AlpEnergy project partners meeting – Challenges, Problems and Solutions

Challenges:

- The right software: **(K)**
  - Real time?
  - Algorithm to balance pros and cons.
- Cross-border VPS?   **(K,L?)**
- The right communication network?   **(C)**
- §: Only limited tariffs, limit to dynamic pricing.   **(L)**
- Volatility & Storage (long, med, short)   **(K)**
- Customer acceptance?!   **(L)**
- Involve citizens in technology and business?   **(L)**
- How to smartly switch appliance?   **(K)**
- Missing marketplace for VPS services.   **(L)**

Questions:

- What tariff? Legal framework? Can customer understand (man<->auto)?   **(L)**
- How to find customers (for dry run)?   **(L)**
- VPS technology to prevent or solve blackout?   **(K)**
- What is the cost of a VPS?   **(K,C)**
- What are the <u>real</u> benefits? Who benefits?   **(K,L,C)**
- Balancing with RES (using VPS technology)?   **(K,(C))**
- Regional structures to derive process?   **(L)**
- How to get valid info: smart meter + sensors (e.g. in cabinets).   **(C,(K))**
- Direct or indirect load control? (§->Med. Voltage)   **(K,L)**
- Energy broker (different states experiences)   **(L)**
- What standards will we have for the communication in VPS (or VPS to other)   **(C)**
- What are marketplaces & market roles for VPS/SG (§)?   **(L)**
- Home islands? (from micro to nano grid?)   **(K)**
- Motivating web interface? Incentives? Show € not KWh!   **((K),L)**
- Incentives for VPP/VPS?   **(L)**
- Storage technology? (CHP, battery, flywheel)   **(K)**
- Is it going to be biz case? For whom? Smart home?   **(L)**

Solutions:

- Reduce flux from/to NAT. grid step by step (reset simulation!)   **(C)**
- Coop W/power supplier to receive 15' data AOSTA).
- Tool to access long term market performance (INPG)   **(L)**
- The colorful AüW picture!   **(L)**
- Prognosis (AèW 08/10; RAEE for hydro; superman in SLO)   **(K,L)**
- Automatic control (e.g. Joonior; domonet, voctaus)   **(C,K)**
- VPS control system (AOSTA)   **(?)**
- ISKRAMECO, Smart Meter, w/output/control   **(C)**
- Belluno: (w/Telecom)   **(C,L)**
    - Building automation
    - Public lightning (both in BIM Data Center)
- New Italian decree (I/I/II): 20% dynamic!   **(L)**
- Leveled cellular system:
    - BIM (… not readable):   -LAN
    - Controller per city: -RS485
    - Analyzers
- Simulators for micro-grid (e.g. PREDIS inPG)   **(K)**
- Optimal mix of generation (BIM! AOSTA!)   **(K)**