

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: 9/25/2024

		Baseline 2005 <i>Actual</i>	Previous Year 2021 <i>Actual</i>	Previous Year 2022 <i>Actual</i>	Current Year 2023 <i>Actual</i>	Comments, Links, Additional Information, and Notes	
Portfolio							
1	Operational Control Boundary - Nameplate Generation Capacity at End of Year (MW)						
1.1	Owned Coal	2,569	1,855	1,855	1,880	Operational control basis. Source of capacity data in this section: annual SEC Form 10-K.	
1.2	Owned Natural Gas - boiler	2,721	3,211	3,241	3,085		
1.3	Owned and Operated Natural Gas - combined cycle	696	1,815	1,814	1,822	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	551	552		
1.5.4	Owned Solar	0	27	32	32	See additional note 1 below.	
1.5.5	Owned Wind	0	449	449	449		
1.5.6	OG&E Wind Purchased Power Agreements	50	342	342	342		
2.i	Operational Control Boundary - Owned and Operated Generation for the Data Year (gross MWh)	30,945,579	19,777,481	16,730,058	16,748,752	Data for fossil-fueled facilities contains gross generation as measured by 40 CFR 75 continuous emission monitoring systems (CEMS) and includes 100% of generation from the two plants in which OG&E owns an interest and is the operating partner (McClain and Redbud). Therefore it differs from that in the annual SEC Form 10-K which gives net generation and does not include the non-owned portions of McClain and Redbud.	
2.1.i	Owned Coal	20,709,911	7,585,648	4,840,595	2,578,800		
2.2.i	Owned and Operated Natural Gas	10,235,668	11,039,137	11,136,768	13,432,843		
2.5.i	Total Renewable Energy Resources	NA	1,152,696	752,695	737,109	OG&E-owned wind and solar data is from the NERC Generating Availability Data System (GADS).	
2.5.4.i	Solar	NA	46,887	56,333	61,830	Solar data is net generation from NERC GADS system. See additional note 1 below.	
2.5.5.i	Wind	NA	1,105,809	696,362	675,279	Wind data is from NERC GADS system grossed up by 2% to estimate wind farm ancillary power use and match gross generation from fossil-fueled facilities as monitored by CEMS.	
2.ii	OG&E Wind Purchased Power Agreements	159,291	949,484	715,141	546,247	PPA wind MWh data is from FERC Form 1.	
2.ii	Purchased Net Generation from the Southwest Power Pool Integrated Market for the Data Year (MWh)	NA	13,622,948	18,328,458	18,297,732	MWh purchases from the SPP Integrated Market from FERC Form 1	
3	Investing in the Future: Capital Expenditures, Energy Efficiency (EE), and Smart Meters						
3.1	Total Annual Capital Expenditures (nominal dollars)	\$249,100,000	\$778,500,000	\$1,050,900,000	\$1,178,200,000	Data from annual SEC Form 10-K Report of Business Segments.	
3.2	Total Annual Capital Expenditures (nominal dollars) - Electric Vehicles	NA	\$1,033,000	\$2,430,000	\$5,624,000	Includes vehicles, E-PTO, research for utility-scale battery to manage EVSE rapid charging loads; increase from previous year due to charging infrastructure buildout at OG&E facilities in anticipation of new EVs.	
3.3	Incremental Annual Investment in Electric EE Programs (nominal dollars)	NA	\$41,955,000	\$44,213,000	\$47,497,000	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	199,497	213,201	209,823	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	\$563,262	\$186,399	\$164,609	See additional note 11 below.	
3.6	Incremental Annual Electricity Savings from Demand Response Measures (MWh)	NA	11,775	14,308	13,101	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	103,337	105,018	106,787	Source for values in this section: annual SEC Form 10-K.	
4.2	Industrial	9,420	2,585	2,464	2,377		
4.3	Residential	630,736	749,091	756,751	762,433		
Emissions							
5	GHG Emissions: Carbon Dioxide (CO2) and Carbon Dioxide Equivalent (CO2e)					<i>When considering sections 5.1 - 5.3, note that emissions from power purchased from the Southwest Power Pool Integrated Market should not be combined with emissions from OG&E owned and operated facilities. Please see note 2 below.</i>	
5.1	Operational Control Boundary - Owned and Operated Generation for the Data Year						
5.1.1	Carbon Dioxide (CO2)						
5.1.1.1	Total Owned and Operated Generation CO2 Emissions (Metric Tons)	23,992,763	12,464,780	9,915,191	8,990,132	Source: EPA Clean Air Markets Program records of monitored emissions.	
5.1.1.2	Total Owned and Operated Generation CO2 Emissions Intensity (Metric Tons/Gross MWh)	0.775	0.630	0.593	0.537	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). Note that OG&E owned and operated power plant CO2e emissions are typically more than 99% of Scope 1 emissions. Scope 1 not available for 2005.	
