

SECURE-BIO-SUPPLY

As coal and peat are phased out in favor of carbon-neutral energy production methods, new long-term storage solutions for solid fuels must be developed.

The project's goal is to identify the challenges and opportunities associated with changing long-term fuel storage in Ostrobothnia, and contribute to the development of more sustainable energy system solutions.

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REGIONAL COUNCIL
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SECURE-BIO-SUPPLY

Development of long-duration
storage of solid biofuels to enable a
sustainable energy transition



Background

An energy transition is underway, where the traditional heat and electricity supply, relying on the burning of oil and solid fuels such as coal and peat, must be replaced with new carbon-neutral energy sources and production methods.

This shift poses new challenges for the long-term storage of fuels, particularly solid biofuels. The SECURE-BIO-SUPPLY project focuses on investigating solid fuels stored for 3–36 months and exploring the challenges and opportunities that changes in long-term fuel storage might create in Ostrobothnia.



Activities

- Compiling a Current State Analysis of how biofuels, peat and coal traditionally have been stored as well as recent changes
- Proposing further development of solid fuel storage methods and logistics, and disseminating best practices
- Producing a simplified economic model showing the costs of long-term storage of various solid fuels, and investigating which biofuels are most cost-effective to store long-term from a regional perspective
- Assessing which fuels are most climate-friendly to store long-term from a regional perspective, and whether the differences between various fuels are small or large
- Mapping risks arising from the phasing out of peat and coal and addressing how these can be managed
- Creating a network of actors enabling low-threshold testing and piloting of new system solutions and storage technologies



Results

The expected results describe costs, space requirements, different types of environmental impacts (including greenhouse gas emissions) for different storage methods, as well as technical challenges and limitations in replacing one fuel with another. The research also gives suggestions for new development projects.