



Nordic Energy  
Research

**TAL  
TECH**

**JBNER PROGRAM AS AN INCENTIVE FOR THE DEVELOPMENT OF  
INNOVATIVE ENERGY TOPICS OF HIGH IMPORTANCE IN THE  
BALTIC-NORDIC REGION**


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# PROJECTS

# ROLES



**Heat Pump Potential in the Baltic States**  
Author: TalTech  
In 2018, the report Baltic Energy Technology Scenarios showed that heat pumps and electric boilers are a very

Project leader and the only implementor



AGENT-GIS 5GDHC

Project consortium leader

The role of hard to reach eEnergy Users in reaching BAltics+Nordics ClimatE targets multidisciplinary analysis (NUANCE) will

Project partner

Waste heat in smart energy systems (WasteHeatSES) aims to develop a decision-making model for relevant stakeholders and

Project partner



**Baltic-Nordic Roadmap for Co-operation on Clean Energy Technologies**  
Author: CIT Industriell Energi AB & Talli...  
This report identifies clean energy technologies (CETs) and actions for Baltic-Nordic research co-operation to

Invited expert

# INVOLVEMENT OF STAKEHOLDERS

- Ordered studies: ABB, CIT Industriell Energi (+TalTech), TalTech
- Joint research projects:
  - 🇪🇪 Estonia: TalTech (1L 6P)
  - 🇱🇻 Latvia: RTU (2L 4P), Green Liberty (P)
  - 🇱🇮 Lithuania: LEI (4P), Kaunas Univeristy (2P)
  - 🇫🇮 Finland: VTT Technical Research Centre of Finland (2L), LUT (P)
  - 🇩🇰 Denmark: Aalborg University (2L, 1P), INFORSE Europe (P), DTU (L)
  - 🇳🇴 Norway: Sintef (P), Norwegian University of Science and Technology (L), UiO (P), Norwegian Research Center (P)
  - 🇸🇪 Sweden: Dalarna University (P), KTH (P)
- Mobility projects: LEI (LT), Chalmers University of Technology (SE), RTU(LV),KUT (LT), Axis industries, NTNU (NO), Tampere University (FI), TalTech (EE), Eesti Maaülikool (EE), DTU (DK)

# ORDERED PROJECTS

## Topics

- Heat pump potential in the Baltic States
- Baltic-Nordic Roadmap for Co-operation on Clean Energy Technologies
- Transport Statistical Data and Projections in The Baltic States

## Before project

- Predefined topic, goal, work packages
- Competition
- One partner/company

## During project

- Short project time (up to 6 months)
- Regular meetings with Steering committee
- Close cooperation with ministries: feedback, draft reports, comments, updates
- Usually representative from one Baltic State or from Nordic state, no cooperation among research organisations

## After project

- Published, publicly available results
- In some cases –more then it was planned (for example publicly available map)
- Results can be used by other JBNER program projects
- Results are used by ministries and other authorities
- No scientific papers (only as an exception)
- Active result dissemination

# JOINT RESEARCH PROJECTS

## Topics:

- Overall energy sector
- Energy policy
- NZEB
- District heating
- Power grids

## ▪ Before project

- Fields have been defined
  - Decarbonization of the transport sector
  - Energy efficiency in buildings and industry
  - Energy system analysis
  - Challenges and opportunities for regional electricity grids
- Active competition (5 per 1)
- Researchers offer topics (future thinking, strong competence)

## ▪ During project

- Long project time
- Limited or no meetings with Steering committee
- Cooperation and active contribution in other Ministry investigation, workshops
- Presentation during international scientific meetings/workshops/conferences
- Preparation of scientific papers
- Active cooperation among research organisations from different countries of Baltic-Nordic region

## ▪ After project

- Published scientific papers
- Partly published results
- Results can be used by other JBNER programm projects
- Results can be used by ministries and other authorities (more clear form of project results)
- Not so active result dissemination
- Consortiums are used for new applications (EU, IEA, NER)

# FOR THE BALTIC MINISTRIES

## BENIFITS

- **Novel** areas are developed
- Financial support of researchers in their country
- The **knowledges transfer** from the Nordic region to the Baltic states
- **Common understanding** in the Baltic region
- Possibility **to compare** with other Baltic states
- Possible to request **additional information** from the experts/researchers
- Active participation in other research (for national needs)-**as an experts** (expertise grows during project implementation)



## SUGGESTIONS

- Obligatory prepared **factsheets, recommendations** for national ministries (with country specific)
- **Common** position for the Baltic (Nordic) region, as the result of the project
- Possibly more specific themes of the research, **defined by the Baltic ministries**
- Additional tenders for the research
- Possibly add condition, that **all three Baltic states** should be represented in one project proposal
- Expert panel

## FOR THE NORDIC REGION

- Novel areas are developed
- Financial support of researchers in the Nordic countries
- The knowledges transfer from the Baltic states to the Nordic region (in some fields)
- In some cases common understanding for the Baltic-Nordic region
- Identification of the common points of interest in the Baltic-Nordic region
- Possible to request additional information from the experts/researchers
- Promotion of the Nordic Energy Research and Baltic-Nordic region in the world
- New consortiums, new cooperation networks, additional investments/projects



## EXAMPLE (AGENT-GIS 5GDHC)

- All Baltic states have been involved
- Novel topic
- High level of expertise in DH topic from the Baltic states, but 5GDHC topic is new
- Research focused on the Baltic region (lack of data for Sweden, too many differences)
- Panel of experts from the Nordic-Baltic region would be very helpful





## EXAMPLE (AGENT-GIS 5GDHC)

### Policy recommendations

- 5GDHC will not replace 4GDH in the Baltic region, 5GDHC concept should be developed in parallel with 4GDH
- Only new building areas should be introduced with 5GDHC concept
- Using 5GDHC technologies should be promoted as it integrates RES to energy system
- 5GDHC concept needs new tariff mechanisms and business models
- Using low-temperature waste heat in heating sector should be promoted with energy policies

### Tools/output:

- Updated map with three types of ultra-low heat sources (for planning)
- Simulation model for 5GDHC (for further research and planning)
- + Report (open to public)



# TAL TECH

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