

EEI ESG/Sustainability Template – Quantitative Information for Oklahoma Gas and Electric Company (OG&E)

Parent Company: OGE Energy Corp.
Operating Company(s): OG&E
Business Type(s): Vertically Integrated Investor-Owned Utility
State(s) of Operation: Oklahoma, Arkansas
State(s) with RPS Programs: None
Regulatory Environment: Regulated
Report Date: 8/14/2023

	Baseline	Previous Year	Previous Year	Current Year	
	2005	2020	2021	2022	Comments, Links, Additional information, and Notes
	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	
Portfolio					
1 Nameplate Generation Capacity at End of Year (MW)					
1.1 Owned Coal	2,569	1,854	1,855	1,855	Source of capacity data in this section: annual SEC Form 10-K
1.2 Owned Natural Gas - boiler	2,721	3,130	3,211	3,241	
1.3 Owned and Operated Natural Gas - combined cycle	696	1,815	1,815	1,814	Combined cycle capacity includes 100% of the capacity for the two plants in which OG&E owns an interest and is the operating partner (McClain and Redbud)
1.4 Owned Natural Gas - quick start turbines	243	553	553	551	
1.5.4 Owned Solar	0	22	32	32	See additional note 1 below
1.5.5 Owned Wind	0	449	449	449	
1.5.6 Purchased Wind - OG&E PPA	50	342	342	342	
2.i Owned Generation for the Data Year (MWh)	30,945,579	22,106,990	19,777,557	16,719,709	
2.1.i Owned Coal	20,709,911	5,032,788	7,585,648	4,840,595	Data in this section contains gross generation as measured by 40 CFR 75 continuous emission monitoring systems (CEMS) for fossil-fueled facilities; for wind and solar, data is from EIA or the NERC Generating Availability Data System (GADS)
2.2.i Owned and Operated Natural Gas	10,235,668	15,706,711	11,039,137	11,136,768	
2.5.i Total Renewable Energy Resources		1,367,491	1,152,772	742,346	
2.5.4.i Solar	NA	35,477	46,963	45,984	See additional note 1 below
2.5.5.i Wind	NA	1,332,014	1,105,809	696,362	
2.ii Purchased Net Generation from RTO for the Data Year (MWh)	3,300,000	12,900,000	14,600,000	19,000,000	Purchased net generation data from SEC 10-K; fuel split percentages are based on annual statistics for the SPP Integrated Market.
2.1.i Coal - market	NA	2,167,200	3,609,120	4,294,000	
2.1.ii Coal - self commit	NA	1,831,800	1,676,080	2,185,000	OG&E does not self commit units as part of normal operational practice
2.2.ii Natural Gas	NA	3,444,300	2,950,660	4,066,000	
2.3.ii Nuclear	NA	825,600	840,960	988,000	
2.5.ii Total Renewable Energy Resources	NA	4,076,400	5,072,040	7,277,000	
2.5.3.ii Hydroelectric	NA	567,600	541,660	570,000	
2.6.ii Other	NA	10,320	14,600	19,000	
2.7 Bi-lateral Purchased Power Agreements					
2.7i Purchased Wind - OG&E PPA	159,021	1,120,107	968,506	729,440	PPA wind MWh data is from EIA or the NERC Generating Availability Data System (GADS)
3 Investing in the Future: Capital Expenditures, Energy Efficiency (EE), and Smart Meters					
3.1 Total Annual Capital Expenditures (nominal dollars)	\$249,100,000	\$650,500,000	\$778,500,000	\$1,050,900,000	Data from annual SEC Form 10-K Consolidated Statement of Cash Flows
3.2 Total Annual Capital Expenditures (nominal dollars) - Electric Vehicles	NA	\$923,185	\$1,005,382	\$1,003,288	Includes vehicles, charging equipment, E-PTO, research for utility-scale battery pilot to manage EVSE rapid charging loads
