Simple Cycle

A simple-cycle unit produces electricity by using a single combustion turbine to convert a fuel source directly into power. They are designed for flexible use, with the ability to start and stop quickly.

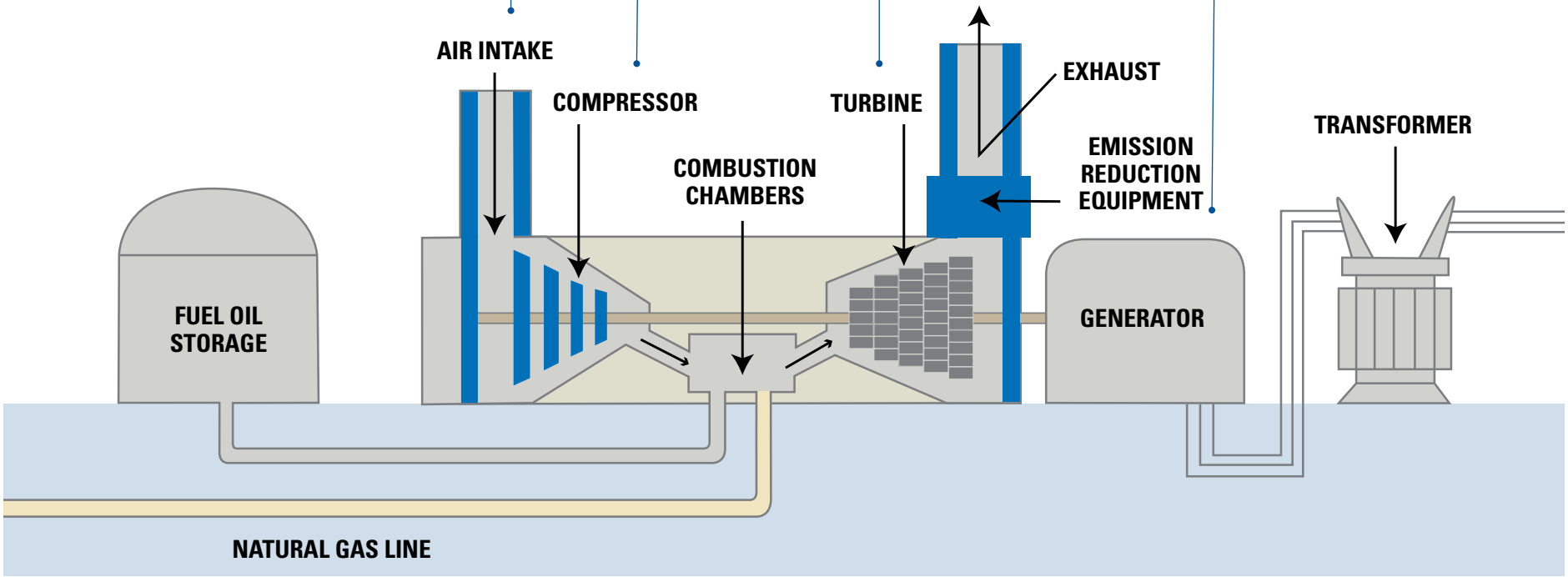
Ambient air is drawn into a compressor where the compression causes the temperature and pressure of the air to rise.

The compressed air is mixed with the fuel source, primarily natural gas, in the combustion chambers and is ignited.

The resulting gas expands and moves through the turbine causing it to spin.

The spinning of the turbine drives a generator which produces electricity which is delivered to the grid to serve homes and businesses.

Emission reduction equipment is utilized to minimize emissions in the exhaust. **These natural gas power stations are required to meet all federal and state requirements to ensure the health and safety of the community and environment.**



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Combined Cycle

A combined-cycle unit generates electricity by first producing power through a combustion turbine, just like a simple-cycle unit, and then using a steam turbine to capture and reuse excess heat unused by the combustion turbine. They are designed for baseload use—meaning they provide power around-the-clock to meet overall power needs.

1 First, a combustion turbine is used to create power

- Ambient air is drawn into a compressor where the compression causes the temperature and pressure of the air to rise.
- The compressed air is mixed with the fuel source, primarily natural gas, in the combustion chambers and is ignited.
- The resulting gas expands and moves through the turbine causing it to spin.
- The spinning of the turbine drives a generator which produces electricity which is delivered to the grid to serve homes and businesses.

2 Second, the excess gas and heat are captured to make more power

- Excess gases and heat are captured by a Heat Recovery Steam Generator (HRSG) with duct burners where the heat is used to create steam.
- The steam then moves through a steam turbine causing it to spin.
- The spinning of the steam turbine drives another generator which produces electricity which is delivered to the grid to power homes and businesses.
- Once the steam passes through the steam turbine, it is cooled in an air-cooled condenser where it is converted back into water and returned to the HRSG for reuse.

Emission reduction equipment is utilized to minimize emissions in the exhaust. **These natural gas power stations are required to meet all federal and state requirements to ensure the health and safety of the community and environment.**