



# HydroBalance User Meeting 2015

Trondheim, 15-16 September 2015

Julie Charmasson, SINTEF Energy Research



# Agenda 15<sup>th</sup> Sept.

- 12.30 - 13.00**    **Welcome, introduction and project status**  
*Michael Belsnes, Julie Charmasson, SINTEF Energy Research*
- 13.00 - 17.00**    **Presentations followed by discussions.**
- 13.00**    **WP2 results:** Wind variability driven pumping strategy  
*Magnus Korpås, NTNU*
- 13.50**    **WP4 results:** Present and future environmental impacts of  
hydropower on Norwegian lakes  
*Ingeborg Helland, NINA*

**14.40 - 15.00 Break**

# Agenda 15th Sept.

**15.00 WP5 results:** Results from study of non-technical barriers and societal acceptance on local and national levels.

*Marte Qvenild, SINTEF Energy Research*

**15.50 Fully charged or out of power? Experiences and outlooks from the hydropower region of Lister.**

*Liv Birkeland, Lister Nyskaping/Listerrådet*

**16.20 Energy storage**

*Atle Harby, SINTEF Energy Research*

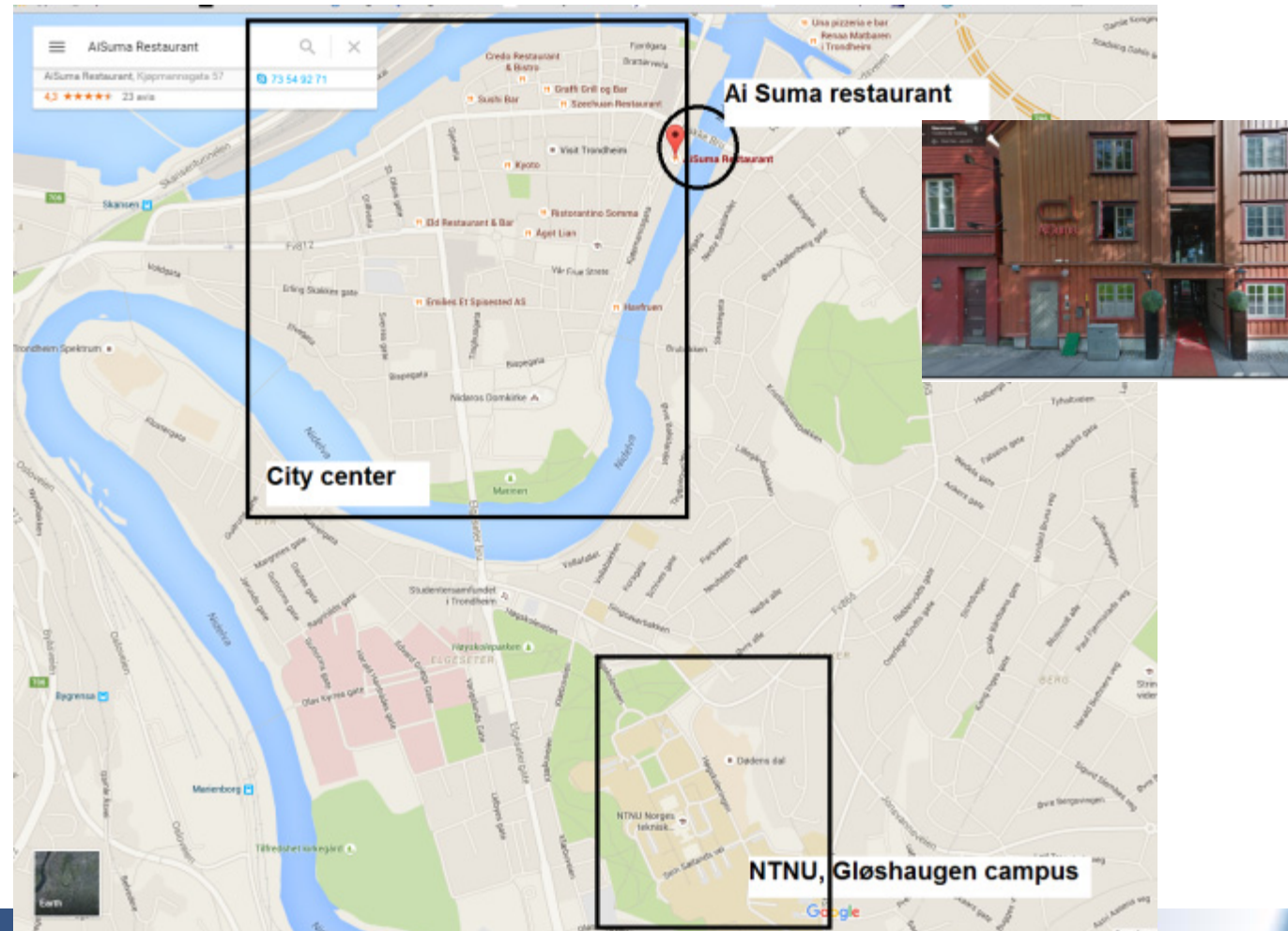
**17.00 End of day 1**

**19.00 Dinner in Trondheim Centre, Ai Suma Restaurant**

# Dinner tonight at 19.00

**AiSuma Restaurant**

Kjøpmannsgata 57, 7011 Trondheim



# Status: Dissemination

*Since October 2013*

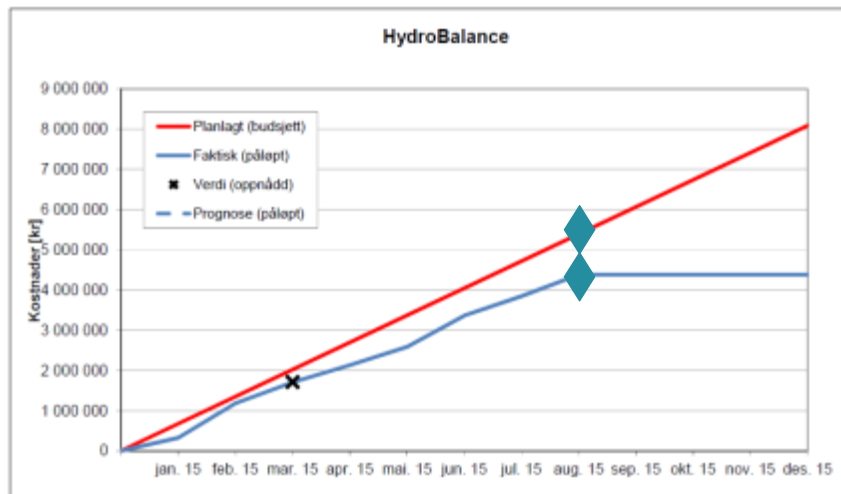
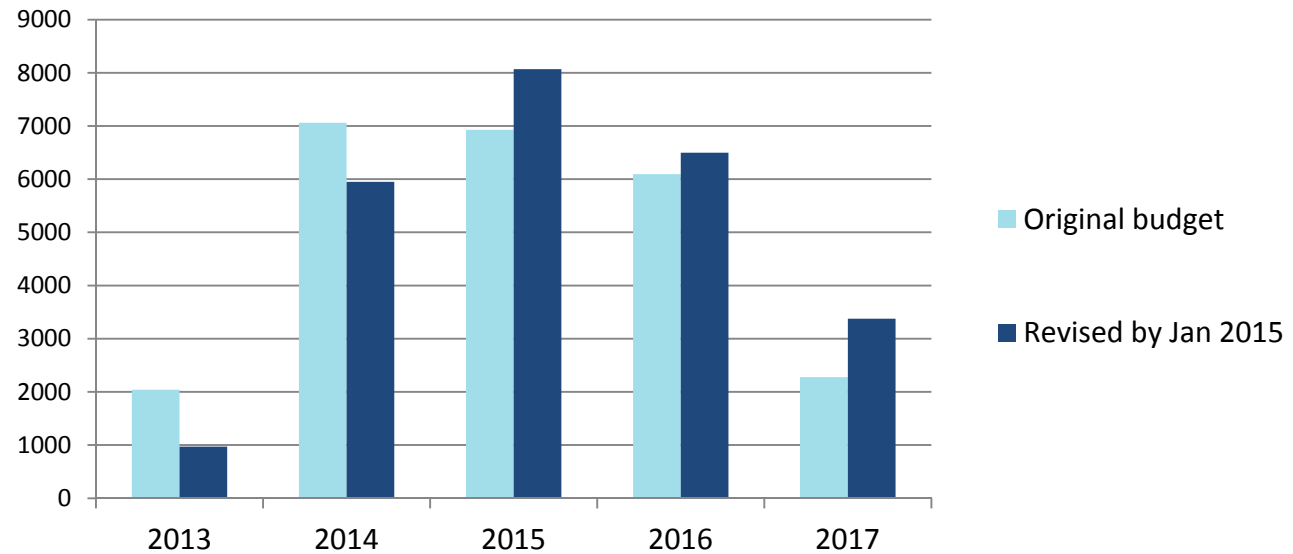
- Scientific papers: 4
- Presentations at seminars: 7
- Conference abstracts: 13
- Conference posters: 3
- Workshops organized: 7
- Deliverables: 4
- Media items: 18
- Brief: 1
- Master Thesis: 1
  
