AlpEnergy Summer School - minutes

Internal meeting

Lugano, July 07

Intro by Karg

Problems to resolve:
- Parking

Open discussion as preparation for experts' presentations. The main goal is to provide list of:
  - Questions
  - Challenges
  - Solutions

The discussion has yielded a number of issues to be tackled (please refer to the additional document – AlpEnergy-Challenges-Problems-Solutions.doc) At the end of the meeting as a final result, each of them has been marked by a letter symbolizing on of experts to whom the question is addresses to.

Voltaris – company?!

Summer school – experts' presentations and pen discussions

Lugano, July 08

Presentation by the leading partner – Mr. Karg

Introduction of the list of challenges/questions/solutions defined at internal meeting

Presentation by Prof. Kulic on technical aspects of smartGrids/VPS

Open discussion with Prof. Kulic.
Key questions – storages. Main remarks:
- Production/consumption forecasts
- Where to place storages
- Losses

- What storages represent in terms of existing software-hardware structure, which extra SW/HW component VPS need (storages seen as generator or consumption from that point of view)
- Storages described as positive or negative energy providing entity

Other issues – monitoring as a key (what and when to measure).

Cost of the implementation of Control Center – for an area of Vojvodina with two millions of inhabitants around 2-3 million Euro.

Predictions – reliable only for a day ahead, long-term ones are not reliable.
Different countries different issues to tackle – Germany has stable consumption, China, east Europe and other developing countries have problems with rapid growth of energy demand. Climate changes make additional burden.

Presentation of Prof. Capone on communication issues in smartGrids/VPS

Open discussion:
Cost of a network is mainly due to the access points. Then come the backbone. So cost depends on the number of access points.

NGN=Next Generation Networks

There are no tools to manage real time.

The goal is making information on energy valuable as energy.

WSN is monitoring users so as to create profiles.

Quality requirements are different from application to application.

Open Gateways are the future direction: programming capabilities will be supported.

Meters are aggregated, the problem of powerlines in the distribution networks is that you are not sure to be able to reach some points in the network as topology may change (e.g. because of switches or changes in load).

We need more advanced smart meters. Additional interaction with the device is necessary. Separation of regulated and free contexts is necessary.

PLC vs. wireless communication (routing is in an issues in PLC, timing as well, existing channels are an advantage). PLC widely used in Chine. Mixed solution might be an option. Location of Control Centers considering communication structures is an issues. Real time consideration – what is real time for SCADA – order of few seconds!

Discussion on the cost of the infrastructure – should be 50-100Euro per gateway.
Prediction by Mr. Karg based on German experiences that it should go down to 20Euro in several years. Other prices

- Energy manager Gateway ~60Euro
- Energy Manager ~40

Totaling 100euro plus 1Euro per appliance and Internet connection that should be around 2Euro/month (shared!)

AEUW prediction – from 400Euro down to 200Euro in few years.

Communication standards for SmartGrid implementation – PLC, WiMax, WiFi, standards for upper layers are critical – PnP, KNX ..
Research projects for standardization of communications at higher layers.
Remark by Prof. Kulic – Industrial standards 'profi bus' – application problem standards more political problem. ZeegBee used widely in Europe. (plugwise). SmartEnergy profile

Presentation of Prof. Larsen,

Larsen – consumer adoption, how to sell it them. Incentives (!?)
In Germany opposite of expected – more distributers from municipalities. Large share of domestic consumers.

Subsidies – consumers or producers (in Denmark they supported windmills producers) otherwise consumers choses how to spend money

Energy box for free always a reverse buton – how to motivate people.

- Check your oven on holiday
- Start a boiler, AC prior to coming home
- Some estimation on savings

Brief presentations of all partners activities.

What you offer and how
Customer worries and real needs to identify first. Couple euros a month do not make much sense. Convinence. How to remove a fear of modern technologies.

Business model based on tariffs
A need for special market strategy to show clearly benefits.
Final decision – by final consumer.

2)
Who losses
Grid operator gains. Selling my flexibility to the grid operator. How grid operator pays – gets higher stability. How government pays

Max gain in Germany 14Euro/kwh resulting in around 50Euro/year for end user a direct benefit for grid operator may be higher per customer.
Algeu – experiment setup but still no results.
Possible motivations – local competition (might work in Germany, Switzerland).
Italian case – business for entrepreneurs. Belluno – testing what can be shifted, smart – city was tested there – now in commercial offer by Telecom Italia.

Manova – energy plan to reach EU set goals.

Valle D'Aoste – still no feedback from customers.

Incentives for a producers and making aggregations!

Interaction with consumers, using pilots for experiments on marketing strategies. How to achieve an aggregation how to get a critical mass.

Another market segment – industrial facilities and or campuses (district level), data centers

How should drive this business – Larsen – regulators rather than grid operators (especially not private ones).

Incentives won't stop in short term. Real business model based on public incentives.

Internal meeting

Lugano, July 08

Opening session – Patrick presentation on administrative issues, workflow and timing of the future activities in scope of the project

Report from summer school – two weeks!
Discussion on future events (Mantova, Milano) – no final conclusion! Mantova prepares a promotional TV spot.
Presentation by Stefan Mayer
Allgau situation

Generation PV and Wind .... maximum interest for the consumption side. System for interfacing in house consumptions point with information about tarifs and general consumption profiles.

Site in English.

Follow-up Could be easy to obtain. Mantova wants to apply for the 3rd call Alpine Space. 2 step-process. Deadline oct first phase. Feb '11 second phase. Reply after the end of

AlpEnergy. Everybody agrees. Moving towards coordination with mobility may be the solution.

Partners asked for availability of certain data (e.g. quarter hour values of active power – Mantova for now can provide only hourly data).
Carmen presentation.

Closing remarks