



# ANNUAL REPORT

# 2019



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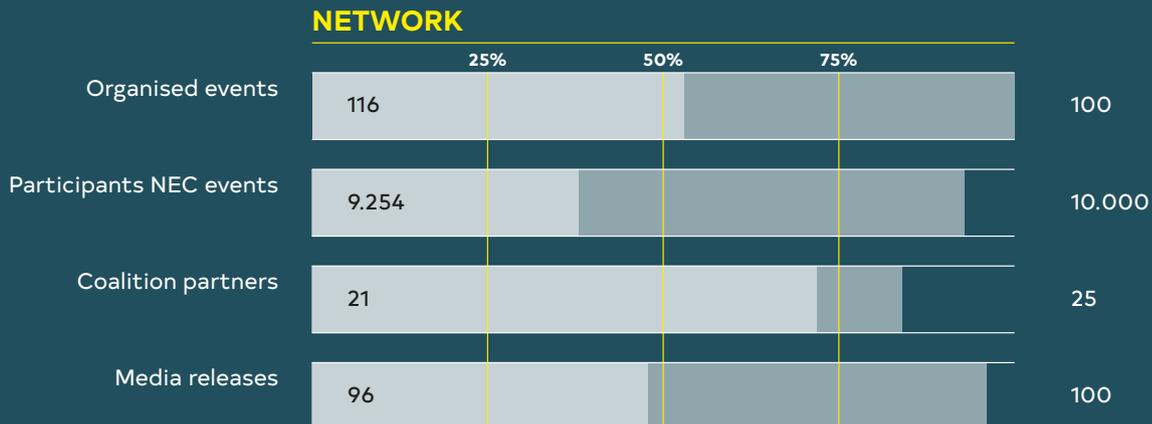
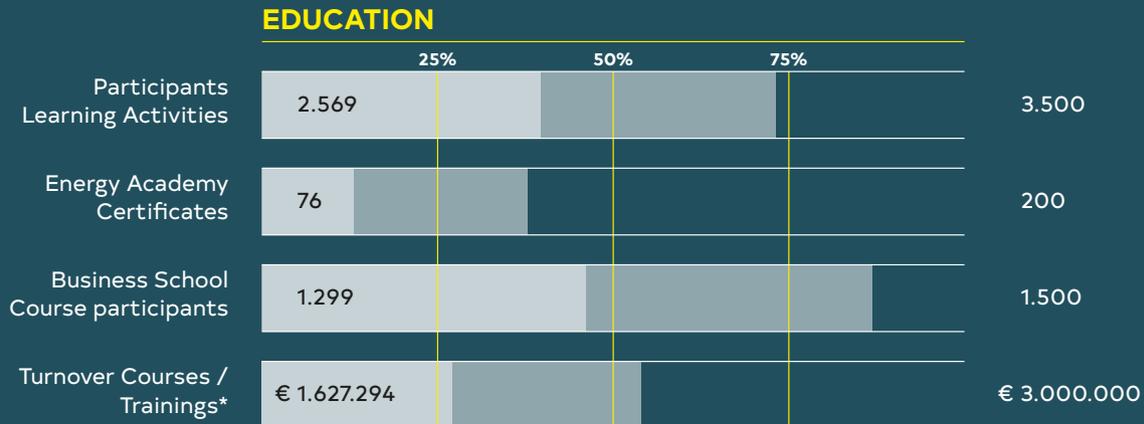
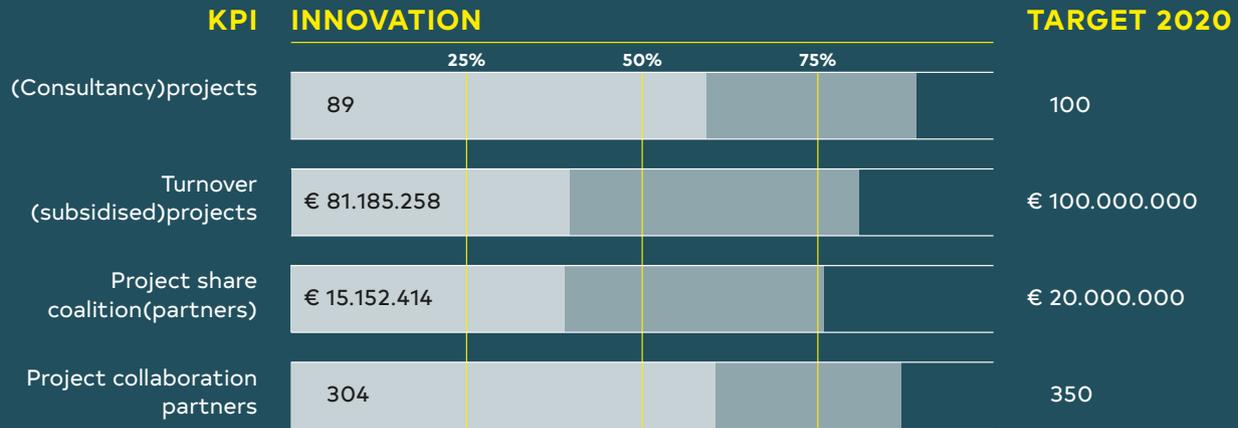
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**MANAGEMENT  
SUMMARY**

# SUMMARY

New Energy Coalition is a network and knowledge coalition that is committed to a smart and successful transition to the sustainable energy system of the future. Our course and choices have been laid down together with the partners in a multi-year plan for 2018-2020. The emphasis is on encouraging and enhancing innovation and education in the field of energy transition. In particular, the innovation effort has been focused on the themes: North Sea as Energy Region, Hydrogen, Local Energy Systems, Industrial Transformation and Greening the Gas Chain. Based on the multi-year plan, the operational efforts are laid down in an annual work plan, which is submitted to the Foundation Board and the Supervisory Board for adoption. This report briefly presents the results of the 2019 work plan. On the basis of this, it can be concluded that implementation has largely gone according to plan and that the pre-defined KPIs are almost all on track ([see also KPI Monitor 2018-2020 - Results 2019](#)). □



\* provisional figures, annual accounts still to be adopted

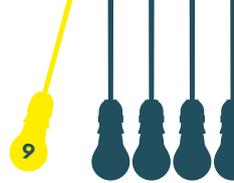
A total of 30 new innovation projects will be launched in 2019. Partly new SME advisory projects and partly new (subsidy) projects to expand the knowledge position. The emphasis is primarily on Hydrogen, followed by Local Energy, Green Gas and the North Sea. In 2019, subsidy projects had a total turnover of more than €40 million, of which almost €7.5 million was in relation to coalition (partners). In addition to New Energy Coalition itself, most of this will benefit the knowledge partners University of Groningen (RUG), Hanze University of Applied Science (Hanze), TNO/ECN and Energy College. In total, the projects and various other collaborations involve more than 300 (unique) alliance partners, almost 100 of which will be new in 2019. Furthermore, three new partners joined the coalition: DNV GL, Wetsus and Erneuerbare Energien Hamburg, and preparations are being made for new partners to join in 2020.