- PostDoc started 1 March 2014
- PhD started 1 Sep 2014

# Status work packages

- ❑ **WP1:**
  - **Scenarios** developed; **Policy brief** published
- ❑ **WP2:**
  - **Review** about *Variability Characteristics of wind and solar power resources*
  - **Cost study:** *Norwegian pumped hydro for providing peaking power in a low-carbon European power market – Cost comparison against OCGT and CCGT*
  - **Review** about simulations studies of *Balancing of variable wind and solar production in Continental Europe with Nordic hydropower*
  - **Cost study** (Master thesis): *Cost of flexibility in the future European power system*
- ❑ **WP3:**
  - **Price study** from IAEW (*Value of large-scale balancing and storing from Norwegian hydropower for the German power system and generation portfolios*)
  - **Methodology and study** for operation of hydropower in future and payback for investors in pumped storage
- ❑ **WP4:**
  - **Field work** carried out: all data collected
  - **Analyse** of fish communities along environmental gradients
  - **Comparative study** of a lake and a reservoir
- ❑ **WP5:**
  - **Field work** in Tyin (Interviews)
  - **Study** about non-technical barriers and societal acceptance on local and national levels.

# Status economy

Budget in 1000 NOK



!!! Reporting of in-kind is important

# Agenda 16th Sept.

## 08.30 - 10.00 Results from WP3

**08.30** Presentation of WP3

**08.35** *IAEW study: 2050-electricity prices in Europe, detailed study for reserve products in Germany, and portfolio analysis calculating value of Norwegian hydropower for German stakeholder.*  
*Andreas Maaz, IAEW*

**09.05** **Determining future electricity prices for Hydro Balancing project.**  
*Marit Van Hout, ECN*

**09.25** **WP3 results:** Profitability for pumped storage in Otra river system in Hydrobalance scenario  
*Ove Wolfgang, Arild Lote Henden, SINTEF Energy Research*



# Agenda 16th Sept.

**10.10 - 10.30**    **Break**

**10.30 - 12.15**    **Concept for the roadmap for large-scale balancing from Norwegian hydropower**

10.30    Presentation of a proposed concept followed by discussions in groups  
*Julie Charmasson, SINTEF Energy Research*

10.40    **Discussions** in groups

11.30    **Summaries** from break-out groups and discussion in plenary

**12.00 - 13.00**    **Lunch at NINA**

**13.00**            **End of the meeting**