



LIFE GREEN GAS NETWORK: 'Reducing gas leaks and GHG emissions of gas networks'

An intelligent system to implement smart functions on gas networks to mitigate the greenhouse effect by reducing gas leaks

Gas leaks

It is well known that water networks, even the best maintained, all suffer from leaks at some level. Few know, however, that the same thing happens with gas. These losses are due to micro-leaks with no consequence to the areas involved and are proportional to the pressure present in the gas pipeline.

The [natural gas distribution networks may experience gas leakages](#) near old junction points between pipes and valves that are part of the distribution system, or because of damage from excavations or vehicle collisions. These losses are directly proportionate to the pressure at which the gas is supplied, whose minimum value has to be guaranteed to ensure the proper quality of service standards.

Therefore, the leakages cause negative socio-economic and environmental impacts.

Monitoring, analysing, and optimising

How can we balance the two apparently opposed needs, [minimizing the leakages and maximizing the quality standards offered to the users?](#) The project answers this question through the development of new technologies that enable the right balance between the aforementioned considerations.

The consortium demonstrated the feasibility of a [new management and control system for pressure level regulation in the natural gas distribution network](#). In order to do this, the project conducted development, testing and actual implementation of a [new software for the management of remote communications between the network and control center utilizing real time data processing which allows real time pressure optimization](#) in each network's sector.

LIFE funding allowed the project consortium to develop, and more importantly to test in real conditions, the solution and therefore to fully explore its potential positive socio-economic impact. The fact that the [system has been successfully implemented in 15 countries](#), of which eight are in the European Union, confirms the value of the solution for its clients.

By implementing the solution, potential clients

1. Significantly lower pressure values during off-peak hours on the network.
2. Maintain a pressure level for all the delivery points of the network section.
3. Ensure the safety standards requested by the ATEX legislation.

In these unprecedented times that we face, considering the ongoing uncertainty on supply chains and geopolitical stress, a solution which [contributes to the energy security of the EU, digitalization of the market](#) and obtaining more data for monitoring and disclosure is a major achievement for all stakeholders, such as regulators, authorities or even the financial sector who could stress test the stability of a market.

Paving the way for natural gas leakage mitigation (a message from the project coordinating/associated beneficiary – Pietro Fiorentini S.p.A.)

"Life platform gave us terrific opportunity to develop the first generation of an intelligent self-automated system aiming the reduction of natural gas emission due to leakages years before the Net Zero goals. The next generation is under development to address all the improvements and feedback received during trials and pilots. It is expected to be completed by 2023."

Learn more

Project acronym: LIFE GREEN GAS NETWORK

Reference: LIFE13 ENV/IT/000536

[Project website](#)

Do you want to benefit as well from support to commercialise your innovative solution?

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