

**Appendix D**  
**Demand Side Management**  
**2023 WA IRP**

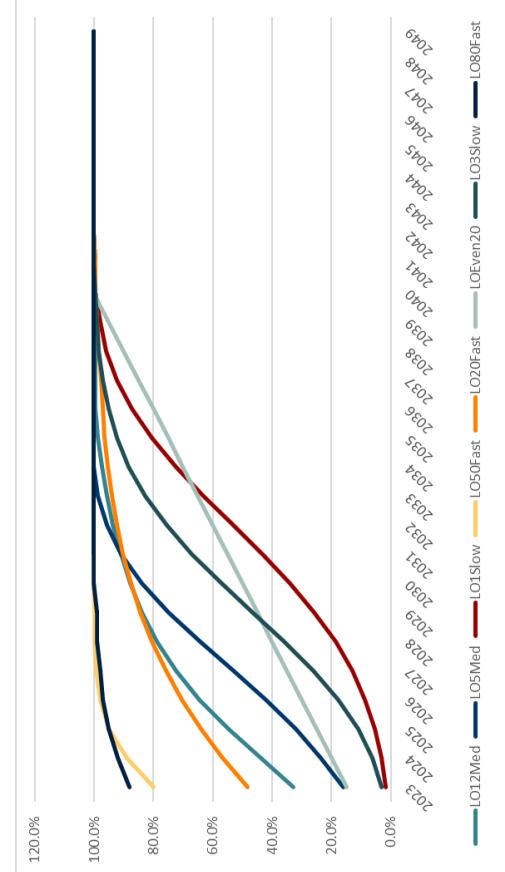
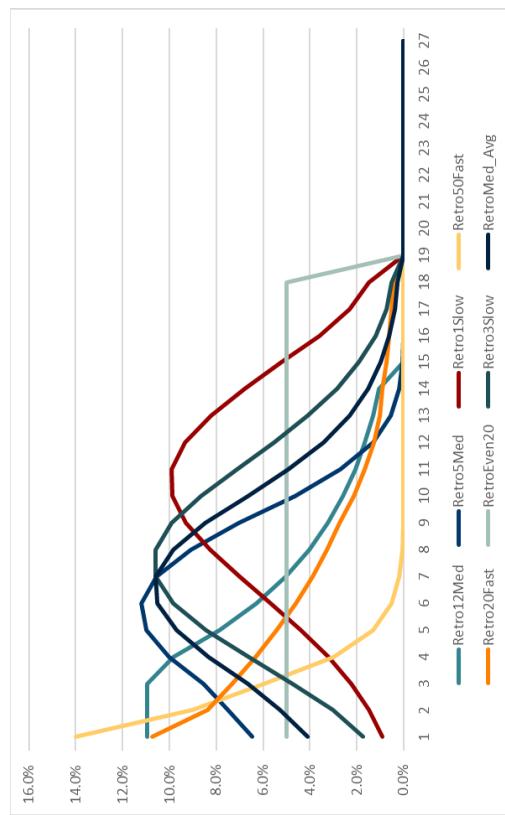
## **Appendix Demand Side Management (DSM)**