Following growing insight over the past years, a joint decision was made with the ESTRAC partners this year to end the current form of co-operation and to work instead with thematic research agendas to be developed with the knowledge and business partners. The first draft agendas have now been drawn up. This provides the framework for a structured development of research projects, which may be eligible for (co-)financing by the business partners. Further agreements will be made about this in 2020.

In 2019, 30 learning activities were organised, with a total of almost 1,200 participants. In addition to the more overarching themes, our own themes were central on several occasions. In the academic year 2018/2019 we issued 51 Energy Academy Certificates. This is more than double the number in the previous academic year. In spite of this, the number of certificates issued falls short of our ambition and the final target of 200 certificates in 2020 will not be achieved. In 2020, the Education Team will carry out an analysis and draw up a renewed plan of action to increase the value, and thus the issuance, of the certificates in the future.

In total, EDI Business School provided 30 courses in 2019, with 636 participants. The range of courses and number of participants was fairly evenly divided between in-company and open market. EDI's total course turnover in 2019 was over €800,000, which was similar to the previous year. This brings the turnover just over half of the target for 2020, which means that the final target will not be fully achieved. This is partly due to the slowdown in the deployment of EDI's financial reserves, which is also intended to generate an increase in turnover. Agreement has now been reached on the deployment of the reserves, which will enable EDI's portfolio to be further expanded and broadened in 2020.

A total of 64 events were organised or co-organised in 2019, almost half of which were learning activities. More than half focused on the themes, with a focus on Hydrogen and Green Gas, followed by Local Energy and North Sea. In total, the events attracted almost 5,500 participants, about a third of whom were students and a quarter from the business community. In addition, 48 media reports were released/published. Again, the focus was on Hydrogen, followed by North Sea, Green Gas and Local Energy Systems.



From an organisational point of view, there have been the necessary shifts, with the transition to the NEC working conditions and substantial staff turnover. Good replacements have been found for the employees who have left, which has resulted in an increase of the total workforce to almost 50 FTE. In view of the departure of the Managing Director of EDI and the announced departure of the general director, a recruitment process has been launched to find a new director who will take over the tasks of both positions.

Across the board we can conclude that we are well on course and that we are meeting most of the targets (by far). Nevertheless, there are certainly areas for improvement. On the one hand, this concerns further optimisation of the internal organisation in order to achieve more coherence and uniformity. On the other hand, we need to work on positioning in order to boost distinctive capacity: both in terms of themes and tasks, and also in working together with partners in order to further join forces and allow the coalition to grow. To this end, a new multi-year plan will be drawn up in 2020, which will feature these aspects again.

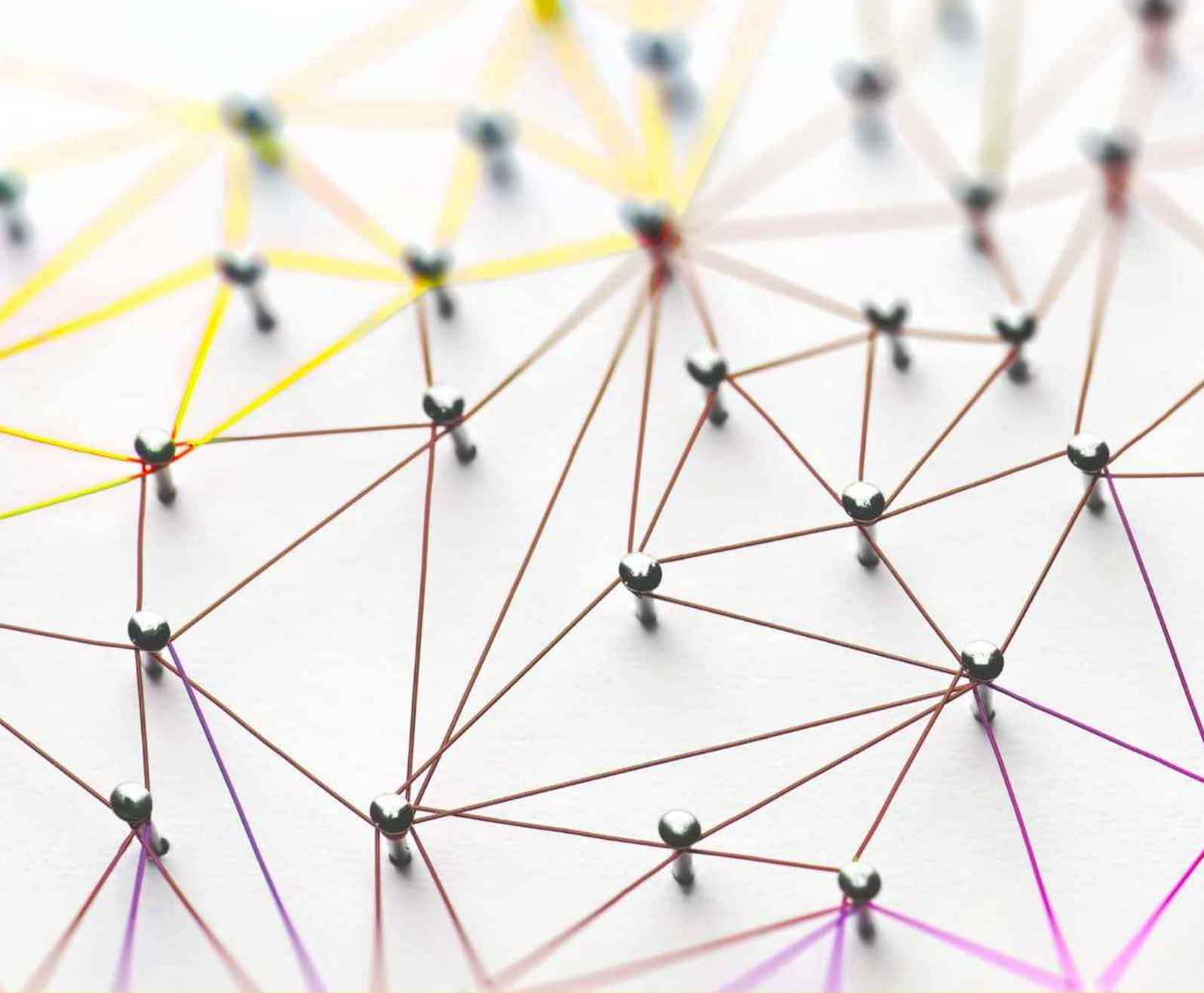
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**ABOUT NEW  
ENERGY  
COALITION**

New Energy Coalition plays the role of 'playmaker' to make the energy transition smarter and faster. We are focusing on the coming decades in which the transition takes place, during which we must join forces and do everything we can. Our focus is on system change and the integral process needed to enable the transition from fossil fuel to new, sustainable energy. During this journey we will keep both feet on the ground and be as practical as possible. Ultimately it's about the applicability and feasibility of new energy solutions in daily life.

### **How do we proceed?**

We are a network organisation: a 'hub'. Our network consists of knowledge institutions (applied and scientific), companies (large and small) and governments (regional, national and international) that wholeheartedly support the energy transition. All parties have a great deal of relevant knowledge and contribute their experience. We want to use this knowledge to build for the future. From our Northern region where there has traditionally been a great deal of knowledge and expertise in the field of energy technologies and the energy chain, with an open mind towards the outside world.



