

# abowe

Implementing Advanced Concepts for Biological Utilization of Waste

Pilot A Final Seminar 30.10.2014  
Viikki Campus Area, University of Helsinki

ABOWE - Arrangements of an International Baltic  
Sea Region Testing Program



Part-financed by the European Union  
(European Regional Development Fund  
and European Neighbourhood and  
Partnership Instrument)

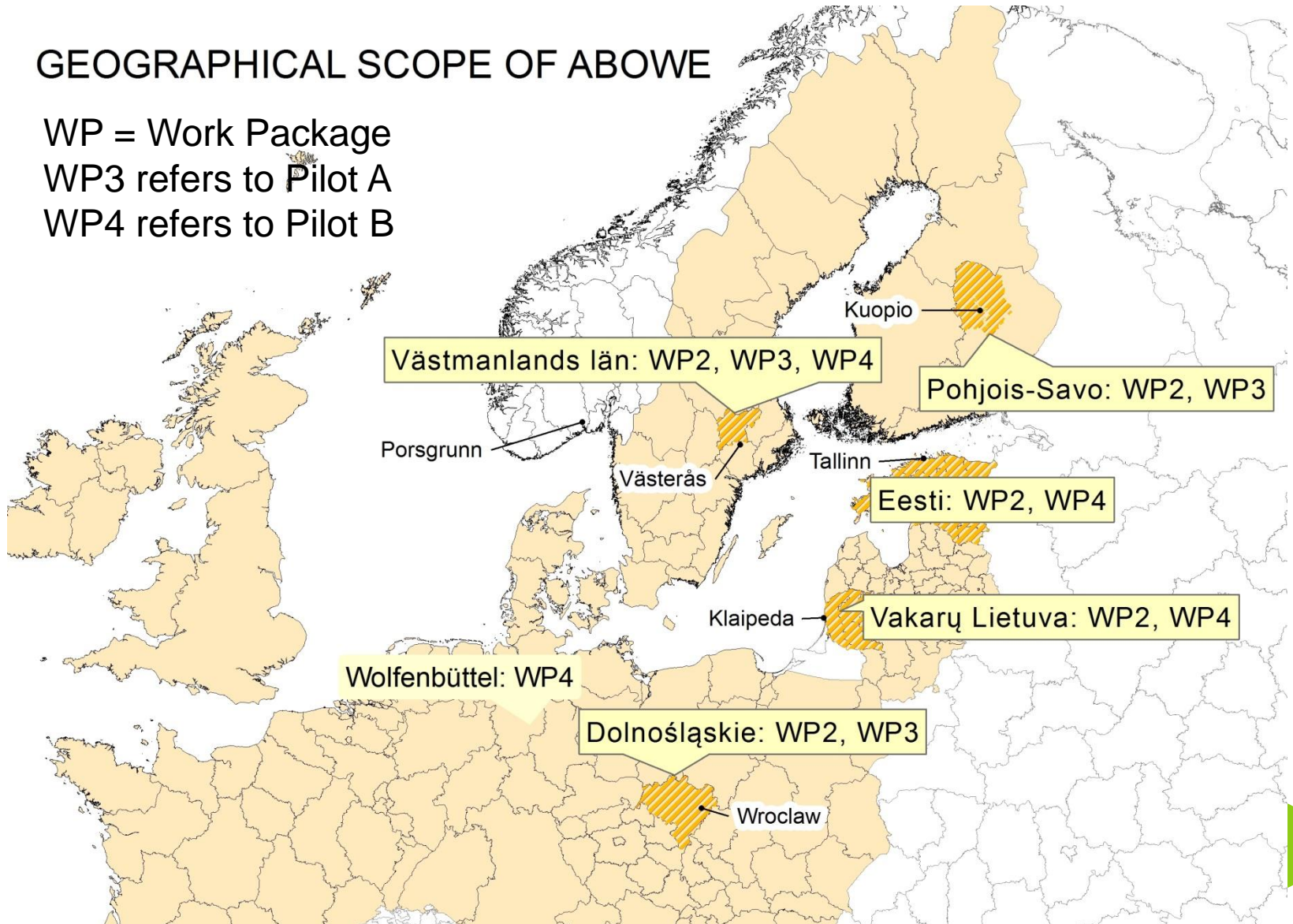
Project Coordinator Ari Jääskeläinen  
Savonia University of Applied Sciences  
Kuopio, FINLAND

