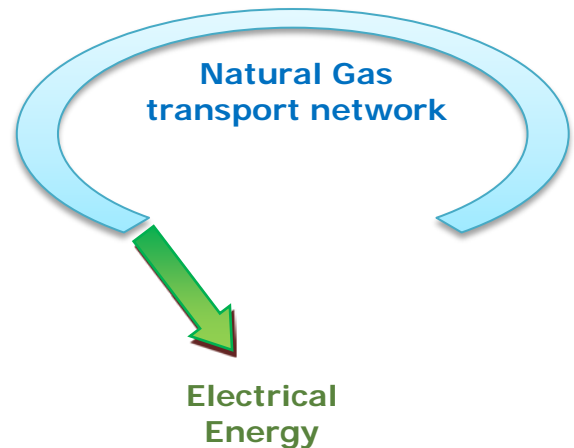


# Natural Gas Expansion to Produce Electricity

**NGE System** is a specific high technology plant able to produce electrical energy basing on the difference of pressure between transport and distribution network in depressurization natural gas stations.

These plants are totally “green” because they exploit only on the pressure jump between local transport and distribution network, without air pollution or other harmful emissions in the environment.

The power plant is installed in parallel to the conventional gas pressure control lines, the natural gas only has to be pre-heated to about 100°C before being expanded. The supply of the downstream network is totally secured.



## Examples of applications

**#1.** The relatively large difference between the pressure up and downstream in the gas transfer station of a city with about 100,000 people can be used to make work a 450 kW plant.

The plant consists of a two stage system, so more moderate individual pressure ratios permits the use of low temperature heat sources to preheat the natural gas over an expansion stage.

Inlet pressure: 37 barg

Outlet pressure: 5 barg

Maximal gas throughput: 10,000 Nm<sup>3</sup>/h

Generator terminal output: 450 kW

**#2.** In the gas transfer station of a city with about 200,000 people can be installed a 1450 kW plant with a dedicated CHP to preheat the natural gas before an expansion stage.

Inlet pressure: 41 barg

Outlet pressure: 9 barg

Maximal gas throughput: 45,000 Nm<sup>3</sup>/h

Generator terminal output: 1450 kW