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Key	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048		
LO12Med	32.8%	43.7%	54.5%	64.5%	72.4%	78.7%	83.7%	87.8%	91.0%	93.6%	95.6%	97.3%	98.6%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%		
LO5Med	16.0%	23.5%	32.2%	42.1%	53.1%	64.3%	74.8%	83.9%	90.9%	95.8%	98.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
LO3Slow	1.7%	3.2%	5.4%	8.6%	13.0%	18.7%	25.7%	34.0%	43.3%	53.1%	63.1%	72.4%	80.6%	87.3%	92.3%	96.0%	98.0%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%		
LO50Fast	80.0%	89.0%	95.0%	97.9%	99.3%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
LO20Fast	48.4%	56.7%	64.0%	70.4%	75.8%	80.4%	84.3%	87.6%	90.3%	92.4%	94.1%	95.4%	96.4%	97.1%	97.7%	98.1%	98.5%	99.0%	99.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
LOEven20	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
LO3Slow	3.2%	6.2%	10.9%	17.6%	26.0%	35.8%	46.4%	57.0%	66.9%	75.6%	82.7%	88.3%	92.3%	95.2%	97.1%	98.3%	99.1%	99.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
LO80Fast	88.0%	92.0%	95.0%	97.0%	98.0%	99.0%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Retro20Med	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%		
Retro5Med	6.5%	7.5%	8.6%	10.0%	11.2%	10.6%	9.1%	7.0%	4.7%	2.7%	1.3%	0.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Retro15Slow	0.9%	1.5%	2.2%	3.2%	4.4%	5.7%	7.0%	8.3%	9.3%	9.9%	9.9%	9.4%	8.2%	6.8%	5.2%	3.6%	2.3%	1.5%	0.9%	0.5%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
Retro50Fast	14.0%	14.0%	9.0%	6.0%	3.0%	1.3%	0.5%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Retro20Fast	10.7%	8.4%	7.3%	6.3%	5.4%	4.6%	3.9%	3.3%	2.7%	2.3%	1.7%	1.3%	1.0%	0.9%	0.7%	0.6%	0.5%	0.4%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
RetroEven20	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
RetroSlow	1.7%	3.0%	4.7%	6.6%	8.4%	9.8%	10.6%	9.9%	8.7%	7.1%	5.5%	4.1%	2.9%	1.9%	1.2%	0.7%	0.5%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RetroMed_Avg	4.1%	5.3%	6.6%	8.3%	9.7%	10.5%	10.6%	9.8%	8.5%	6.7%	4.9%	3.4%	2.3%	1.5%	1.0%	0.6%	0.4%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

## Ramp Rates from the NWPCC's 8<sup>th</sup> Plan



## Residential DSM Highlights

Summary of Energy Savings (thousand therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (thousand therms)</b>							
Achievable Economic TRC Potential	125	255	424	1,784	3,285	4,270	4,416
Achievable Economic UCT Potential	584	723	1,246	5,183	9,526	12,153	12,290
Achievable Technical Potential	767	1,115	1,865	7,480	13,687	17,372	16,968
Technical Potential	3,303	4,846	7,404	21,146	32,873	40,339	42,598
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.1%	0.2%	0.7%	1.3%	1.6%	1.6%
Achievable Economic UCT Potential	0.2%	0.3%	0.5%	2.0%	3.7%	4.6%	4.5%
Achievable Technical Potential	0.3%	0.5%	0.8%	2.9%	5.3%	6.5%	6.2%
Technical Potential	1.4%	2.0%	3.0%	8.3%	12.7%	15.1%	15.6%
<b>Incremental Savings (thousand therms)</b>							
Achievable Economic TRC Potential	128	144	176	339	285	194	6
Achievable Economic UCT Potential	596	466	548	970	889	667	103
Achievable Technical Potential	786	680	795	1,411	1,291	903	105
Technical Potential	3,383	2,654	2,722	3,061	2,161	1,862	373

## Commercial DSM Forecast Highlights

Summary of Energy Savings (thousand therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (thousand therms)</b>							
Achievable Economic TRC Potential	363	836	1,441	6,453	11,253	14,155	15,144
Achievable Economic UCT Potential	378	873	1,492	6,497	11,294	14,426	15,585
Achievable Technical Potential	1,157	2,475	3,874	11,760	17,586	20,586	21,070
Technical Potential	2,338	4,661	6,943	18,372	25,225	28,582	29,740
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.3%	0.6%	2.5%	4.3%	5.3%	5.6%
Achievable Economic UCT Potential	0.2%	0.4%	0.6%	2.6%	4.4%	5.4%	5.7%
Achievable Technical Potential	0.5%	1.0%	1.6%	4.6%	6.8%	7.7%	7.7%
Technical Potential	1.0%	1.9%	2.8%	7.2%	9.7%	10.7%	10.9%
<b>Incremental Savings (thousand therms)</b>							
Achievable Economic TRC Potential	361	466	624	1,264	1,142	1,040	1,295
Achievable Economic UCT Potential	377	485	638	1,241	1,153	1,068	1,204
Achievable Technical Potential	1,386	1,493	1,667	1,966	1,599	1,401	1,765
Technical Potential	2,332	2,280	2,425	2,550	2,011	1,777	2,384

