MAKEEN
ENERGY

MAKE THE SAFE CHOICE

Gas mixing system for blending LPG and air

MAKEEN Gas Equipment

SNG Solution

Businesses worldwide depend on secure and reliable energy sources, even minor fluctuations can have critical consequences. However, there are ways to safeguard your operations, ensuring a stable and reliable energy source. If you are looking for just that, let us introduce you to Synthetic Natural Gas (SNG) – a game-changer in the quest for dependable energy. And when you are ready to estab- lish your new SNG-system, we are ready to assist you in the process.

SNG 101

Put simply, SNG is LPG mixed with atmospheric air – roughly 60/40, depending on the conditions. The combustion is identical with natural gas, which makes it possible to use the same burners, pipes, valves, and other equipment already used in systems for natural gas. This makes the step towards investing in an additional energy source, like SNG, an easy one. The only requirement is an LPG tank with vaporizers and a mixing system that blends air into the gas. And don't worry, if you are new to SNG, we are ready to share our extensive knowledge, helping you make an in- formed decision when investing in your new, reliable energy source.

Securing your energy supply

When you choose a SNG systems, you are getting more than just an energy solution – you are getting a smart backup plan. By installing SNG systems, we offer a dual-energy solution system that serves as both a primary energy source and a reliable backup. This dual capacity ensures that, if the energy market faces fluctuations or supply issues, you can switch effortlessly between SNG and natural gas. This flexibility not only guarantees energy security but also positions busi- nesses to potentially capitalise on lower fuel costs, should the opportunity arise. With multiple energy sources at hand, you are never caught off guard. It's all about flexibility and reliability, helping you stay one step ahead no matter what.

Why invest in a SNG system?

1. Versatile feedstock:

With an SNG solution, the possibilities are extensive, as it allows for switching between natural gas and LPG. In the future, it will also support the use of Bio-LPG (also known as RLG – Renewable Liquefied Gas), a fossil-free fuel produced from organic material. This ensures that your SNG facility is future-proof and contributes to achieving your company's climate goals.

2. Energy security:

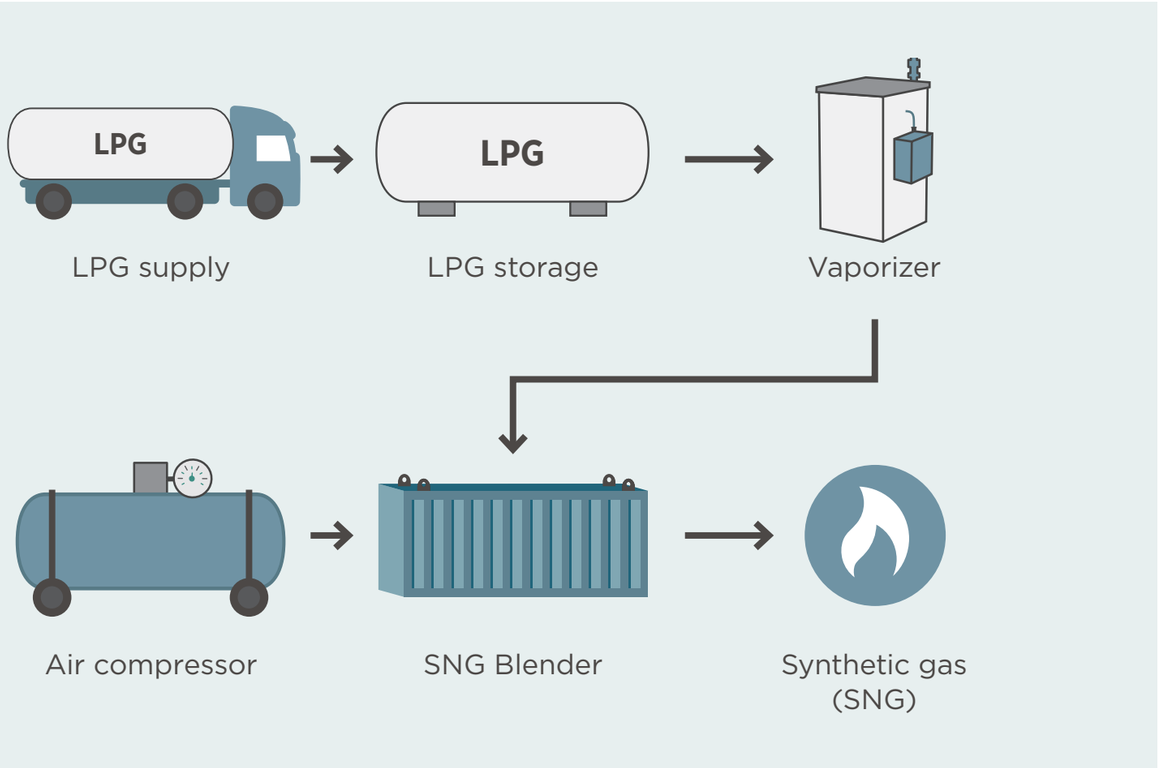
SNG is a blend of LPG and air, and it can directly replace or serve as a backup for natural gas due to its similar composition. With an SNG system, you are assured a dependable energy source, even when you are off the natural gas grid.

