



**Report on the Capacity, Demand and Reserves
(CDR) in the ERCOT Region, 2020-2029**

December 5, 2019

Table of Contents

<u>Tab</u>	<u>Notes</u>
Disclaimer	Please read
Changes from previous CDR	List of significant changes relative to the last CDR, published May 2019
Definitions	List of definitions
Executive Summary	Synopsis of considerations for this report
SummerSummary	Shows load forecast, resource capacity and reserve margin for Summer 2020 through Summer 2029
SummerCapacities	List of registered resources and capabilities used in determining the capacity contribution for Summer Peak Season
SummerFuelTypes	Lists generation fuel types by MW and by percentage for Summer 2020 through Summer 2029
WinterSummary	Shows load forecast, resource capacity and reserve margin for Winter 2019/2020 through Winter 2029/2030
WinterCapacities	List of registered resources and capabilities used in determining the capacity contribution for Winter Peak Season
WinterFuelTypes	Lists generation fuel types by MW and by percentage for Winter 2019/2020 through Winter 2029/2030
Generation Resource Scenarios	<p>Includes the following:</p> <ul style="list-style-type: none"> • Aggregate capacities of proposed generation resources for the summer of each reporting year based on meeting various interconnection process milestones. • A list of units for which public retirement announcements have been made but no formal retirement notices have been provided to ERCOT ("Unconfirmed" planned retirements). • The planned projects in the CDR that have been designated as "Inactive" for the Generation Interconnection or Change Request (GINR) process. • The summer and winter capacity summaries for years 6-10 of the reporting period.

Disclaimer

CDR WORKING PAPER FOR PLANNING PURPOSES ONLY

This ERCOT Working Paper has been prepared for specific ERCOT and market participant purposes and has been developed from data provided by ERCOT market participants. The data may contain errors or become obsolete and thereby affect the conclusions and opinions of the Working Paper. ERCOT MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND DISCLAIMS ANY AND ALL LIABILITY WITH RESPECT TO THE ACCURACY OF SAME OR THE FITNESS OR APPROPRIATENESS OF SAME FOR ANY PARTICULAR USE. THIS ERCOT WORKING PAPER IS SUPPLIED WITH ALL FAULTS. The specific suitability for any use of the Working Paper and its accuracy should be confirmed by each ERCOT market participant that contributed data for this Working Paper.

Notes on Changes Relative to the Last CDR Report, Published May 2019

1 The following Planned Resources have been moved to Operational Status since the release of the May 2019 CDR report:

Project Name	Unit Code	County	Fuel	Zone	Installed Capacity MW	Summer Capacity MW
VICTORIA PORT (VICTPORT) CTG 1	VICTPORT_CTG01	VICTORIA	GAS	SOUTH	44	44
VICTORIA PORT (VICTPORT) CTG 2	VICTPORT_CTG02	VICTORIA	GAS	SOUTH	44	44
LOCKETT WIND FARM	LOCKETT_UNIT1	WILBARGER	WIND-O	WEST	184	29
SEYMOUR HILLS WIND (S_HILLS WIND)	S_HILLS_UNIT1	BAYLOR	WIND-O	WEST	30	5
TORRECILLAS WIND 1	TORR_UNIT1_25	WEBB	WIND-O	SOUTH	150	24
TORRECILLAS WIND 2	TORR_UNIT2_23	WEBB	WIND-O	SOUTH	23	4
TORRECILLAS WIND 3	TORR_UNIT2_25	WEBB	WIND-O	SOUTH	128	20
MIDWAY WIND	MIDWIND_UNIT1	SAN PATRICIO	WIND-C	COASTAL	163	103
BLUEBELL SOLAR (CAPRICORN RIDGE SOLAR)	CAPRIDG4_BB_PV	STERLING	SOLAR	WEST	30	23
PHOEBE SOLAR 1	PHOEBE_UNIT1	WINKLER	SOLAR	WEST	125	95
PHOEBE SOLAR 2	PHOEBE_UNIT2	WINKLER	SOLAR	WEST	128	97
CASTLE GAP BATTERY	CASL_GAP_BATTERY1	UPTON	STORAGE	WEST	10	-
TOTAL					1,058	488

2 The following renewable and solar Settlement Only Distributed Generator (SODG) units became Operational since the release of the May 2019 CDR report: They did not go through the GINR application process because they all had capacities of 10 MW or less.

Project Name	Unit Code	County	Fuel	Zone	Installed Capacity MW	Summer Capacity MW
ALEXIS SOLAR	DG_ALEXIS_ALEXIS	BROOKS	SOLAR	SOUTH	10	7.6
GRIFFIN SOLAR	DG_GRIFFIN_GRIFFIN	MCLENNAN	SOLAR	NORTH	5	3.8
LAMPWICK SOLAR	DG_LAMPWICK_LAMPWICK	MENARD	SOLAR	SOUTH	5	3.8
YOUNICOS FACILITY	YOUNICOS_YINC1_1	TRAVIS	STORAGE	SOUTH	2	-
KINGSBERY ENERGY STORAGE SYSTEM	DG_KB_ESS_KB_ESS	TRAVIS	STORAGE	SOUTH	2	-
MU ENERGY STORAGE SYSTEM	DG_MU_ESS_MU_ESS	TRAVIS	STORAGE	SOUTH	2	-
TOTAL					25	15

3 The following Planned Resources have finalized the necessary agreements and permits to be added to the CDR report:

Project Name	GENERATION INTERCONNECTION PROJECT CODE	County	Fuel	Zone	Year of Projected Commercial Operations ^{1/}	Capacity MW	Summer Capacity MW
FRIENDSWOOD II	19INR0180	BRAZORIA	GAS	COASTAL	2021	117	117
LEVEE (FREEPORT LNG)	16INR0003	BRAZORIA	GAS	COASTAL	2019	11	11
BAIRD NORTH WIND	20INR0083	CALLAHAN	WIND-O	WEST	2021	294	47
BIG SAMPSON WIND	16INR0104	CROCKETT	WIND-O	WEST	2021	400	64
BLACKJACK CREEK WIND	20INR0068	BEE	WIND-O	SOUTH	2020	240	38
HIGH LONESOME WIND PHASE II	20INR0262	CROCKETT	WIND-O	WEST	2020	51	8
KAISER CREEK WIND	18INR0042	CALLAHAN	WIND-O	WEST	2020	102	16
CHOCOLATE BAYOU W	16INR0074	BRAZORIA	WIND-C	COASTAL	2021	150	94
WEST RAYMOND (EL TRUENO) WIND	20INR0088	WILLACY	WIND-C	COASTAL	2020	240	151
ANSON SOLAR	19INR0081	JONES	SOLAR	WEST	2020	202	153
BRAVEPOST SOLAR	20INR0053	TOM GREEN	SOLAR	WEST	2021	200	152
COTTONWOOD BAYOU	19INR0134	BRAZORIA	SOLAR	COASTAL	2021	150	114
ELARA SOLAR	21INR0276	FRIO	SOLAR	SOUTH	2021	178	135
FORT BEND SOLAR	18INR0053	FORT BEND	SOLAR	HOUSTON	2021	240	182
HORIZON SOLAR	21INR0261	FRIO	SOLAR	SOUTH	2021	204	155
IMPACT SOLAR	19INR0151	LAMAR	SOLAR	NORTH	2020	199	151
KELLAM SOLAR	20INR0261	VAN ZANDT	SOLAR	NORTH	2020	60	46
LONG POINT SOLAR	19INR0042	BRAZORIA	SOLAR	COASTAL	2021	100	76
MORROW LAKE SOLAR	19INR0155	FRIO	SOLAR	SOUTH	2021	200	152

MYRTLE SOLAR	19INR0041	BRAZORIA	SOLAR	COASTAL	2021	240	182
NORTON SOLAR	19INR0035	RUNNELS	SOLAR	WEST	2021	125	95
PHOENIX SOLAR	19INR0091	FANNIN	SOLAR	NORTH	2021	82	63
RIPPEY SOLAR	20INR0031	COOKE	SOLAR	NORTH	2020	60	46
RODEO SOLAR	19INR0103	ANDREWS	SOLAR	WEST	2021	200	152
TEXAS SOLAR NOVA	19INR0001	KENT	SOLAR	WEST	2021	252	192
WAGYU SOLAR	18INR0062	BRAZORIA	SOLAR	COASTAL	2020	120	91
CHISHOLM GRID	20INR0089	TARRANT	STORAGE	NORTH	2020	200	-
FLAT TOP BATTERY*	FLTBS_BESS1	REEVES	STORAGE	WEST	2019	10	-
PORT LAVACA BATTERY*	PTLBS_BESS1	CALHOUN	STORAGE	SOUTH	2019	10	-
PROSPECT STORAGE*	WCOLLDG_BSS_U1	BRAZORIA	STORAGE	HOUSTON	2019	10	-
WORSHAM BATTERY*	WRSBES_BESS1	REEVES	STORAGE	WEST	2019	10	-
TOTAL						4,654	2,684

(a) This date is based on the projected Commercial Operations Date (COD) reported by the project developer. In contrast, a unit's first summer CDR forecast year (reported in the SummerCapacities sheet) is defined as the first year in which the capacity is available for the entire summer Peak Load Season. (The summer Peak Load Season constitutes the months of June, July, August and September.) For example, if a unit has a projected COD of July 1, 2020, the first summer CDR forecast year would be 2021.

(b) The projects with an asterisks in the table above are Distributed Generation Resources (DGRs). Since they are 10 MW or less, they are not going through the GINR application process.

Methodology changes reflected in Nodal Protocol Section 3.2.6.2.2 (http://www.ercot.com/content/wcm/current_guides/53528/03-110119_Nodal.docx):

4 NPRR 958 – 'Modifications to Wind and Solar Capacity Calculations in the CDR' changed the calculation of the wind and solar peak average capacity contributions to use a capacity-weighted average instead of a simple average of historical contributions.

NPRR 959 – 'Creation of a Panhandle Region for Calculation of Seasonal Peak Average Capacity Contributions for Wind' split the existing non-coastal wind region into a Panhandle wind region and an Other wind region. This NPRR also created new Panhandle wind reporting line items.

Notable resource changes:

- 5 (a) GREGORY POWER PARTNERS [365 MW] went from 'operational' status to 'seasonal mothball' status on 10/17/19.
(b) GIBBONS CREEK U1 [470 MW] went from 'indefinite mothball' status to 'retired' status on 10/23/2019.
(c) WEST TEXAS WIND - SW_MESA_SW_MESA [80.3 MW] retired on 11/15/19.
(d) Added Lubbock Power & Light units TY COOK GT1 and GT2 (total of 33 MW) for summer 2021.

Notable report format changes:

- 6 (a) "Generation Resource Scenarios" tab highlights the capacity of proposed generation resources for the summer of each forecast year based on meeting various interconnection process milestones, along with tables indicating unconfirmed unit retirements and GINR projects that have been categorized as Inactive per Planning Guide Section 5.7.6.
(b) Units in the 'Capacities' tabs were ordered alphabetically using the 'Unit Name' column for each fuel group. (DG units for each fuel group were ordered separately and are listed at the end of each fuel section).

Definitions

Available Mothballed Capacity based on Owner's Return Probability

Mothballed capacity with a return-to-service probability of 50% or greater for a given season of the year, as provided by its owner, constitutes available mothballed generation. Return probabilities for individual units are considered protected information under the ERCOT Protocols and therefore are not included in this report.

Distribution Resource Types:

Settlement Only Distribution Generator (SODG)

A generator that is connected to the Distribution System with a rating of:

- (1) One MW or less that chooses to register as an SODG; or
- (2) Greater than one and up to ten MW that is capable of providing a net export to the ERCOT System and does not register as a Distribution Generation Resource (DGR).

SODGs are settled for exported energy only, but may not participate in the Ancillary Services market, Reliability Unit Commitment (RUC), Security-Constrained Economic Dispatch (SCED), or make energy offers.