## Industrial DSM Forecast Highlights

Summary of Energy Savings (thousand therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (thousand therms)</b>							
Achievable Economic TRC Potential	94	204	321	927	1,326	1,534	1,518
Achievable Economic UCT Potential	81	168	256	697	1,082	1,322	1,333
Achievable Technical Potential	121	258	405	1,130	1,595	1,818	1,792
Technical Potential	158	334	515	1,391	1,927	2,172	2,155
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.0%	0.1%	0.1%	0.4%	0.5%	0.6%	0.6%
Achievable Economic UCT Potential	0.0%	0.1%	0.1%	0.3%	0.4%	0.5%	0.5%
Achievable Technical Potential	0.0%	0.1%	0.2%	0.4%	0.6%	0.7%	0.7%
Technical Potential	0.1%	0.1%	0.2%	0.5%	0.7%	0.8%	0.8%
<b>Incremental Savings (thousand therms)</b>							
Achievable Economic TRC Potential	95	110	121	123	86	68	60
Achievable Economic UCT Potential	81	87	89	93	83	71	63
Achievable Technical Potential	125	143	154	149	102	82	72
Technical Potential	160	179	187	176	119	97	86

## Residential

### Scenario B: RNG Future Avoided Costs

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	276	593	961	3,815	7,101	9,432	9,602
Achievable Economic UCT Potential	1,020	1,358	2,107	7,779	14,357	18,203	17,924
Achievable Technical Potential	1,104	1,534	2,380	8,725	16,029	20,283	19,760
Technical Potential	3,368	4,925	7,529	21,508	33,413	38,283	39,483
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.2%	0.4%	1.5%	2.7%	3.5%	3.5%
Achievable Economic UCT Potential	0.4%	0.5%	0.9%	3.1%	5.5%	6.8%	6.6%
Achievable Technical Potential	0.5%	0.6%	1.0%	3.4%	6.2%	7.6%	7.3%
Technical Potential	1.4%	2.0%	3.0%	8.5%	12.9%	14.4%	14.5%
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	284	326	389	723	671	496	33
Achievable Economic UCT Potential	1,043	672	797	1,433	1,345	962	155
Achievable Technical Potential	1,131	767	903	1,609	1,506	1,054	155
Technical Potential	3,450	2,703	2,773	3,115	2,206	1,243	374

### Scenario C: RNG Future Avoided Costs Plus Municipal Gas Bans

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,814	247,281	246,725	252,549	257,553	263,559	268,795
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	122	245	407	1,692	3,085	3,981	4,074
Achievable Economic UCT Potential	1,399	1,526	2,051	6,018	10,439	13,167	13,138
Achievable Technical Potential	1,916	2,263	3,028	8,777	15,167	19,006	18,430
Technical Potential	8,859	10,416	13,020	26,999	38,904	46,497	48,789
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.1%	0.2%	0.7%	1.2%	1.5%	1.5%
Achievable Economic UCT Potential	0.6%	0.6%	0.8%	2.4%	4.1%	5.0%	4.9%
Achievable Technical Potential	0.8%	0.9%	1.2%	3.5%	5.9%	7.2%	6.9%
Technical Potential	3.6%	4.2%	5.3%	10.7%	15.1%	17.6%	18.2%
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	125	139	169	318	265	177	3
Achievable Economic UCT Potential	594	464	550	986	902	677	101
Achievable Technical Potential	794	689	811	1,455	1,326	925	103
Technical Potential	3,450	2,703	2,773	3,115	2,206	1,900	374

## Commercial

### Scenario B: RNG Future Avoided Costs

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	363	836	1,441	6,453	11,253	14,155	15,144
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	378	873	1,492	6,497	11,294	14,426	15,585
<b>Achievable Technical Potential</b>							
Technical Potential	1,157	2,475	3,874	11,760	17,586	20,586	21,070
<b>Technical Potential</b>							
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.3%	0.6%	2.5%	4.3%	5.3%	5.6%
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	0.2%	0.4%	0.6%	2.6%	4.4%	5.4%	5.7%
<b>Achievable Technical Potential</b>							
Technical Potential	0.5%	1.0%	1.6%	4.6%	6.8%	7.7%	7.7%
<b>Technical Potential</b>							
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	361	466	624	1,264	1,142	1,040	1,295
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	377	485	638	1,241	1,153	1,068	1,204
<b>Achievable Technical Potential</b>							
Technical Potential	1,386	1,493	1,667	1,966	1,599	1,401	1,765
<b>Technical Potential</b>							

