



European-wide deployment of residential fuel cell micro-CHP

ene.field project – Co-ordinator's Reflections

11 October, 2017

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The research leading to these results has received funding from the European Union's 7th Framework Programme (FP7/2007-2013) for the Fuel Cells and Hydrogen Joint Undertaking Technology Initiative under Grant Agreement Number 303462

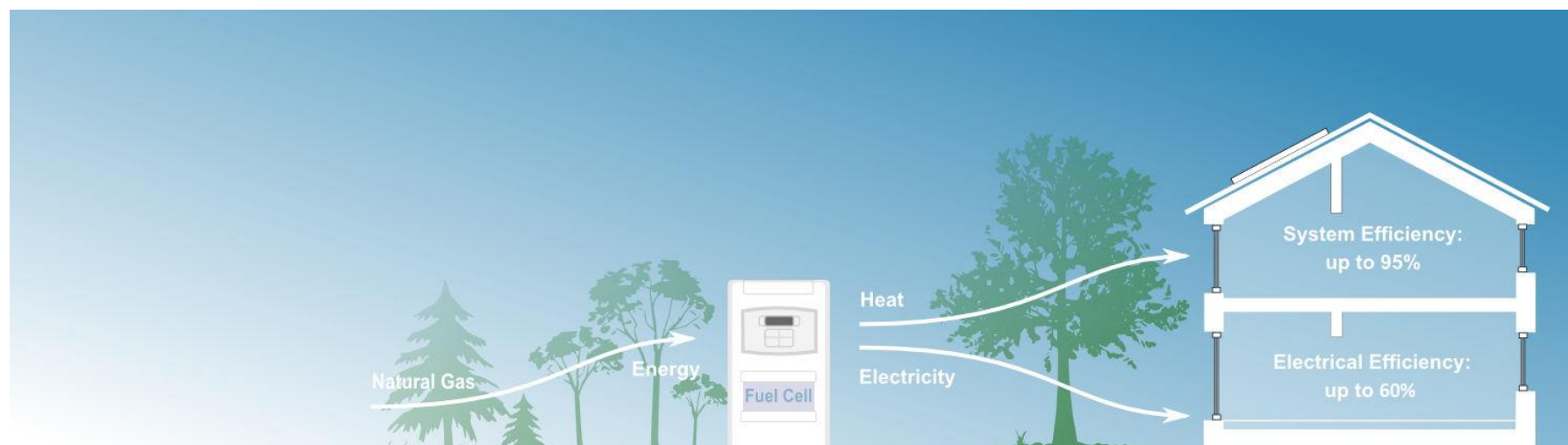
1. Why fuel cell micro-CHP?