Distribution Generation Resource (DGR)

A Generation Resource connected to the Distribution System that is either:

- (1) Greater than ten MW and not registered with the Public Utility Commission of Texas (PUCT) as a self-generator; or
- (2) Ten MW or less that chooses to register as a Generation Resource to participate in the ERCOT markets.

DGRs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads.

Emergency Response Service

ERCOT uses the methodology specified in Protocol Section 3.2.6.2.1, Peak Load Estimate, to derive the ERS capacity forecast for future years. The Current Year for the calculations is defined as the latest year for which ERS has been procured. The ERS capacity amounts are grossed up by 2% to reflect avoided transmission line losses.

Energy Efficiency Program Savings Forecast

ERCOT's energy efficiency forecast uses the PUCT's annual verified energy efficiency program savings estimates as the starting point. (See the definition for verified energy efficiency program savings below.) Savings from TDSP standard offer load management programs are not included in the ERCOT energy efficiency forecast. ERCOT computes the historical average annual verified savings, but excludes 2017 from the calculation due to Hurricane Harvey load impacts. (For prior forecasts, ERCOT used a formula based on the State energy efficiency goals in Utilities Code Section 39.905. Since the impacts of the goals were assumed to accumulate for just seven years from the time that the goals must be first met (2013), ERCOT no longer uses the goal-based forecasting approach.)

Finally, ERCOT incorporates annual energy efficiency estimates from municipal utilities and electric cooperatives provided to the State Energy Conservation Office (SECO). Annual SECO report submission by these entities is required under S.B. No. 924. If annual reports for the previous calendar year are not available at the time the CDR is prepared, ERCOT incorporates report data for the most recently available reporting year.

The energy efficiency capacity amounts are grossed up by a factor representing avoided transmission and distribution line losses. The factor is currently 1.076, reflecting 2% for avoided transmission losses and 5.6% for avoided distribution losses. The loss percentages are based on transmission and distribution loss factors posted to ERCOT's MIS website.

Forecast Zone

The CDR report uses Forecast Zones to identify the geographical location of generation resources. Forecast Zones generally have the same boundaries as the 2003 Congestion Management Zones with the following exceptions: A) Panhandle Zone for resources in the Texas Panhandle counties and outside the 2003 Congestion Management Zones, and B) Coastal Zone for resources in 11 counties along the Texas Gulf Coast and formerly in the South Zone of the 2003 Congestion Management Zones. There are six Forecast Zones: Coastal, Houston, North, Panhandle, South, and West.

Full Interconnection Study (FIS)

The set of studies conducted by a Transmission Service Provider (TSP) for the purpose of identifying any electric system improvements or enhancements required to reliably interconnect a new All-Inclusive Generation Resource consistent with the provisions of Planning Guide Section 5, Generation Resource Interconnection or Change Request. These studies may include steady-state studies, system protection (short-circuit) studies, dynamic and transient stability studies, facility studies, and sub-synchronous oscillation studies.

Mothballed Unit

A generation resource for which a generation entity has submitted a Notification of Suspension of Operations, for which ERCOT has declined to execute an RMR agreement, and for which the generation entity has not announced retirement of the generation resource. A seasonal mothballed unit is one in which the generation entity requests a seasonal operation period that must include the summer Peak Load Season, June 1 through September 30.

LRs (Load Resources)

Load capable of reducing or increasing the need for electrical energy or providing Ancillary Services to the ERCOT System, as described in the ERCOT Protocols, Section 6, Ancillary Services. These Resources may provide the following Ancillary Services: Responsive Reserve Service, Non-Spinning Reserve Service, Replacement Reserve Service, and Regulation Service. The Resources must be registered and qualified by ERCOT and will be scheduled by a Qualified Scheduling Entity (QSE). LR capacity has been grossed up by 2% to reflect avoided transmission line losses.

Mothballed Capacity

Capacity that is designated as mothballed by a generating unit's owner as described above, and which is not available for operations during the summer Peak Load Season (June, July, August and September) or winter Peak Load Season (December, January and February).

Peak Load Seasons

Summer months are June, July, August, and September; winter months are December, January, and February.

Private Use Networks

An electric network connected to the ERCOT transmission grid that contains load that is not directly metered by ERCOT (i.e., load that is typically netted with internal generation).

Non-Synchronous Tie

Any non-synchronous transmission interconnection between ERCOT and non-ERCOT electric power systems.

Reliability Must-Run (RMR) Unit

A generation resource unit operated under the terms of an agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria.

Signed SGIA (Standard Generation Interconnection Agreement)

An agreement that sets forth requirements for physical connection between an eligible transmission service customer and a transmission or distribution service provider.

Switchable Generation Resource (SWGR)

A generation resource that can be connected to either the ERCOT transmission grid or a grid outside the ERCOT Region.

TDSP Standard Offer Load Management Programs

For the May releases of the CDR report, ERCOT uses the megawatt amount of verified peak load capacity reductions, adjusted for avoided transmission losses, due to TDSP Standard Offer load management programs that are reported by electric utilities in the ERCOT Region to the Public Utility Commission of Texas. The reported amounts are for the most current reporting year, which is the calendar year prior to the year during which the May CDR is prepared. (For example, the May 2019 CDR report used verified program savings for the 2018 reporting year.)

For the December CDR releases, ERCOT uses TDSP data received for the current load management program year, which is more timely than the verified savings estimates provided to the PUCT. The data obtained from the TDSPs reflect verified program performance for the summer based on testing, and is adjusted for avoided transmission losses.

Unconfirmed Retirement

A Generation Resource for which a public announcement of the intent to permanently shut the unit down has been released, but a Notice of Suspension of Operations for the unit has not been received by ERCOT. This is an informal definition that is not currently included in the Nodal Protocols or Other Binding Documents.

The criteria for classifying a Generation Resource as an Unconfirmed Retirement include the following:

- a. A specific retirement date is cited in the announcement, or other timing information is given that indicates the unit will be unavailable as of June 1 of a CDR Reporting Year.
- b. The announcement, with follow-up inquiry by ERCOT, does not indicate that retirement timing is highly speculative.

Verified Energy Efficiency Program Savings

The total megawatt (MW) amount of verified peak load capacity reductions due to residential and commercial sector energy efficiency incentive programs that are reported by electric utilities in the ERCOT Region to the Public Utility Commission of Texas. See Utilities Code Section 39.905. Note that savings from TDSP standard offer load management programs are not included in the ERCOT energy efficiency forecast, but rather handled as a separate reporting line item.

Wind Peak Average Capacity Contribution

The seasonal net capacity rating of wind resources multiplied by the Seasonal Peak Average Capacity Percentage for the Coastal, Panhandle and Other CDR reporting regions.

Wind Seasonal Peak Average Capacity Percentage

The average wind capacity available for the summer and winter Peak Load Seasons for a CDR reporting region (Coastal, Panhandle, Other) divided by the installed capacity for the region, expressed as a percentage. Details for the derivation of the percentages are outlined in ERCOT Protocol Section 3.2.6.2.2 (see http://www.ercot.com/content/wcm/current_guides/53528/03-110119_Nodal.docx).

Wind Regions: Coastal, Panhandle, and Other

Wind Generation Resources (WGRs) are classified into regions based on the county that contains their Point of Interconnection (POI). The Coastal region is defined as the following counties along the Gulf Coast: Aransas, Brazoria, Calhoun, Cameron, Kenedy, Kleberg, Matagorda, Nueces, Refugio, San Patricio, and Willacy. The Panhandle region is defined as the following counties: Armstrong, Bailey, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Crosby, Dallam, Deaf Smith, Dickens, Donley, Floyd, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, Lamb, Lipscomb, Lubbock, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher, and Wheeler. The "Other" Wind Region consists of all other counties in the ERCOT Region.

The assigned Wind Region for each WGR is indicated as "WIND-C," "WIND-P," or "WIND-O" in the Fuel columns of the summer/winter Capacities tabs.

CDR Report - Executive Summary

The planning reserve margin for summer 2020 is forecasted to be 10.6%, based on resource updates provided to ERCOT from generation developers and an updated peak demand forecast. This is 2% higher than the 8.6% reserve margin ERCOT reported as it entered the summer 2019 peak demand season.

The ERCOT region continues to experience above-normal growth in peak electricity demand due to strong load growth in Far West Texas and along the coast where new industrial facilities are being constructed.

For 2020, the forecasted peak demand is 76,696 MW. ERCOT's current system-wide peak demand record is 74,820 MW, set on Aug. 12, 2019 between 4 and 5 p.m.

Based on preliminary data from generation owners, new capacity additions from planned projects for summer 2020 total 7,633 MW. Based on ERCOT's current interconnection queue, the majority of new generation projects are renewable and small, flexible gas-fired resources.

Since the May 2019 CDR report, two gas-fired plants totaling 1,227 MW have been canceled, and eight solar projects with a 1,056 MW capacity contribution have been delayed. The CDR includes a Generation Resource Scenarios tab that identifies generation units that have informally announced plans to retire. Until ERCOT receives an official Notice of Suspension of Operation from the owners, these units will continue to be reflected in the CDR.

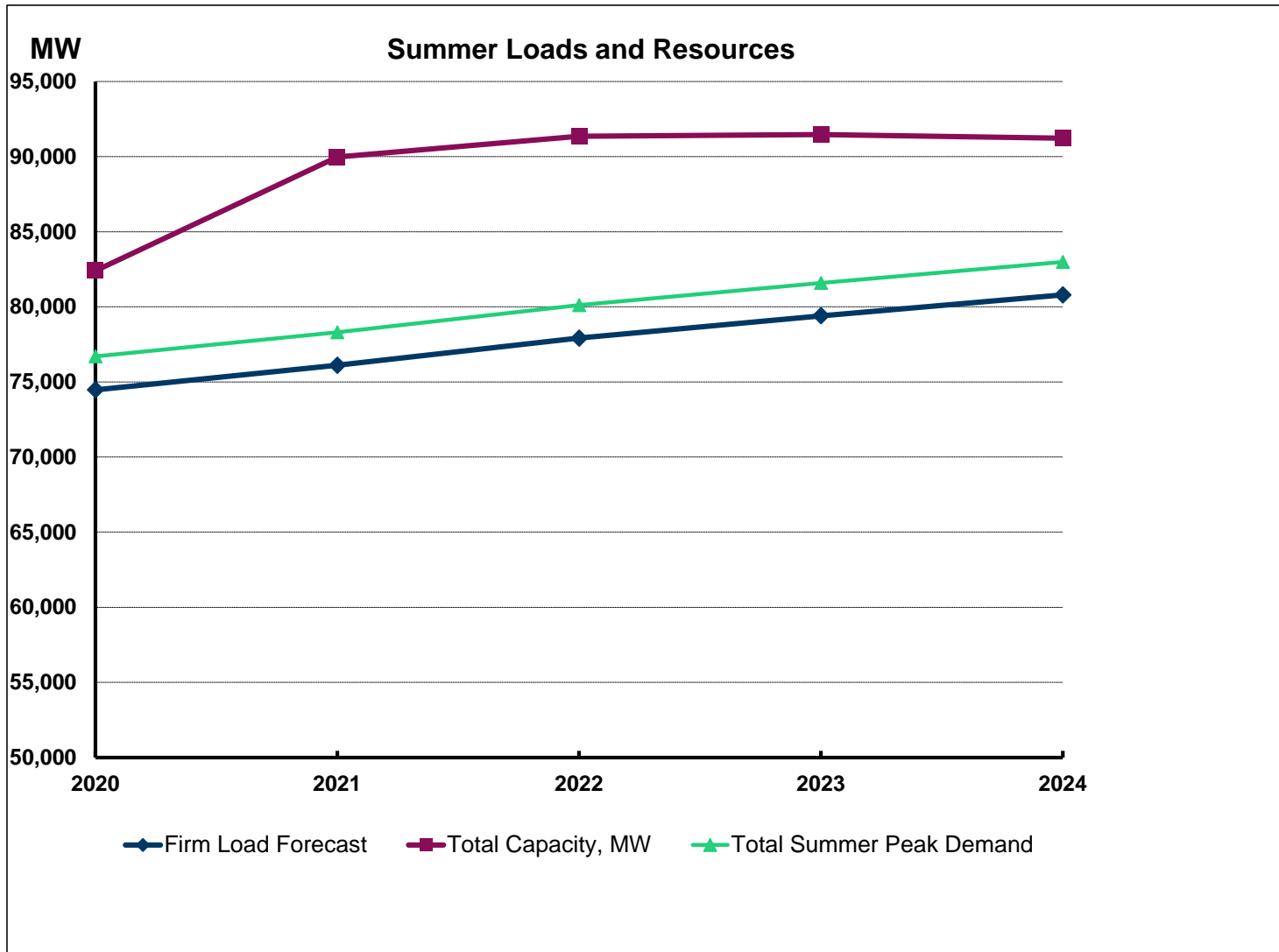
Resources totaling 1,058 MW of installed capacity have been approved by ERCOT for commercial operations since the May CDR, and a total of 4,654 MW of installed capacity became eligible for inclusion in the CDR.