### Scenario C: RNG Future Avoided Costs Plus Municipal Gas Bans

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,814	247,281	246,725	252,549	257,553	263,559	268,795
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	359	828	1,426	6,435	11,156	13,959	14,879
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	872	1,365	1,982	6,945	11,656	14,691	15,784
<b>Achievable Technical Potential</b>							
Achievable Technical Potential	3,111	4,428	5,815	13,623	19,347	22,246	22,664
<b>Technical Potential</b>							
Technical Potential	6,819	9,107	11,353	22,603	29,305	32,525	33,551
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.1%	0.3%	0.6%	2.5%	4.3%	5.3%	5.5%
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	0.4%	0.6%	0.8%	2.7%	4.5%	5.6%	5.9%
<b>Achievable Technical Potential</b>							
Achievable Technical Potential	1.3%	1.8%	2.4%	5.4%	7.5%	8.4%	8.4%
<b>Technical Potential</b>							
Technical Potential	2.8%	3.7%	4.6%	9.0%	11.4%	12.3%	12.5%
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	357	461	617	1,255	1,118	1,007	1,266
<b>Achievable Economic UCT Potential</b>							
Achievable Technical Potential	373	484	635	1,226	1,129	1,037	1,176
<b>Achievable Technical Potential</b>							
Achievable Technical Potential	1,375	1,478	1,649	1,939	1,564	1,358	1,714
<b>Technical Potential</b>							
Technical Potential	2,301	2,246	2,389	2,511	1,965	1,722	2,312

## Industrial

### Scenario B: RNG Future Avoided Costs

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,965	247,595	247,199	253,812	259,582	266,336	272,292
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	94	204	321	927	1,326	1,534	1,518
Achievable Economic UCT Potential	81	168	256	697	1,082	1,322	1,333
Achievable Technical Potential	121	258	405	1,130	1,595	1,818	1,792
Technical Potential	158	334	515	1,391	1,927	2,172	2,155
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.0%	0.1%	0.1%	0.4%	0.5%	0.6%	0.6%
Achievable Economic UCT Potential	0.0%	0.1%	0.1%	0.3%	0.4%	0.5%	0.5%
Achievable Technical Potential	0.0%	0.1%	0.2%	0.4%	0.6%	0.7%	0.7%
Technical Potential	0.1%	0.1%	0.2%	0.5%	0.7%	0.8%	0.8%
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	95	110	121	123	86	68	60
Achievable Economic UCT Potential	81	87	89	93	83	71	63
Achievable Technical Potential	125	143	154	149	102	82	72
Technical Potential	160	179	187	176	119	97	86

### Scenario C: RNG Future Avoided Costs Plus Municipal Gas Bans

Summary of Energy Savings (therms), Selected Years	2023	2024	2025	2030	2035	2040	2045
<b>Reference Baseline</b>	243,814	247,281	246,725	252,549	257,553	263,559	268,795
<b>Cumulative Savings (therms)</b>							
Achievable Economic TRC Potential	94	204	321	927	1,326	1,536	1,525
Achievable Economic UCT Potential	232	318	406	848	1,232	1,475	1,491
Achievable Technical Potential	322	460	606	1,332	1,797	2,021	2,000
Technical Potential	418	595	775	1,651	2,187	2,432	2,416
<b>Energy Savings (% of Baseline)</b>							
Achievable Economic TRC Potential	0.0%	0.1%	0.1%	0.4%	0.5%	0.6%	0.6%
Achievable Economic UCT Potential	0.1%	0.1%	0.2%	0.3%	0.5%	0.6%	0.6%
Achievable Technical Potential	0.1%	0.2%	0.2%	0.5%	0.7%	0.8%	0.7%
Technical Potential	0.2%	0.2%	0.3%	0.7%	0.8%	0.9%	0.9%
<b>Incremental Savings (therms)</b>							
Achievable Economic TRC Potential	95	110	121	123	86	69	60
Achievable Economic UCT Potential	81	87	89	93	83	72	63
Achievable Technical Potential	125	143	154	149	102	82	72
Technical Potential	160	179	187	176	119	97	86