We know these parties and we connect them. Our knowledge of the playing field enables us to bring parties together that we believe can jointly create promising solutions for the energy transition. We bring them together and work with them. After all, two heads are better than one. The resulting co-operation generates knowledge and innovations that would not otherwise exist. Every issue along the way to a successful energy transition requires different partners and forms of co-operation. New Energy Coalition tailors the co-operation process according to the specific need and keeps the process going, sometimes as organiser, sometimes as project or programme manager, facilitator, accelerator, supporter or co-ordinator.

We are not dreamers, we are doers: a smart energy transition can only occur and contribute to a sustainable society if we join forces. New Energy Coalition has set itself that very goal.

**Visit [www.newenergycoalition.org](http://www.newenergycoalition.org) **  
**For more information.**



Harold Veldkamp



Owen Huisman



Gertjan Lankhorst

3

**INNOVATION**

The energy transition requires scientific, social, technological and economic innovations and breakthroughs. This is complex and extensive. In order to define this, the focus has been put on the advancement of a number of (innovation) themes within the programme, which are interrelated and fit in with available knowledge and opportunities. The efforts made and results achieved in 2019 are explained per theme in greater detail below. A start has also been made on working out a thematic plan and drawing up research agendas for each theme, in consultation with knowledge and business partners. This should provide the framework for further structured development of knowledge and research per theme.

In addition to the thematic effort, a generic contribution has also been made to strengthening the innovation climate. For example, through collaboration with Energy Venture Lab, Netherlands Energy Research Alliance (NERA), United Nations Industrial Development Organization (UNIDO) and World Energy Council. In addition, various overarching innovation activities have been implemented or co-implemented, whereby the themes have been the main focus as much as possible, but from a more generic approach.



- **SNN NIA:** supporting 30 SME projects in the SNN region, including 14 ongoing projects from previous years and 16 new projects including a small self-sufficient house, an H<sub>2</sub> bike, a sustainable energy village and a small-scale wind turbine. Also (co-)organisation of 11 events, for broader B2B networks such as the North-North Event and the Climate Summit North, and theme sessions on H<sub>2</sub>, Smart Grids, BioLNG and Green Gas.
- **MKB Noord-Holland Noord:** support for 3 new branches and the transfer of 8 companies to the NHN Business Service Point. Also a partner of TerraTechnica (InHolland) for SME connections, as well as director and team member of incubator IDEA for organisation knowledge cafes and mentoring companies, for example. Project leader for the Green Steam Tram project to replace coal with bio-coal.
- **Green Steam Tram:** in co-operation with the Hoorn-Medemblik Steam Tram, a bio-coal (coal from biomass) was developed as a substitute for coal. In early 2020, the steam tram will actually run on bio-coal, completing the first phase. This will be followed by an in-depth study.
- **Enterprise Europe Network:** as a 'local contact point' for international SME contacts, 4 SMEs and other organisations were involved in H2020 projects and various matchmaking events were organised, including Inn2Power (Groningen; 40 meetings), SMILE2MATCH 4 (Thessaloniki; 40 meetings), Fuelling the Future with Renewable Gases (Alkmaar; 106 meetings) and LNG Pilots final conference & B2B matchmaking (Duisburg; 12 meetings).



Robbert-Jan Slobben  
research responsible

- **Northern Connections:** promotion of cross-border connections between SMEs and energy clusters by organising an international Living Lab event 'Fuelling the Future with Renewable Gases' in association with NHN with 3 Living Lab cases: gasification technology at InVesta, Waterstofwijk Hoogeveen and Liquefaction of hydrogen and biomass. Arrangements were also made for Northern Dutch SMEs to make a return visit to Living Labs in locations including Brussels and Hamburg.
- **ESTRAC:** a joint-decision was taken with the partners to abandon the current model and use research agendas as a framework for research proposals from 2020 onwards, which may include (co)financing from the former ESTRAC resources of the business partners.
- **Energy Community of Young Researchers:** organisation of 2 lectures, 1 social activity, 1 excursion and 3 Energy Pitch Stop sessions where PhD candidates and post docs could present their own research. The total number of participants was approximately 140. Due to limited options and lack of enthusiasm, the peer-to-peer reviews were stopped. In order to expand the network, co-operation was established with the (sustainable) student association Atmos (approximately 200 members at RUG).

# 3.1

## NORTH SEA AS AN ENERGY REGION

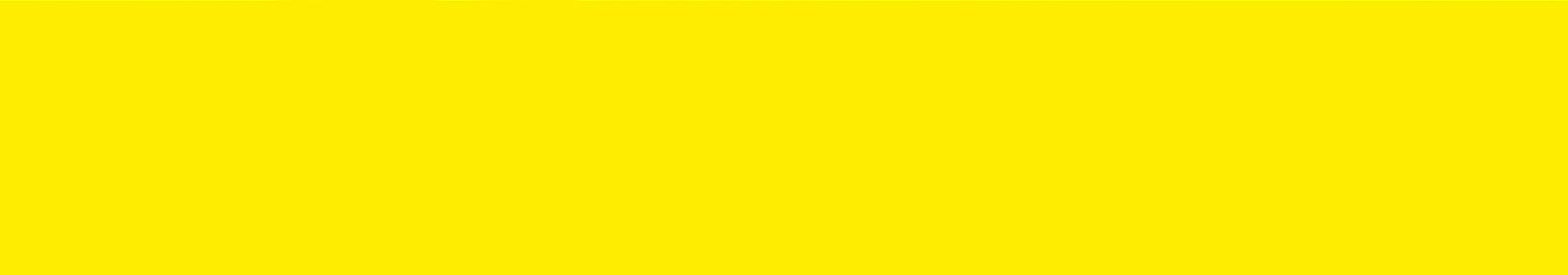


Miralda van Schot

The North Sea can play a significant role in a future sustainable energy system, where our emphasis is on integrated energy solutions. In order to bolster our knowledge position on this, we led the working group of the European Research Institute for Gas and Energy Innovation (ERIG) and organised 5 events on the theme. EDI organised the North Sea Masterclass and 5 events on this theme, including a number of learning activities and the Wind-meets-Gas congress. In addition, various projects in this area were (co-)implemented.



- **ENSYSTR:** support was given to the co-ordination and organisation of this H2020 project (led by RUG), which resulted in the launch of 15 research projects, leading to the first 6 publications about energy system transition in the North Sea region. Support activities were also organised, including workshops (Scotland and Sweden), a Summer School and a mini-Symposium (Groningen). [www.ensystra.eu](http://www.ensystra.eu) 





- **DecomTools:** this Interreg project on the reduction of costs and environmental pressure in the dismantling of offshore wind farms was preceded by an international wind farm and stakeholder analysis (led by the Hamburger Weltwirtschaftsinstitut) and a regional workshop focusing on recycling.
- **Havenschets:** in the context of this TKI project with TNO and RUG, the individual ambitions of the ports have been defined. However, the focus is on an overarching scenario with a hydrogen backbone. This will be elaborated in an economic analysis in 2020, which will validate and identify potential legal challenges.
- **IJvergass:** this TKI project has been delayed by six months due to an interim change of scope (from the 'top of IJmuiden-ver', to 'Ten Noorden van de Wadden', and back to the 'top of IJmuiden-ver'). The techno-economic analysis to be conducted by NEC will take place in the first half of 2020 with a final report in mid-2020.
- **North Sea as Energy Hotspot NH:** positioning of Den Helder as an energy port by contributing to position papers for (national) lobby, co-operation with North Sea Canal area and North Sea Energy Gateway programme, as well as business case support (InVesta and TNO) for the test phase of the PosHYdon H<sub>2</sub> installation 'Neptune' in Alkmaar.