ERCOT's next Seasonal Assessment of Resource Adequacy will be released in March 2020, and the mid-year CDR report will be released in May 2020.

Report on the Capacity, Demand and Reserves in the ERCOT Region

Summer Summary: 2020-2024

Load Forecast, MW:	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Summer Peak Demand (based on normal weather)	76,696	78,299	80,108	81,593	82,982
plus: Energy Efficiency Program Savings Forecast, per Utilities Code Section 39.905 (b-4)	1,764	2,065	2,285	2,592	2,821
Total Summer Peak Demand (before Reductions from Energy Efficiency Programs)	78,459	80,363	82,393	84,185	85,803
less: Load Resources providing Responsive Reserves	-1,173	-1,173	-1,173	-1,173	-1,173
less: Load Resources providing Non-Spinning Reserves	0	0	0	0	0
less: Emergency Response Service (10- and 30-min ramp products)	-786	-764	-764	-764	-764
less: TDSP Standard Offer Load Management Programs	-257	-257	-257	-257	-257
less: Energy Efficiency Program Savings Forecast	-1,764	-2,065	-2,285	-2,592	-2,821
Firm Peak Load, MW	74,480	76,105	77,914	79,399	80,788
Resources, MW:	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Installed Capacity, Thermal/Hydro	65,001	65,237	65,272	65,272	65,272
Switchable Capacity, MW	3,490	3,490	3,490	3,490	3,490
less: Switchable Capacity Unavailable to ERCOT, MW	-842	-542	-542	-542	-542
Available Mothballed Capacity, MW	483	483	365	365	365
Capacity from Private Use Networks	3,327	3,247	3,227	3,227	2,972
Coastal Wind, Peak Average Capacity Contribution (63% of installed capacity)	1,880	1,880	1,880	1,880	1,880
Panhandle Wind, Peak Average Capacity Contribution (29% of installed capacity)	1,218	1,221	1,221	1,221	1,221
Other Wind, Peak Average Capacity Contribution (16% of installed capacity)	2,496	2,487	2,487	2,487	2,487
Solar Utility-Scale, Peak Average Capacity Contribution (76% of installed capacity)	1,649	1,649	1,649	1,649	1,649
Storage, Peak Average Capacity Contribution (0% of installed capacity)	0	0	0	0	0
RMR Capacity to be under Contract	0	0	0	0	0
Capacity Pending Retirement, MW	0	0	0	0	0
Operational Generation Capacity, MW	78,701	79,151	79,048	79,048	78,793
Non-Synchronous Ties, Capacity Contribution (68% of installed capacity)	850	850	850	850	850
Planned Resources (not wind, solar or storage) with Signed IA, Air Permits and Water Rights	212	813	813	813	813
Planned Coastal Wind with Signed IA, Peak Average Capacity Contribution (63% of installed capacity)	661	1,315	1,315	1,315	1,315
Planned Panhandle Wind with Signed IA, Peak Average Capacity Contribution (29% of installed capacity)	134	450	581	653	653
Planned Other Wind with Signed IA, Peak Average Capacity Contribution (16% of installed capacity)	652	1,353	1,557	1,598	1,598
Planned Solar Utility-Scale, Peak Average Capacity Contribution (76% of installed capacity)	1,192	6,035	7,197	7,197	7,197
Planned Storage, Peak Average Capacity Contribution (0% of installed capacity)	0	0	0	0	0
Total Capacity, MW	82,403	89,967	91,361	91,473	91,218
Reserve Margin	10.6%	18.2%	17.3%	15.2%	12.9%
(Total Resources - Firm Load Forecast) / Firm Load Forecast					



Unit Capacities - Summer

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
357 WM RENEWABLE-DFW GAS RECOVERY LFG		DG_BIO2_4UNITS	DENTON	BIOMASS	NORTH	2009	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
358 WM RENEWABLE-MESQUITE CREEK LFG		DG_FREIH_2UNITS	COMAL	BIOMASS	SOUTH	2011	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
359 WM RENEWABLE-WESTSIDE LFG		DG_WSTHL_3UNITS	PARKER	BIOMASS	NORTH	2010	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
360 Operational Capacity Total (Nuclear, Coal, Gas, Biomass)							64,543.4	64,779.4	64,814.0	64,814.0	64,814.0	64,814.0	64,814.0	64,814.0	64,814.0	64,814.0
361																
362 Operational Resources (Hydro)																
363 AMISTAD HYDRO 1		AMISTAD_AMISTAG1	VAL VERDE	HYDRO	WEST	1983	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9
364 AMISTAD HYDRO 2		AMISTAD_AMISTAG2	VAL VERDE	HYDRO	WEST	1983	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9
365 AUSTIN HYDRO 1		AUSTPL_AUSTING1	TRAVIS	HYDRO	SOUTH	1940	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
366 AUSTIN HYDRO 2		AUSTPL_AUSTING2	TRAVIS	HYDRO	SOUTH	1940	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
367 BUCHANAN HYDRO 1		BUCHAN_BUCHANG1	LLANO	HYDRO	SOUTH	1938	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
368 BUCHANAN HYDRO 2		BUCHAN_BUCHANG2	LLANO	HYDRO	SOUTH	1938	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
369 BUCHANAN HYDRO 3		BUCHAN_BUCHANG3	LLANO	HYDRO	SOUTH	1950	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
370 DENISON DAM 1		DNDAM_DENISOG1	GRAYSON	HYDRO	NORTH	1944	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
371 DENISON DAM 2		DNDAM_DENISOG2	GRAYSON	HYDRO	NORTH	1948	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
372 EAGLE PASS HYDRO		EAGLE_HY_EAGLE_HY1	MAVERICK	HYDRO	SOUTH	2005	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
373 FALCON HYDRO 1		FALCON_FALCONG1	STARR	HYDRO	SOUTH	1954	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
374 FALCON HYDRO 2		FALCON_FALCONG2	STARR	HYDRO	SOUTH	1954	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
375 FALCON HYDRO 3		FALCON_FALCONG3	STARR	HYDRO	SOUTH	1954	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
376 GRANITE SHOALS HYDRO 1		DG_LKWDT_2UNITS	BURNET	HYDRO	SOUTH	1951	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
377 GRANITE SHOALS HYDRO 2		WIRTZ_WIRTZ_G2	BURNET	HYDRO	SOUTH	1951	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
378 GUADALUPE BLANCO RIVER AUTH-CANYON		CANYHY_CANYHYG1	COMAL	HYDRO	SOUTH	1989	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
379 INKS HYDRO 1		INKSDA_INKS_G1	LLANO	HYDRO	SOUTH	1938	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
380 MARBLE FALLS HYDRO 1		MARBFA_MARBFAG1	BURNET	HYDRO	SOUTH	1951	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
381 MARBLE FALLS HYDRO 2		MARBFA_MARBFAG2	BURNET	HYDRO	SOUTH	1951	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
382 MARSHALL FORD HYDRO 1		MARSFO_MARSFOG1	TRAVIS	HYDRO	SOUTH	1941	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
383 MARSHALL FORD HYDRO 2		MARSFO_MARSFOG2	TRAVIS	HYDRO	SOUTH	1941	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
384 MARSHALL FORD HYDRO 3		MARSFO_MARSFOG3	TRAVIS	HYDRO	SOUTH	1941	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
385 WHITNEY DAM HYDRO		WND_WHITNEY1	BOSQUE	HYDRO	NORTH	1953	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
386 WHITNEY DAM HYDRO 2		WND_WHITNEY2	BOSQUE	HYDRO	NORTH	1953	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
387 ARLINGTON OUTLET HYDROELECTRIC FACILITY		DG_OAKHL_1UNIT	TARRANT	HYDRO	NORTH	2014	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
388 CITY OF GONZALES HYDRO		DG_GONZ_HYDRO_GONZ_HYDRO	GONZALES	HYDRO	SOUTH	1986	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
389 GUADALUPE BLANCO RIVER AUTH-LAKEWOOD TAP		DG_LKWDT_2UNITS	GONZALES	HYDRO	SOUTH	1931	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
390 GUADALUPE BLANCO RIVER AUTH-MCQUEENEY		DG_MCQUE_5UNITS	GUADALUPE	HYDRO	SOUTH	1928	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
391 GUADALUPE BLANCO RIVER AUTH-SCHUMANSVILLE		DG_SCHUM_2UNITS	GUADALUPE	HYDRO	SOUTH	1928	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
392 LEWISVILLE HYDRO-CITY OF GARLAND		DG_LWVSL_1UNIT	DENTON	HYDRO	NORTH	1991	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
393 Operational Capacity Total (Hydro)							552.6	552.6	552.6	552.6	552.6	552.6	552.6	552.6	552.6	552.6
394 Hydro Capacity Contribution (Top 20 Hours)		HYDRO_CAP_CONT					457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5	457.5
395																
396 Operational Capacity Unavailable due to Extended Outage or D		OPERATION_UNAVAIL					-	-	-	-	-	-	-	-	-	-
397 Operational Capacity Total (Including Hydro)		OPERATION_TOTAL					65,000.9	65,236.9	65,271.5	65,271.5	65,271.5	65,271.5	65,271.5	65,271.5	65,271.5	65,271.5
398																
399 Operational Resources (Switchable)																
400 ANTELOPE IC 1		AEEC_ANTLP_1	HALE	GAS	PANHANDLE	2016	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
401 ANTELOPE IC 2		AEEC_ANTLP_2	HALE	GAS	PANHANDLE	2016	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
402 ANTELOPE IC 3		AEEC_ANTLP_3	HALE	GAS	PANHANDLE	2016	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
403 ELK STATION CTG 1		AEEC_ELK_1	HALE	GAS	PANHANDLE	2016	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0
404 ELK STATION CTG 2		AEEC_ELK_2	HALE	GAS	PANHANDLE	2016	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0	190.0
405 TENASKA FRONTIER STATION CTG 1		FTR_FTR_G1	GRIMES	GAS	NORTH	2000	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
406 TENASKA FRONTIER STATION CTG 2		FTR_FTR_G2	GRIMES	GAS	NORTH	2000	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
407 TENASKA FRONTIER STATION CTG 3		FTR_FTR_G3	GRIMES	GAS	NORTH	2000	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
408 TENASKA FRONTIER STATION CTG 4		FTR_FTR_G4	GRIMES	GAS	NORTH	2000	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0
409 TENASKA GATEWAY STATION CTG 1		TGCCS_CT1	RUSK	GAS	NORTH	2001	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0
410 TENASKA GATEWAY STATION CTG 2		TGCCS_CT2	RUSK	GAS	NORTH	2001	135.0	135.0	135.0	135.0	135.0	135.0	135.0	135.0	135.0	135.0
411 TENASKA GATEWAY STATION CTG 3		TGCCS_CT3	RUSK	GAS	NORTH	2001	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
412 TENASKA GATEWAY STATION CTG 4		TGCCS_UNIT4	RUSK	GAS	NORTH	2001	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0
413 TENASKA KIAMICHI STATION 1CT101		KMCHI_1CT101	FANNIN	GAS	NORTH	2003	151.0	151.0	151.0	151.0	151.0	151.0	151.0	151.0	151.0	151.0
414 TENASKA KIAMICHI STATION 1CT201		KMCHI_1CT201	FANNIN	GAS	NORTH	2003	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0
415 TENASKA KIAMICHI STATION 1ST		KMCHI_1ST	FANNIN	GAS	NORTH	2003	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0	310.0
416 TENASKA KIAMICHI STATION 2CT101		KMCHI_2CT101	FANNIN	GAS	NORTH	2003	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
417 TENASKA KIAMICHI STATION 2CT201		KMCHI_2CT201	FANNIN	GAS	NORTH	2003	152.0	152.0	152.0	152.0	152.0	152.0	152.0	152.0	152.0	152.0
418 TENASKA KIAMICHI STATION 2ST		KMCHI_2ST	FANNIN	GAS	NORTH	2003	311.0	311.0	311.0	311.0	311.0	311.0	311.0	311.0	311.0	311.0
419 Switchable Capacity Total							3,490.0	3,490.0	3,490.0	3,490.0	3,490.0	3,490.0	3,490.0	3,490.0	3,490.0	3,490.0
420																
421 Switchable Capacity Unavailable to ERCOT																
422 ANTELOPE IC 1		AEEC_ANTLP_1_UNAVAIL	HALE	GAS	PANHANDLE	2017	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)
423 ANTELOPE IC 2		AEEC_ANTLP_2_UNAVAIL	HALE	GAS	PANHANDLE	2017	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)
424 ANTELOPE IC 3		AEEC_ANTLP_3_UNAVAIL	HALE	GAS	PANHANDLE	2017	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)	(54.0)
425 ELK STATION CTG 1		AEEC_ELK_1_UNAVAIL	HALE	GAS	PANHANDLE	2017	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)
426 ELK STATION CTG 2		AEEC_ELK_2_UNAVAIL	HALE	GAS	PANHANDLE	2017	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)	(190.0)
427 TENASKA FRONTIER STATION		FTR_FTR_UNAVAIL	GRIMES	GAS	NORTH	2016	(300.0)	(300.0)								

