IEA DSM TASK 23
3rd Expert Meeting

- Case Study (Korea) -

2013. 7.4
Jeju Test-bed Overview

• Smart Meter: 2,331 installed
• Location: Rural Community
• Technology: Smart Meter, IHD, PV panel, Smart Appliances, EVs..
• Customer Offerings (No real money incentive)
  - Consortium focus on their business model development
  - Retail competition, mainly dynamic pricing, DR, EV charging, Energy Consulting (EnergyCare), Wholesale market participation from aggregated demand resources
Key Lessons Learned

• It is important to include diversified customer groups in terms of age, location, number of family member, household income

• It is very important to share customer’s historical consumption data among test participating firms

• Customer engagement procedures are needed to be developed and introduced as a formal requirement before more wider implementation of smart meters

• Customers should bear part of financial burden if the customers were willingly to choose their tariffs. Simulation of electricity tariff choice was ineffective
Major Barriers Encountered

• Lack of real money incentive

• Lack of customer diversity. Most of the customers in the test-bed are homogeneous

• Law and regulation that do not allow bundled services including electricity, gas and IT services

• Systems may not allow all tariff types to be trialled

• Conflict of interests between new entrants and transmission/distribution/retail monopoly. Neutrality of network access was not fully tested
Thank You
Survey: Jeju Test-bed

Non-participants, 100

Participants, 400
Time at home

- 21:00~06:00: 96.60%
- 18:00~21:00: 95%
- 06:00~09:00: 78%
Monthly power bill

- $60~
  - 31%
- $30~$60
  - 36%
- ~$30
  - 33%
Results

• Average usage time of major home appliances: 10 hours
  - TV, Heater/Cooler, Fridge, Rice Cooker, Washer

• How to reduce electricity consumption
  - Live warmer in Summer, colder in winter (65.4%)
  - Unplug the cord or use electronic devices that shut down standby power (65%)
  - Try to reduce the use of other electronic devices (50%)
  - Use smart appliances/LED lights (15%)
  - Use renewable energy (12.6%)

• Electricity conservation
  - Strongly positive: 48.6%
  - Positive: 37.6%