2. ene.field project success

3. Policy recommendations

What is fuel cell micro-cogeneration

Stationary fuel cell applications deliver substantial, interrelated benefits

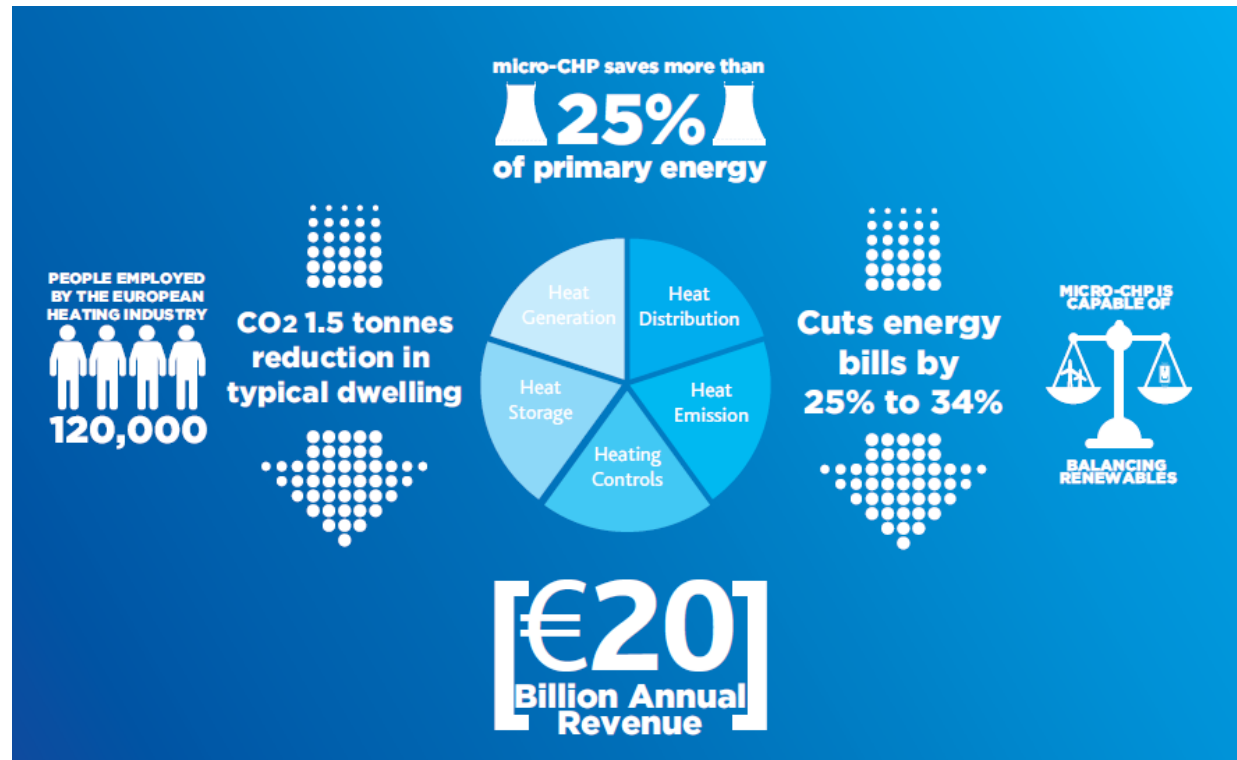


Source: ene.field project

Solution to
efficient heat
