

Demonstrations

Building level (Greece) - Integration of the SOFC unit at a low energy building in Greece with innovative thermal storage and insulation components.

District level (Poland) - Proof of concept: "Intelligent" District Heat Network and micro-grid interconnected to a number of SOFC units, targeting 60% reduction in primary energy use.



Information

FC-DISTRICT - New μ -CHP network technologies for energy efficient and sustainable districts

Duration: September 2010 to September 2014
www.fc-district.eu

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New μ -CHP network technologies for energy efficient and sustainable districts



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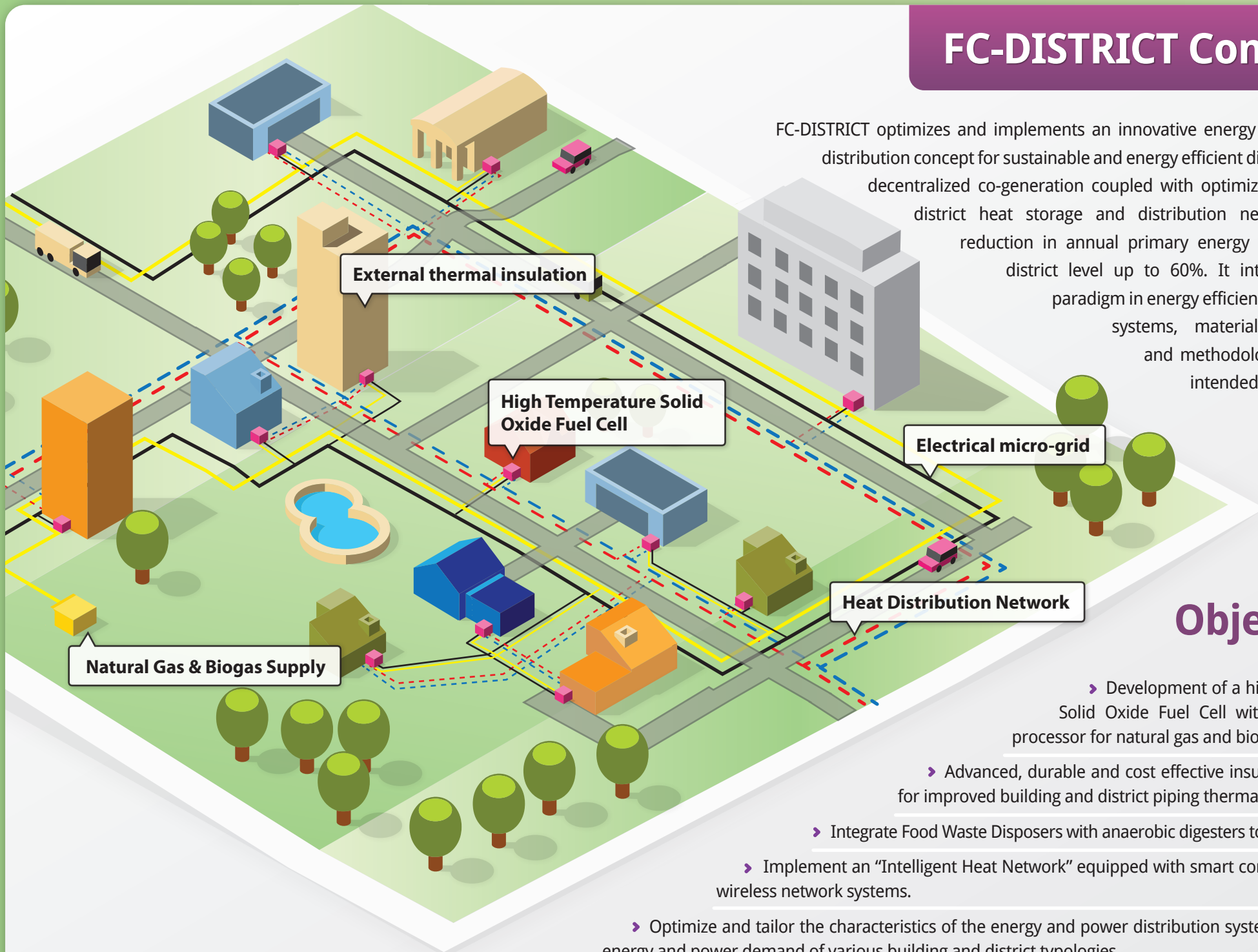
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FC-DISTRICT Concept

FC-DISTRICT optimizes and implements an innovative energy production and distribution concept for sustainable and energy efficient districts exploiting decentralized co-generation coupled with optimized building and district heat storage and distribution network targeting reduction in annual primary energy consumption at district level up to 60%. It introduces a new paradigm in energy efficiency by developing systems, materials, technologies and methodologies specifically intended for integration at district level.



Objectives

- ▶ Development of a high temperature Solid Oxide Fuel Cell with versatile fuel processor for natural gas and biogas reforming.
- ▶ Advanced, durable and cost effective insulation materials for improved building and district piping thermal response.
- ▶ Integrate Food Waste Disposers with anaerobic digesters to produce biogas.
- ▶ Implement an "Intelligent Heat Network" equipped with smart control and hybrid wireless network systems.
- ▶ Optimize and tailor the characteristics of the energy and power distribution systems to meet the energy and power demand of various building and district typologies.