



**IBM Research - Zurich
GmbH**

Saeumerstrasse 4
8803 Rueschlikon
Switzerland

Authors: Fabian Mueller
Olle Sundstroem
Dieter Gantenbein
email: {fmu,osu,dga}@zurich.ibm.com
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Subject: **IBM EcoGrid Direct-Price Agent Demand Response Analysis**

1 Scope

Based on the findings of test runs conducted 4Q13 using the price agent described in [1] as well as discussions with Oestkraft, Energinet, and IBM internally, our implementation of the direct-price agent has been updated as described in detail in [2].

Several test runs have been conducted where an initial set of 15 houses have been controlled. This document provides some results with regard to the demand response obtained from above mentioned test group. Where available, clamp meter readings have been considered (5 houses). If no clamp reader data is available, SmartMeter data was used (10 houses).

2 Aggregated Demand Response

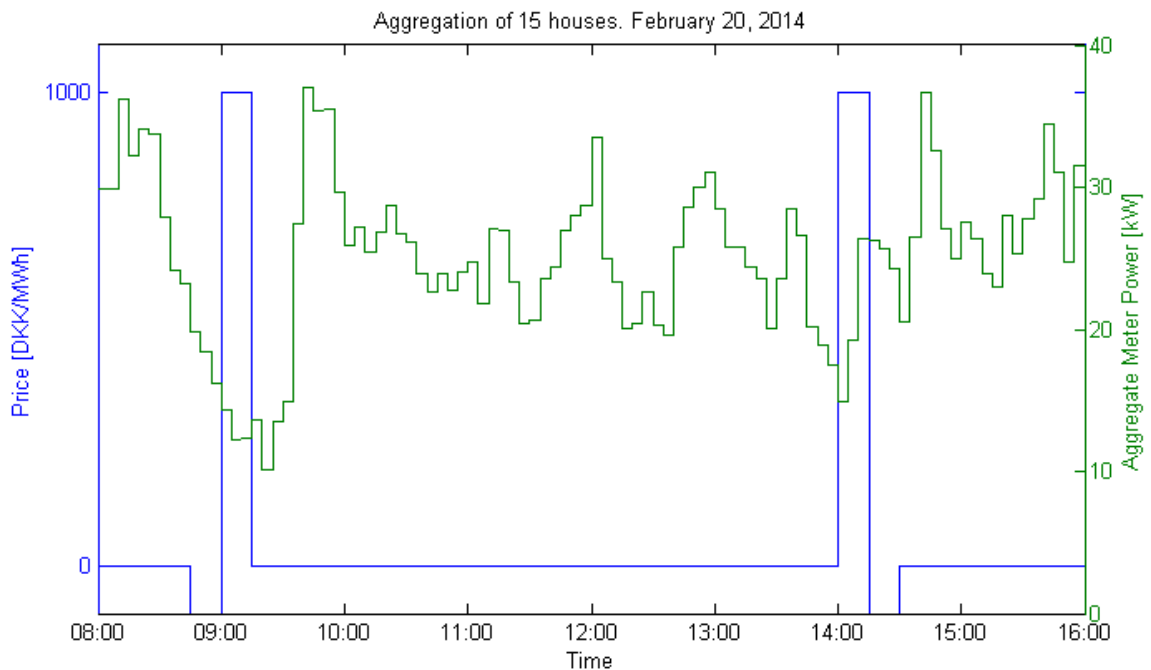


Figure 1 Price and SmartMeter power aggregated over 15 houses.