- **Offshore Wind Orientation Workshop:** set up on the initiative of the Noorderpoort vocational education institute with business and knowledge partners to increase knowledge and interest in offshore wind; especially among potential new personnel. [www.nnow.nl/leergang-offshore-wind](http://www.nnow.nl/leergang-offshore-wind). [↗](#) The course started in 2019 and will continue in 2020.
- **Research agenda:** a North Sea as an Energy Region research agenda has been drawn up together with RUG/Hanze researchers and industrial/societal partners, focusing on Offshore Renewable Energy Production (Offshore Wind & Alternative Offshore Sources) and Energy System Integration (Strategic Planning, New Business Models & System Design).

## NORTH SEA ENERGY (NSE) PROGRAMME

NSE is an industry-driven innovation programme on offshore system integration. In this context, the third (NSE3) programme was co-implemented. Its emphasis was on the role of the North Sea in greening the energy system, with a focus on power-to-gas. Its main conclusion was that, in a hydrogen market, offshore production is more techno-economically interesting than onshore production. Island constructions lead to further economies of scale and cost reductions, in which a combination of a 5GW energy island with 30% electrolysis capacity seems the most favourable. Other power-to-gas options have also been investigated. The report can be found at [www.north-sea-energy.eu](http://www.north-sea-energy.eu). [↗](#) In 2020, NSE4 will be launched with a consortium of approximately 40 partners and a budget of approximately €4M.

# 3.2



Patrick Cnubben



## HYDROGEN

To ensure the successful roll-out of a hydrogen chain in the north of the Netherlands, the HEAVENN programme was developed in collaboration with a broad consortium. This will commence with EU support in 2020 (see box). The (knowledge) position has been further strengthened by various projects (see below) and participation in the National H<sub>2</sub> Platform, the Japan & USA Trade Mission, and co-organisation of 12 hydrogen-related events. Support was also provided for the creation of Stichting Support Missie H<sub>2</sub> for the promotion of hydrogen during the Olympic Games 2020 and a broad EDI portfolio was developed and implemented with various Hydrogen Masterclasses and in-company courses.

- **TSO2020:** cost-benefit analyses were conducted and delivered for the commissioning of the 1.1 MW electrolyser at HyStock project. The construction of the H<sub>2</sub> filling station at Green Planet in Pesse was delayed due to Dutch nitrogen-ruling issues. This was acknowledged by the EC and the completion date was extended by 1 year to the end of 2020. The consortium exhibited the project during European Union Sustainable Energy Week 2019 in Brussels.
- **Hydrogen Drenthe:** on behalf of the province of Drenthe, a working visit to California was organised with a broad delegation from the public and private sectors, to experience how the development of H<sub>2</sub>-powered passenger transport is taking shape in practice. This boosted aspirations for green hydrogen, and in particular the role of SMEs in Drenthe, which contributed to the participation of regional parties in the HEAVENN project.

- **NH<sub>2</sub> programme:** development of the Noord-Holland H<sub>2</sub> programme jointly with development company NHN, in conjunction with the province of Noord-Holland, the Amsterdam Economic Board and Port of Amsterdam, as well as a contribution to 'Regiodeal Kop van Noord-Holland' programme for tests and pilots relating to hydrogen as an energy carrier to boost education and the labour market. Also a role in various activities and projects related to:
  - Den Helder: H<sub>2</sub> shore power (WF), H<sub>2</sub> testing grounds (DKTI), H<sub>2</sub> substation Anna Paulowna (Alliander), Naval Base (Ministry of Defence) Blue H<sub>2</sub> and H<sub>2</sub> programme;
  - Wieringermeer: establishing project outlines and stakeholder management for the use of H<sub>2</sub> as an energy carrier to deal with bottlenecks in the electricity grid;
  - Alkmaar: development of H2HUB with InVesta to generate H<sub>2</sub> by means of electrolysis and gasification for use in the chemical industry and as fuel, integrated with the Industrial Smart Grid Boekelemeer (ISGB) project;
  - Studies: completion of system study with Hanze UAS (for EBN). Future H<sub>2</sub>-infrastructure, as well as input for studies: Energy infrastructure and H<sub>2</sub> Opportunities & Challenges North-Holland 2030.
- **Duwaal:** together with development company NHN supporting companies to manage the supply and demand of H<sub>2</sub> in the northwest of the Netherlands, with a focus on 4 filling stations, H<sub>2</sub> use, Waterstofboot Broekerveiling and Startup NGM (H<sub>2</sub> in agricultural machinery). Co-organisation of the Hydrogen & Mobility conference and the B2B event 'Fuelling the Future with Renewable Gases.'

- **EBN H<sub>2</sub>-study:** in association with EBN, completion of a study into the possible repurposing of offshore gas infrastructure in the North Sea to transport hydrogen produced from wind power, using a calculation model for the cost analysis of 5 forms of hydrogen transport.
- **HyDelta:** the outline, set-up and schedule of this national research programme for the roll-out of H<sub>2</sub> has been developed in conjunction with a number of initiating partners. In total, it concerns a programme of €10 million lasting 3 to 4 years. During the Wind-Meets-Gas conference, RUG, Hanze UAS, TNO, ERIG, Top Sector Energy, Kiwa, Netbeheer Nederland and Gasunie and others signed a declaration of intent to implement the programme.

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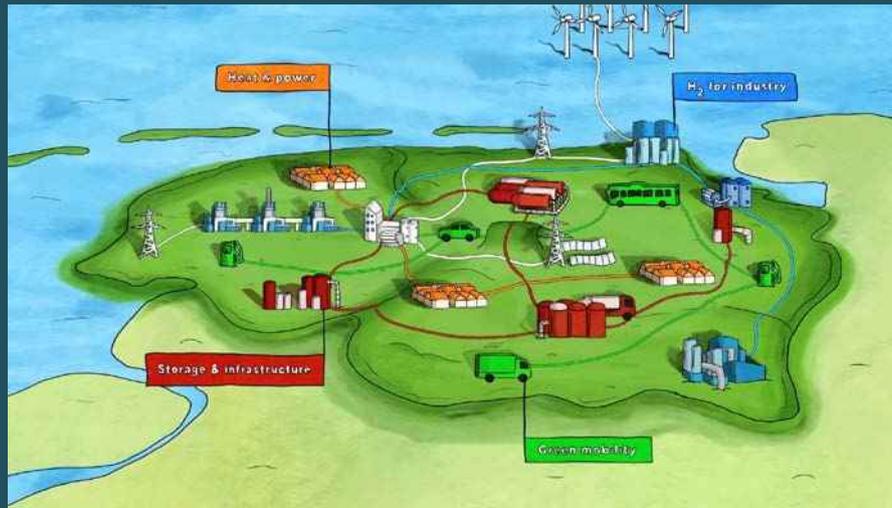
## EUROPEAN SUPPORT FOR THE GREEN HYDROGEN REGION OF EUROPE: NORTHERN NETHERLANDS (HEAVENN)