**Appendix D**  
**Demand Side Management**  
**Residential Equipment**



**Appendix D**  
**Demand Side Management**  
**Residential Non Equipment**

Category	Description	Implementation Status	Implementation Date	Target Year	Notes
Appliance Control	Appliance control refers to the ability to turn on or off electrical devices connected to a power source. This can be achieved through various methods such as remote control, timer programming, or advanced communication protocols.	Pilot	2023	2025	Initial pilot program to test and refine control algorithms.
Smart Thermostats	Smart thermostats are electronic devices that can automatically adjust the temperature of a home's heating and cooling system based on user preferences or external factors like weather. They often include features like programmable schedules and remote access via mobile apps.	Planning	2024	2026	Development of a comprehensive smart thermostat deployment plan.
Smart Water Heaters	Smart water heaters are designed to reduce energy consumption by adjusting their heating output based on usage patterns. Some models also feature remote monitoring and control capabilities.	Planning	2025	2027	Integration with existing utility infrastructure for real-time data exchange.
Smart Lighting	Smart lighting systems use sensors and controls to manage indoor lighting levels, reducing energy waste. This can include motion sensors, daylight harvesting, and programmable fixtures.	Planning	2026	2028	Exploration of various technologies and standards for compatibility.
EV Charging Infrastructure	EV charging infrastructure includes the physical equipment and software needed to charge electric vehicles. This may involve public stations, residential outlets, or specialized fast-charging facilities.	Planning	2027	2030	Focus on grid-scale integration and cost optimization.
Building Automation Systems	Building automation systems (BAS) monitor and control various building systems like HVAC, lighting, and security. They can help optimize energy use and improve overall building performance.	Planning	2028	2030	Large-scale implementation across commercial buildings.
Renewable Energy Integration	Renewable energy integration involves connecting solar panels, wind turbines, and other renewable sources to the grid. It requires advanced metering and control systems to manage variable energy supply.	Planning	2029	2030	Strategic planning for grid modernization and reliability.
Energy Storage Solutions	Energy storage solutions store excess electricity generated from renewables or from the grid during off-peak times for use during peak demand periods. Various technologies like batteries and flywheels are being explored.	Planning	2030	2030	High priority for ensuring grid stability and reliability.
Advanced Grid Monitoring	Advanced grid monitoring uses sensors and data analysis to continuously track the performance of the electrical grid. This information is used to detect and respond to potential issues quickly.	Planning	2031	2030	Continuous improvement of grid management.
Customer Education and Outreach	Customer education and outreach programs aim to inform residential customers about energy efficiency measures, conservation tips, and how to use their new technologies effectively.	Planning	2032	2030	Long-term engagement strategy.
Policy and Regulation	Policy and regulation play a crucial role in shaping the demand side management landscape. This includes setting standards, providing incentives, and establishing rules for market participation.	Planning	2033	2030	Ongoing review and adaptation to changing circumstances.

## Appendix D

### Demand Side Management Residential Non Equipment

Program	Description	Eligible Participants	Implementation Dates	Implementation Status	Performance Metrics	Notes
Appliance Efficiency Incentives	Incentives for purchasing energy-efficient refrigerators, washing machines, and dryers.	Residential households	2023-2025	Ongoing	Savings: 10-30% electricity usage Completion: 90% of targets met	Program available through local utility partners.
Smart Thermostat Program	Incentives for installing smart thermostats to automatically adjust heating and cooling levels.	Residential households	2023-2025	Ongoing	Savings: 5-15% electricity usage Completion: 80% of targets met	Program available through local utility partners.
Energy Efficient Lighting Rebates	Incentives for replacing incandescent bulbs with LED and CFL options.	Residential households	2023-2025	Ongoing	Savings: 20-30% electricity usage Completion: 70% of targets met	Program available through local utility partners.
Water Conservation Incentives	Incentives for purchasing water-saving fixtures like low-flow showerheads and toilets.	Residential households	2023-2025	Ongoing	Savings: 10-20% water usage Completion: 60% of targets met	Program available through local utility partners.
Renewable Energy Incentives	Incentives for installing solar panels or wind turbines on residential properties.	Residential households	2023-2025	Ongoing	Savings: 50-70% electricity usage Completion: 50% of targets met	Program available through local utility partners.
EV Charging Station Rebates	Incentives for purchasing and installing electric vehicle charging stations.	Residential households	2023-2025	Ongoing	Savings: 20-30% electricity usage Completion: 40% of targets met	Program available through local utility partners.
Commercial Building Energy Audits	Incentives for conducting energy audits of commercial buildings to identify efficiency improvements.	Commercial buildings	2023-2025	Ongoing	Savings: 10-20% electricity usage Completion: 30% of targets met	Program available through local utility partners.
Industrial Process Upgrades	Incentives for upgrading industrial processes to reduce energy consumption.	Industrial facilities	2023-2025	Ongoing	Savings: 20-30% electricity usage Completion: 20% of targets met	Program available through local utility partners.
Commercial Building Energy Efficiency Incentives	Incentives for purchasing energy-efficient equipment and materials for commercial buildings.	Commercial buildings	2023-2025	Ongoing	Savings: 10-20% electricity usage Completion: 25% of targets met	Program available through local utility partners.
Industrial Energy Efficiency Incentives	Incentives for purchasing energy-efficient equipment and materials for industrial facilities.	Industrial facilities	2023-2025	Ongoing	Savings: 15-30% electricity usage Completion: 15% of targets met	Program available through local utility partners.