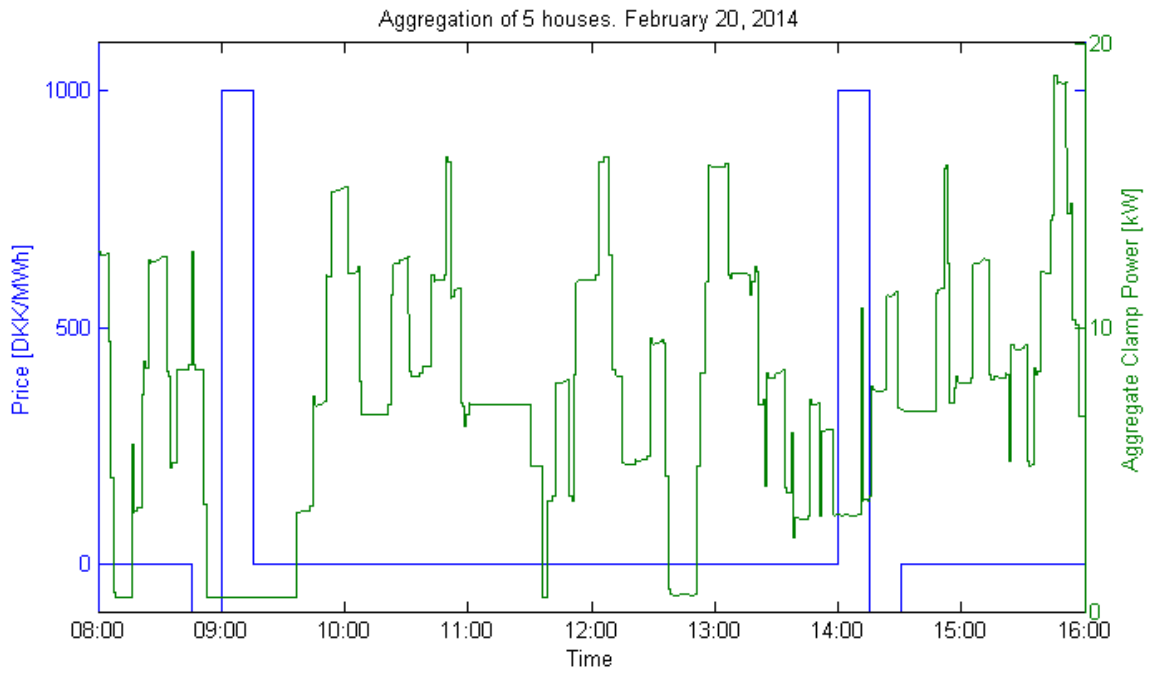
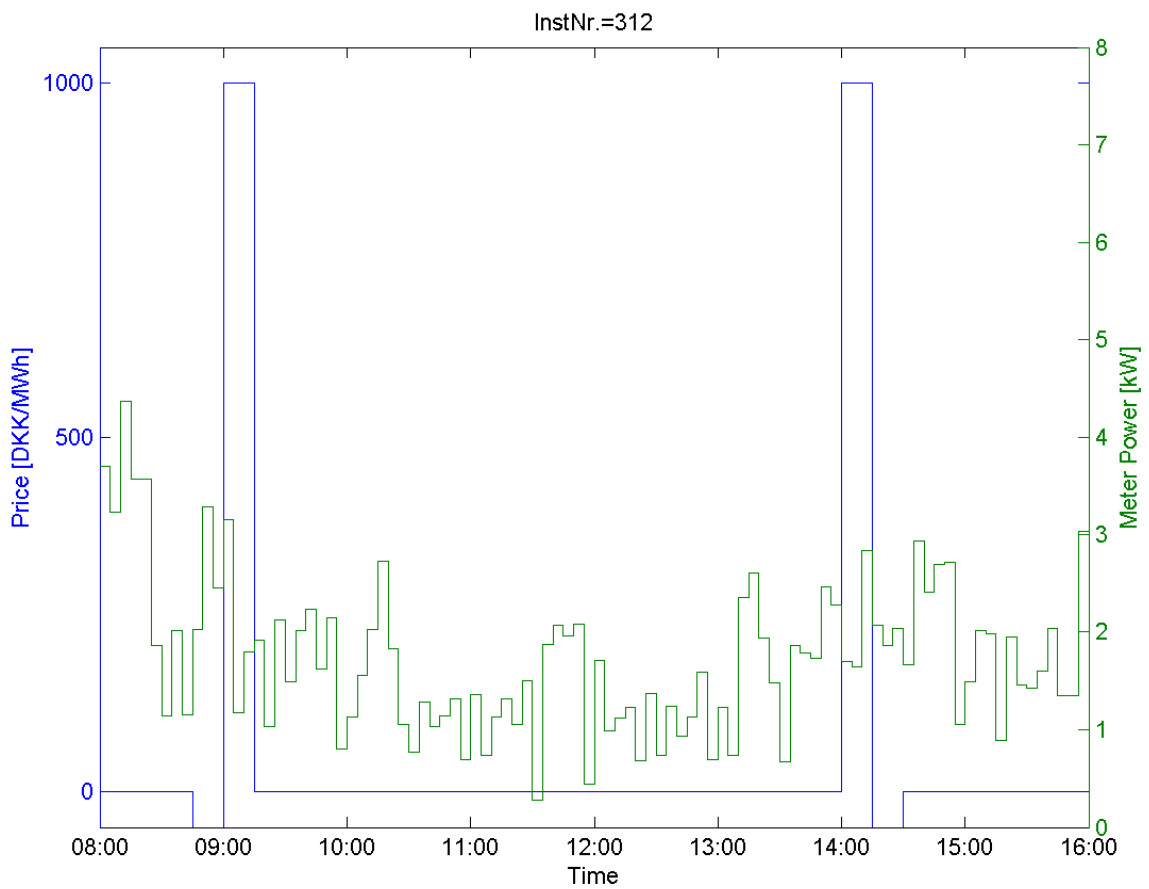
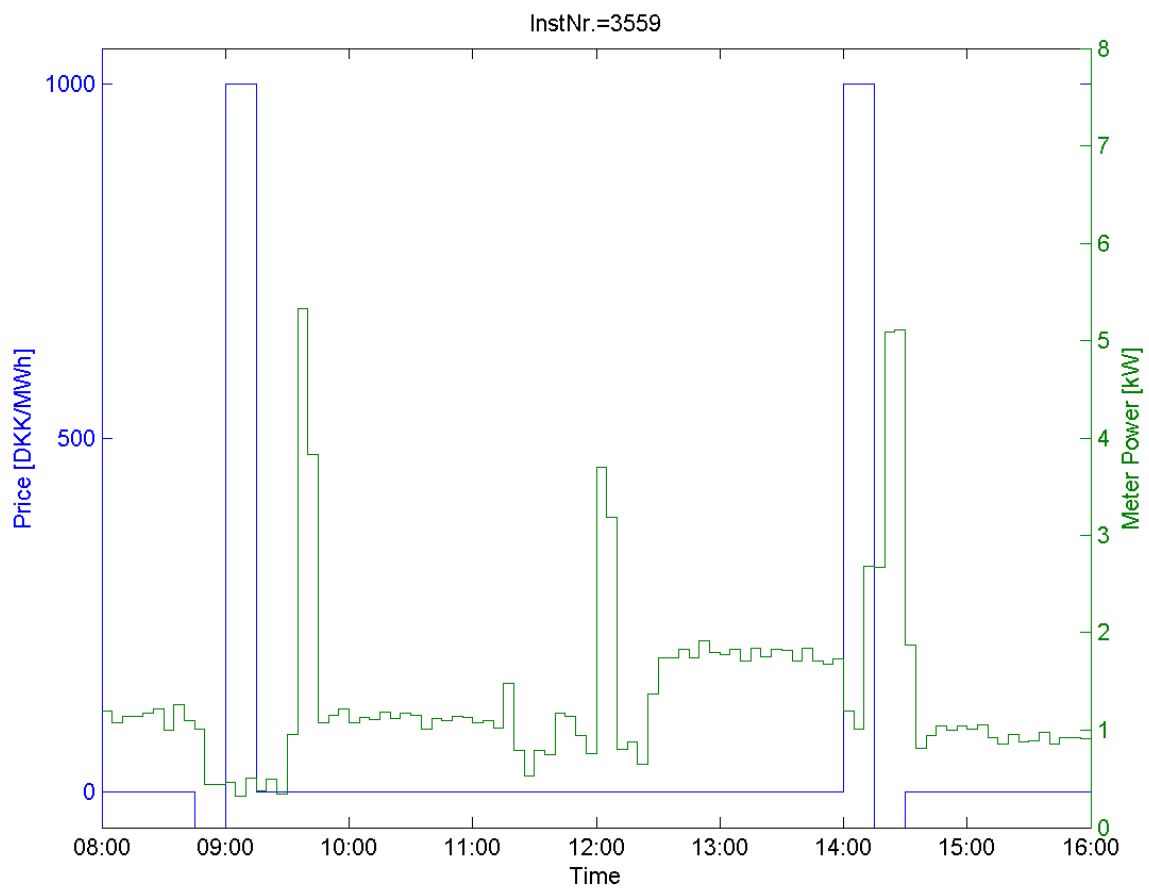
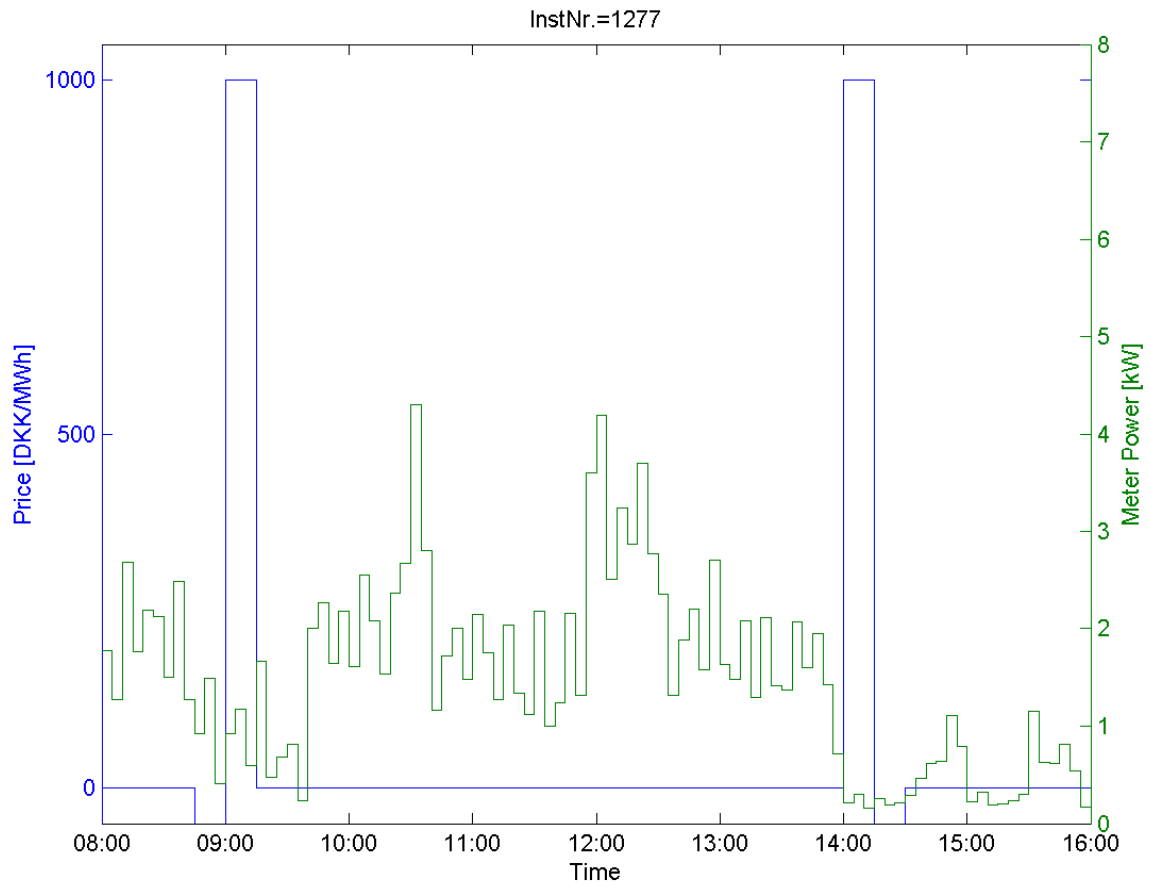