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*Press release 30/8/19*

"The Northern Netherlands is on course to become one of the European hydrogen leaders. The Northern Netherlands subsidy application for a Hydrogen Valley has been selected by the European Commission's Fuel Cells and Hydrogen Joint Undertaking (FCH JU) to prepare the €20 million subsidy agreement with public-private co-financing of €70 million. This is intended for a fully functioning green hydrogen chain in the Northern Netherlands. The consortium aims to launch the six-year project by January 2020 at the latest. The subsidy application was made in April this year by the HEAVENN consortium, led by New Energy Coalition. HEAVENN stands for 'H<sub>2</sub> Energy Applications (in) Valley Environments (for) Northern Netherlands' and consists of 31 public and private parties from 6 European countries."

<https://www.newenergycoalition.org/en/hydrogen-valley/> 



- **Green Hydrogen Booster:** project (led by Hanze UAS) is being launched and is intended to offer SMEs the possibility to acquire in-house expertise (via a voucher system) in the field of hydrogen. This will take further shape in 2020, with a role as part of a pool of hydrogen and systems integration experts.
- **Integrated Tidal Energy into the European Grid (ITEG):** fulfilled a limited role given the emphasis on deployment and knowledge exchange based on a combination of tidal energy and conversion to H<sub>2</sub> for use on islands and remote locations that is yet to be developed. This will be linked to the HEAVENN programme in 2020.



## STORE&GO

Store&Go - H2020 project, a value of approx. €30 million with approx. €2 million for NEC partners. This project investigated the role of Power-to-Gas in storage and flexible sustainable energy systems. Demos have been completed in Germany, Switzerland and Italy and a roadmap has been drawn up for technological, economic, social and legal integration ([www.storeandgo.info](http://www.storeandgo.info)). A role was also played in the establishment of Hanze UAS and our network for possible application in the region. EDI has developed a 3-day training programme, including an online environment. During the eight editions of the 'Power to (the) Molecules' programme, 200 participants received an overview of power-to-gas concepts, and what the STORE&GO project has contributed to this. The final meeting will take place in early 2020, after which the project will be formally closed.



Ad van Wijk

### **Building the Green Hydrogen Economy in the Northern Netherlands**

Since 2018, Ad van Wijk, professor of Future Energy Systems at Delft University of Technology, has held a part-time position as 'hydrogen ambassador' for the Northern Netherlands at New Energy Coalition, building on his study 'The Green Hydrogen Economy in the Northern Netherlands' for the Northern Innovation Board.

Van Wijk developed a hydrogen roadmap that includes advice, European subsidies and overviews of legal frameworks and required adjustments to existing legislation and regulations. He also worked on a thematic programme for the many hydrogen projects in the North.

Outstanding works and communications in 2019:

- National broadcasted tv programme 'VPRO Tegenlicht' (February 2019) entitled 'Deltaplan Waterstof'. [https://www.npostart.nl/VPWON\\_1295405](https://www.npostart.nl/VPWON_1295405) and meet-up sessions throughout the country.
- Information and knowledge sessions with EU Commissioner Maros Sefcovic.
- Provided information on the systematic role of hydrogen for the Dutch National Climate Agreement.
- Publication of article 'Hydrogen, the bridge between Africa and Europe' (September 2019).

Van Wijk's appearances and meetings also inspired many business initiatives and projects and he focused on building knowledge, education and innovation:

- The hydrogen investment agenda for the Northern Netherlands (February 2019) with some 30 projects with an estimated total investment value of 2.8 billion euros.
- Creation of a network of hydrogen companies - Hydrogreenn
- Inclusion and shaping of hydrogen in curricula and research at knowledge institutes (vocational, Hanze UAS and RUG).
- Development of applied hydrogen research programme HyDelta led by Professor Catrinus Jepma





# 3.3

## LOCAL ENERGY SYSTEMS



Mark de la Vieter

The knowledge position on Local Energy Systems has been expanded soundly on the basis of a number of new large European projects, where broad consortia are working on area-specific energy solutions. This partly overlaps with the theme of Industrial Transformation, when it comes to smart, local systems on company premises. In addition to the projects listed below, an active role was also played in the Regional Energy Strategies in areas including the provinces of North Holland and Groningen. In addition, seven events relating to this theme were organised, including the Net-op-Groen congress with the provinces. A broad EDI portfolio was also implemented with various Masterclasses, in-company courses and Open Market programmes in the field of energy markets, systems and storage.



- **TKI Community-flex BZO:** the measurements were completed somewhat later than expected. At the request of the consortium, the project was therefore extended until 31 March 2020. The measurement results and associated conclusions are expected in the first quarter of 2020. Upon completion, an extensive report will be published with all findings of the past years.
- **SMart IsLand Energy (SMILE):** organisation of round table discussions and matchmaking sessions on new techniques for sustainable islands. An interactive workshop was also organised (70 participants) to explore which best practices in Madeira (PT), Samsø (DK) and Orkney (UK) could possibly be used to boost sustainability on the Dutch island of Texel.
- **Boekelermeer Industrial Smart Grid:** support in setting up trading platform BEplus Alkmaar, which houses 16 SolarPV installations (20,000 panels), including management and maintenance. Connection made to H2HUB for possible H<sub>2</sub> storage system. Also support of NHN in making business parks in North Holland North region more sustainable.
- **Wieringermeer E-net:** launch of a new showcase project with Alliander and development company NHN to create a blueprint for the future energy supply with a focus on hydrogen and the integration of gas, heat and electricity to prevent bottlenecks in the energy network with the growth of data centres and greenhouse horticulture.



- **Making City:** development of the analytical framework and the launch of the first pilots to showcase smart, energy-positive 'Lighthouse' cities in Oulu (FI) and Groningen (NL) as part of the European Smart City project. Based on this, replicable business cases will be developed and a roadmap to an energy-positive City of Groningen in 2035 will be drawn up.
- **Smart Grid Ameland:** development of a new project with various partners (including TNO, NAM, GasTerra, SMEs and the municipality) to make the Dutch island of Ameland's energy supply more sustainable, using locally generated sustainable energy as much as possible. The project has been submitted to the H2020 programme, decision expected in May 2020.
- **PoCITYf:** the start of preparations and risk inventories for demonstrations of smart, energy-positive cities in the designated 'Lighthouse-cities' Alkmaar (NL) and Evora (PT) with a special focus on making cultural heritage more sustainable. Execution of the overall co-ordination, as well as elaboration of replication possibilities and communication of project results.
- **Research agenda:** a research agenda for Local Energy Systems has been drawn up with RUG/Hanze UAS researchers and industrial/societal partners, the broad outlines of which are as follows: Organisation of the (local) energy system, Digitisation, Access to energy & Technological developments. This agenda is intended to serve as the basis for the development of new research projects in 2020.