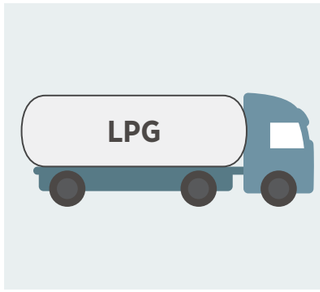
3. Plug-and-play:

Investing in a SNG system might seem like a time consuming and elaborate task. However, a SNG system can be installed in existing natural gas infrastructure without significant modifications, making your transition seamless. And making it even easier, we will assist you all the way from installation to commissioning.

The SNG system

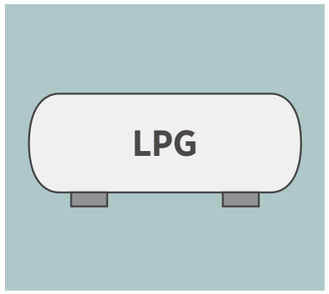
Our SNG system can serve as a full supply source, provide backup during outages, manage peak demand, and supplement existing energy consumption. With a few key steps, one energy source is transformed into another. Starting from the supply of LPG and ending with ready-to-use SNG, each stage plays its part in making the conversion happen. In the following section, you can get to know the process step by step.





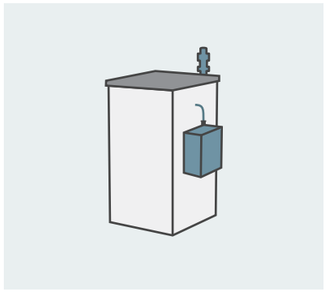
1. LPG supply

Liquefied petroleum gas (LPG) is delivered. This typically requires an agreement with an LPG supplier.



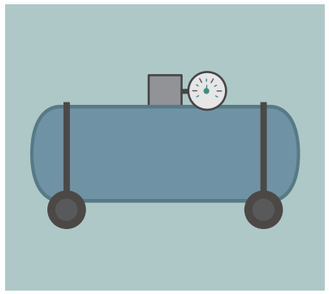
2. LPG storage tank

Safely stores the LPG until it is needed for conversion, ensuring a consistent supply.



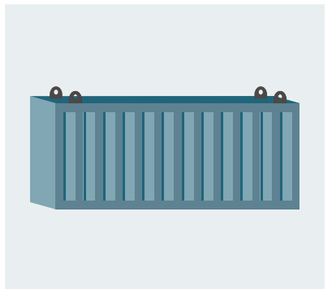
3. Vaporizer

Converts the stored LPG from a liquid to a gaseous state using electric or gas energy, preparing it for blending.



4. Air compressor

Supplies the necessary compressed atmospheric air to the SNG blender for an optimal mix.