## Appendix D

### Demand Side Management Commercial Equipment

Category	Sub-Categories	Equipment Type	Approximate Capacity (kW)	Approximate Demand (kW)	Approximate Peak Demand (kW)	Approximate Energy Consumption (MWh)	Approximate Cost (\$)
Industrial	Manufacturing	Industrial Compressor	100	50	50	1000	\$10,000
Industrial	Manufacturing	Industrial Furnace	200	100	100	2000	\$20,000
Industrial	Manufacturing	Industrial Pump	50	25	25	500	\$5,000
Industrial	Manufacturing	Industrial Transformer	150	75	75	1500	\$15,000
Commercial	Food & Beverage	Food Processor	100	50	50	1000	\$10,000
Commercial	Food & Beverage	Refrigeration Unit	200	100	100	2000	\$20,000
Commercial	Food & Beverage	Cooling Tower	50	25	25	500	\$5,000
Commercial	Food & Beverage	Boiler	150	75	75	1500	\$15,000
Commercial	Retail	Point-of-Sale System	100	50	50	1000	\$10,000
Commercial	Retail	Lighting System	200	100	100	2000	\$20,000
Commercial	Retail	Heating System	50	25	25	500	\$5,000
Commercial	Healthcare	Hospital Equipment	100	50	50	1000	\$10,000
Commercial	Healthcare	Medical Imaging Equipment	200	100	100	2000	\$20,000
Commercial	Healthcare	Incubators	50	25	25	500	\$5,000
Commercial	Transportation	Electric Vehicle Charging Station	100	50	50	1000	\$10,000
Commercial	Transportation	Electric Forklift	200	100	100	2000	\$20,000
Commercial	Transportation	Electric Bus	50	25	25	500	\$5,000
Commercial	Manufacturing	Industrial Compressor	100	50	50	1000	\$10,000
Commercial	Manufacturing	Industrial Furnace	200	100	100	2000	\$20,000
Commercial	Manufacturing	Industrial Pump	50	25	25	500	\$5,000
Commercial	Manufacturing	Industrial Transformer	150	75	75	1500	\$15,000