Unit Capacities - Summer

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
711																
712	Operational Resources (Storage)															
713	BLUE SUMMIT BATTERY	BLSUMMIT_BATTERY	WILBARGER	STORAGE	WEST	2017	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
714	CASTLE GAP BATTERY	CASL_GAP_BATTERY1	UPTON	STORAGE	WEST	2019	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
715	INADALE ESS	INDL_ESS	NOLAN	STORAGE	WEST	2018	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
716	NOTREES BATTERY FACILITY	NWF_NBS	WINKLER	STORAGE	WEST	2013	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
717	OJ ALAMO 1	OJ_ALM1_ASTRO1	BEXAR	STORAGE	SOUTH	2016	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
718	PYRON ESS	PYR_ESS	SCURRY	STORAGE	WEST	2018	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
719	YOUNICOS FACILITY	YOUNICOS_YINC1_1	TRAVIS	STORAGE	SOUTH	2015	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
720	KINGSBERY ENERGY STORAGE SYSTEM	DG_KB_ESS_KB_ESS	TRAVIS	STORAGE	SOUTH	2017	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
721	MU ENERGY STORAGE SYSTEM	DG_MU_ESS_MU_ESS	TRAVIS	STORAGE	SOUTH	2018	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
722	TOS BATTERY STORAGE	DG_TOSBATT_UNIT1	MIDLAND	STORAGE	WEST	2017	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
723	Operational Capacity Total (Storage)															
724	Storage Peak Average Capacity Percentage	STORAGE_PEAK_PCT	%				-	-	-	-	-	-	-	-	-	-
725																
726	Reliability Must-Run (RMR) Capacity	RMR_CAP_CONT		GAS			-	-	-	-	-	-	-	-	-	-
727																
728	Capacity Pending Retirement	PENDRETIRE_CAP					-	-	-	-	-	-	-	-	-	-
729																
730	Non-Synchronous Tie Resources															
731	EAST TIE	DC_E	FANNIN	OTHER	NORTH		600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
732	NORTH TIE	DC_N	WILBARGER	OTHER	WEST		220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0
733	EAGLE PASS TIE	DC_S	MAVERICK	OTHER	SOUTH		30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
734	LAREDO VFT TIE	DC_L	WEBB	OTHER	SOUTH		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
735	SHARYLAND RAILROAD TIE	DC_R	HIDALGO	OTHER	SOUTH		300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
736	Non-Synchronous Ties Total															
737	Non-Synchronous Ties Peak Average Capacity Percentage	DC_TIE_PEAK_PCT	%				1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0
738																
739	Planned Thermal Resources with Executed SGIA, Air Permit, GHG Permit and Proof of Adequate Water Supplies															
740	FRIENDSWOOD II	19INR0180	BRAZORIA	GAS	COASTAL	2021	-	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0
741	HAILYARD WHARTON ENERGY CENTER	16INR0044	WHARTON	GAS	SOUTH	2021	-	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0
742	HUDSON (BRAZORIA ENERGY G)	16INR0076	BRAZORIA	GAS	COASTAL	2019	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
743	LEVEE (FREEPORT LNG)	16INR0003	BRAZORIA	GAS	COASTAL	2019	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
744	MIRAGE	17INR0022	HARRIS	GAS	HOUSTON	2020	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
745	VICTORIA CITY (CITYVICT)	18INR0035	REFUGIO	GAS	COASTAL	2019	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
746	Planned Capacity Total (Nuclear, Coal, Gas, Biomass)															
747							212.0	813.0	813.0	813.0	813.0	813.0	813.0	813.0	813.0	813.0
748	Planned Wind Resources with Executed SGIA															
749	CHALUPA WIND	20INR0042	CAMERON	WIND-C	COASTAL	2020	-	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
750	CHOCOLATE BAYOU W	16INR0074	BRAZORIA	WIND-C	COASTAL	2021	-	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5
751	CANEL WIND	19INR0112	REFUGIO	WIND-C	COASTAL	2020	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0
752	EAST RAYMOND WIND	18INR0059	WILLACY	WIND-C	COASTAL	2020	-	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6
753	KARANKAWA WIND	18INR0014	SAN PATRICIO	WIND-C	COASTAL	2019	206.6	206.6	206.6	206.6	206.6	206.6	206.6	206.6	206.6	206.6
754	KARANKAWA WIND 2	19INR0074	SAN PATRICIO	WIND-C	COASTAL	2019	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0
755	LAS MALJADAS WIND	17INR0035	WILLACY	WIND-C	COASTAL	2020	-	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8	272.8
756	PALMAS ALTAS WIND	17INR0037	CAMERON	WIND-C	COASTAL	2019	144.9	144.9	144.9	144.9	144.9	144.9	144.9	144.9	144.9	144.9
757	PEYTON CREEK WIND	18INR0018	MATAGORDA	WIND-C	COASTAL	2019	151.2	151.2	151.2	151.2	151.2	151.2	151.2	151.2	151.2	151.2
758	SHAFFER (PATRIOT WIND/PETRONILLA)	11INR0062	NUECES	WIND-C	COASTAL	2019	226.0	226.0	226.0	226.0	226.0	226.0	226.0	226.0	226.0	226.0
759	WEST RAYMOND (EL TRUENO) WIND	20INR0088	WILLACY	WIND-C	COASTAL	2020	-	239.8	239.8	239.8	239.8	239.8	239.8	239.8	239.8	239.8
760	ARMSTRONG WIND	18INR0029	ARMSTRONG	WIND-P	PANHANDLE	2020	253.0	253.0	253.0	253.0	253.0	253.0	253.0	253.0	253.0	253.0
761	CANADIAN BREAKS WIND	13INR0026	OLDHAM	WIND-P	PANHANDLE	2019	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0	210.0
762	GOODNIGHT WIND	14INR0033	ARMSTRONG	WIND-P	PANHANDLE	2020	-	504.4	504.4	504.4	504.4	504.4	504.4	504.4	504.4	504.4
763	HART WIND	16INR0033	CASTRO	WIND-P	PANHANDLE	2021	-	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
764	MARIAH DEL ESTE	13INR0010a	PARMER	WIND-P	PANHANDLE	2020	-	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5
765	NORTHDRAW WIND	13INR0025	RANDALL	WIND-P	PANHANDLE	2020	-	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
766	PANHANDLE WIND 3	14INR0030c	CARSON	WIND-P	PANHANDLE	2022	-	-	248.0	248.0	248.0	248.0	248.0	248.0	248.0	248.0
767	PUMPKIN FARM WIND	16INR0037c	FLOYD	WIND-P	PANHANDLE	2020	-	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9	280.9
768	WILDROSE WIND (SWISHER WIND)	13INR0038	SWISHER	WIND-P	PANHANDLE	2021	-	302.5	302.5	302.5	302.5	302.5	302.5	302.5	302.5	302.5
769	AVIATOR WIND	19INR0156	COKE	WIND-O	WEST	2020	-	525.0	525.0	525.0	525.0	525.0	525.0	525.0	525.0	525.0
770	BAIRD NORTH WIND	20INR0083	CALLAHAN	WIND-O	WEST	2021	-	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5	293.5
771	BARROW RANCH (JUMBO HILL WIND)	18INR0038	ANDREWS	WIND-O	WEST	2020	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
772	BIG SAMPSON WIND	16INR0104	CROCKETT	WIND-O	WEST	2021	-	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0
773	BLACKJACK CREEK WIND	20INR0068	BEE	WIND-O	SOUTH	2020	-	239.8	239.8	239.8	239.8	239.8	239.8	239.8	239.8	239.8
774	BLUE SUMMIT WIND 2	18INR0070	WILBARGER	WIND-O	WEST	2019	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0

Unit Capacities - Summer

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
888	Seasonal Mothballed Resources															
890	GREGORY POWER PARTNERS GT1 (AS OF 10/17/2019)	LGE_LGE_GT1	SAN PATRICIO	GAS	COASTAL	2000	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0
891	GREGORY POWER PARTNERS GT2 (AS OF 10/17/2019)	LGE_LGE_GT2	SAN PATRICIO	GAS	COASTAL	2000	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0
892	GREGORY POWER PARTNERS STG (AS OF 10/17/2019)	LGE_LGE_STG	SAN PATRICIO	GAS	COASTAL	2000	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
893	SPENCER STG U4 (AS OF 10/3/2018)	SPNCER_SPNCE_4	DENTON	GAS	NORTH	1966	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0
894	SPENCER STG U5 (AS OF 10/3/2018)	SPNCER_SPNCE_5	DENTON	GAS	NORTH	1973	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0
895	Total Seasonal Mothballed Capacity						483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0
896	Mothballed Resources															
898	J T DEELY U1 (AS OF 12/31/2018)	CALAVERS_JTD1_M	BEXAR	COAL	SOUTH	1977	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0
899	J T DEELY U2 (AS OF 12/31/2018)	CALAVERS_JTD2_M	BEXAR	COAL	SOUTH	1978	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0	420.0
900	Total Mothballed Capacity						840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
901	Retiring Resources Unavailable to ERCOT (since last CDR/SARA)															
902	Total Retiring Capacity						-	-	-	-	-	-	-	-	-	-

Notes:

Capacity changes due to planned repower/upgrade projects are reflected in the operational units' ratings upon (1) receipt and ERCOT approval of a new Resource Asset Registration Form (RARF), or (2) the unit owner submitting, and ERCOT approving, a Generation Interconnection or Change Request (GINR) application, and the project modifies the installed capacity by at least 10 MW as reported in the GINR request. Projects associated with interconnection change requests that meet the 10 MW size threshold are indicated with a code in the "Generation Interconnection Project Code" column. Projects with more than one unit have capacity change amounts prorated equally across the units. These prorated capacity adjustments are temporary until project owners submit RARFs that reflect updated seasonal MW ratings for each unit.

