Is micro-CHP price controllable under price signal controlled Virtual Power Plants? - DTU Orbit (22/12/2018)

Is micro-CHP price controllable under price signal controlled Virtual Power Plants?
As micro-combined heat and power (micro-CHP) systems move towards mass deployment together with other kinds of distributed energy resources (DER), an increasing emphasis has been placed on how to coordinate such a large diversified DER portfolio in an efficient way by the Virtual Power Plant (VPP) like aggregators. Compared to the centralized direct control scheme, a decentralized control scheme "control-by-price" is proposed for the VPP operation. The corresponding scheme has advantages in scalability, transparency and simplicity. In this context, a short term economic analysis is conducted for three different micro-CHP systems to investigate the feasibility of being controlled by price. Such analysis is relevant for both controller designs for micro-CHP systems and VPP related operations. The results indicate that controlling the micro-CHP systems by price is feasible but could result in jumpy responses.

General information
State: Published
Organisations: Electric Components, Department of Electrical Engineering, Software Engineering, Department of Informatics and Mathematical Modeling
Contributors: You, S., Træholt, C., Poulsen, B.
Publication date: 2011

Host publication information
Title of host publication: Innovative Smart Grid Technologies (ISGT), 2011 IEEE PES
Publisher: IEEE
ISBN (Print): 978-1-61284-218-9
Keywords: Virtual power plant, Control-by-price, Distributed energy resources, Micro-CHP
DOIs: 10.1109/ISGT.2011.5759151
Source: orbit
Source-ID: 276637
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011