**Appendix D**  
**Demand Side Management**  
**Industrial Equipment**

Demand Type	Demand Sub-Type	Demand Source	Demand Description	Residential Demand		Commercial Demand		Industrial Demand		Other Demand	
				Residential Demand	Commercial Demand	Industrial Demand	Other Demand	Residential Demand	Commercial Demand	Industrial Demand	Other Demand
Residential	Residential Demand	Residential	Residential Demand	1,000,000	0	0	0	1,000,000	0	0	0
Commercial	Commercial Demand	Commercial	Commercial Demand	0	1,000,000	0	0	0	1,000,000	0	0
Industrial	Industrial Demand	Industrial	Industrial Demand	0	0	1,000,000	0	0	0	1,000,000	0
Other	Other Demand	Other	Other Demand	0	0	0	1,000,000	0	0	0	1,000,000
<b>Residential Demand Breakdown</b>											
Residential	Residential Demand	Residential	Residential Demand	1,000,000	0	0	0	1,000,000	0	0	0
Commercial	Commercial Demand	Commercial	Commercial Demand	0	1,000,000	0	0	0	1,000,000	0	0
Industrial	Industrial Demand	Industrial	Industrial Demand	0	0	1,000,000	0	0	0	1,000,000	0
Other	Other Demand	Other	Other Demand	0	0	0	1,000,000	0	0	0	1,000,000
<b>Commercial Demand Breakdown</b>											
Residential	Residential Demand	Residential	Residential Demand	1,000,000	0	0	0	1,000,000	0	0	0
Commercial	Commercial Demand	Commercial	Commercial Demand	0	1,000,000	0	0	0	1,000,000	0	0
Industrial	Industrial Demand	Industrial	Industrial Demand	0	0	1,000,000	0	0	0	1,000,000	0
Other	Other Demand	Other	Other Demand	0	0	0	1,000,000	0	0	0	1,000,000
<b>Industrial Demand Breakdown</b>											
Residential	Residential Demand	Residential	Residential Demand	1,000,000	0	0	0	1,000,000	0	0	0
Commercial	Commercial Demand	Commercial	Commercial Demand	0	1,000,000	0	0	0	1,000,000	0	0
Industrial	Industrial Demand	Industrial	Industrial Demand	0	0	1,000,000	0	0	0	1,000,000	0
Other	Other Demand	Other	Other Demand	0	0	0	1,000,000	0	0	0	1,000,000

**Appendix D**  
**Demand Side Management**  
**Industrial Non Equipment**

Category	Demand Response			Reserve Margin			Demand Side Management			Industrial Non Equipment		
	Number of Projects	Total Capacity	Total Demand	Number of Projects	Total Capacity	Total Demand	Number of Projects	Total Capacity	Total Demand	Number of Projects	Total Capacity	Total Demand
<b>RESERVE MARGIN AND DEMAND RESPONSE</b>												
Reserve Margin	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00
Industrial Non Equipment	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00
Demand Response	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00
<b>INDUSTRIAL NON EQUIPMENT</b>												
Industrial Non Equipment	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00
<b>Demand Side Management</b>												
Demand Side Management	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00
<b>RESERVE MARGIN</b>												
Reserve Margin	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00	0.00



**Appendix D**  
**Demand Side Management**  
**Industrial Non Equipment**

Category	Sub-Categories	Description	Implementation Status	Notes
Residential	Appliance Control	Appliance control technologies, such as smart thermostats and timers, that allow utility companies to manage power usage during peak demand periods.	High	Commonly used in residential settings.
	Lighting Control	Systems that automatically turn off or dim lights when not in use, reducing energy consumption.	Medium	Used in residential settings.
	Water Conservation	Devices and systems designed to reduce water usage and save energy, such as low-flow fixtures and smart irrigation controllers.	Low	Used in residential settings.
Commercial	Building Automation Systems (BAS)	Systems that monitor and control building systems like heating, ventilation, and air conditioning (HVAC) to optimize energy efficiency.	High	Widely used in commercial buildings.
	Lighting Control	Systems that automatically turn off or dim lights when not in use, reducing energy consumption.	Medium	Used in commercial settings.
	Water Conservation	Devices and systems designed to reduce water usage and save energy, such as low-flow fixtures and smart irrigation controllers.	Low	Used in commercial settings.
	EV Charging Infrastructure	Systems and equipment for charging electric vehicles, often integrated with building automation systems.	Medium	Used in commercial settings, particularly parking garages.
Industrial	Process Control Systems (PCS)	Systems that monitor and control industrial processes to optimize energy efficiency.	High	Widely used in industrial facilities.
	Lighting Control	Systems that automatically turn off or dim lights when not in use, reducing energy consumption.	Medium	Used in industrial settings.
	Water Conservation	Devices and systems designed to reduce water usage and save energy, such as low-flow fixtures and smart irrigation controllers.	Low	Used in industrial settings.
	EV Charging Infrastructure	Systems and equipment for charging electric vehicles, often integrated with building automation systems.	Medium	Used in industrial settings, particularly parking garages.
	Solar Energy Systems	Systems that generate electricity from solar energy, often integrated with building automation systems.	Low	Used in industrial settings.