## GEOGRAPHICAL SCOPE OF ABOVE

WP = Work Package

WP3 refers to Pilot A

WP4 refers to Pilot B



# ABOWE PARTNERSHIP

## **Lead partner:**

Savonia University of Applied Sciences, Kuopio, Finland

## **Partners:**

- Ostfalia University of Applied Sciences, Wolfenbüttel, Germany
- Marshal Office of Lower Silesia, Wroclaw, Poland
- Klaipeda University, Klaipeda, Lithuania
- Mälardalen University, Västerås, Sweden
- Estonian Regional and Local Development Agency, Tallinn, Estonia
- University of Eastern Finland, Kuopio, Finland

**Key Technology provider and expert** for microbiological and bioprocess consultancy for Pilot A investment and testing in three locations: Finnoflag Oy, Siilinjärvi, Finland

**Service provider** for Polish testing and scientific operations:  
Wroclaw University of Technology, Wroclaw, Poland



## ABOWE CO-OPERATION

### **Six testing sites in five countries:**

- Farm of Rima Dauksiene, Western Lithuania
- Savon Sellu Oy, Kuopio, Finland
- OÜ Kaarli Farm, Rakvere, Estonia
- ZGO Gać Ltd, Olawa, Poland
- Vafab Miljö AB, Västerås, Sweden
- Hagby Gårdsfågel AB, Enköping, Sweden

### **Other associated partners:**

- Regional Council of Pohjois-Savo, Kuopio, Finland
- Finnish Ministry of Employment and the Economy
- Telemark University, Porsgrunn, Norway
- North Savo Centre for Economic Development, Transport and the Environment, Kuopio, Finland
- Jätekukko Oy, Kuopio, Finland
- Berndt Schalin Board Advisors Oy, Espoo, Finland



## ABOWE PROJECT PLAN SUMMARY

- The partner regions from the REMOWE main stage project have been deepening co-operation in the extension stage project ABOWE.
- ABOWE project covers two technologies that rose from the REMOWE project: biorefinery and dry digestion.
- The novel biorefinery concept of Finnoflag Oy was evaluated in REMOWE to have the highest innovativeness and sustainability among the stated ideas in Finland and Estonia and raised positive attention also in Poland.



## ABOWE PROJECT PLAN SUMMARY

- These two technologies have been tested in semi-industrial mobile pilot plants. The pilot plants have been designed, realized and tested with selected waste materials from selected potential implementers/investors. The tests will provide with Proof of technology for both technologies.
- ABOWE directly contributes to the Climate Change, Renewable Energy & Waste Management objectives of EU.

