

Biogas solutions PHD COURSE, 6 HP (6FIEI09)

ONLINE

OCTOBER 2020 – JANUARY 2021

INTERESTED?

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Biogas solutions can play key roles for sustainability in societies. They help us to manage organic waste, provides us with renewable energy and enables us to close nutrient cycles. Implementation of biogas solutions is complex and involves many different stakeholders and sectors as well as several uses and distribution modes.

This PhD course focuses on Biogas solutions – from process technology to system perspectives and societal effects, involving both researchers, industrial partners and public regional actors. The course mainly focuses on theory, practice and implementation of biogas solutions in a Swedish context, making use of the broad network of researchers and practitioners of the Biogas Research Center.



Researchers from Biogas Research Center on tour in Sweden.

PURPOSE AND GOALS

This course aims to improve knowledge relevant for working with and/or studying biogas solutions. Particularly the course aims to broaden the understanding of biogas solutions by including process technology as well as systems perspective and societal effects.

Upon successful completion of the course, the learners are expected to be able to:

- Describe the biochemical processes of anaerobic digestion
- Describe and analyze existing and future biogas and digestate production concepts
- Explain and analyze the implications of choice of feedstock
- Describe uses and business development of biogas and digestate
- Critically analyze well-to-wheel assessments and other system studies of biogas solutions
- Discuss the role biogas solutions can play within a sustainable bioeconomy
- Reflect upon the role of public and private actors in the development of biogas solutions
- Reflect upon the role of national and EU policy as development factors for biogas solutions
- Apply gained knowledge in a transdisciplinary project on regional biogas strategies

STRUCTURE, CONTENT AND LEARNING ACTIVITIES

The following topics and activities are covered in this course:

- Basic facts on biogas solutions
- Biogas solutions – effects and implementations
- The role of public and private actors, policy and market for biogas solutions
- Production of biogas and digestate – process, concepts and feedstock
- Biogas solutions from a systems perspective
- Biogas solutions and its present and future role in society

These topics will be covered through lectures, critical review and discussion of selected literature during seminars and workshops, and project work. This year the course will be given online.

TARGET GROUP AND PREREQUISITES

PhD students with an interest in the topic of biogas solutions can join the course – there are no prerequisites other than having started PhD studies and having an interest in the field. The course mainly focuses on biogas in a Swedish context. The course will accept a limited number of 12 participants, on a “first-come first-serve” basis.

COURSE DURATION AND SCHEDULE

The course includes six meetings online, all hosted by the Biogas Research Center. Two of the six meetings span over two days. The first meeting will take place 20-21st of October 2020.

Course participants will be offered to take part in the Biogas Research Center’s internal conference in November. This event is voluntary, and not included in the examination of the course.

LITERATURE

The course literature will include scientific articles and reports. A list of literature will be presented before the course starts.

EXAMINATION

The course will be graded on a pass/fail basis.

Evaluation will be based on learners’ active participation and performance in different learning activities as seminars and workshop (3 hp) and on the quality of their project report (3 hp).

EXAMINER

The course examiner is Dr. Madeleine Larsson.

HOW TO APPLY

PhD students at Linköping University can apply at the course web page <https://www.iei.liu.se/forskarutbildningskurser/biogaslosningar?l=sv>

Interested participants outside Linköping University need to contact Madeleine Larsson (madeleine.larsson@liu.se) to express their interest in the course and receive further guidance.