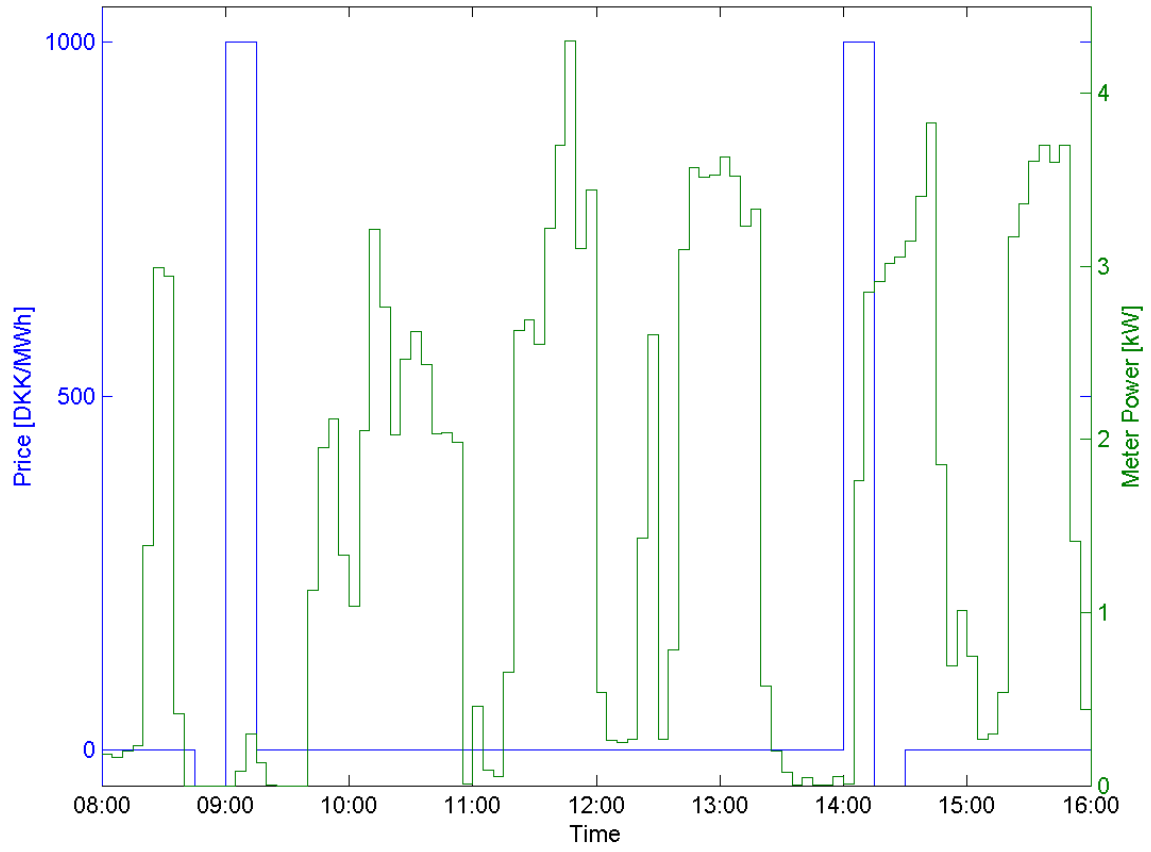
Figure 2 Price and Clamp Meter power aggregated over 5 houses.