supply in buildings

Large market
potential across
Europe

Complementary
with national
energy system
transition

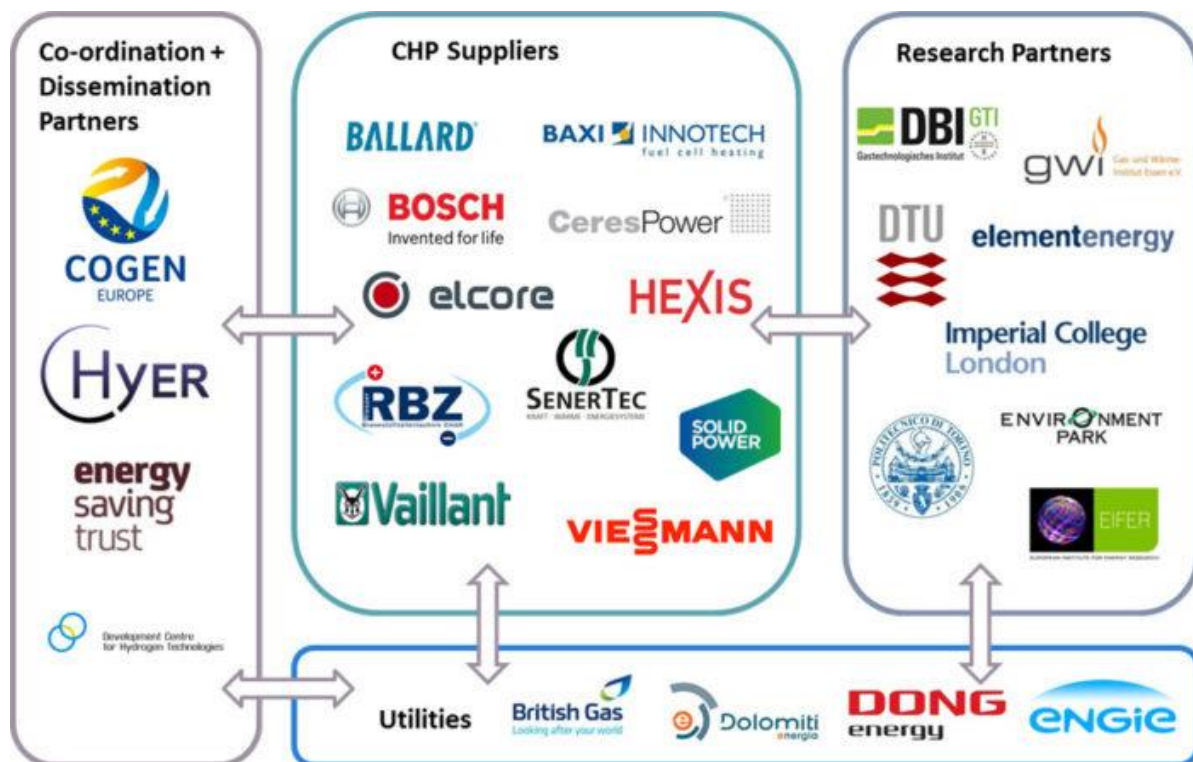


1. Why fuel cell micro-CHP?

2. ene.field project success

3. Policy recommendations & Wrap-Up

