



Towards a Sustainable Europe

North Sea Sustainable Energy Planning

Report of the Midterm Conference | Hof van Saksen, Drenthe (NL) | 14th April 2011

SUSTAINABILITY • OPPORTUNITIES • REGIONS • CLIMATE • ENERGY-PLANNING • SOLUTIONS

A day full of presentations on sustainability, with as common denominator, the North Sea regions. The word 'energy-planning' sounds like something technical and advanced but it quickly becomes apparent that we are talking here about ambitions and the drive to push forward. Whether it be local governments, those participating in the market, scientists or businessmen: all are devoted to sustainable development. The midterm conference offers a taste of what's brewing.

Conclusion: work is being done on all levels and with a wide range of instruments. The diversity is both inspiring and promising at the same time – sustainability is becoming more and more anchored in our daily lives.

For further information please contact:

- Ben van Os, Interreg Project Manager
b.os@drenthe.nl
- Deirdre Buist, Interreg Senior Project Officer
d.buist@drenthe.nl

www.northseasep.eu

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Reporter: Kees de Graaf

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Report of the Midterm Conference



A warm welcome

Ben van Os, Project Manager and Interreg Coordinator at the Province of Drenthe opens the conference with a warm welcome to all participants from the various countries in the North Sea region. The conference marks the halfway stage of the North Sea Sustainable Energy-Planning project (NS SEP) which has been underway for 18 months now. A good moment to take stock, discuss what has been achieved to date and note the challenges for the coming years.

Member of the Provincial Executive Board Ms Tanja Klip is our hostess for today and she draws the attention of the audience to the landscape of the province of Drenthe. This is a landscape that has historical connections with energy sourcing. Turf, oil and gas have been the traditional sources and now it's time for the new generation of energy sources - sustainable and renewable. There is an ambitious goal for the coming period till 2020, namely a 30% reduction of CO2 emissions. The Province finds this of great importance. It's not without reason that this was the first region to make an agreement with the national government. 'We want to remain

frontrunners in this field', says Tanja Klip. 'This is part of our regional identity. Our goal has been translated into concrete and measurable targets, such as the development of 100,000 energy-saving houses. Driving vehicles running on gas and electricity is also being stimulated'. Ms Klip also names the Northern cooperation Energy Valley as an important party for the creation of suitable conditions for sustainable initiatives.

The partner cooperation in the North Sea SEP project is also of great value, according to Ms Klip. 'We now want to take some giant steps forward, as do other partners in this project. We're very interested in other examples and we can learn a lot from each other'.



New methods and techniques

Prof. Dr. Manfred Weisensee, seated at JADE University of Applied Science in Oldenburg, is chairman for the day. He indicates that this is his fourth (!) conference in twelve days. 'It's obvious that sustainability is getting attention on all levels. Today we will focus on what's happening on the international front', he said. Prof. Weisensee observes that energy has been a hot issue for the past five years – he expects this to remain so for at least another twenty. NS SEP is, in his opinion, an enthusiastic partnership, contributing to knowledge development and sharing experiences. The project has concrete goals:

- Further development of energy-planning, in such a way that financial investments in energy should remain in the region ('and not go to Gazprom or Saudi- Arabia');
- Energy plans should be a catalyst for new work styles;
- Developing and disseminating knowledge;
- Creating new models for cooperation on various scales and levels, thus increasing competitiveness;
- Linking to the national policy of the countries involved.

NS SEP should result in the creation of a 'trans-national toolbox for sustainable energy-planning. A lot of work has been done with regards to filling this toolbox during the past months, within five 'work packages' covering such matters as project management, and communication. JADE University itself is working on the design of an energy guide –

remote sensing ('where are we losing energy?') and offshore wind energy.

To start the day Manfred Weisensee introduces an interesting research project - a first tool for the toolbox. Peter Böhme of the Max Planck Institut für Plasmaphysik in Munich shows how modern measuring methods can help to make urban areas more sustainable, using the city of Oldenburg as an example. The need for energy reduction in Germany is more than obvious, according to Böhme. Of the 100% energy imported just 31% actually remains as usable energy. 'On the other hand every kilowatt hour saved means a possible reduction of three kilowatt hour crude energy to be imported. Considering that Germany wants to produce 50% of their energy from renewable energy sources by 2050, there is a lot to gain - by improving heating in houses, for example. That calls for improvement on four fronts: eliminating financial barriers, increasing political acceptance, political integration and new forms of administration. There are a lot of changes underway on all four fronts: introducing external investors and insisting that each renovated home be connected to city heating, for example.

A technique that can help achieve our sustainable goals is being tested in Oldenburg at the moment. Here the heat loss of all buildings has been mapped. By linking this information to all kinds of other information in a database one can deduce where most heat is lost and plan how to tackle this effectively.



A completely different form of technique is that of the regional cooperation model of Konoberg. As we see in the presentation of Gunnar Nordmark (Chairman of the regional cooperative in South Småland, Denmark) this is more of a process technique. As early as the 1970's the municipal board members were aware of the advantages of a cooperative in the area. The regional cooperative union that emerged is responsible for, amongst other things, improving the quality of public transport. There are also heavy investments in sustainable energy sources. The CO2 emissions are decreasing faster than first planned. The regions

climate committee, with representatives from 8 municipalities, industry (including IKEA) and knowledge institutes plays an important role. It's a unique form of public-private cooperation that works perfectly. 'Because there are many parties involved it gives us more authority. We keep each other on the ball'. Via an extended network of volunteers we organize regular activities, workshops etc. Nordmark does mention that support from the residents is essential: 'Everyone has a part to play. Changing behaviour is of great importance'.