Although seasonal capacity ratings for battery energy storage systems are reported above, the ratings are not included in the operational/planned capacity formulae. These resources are assumed to provide regulation reserves rather than sustained capacity available to meet system peak loads.

* The projects listed in the "Planned Storage Resources with Executed SGIA" section are all Distributed Generation Resources (DGRs). Since they are 10 MW or less, they are not going through the GINR application process.

Summer Fuel Types - ERCOT

Fuel type is based on the primary fuel. Capacity contribution of the wind resources is included at 63% for Coastal counties, 29% for Panhandle counties, and 16% for all other counties, while the solar capacity contribution is 76%. Private Use Network, and Hydro are included based on the three-year average historical capability for each Summer Season's 20 peak load hours. Non-Synchronous Tie resources import forecast is based on flows seen during Energy Emergency Alert (EEA) periods in the most recent summer of occurrence. Non-Synchronous Tie resources are categorized as Other. Mothballed resource capacity is excluded except for Available Mothball Capacity based on a Seasonal Availability Schedule or Owner's reported Return Probability. Private Use Network is categorized as gas.

In MW											
Fuel_Type	Capacity_Pct	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Biomass	100%	169	169	169	169	169	169	169	169	169	169
Coal	100%	14,225	14,225	14,225	14,225	14,225	14,225	14,225	14,225	14,225	14,225
Gas	100%	51,846	52,903	52,800	52,800	52,545	52,545	52,545	52,545	52,545	52,545
Nuclear	100%	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973	4,973
Other	68%	850	850	850	850	850	850	850	850	850	850
Hydro	83%	458	458	458	458	458	458	458	458	458	458
Wind-C	63%	2,541	3,195	3,195	3,195	3,195	3,195	3,195	3,195	3,195	3,195
Wind-P	29%	1,352	1,671	1,802	1,874	1,874	1,874	1,874	1,874	1,874	1,874
Wind-O	16%	3,148	3,840	4,044	4,085	4,085	4,085	4,085	4,085	4,085	4,085
Solar	76%	2,841	7,684	8,845	8,845	8,845	8,845	8,845	8,845	8,845	8,845
Storage	0%	-	-	-	-	-	-	-	-	-	-
Total		82,403	89,967	91,361	91,473	91,218	91,218	91,218	91,218	91,218	91,218

In Percentages											
Fuel_Type		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Biomass		0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Coal		17.3%	15.8%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%
Natural Gas		62.9%	58.8%	57.8%	57.7%	57.6%	57.6%	57.6%	57.6%	57.6%	57.6%
Nuclear		6.0%	5.5%	5.4%	5.4%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Other		1.0%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Hydro		0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Wind-C		3.1%	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Wind-P		1.6%	1.9%	2.0%	2.0%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
Wind-O		3.8%	4.3%	4.4%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Solar		3.4%	8.5%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
Storage		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

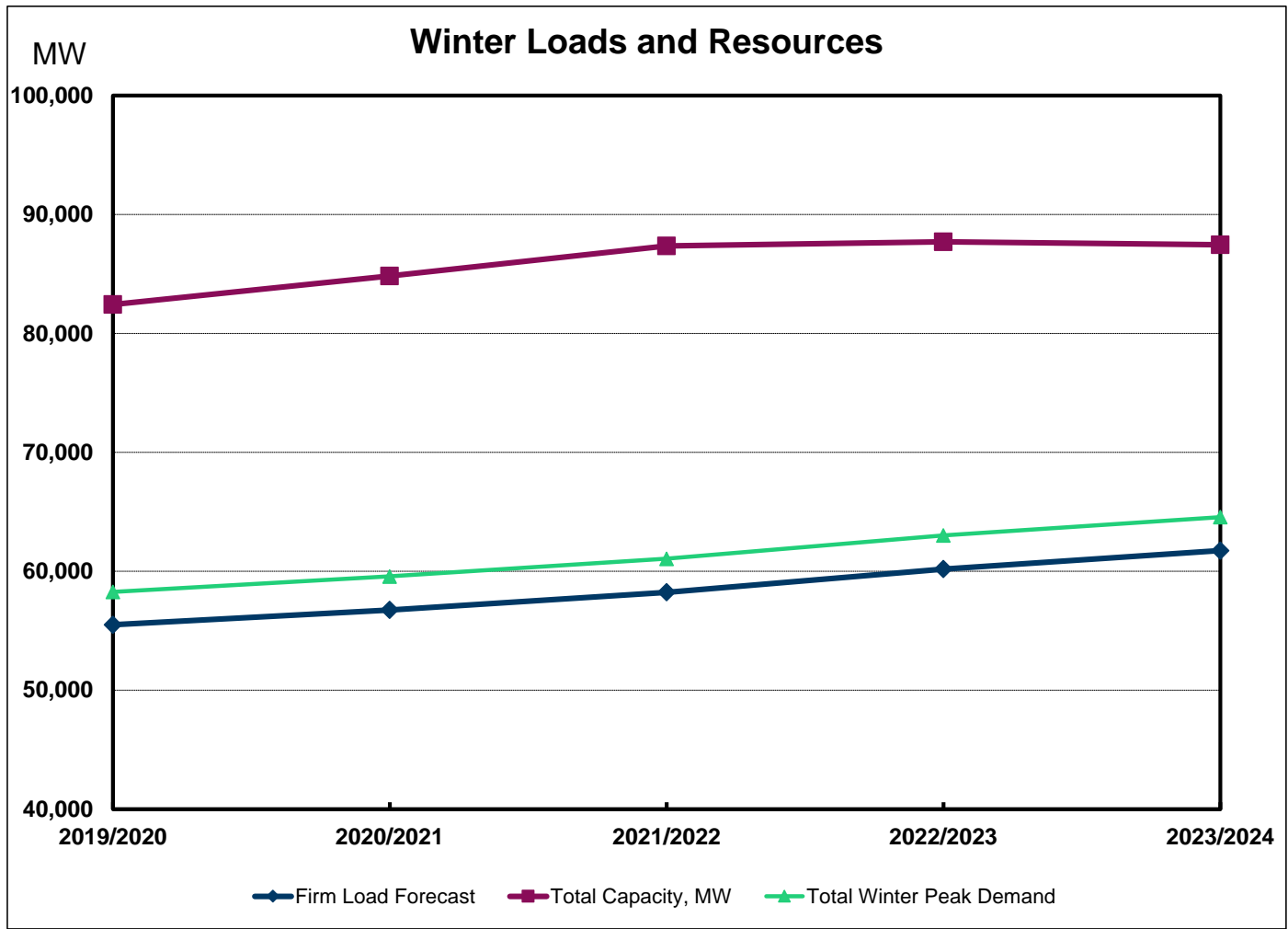
Report on the Capacity, Demand and Reserves in the ERCOT Region

Winter Summary: 2019/2020 through 2023/2024

Load Forecast, MW:	<u>2019/2020</u>	<u>2020/2021</u>	<u>2021/2022</u>	<u>2022/2023</u>	<u>2023/2024</u>
Winter Peak Demand (based on normal weather)	58,265	59,567	61,053	63,006	64,557
plus: Energy Efficiency Program Savings Forecast	1,764	2,065	2,285	2,592	2,821
Total Winter Peak Demand (before Reductions from Energy Efficiency Programs)	60,028	61,632	63,338	65,598	67,378
less: Load Resources providing Responsive Reserves	-1,723	-1,723	-1,723	-1,723	-1,723
less: Load Resources providing Non-Spinning Reserves	0	0	0	0	0
less: Emergency Response Service (10- and 30-min ramp products)	-1,041	-1,093	-1,093	-1,093	-1,093
less: TDSP Standard Offer Load Management Programs	0	0	0	0	0
less: Energy Efficiency Program Savings Forecast	-1,764	-2,065	-2,285	-2,592	-2,821
Firm Peak Load, MW	55,501	56,751	58,237	60,190	61,741

Resources, MW:	<u>2019/2020</u>	<u>2020/2021</u>	<u>2021/2022</u>	<u>2022/2023</u>	<u>2023/2024</u>
Installed Capacity, Thermal/Hydro	68,650	68,690	68,882	68,882	68,882
Switchable Generation Resource Capacity, MW	3,710	3,710	3,710	3,710	3,710
less: Switchable Capacity Unavailable to ERCOT	-868	-868	-568	-568	-568
Available Mothballed Capacity	0	0	0	0	0
Capacity from Private Use Networks	3,954	3,874	3,854	3,854	3,599
Coastal Wind, Peak Average Capacity Contribution (45% of installed capacity)	1,343	1,343	1,343	1,343	1,343
Panhandle Wind, Peak Average Capacity Contribution (31% of installed capacity)	1,302	1,305	1,305	1,305	1,305
Other Wind, Peak Average Capacity Contribution (18% of installed capacity)	2,808	2,798	2,798	2,798	2,798
Solar Utility-Scale, Peak Average Capacity Contribution (11% of installed capacity)	239	239	239	239	239
Storage, Peak Average Capacity Contribution (0%)	0	0	0	0	0
RMR Capacity to be under Contract	0	0	0	0	0
Capacity Pending Retirement, MW	0	0	0	0	0
Operational Generation Capacity, MW	81,136	81,090	81,562	81,562	81,307
Non-Synchronous Ties, Capacity Contribution (67% of installed capacity)	838	838	838	838	838
Planned Resources (not wind, solar or storage) with Signed IA, Air Permits and Water Rights	0	218	819	819	819
Planned Coastal Wind with Signed IA, Peak Average Capacity Contribution (45% of installed capacity)	147	686	939	939	939
Planned Panhandle Wind with Signed IA, Peak Average Capacity Contribution (31% of installed capacity)	65	324	481	698	698
Planned Other Wind with Signed IA, Peak Average Capacity Contribution (18% of installed capacity)	242	1,306	1,693	1,798	1,798
Planned Solar Utility-Scale, Peak Average Capacity Contribution (11% of installed capacity)	0	361	1,020	1,042	1,042
Planned Storage, Peak Average Capacity Contribution (0%)	0	0	0	0	0
Total Capacity, MW	82,428	84,822	87,352	87,696	87,441

Reserve Margin	48.5%	49.5%	50.0%	45.7%	41.6%
(Total Resources - Firm Load Forecast) / Firm Load Forecast					



