

Course director's welcome to Advanced Energy Solutions (AAE)

Ilkka Keppo

Head of the programme, Department of Mechanical Engineering
27th August 2024



Aalto University
School of Engineering



**Welcome to the Advanced Energy
solutions programme!**

We're happy to have you here!

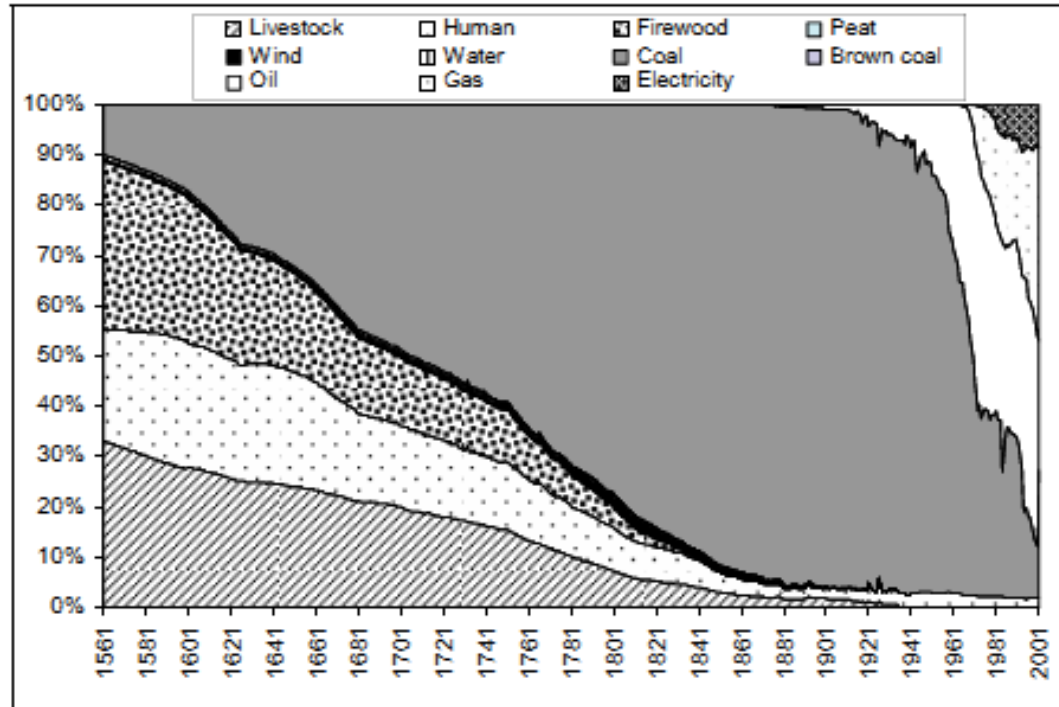
Outline

- **Why is energy a great topic to do an MSc on?**
- **Short introduction to AAE**
- **Some tips for your study journey**

Why is it exactly the right time to study energy?

