$143.82	2.61	\$220.98	35.00	\$142.71
2045	53.84	\$113.66	0.91	\$462.86	7.46	\$85.42	66.92	\$133.25	7.78	\$144.71	2.62	\$217.60	34.87	\$145.67
2046	55.32	\$115.34	0.83	\$515.04	7.54	\$86.86	66.94	\$136.00	7.58	\$146.23	2.64	\$221.43	34.75	\$148.69

Each program will be considered separately for DR (no bundling)