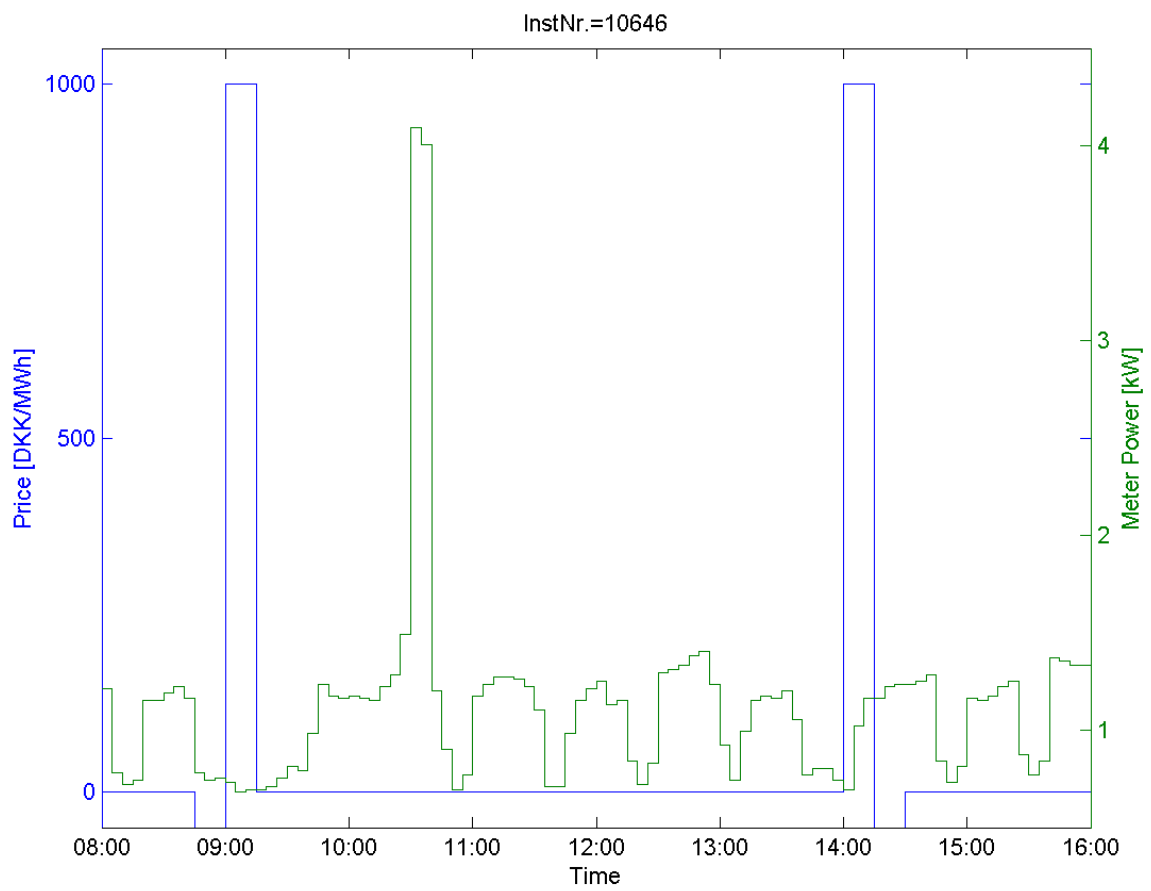
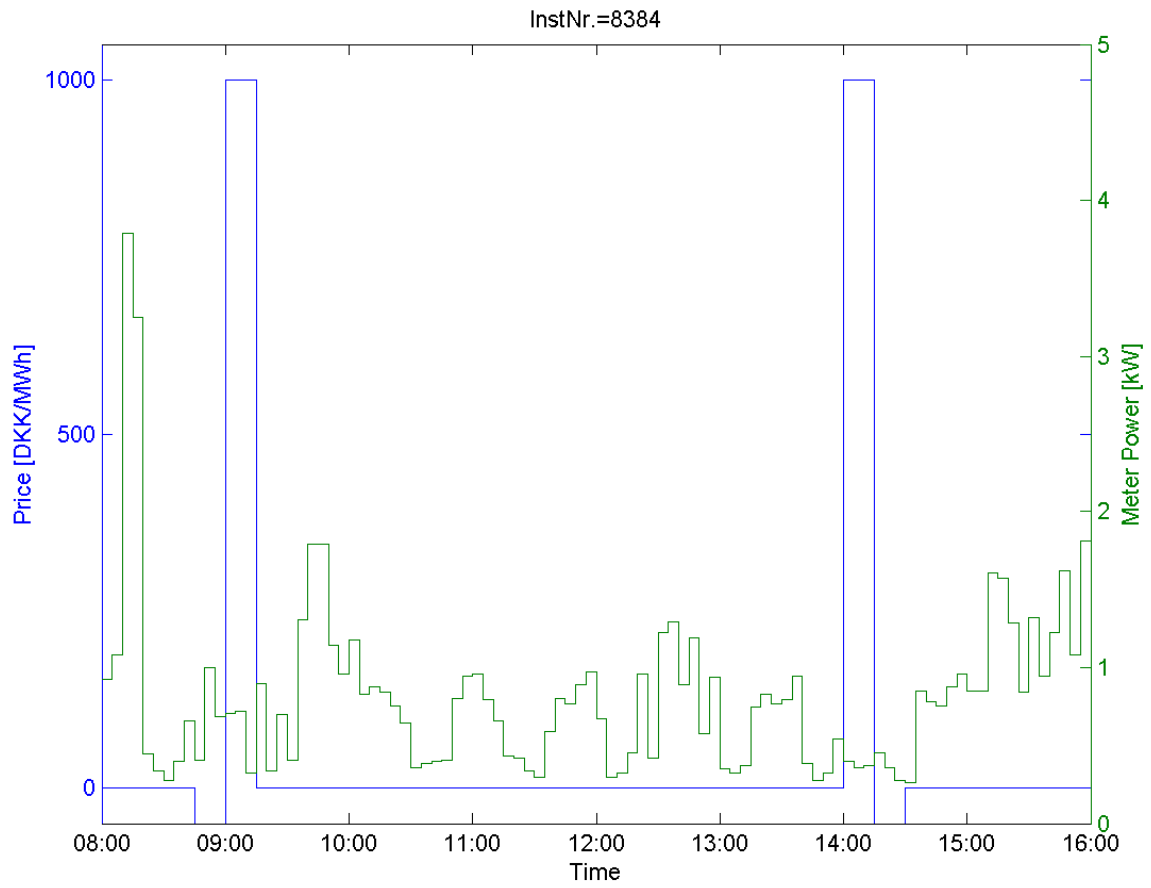
3 Individual Demand Response