ene.field is a European platform for Fuel Cell micro-CHP



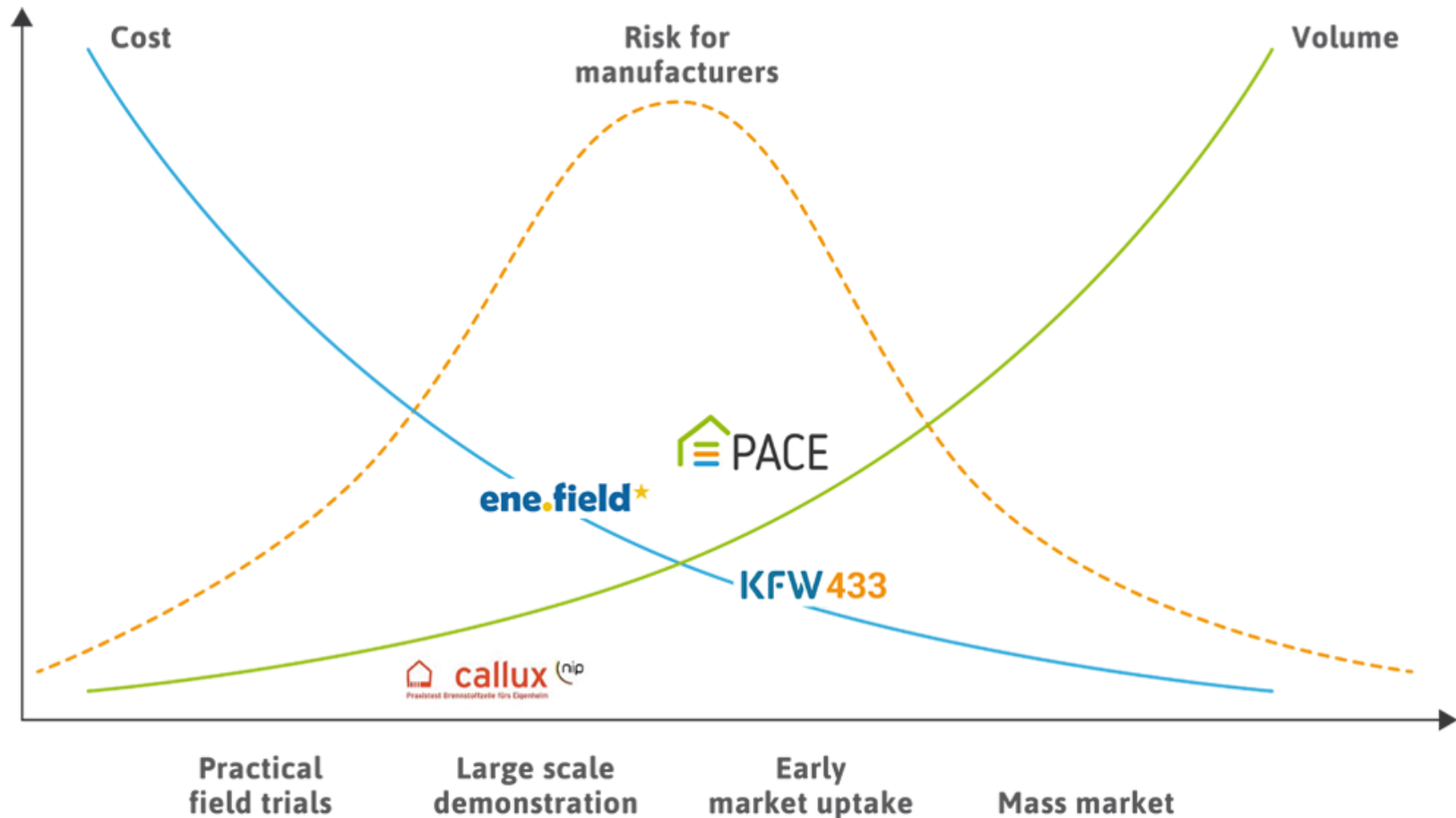
The Fuel Cells and Hydrogen Joint Undertaking (FCH JU) is committing c. €26 million to ene.field under the EU's 7th Framework Programme for funding research and development.

