EnTranCe: Centre of Expertise Energy

“If we want things to stay as they are, things will have to change.”

Dr. Ir. Jan-jaap Aue
Hanze University of Applied Sciences

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Hanze University of Applied Sciences Groningen

- Established in 1798
- Policy plan 2012-2016 rated “Excellent” by ministry: extra governmental funding.
- Professionally oriented higher education
- 70+ Bachelor programmes, 18 Master programmes;
- 17 Schools with each their own atmosphere;
- Partner in the Groningen Confusius Institute
- 3 focal areas: Energy, Healthy Ageing, Entrepreneurship
- 26,500 students choose our university; 10% international, 72 nationalities
Share of active entrepreneurs across universities

High share of active entrepreneurs include:

- University of Applied Sciences Utrecht: 17.8%
- Fontys University of Applied Sciences: 15.5%
- Hanze University of Applied Sciences: 12.5%
- Inholland University of Applied Sciences: 11.8%
- Rotterdam University of Applied Sciences: 11.5%
- Erasmus University: 10.8%
- University of Groningen: 10.1%
- University of Applied Sciences of The Hague: 6.2%

Average share of active entrepreneurs:

- Albeda: 3.5%
- NHTV Breda: 1.4%
- Utrecht University: 1.2%
- Leiden University: 0.9%
- Maastricht University: 0.9%
- Eindhoven University of Technology: 0.7%
- Delft University: 0.7%
- Tilburg University: 0.4%

ERASMUS CENTRE FOR ENTREPRENEURSHIP

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City of Groningen

short video on the City of Groningen
Our region

- Slochteren GasField
- 42% Dutch Wind energy production (on- and offshore)
- 44% Dutch Green gas production
- 4,200 companies
- 32,375 direct FTE
- €27 Billion investments (inbetween 2010 en 2020), 45% renewables;
Cooperation of business partners, Hanze University of Applied Sciences, University of Groningen ( Nr 75 Shanghai Ranking) consolidating leadership of the Netherlands in the energy sector and in the transition towards sustainable energy.

- Open model in education / research / innovation

- Focus on transition to sustainable, reliable and affordable energy
  - Renewables (wind, solar etc.)
  - Energy efficiency (including energy water and food)
  - Gas (including biogas, green gas)
  - CO₂ reduction
  - Smart grids
Why?

- Urgent energy challenges (global warming, energy security, economic growth) for public and private sector.

- Facing these challenges requires:
  - Vital **knowledge and experience** in energy matters
  - A continuous supply of properly trained **personnel**
  - High quality **multi-disciplinary approach** in education and research
  - Activities that support strategic **decision making the energy industry**

- Energy Academy Europe facilitates these requirements MultiLevel on a regional, national and international scale.

- Fieldlab of Energy Academy Europe at Hanze: **EnTranCe** (The Energy Transition Center)
October 2015 Opening by King Willem Alexander

EnTranCe is open

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Bridging Two Worlds

Hanze UAS

Decentral when possible, central when necessary

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EnTranCe: the Energy Transition Centre

- Open Innovation, Inter Disciplinary
- Co-Creation researchers, companies, students: permanent 75-100 students
- Optimizing chain of education, from vocational to post graduate..
- Focus on demand driven research projects
  - Applied
  - Inter-disciplinary
  - Multi-level: MBO, HBO en WO
- Spin off, start-ups
- Growing number of (project)Partners
Goals 2022

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

• In 2020 we educated 1500 EAE certified Energy Students

• We realised 15 Energy Startups per year

• 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 (MSc) portfolio
  - European Master Renewable Energy
  - Master Sustainable Energy System Management
  - Master Energy 4 society (under dev)

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

Facilities
- Energy Value Chain
- Energy Barn
- EnTranCe

Partners
- Business partners
- Governmental partners
- Societal partners
- Stakeholders

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[Diagram: Ability turbine]

1. Problem solving ability
2. Ability to collaborate
3. Ability for development and lifelong learning
4. Ability for creativity and innovation
5. Transition ability

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Energy Transition Community

Participation
- Students: ≈ 75 per semester, Dutch / international mix (Exchange)


- Master and Baxcelor thesis students
Change Agency Ameland in Transition

Stakeholders:
Ameland Council, Ameland Energie Coöperatie, Gasterra, Wadden Campus, Noorden Duurzaam, EnTranCe

Powerful learning environment, Wicked problem
* Authentic, multidisciplinary issue
* Opportunity to explore and use one’s expertise and creativity
* Part of community, network => easy access to experts, representatives, groups
* Weekly discussions methodology, relate results to wicked problem => quality of methodology, results, social learning
* Coaching personal and team development
Change Agency Ameland in Transition

short video on EnTranCe and the island of Ameland