Centre of Expertise Energy, EnTranCe

Hybrid Energy Systems in a Sustainable Society

Focus and growth of energy research 2016 - 2022

Dr. Ir. Jan-jaap Aué

Hanze University of Applied Sciences

share your talent. move the world.
Our Mission at the Centre of Expertise Energy

We speed up innovations needed for the transition towards a sustainable energy society. We contribute by applied research and education.

In co-creation, students, researchers, companies and societal organisations work together on realising this energy transition. In this learning community we develop and share new applicable knowledge and create business opportunities.
The transition to a fully sustainable energy society is one of the main future challenges.

New sustainable ways of energy supply are needed, which offers security of supply and which are affordable and socially acceptable. The transition offers opportunities for technological, business and societal innovations.

The societal trend of self-reliancy fuels a (new) bottom up process of changing the current energy system. This is an important mechanism for transition. We want to empower people to be able to meet their energy needs in an increasingly sustainable and socially acceptable manner.
Goals 2022

- Together with partners and local communities we develop concepts for (at Least) 5 sustainable (Emission Neutral) communities in our region.

- In 2022 we educated 1500 EAE certified Energy Students

- We realised 25 Energy Startups per year

- In 2022 EnTranCe positioned itself as THE unique fieldlab of the EAE for testing and developing Hybrid Energy Systems

- 20.000 people, representing society, visited EnTranCe and participated in debate on the Energy Transition

- We induced 25 million Euros of investments in our region based on our concepts.
How? Educational programmes
• Energy Routes in 10 schools leading to EAE certification
• Learning Community
• Master portfolio
  • European Master Renewable Wenergy
  • Master Sustainable Energy System management
  • Master Energy 4 society (under dev)
  • Master Energy Trade? (investigation)

Facilities
• Energy Value Chain
• Energy Barn
• EnTranCe

Partners
• Business partners
• Governmental partners
• Societal partners
• stakeholders

• Applied Research
• Hybrid energy system design & Management
• Alternative gasses and hybrid-fuels
• Energy interventions and behaviour, public support and communication
• New economic realities, labour market, governance and legal aspects in the energy sector
• Sustainable communities and local initiatives

share your talent. move the world.
Earn an Energy Certificate from the Energy Academy Europe by completing this energy route in combination with learning activities. This prepares you for your next step: an energy Master or a career in the field of energy!
Together with (business) partners and prosumers, Hanze UAS plays a leading role in applied research of the regional energy transition.

- Directing regional open innovations to accelerate the energy transition;
- Matchmaking: activating and bringing together stakeholders in energy research;
- Organising the energy chains in R&D projects;
- EnTranCe: the field lab for testing of hybrid energy systems at meso level
- Increasing R&D portfolio on focused themes
Main Research Themes

Focus on hybrid energy systems on the meso level

• Hybrid energy system design and management; (3/11)
• Alternative gasses;(3/11
• Energy interventions and behaviour, acceptance and communication;(2/11
• New economics, labour market and legal aspects in the energy sector;(2/11
• Energy sustainable communities and local initiatives.(1/11)
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<th>Kenniscentrum</th>
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<td>Dr. Carina Wiekens *</td>
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<td>SABC</td>
<td>Dr. Mieke Oostra</td>
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CrossOver Research Themes

- Earthquake resistant building;
- Smart mobility;
- Bio-based economy
Prioritizing Research Themes

CoE Energy is investing

CoE Energy is co-investing

CoE Energy is expecting investments from others

CoE Energy is paid (contract research)
The Energy Transition Centre
Example
Household level P2G2P
FC : 5 kW
Electrolyser : 5 kW
Storage : 35 bar 5 kg

Example

Hanze University of Applied Sciences
Groningen

EnTrance
Energy Academy Europe

share your talent. move the world.
For you

Extensive network

Access to knowledge and experience

Support local communities

Experimental facilities

Office- and workspace

Collective Intelligence

Energy related events

Access to launching costumers

Awareness creation

Young talented Brains!
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