Unit Capacities - Winter

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
523 ELECTRA WIND 1		DIGBY_UNIT1	WILBARGER	WIND-O	WEST	2017	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9
524 ELECTRA WIND 2		DIGBY_UNIT2	WILBARGER	WIND-O	WEST	2017	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1
525 FLAT TOP WIND 1		FTWIND_UNIT_1	MILLS	WIND-O	NORTH	2018	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
526 FLUVIANNIA RENEWABLE 1 A		FLUVIANNIA_UNIT1	FLUVIANNIA	WIND-O	WEST	2017	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
527 FLUVIANNIA RENEWABLE 1 B		FLUVIANNIA_UNIT2	FLUVIANNIA	WIND-O	WEST	2017	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6
528 FOREST CREEK WIND		MCDLD_FCW1	GLASSCOCK	WIND-O	WEST	2007	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2
529 GOAT WIND		GOAT_GOATWIND	STERLING	WIND-O	WEST	2008	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
530 GOAT WIND 2		GOAT_GOATWIND2	STERLING	WIND-O	WEST	2010	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
531 GOLDTHWAITE WIND 1		GWEC_GWEC_G1	MILLS	WIND-O	NORTH	2014	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6
532 GREEN MOUNTAIN WIND (BRAZOS) U1		BRAZ_WIND_WND1	SCURRY	WIND-O	WEST	2003	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
533 GREEN MOUNTAIN WIND (BRAZOS) U2		BRAZ_WIND_WND2	SCURRY	WIND-O	WEST	2003	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0
534 GREEN PASTURES WIND 1		GPASTURE_WIND_J	BAYLOR	WIND-O	WEST	2015	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
535 VERTIGO WIND (FORMERLY GREEN PASTURES WIND 2)		VERTIGO_WIND_J	BAYLOR	WIND-O	WEST	2015	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
536 GUNSHIGHT MOUNTAIN WIND		GUNMTHN_G1	HOWARD	WIND-O	WEST	2016	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9	119.9
537 HACKBERRY WIND		HWF_HWF01	SHACKELFOF	WIND-O	WEST	2008	163.5	163.5	163.5	163.5	163.5	163.5	163.5	163.5	163.5	163.5	163.5
538 HICKMAN (SANTA RITA WIND) 1		HICKMAN_G1	REGAN AND I	WIND-O	WEST	2018	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5
539 HICKMAN (SANTA RITA WIND) 2		HICKMAN_G2	REGAN AND I	WIND-O	WEST	2018	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5
540 HIDALGO & STARR WIND 11		MIRASOLE_MR11	HIDALGO	WIND-O	SOUTH	2016	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
541 HIDALGO & STARR WIND 12		MIRASOLE_MR12	HIDALGO	WIND-O	SOUTH	2016	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
542 HIDALGO & STARR WIND 21		MIRASOLE_MR21	HIDALGO	WIND-O	SOUTH	2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
543 HORSE CREEK WIND 1		HORSECRK_UNIT1	HASKELL	WIND-O	WEST	2017	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1	131.1
544 HORSE CREEK WIND 2		HORSECRK_UNIT2	HASKELL	WIND-O	WEST	2017	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9
545 HORSE HOLLOW WIND 1	17NR0052	H_HOLLOW_WND1	TAYLOR	WIND-O	WEST	2009	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0
546 HORSE HOLLOW WIND 2	17NR0052	HOLLOW2_WND1	TAYLOR	WIND-O	WEST	2006	184.0	184.0	184.0	184.0	184.0	184.0	184.0	184.0	184.0	184.0	184.0
547 HORSE HOLLOW WIND 3	17NR0052	HOLLOW3_WND_1	TAYLOR	WIND-O	WEST	2006	223.5	223.5	223.5	223.5	223.5	223.5	223.5	223.5	223.5	223.5	223.5
548 HORSE HOLLOW WIND 4	17NR0052	HOLLOW4_WND1	TAYLOR	WIND-O	WEST	2006	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0
549 INADALE WIND 1		INDL_INADALE1	NOLAN	WIND-O	WEST	2008	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
550 INADALE WIND 2		INDL_INADALE2	NOLAN	WIND-O	WEST	2008	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0
551 INDIAN MESA WIND		INDNWIP_INDIANWIP2	PECOS	WIND-O	WEST	2001	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9
552 JAVELINA I WIND 18		BORDAS_JAVEL18	WEBB	WIND-O	SOUTH	2015	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7
553 JAVELINA I WIND 20		BORDAS_JAVEL20	WEBB	WIND-O	SOUTH	2015	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0
554 JAVELINA II WIND 1		BORDAS2_JAVEL2_A	WEBB	WIND-O	SOUTH	2017	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0
555 JAVELINA II WIND 2		BORDAS2_JAVEL2_B	WEBB	WIND-O	SOUTH	2017	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0
556 JAVELINA II WIND 3		BORDAS2_JAVEL2_C	WEBB	WIND-O	SOUTH	2017	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
557 KEECHI WIND		KEECHI_U1	JACK	WIND-O	NORTH	2015	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
558 KING MOUNTAIN WIND (NE)		KING_NE_KINGNE	UPTON	WIND-O	WEST	2001	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7
559 KING MOUNTAIN WIND (NW)		KING_NW_KINGNW	UPTON	WIND-O	WEST	2001	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7
560 KING MOUNTAIN WIND (SE)		KING_SE_KINGSE	UPTON	WIND-O	WEST	2001	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
561 KING MOUNTAIN WIND (SW)		KING_SW_KINGSW	UPTON	WIND-O	WEST	2001	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7
562 LANGFORD WIND POWER		LGW_LANGFORD	TOM GREEN	WIND-O	WEST	2009	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
563 LOCKETT WIND FARM		LOCKETT_UNIT1	WILBARGER	WIND-O	WEST	2019	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7
564 LOGANS GAP WIND U1		LGW_UNIT1	COMANCHE	WIND-O	NORTH	2015	108.3	108.3	108.3	108.3	108.3	108.3	108.3	108.3	108.3	108.3	108.3
565 LOGANS GAP WIND U2		LGW_UNIT2	COMANCHE	WIND-O	NORTH	2015	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8
566 LONE STAR WIND 1 (MESQUITE)		LNCRK_G83	SHACKELFOF	WIND-O	WEST	2006	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
567 LONE STAR WIND 2 (POST OAK) U1		LNCRK2_G871	SHACKELFOF	WIND-O	WEST	2007	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
568 LONE STAR WIND 2 (POST OAK) U2		LNCRK2_G872	SHACKELFOF	WIND-O	WEST	2007	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
569 LORAIN WINDPARK I		LONEWOLF_G1	MITCHELL	WIND-O	WEST	2010	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5
570 LORAIN WINDPARK II		LONEWOLF_G2	MITCHELL	WIND-O	WEST	2010	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
571 LORAIN WINDPARK III		LONEWOLF_G3	MITCHELL	WIND-O	WEST	2015	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
572 LORAIN WINDPARK IV		LONEWOLF_G4	MITCHELL	WIND-O	WEST	2011	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
573 LOS VIENTOS II WIND		LV3_UNIT_1	STARR	WIND-O	SOUTH	2015	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
574 LOS VIENTOS IV WIND		LV4_UNIT_1	STARR	WIND-O	SOUTH	2016	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
575 LOS VIENTOS V WIND		LV5_UNIT_1	STARR	WIND-O	SOUTH	2016	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
576 MESQUITE CREEK WIND 1		MESQCRK_WND1	DAWSON	WIND-O	WEST	2015	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6
577 MESQUITE CREEK WIND 2		MESQCRK_WND2	DAWSON	WIND-O	WEST	2015	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6	105.6
578 NIELS BOHR WIND A (BEARKAT WIND A)		NBOHR_UNIT1	GLASSCOCK	WIND-O	WEST	2018	196.6	196.6	196.6	196.6	196.6	196.6	196.6	196.6	196.6	196.6	196.6
579 NOTREES WIND 1		NWF_NWF1	WINKLER	WIND-O	WEST	2009	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
580 NOTREES WIND 2		NWF_NWF2	WINKLER	WIND-O	WEST	2009	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
581 OCOTILLO WIND		OWF_OW1	HOWARD	WIND-O	WEST	2008	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
582 PANTHER CREEK WIND 1		PC_NORTH_PANTHER1	HOWARD	WIND-O	WEST	2008	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
583 PANTHER CREEK WIND 2		PC_SOUTH_PANTHER2	HOWARD	WIND-O	WEST	2008	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5	115.5
584 PANTHER CREEK WIND 3		PC_SOUTH_PANTHER3	HOWARD	WIND-O	WEST	2009	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5
585 PECOS WIND 1 (WOODWARD)		WOODWRD1_WOODWRD1	PECOS	WIND-O	WEST	2001	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9
586 PECOS WIND 2 (WOODWARD)		WOODWRD2_WOODWRD2	PECOS	WIND-O	WEST	2001	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0
587 PYRON WIND 1		PYR_PYRON1	SCURRY	WIND-O	WEST	2008	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.5	121.5
588 PYRON WIND 2		PYR_PYRON2	SCURRY AND WIND	WEST	2008	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5	127.5
589 RATTLESNAKE I WIND ENERGY CENTER G1		RSNAKE_G1	GLASSCOCK	WIND-O	WEST	2015	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3
590 RATTLESNAKE II WIND ENERGY CENTER G2		RSNAKE_G2	GLASSCOCK	WIND-O	WEST	2015	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0
591 RED CANYON WIND		RDCANYON_RDCNY1	BERDEN	WIND-O	WEST	2006	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6
592 ROCK SPRINGS VAL VERDE WIND (FERM 2)		FERM1_WND1	VAL VERDE	WIND-O	WEST	2017	121.9	121.9	121.9	121.							