The consortium brings together 26 partners including:

- the leading European FC micro-CHP developers,
- leading European utilities,
- leading research institutes,
- partners in charge of dissemination and coordination of the project.

- ene.field is the **largest European demonstration** of the latest home energy solution for private homes, fuel cell micro-CHP.
- Project duration of **5 years** (2012-2017).
- **1,046 Fuel Cell micro-CHP systems have been deployed** across 10 key European countries.
- More than **5.5 million hours of operation & 4.5 GWh of power produced**
- Outputs of the project include: Detailed performance data, lifecycle cost and environmental assessments, market analysis, commercialisation strategy.





1. Why fuel cell micro-CHP?
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Energy transition



Our energy future is uncertain and will be characterised by diversity and complexity – including innovative and new technologies

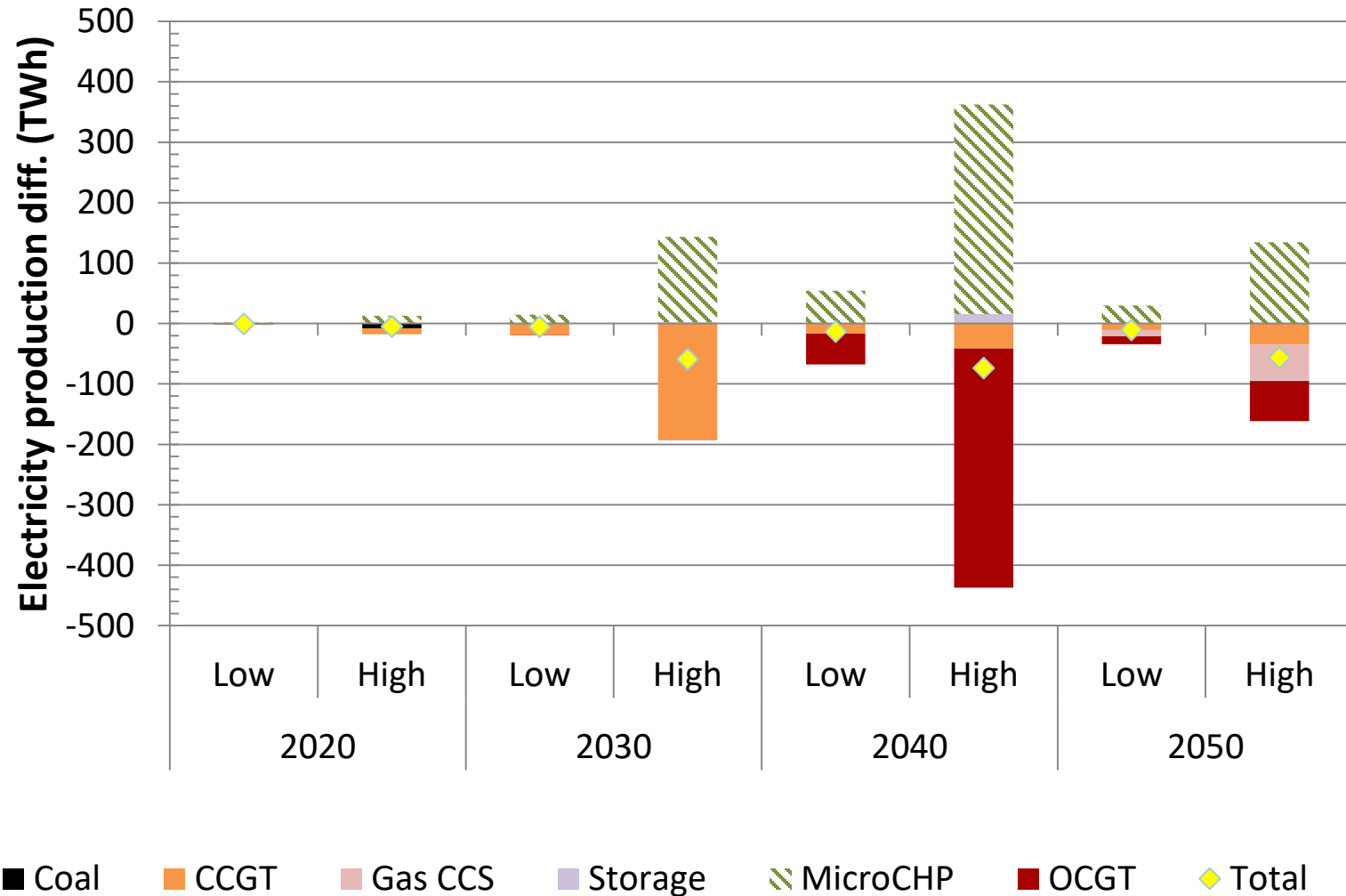
*“Switching 80% of homes to heat pumps would require an additional **105 GWs** of electricity generation **capacity** (an increase of 175% above current peak power demand) as well as significant investment to reinforce the power distribution network.”*

