

Cogeneration and District Heating Networks: Measures to Remove Institutional and Financial Barriers that Restrict their Joint Use in the EU-28



The existing institutional and financial barriers to the implementation of district heating networks with cogeneration power plants in the EU-28 were identified.

It was found that unless a substantial change in the market, or in the regulation concerning the use of the above technology, occurs, a definitive take off thereof would be difficult. The most recent EU Directives (among which Directive 2012/27/EU on energy efficiency stands out), despite being willful, are insufficient to achieve a spread of this technology according to its potential.

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Identified barriers	Reasons	Measures proposed
Distinctive competence and business model	Lack of a policy framework that aims to make energy efficiency part of the distinctive competence of the utilities. Generally, focal energy organisations benefiting from a privileged <i>status quo</i> lack a desire for innovation and change.	Complete elimination of risk infrastructure imposing a discount rate of 3.5%. Forcing the national energy regulator of each Member State to involve focal organisations on energy infrastructures of this kind.
Fuel and electricity price volatility	High gas price volatility. Low spark-spread in recent years.	To offer a guaranteed minimum price to energy providers. Change tariffs that attend to an alternative fuel cost index. Maintain infrastructure profitability within a given threshold range, with an annual review of gas prices, of the spark spread and of the financial support level.
Long-term investment	Payback period longer than other energy projects. Risk of implementation higher than other, more conventional technologies.	Provision of support for the electricity produced from high-efficiency cogeneration power plants. Modification of payment terms of district heating networks providers. Administrative intervention by local authorities, so that standardised contract terms are provided. Obligation to the newly built power plants to have a minimum efficiency of at least 70%.
Regulatory framework	Lack of harmonisation of the rules relating to district heating for the EU-28 Member States.	Creating anchor-loads representing a load of about 80% of the total capacity of the district heating network. Updating the Directive 2009/72/EC in order to explicitly allow to provide long-term contracts to those suppliers of technologies that contribute to compliance with environmental obligations of the EU-28 Member States. Creating an organisation belonging to the central government that would develop the political framework and would act as a leader in the development of district heat networks.
Regulation and distortion of energy prices	Lack of social assistance programs at the national or local level in some of the Eastern European countries belonging to the EU-28.	Introduction of assistance programs at a national or at a local level in those Member States where they are not present. Implementation of tariff differentiation or other form of compensation for those cases where district heating networks are more expensive for the consumer than the conventional alternative.
Energy market liberalisation	Lack of integration of the energy market. Atomisation of the energy industry.	Implementation of a pure carbon model.
Priorities, experience and electioneering of the local authorities	Generally, local authorities do not consider energy to be a priority. Potential electoral danger for the debts that would result from the execution of this type of energy projects.	Make adjustments to planning and building regulations. Implement a strategy of institutional and active marketing by local authorities with programs of promotion and dissemination of the technology. Conduct demonstration projects of cogeneration power plants and district heating networks. Perform an institutional innovation through the creation of a public company only in those Member States that do not have favourable market conditions and where the above measures have proven ineffective.

CONCLUSIONS

1 The reduction of energy poverty has been determined as imperative in order to achieve the targets for energy efficiency proposed within the EU-28 by 2020. Furthermore, the development of energy policies that create a symbiotic relationship between the public and the private; a more accurate assessment of environmental externalities; and the removal, in line with our proposals, of the current institutional and financial barriers for the joint use of district heating and cogeneration; are also required to achieve the EU-28 2020 targets.

2 For his part, it has been determined that, because currently the joint use of cogeneration and district heating networks is in most of the Member States at an early stage, the most effective way to develop sector institutions, technical regulations, and legal and contractual provisions, is that of conducting an individualised search for measures. That, mainly according to their degree of maturity and existing implementation in each Member State, evolve and lead as the system expands to an appropriate regulatory regime. Based on what is stated here, that would eliminate the institutional and financial barriers that those energy projects involving the joint use of cogeneration and district heating networks face.