Unit Capacities - Winter

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
653 BNB LAMESA SOLAR (PHASE II)		LMEASLR_IVORY	DAWSON	SOLAR	WEST	2018	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
654 CASTLE GAP SOLAR		CASL_GAP_UNIT1	UPTON	SOLAR	WEST	2018	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0
655 FS BARILLA SOLAR-PECOS		HOVEY_UNIT1	PECOS	SOLAR	WEST	2015	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
656 FS EAST PECOS SOLAR		BOOTLEG_UNIT1	PECOS	SOLAR	WEST	2017	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1
657 OCI ALAMO 1 SOLAR		OCI_ALM1_UNIT1	BEXAR	SOLAR	SOUTH	2013	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2
658 OCI ALAMO 4 SOLAR-BRACKETVILLE		ECLIPSE_UNIT1	KINNEY	SOLAR	SOUTH	2014	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
659 OCI ALAMO 6 (DOWNE RANCH)		HELIOS_UNIT1	UVALDE	SOLAR	SOUTH	2015	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
660 OCI ALAMO 6 (SIRIUS/WEST TEXAS)		SIRIUS_UNIT1	PECOS	SOLAR	WEST	2017	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.2
661 OCI ALAMO 7 (PAINT CREEK)		SOLARA_UNIT1	HASKELL	SOLAR	WEST	2016	112.0	112.0	112.0	112.0	112.0	112.0	112.0	112.0	112.0	112.0	112.0
662 PHOEBE SOLAR 1		PHOEBE_UNIT1	WINKLER	SOLAR	WEST	2019	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
663 PHOEBE SOLAR 2		PHOEBE_UNIT2	WINKLER	SOLAR	WEST	2019	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0
664 RE ROSEROCK SOLAR 1		ROCK_UNIT1	PECOS	SOLAR	WEST	2016	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8
665 RE ROSEROCK SOLAR 2		ROCK_UNIT2	PECOS	SOLAR	WEST	2016	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8
666 RIGGINS (SE BUCKTHORN WESTEX SOLAR)		RIGGINS_UNIT1	PECOS	SOLAR	WEST	2018	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
667 SOLAIREHOLMAN 1		LASSO_UNIT1	BREWSTER	SOLAR	WEST	2018	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
668 SP-TX-12-PHASE B		SPTX12B_UNIT1	UPTON	SOLAR	WEST	2017	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5
669 WAYMARK SOLAR		WAYMARK_UNIT1	UPTON	SOLAR	WEST	2019	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0
670 WEBBERVILLE SOLAR		WEBBER_S_WSP1	TRAVIS	SOLAR	SOUTH	2011	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7
671 ALEXIS SOLAR		DG_ALEXIS_ALEXIS	BROOKS	SOLAR	SOUTH	2019	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
672 BECK 1		DG_CECOSOLAR_DG_BECK1	BEXAR	SOLAR	SOUTH	2016	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
673 BLUE WING 1 SOLAR		DG_BROOK_1UNIT	BEXAR	SOLAR	SOUTH	2010	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
674 BLUE WING 2 SOLAR		DG_ELMEN_1UNIT	BEXAR	SOLAR	SOUTH	2010	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
675 BOVINE SOLAR LLC		DG_BOVINE_BOVINE	AUSTIN	SOLAR	SOUTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
676 BOVINE SOLAR LLC		DG_BOVINE2_BOVINE2	AUSTIN	SOLAR	SOUTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
677 BRONSON SOLAR I		DG_BRNSN_BRNSN	FORT BEND	SOLAR	HOUSTON	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
678 BRONSON SOLAR II		DG_BRNSN2_BRNSN2	FORT BEND	SOLAR	HOUSTON	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
679 CASCADE SOLAR I		DG_CASCADE_CASCADE	WHARTON	SOLAR	SOUTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
680 CASCADE SOLAR II		DG_CASCADE2_CASCADE2	WHARTON	SOLAR	SOUTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
681 CHSJM SOLAR		DG_CHSJM_CHSJM	LAMAR	SOLAR	NORTH	2018	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
682 COMMERCE SOLAR		DG_XKASP1_SWRI_PV1	BEXAR	SOLAR	SOUTH	2019	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
683 EDDY SOLAR II		DG_EDDYV_EDDYV	MCLENNAN	SOLAR	NORTH	2018	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
684 FIFTH GENERATION SOLAR 1		DG_FGSOLAR1	TRAVIS	SOLAR	SOUTH	2016	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
685 GRIFFIN SOLAR		DG_GRIFFIN_GRIFFIN	MCLENNAN	SOLAR	NORTH	2019	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
686 HIGHWAY 56		DG_HWY56_HWY56	GRAYSON	SOLAR	NORTH	2017	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
687 HW SEALY SOLAR 1		DG_SEALY_1UNIT	AUSTIN	SOLAR	SOUTH	2015	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
688 LAMPWICK SOLAR		DG_LAMPWICK_LAMPWICK	MEMPHIS	SOLAR	SOUTH	2019	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
689 LEON		DG_LEON_LEON	HUNT	SOLAR	NORTH	2017	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
690 MARLIN		DG_MARLIN_MARLIN	FALLS	SOLAR	NORTH	2017	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
691 MARS SOLAR (DG)		DG_MARS_MARS	WEBB	SOLAR	SOUTH	2019	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
692 NORTH GAINESVILLE		DG_NGNSV_NGANSV	COOKE	SOLAR	NORTH	2017	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
693 OCI ALAMO 2 SOLAR-ST. HEDWIG		DG_STHWG_UNIT1	BEXAR	SOLAR	SOUTH	2014	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
694 OCI ALAMO 3 WALZEM SOLAR		DG_WALZEM_UNIT1	BEXAR	SOLAR	SOUTH	2014	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
695 POWERFIN KINGSBERRY		DG_PFK_PFKPV	TRAVIS	SOLAR	SOUTH	2017	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
696 RENEWABLE ENERGY ALTERNATIVES-CCS1		DG_COSERVSS_CCS1	DENTON	SOLAR	NORTH	2015	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
697 STERLING		DG_STRLNG_STRLNG	HUNT	SOLAR	NORTH	2018	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
698 SUNEDISON RABEL ROAD SOLAR		DG_VALL1_1UNIT	BEXAR	SOLAR	SOUTH	2012	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
699 SUNEDISON VALLEY ROAD SOLAR		DG_VALL2_1UNIT	BEXAR	SOLAR	SOUTH	2012	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
700 SUNEDISON OPUS SOMERSET 1 SOLAR		DG_SOMEZ_1UNIT	BEXAR	SOLAR	SOUTH	2012	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
701 SUNEDISON SOMERSET 2 SOLAR		DG_SOMEZ_2UNIT	BEXAR	SOLAR	SOUTH	2012	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
702 WALNUT SPRINGS		DG_WLNTSPRG_1UNIT	BOSQUE	SOLAR	NORTH	2016	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
703 WEST MOORE II		DG_WMOREIL_WMOREII	GRAYSON	SOLAR	NORTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
704 WHITESBORO		DG_WBORO_WHTSBORO	GRAYSON	SOLAR	NORTH	2017	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
705 WHITESBORO II		DG_WBOROII_WHTSBOROII	GRAYSON	SOLAR	NORTH	2017	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
706 WHITEWRIGHT		DG_WHFRTR_WHTRIGHT	FANNIN	SOLAR	NORTH	2017	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
707 WHITNEY SOLAR		DG_WHTNTRY_SOLAR1	BOSQUE	SOLAR	NORTH	2017	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
708 YELLOW JACKET SOLAR		DG_YLWJACKET_YLWJACKET	BOSQUE	SOLAR	NORTH	2018	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
709 Operational Capacity Total (Solar)							2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4	2,169.4
710 Solar Peak Average Capacity Percentage		SOLAR_PEAK_PCT	%				11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
711																	
712 Operational Resources (Storage)																	
713 BLUE SUMMIT BATTERY		BLSUMMIT_BATTERY	WILBARGER	STORAGE	WEST	2017	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
714 CASTLE GAP BATTERY		CASL_GAP_BATTERY1	UPTON	STORAGE	WEST	2019	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
715 INADALE ESS		INDL_ESS	NOLAN	STORAGE	WEST	2018	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
716 NOT REES BATTERY FACILITY		NWF_NBS	WINKLER	STORAGE	WEST	2013	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
717 OCI ALAMO 1		OCI_ALM1_ASTRO1	BEXAR	STORAGE	SOUTH	2016	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
718 PYRON ESS		PYR_ESS	SCURRY	STORAGE	WEST	2018	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
719 YOUNGDS ENERGY		DG_YOUNGDS_YNC1_1	TRAVIS	STORAGE	SOUTH	2015	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
720 KINGSBERRY FACILITY STORAGE SYSTEM		DG_KB_ESS_KB_ESS	TRAVIS	STORAGE	SOUTH	2017	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
721 MU ENERGY STORAGE SYSTEM		D															

Unit Capacities - Winter

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
783 GRIFFIN TRAIL WIND	20INR0052		KNOX	WIND-O	WEST	2020	-	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6
784 HARALD (BEARKAT WIND B)	15INR0064b		GLASSCOCK	WIND-O	WEST	2020	-	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1
785 HIDALGO II WIND	19INR0053		HIDALGO	WIND-O	SOUTH	2019	-	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0

Unit Capacities - Winter

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
786 HIGH LONESOME W	191NR0038		CROCKETT	WIND-O	WEST	2019	-	449.5	449.5	449.5	449.5	449.5	449.5	449.5	449.5	449.5	449.5
787 HIGH LONESOME WIND PHASE II	201NR0262		CROCKETT	WIND-O	WEST	2020	-	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6
788 KAISER CREEK WIND	181NR0042		CALLAHAN	WIND-O	WEST	2020	-	101.5	101.5	101.5	101.5	101.5	101.5	101.5	101.5	101.5	101.5
789 KONTIKI 1 WIND (ERNE)	191NR0098a		GLASSCOCK	WIND-O	WEST	2021	-	-	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3
790 KONTIKI 2 WIND (ERNEST)	191NR0098b		GLASSCOCK	WIND-O	WEST	2022	-	-	-	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3
791 LAS LOMAS WIND	161NR0111		STARR	WIND-O	SOUTH	2020	-	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
792 LOMA PINTA WIND	161NR0112		LA SALLE	WIND-O	SOUTH	2020	-	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
793 LORAINNE WINDPARK PHASE III	181NR0068		MITCHELL	WIND-O	WEST	2021	-	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
794 MAVERICK CREEK I	201NR0045		CONCHO	WIND-O	WEST	2020	-	373.2	373.2	373.2	373.2	373.2	373.2	373.2	373.2	373.2	373.2
795 MAVERICK CREEK II	201NR0046		CONCHO	WIND-O	WEST	2020	-	118.8	118.8	118.8	118.8	118.8	118.8	118.8	118.8	118.8	118.8
796 MESTENO WIND	161NR0091		STARR	WIND-O	SOUTH	2020	-	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6	201.6
797 OVEJA WIND	181NR0033		RIION	WIND-O	WEST	2019	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
798 PRAIRIE HILL WIND	191NR0100		MCLENNAN	WIND-O	NORTH	2020	-	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
799 RANCHERO WIND	201NR0011		CROCKETT	WIND-O	WEST	2019	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
800 RELOJ DEL SOL WIND	171NR0025		ZAPATA	WIND-O	SOUTH	2020	-	202.0	202.0	202.0	202.0	202.0	202.0	202.0	202.0	202.0	202.0
801 RTS 2 WIND (HEART OF TEXAS WIND)	181NR0016		MCCULLOCH	WIND-O	SOUTH	2020	-	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9	179.9
802 SAGE DRAW WIND	191NR0163		LYNN	WIND-O	WEST	2020	-	338.0	338.0	338.0	338.0	338.0	338.0	338.0	338.0	338.0	338.0
803 TG EAST WIND	191NR0052		KNOX	WIND-O	WEST	2021	-	-	326.0	326.0	326.0	326.0	326.0	326.0	326.0	326.0	326.0
804 VERA WIND	191NR0051		KNOX	WIND-O	WEST	2020	-	242.8	242.8	242.8	242.8	242.8	242.8	242.8	242.8	242.8	242.8
805 WHITE MESA WIND	191NR0128		CROCKETT	WIND-O	WEST	2020	-	-	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0
806 WHITEHORSE WIND	191NR0080		FISHER	WIND-O	WEST	2020	-	418.9	418.9	418.9	418.9	418.9	418.9	418.9	418.9	418.9	418.9
807 WILSON RANCH (INFINITY LIVE OAK WIND)	121NR0006		SCHLEICHER	WIND-O	WEST	2020	-	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5	199.5
808 WIN AMANDUS WIND	141NR0009		FISHER	WIND-O	WEST	2020	-	250.1	250.1	250.1	250.1	250.1	250.1	250.1	250.1	250.1	250.1
809 Planned Capacity Total (Wind)							1,882.6	9,827.6	13,043.9	14,325.7	14,325.7	14,325.7	14,325.7	14,325.7	14,325.7	14,325.7	14,325.7
810																	
811 Planned Wind Capacity Sub-total (Coastal Counties)		WIND_PLANNED_C					327	1,524	2,087	2,087	2,087	2,087	2,087	2,087	2,087	2,087	2,087
812 Wind Peak Average Capacity Percentage (Coastal)		WIND_PL_PEAK_PCT_C	%				45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
813																	
814 Planned Wind Capacity Sub-total (Panhandle Counties)		WIND_PLANNED_P					210	1,046	1,551	2,251	2,251	2,251	2,251	2,251	2,251	2,251	2,251
815 Wind Peak Average Capacity Percentage (Panhandle)		WIND_PL_PEAK_PCT_P	%				31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
816																	
817 Planned Wind Capacity Sub-total (Other counties)		WIND_PLANNED_O					1,346	7,257	9,406	9,987	9,987	9,987	9,987	9,987	9,987	9,987	9,987
818 Wind Peak Average Capacity Percentage (Other)		WIND_PL_PEAK_PCT_O	%				18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
819																	
820 Planned Solar Resources with Executed SGIA																	
821 ACATE SOLAR	201NR0023		ELLIS	SOLAR	NORTH	2020	-	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
822 ANSON SOLAR	191NR0081		JONES	SOLAR	WEST	2020	-	201.5	201.5	201.5	201.5	201.5	201.5	201.5	201.5	201.5	201.5
823 ARAGORN SOLAR	191NR0088		CULBERSON	SOLAR	WEST	2021	-	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2	187.2
824 BRAVEPOST SOLAR	201NR0053		TOM GREEN	SOLAR	WEST	2021	-	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
825 COTTONWOOD BAYOU	191NR0134		BRAZORIA	SOLAR	COASTAL	2021	-	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
826 ELARA SOLAR	211NR0276		FRIO	SOLAR	SOUTH	2021	-	178.0	178.0	178.0	178.0	178.0	178.0	178.0	178.0	178.0	178.0
827 EMERALD GROVE SOLAR (PECOS SOLAR POWER I)	151NR0058		PECOS	SOLAR	WEST	2021	-	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0
828 FORT BEND SOLAR	181NR0053		FORT BEND	SOLAR	HOUSTON	2021	-	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
829 FOWLER RANCH	181NR0039		CRANE	SOLAR	WEST	2020	-	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5
830 GALLOWAY SOLAR	191NR0121		CONCHO	SOLAR	WEST	2021	-	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
831 GARNET SOLAR	201NR0021		WILLIAMSON	SOLAR	SOUTH	2020	-	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
832 GREASEWOOD SOLAR	191NR0034		PECOS	SOLAR	WEST	2020	-	255.0	255.0	255.0	255.0	255.0	255.0	255.0	255.0	255.0	255.0
833 HOLSTEN SOLAR	191NR0081		NOLAN	SOLAR	WEST	2020	-	204.5	204.5	204.5	204.5	204.5	204.5	204.5	204.5	204.5	204.5
834 HORIZON SOLAR	211NR0261		FRIO	SOLAR	SOUTH	2021	-	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1
835 HOVEY (BARILLA SOLAR 1B)	121NR0058b		PECOS	SOLAR	WEST	2019	-	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
836 IMPACT SOLAR	191NR0151		LAMAR	SOLAR	NORTH	2020	-	198.6	198.6	198.6	198.6	198.6	198.6	198.6	198.6	198.6	198.6
837 IP TITAN	201NR0032		CULBERSON	SOLAR	WEST	2021	-	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
838 JUNO SOLAR	211NR0026		BORDEN	SOLAR	WEST	2021	-	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2
839 KELLAM SOLAR	201NR0261		VAN ZANDT	SOLAR	NORTH	2020	-	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
840 LAPETUS SOLAR	191NR0185		ANDREWS	SOLAR	WEST	2019	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
841 LILY SOLAR	191NR0044		KAUFMAN	SOLAR	NORTH	2020	-	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0
842 LONG DRAW SOLAR	181NR0055		BORDEN	SOLAR	WEST	2020	-	226.7	226.7	226.7	226.7	226.7	226.7	226.7	226.7	226.7	226.7
843 LONG POINT SOLAR	191NR0042		BRAZORIA	SOLAR	COASTAL	2021	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
844 MISA SOLAR	191NR0045		CHILDRESS	SOLAR	PANHANDLE	2019	-	240.8	240.8	240.8	240.8	240.8	240.8	240.8	240.8	240.8	240.8
845 MISA SOLAR II	201NR0091		CHILDRESS	SOLAR	PANHANDLE	2021	-	517.3	517.3	517.3	517.3	517.3	517.3	517.3	517.3	517.3	517.3
846 MORROW LAKE SOLAR	191NR0155		FRIO	SOLAR	SOUTH	2021	-	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
847 MUSTANG CREEK SOLAR	181NR0050		JACKSON	SOLAR	SOUTH	2021	-	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
848 MYRTLE SOLAR	191NR0041		BRAZORIA	SOLAR	COASTAL	2021	-	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
849 NAZARETH SOLAR	161NR0049		CASTRO	SOLAR	PANHANDLE	2021	-	201.0	201.0	201.0	201.0	201.0	201.0	201.0	201.0	201.0	201.0
850 NORTON SOLAR	191NR0035		RUNNELS	SOLAR	WEST	2021	-	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
851 OBERON SOLAR	191NR0083		ECTOR	SOLAR	WEST	2020	-	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0	180.0
852 OUY SOLAR	191NR0184		ECTOR	SOLAR	WEST	2020	-	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
853 PFLUGERVILLE SOLAR	151NR0090		TRAVIS	SOLAR	SOUTH	2020	-	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0	144.0
854 PHOENIX SOLAR	191NR0091		FANNIN	SOLAR	NORTH	2021	-	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
855 PROSPERO SOLAR	191NR0092		ANDREWS	SOLAR	WEST	2020	-	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0	300.0
856 QUEEN SOLAR	191NR0102		UPTON	SOLAR	WEST	2019	-	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0
857 RAMBLER SOLAR	191NR0114		TOM GREEN	SOLAR	WEST	2020	-	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
858 RAYOS DEL SOL	191NR0045		CAMERON	SOLAR	COASTAL	2020	-	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
859 RE MAPLEWOOD 2A SOLAR	171NR0020a		PECOS	SOLAR	WEST	2021	-	222.0	222.0	222.0	222.0						