3.3 Incremental Annual Investment in Electric EE Programs (nominal dollars)	NA	\$40,800,000	\$41,955,000	\$44,213,000	From Oklahoma Demand Programs Annual Report and Arkansas Energy Efficiency Program Portfolio Annual Report
3.4 Incremental Annual Electricity Savings from EE Measures (net MWh)	NA	196,589	199,497	213,201	Net MWh from Oklahoma Demand Programs Annual Report and Arkansas Energy Efficiency Program Portfolio Annual Report
3.5 Incremental Annual Investment in Demand Response Measures (nominal dollars)	NA	\$1,127,728	\$563,262	\$186,399	See additional note 11 below
3.6 Incremental Annual Electricity Savings from Demand Response Measures (MWh)	NA	12,036	11,775	14,308	See additional note 8 below
3.7 Percent of Total Electric Customers with Smart Meters (at end of year)	NA	100%	100%	100%	See additional note 8 below
4 Retail Electric Customer Count (at end of year)					
4.1 Commercial	80,786	100,200	103,337	105,018	Source for values in this section: annual SEC Form 10-K
4.2 Industrial	9,420	2,710	2,585	2,464	
4.3 Residential	630,736	740,174	749,091	756,751	
Emissions					
5 GHG Emissions: Carbon Dioxide (CO2) and Carbon Dioxide Equivalent (CO2e)					
5.1 Owned and Operated Generation for the Data Year					
5.1.1 Carbon Dioxide (CO2)					
5.1.1.1 Total Owned Generation CO2 Emissions (Metric Tons)	23,992,763	12,287,671	12,464,780	9,915,191	Source: EPA Air Markets Program records of monitored emissions.
5.1.1.2 Total Owned Generation CO2 Emissions Intensity (Metric Tons/Gross MWh)	0.775	0.556	0.630	0.593	Data in this section includes 100% of emissions for the two plants in which OG&E owns an interest and is the operating partner (McClain and Redbud)
5.1.2 Carbon Dioxide Equivalent (CO2e)					Rates in this section are per gross MWh, including owned-renewables
5.1.2.1 Total Owned Generation CO2e Emissions (Metric Tons)	24,118,609	12,333,768	12,526,200	9,956,346	See additional note 3 below
5.1.2.2 Total Owned Generation CO2e Emissions Intensity (Metric Tons/Gross MWh)	0.779	0.558	0.633	0.595	
5.2 Owned and Operated Generation and Bi-lateral Wind PPA for the Data Year					
5.2.1 Carbon Dioxide (CO2)					
5.2.1.1 Total Owned, Operated, PPA Wind Generation CO2 Emissions (Metric Tons)	23,992,763	12,287,671	12,464,780	9,915,191	Source: EPA Air Markets Program records of monitored emissions.
5.2.1.2 Total Owned, Operated, PPA Wind Generation CO2 Emissions Intensity (Metric Tons/Gross MWh)	0.771	0.529	0.601	0.568	Data in this section includes 100% of emissions for the two plants in which OG&E owns an interest and is the operating partner (McClain and Redbud)
5.2.2 Carbon Dioxide Equivalent (CO2e)					Rates in this section are per gross MWh, including owned-renewables and wind purchased power agreements listed above
5.2.2.1 Total Owned, Operated, PPA Wind Generation CO2e Emissions (Metric Tons)	24,118,609	12,333,768	12,526,200	9,956,346	See additional note 3 below
5.2.2.2 Total Owned, Operated, PPA Wind Generation CO2e Emissions Intensity (Metric Tons/Gross MWh)	0.775	0.531	0.604	0.571	
