

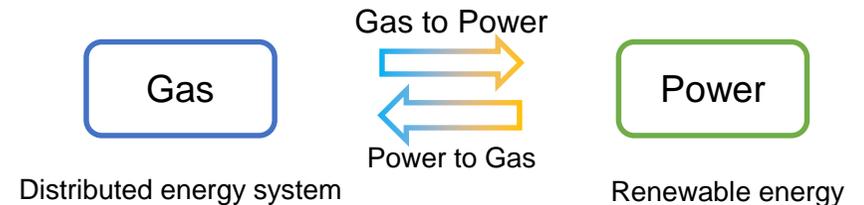


### 3 Next-generation heat energy industry

#### <Main future efforts>

- Making city gas carbon neutral by 2050.
  - Aiming to achieve carbon neutrality for city gas by injecting synthetic methane by 1% into existing infrastructure in 2030 and by 90% in 2050.
  - Promoting fuel conversion to gas on the demand side. By switching to synthetic methane, smooth decarbonization can be expected while reducing costs.
- Promoting the transformation into comprehensive energy service companies.
  - Building a distributed energy system that makes effective use of heat by promoting the introduction of gas cogeneration. Achieving optimal energy control in the region through the use of digital technology.
  - Promoting the transformation into comprehensive energy service companies that provide total services including energy supply, management, and facility maintenance, as well as a decarbonization menu. Developing new markets in Japan and overseas that have not been fully captured by gas supply alone.
- Achieving inexpensive supply of synthetic methane (equivalent to LNG).
  - Aiming to achieve a cost equivalent to LNG price (40-50 yen/m<sup>3</sup>) by 2050 through the development of innovative technologies such as higher efficiency of methanation and the establishment of inexpensive overseas supply chains.

#### Smart energy network



Source: Prepared based on the Interim Summary of the Study Group on the Future of the Gas Business Toward 2050 (April 5, 2021).

#### Benefits to people's lives in 2050

- Avoiding an additional burden of about 14,000 yen per year by utilizing the existing infrastructure.
  - Synthetic methane by methanation can utilize the existing infrastructure and facilities. If the entire system were to be renovated with new infrastructure investment, the cost would be approximately 20 trillion yen, which is expected to increase the burden of an average household by approximately 14,000 yen per year.
- Maintaining socioeconomic activities and living environment even during a disaster.
  - Promoting the simultaneous use of heat and electricity through gas cogeneration to create a community that will not experience a power outage during a disaster.