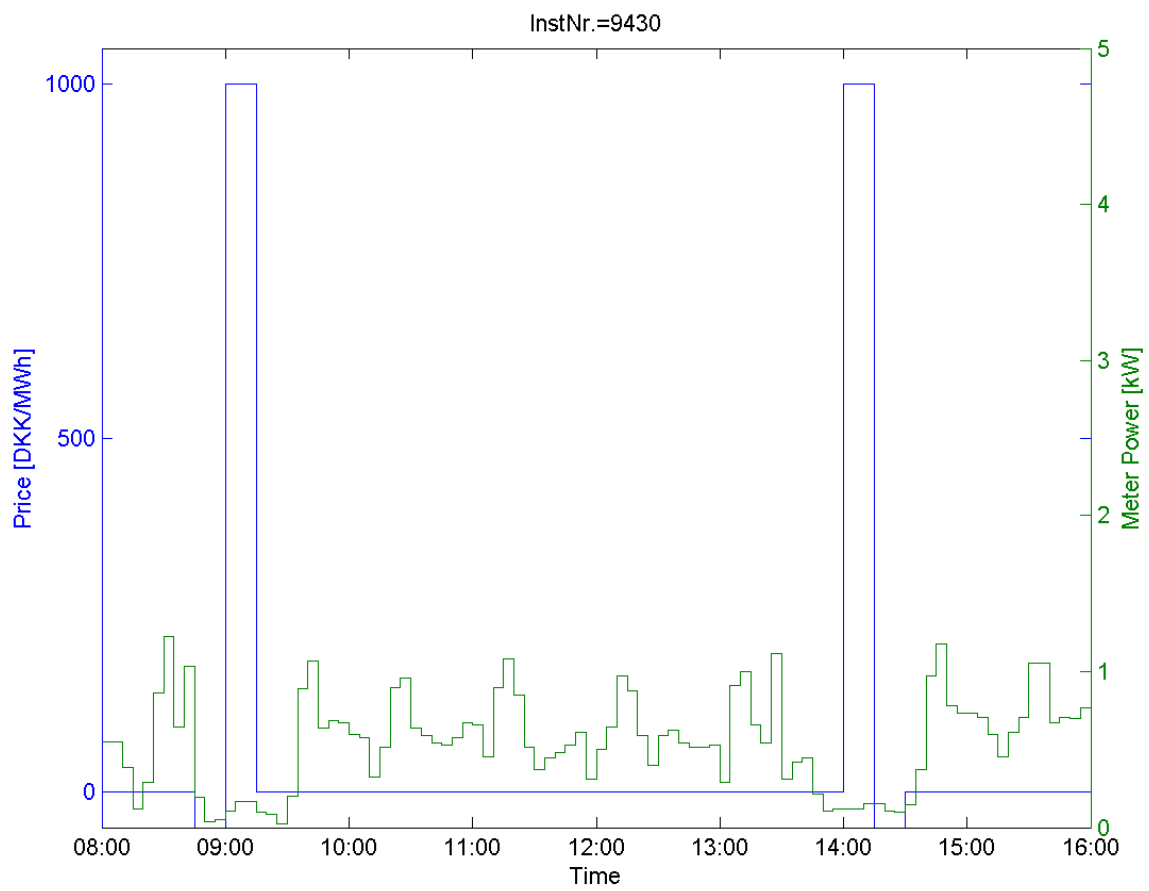
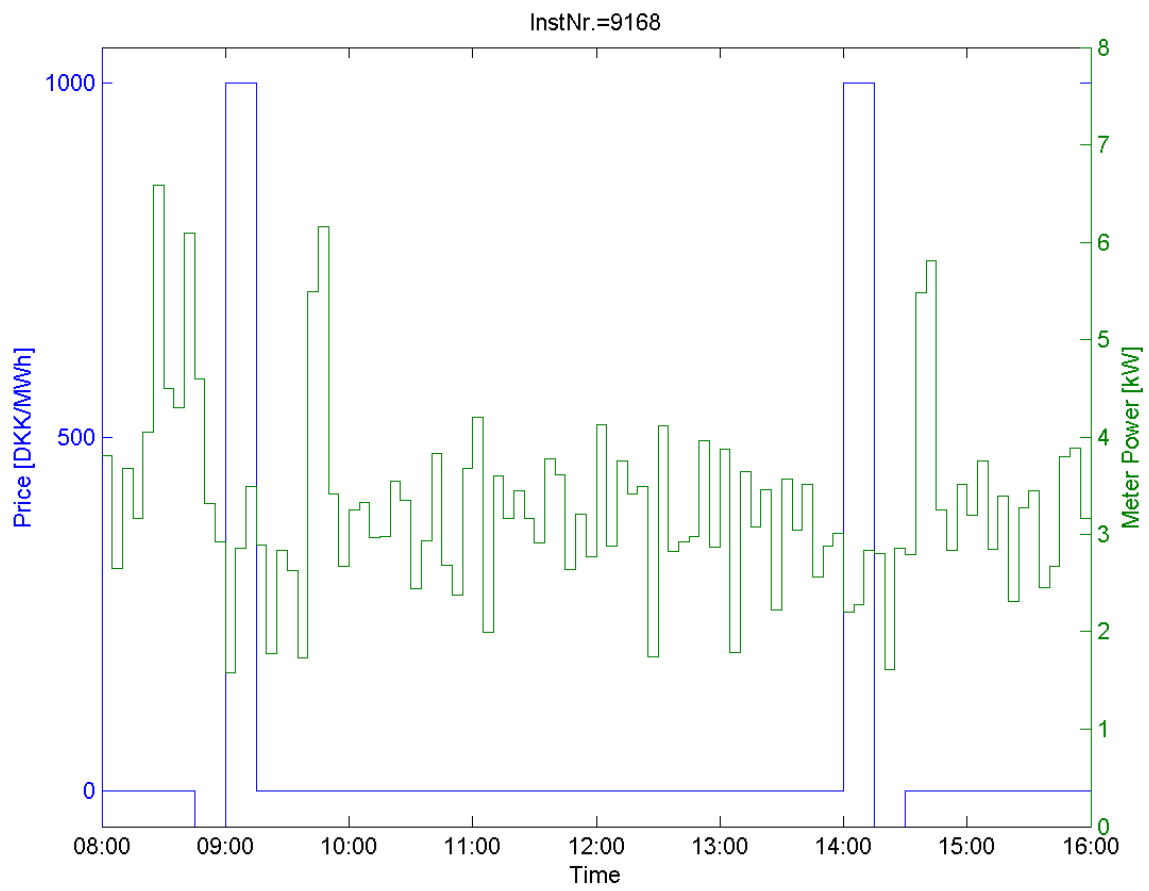