5.1.2	Carbon Dioxide Equivalent (CO2e)					Rates in this section are per gross MWh, including OG&E-owned renewables.	
5.1.2.1	Total Owned and Operated Generation CO2e Emissions (Metric Tons)	24,118,609	12,526,200	9,957,848	9,016,945	See additional note 3 below.	
5.1.2.2	Total Owned and Operated Generation CO2e Emissions Intensity (Metric Tons/Gross MWh)	0.779	0.633	0.595	0.538		
5.2	Operational Control Boundary - Owned and Operated Generation and Wind Purchased Power Agreements 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	12,464,780	9,915,191	8,990,132	Source: EPA Clean 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	0.601	0.568	0.520	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). Note that OG&E owned and operated power plant CO2e emissions are typically more than 99% of Scope 1 emissions.	
5.2.2	Carbon Dioxide Equivalent (CO2e)					Rates in this section are per gross MWh, including OG&E-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	12,526,200	9,957,848	9,016,945	See additional note 3 below.	
5.2.2.2	Total Owned, Operated, PPA Wind Generation CO2e Emissions Intensity (Metric Tons/Gross MWh)	0.775	0.604	0.571	0.521		
5.3	Power Purchased from the Southwest Power Pool Integrated Market						
5.3.1	Carbon Dioxide (CO2) from Southwest Power Pool (SPP)					<i>Please see note 2 below.</i>	
5.3.1.1	Total Purchased Generation CO2 Emissions (Metric Tons)	NA	5,757,846	8,576,370	8,054,050	2021 - 2023 emissions estimated as: total purchased net MWh from SEC Form 10-K multiplied by EPA eGRID emission factor for the SPP - South (SPSO).	
5.3.1.2	Total Purchased Generation CO2 Emissions Intensity (Metric Tons/MWh)	NA	0.423	0.468	0.440	2021 emissions based on eGRID2020; 2022 based on eGRID2021; 2023 based on eGRID 2022; eGRID emission factor not available for 2005.	
5.3.2	Carbon Dioxide Equivalent (CO2e) from Southwest Power Pool						
5.3.2.1	Total Purchased Generation CO2e Emissions (Metric Tons)	NA	5,782,563	8,621,264	8,094,718		
5.3.2.2	Total Purchased Generation CO2e Emissions Intensity (Metric Tons/MWh)	NA	0.424	0.470	0.442		
5.4	Non-Generation CO2e Emissions						
5.4.1	Fugitive CO2e emissions of sulfur hexafluoride (Metric Tons)	137,062	63,169	10,759	23,738	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 Participation in SPP Integrated Market (Metric Tons)	NA	2,630,926	2,196,924	1,714,753	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.	
5.5.2	Incremental Annual CO2e Avoided with Electric Vehicles (Metric Tons)	NA	4	8	14	From Oklahoma Demand Programs Annual Report.	
5.5.3	Incremental Annual CO2e Avoided from EE Measures (Metric Tons)	NA	129,395	131,688	115,242	See additional note 8 below.	
5.5.4	Incremental Annual CO2 Avoided from Demand Response Measures (Metric Tons)	NA	7,421	8,480	7,032		
6	Criteria and Other Emissions						
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	10,362	7,442	6,637	Source: EPA Clean 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	0.0005	0.0004	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	7,012	3,645	2,454	Source: EPA Clean 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	0.0004	0.0002	0.0001	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	1,548	719	804	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	0.0000	0.0001	Rates are per gross MWh, including renewables.
6.5	Mercury (Hg)					
6.5.1	Total Hg Emissions (kg)	240	22	19	10	Source: ODEQ annual emission inventory for OG&E-owned and operated facilities; 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	49	21	30	Source: ODEQ annual emission inventory for OG&E-owned and operated facilities; 2005 data is for Sooner and Muskogee facilities.
6.6.2	Total Pb Emissions Intensity (kg/Gross MWh)	0.000015	0.000002	0.000001	0.000002	Rates are per gross MWh, including renewables.
6.7	Volatile Organic Compounds (VOC)					
6.7.1	Total VOC Emissions (Metric Tons)	NA	242	227	207	Source: ODEQ annual emission inventory for OG&E-owned and operated facilities.
6.7.2	Total VOC Emissions Intensity (Metric Tons/Gross MWh)	NA	0.00001	0.00001	0.00001	Rates are per gross MWh, including renewables.

