



# Infrastructure Cost Calculator



A project summary

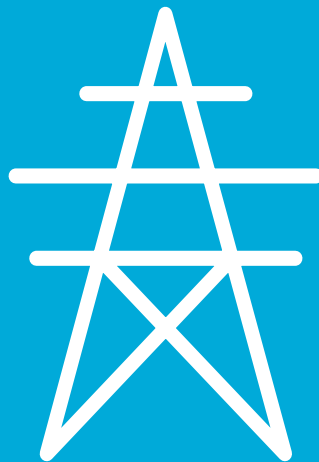
The Infrastructure Cost Calculator is a network transition costing model.

In association with BuroHappold Engineering

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## ETI Infrastructure Cost Calculator

The Infrastructure Cost Calculator allows users to calculate and compare network transition costs across a number of scenarios and vectors (including electricity, gas, heat and hydrogen).

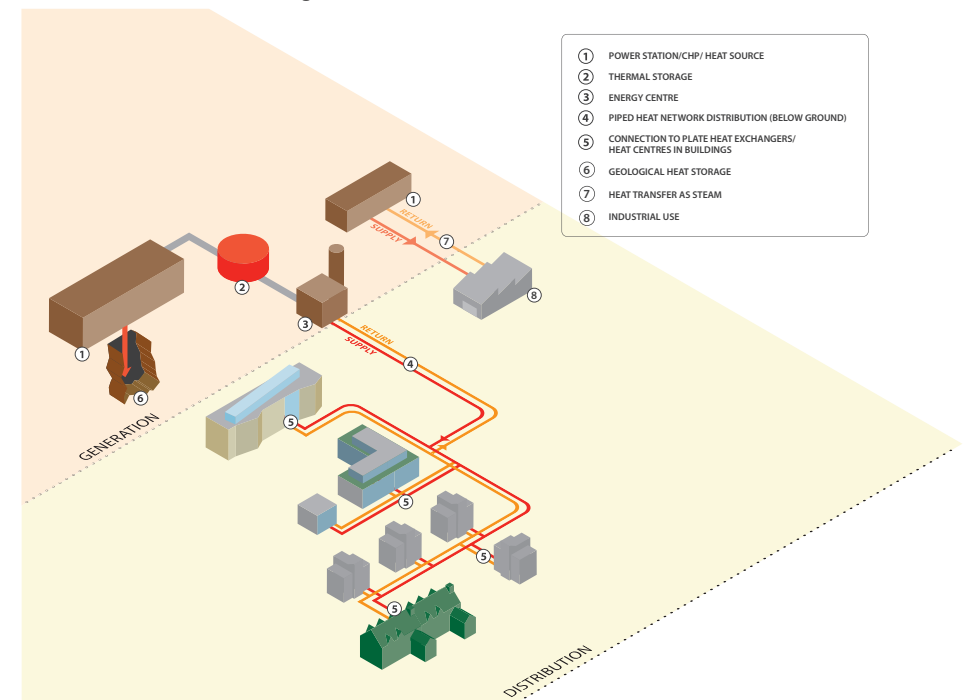


## WHAT IS IT?

The Infrastructure Cost Calculator is a network transition costing tool. It uses a robust, centrally stored database to enable the calculation and comparison of transition costs across the four main energy vectors: electricity, gas, heat and hydrogen.

Users can define and compare different scenarios to understand long term investments for a UK transition to a low carbon energy network.

ETI 2050 - Heat Schematic - Existing



## WHAT DOES IT DO?

The calculator uses data on the costs and performance associated with fixed energy infrastructure.

The user is able to define and compare infrastructure options associated with a variety of energy generation and demand scenarios across different timescales.

The calculator allows the user to compare capital and operating costs, identifying

areas of high cost and providing analysis to understand the impact of a wide range of variables; including cost trends, location and start time.

The cost of new infrastructure or refurbishing, re-purposing and abandoning existing network infrastructure across any scale or level of complexity can be carried out using a clean user friendly interface.