Sometimes energy systems change slowly

Figure 5. *Energy consumption in England and Wales by carrier*



...while at others the change is fast



Enablers and barriers for transitions

Transitions of the past
triggered by

Better technologies

Changes in demands

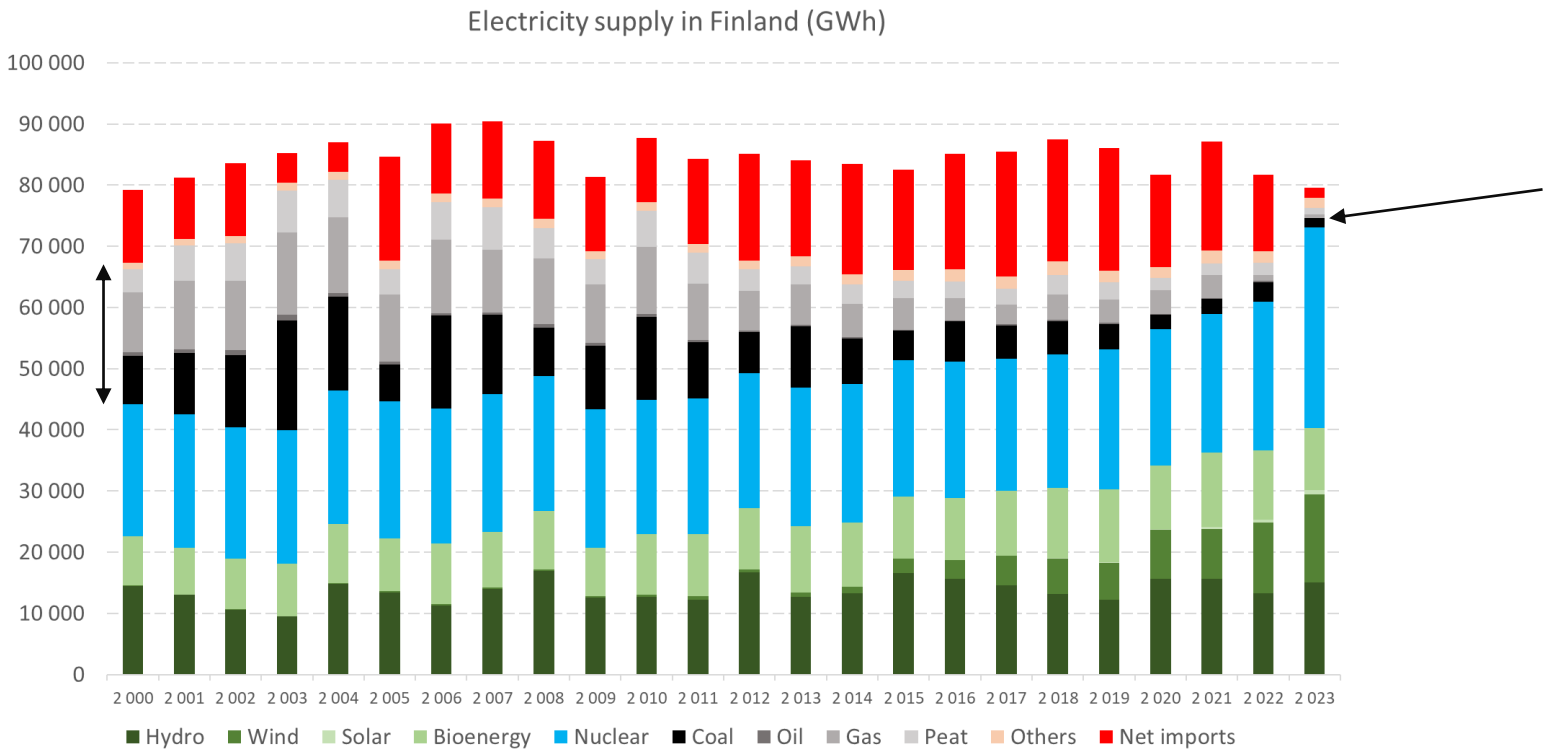
Regulation/policies

Changes in behaviour
and norms

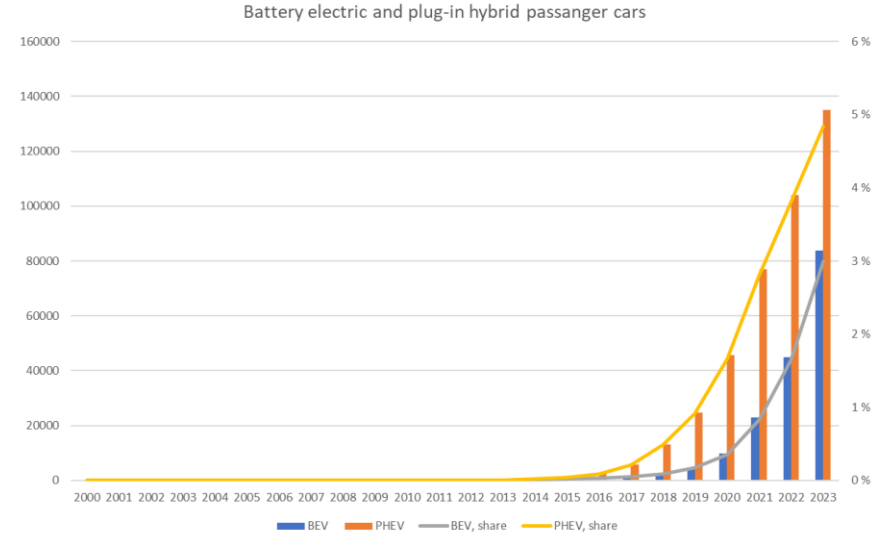
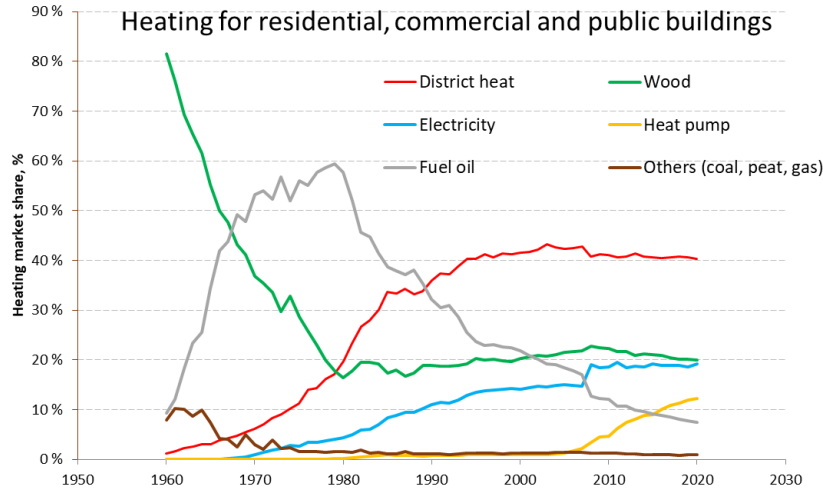


Many drivers present at the moment – leading to a rapidly
changing system

...which is visible especially in the power sector



...and will affect all other sectors as well



We are in the middle of the transition, with many things happening right now and interesting problems are looking for solutions!

Short introduction to AAE

Your study journey

- **The AAE programme was built to meet the complex challenges brought by the sustainable energy transition.**
- **This is done by combining the disciplines of different schools at Aalto:
ENG+CHEM+ELEC.**
- **Other schools also offer several excellent courses**



AAE heads of majors



Industrial Energy Processes
Prof. Francesco Corona

CHEM



Energy in Buildings and Built Environment
Prof. Risto Kosonen

