

# Southwest Gas AGA Voluntary Sustainability Metrics: Quantitative Information (2017)

**Disclaimer:** All information below is being provided on a voluntary basis, and as such, companies may elect to include or exclude any of the topics outlined below and customize the template to their specific needs. The decision to include data for historical and future years is at the discretion of each company and the specific years (e.g., historical baseline) should be chosen as appropriate for each company.

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Parent Company: Southwest Gas Holdings, Inc.

Operating Company(s): Southwest Gas Corporation

Business Type(s): Investor-Owned LDC/Utility

State(s) of Operation: Arizona, California, Nevada

Regulatory Environment: Regulated

Note: Data from from operating companies is rolled up to the corporate level.

Report Date: Reporting Year 2017

| Ref. No. | Refer to the "Definitions" column for more information on each metric. | Year<br>2017 | Definitions | Comments, Additional Information |
|----------|--|--------------|-------------|----------------------------------|
|----------|--|--------------|-------------|----------------------------------|

## NATURAL GAS DISTRIBUTION

|   |  |               |  |   |
|---|--|---------------|--|---|
| <b>1 METHANE EMISSIONS AND MITIGATION FROM DISTRIBUTION MAINS</b> |  |               |  |   |
| 1.1   | Number of Gas Distribution Customers   | 2,015,000     |  | 2017 Southwest Gas Holdings Annual Report   |
| 1.2   | Distribution Mains in Service  |               | <i>These metrics should include all local distribution companies (LDCs) held by the Parent Company that are above the LDC Facility reporting threshold for EPA's 40 C.F.R. 98, Subpart W reporting rule.</i>   |   |
| 1.2.1   | Plastic (miles)  | 24,435.2      |  | Department of Transportation (DOT) Annual Report for RY2017   |
| 1.2.2   | Cathodically Protected Steel - Bare & Coated (miles)   | 6,617.7       |  | Department of Transportation (DOT) Annual Report for RY2017   |
| 1.2.3   | Unprotected Steel - Bare & Coated (miles)  | -             |  |   |
| 1.2.4   | Cast Iron / Wrought Iron - without upgrades (miles)  | -             |  |   |
| 1.3   | Plan/Commitment to Replace / Upgrade Remaining Miles of Distribution Mains (# years to complete) | -             | These metrics should provide the number of years remaining to take out of service, replace or upgrade cathodically unprotected steel mains, and cast iron/wrought iron mains, consistent with applicable state utility commission authorizations.  | No cast iron or bare steel pipe. Southwest Gas has several pipe replacement programs throughout our service territory. Please see 2019 Sustainability Report. |
| 1.3.1   | Unprotected Steel (Bare & Coated) (# years to complete)  | -             | Optional: # yrs by pipe type.  |   |
| 1.3.2   | Cast Iron / Wrought Iron (# years to complete)   | -             | Optional: # yrs by pipe type.  |   |
| <b>2 Distribution CO2e Fugitive Emissions</b>                     |  |               |  |   |
| 2.1   | CO2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)                   | 144,661.0     | <i>Fugitive methane emissions (not CO2 combustion emissions) stated as CO2e, as reported to EPA under 40 CFR 98, Subpart W, sections 98.236(a)(3)(ix)(C) and (D), 98.236(r)(1)(iv) and (v), and 98.236(r)(2)(v)(A) and (B). This metric should include fugitive methane emissions above the reporting threshold for all natural gas local distribution companies (LDCs) held by the Parent Company that are above the LDC Facility reporting threshold for EPA's 40 C.F.R. 98, Subpart W reporting rule.</i> | USEPA e-GRRT for RY 2017 for AZ, CA, NV.  |
| 2.2   | Natural Gas Throughput from Gas Distribution Operations in thousands of scf                      | 201,103,927.0 | This metric provides gas distribution throughput reported under Subpart W, 40 C.F.R. 98.236(aa)(9)(i) through (iii), as reported on the Subpart W e-GRRT integrated reporting form in the "Facility Overview" worksheet Excel form, gas received (column 1) plus the gas withdrawn (column 2) minus the gas injected into storage (column 3). See screenshot of e-GRRT report provided in template instructions.   | USEPA e-GRRT for RY 2017 for AZ, CA, NV.  |
| 2.3   | CO2e Fugitive Methane Emissions Rate (metric tons per thousand scf of Throughput)                | 0.000719      | 2.1 divided by 2.2   |   |

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|          |  | 2017 |             |                                  |

### NATURAL GAS TRANSMISSION & STORAGE

|            |   |                        |  |                                  |
|------------|---|------------------------|--|----------------------------------|
| <b>1.2</b> | <b>Transmission Pipelines, Blow Down Volumes, and Fugitive Emissions</b>                          |                        |  |                                  |
| 1.2.1      | Total Miles of Transmission Pipeline Operated by gas utility ( <i>miles</i> )                     | 1464.6                 |  |                                  |
| 1.2.2      | Volume of Transmission Pipeline Blow Down Emissions - outside storage and compression facilities: |                        | <i>As reported to EPA under 40 CFR 98, Subpart W.</i>  | <i>Below reporting threshold</i> |
| 1.2.2.1    | scf natural gas   | -                      |  | <i>Below reporting threshold</i> |
| 1.2.2.3    | metric tons CO <sub>2</sub> e   | -                      |  | <i>Below reporting threshold</i> |
| <b>1.3</b> | <b>Underground Natural Gas Storage Emissions</b>  |                        |  |                                  |
| 1.3.2      | Storage Compressor Station Emissions ( <i>metric tons CO<sub>2</sub>e</i> )                       | No Underground Storage |  |                                  |
| 1.3.3      | Storage Facility Wellhead Component Fugitive Emissions ( <i>metric tons of CO<sub>2</sub>e</i> )  | -                      | <i>As reported to EPA under 40 CFR 98, Subpart W.</i>  |                                  |
|            |   |                        | <i>Utilizing EPA emissions factors, as reported to EPA under Subpart W, 40 CFR 98.236, on the e-GRRR integrated reporting form, "Equipment Leaks Surveys and Population Counts [98.236 (q, r)]" tab.</i> |                                  |