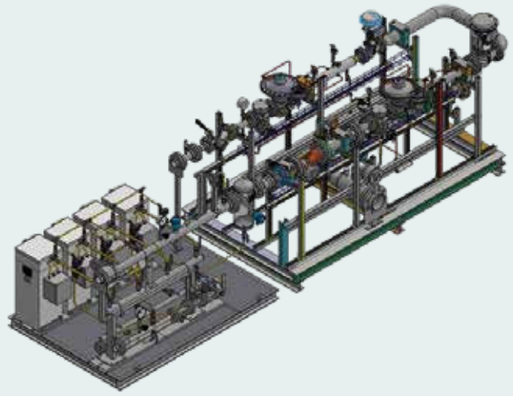


5. SNG blender

Mixes the vaporized LPG with air, to secure a precise and correct a synthetic natural gas blend - approximately 60/40.

6. Synthetic gas (SNG)

The final product, synthetic natural gas, is ready for distribution and can be used as primary fuel or alternative to natural gas for backup, peak shaving, or supplementary use.



Peak shaving

Peak shaving refers to the use of SNG systems to manage peak load periods in energy consumption. During times of high energy demand, such as cold winter days or periods of high industrial activity, SNG systems can supplement the existing natural gas supply. This helps stabilise energy delivery and reduces the risk of supply interruptions during critical periods. Peak shaving with SNG systems is particularly useful in areas with natural gas infrastructure challenges or during extreme weather conditions.

Full supply

SNG systems can also serve as a complete supply solution, either replacing or supplementing conventional natural gas with synthetic natural gas. This is typically used in areas where access to conventional natural gas is limited or economically challenging. By producing sufficient amounts of SNG, these systems can provide a reliable and stable energy supply, meeting the needs of industrial, commercial, and residential users. Full supply with SNG systems creates new opportunities for energy supply and diversification of energy sources.

Supplementary & back-up

Supplementary SNG systems enhance the existing natural gas supply by adding synthetic natural gas as needed. This concept doesn't necessarily involve completely replacing natural gas but rather supplementing the supply to meet increasing demand or improve supply reliability. Supplementary SNG systems can be particularly useful as a backup or to cover temporary supply shortages, ensuring continuous energy availability and maintaining operational continuity for businesses and industries.

Martin Sahl Nedergaard,
PTA Manager, Lantmännen Unibake

“Our bakery in Holstebro, Denmark, produces thousands of kilos of bread each year. We know how important it is to provide this essential product to many consumers who rely on our production. To ensure our deliveries remain consistent and reliable, we invested in an SNG system delivered MAKEEN Gas Equipment

Our current system uses natural gas. However, during shortages, we risk being disconnected from the gas grid to prioritise critical infrastructure. With SNG as our backup energy source, we can maintain reliable operations by seamlessly switching our energy source.

The low complexity of the SNG system makes it easy to implement and operate. This flexibility allows us to adapt quickly to changes and ensures our production process runs smoothly.

The LPG used in the system is a byproduct of refineries and is transported by truck, making it easily accessible. This guarantees a dependable supply of energy, regardless of fluctuations in the natural gas market.”

MAKEEN ENERGY

MAKEEN Energy
Alsvej 21
8940 Randers SV
Denmark
Tel +45 8740 3000

info@makeenenergy.com
www.makeenenergy.com
www.makeengasequipment.com

Follow us on:

MAKEEN Gas Equipment offers a wide range of high-quality gas equipment and components along with expert guidance from the beginning to the end of your project. In that way, our one-stop shop philosophy – and many warehouses around the world – provides you with much more than just a product. MAKEEN Gas Equipment is a company under MAKEEN Energy.

MAKEEN Energy is a global, market-leading corporation that delivers equipment, solutions and services to the energy industry. We employ approx. 4,000 people across 6 continents and operate in over 140 countries. With our global reach, local presence and decades of experience, we can deliver responsible solutions that make a difference to people and planet.

Worldwide MAKEEN Gas Equipment contacts

Country	Tel
Denmark	+45 8644 8734
Germany	+49 (0) 5341 8697-0
Belgium	+32 1024 2000
Portugal	+351 220 938 677
UK	+44 (0) 1792 224000
USA	+1 800 821 1829
Brazil	+55 11 2446 4644
Bangladesh	+880 1313 444 833
India	+91 40 3502 3270
Indonesia	+62 21 5312 2308
Malaysia	+60 3 6274 8801
Saudi Arabia	+966 569 787 053

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