Resources

7	Human Resources					
7.1	Total Number of Employees	3,044	2,185	2,237	2,329	Source of employee count: annual SEC Form 10-K.
7.1.1	Percentage of Women in Total Workforce	---	17	18	18	See additional note 6 related to employee demographics.
7.1.2	Percentage of Minorities Total Workforce	---	24	26	26	
7.2	Total Number on Board of Directors/Trustees		9	10	10	Source of Board composition based on Annual Proxy Statements.
7.3	Percentage of Women on Board of Directors/Trustees	10	22	30	30	
7.4	Percentage of Minorities on Board of Directors/Trustees	0	11	10	10	
7.5	Employee Safety Metrics					
7.5.1	Recordable Incident Rate	2.51	0.51	1.11	0.68	Source of historical safety metrics: filed OSHA 300a records.
7.5.2	Lost-time Case Rate	0.75	0.28	0.09	0.13	Note that after further review, the RIR for 2022 has been updated.
7.5.3	Days Away, Restricted, and Transfer (DART) Rate	1.68	0.28	0.13	0.42	
7.5.4	Work-related Fatalities	0.00	0.00	0.00	0.00	
8	Fresh Water Resources					
8.1	Water Withdrawals - Consumptive (Million Liters)	29,591	12,021	8,137	8,315	See additional note 5 below.
8.2	Water Withdrawals - Non-consumptive (Million Liters)	159,928	66,181	2,085,834	2,212,478	
8.3	Water Use Intensity - Consumptive (Liters/Gross MWh)	1,412	609	477	496	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	3,346	3,032	3,539	
8.5	Fresh Water Avoided - Company Operations and Programs					
8.5.1	Annual Avoided Freshwater use from Generation (Million Liters)	49,792	7,212	6,755	8,129	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 (Million Liters)	NA	7,723	8,402	8,805	
8.5.3	Annual Freshwater Use Avoided from Demand Response Measures (Million Liters)	NA	7.2	6.8	6.5	
9	Waste Products					
9.1	Coal Combustion Products Generated (Metric Tons)	469,939	177,024	169,067	86,458	Fly ash and bottom ash.
9.2	Percent of Coal Combustion Products Reused	65%	95%	95%	94%	Reuse in 2022 and 2023 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	2,263	1,690	5,695	OG&E 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, Covington Solar Farm, the Choctaw and Chickasaw Nations' facilities, Branch Solar, and Butterfield (aka, Durant 2).
- OG&E is a participant in the SPP Integrated Marketplace (IM). The IM functions as a centralized dispatch, where market participants throughout a 14-state region in the central United States submit offers to sell power from their resources to the SPP and bid to purchase power from the SPP for their customers. The IM 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. With respect to purchased power emissions, note that actual emissions are likely lower than the estimate given here. This is because power purchased by OG&E from the IM for resale to customers includes an indeterminate amount of OG&E-generated power and direct emissions. It is not possible to disaggregate OG&E direct emissions from those of other power generators contributing to total emissions in the IM, therefore there is inherently some degree of double-counting in purchased emissions. Direct emissions are accounted for in OG&E's direct emission totals above. Note also that emissions from power purchased from the IM and direct emissions from OG&E-owned and operated facilities should not be combined. 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 with which it has wind PPAs is different than the emission profile for electricity consumed by OG&E's customers.
- Although acquired after 2005 and not owned by OG&E at that time, emissions from the Redbud, River Valley, and Frontier power plants are included in the 2005 baseline. Each plant was operational in 2005 and emissions were measured. We believe including them in our 2005 baseline makes for a complete comparison with today's fleet. CO2 emissions in 2023 are reduced by over 60% from 2005; NOx emissions in 2023 are reduced by approximately 80% from 2005; SO2 emissions in 2023 are reduced by 95% 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, such as fuel prices, energy demand, and new technologies, among others. These factors are expected to change over time and could impact generation unit operations in the future. For example, changes in the dispatch of units by the SPP energy market may potentially lower carbon emissions for the region, but potentially increase our absolute emissions.
- Mercury emissions in 2023 are reduced by 96% from 2005; Lead emissions in 2023 are reduced by 94% from 2005. In 2016, OG&E installed mercury emission monitoring systems. As described in note 3, 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. The revised methodology does not include Seminole, Sooner, and Horseshoe Units 6 & 7, all of which use once-through cooling systems; and the methodology includes River Valley and Frontier in 2005. Formerly, EIA data, which includes consumptive losses due to atmospheric evaporation and not actual cooling, was used. The water-related metrics here and in our Corporate Stewardship Report (CSR) and our SASB report which is incorporated as an appendix to the CSR, reflect fresh water use only. Note that SASB also includes water used from all sources. Note also that the format for each report requests different units of measure.
- Employee age ranges as of 12/31/2023: under 30 = 321; 30-50 = 1,330; over 50 = 709; voluntary turnover rate in 2023 was 3.9% and retirement turnover was 0.8%. 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..
- 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 prior 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.