## Accepted Manuscript

Title: Optimal scheduling of multi-smart buildings energy consumption considering power exchange capability

Authors: Afshin Najafi-Ghalelou, Kazem Zare, Sayyad

Nojavan

PII: S2210-6707(17)31738-9

DOI: https://doi.org/10.1016/j.scs.2018.05.029

Reference: SCS 1107

To appear in:

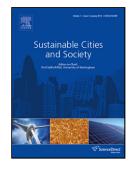
 Received date:
 20-12-2017

 Revised date:
 18-5-2018

 Accepted date:
 19-5-2018

Please cite this article as: Najafi-Ghalelou A, Zare K, Nojavan S, Optimal scheduling of multi-smart buildings energy consumption considering power exchange capability, *Sustainable Cities and Society* (2018), https://doi.org/10.1016/j.scs.2018.05.029

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



## ACCEPTED MANUSCRIPT

Optimal scheduling of multi-smart buildings energy consumption considering

power exchange capability

Afshin Najafi-Ghalelou, Kazem Zare\* and Sayyad Nojavan

Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran, Tel-Fax: +98 41 33300829, P.O.

Box: 51666-15813

 $af shin.naja fi 95@\,ms.tabrizu.ac.ir,\,kazem.zare@tabrizu.ac.ir,\,sayyad.nojavan@tabrizu.ac.ir$ 

\*corresponding author

**Highlights** 

• Energy management of smart buildings is optimized with capability of power exchange.

• The performance of all equipment within the smart building is scheduling optimally.

Performance of appliances in the presence of DER is scheduling and prioritized.

• The aim is to minimize the total operation cost of smart buildings.a

• The mixed-integer programming (MIP) is employed to guarantee the global optimal.

**Abstract** 

In this paper, optimal energy management of interconnected multi-smart apartment buildings

considering energy flow among them is presented. It is considered that each smart apartment

building includes various equipment such as combined heat and power (CHP) generator, battery

storage system, thermal storage system and smart appliances. To assess the effects of power

exchange capability among the multiple-smart apartment buildings, two case studies are evaluated

with and without considering mentioned capability. It can be found that the operation cost of the

interconnected multi-smart apartment buildings by considering the effects of power exchange

1

## Download English Version:

## https://daneshyari.com/en/article/6774865

Download Persian Version:

https://daneshyari.com/article/6774865

<u>Daneshyari.com</u>