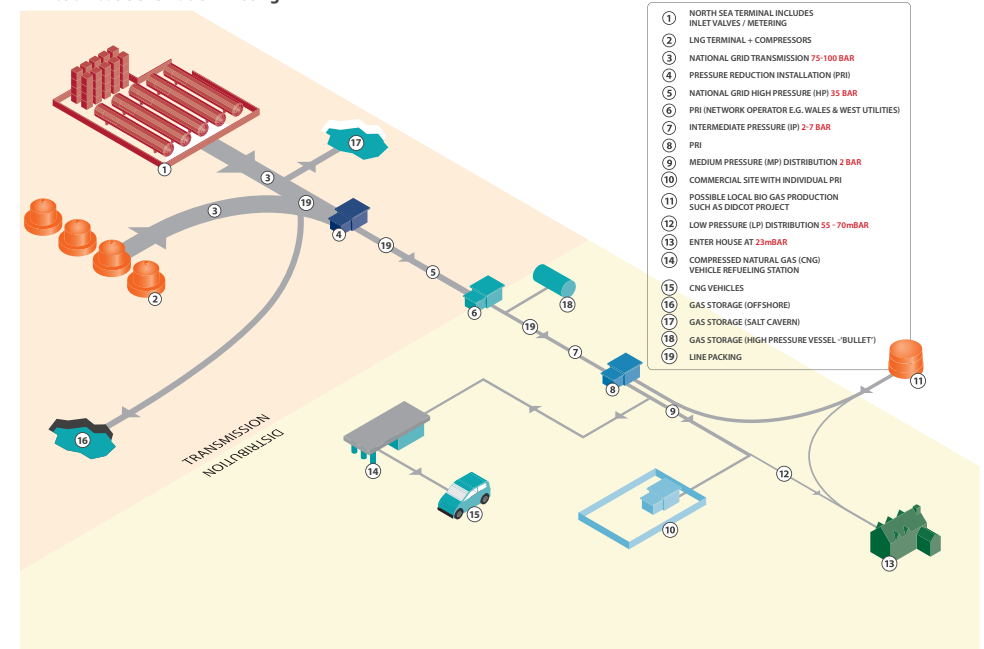
## WHAT DOES IT INCLUDE?

Compiled in partnership with BuroHappold Engineering, the calculator uses current industry data for key infrastructure types across electricity, gas, heat and hydrogen vectors including energy transmission, distribution, conversion, connection and storage.

The calculator is designed to be transparent in relation to the data it uses,

which is fully referenced. The database is stored centrally and currently contains over 900 components. New components can be easily added and stored locally by the user if they are commercially sensitive. The data is continuously maintained and updated.

ETI 2050 - Gas Schematic - Existing



## HOW DOES IT DO IT?

The calculator provides a bottom up analysis with modifiers that can be applied to explore contextual differences and sensitivities. These modifiers include; technology maturity, cost curves, urban/ rural variations and ground conditions.

Projects can be formed of multiple vector constructions and have options to include optimism bias within the cost calculations. Detailed results are presented on each project in both graphical and numerical format.

## WHAT ARE THE BENEFITS AND CAPABILITIES?

The calculator provides users with access to an extensive database of infrastructure costs based on industry data. It has transparency and flexibility in its data use, allowing users to adapt and tailor it to their own needs.

Further raw data, frameworks and vectors can be added, helping the tool to evolve over time.

Example capabilities of the tool include:

- **Impact Analysis:** testing new innovations to understand how they impact on the cost of networks.
- **Sensitivity Analysis:** investigating how cost changes based on future scenarios impact upon lifetime network costs.
- **Transition comparisons:** investigating the difference between the costs of pathways to reach a low carbon energy network.
- **Time implications:** analysing the financial impacts of carrying out infrastructure changes over different time periods.



## FOR FURTHER INFORMATION PLEASE CONTACT



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