ENG



Energy Conversion Processes
Prof. Ville Vuorinen

ENG



Energy Systems and Markets
Prof. Matti Lehtonen

ELEC



Structure of the AAE programme

Common studies for all students	15 cr
Major Compulsory courses	15-25 cr
Major optional studies	20-30 cr
Elective studies	30 cr
Master's thesis	30 cr
Total	120 cr

Hands on learning methods - RELab

- We are continuously developing RELab (Sähkämiehentie 4L door), Renewable Energy Learning Laboratory as a **place for you students!** This is used as the main place for your **lab measurements** on different topics, e.g., wind power, solar PV, measurements in energy technology, energy storage... **+ your own projects!!!!**
- We have also developed Virtual Reality (VR) site visit to Ilmatar's Piiparinmäki Wind Power plant. Please try! **360.aalto.fi/wind**. PV power plant VR site visit will be also available this fall 2024.



Mika Järvinen Head of ECS group & Director of Aalto H2 Innovation Center

mika.jarvinen@aalto.fi



International programs



SELECT MS Program
EIT InnoEnergy
Prof. Annukka Santasalo-Aarnio

ENG



Innovative Sustainable Energy
Engineering ISEE MS Program
Nordic5Tech
Prof. Mika Järvinen

ENG

We are here to help you!



