

RENEWABLE NATURAL GAS INTERCONNECTION PROCESS



OVERVIEW

Renewable Natural Gas (RNG), also known as biomethane, is biogas that has been processed and upgraded to be interchangeable with traditional natural gas. RNG that meets the standards adopted pursuant to California Health and Safety Code Section 25421 can be injected into the existing utility natural gas pipelines. SoCalGas® Rule No. 30, "Transportation of Customer-owned Gas," describes the specifications, terms and conditions adopted that must be met in order for SoCalGas to accept RNG into its pipeline network.

The process begins with biogas, which is produced by the anaerobic decomposition of organic material, which occurs naturally. This process happens at facilities such as landfills, landfill diversion facilities,

dairies and wastewater treatment plants. This raw biogas is made up of mainly methane and carbon dioxide, with traces of other elements such as water, hydrogen sulfide, siloxanes, nitrogen, and oxygen. Prior to injection into the pipeline, biogas must be conditioned and upgraded to remove or reduce non-methane elements to promote the safe and reliable operation of the pipeline network and end-use natural gas equipment.

BIOGAS PROCESSING TECHNOLOGIES

There are several methods and technologies available to condition biogas. Technology selection can be based on many criteria, including biogas and product gas makeup and site and operating conditions. Some examples of technologies used in biogas conditioning:

- High-selectivity membranes
- Pressure swing adsorption systems
- Water scrubbing systems
- Solid scavenging media
- Regenerative or non-regenerative adsorbent media
- Catalytic O₂ removal

It is common to find a combination of these technologies working in conjunction to meet a set of specifications.

BIOMETHANE INJECTION PROCESS

SoCalGas Rule No. 39, "Access to the SoCalGas Pipeline System," provides detailed information on the requirements to interconnect and inject natural gas into utility pipelines. The section below describes the three basic steps of the interconnection process.

**Biomethane
Producer's Piping** ▶



▶ **SoCalGas
Pipeline Network**

Utility Interconnection

STEP 1

INTERCONNECTION CAPACITY STUDY

The process starts with an Interconnection Capacity Study, which determines the utility's downstream capacity to take the renewable natural gas away from the interconnection point and the associated utility facility enhancement cost. The Capacity Study step also provides interconnectors with the option to request a deviation from the gas quality specifications defined in SoCalGas' Rule 30, Paragraph I.3. Interconnectors are responsible for the actual costs needed to perform the Interconnection Capacity Study. These costs typically range from \$5,000 to \$10,000 and requires six weeks to complete¹.

STEP 2

PRELIMINARY ENGINEERING STUDY

The Preliminary Engineering Study develops the preliminary cost estimates for land acquisition, site development, right-of-way, metering, gas quality, permitting, regulatory, environmental, unusual construction, operating and maintenance costs. Interconnectors are responsible for the actual costs needed to perform the Preliminary Engineering Study. These costs typically range from \$50,000 to \$60,000 and requires four to five months to complete¹.

STEP 3

DETAILED ENGINEERING STUDY

There are three elements in the Detailed Engineering Study, including:

1. Description of all costs of construction
2. Development of complete engineering construction drawings
3. Preparation of all construction and environmental permit applications and right-of-way acquisition requirements

Interconnectors are responsible for the actual costs needed to perform the Detailed Engineering Study. These costs typically range from \$145,000 to \$225,000 and four to six months to complete¹.

Interconnectors may have the option to request and fund the Preliminary and Detailed Engineering Studies (Steps 2 and 3) concurrently.

BIOMETHANE INTERCONNECTION INCENTIVE PROGRAM

In 2015, the California Public Utilities Commission established the Biomethane Interconnector Monetary Incentive Program². This program can provide an incentive that can contribute up to 50 percent of interconnection costs, with a cap of \$3 million per project. The cap is \$5 million for dairy cluster projects, defined as three or more dairies in close proximity. The program is described in detail in SoCalGas Rule 39 Section A.3.a. Your SoCalGas account executive can help to navigate the qualification and application process for this incentive.

FIND OUT MORE

For more information, please visit:

[**socalgas.com/rg**](http://socalgas.com/rg)

or contact us at:

[**gasstudyrequests@semprautilities.com**](mailto:gasstudyrequests@semprautilities.com)

¹ The provided estimated costs are based on historical projects and can vary based on site-specific conditions. The estimated costs and timeline does not include requests involving a deviation from the gas quality specifications.

² D.15-06-02: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M152/K572/152572023.PDF>

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