Fuel Cell micro-CHP can help offset the additional **generation** and **network capacity** requirements if electric heat pump penetration is to significantly increase

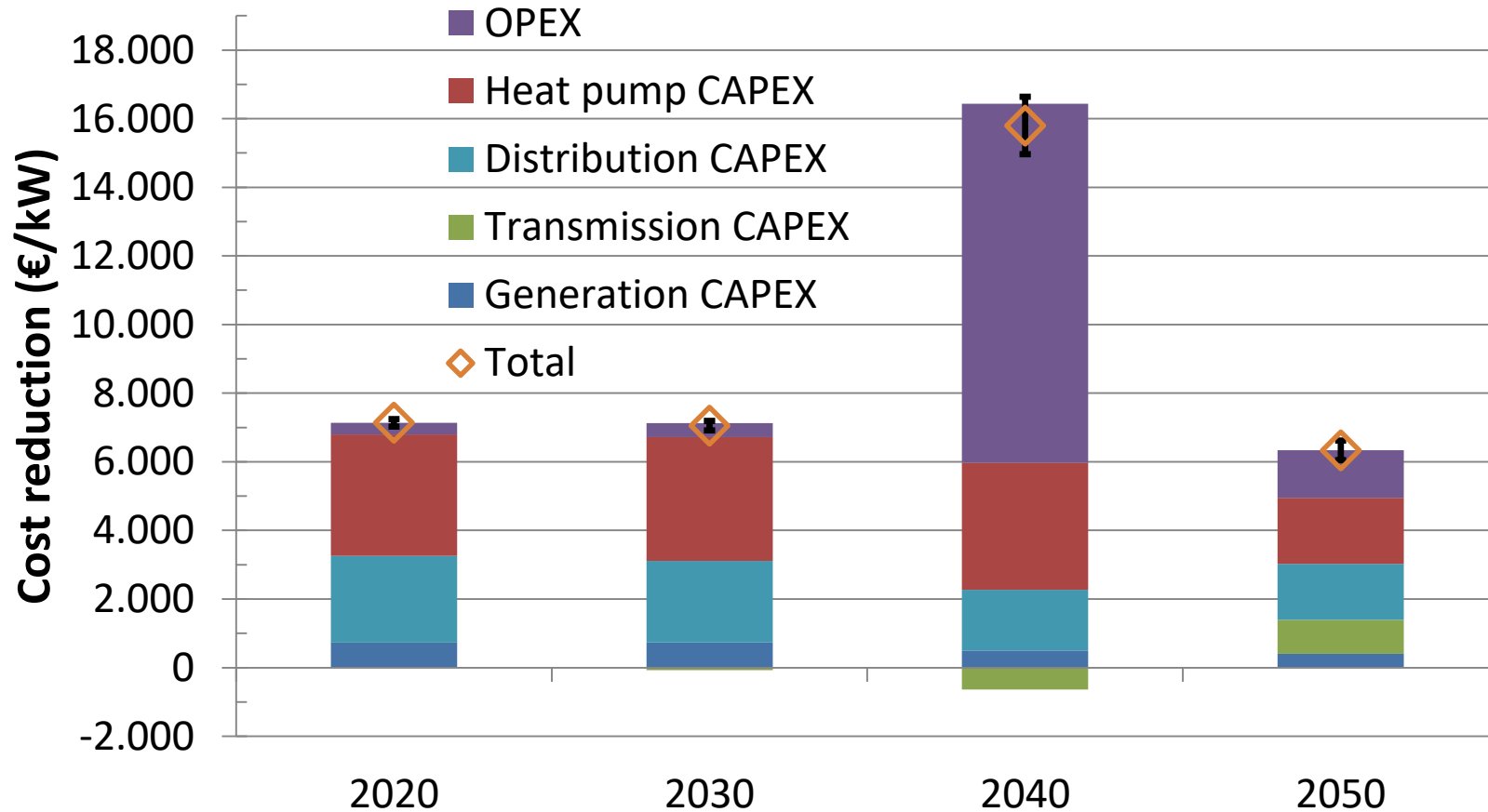