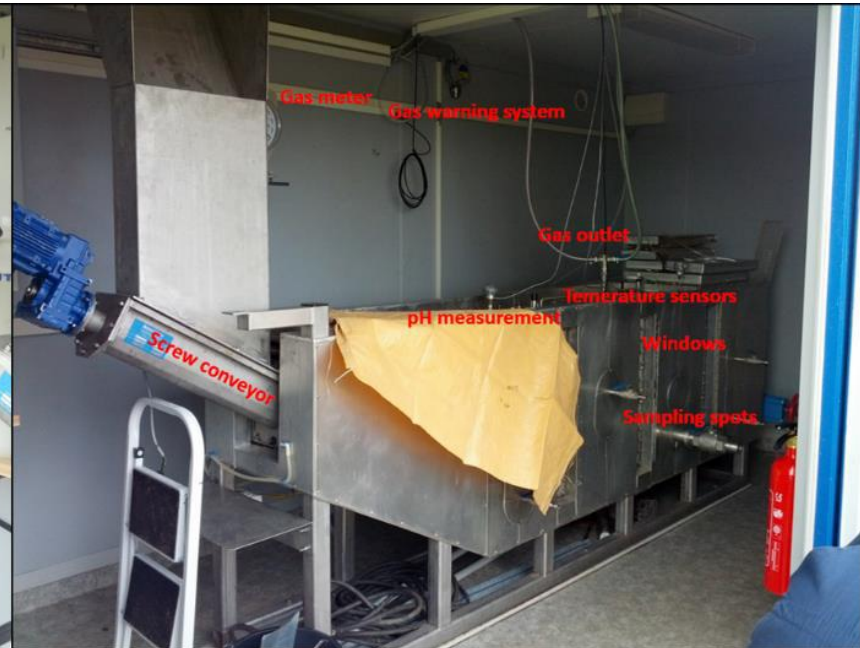
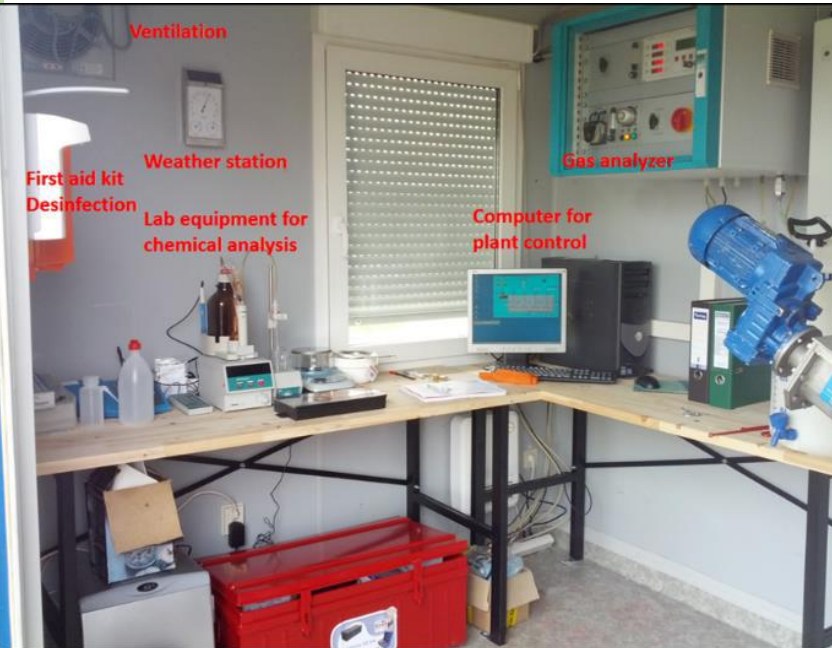


# THE TWO ABOVE PILOT PLANTS

- Pilot A, Biorefinery, Finland



- Pilot B, Dry digestion, Germany



# ABOWE PROJECT PLAN SUMMARY

- Potential implementers and investors are the key target group for ABOWE, such as
  - farms
  - food and forest industry
  - waste management companies
  - sewage treatment plants
- The pilot plants were transported to Baltic Sea regions for testing from the regions' point of view.
  - Biorefinery (Pilot A) has been tested in Finland, Poland, and Sweden.
  - Dry digestion (Pilot B) has been tested in Lithuania, Estonia and Sweden.





## ABOWE PROJECT PLAN SUMMARY

- The desired outcome from ABOWE are implementer/investor driven continuation projects targeting full-scale plant investments of the two technologies.
- Business models and Investment memos are being prepared for each partner region based on testing operations and economical calculations.
- Regional models have been prepared to illustrate regional impacts from implementing these technologies in testing regions.



# PILOT A DESIGN, REALIZATION AND TESTING IN THREE LOCATIONS



**Baltic Sea Region**  
Programme 2007-2013

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# BIOREFINERY IN TWO SENSES: MATERIAL AND THE CONVERSION METHOD



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For more information, news and  
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[www.abowe.eu](http://www.abowe.eu)



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