Regina Casteleijn-Osorno
Academic coordinator
AAE MS program, ENG
regina.casteleijn-osorno@aalto.fi

Curriculum planning,
Energy forum, events,
marketing, contacts.



Sanni Hallén
Planning officer
AAE MS program, ENG
masterstudies-eng@aalto.fi

Personal academic
situation inquiries
(Personal study plan,
Master's thesis,
Graduation...)



Eeva Halonen
Planning Officer
AAE MS program, ELEC
eeva.halonen@aalto.fi

Personal academic
situation inquiries
(Personal study plan,
Master's thesis,
Graduation...)



Pekka Tolvanen
Planning Officer
AAE MS program, CHEM
pekka.m.tolvanen@aalto.fi

Personal academic
situation inquiries
(Personal study plan,
Master's thesis,
Graduation...)

Some tips for your studies – and beyond

**Don't be shy!
Be active, ask
questions in
lectures and at
events**

**You'll get out
what you put in!**



Picture is from the Advanced Energy Project, AEP 2019

**Pace your learning
throughout the
courses, not the last
night...**



Take care of yourself!

Exercise



Sleep enough



Eat healthy

Have friends



Have hobbies

**Career
Design
Lab**

Prepare for the life after studies

**SUSTAINABLE
CAREER**

**MEANINGFUL
WORK**

**LIFEWIDE
LEARNING**

WELLBEING



A”

Aalto-yliopisto
Aalto-universitetet
Aalto University

Career Design Lab services for students

CAREER AND NETWORKING EVENTS

- Aalto Thesis Day 2024
- Aalto Talent Expo
- Student & Alumni networking events
- Aalto Summer Job Day
- Company visits on Campus
- Welcome Evenings with alumni

ONLINE COURSES

- Finland Works
- Design a Meaningful Career
- Future of Work

MENTORING

- Aalto International Mentoring Program
- Mentoring Program

AALTO JOBTEASER

- Online job portal for Aalto students
- Job search guide
- Find events targeted at Aalto students

TRAININGS

- Career Design workshops
- CV, Cover letter, Case interviews
- Summer job search
- LinkedIn

1-TO-1 APPOINTMENTS

- Career coaching
- Job search advising



Targeted events & services for international students in Autumn 2024

AALTO THESIS DAY 2024 2.10.2024

For the second-year international master's students
at Aalto University

AALTO INTERNATIONAL TALENT Group mentoring with employers

For the international master's or doctoral students at Aalto
University
Application period opens in November 2024

STUDENT & ALMUNI NETWORKING EVENTS For the first-year international master's students at Aalto University

23.10.2024 School of Engineering
4.11.2024 School of Chemical Engineering
18.11.2024 School of Electrical Engineering

ONLINE COURSES

Finland Works (2 ECTS)
Design a Meaningful Career (2 ECTS)
Future of Work (2 ECTS)

AALTO TALENT EXPO 14.11.2024

Recruitment event for all Aalto students

IMPORTANT WEBPAGES

[Career Design for Students | Aalto University](#)
<https://aalto.jobteaser.com/>
[Future of Work – Open online courses from Aalto University](#)
[International students | Aalto University](#)



Welcome to our first AAE networking event of the year 'Kick off the school year'

Friday September 20th at 15:30-18:00 at the Jedi Training School, A-Grid, Otakaari 5.

This event will bring together students, faculty and alumni to kick off the academic year.

Please let us know by **Friday the 6th of September** through the [webpropol link](#)- if you will be attending and if you have any dietary preferences- wraps and fruit will be provided.

By filling in the questionnaire you are confirming your attendance!

We look forward to seeing you all there!



LinkedIn - community

Community platform for **all Energy students**, alumni, faculty and industry friends

Use this page for :

- Job advertisements
- Finding out about events
- Thesis placement
- Contact with people in the industry
- Thesis titles advertised
- Listen to other students talk about their thesis
- Article releases
- Collaboration possibilities
- Doctoral Students
- Defenses of Masters thesis
- Please join us!



<https://www.linkedin.com/company/advanced-energy-solutions-ae-community/>