5.3 Power Purchased from the Southwest Power Pool Integrated Market					
5.3.1 Carbon Dioxide (CO2) from Southwest Power Pool (SPP)					
5.3.1.1 Total Purchased Generation CO2 Emissions (Metric Tons)	NA	5,863,051	6,170,805	8,890,602	Please see note 2 below.
5.3.1.2 Total Purchased Generation CO2 Emissions Intensity (Metric Tons/MWh)	NA	0.455	0.423	0.468	2020 - 2022 emissions derived as: total purchased net MWh from SEC Form 10-K multiplied by EPA eGRID emission factor for the SPP - South (SPSO)
5.3.2 Carbon Dioxide Equivalent (CO2e) from Southwest Power Pool					2020 based on eGRID2019; 2021 based on eGRID2020; 2022 based on eGRID2021
5.3.2.1 Total Purchased Generation CO2e Emissions (Metric Tons)	NA	5,890,553	6,197,295	8,937,141	eGRID emission factor not available for 2005, therefore emissions are not available
5.3.2.2 Total Purchased Generation CO2e Emissions Intensity (Metric Tons/MWh)	NA	0.457	0.424	0.470	
5.4 Non-Generation CO2e Emissions					

5.4.1	Fugitive CO2e emissions of sulfur hexafluoride (Metric Tons)	137,062	32,903	63,169	10,759	Source: GHG emissions records as reported to EPA under the mandatory GHG Reporting Protocols (40 CFR Part 98, Subpart DD)
5.5	Avoided Carbon Dioxide Emissions (MT) - Company Operations and Programs					
5.5.1	Annual Avoided CO2 Emissions from RTO (SPP) Participation (Metric Tons)	NA	1,307,123	3,030,827	2,376,857	
5.5.2	Incremental Annual CO2e Avoided with Electric Vehicles (Metric Tons)	NA	18	4	8	Avoided emissions reflects EV use in place of gasoline light-duty vehicles. OG&E plans to electrify the company's light duty vehicles by 2030.
5.5.3	Incremental Annual CO2e Avoided from EE Measures (Metric Tons)	NA	112,370	129,395	131,688	From Oklahoma Demand Programs Annual Report
5.5.4	Incremental Annual CO2 Avoided from Demand Response Measures (Metric Tons)	NA	6,690	7,421	8,485	See additional note 8 below
6	Nitrogen Oxide (NOx), Sulfur Dioxide (SO2), Mercury (Hg)					
6.1	Generation basis for calculation	Total				Rates are per gross MWh, including renewables
6.2	Nitrogen Oxide (NOx)					
6.2.1	Total NOx Emissions (Metric Tons)	35,690	9,404	10,362	7,442	Source: EPA Air Markets Program records of monitored emissions for OG&E-owned and operated facilities
6.2.2	Total NOx Emissions Intensity (Metric Tons/Gross MWh)	0.0012	0.0004	0.0005	0.0004	Rates are per gross MWh, including renewables See additional note 3 below
6.3	Sulfur Dioxide (SO2)					
6.3.1	Total SO2 Emissions (Metric Tons)	45,777	3,936	7,012	3,645	Source: EPA Air Markets Program records of monitored emissions for OG&E-owned and operated facilities
6.3.2	Total SO2 Emissions Intensity (Metric Tons/Gross MWh)	0.0015	0.0002	0.0004	0.0002	Rates are per gross MWh, including renewables See additional note 3 below
6.4	Particulate Matter (PM10)					
6.4.1	Total PM10 Emissions (Metric Tons)	NA	1,323	1,548	719	Source: ODEQ annual emission inventory for OG&E-owned and operated facilities
6.4.2	Total PM10 Emissions Intensity (Metric Tons/Gross MWh)	NA	0.0001	0.0001	0.0000	Rates are per gross MWh, including renewables
6.5	Mercury (Hg)					
6.5.1	Total Hg Emissions (kg)	240	20	22	19	Source: EPA TRI annual Form R Report; 2005 data is for Sooner and Muskogee facilities
6.5.2	Total Hg Emissions Intensity (kg/Gross MWh)	0.000008	0.000001	0.000001	0.000001	Rates are per gross MWh, including renewables See additional note 4 below
6.6	Lead (Pb)					
6.6.1	Total Pb Emissions (kg)	458	40	49	21	Source: EPA TRI annual Form R Report; 2005 data is for Sooner and Muskogee facilities
6.6.2	Total Pb Emissions Intensity (kg/Gross MWh)	0.000015	0.000001	0.000002	0.000001	Rates are per gross MWh, including renewables See additional note 4 below

Resources

7	Human Resources					
7.1	Total Number of Employees	3,044	2,360	2,185	2,237	Source of employee count: annual SEC Form 10-K; source of Board composition: OGE 2022 Proxy Statement and Corporate Stewardship Report.
