National mapping of GHG and non-GHG emissions sources

Stakeholder workshop

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Dublin

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Introduction to the project

› This project is to map emissions for all the pollutants under the scope of the Convention on Long-Range Transboundary Air Pollution (CLRTAP) and the Framework Convention on Climate Change (UNFCCC)

› The goal was to develop a spatial and temporal model that is linked to the Irish emission inventory, using the best available spatial and temporal datasets for specific emission categories

› More information is available at the project website
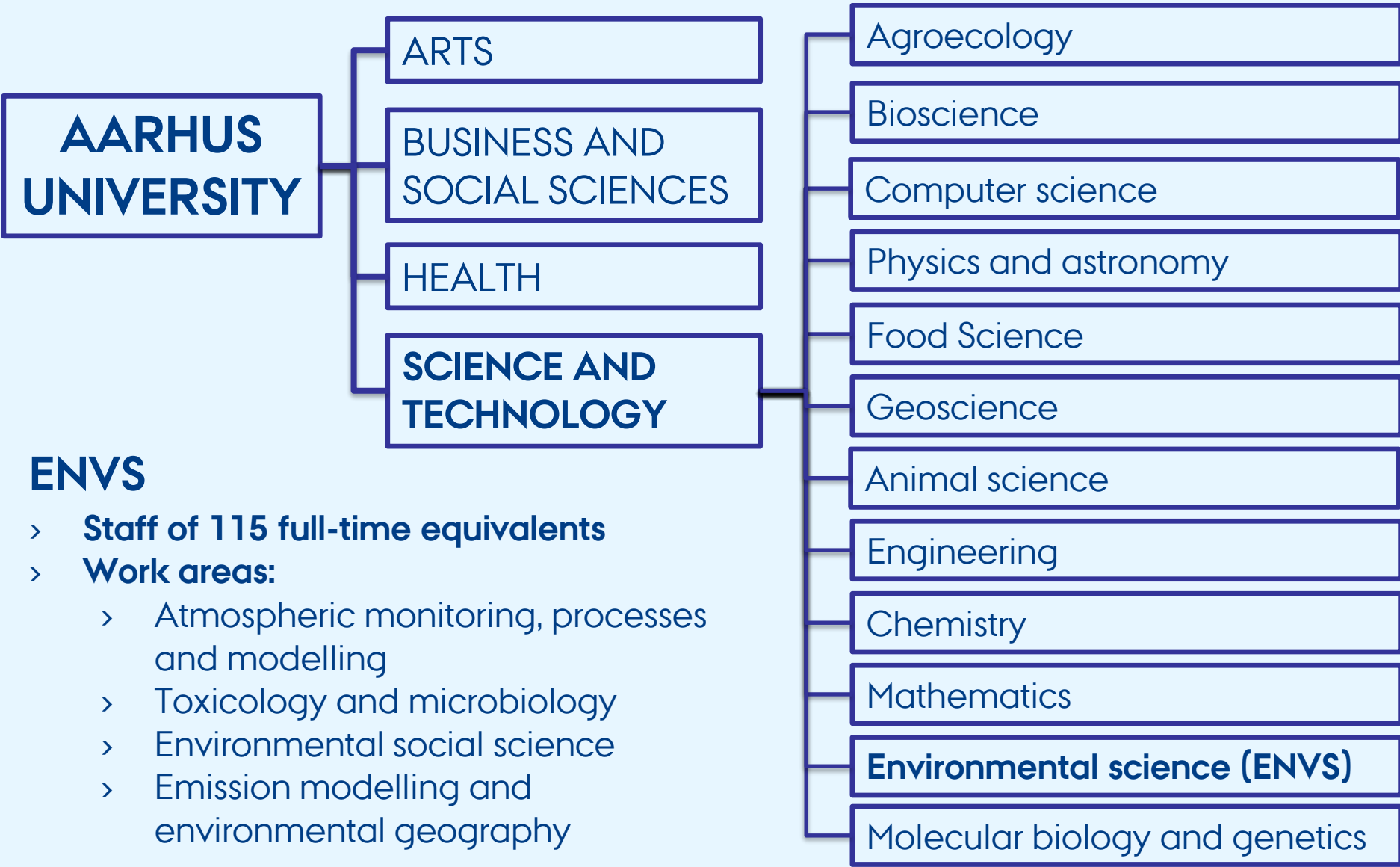
www.MapEIre.dk

Presentation of Aarhus University

›   **Aarhus University (AU) was founded in 1928 and today it has several world class research fields**

›   **Key figures 2017**

  ›   **Staff: 7825 full-time equivalents**
  ›   **Students: 33,120**
  ›   **Bachelor's degree graduates: 4368**
  ›   **Master's degree graduates: 5917**
  ›   **Approved PhD dissertations: 452**
  ›   **Turnover: 876 million EUR**

›   **The research, teaching and advisory activities related to natural science and technology is based in the Faculty of Science and Technology (ST)**

Presentation of Aarhus University

AARHUS UNIVERSITY

- ARTS
- BUSINESS AND SOCIAL SCIENCES
- HEALTH
- **SCIENCE AND TECHNOLOGY**

- Agroecology
- Bioscience
- Computer science
- Physics and astronomy
- Food Science
- Geoscience
- Animal science
- Engineering
- Chemistry
- Mathematics
- **Environmental science (ENVS)**
- Molecular biology and genetics

ENVS

› **Staff of 115 full-time equivalents**
› **Work areas:**
  › Atmospheric monitoring, processes and modelling
  › Toxicology and microbiology
  › Environmental social science
  › Emission modelling and environmental geography

Department of Environmental Science

› **Responsible for the national emission inventories and the mapping of emissions**

› **Responsible for the monitoring of air quality**

› **Modelling of air pollution at regional, local and street scale**

› **Responsible for providing air pollution forecasts**

Organisation of the project

› **WP1**

- › **Literature review**
- › **Specifications of the spatial model**
- › **Specifications of the temporal model**

› **WP2**

- › **Identification of available spatial data**
- › **Review of the spatial data sets**
- › **Selection of the spatial data**

› **WP3**

- › **Design of the spatial model**
- › **Building the spatial distribution model**
- › **Consistency with the national emission inventory**

› **WP4**

- › **Design of the temporal model**
- › **Integration with the spatial distribution model**
- › **Building the temporal distribution mode**

› **WP5 - Project management and communication**

Organisation of the project

› **WP6**
- › **Case study**
- › **Bottom-up inventory for Dublin**
- › **Improved input to air quality models (100 m x 100 m)**
- › **FAIRMODE**
- › **Comparison with top-down models using the Delta tool**
- › **Implementation in the EC map viewer together with top-down models and case studies for other European cities and regions**

› **WP7**
- › **Updating of the spatial model**
  - › **2016 census**
  - › **2000 agricultural census**
  - › **2011 railway data**
  - › **Time-series for GeoKeys**
    - › **Point sources**
    - › **Aviation**
    - › **Railways**
    - › **Population**
    - › **Agriculture**
    - › **Waste incineration**
    - › **Composting**

Objectives of the workshop

> To inform relevant stakeholders about the project results

> To present the spatial model and spatial emission maps

> To present the spatial model and spatial emission maps for the Dublin case study

> To present the temporal model and temporal emission animations

> To guide stakeholders to the publicly available data and highlight future applications of the research