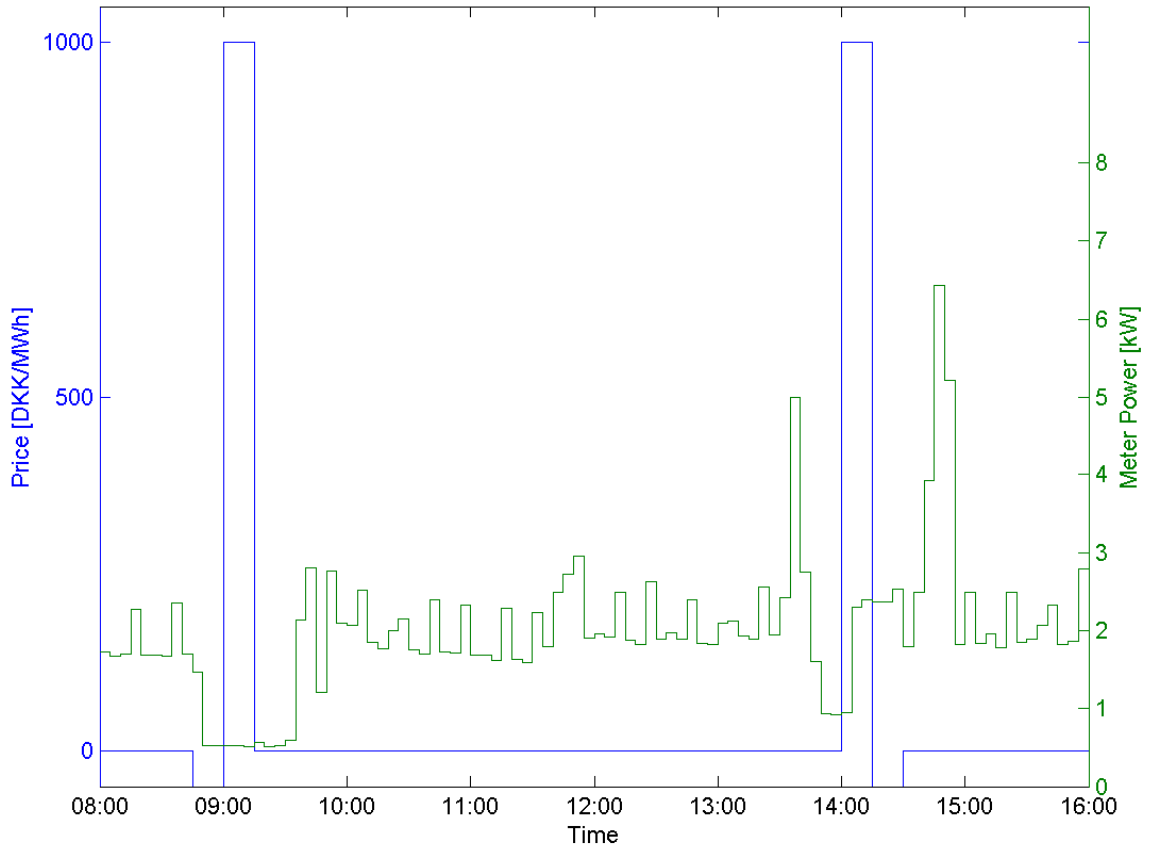
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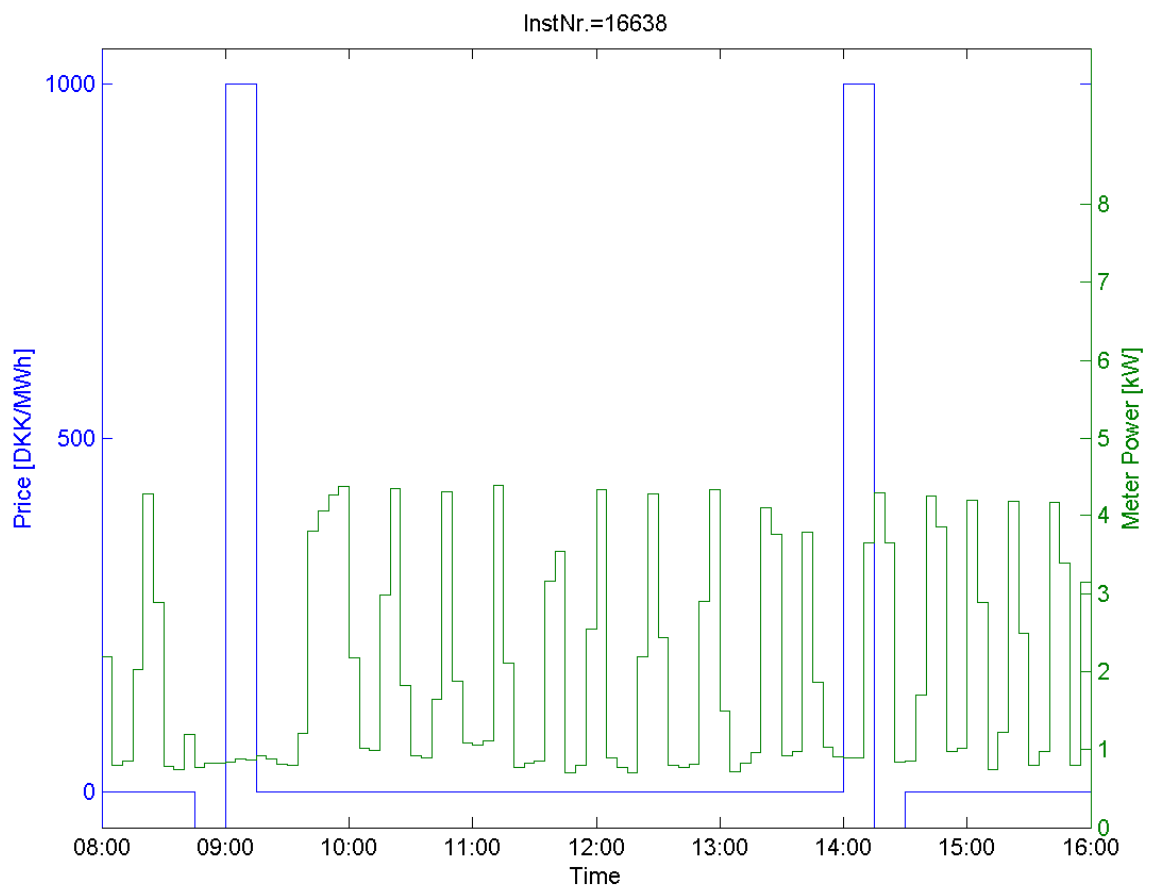
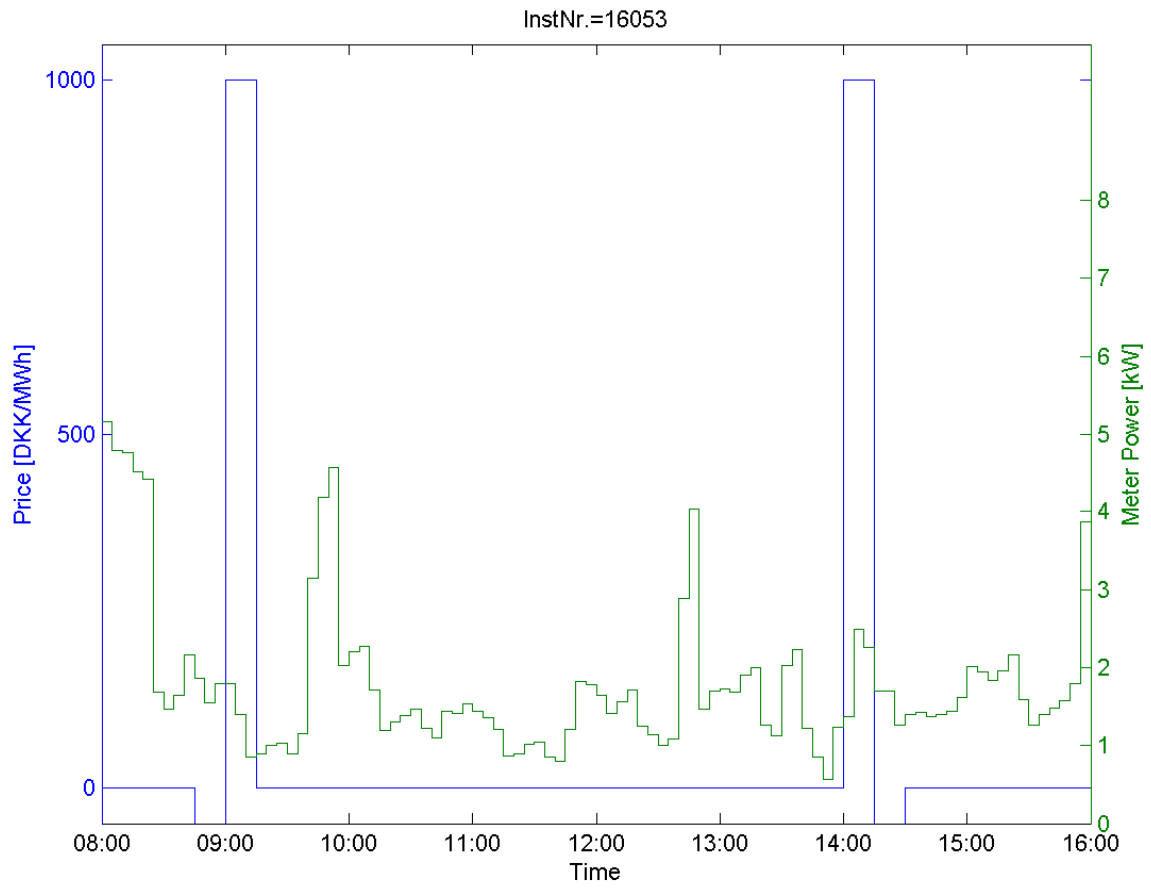


