



**Energy Education
Hanze University of Applied Sciences
Groningen**
Benelux Energie Expertise Netwerk, 28-09-2015

Energie Education

Studying Energy

Enroll in an energy degree

- University of Groningen, Masters
- Hanze University of Applied Sciences, (Professional) Masters
- Energy Delta Institute – professional education

Take up energy in your degree

- courses and modules in which energy is the thematic focus
- energy as a topic within projects, theses, placements or work-experience, etc.
- extra-curricular activities offered by the EAE
- Higher Education EAE-certificate: at least 30 ECTS, interdisciplinary, skills, extra curricular activities (next page). Starting with RUG and Hanze, more HE institutes to follow
- Secondary vocational education: starting with Energy College (7 ROC's)– senior secondary vocational training, more education centers to follow.

Energie Education: Energy degree

Energy transition towards a sustainable future

**European MSc in
Renewable Energy**



Start 2012/2013

**MSc Sustainable Energy
Systems & Management**



start 2015/2016

Master Energy & Society



start 2017/2018

**Master Energy
Trading & Markets**



To be planned

Time



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Energie Education: EAE energy student

Energy transition towards a sustainable future

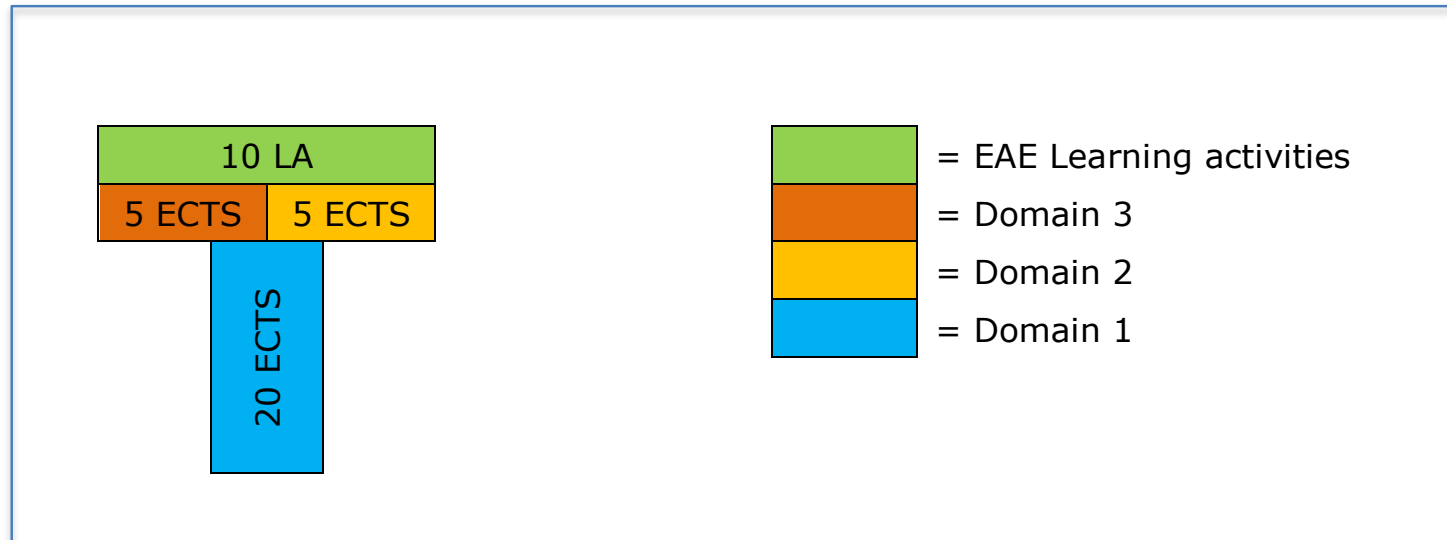


Figure 1: T-shaped Energy Educational Model

- T-shape model for Master and Bachelor education: degree or “energy route”
- Within HUAS we choose for the domains Technology, Business and Society
- In addition (extra curricular), the energy student should follow at least 10 Learning Activities (LA) to earn a *(energy business recognized/approved)* **certificate** from the EAE

Energie Transition Center

EnTranCe (Energy Transition Center)

EnTranCe is the hotspot of applied sciences for businesses and innovations. It has the facilities, technologies and the best possible network to develop plans into the energy products and services the energy market demands.



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Energie Transition Community

Energy Transition Community

1. Change Agencies: Sustainable Mobility, Sustainable Households, and Sustainable Buildings
 - Professionals, researchers, government representatives and students decide on an intriguing question and ways to tackle that question
 - Working multidisciplinary, knowledge development, innovation and valorization
 - Students are responsible for setting their own goals. This also means that they can explore their own interests to a greater extent than in projects
 - Graduation project or internship
2. Innovative Energy Projects
 - Project-based learning environment for students
 - Assignments from professional practice (companies, government, research, ...)
 - Within minor, internship or graduation project

Examples:

- Circular building/Cradle to Cradle (C2C) of a primary school (re-use of materials, CO2 emissions, wellbeing users)
- Actor analysis energy transition in households: Which actors play a role in the energy transition for households?
- Cooling of milk in Ethiopia powered by PV: This project aims to develop a small scale cooling device, to be used in non-electrified areas, so using renewable energy, presumably solar (though other options are open as well, like biogas)

Project themes for international cooperation

Seasonal energy storage

- Technologies (Electra, gasses, heat and cold)
- Batteries give possibilities for day/night storage (small storage); How to deal with larger size of storage?

Integration of locally generated renewable energy and the role of gas

- Shift of power generation from central (coal-fired) power plants to decentralized / local power generation
- The use of (optionally locally produced) gas to locally generate electricity

International comparison of:

- Energy and behaviour
- Energy and regulations
- Energy and social acceptance

Interested?

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