7.1.1	Percentage of Women in Total Workforce	---	18	17	18	See additional note 6 related to employee demographics.
7.1.2	Percentage of Minorities Total Workforce	---	24	24	26	
7.2	Total Number on Board of Directors/Trustees	10	10	9	10	2022 value reflects the nine Directors re-elected to the board in 2023
7.3	Percentage of Women on Board of Directors/Trustees	10	20	22	30	2022 value reflects the nine Directors re-elected to the board in 2023
7.4	Percentage of Minorities on Board of Directors/Trustees	0	10	11	10	2022 value reflects the nine Directors re-elected to the board in 2023
7.5	Employee Safety Metrics					Source of historical safety metrics: filed OSHA 300a records
7.5.1	Recordable Incident Rate	2.51	0.68	0.51	1.06	
7.5.2	Lost-time Case Rate	0.75	0.25	0.28	0.09	
7.5.3	Days Away, Restricted, and Transfer (DART) Rate	1.68	0.38	0.28	0.13	
7.5.4	Work-related Fatalities	0.00	0.00	0.00	0.00	
8	Fresh Water Resources					
8.1	Water Withdrawals - Consumptive (Liters)	29,591,130,000	10,480,665,000	12,021,160,000	7,793,315,000	See additional note 5 below.
8.2	Water Withdrawals - Non-consumptive (Liters)	159,927,605,000	77,036,105,000	66,180,725,000	50,684,935,000	
8.3	Water Use Intensity - Consumptive (Liters/Gross MWh)	1,412	473	609	466	Baseline data in this section is from 2008. See additional note 5 below.
8.4	Water Use Intensity Non-consumptive (Liters/Gross MWh)	6,219	3,486	3,346	3,032	
8.5	Fresh Water Avoided - Company Operations and Programs					
8.5.1	Annual Avoided Freshwater use from Generation (Liters)	4,979,187,194	9,737,041,595	7,211,939,000	6,755,559,432	McClain and Redbud combined-cycle plants (~1,800 MW total) do not use fresh water, only treated municipal effluent. See additional note 9 below.
8.5.2	Annual Freshwater Use Avoided RTO (SPP) Participation (Liters)	NA	6,103,312,500	8,897,021,000	8,845,545,000	
8.5.3	Annual Freshwater Use Avoided from Demand Response Measures (Liters)	NA	5,694,760	7,175,265	6,661,161	
9	Waste Products					
9.1	Coal Combustion Products Generated (Metric Tons)	469,939	127,835	177,024	169,067	Fly ash and bottom ash.
9.2	Percent of Coal Combustion Products Reused	65%	96%	95%	95%	Reuse in 2022 is for Fly Ash and Bottom Ash combined for the River Valley, Sooner and Muskogee facilities. Please see additional note 7 below.
9.3	Hazardous Waste Generation (pounds)	NA	4,435	2,263	1,690	OGE is classified by US EPA as a Small Quantity Generator with respect to hazardous solid waste generation. Please see additional note 10 below.

- Additional notes**
- Solar capacity and generation includes the Mustang Energy Center (online in 2015) the Covington Solar Farm (online in 2018), the Choctaw and Chickasaw Nations' facilities (online in 2020), Branch Solar (online in 2021), and Butterfield (aka, Durant 2 - online in 2022).