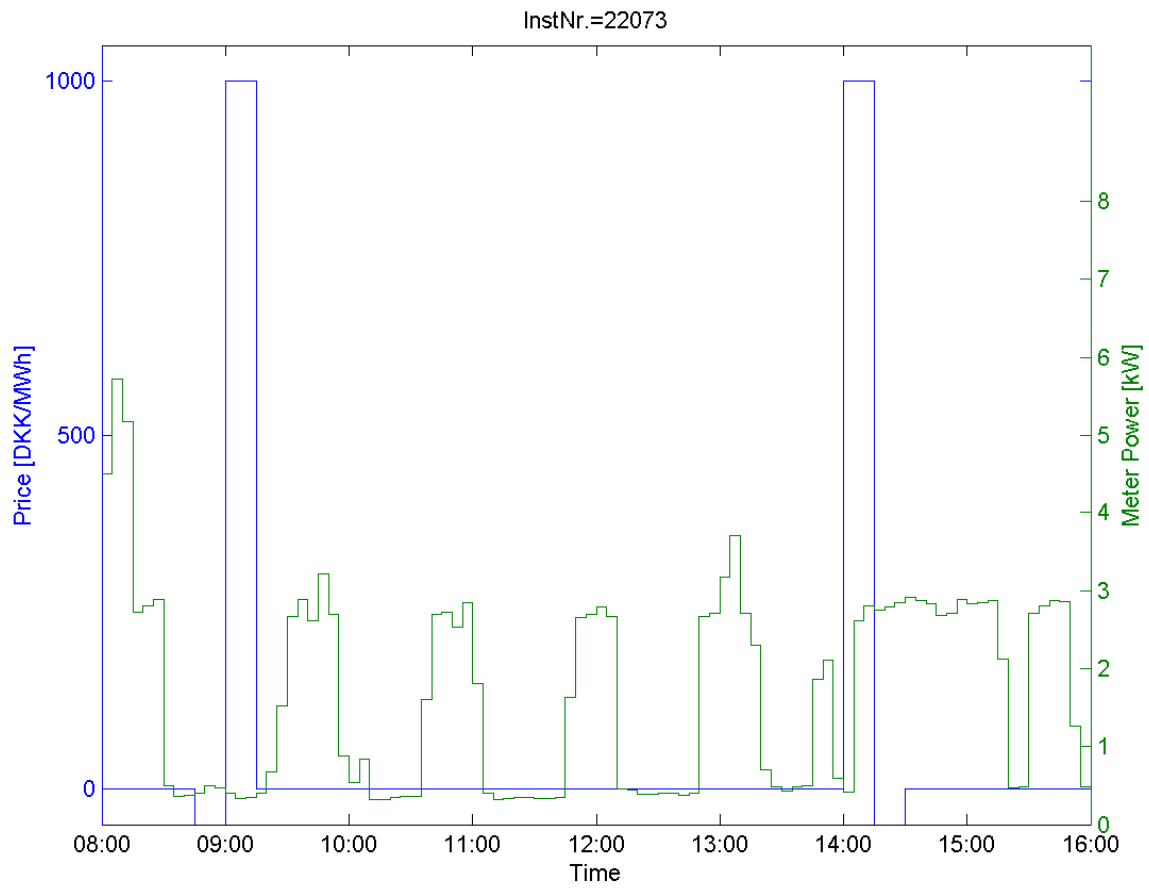
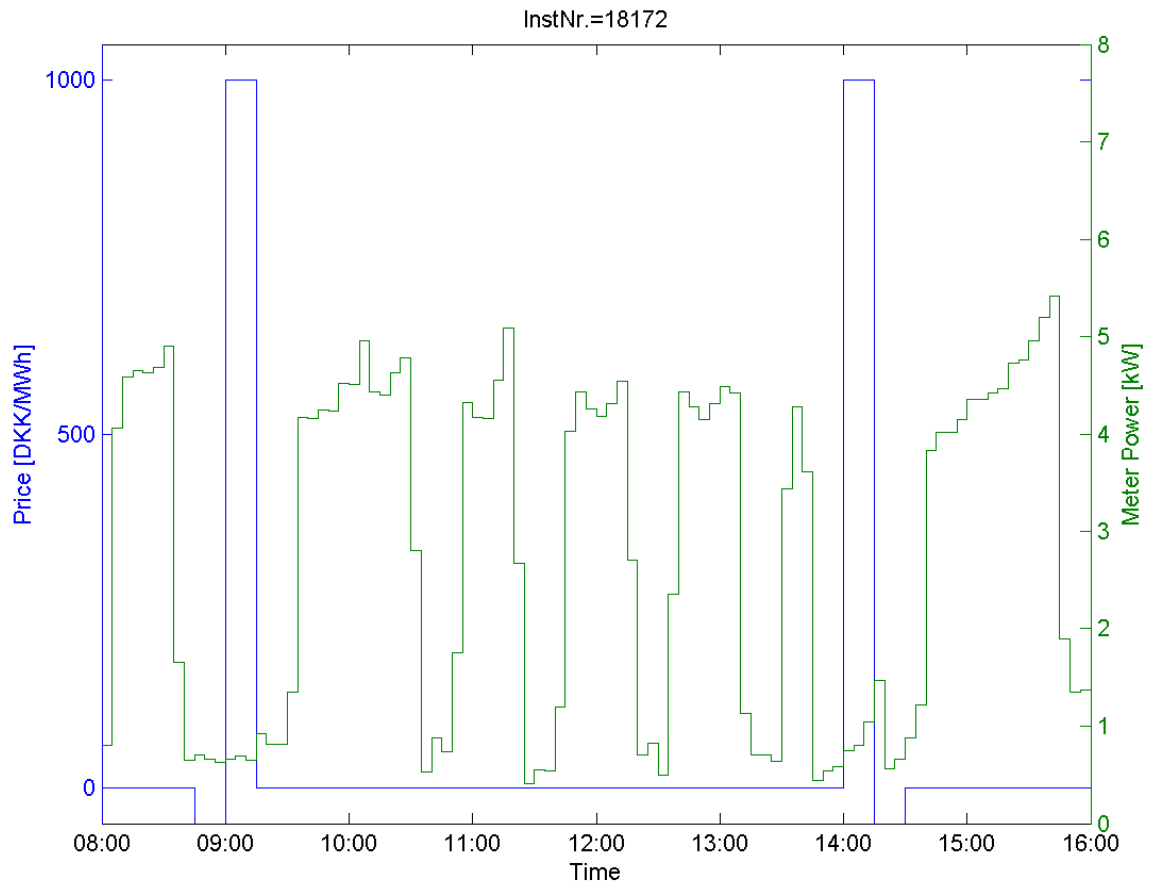