Fuel Cell mCHP can be a tool to optimise an energy system with a much higher penetration of renewables coupled with new electrical demand

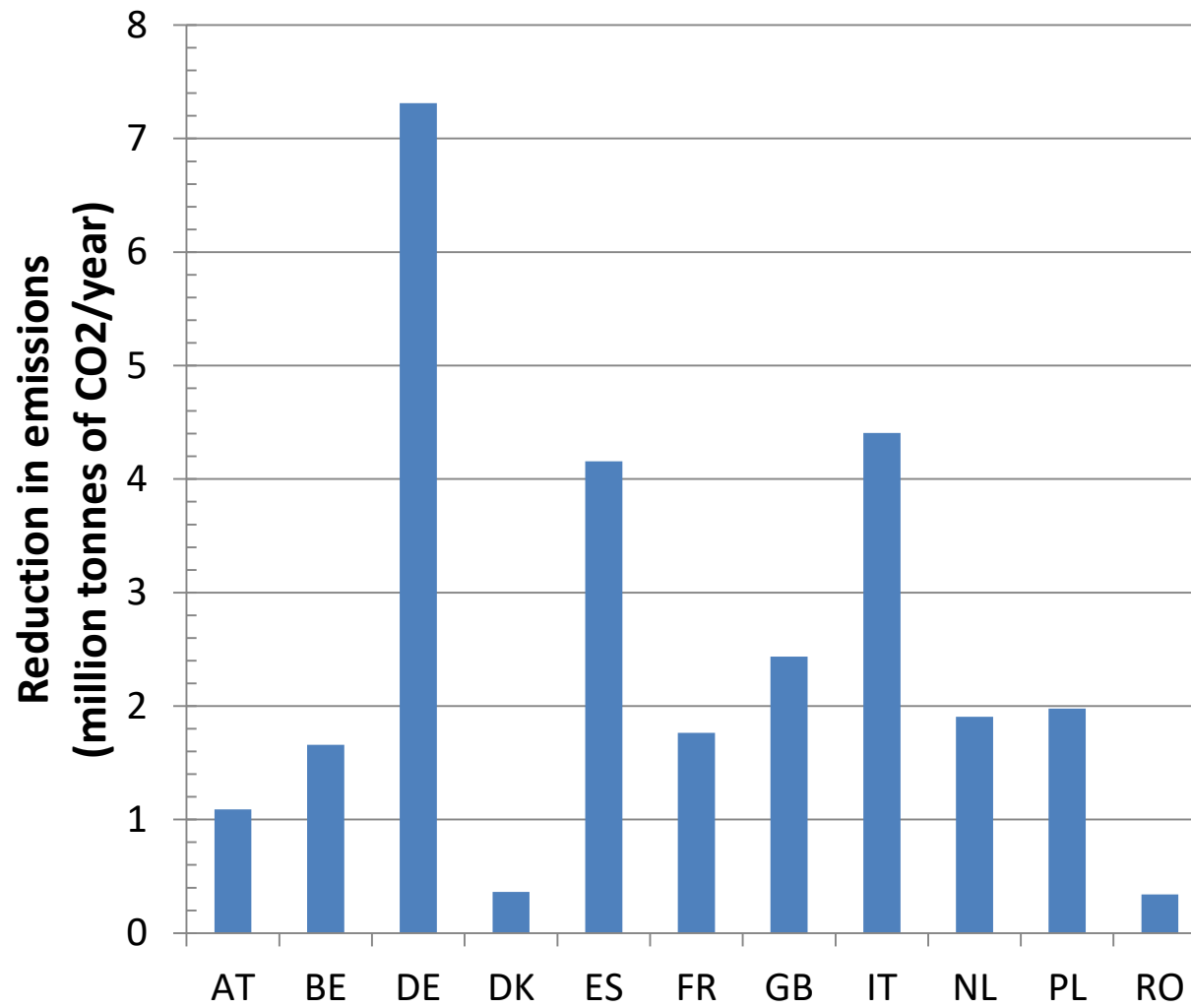
Micro-CHP replaces more carbon intensive power on the system

