

Special Issue "Demand Response in Electricity Markets"

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Special Issue Editors

Guest Editor

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Interests: demand response; electricity market; smart grid; power system operation; ancillary services; grey-box modelling; forecasting; control theory; bidding strategies

Guest Editor

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Interests: bulk power system operation and electricity market; battery characterization, optimal sizing and operation in different applications; aggregation of small storage and demand response resources; demand response at the device level

Special Issue Information

Dear Colleagues,

Future power system will host significant amount of renewable generation inevitably. These energy resources are naturally undispachable and unpredictable, and do not necessarily follow the load demand. Therefore, safe and secure operation of the future power system will require extra flexibility in real-time operation to compensate the varying generation. This will not be possible by large synchronous rotating machines, as they are slow, less economically efficient and polluting. In this regard, Demand Response Programs (DRP) are attracting a lot of attention. Preliminary studies on Demand Response (DR) resources in integrated energy systems have already projected incredible potential to act as flexibility resources for power systems operations. Nevertheless, there are still many questions and concerns related to DR resources involvement into the electricity and energy markets, which have to be properly addressed. This Special Issue is an attempt to encourage researchers from different discipline to offer solutions and algorithms to effectively incorporate DR resources in electricity and energy markets. These include the conventional day-ahead and real-time wholesale markets as well as P2P electricity trading considering stochasticity, unpredictability, and non-linearity of the phenomenon. In this framework, physical and virtual energy storages and electric vehicles are also considered as DR resources. A special focus will be on how to model, forecast and control flexible resources in intelligent and integrated energy systems.

Prof. Dr. Henrik Madsen
Dr. Seyyed Ali Pourmousavi Kani
Guest Editors

Manuscript Submission Information

Manuscripts should be submitted online at www.mdpi.com by [registering](#) and [logging in to this website](#). Once you are registered, [click here to go to the submission form](#). Manuscripts can be submitted until the deadline. All papers will be peer-reviewed. Accepted papers will be published continuously in the journal (as soon as accepted) and will be listed together on the special issue website. Research articles, review articles as well as short communications are invited. For planned papers, a title and short abstract (about 100 words) can be sent to the Editorial Office for announcement on this website.

Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere (except conference proceedings papers). All manuscripts are thoroughly refereed through a single-blind peer-review process. A guide for authors and other relevant information for submission of manuscripts is available on the [Instructions for Authors](#) page. *Energies* is an international peer-reviewed open access monthly journal published by MDPI.

Please visit the [Instructions for Authors](#) page before submitting a manuscript. The [Article Processing Charge \(APC\)](#) for publication in this [open access](#) journal is 1600 CHF (Swiss Francs). Submitted papers should be well formatted and use good English. Authors may use MDPI's [English editing service](#) prior to publication or during author revisions.

Keywords

- demand response aggregation
- electric vehicle
- energy storages
- market bidding mechanism
- demand response in P2P trading
- ancillary services
- forecasting and control of flexibility
- stochastic demand response
- market operation with demand response
- dynamic flexibility modelling and control
- integrated energy systems
- ICT solutions for demand response

Published Papers

This special issue is now open for submission.