Unit Capacities - Winter

UNIT NAME	INR	UNIT CODE	COUNTY	FUEL	ZONE	IN SERVICE	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
-----------	-----	-----------	--------	------	------	------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Notes:

Capacity changes due to planned repower/upgrade projects are reflected in the operational units' ratings upon (1) receipt and ERCOT approval of a new Resource Asset Registration Form (RARF), or (2) the unit owner submitting, and ERCOT approving, a Generation Interconnection or Change Request (GINR) application, and the project modifies the installed capacity by at least 10 MW as reported in the GINR request. Projects associated with interconnection change requests that meet the 10 MW size threshold are indicated with a code in the "Generation Interconnection Project Code" column. Projects with more than one unit have capacity change amounts prorated equally across the units. These prorated capacity adjustments are temporary until project owners submit RARFs that reflect updated seasonal MW ratings for each unit.

Although seasonal capacity ratings for battery energy storage systems are reported above, the ratings are not included in the operational/planned capacity formulae. These resources are assumed to provide regulation reserves rather than sustained capacity available to meet system peak loads.

* The projects listed in the 'Planned Storage Resources with Executed SGIA' section are all Distributed Generation Resources (DGRs). Since they are 10 MW or less, they are not going through the GINR application process.

Winter Fuel Types - ERCOT

Fuel type is based on the primary fuel. Capacity contribution of the wind resources is included at 45% for Coastal counties, 31% for Panhandle counties, and 18% for all other counties, while the solar capacity contribution is 11%. Private Use Network, and Hydro are included based on the three-year average historical capability for each Summer Season's 20 peak load hours. Non-Synchronous Tie resources import forecast is based on flows seen during Energy Emergency Alert (EEA) periods in the most recent winter of occurrence. Non-Synchronous Tie resources are categorized as Other. Mothballed resource capacity is excluded except for Available Mothball Capacity based on a Seasonal Availability Schedule or Owner's reported Return Probability. Private Use Network is categorized as gas.

In MW

Fuel_Type	Capacity_Pct	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Biomass	100%	169	169	169	169	169	169	169	169	169	169
Coal	100%	14,297	14,297	14,297	14,297	14,297	14,297	14,297	14,297	14,297	14,297
Gas	100%	55,393	55,571	56,645	56,645	56,390	56,390	56,390	56,390	56,390	56,390
Nuclear	100%	5,153	5,153	5,153	5,153	5,153	5,153	5,153	5,153	5,153	5,153
Other	67%	838	838	838	838	838	838	838	838	838	838
Hydro	78%	432	432	432	432	432	432	432	432	432	432
Wind-C	45%	1,490	2,028	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282
Wind-P	31%	1,367	1,630	1,786	2,003	2,003	2,003	2,003	2,003	2,003	2,003
Wind-O	18%	3,050	4,104	4,491	4,596	4,596	4,596	4,596	4,596	4,596	4,596
Solar	11%	239	599	1,258	1,281	1,281	1,281	1,281	1,281	1,281	1,281
Storage	0%	-	-	-	-	-	-	-	-	-	-
Total		82,428	84,822	87,352	87,696	87,441	87,441	87,441	87,441	87,441	87,441

In Percentages

Fuel_Type		2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Biomass	100%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Coal	100%	17.3%	16.9%	16.4%	16.3%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%
Gas	100%	67.2%	65.5%	64.8%	64.6%	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%
Nuclear	100%	6.3%	6.1%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%
Other	67%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Hydro	78%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Wind-C	45%	1.8%	2.4%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
Wind-P	31%	1.7%	1.9%	2.0%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
Wind-O	18%	3.7%	4.8%	5.1%	5.2%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
Solar	11%	0.3%	0.7%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Storage	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Capacity of Proposed Generation Resources Based on Interconnection Milestone Status

	Cumulative Summer Capacity Contribution (in MW) of Resources Available by June 1 of the Reporting Year				
	2020	2021	2022	2023	2024
Planned Resource Category					
Commissioning Plan Submitted	160	160	160	160	160
Planning Guide 6.9 Criteria plus completed Full Interconnect Study	2,152	3,911	4,304	4,304	4,304
Meets Planning Guide Sec. 6.9 Criteria (CDR plus TSP Financial Security Posted and Notice to Proceed)	2,152	6,032	6,869	6,869	6,869
CDR Eligible (signed IA, air permits, proof of adequate water supply)	2,852	9,966	11,463	11,575	11,575
Signed Interconnection Agreement with the TSP	3,431	10,645	12,142	12,254	12,254
Full Interconnect Study Requested	3,974	27,346	47,864	51,738	51,771

Notes:

- (1) Resource categories are listed by highest to lowest likelihood that the resource capacity will be in commercial operation in the reported year. For example, resources in the Commissioning Plan Submitted category have reached the "substantially completed construction" phase, and associated transmission switchyard facilities are operational. Conversely, resources in the Full Interconnection Study Requested category include projects that are generally in the development proposal stage and have a significant risk of interconnection request cancellation or project development delays.
- (2) The data presented here is based upon the latest information provided to ERCOT by resource developers and can change without notice.
- (3) Resource developers may execute an Interconnection Agreement with a TSP prior to completion of the Full Interconnection Study. This is most common with wind and solar projects.
- (4) Wind and solar resource capacities reflect their estimated summer on-peak average values as determined by the methodologies in Protocol section 3.2.6.2.2.
- (5) Battery storage projects are assumed to provide no seasonal sustained peak-hour capacity contributions, and are thus reported as zero MW.

Unconfirmed Retirement Capacity

Unit Name	Cumulative Summer Capacity Contribution (in MW) of Unconfirmed Retirements Not Available as of June 1 of the Reporting Year				
	2020	2021	2022	2023	2024
OKLAUNION U1	-	650	650	650	650
DECKER CREEK CTG 1	-	315	315	315	315
DECKER CREEK CTG 2	-	-	415	415	415
TOTAL	-	965	1,380	1,380	1,380
Reserve Margin including Unconfirmed Retirement Capacity	10.6%	18.2%	17.3%	15.2%	12.9%
Reserve Margin Excluding Unconfirmed Retirement Capacity	10.6%	16.9%	15.5%	13.5%	11.2%

Notes:

- (1) An "Unconfirmed Retirement" is defined as a generation unit for which a public announcement of the intent to permanently shut the unit down has been released, but a Notice of Suspension of Operations for the unit has not been received by ERCOT.
- (2) The criteria for listing a unit as an Unconfirmed Retirement include the following:
 - a. A specific retirement date is cited in the announcement, or other timing information is given that indicates the unit will be unavailable as of June 1 of a CDR Reporting Year.
 - b. The announcement, with follow-up inquiry by ERCOT, does not indicate that retirement timing is highly speculative.

CDR Planned Resources with an Inactive GINR Status

Resource Type	Cumulative Summer Capacity Contribution (in MW) of Inactive GINR Projects as of June 1 of the Reporting Year				
	2020	2021	2022	2023	2024
Gas	-	484	484	484	484
Wind	105	193	193	265	265
Solar	6	89	89	89	89
TOTAL	111	766	766	838	838
Reserve Margin Including Inactive GINR Projects	10.6%	18.2%	17.3%	15.2%	12.9%
Reserve Margin Excluding Inactive GINR Projects	10.5%	17.2%	16.3%	14.2%	11.9%

Notes:

- (1) Per Planning Guide Section 5.7.6, a proposed Resource shall be given the status of "Inactive" if the Resource has not met the conditions for inclusion in the ERCOT planning models, as specified in Section 6.9, Addition of Proposed Generation to the Planning Models, within two years of the date on which ERCOT posts the final FIS studies for the Resource to the MIS Secure Area. A developer may also elect Inactive status and stop any interconnection studies in process at its own discretion. When an Inactive Resource subsequently meets the requirements of Section 6.9, it shall be added to the planning models and the status changed back to Planned. If a Resource has been Inactive for five years, ERCOT may cancel the project pursuant to Planning Guide Section 5.7.7, Cancellation of a Project Due to Failure to Comply with Requirements.
- (2) The "Reserve Margin Excluding Inactive GINR Projects" line item assumes that all Inactive Resources are either cancelled or not changed back to Planned status during the five year reporting period.
- (3) NPRR980, which was filed by ERCOT on November 5, 2019, addresses how Inactive Resources are treated for CDR reporting. If approved by the ERCOT Board of Directors, Inactive Resources that otherwise meet the criteria to be included in the CDR will be excluded from the Reserve Margin calculations in subsequent CDR reports.