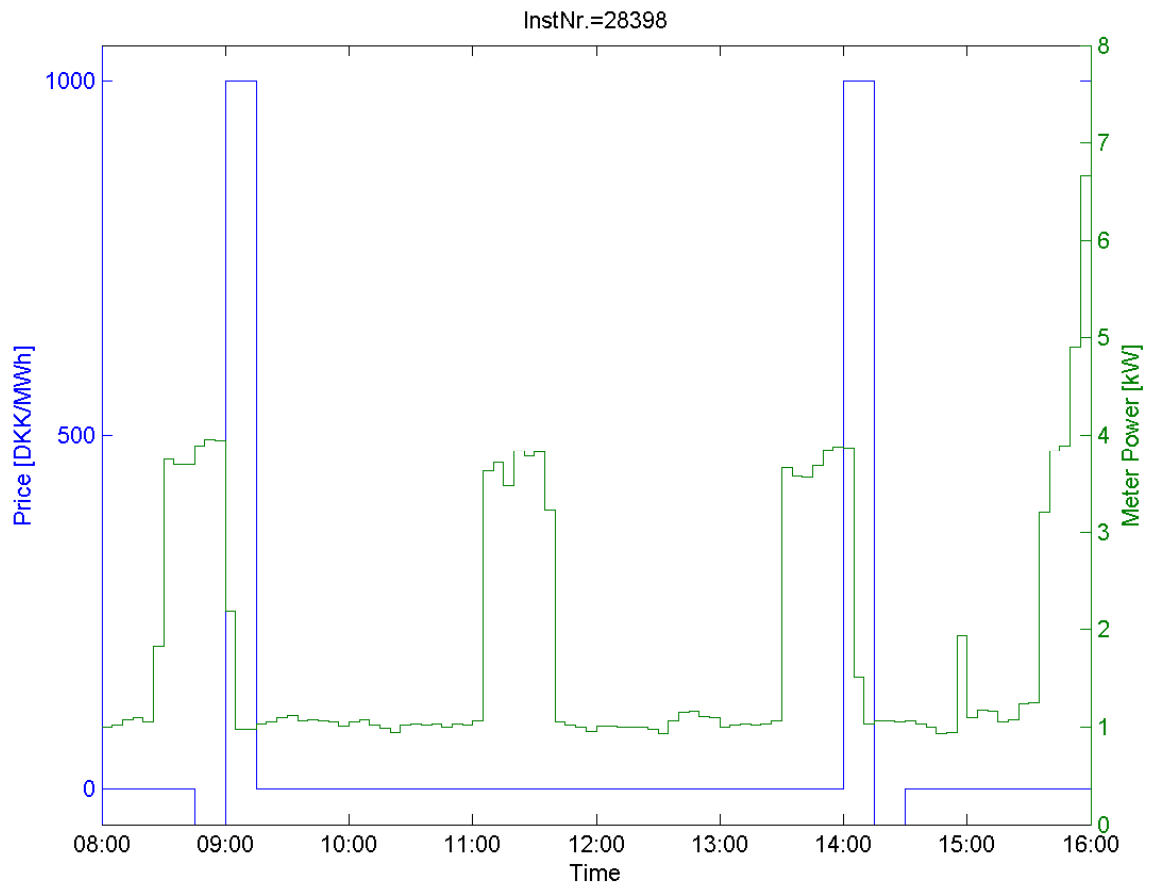
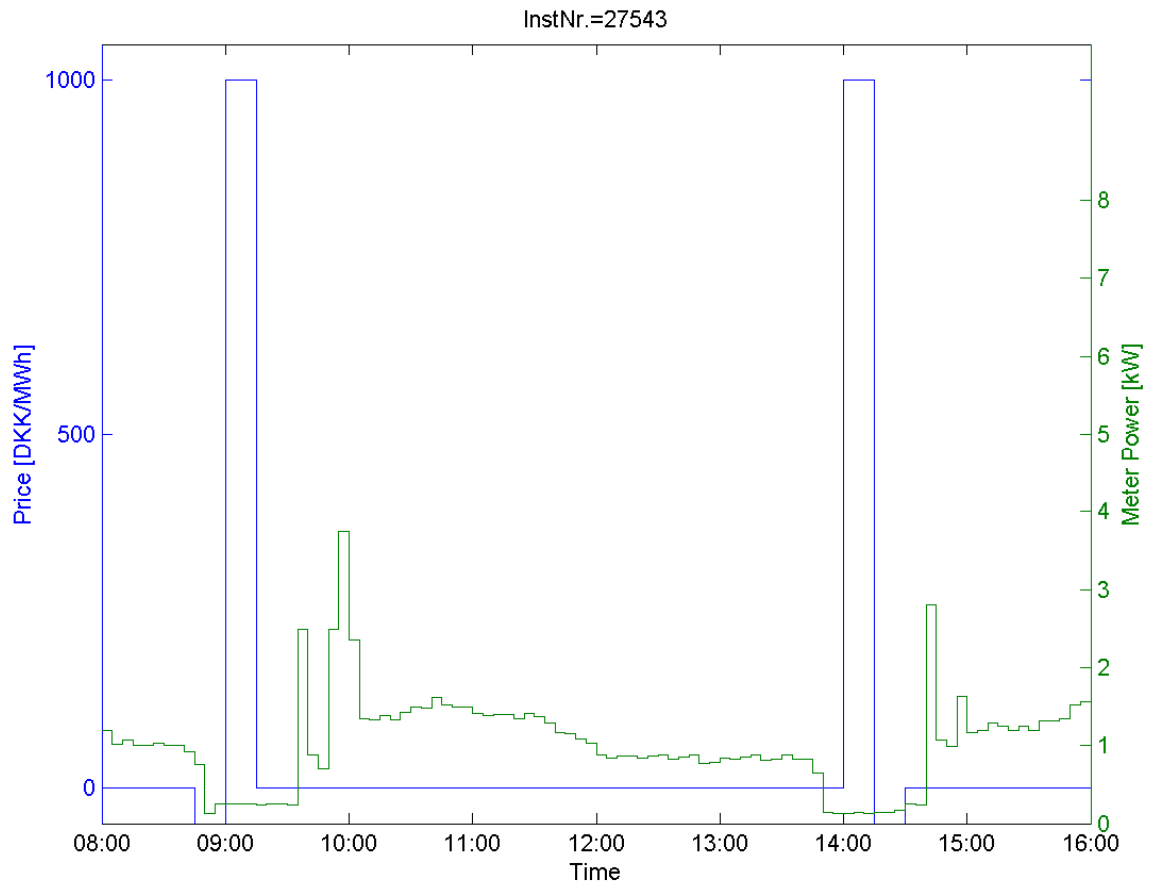


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References

- [1] Mueller, F., Sundstroem, O., & Gantenbein, D. (November 15, 2013). *IBM EcoGrid Direct-Price Agent Implementation Status v1.0*. IBM Research, Zurich.
- [2] Mueller, F., Sundstroem, O., & Gantenbein, D. (January 20, 2014). *IBM EcoGrid Direct-Price Agent Implementation Status v2.0*. IBM Research Zurich.