**DON'T BE A FOSSIL**

**WE CAN  
CHANGE**



# 3.4

## INDUSTRIAL TRANSFORMATION



Machiel van Steenis

The Industrial Transformation theme overlaps, obviously, with our other themes. As with local energy systems when it comes to smart, local systems on commercial sites, but also the greening of the gas system and hydrogen as an alternative to fossil fuels and raw materials in industry. In order to further expand the specific knowledge position on this theme, an additional project officer joins the team in the second half of 2019. The focus will be on additional issues on the basis of which the knowledge position can be expanded. In this context, a start was made with the development of two new project options for Carbon Capture Utilisation & Storage (CCUS), involving co-operation with the new partner Wetsus. The EDI Masterclass CCUS was also organised on this subject for the first time and will be continued next year. In addition, a number of specific projects in the field of Industrial Transformation were implemented.



- **Dutch Thermochemical Cluster:** provision of organisational support to the knowledge network (formerly Dutch Torrefaction Association) for technology developers who use thermal processes to recycle biogenic waste streams and/or biomass into fuel, raw material or energy. Kick-off organised and 15 parties joined. [www.dutchthermochemicalcluster.nl](http://www.dutchthermochemicalcluster.nl) 
- **CCU options:** study conducted (with RUG) of technical and economic options for combining CO<sub>2</sub> from the RWE Eemshaven power plant with H<sub>2</sub> or other chemical components as feedstocks for industry or mobility (e.g. methanol, higher alcohols, ethers (DME), methane, ammonia or Fisher-Tropsch synfuels). The study will be completed in early 2020.
- **Chemport Innovation Centre:** the National Programme Groningen (NPG) awarded a €3.2 million subsidy for, among other things, a demolition site at the Delfzijl chemical cluster for research and tests into the use of syngas for green raw materials. Discussions are ongoing about the suitability of the subsidy conditions. One aspect of this is the possible relocation of the Torrgas gasifier at DNV GL to Delfzijl.
- **Research Agenda:** a Research Agenda Industrial Transformation has been drawn up with RUG/Hanze UAS researchers and industrial/societal partners. The main points are: Corporate Transformation, Energy Saving and Renewable Sources & Green Raw Materials.

# 3.5



Ruud Paap

## GREENING OF THE GAS SYSTEM

A sound knowledge position and portfolio on the theme of Greening the Gas Chain have been built up in recent years. The emphasis here is on innovative forms of green gas production on the one hand, and ways of applying green gas and BioLNG, particularly in the field of mobility (see projects below) on the other. There is also a good connection with national organisations as a member of the National LNG Platform, as well as secondment of a green gas project generator to TKI Gas and Groen Gas NL. In addition, 12 events have been organised around this theme, including the closing conference for LNG Pilots. A broad EDI portfolio was also implemented with various Masterclasses, in-company courses and Open Market programmes relating to LNG and bioLNG, Green Gas and the Gas Value Chain.

- **Clean Inland Shipping (CLINSH):** in the context of this Interreg project (18 partners / 4 countries), the first tests were carried out on 30 selected ships and the first conversion measures were taken for emission-reducing technologies and alternative fuels. The mid-term conference took place in Antwerp in March. Support for ship selection and project communication. [www.clinsh.eu](http://www.clinsh.eu) 



- **LNG Gamechanger:** the LNG-powered trailing suction hopper dredger ECODELTA was completed in Harlingen by a consortium of northern shipyards under the supervision of shipyard Barkmeijer Stroobos. The vessel has been commissioned and is now keeping the shipping lanes in Rotterdam and Eemshaven clean. It is equipped with an LNG engine for propulsion and dredging, which results in considerably lower emissions.
- **Power-to-Gas using Biological Methanation (Bio-P2G):** completion of four years of research (led by Hanze UAS) into technological and economic options for producing methane by binding CO<sub>2</sub> from biogas hydrogen. This was one of the reasons for the closing conference. The total financial scope was approximately €1.5 million with a PRO Raak subsidy of €0.7 million. The results were so promising that the 'WhyCareMore' follow-up project was launched.
- **InVesta:** representation on the board and project team, which was involved, among other things, in a 5-year programme and investment decision for its own facilities at the Boekelermeer-vicinity. It also played a role in undertakings such as the establishment of five companies, as well as the completion of an ERDF application (with 4 SMEs and InHolland), the H2HUB and Living Lab Smart City Alkmaar.
- **Biomass/Feedstock Studies:** completion of a study for EBN into the availability of biomass in the Netherlands for the production of green gas at municipal level, and for ENGIE into available biomass for thermochemical conversion, which, in addition to the overall picture for a number of streams (wood waste classes A, B & C, RDF and paper-plastic pellets), the 10 largest disposal firms were also identified.

- **GZI Emmen:** the construction phase of the SolarPV project has started. The hydrogen aspect was included in the HEAVENN application. Negotiations between Shell, ENGIE and NAM about the development of the green gas project are ongoing. The municipality of Emmen adopted a policy document with a development perspective for the GZI Next project. The Ministry of Economic Affairs has embraced the initiative; GZI Next is mentioned in the Roadmap for Green Gas (Ministry policy document).



## LNG PILOTS - [WWW.LNGPILOTS.EU](http://WWW.LNGPILOTS.EU)

This Interreg project was completed after 4 years with a major closing conference in Duisburg, Germany. Various innovations were further developed with the project, including a volume-optimised tank, a new concept for an onshore LNG-powered generator that can generate both heat and cold, a concept for a user-friendly filling station and a fully automated filling robot arm. Partly as a result of this project, 12 filling stations were built in Germany, various subsidy guidelines were drawn up and safety standards for handling LNG from the Netherlands were adopted. Various business plans for (bio)LNG facilities were also drawn up and will be implemented in due course. The final conclusion was that the market sees LNG and bioLNG as an effective means of greening heavy transport and carriers are prepared to switch to it. A total of 48 German and Dutch partners were involved. The total budget was €6.7 million, with €600 thousand for NEC as the co-ordinator.

4

**EDUCATION**

# 4.1



Various co-ordination and support activities were performed to promote energy education, particularly at secondary vocational level (MBO), professional education level (HBO) and graduate level (WO) (see below). In view of the specific target group and associated communication, the Energy Academy Programme was developed further as a brand for HBO and WO students. A new house style and website were also developed for this ([www.energyacademy.org](http://www.energyacademy.org))<sup>□</sup>, showing a clear relationship to New Energy Coalition.

- **Energy Challenges:** due to disappointing financial results, the Energy Challenges Noord foundation was no longer able to meet its loan commitments. Therefore, in consultation with the funding provinces, it was decided to cease and liquidate the foundation. The assets and activities were taken over by the new Energy Challenges Nijmegen foundation, which will continue the campaign - including primary schools in the north of the Netherlands. Further settlement will take place in 2020, after which the involvement of New Energy Coalition will end.

