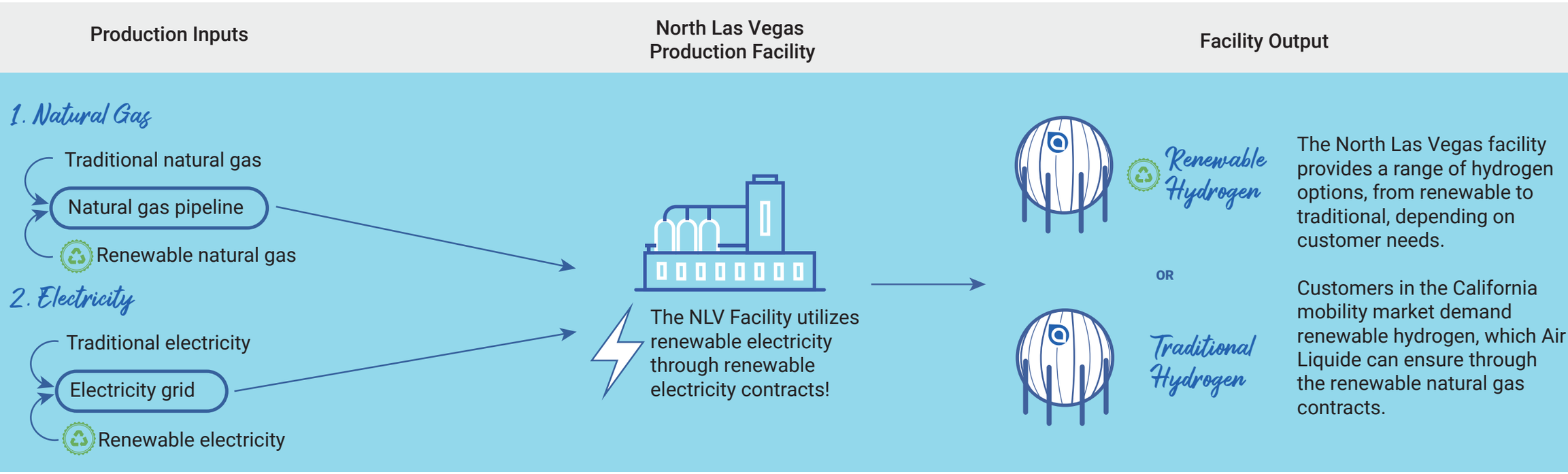
Hydrogen: The Pathway to a Renewable Future

Air Liquide



Production Inputs

There are 2 main inputs for the North Las Vegas liquid hydrogen production facility that enable the facility to produce hydrogen.

Natural gas: Natural gas is a feedstock for the production of liquid hydrogen. Natural gas can be produced from traditional sources (fossil fuels) and renewable sources (landfill gas, wastewater treatment, etc.) **Both traditional and renewable natural gas are injected into the existing U.S. natural gas pipeline network.**

Electricity: Electricity is a production input used to power the facility itself. Similarly, electricity can be produced from renewable sources (solar, hydro or wind power) or traditional sources and **both are distributed through the existing electricity grid.**

Achieving Renewability: Electricity and Natural Gas Contracts

When you purchase renewable electricity for your home, the renewable electricity is placed onto the grid, and while you won't necessarily receive the exact electrons produced from renewable sources, you can still certify that your electricity is renewable. The same process can also be used by production facilities like Air Liquide's North Las Vegas site.

The use of renewable natural gas and renewable electricity contracts is the standard system by which utilities and feedstocks are certified renewable in the United States. Renewable natural gas and renewable electricity contracts can be acquired and applied by Air Liquide at the point of production or by its clients.

Renewable Natural gas: Natural gas is certified as renewable through renewable natural gas contracts with providers. Contracts in place with the facility's natural gas provider ensure that all natural gas supplied to the North Las Vegas facility for the California mobility market is certified renewable. With these contracts, the renewability of the natural gas only applies to the purchaser - allowing Air Liquide and its customers a verifiable, auditable pathway to guarantee the renewable content of the hydrogen.

Renewable Electricity: Similarly, electricity is certified as renewable through renewable electricity contracts with providers. Air Liquide has contracts in place to ensure that the electricity used to power the North Las Vegas facility is renewable. Just as with the renewable natural gas contracts, the renewability of the electricity only applies to the purchaser - allowing Air Liquide and its customers a verifiable, auditable pathway to guarantee the renewable content of the electricity.

Air Liquide's North Las Vegas Liquid Hydrogen Production Plant

The Air Liquide North Las Vegas liquid hydrogen production plant utilizes natural gas pulled from the U.S. natural gas pipeline network to produce hydrogen via a steam methane reforming (SMR) process coupled with a hydrogen liquifier, both of which are Air Liquide proprietary technologies. The Air Liquide North Las Vegas liquid hydrogen production facility will achieve renewability by leveraging natural gas contracts that will allow the hydrogen produced for the California mobility market to be certified renewable. It will also be powered by renewable electricity through renewable electricity contracts.

Hydrogen Capacity

The North Las Vegas liquid hydrogen production plant will produce 30 tons per day of hydrogen. The plant allows for the production of hydrogen with a range of options, from traditional hydrogen to renewable and optimized low-carbon. With this versatility, the hydrogen can be used for a wide array of applications, including clean mobility, energy and industrial needs for renewable hydrogen to decarbonize hard-to-abate applications. In fact, the facility was built to meet the renewable hydrogen demands of the burgeoning California mobility market with the capacity to fuel more than 40,000 fuel cell vehicles, thereby eliminating concerns around fuel supply reliability and allowing this market to develop more quickly.