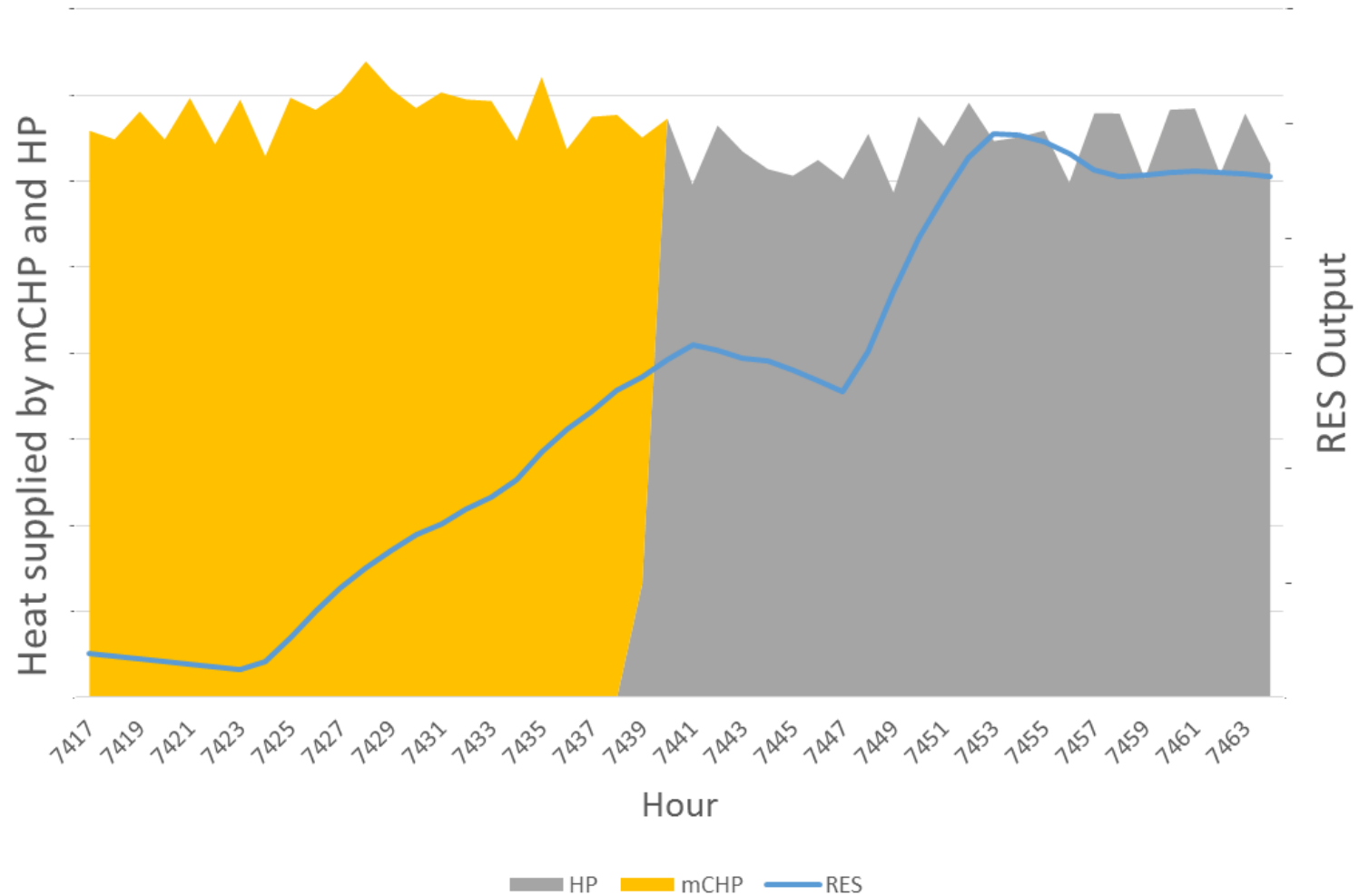


Micro-CHP delivers important distribution network cost reductions



Decarbonisation benefits of 32 mil tonnes of CO2 in 2030



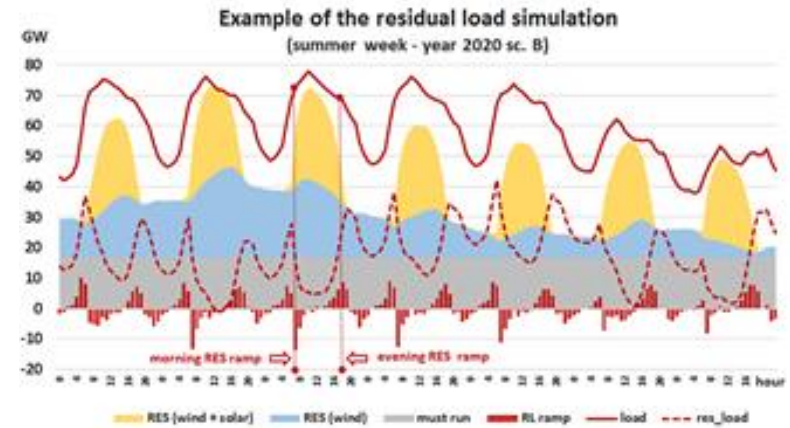




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For our transition to a complex energy system, with increasing penetration of intermittent renewables, Fuel Cell micro-CHP:

- is a valuable demand-side measure for managing grid stability
- overcomes the challenge of increasing penetration of electric heating
- is low carbon and renewable when utilising bio-gas and H2
- in an existing, extensive natural gas network
- contributes towards a cleaner, healthier environment

- Consumer and energy system benefits of micro-CHP systems should be fully recognised and rewarded by policy at the EU and national levels
- Methodologies in key policy mechanisms (energy labelling, building codes, Covenant of Mayors) should fully reflect the benefits of FC micro-CHP
- Simplified administrative procedures to access the grid or different support scheme should be introduced for the potential users of FC micro-CHP
- The decarbonisation and flexibility potential of gas networks (renewable gas) with fuel cell micro-CHP should be taken into account, as part of a comprehensive energy and climate strategy

The market uptake of Fuel Cell micro-CHP requires a coherent, steady and predictable policy framework in recognition of the benefits for energy transition

To read all the policy recommendations from the ene.field Final Policy Report, please click on this link: [Fuel Cell micro - CHP in the Context of EU Energy Transition - Policy Analysis & Recommendations](#)

Thank you for your attention!

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