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## Energy College

- **Energy College Gas 2.0:** the programme started in 2019, initially with the set-up of governance and the project organisation. In addition, the website was updated and presented during network meetings in the three provinces of Groningen, Friesland Drenthe. Three working conferences were organised to discuss and define projects with the triple helix partners. These plans will be implemented in 2020. The goals of the first school year have only partly been achieved due to the delayed start.
- **Learning activities under the Energy Academy Programme:** organisation of 30 learning activities, with a total of almost 1,200 registered participants. Of these, 44% came from RUG, 40% from Hanze UAS and 16% from other organisations. The learning activities consisted of lectures (16), excursions (5), symposiums (2) and master classes (6). Also organisation of a 2-day Energy Tour with four company visits, case studies, network drinks and snacks and a visit to a power plant.
- **Energy Academy Certificate:** 37 certificates and 14 proofs of participation awarded for the academic year 2018/2019. Of these, 55% were awarded to RUG students and 43% to Hanze UAS students. This edition was also the first time that a certificate was awarded to an vocational educated student (Noorderpoort college).

- **Students Community / Learning Community:** possibilities for a student community were investigated, but due to limited capacity and resources were not taken further. RUG also made an attempt to set up a 'Learning Community Harbour as H<sub>2</sub>-hubs', which did not get off the ground due to a lack of interest. Students who were interested were placed in the Learning Community Energy of the Faculty of Economics and Business Administration (RUG).
- **Recruitment campaign E-education (Follow Energy):** the campaign to encourage students at RUG and Hanze UAS to study energy was renewed and improved. Having reached almost three million people, almost 9,000 unique visitors and achieved more than 10,000 clicks, the campaign was very successful. In addition, the campaign not only had a positive effect on the promotion of energy education in general, but also on that of the individual courses and faculties.
- **Follow Energy Career Event:** organisation of the first career event to bring students interested in the energy sector into contact with companies in an interactive and accessible way. Bachelor, Master and PhD students, as well as recent graduates could follow master classes, go on 'speed-dates' with companies and experience what it is like to work in the energy world at the Energy Playground. In total, almost 20 companies participated, and the event was well attended by over 150 students.

The logo for 'Follow Energy' is contained within a black rectangular border. The text 'FOLLOW ENERGY' is written in a bold, black, sans-serif font. A small black dot is positioned to the left of the 'O' in 'FOLLOW'. To the right of the word 'ENERGY', there are three black arrows pointing to the right.

**FOLLOW ENERGY**

- **Hanze Masters:** for the Hanze UAS Masters course, various lectures were held to transfer practical knowledge to the students. These included the modules Large Scale Business Case Economics & Law, Energy Business Plan and Applied Research Energy System (SeSyM Master) and New Business Development for Sustainable Biofuel Systems (EMRE Master).
- **RUG Hackaton:** Under the leadership of RUG, efforts were made to organise a Groningen edition of the Digital Education Hackathon (following the Benelux version in October). Despite a superb programme, this did not take place due to a lack of interest. It turned out that students were not in a position to participate, and the subject (digital energy education) was perhaps not sufficiently appealing to typical 24-hour hackathon participants.
- **Mozambique:** the development of a 2-year Master's degree in Management of Renewable Energy Systems was co-ordinated with RUG and Hanze UAS. The Masters was launched at the Eduardo Mondlane University in Maputo with 13 students. Furthermore, a business plan and roadmap for MEA (Mozambique Energy Academy) was developed further and transferred to the Mozambican partners.

# 4.2

## EDI BUSINESS SCHOOL



As a result of the legal merger, the activities of Energy Delta Institute have been fully incorporated into EDI BV, with New Energy Coalition as 100% shareholder. A separate annual report will be drawn up for EDI, which will also be used as feedback for the International Supervisory Board. For the sake of completeness, reference is made to this EDI Annual Report 2019 for more details and background.

With a total of 32 courses and 11 events, the total range has increased again. Of these, 40% were in-company and 60% open market. In the end, more master classes and programmes were organised than initially planned. A total of 615 energy professionals were trained and over 500 participants were received at EDI events. The number of participants from organisations outside the energy sector, such as the financial sector, government, industry and mobility, is increasing. The expectation is that it will be possible to continue along these lines in view of the increasing importance of energy and transition in society.

## TOP 5 IN COMPANY 2019

	Country	Participants
College series EBN	Netherlands	38
In Company Hydrogen Veiligheidsregio	Netherlands	30
Masterclass Green Gas Drenthe College	Netherlands	26
Masterclass Hydrogen in 1 Day	Netherlands	24
In Company NAM	Netherlands	21

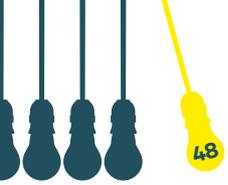
## TOP 5 OPEN MARKET 2019

	Country	Participants
Masterclass Hydrogen in 1 Day (4 ea editions)	Netherlands	89
Masterclass Hydrogen	Belgium	58
European Energy Markets (2 ea editions)	Belgium	33
Masterclass Carbon Capture Utilisation & Storage	Netherlands	25
Masterclass Biogas / Flexibility & Storage	Netherlands	18

The key theme of the courses and events on offer is the need for an integrated system approach with an emphasis on its practical and social implications. The programming combines traditional and new energy knowledge with future trends and scenarios in order to contribute to a realistic picture of the energy transition. This is successful given the number of participants and the high score (average score of 8.4). The core themes - approximately 60% of the range - are well represented, with a particular emphasis on the themes of Hydrogen, Sustainable Gas and System Transformation Integration.

The number of in-company courses remained stable at 13, successfully continuing the focus that was previously established. In addition, there was visible growth in the masterclasses, especially for Hydrogen, Green Gas and CCUS. The strategy is to build on this, because master classes can be organised fairly quickly and easily and provide a good way to introduce new topics and themes to the market. This is in line with the growing demand for short-term, targeted training, rather than long-term programmes.

Open market courses continue to be popular, with an emphasis on the energy system in transition, the role of gas and new topics such as hydrogen and CCUS. Remarkably, the longest running International Gas Value Chain (IGVC) course had fewer participants than expected. This is a direct consequence of the shift in focus to other energy topics such as LNG and Hydrogen. The IGVC course is scheduled for the last time next year.



The international focus is important for EDI. In total, approximately 38% of the participants come from outside the Netherlands. A strong position was maintained in Europe, especially in North-West and South-West Europe, and Russia. Furthermore, new contacts were established for further expansion in Greece, Croatia, Spain, Italy, Turkey and other countries.

Various events were organised in addition to the courses, and there was tangible interest in the theme of hydrogen there. In this context, events were organised for the Store&Go project and a special youth event, the Micro MBA 'What if we Fail'. In addition, the EDI International Supervisory Board and the International Partner Meeting in Russia were organised this year.



A new corporate identity and a new website with a number of extra functionalities were developed to boost marketing. The purpose of this is to achieve a more targeted acquisition, to be able to follow the marketing efforts better and to attract more participants to the courses.