 - Note that emissions from power purchased from the Southwest Power Pool (SPP) Integrated Marketplace and OG&E-owned and operated facilities should not be combined. The SPP Integrated Marketplace functions as a centralized dispatch, where market participants throughout a 14-state region in the central United States, including OG&E, submit offers to sell power to the SPP from their resources and bid to purchase power from the SPP for their customers. The SPP Integrated Marketplace is intended to allow the SPP to optimize supply offers and demand bids based upon reliability and economic considerations and to determine which generating units will run at any given time for maximum cost-effectiveness within the SPP area. As a result, the generating units OG&E owns and operates produce output that is different from OG&E's customer consumption. Therefore, the emission profile for the generating units OG&E owns and operates and has wind PPAs with is different than the emission profile for electricity consumed by OG&E's customers.
 - CO2 emissions in 2022 are reduced by 59% from 2005; NOx emissions in 2021 are reduced by 79% from 2005; SO2 emissions in 2021 are reduced by 92% from 2005. Annual emissions reflect the addition of SO2 emission control equipment at the Sooner facility and the conversion of Muskogee units 4 and 5 to natural gas. Emission reductions will vary year-to-year based on a variety of factors, some outside OG&E's control.
 - Mercury emissions in 2022 are reduced by 92% from 2005; Lead emissions in 2021 are reduced by 95% from 2005. In 2016, OG&E installed mercury emission monitoring systems. Emission reductions will vary year-to-year based on a variety of factors, some outside OG&E's control.
 - The methodology for determining water consumption was revised in 2022 to more accurately reflect water consumed in the power production process. Formerly, EIA data, which includes consumptive losses due to atmospheric evaporation and not actual cooling, was used. The revised methodology does not include Seminole, Sooner, and Horseshoe Units 6 & 7, all of which use once-through cooling systems, and includes River Valley and Frontier in 2005. Note that historic flooding in the vicinity of the Muskogee power plant in 2019 rendered the facility inoperable for a period of time during the peak summer load season, significantly reducing water consumption.
 - Employee age ranges as of 12/31/2022: under 30 = 286; ages 30-50 = 1285; over 50 = 661. Voluntary annual turnover rate for 2022 was 5.5% and an additional 4.9% was related to retirements; 2021 voluntary turnover was 3.9% and 7.6% was related to retirements; 2020 voluntary turnover was 2.2% and an additional 3.5% was related to retirements.
 - In 2021, River Valley became OG&E's third power plant to enter an agreement to have its Fly Ash reused in road base construction and cement production. Delays associated with the remediation contract resulted in much of the ash not being reused during 2021. Consequently, OG&E added two additional reuse outlets for River Valley's ash. OG&E remains committed to a strategy of pursuing reuse opportunities for all ash generated at River Valley. For years previous to 2022, reuse was a multi-year average for Fly Ash and Bottom Ash from the Sooner and Muskogee facilities. Earliest baseline data for reuse is 2008.
 - Implemented 100 percent deployment of smart meters with OG&E SmartHours™ program. The program enables and empowers customers to manage their usage, reducing annual capacity and energy demand on the grid and avoiding the associated emissions. Emissions avoided are based on the OG&E owned and operated CO2 emission rate given above multiplied by the average avoided electricity consumption of customers participating in the SmartHours™ program.
 - Note that avoided water use in 2005 appears comparatively low – this is because the Redbud facility experienced relatively low demand in 2005.
 - Most OGE facilities are Very Small Quantity Generators (VSQG) which are defined by the US EPA as generating no more than 100 kg (220 lb) of hazardous solid waste per month. Waste from VSQGs is consolidated at a central facility which is a Small Quantity Generator, defined by EPA as as generating no more than 1000 kg (2,200 lb) of hazardous waste per month.
 - Since it's inception, OG&E has invested over \$68 million in its SmartHours™ demand response program plus \$230 million for smart meters and other technology to support the the Smart Hours program. Smart Hours now supports customer use of their own technology of choice and no longer includes company owned assets/programmable thermostats.