In order to remain attractive, EDI must move with the energy trends. It is therefore crucial to introduce new topics and continue the development of successful initiatives that have already been started. The growth ambition primarily concerns transition topics, where the traditional basis of gas-related topics can be further deployed and expanded internationally. Transition topics such as hydrogen, the greening of the gas system, system integration, mobility and the repurposing of infrastructure in the North Sea are clear opportunities for growth. In addition, we also want to focus on modernising the educational offering by means of online learning modules and serious gaming. Plans were developed for the EDI development fund in 2019 in order to expand further on the new topics. This will be submitted for approval at the beginning of 2020.

5

**ORGANISATION**

# 5.1

## COMMUNICATION & RELATIONSHIP MANAGEMENT

In 2019, New Energy Coalition's communications were streamlined and given a sharper, clearer goal. One of the ways we achieved this was by developing a corporate story (see also 'About New Energy Coalition'). This corporate story was also translated into our new website, which went online on 1 October. This has created a framework in which all our activities fit logically together.

We also developed the press policy, in which our partners on the one hand and the outside world on the other are our important stakeholders. Paid communication can rarely be justified, we rely on 'free publicity' and open communication. We actively share relevant developments in our work. To this end, we published 2 newsletters for our clients and partners, as well as actively communicating our 2018 Annual Report and 2019 Annual Plan. In addition, the press was frequently contacted on a wide range of subjects. Greater attention was also paid to our social media channels. These channels enable us to reach a growing, relevant and international target group (730 Twitter followers and 1,600 LinkedIn followers).

A branding policy was formulated in the run-up to the legal merger. The New Energy Coalition brand is leading in this. The Business School EDI has kept its own brand, but communicates as the Business School of New Energy Coalition. Also, due to the specific target group (students), the Energy Academy Programme was retained as a label, with its own corporate identity that is in line with New Energy Coalition. The Energy Valley organisation was phased out as a brand. The communication and activities that took place below continue under the New Energy Coalition brand.

One central CRM system was created to further enhance the professionalism of the relationship management. This was filled with data relating to approximately 15,000 business relations, who were also checked on the basis of privacy legislation and interest.



We appointed relationship managers for the most important partners. In addition, 65 events were (co-)organised to actively bring our network (students, knowledge institutes, companies, governments) together and exchange information. In total, these events attracted more than 4,000 participants, with Wind-Meets-Gas and the Climate Summit Klimaattop Noord (organised jointly with the provinces) being the largest.

In addition to corporate communication, a role was also played in the communication of various projects (with different tasks). Support was also provided for team Education's marketing campaigns for the Career Event and Energy Learning Activities (Follow Energy), as well as marketing of courses and the development of a new EDI website.





# 5.2

## OPERATIONS

In consultation with the partners and the Supervisory Board, it was decided to further perfect the merger and to proceed to a legal merger. This was implemented at the end of 2019 on the basis of which the organisations Energy Delta Institute, Energy Academy Europe and Energy Valley were dissolved and merged into the New Energy Coalition organisation. The EDI business school activities were transferred to Energy Delta Institute BV - with the New Energy Coalition as 100% shareholder - in order to separate this financially and fiscally. This will simplify the administration (2 accounts instead of 5) and one annual account will suffice with for the entire organisation and a separate annual account for EDI BV for feedback to the EDI International Supervisory Board.

A monitoring system was also set up to link the timekeeping and financial administration. This makes it easier to compare personnel costs (hours times rate) and costs incurred during the financial year against the product budget. This system will continue to be rolled out in 2020 in order to provide increased management information, including management information for the project leaders. For this purpose, a specification of the budgeted manpower and resources per project, as a working framework for the AO/IC and project management, was also included as part of the work plan 2020. A working group was appointed to achieve further optimisation of the 'delivery organisation'.

## **Governance**

The Supervisory Board met four times, during which the annual accounts and 2018 Report, the procurement schedule, the NEC employment conditions, the work plan and the 2020 budget were adopted. Furthermore, an Audit and Remuneration Committee was set up with associated regulations, and an auditor was appointed for the next 3 years. The legal merger was also approved, which was implemented before the end of the calendar year. Consequently, the underlying foundations were dissolved and a number of changes were made to the Articles of Association.

The Foundation Council met twice, and there was one written round when approval was given to matters such as the profile outline for Strategic Partners and the amendment of the Articles of Association resulting from the legal merger. The profile for the Managing Director and the 2020 work plan were also submitted for consultation. Additionally, the annual accounts, report and 2018 report were discussed, as well as the new structure for the research pillar. The Strategic Coalition Council met 3 times, focusing on RUG's new Energy Minor, the schedule of the EDI Business School, the HEAVENN proposal and the new set-up for the research pillar. The 2018 Annual Report and the progress of the KPI monitor were discussed. The International Advisory Board was consulted twice (by telephone) concerning the new research agendas and the 2020 work plan. The International Supervisory Board met once to discuss the EDI Annual Report 2018 and the 2019 programme.

### Partners

DNV GL joined as a new partner in 2019. In view of the strategic importance, agreements were made with Wetsus and Erneuerbare Energien Hamburg on mutual accession as partners. A new contract was signed with partner NAM for 2019 to 2021 inclusive. In addition, agreements entered into with Groningen Seaports and GasTerra on contract extension for the period 2020-2022. GasTerra's contribution will be phased out gradually. The current subsidy agreement with the SNN provinces expired in 2019. Agreements were made with the province of Drenthe and the province of Groningen about a continuation on an equal footing in 2020 and beyond. Separate agreements were made with the province of Friesland concerning a lower contribution. Preparations were made with the municipalities of Den Helder and Hollands Kroon for accession as new partners. These agreements will be finalised at the beginning of 2020.

# 5.3

## HRM

The total implementation capacity amounted to almost 50 FTE, of which approximately 10% was based on hired staff and/or secondments. Most of them were therefore employed, just over half of them on a permanent contract basis. A total of 19 (16.8 FTE) transferred to New Energy Coalition as an employer (previously employed by EDI or SEV, or were seconded via RUG or Hanze UAS). The average age of salaried employees was 39. Of these, 55% were male and 45% female.

Sickness absence was approximately 3% below the national average. In total, absenteeism was about 5%, of which about a quarter was due to pregnancy and a little less than half due to chronic, long-term absenteeism (partly work-related). A total of 10 (8 FTE) employees left and 13 (11.5 FTE) new employees joined.

The Managing Director of EDI left the organisation as of September. In consultation with the Supervisory Board, it was decided to assign this position to the Managing Director. Partly as a result of this, Gertjan Lankhorst decided to resign and make way for a new, full-time Managing Director. Therefore, an application procedure took place, on the basis of which Marieke Abbink will start on 1 February 2020 and, after a handover period of two months, will formally take over the position of Managing Director as of 1 April.



Marieke Abbink

With the legal merger, New Energy Coalition became the formal employer of all salaried personnel. The majority of these employees had already transferred earlier, with the exception of five employees who were still under contract with the Energy Valley organisation. They are now also covered by New Energy Coalition, while retaining the Energy Valley Terms and Conditions of Employment.

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**New Energy Coalition**

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