The regional approach

More than ever we now see a regional approach to sustainability. During the conference three interesting examples pass the review. Chris Ashe, researcher at Dundee College, tells about the waterfront of Dundee City. At the moment this is Scotland's largest redevelopment project. The most important aim of the project is revitalization - this has been an area in decline for the past 15 years. Efforts are being taken to improve business accommodation, design a new gateway to the city and create better housing conditions. Mr Ashe points out the beauty of the maritime area along the coastline which is not being experienced to its full advantage. 'The area along the waterfront is like a ghost town. After 5 o'clock the place is dead'. The

new waterfront programme was initiated following the advice of the university where Ashe works. The first projects are now being developed, including a beautiful new museum (a branch of the Victoria & Albert Museum). 'A new 'place to be' in Dundee that will attract people to the city'. The only thing Ashe finds a pity is that, as yet, not enough attention has been paid to all the opportunities for renewable energy. There are still more possibilities, for example building a bio-mass installation in one area which could provide energy for more consumers in the vicinity.

Hans van Meerendonk, representing the Province of Fryslân, tells the audience about another interesting



InterregIVB project; Cradle to Cradle Islands. 12 islands in eight countries are in a partnership together with 24 partners from knowledge institutes, government authorities and businesses. The islands are being used as testing grounds for sustainable innovations. 'Island inhabitants have always been survivors, which is why they are very open to innovations that can help them continue their island lives. The islands are also profiting from the promotional value of this project - it's attracting a lot of visitors'.

The partnership's experiences will be shared with other islands in the near future. The ultimate aim is to create a Cradle to Cradle Island concept based on complete self-sufficiency (energy, water and materials). And that this is achievable can be seen on the first testing ground - Kameleon Island. Another example of success is the demonstration house on Ameland which is completely self-sufficient. Using the latest technology 100 litres of drinking water is 'taken from the air'. And in Sneek 32 new homes have been built with a focus on water recycling. 'All new techniques are being placed on a website: we believe strongly in a shared source approach. Meanwhile learning institutes, such as Wetsus, and large business concerns like Unilver have become involved. There has even been interest from New York, where they want to make Roosevelt Island self-sufficient'. According to Van Meerendonk the charm of the Cradle to Cradle concept is the possibility for decentralization. 'We no longer need huge systems'.

Energy Valley in the North of the Netherlands and Niedersachsen in Germany cooperate on a higher level. Koos Lok, representing Energy Valley, informs us that the energy sector is growing fast in the North of the Netherlands. Billions are being invested, forming a boost for employment in the area. Amongst others, investments are being made in large wind power parks along the Dutch-German coast. This was also the basis for the idea of the Hansa Energy Corridor in which, alongside Energy Valley, the universities of Bremen and Oldenburg participate. 'We're aiming for an energy grid that is as sustainable as possible – with the extra goal of becoming a European Region of Excellence', says Lok. It is a long-term cooperation, with financial support from the EU. There is a possibility that this initiative will be joined by a third country. 'We're currently structuring the organisation, using the experience gained through Energy Valley. We now know, for example, that a concept like this can only be successful if parties from the public sector, businesses and knowledge institutes all participate together. Other countries are now also considering this formula'.



The importance of innovation and optimism

Encouraging innovation by the powers that be is certainly worthy, but it is just as important that businesses take their own responsibility. An example of the latter approach is presented by Chris Ashe of Dundee College. He tells how another project, Build with Care, has delivered the necessary background knowledge in the area of passive housing and sustainable renovation (retro-fitting) of existing houses. 'Renovation is the biggest challenge. How do we ensure that the knowledge gained here finds its way to the mainstream? That is why it's important for the North Sea SEP partners to study this material as well'. Meanwhile, the first pilot projects have been completed, such as the sustainably built visitors' centre in East Flanders and a renovated school in Aberdeen. It is now essential that the general public's attention is drawn to these issues, through education for instance. Educational programmes should be fun, according to Ashe. 'In the end it's the human factor that counts most. We will not get anywhere without a real change in the consumer's attitude and lifestyle.' By saying this Mr Ashe endorses Gunnar Nordmark's remark concerning the importance of civil participation.

The presentation given by Hans Brezet, professor at the Technical University Delft, continues on the theme of innovation. Not so much on building level but more on product level. Brezet shows what the students of industrial design are capable of - and that is quite a lot! 'Key words are: optimism, realism and resilience'. This results in a wide range of

smart energy products – products that save energy because the average household will choose these more and more. These products can encourage new behaviour by consumers, according to Brezet. 'We need to seduce with clever services'. And it all looks good, like the extremely economical Philips TV or the bed with airco ('because you only need cool air there at night'). Even better is the use of renewable energy in appliances and devices. 'A LED light designed for Asics, for example, that works on the energy produced during physical exercise. Or a light with solar cells to be used in Third World countries. TU Delft is now also testing a furniture-bike for IKEA'.

There are even more ideas being practically researched. For the German Wadden island Spiekeroog practical research is being carried out into the possibilities for total self-sufficiency regarding energy production by reducing the number of installations on the island. For the coming period Brezet sees a challenge in linking product innovations to the national policy agenda on sustainability. He ends with a notable conclusion: 'It is not just about technique. It's about how the young people here are working in a network, often in co-development with the end user. We are shifting the focus from supply to demand'.

The third speaker on innovation has travelled a longer distance: Davide Järevik of the A-Hus construction company in Sweden presents the One Tonne Life concept. His story in a nutshell: we all



produce about seven tonnes of CO2 per person per year. Can we reduce this to one tonne? To research the possibilities an interesting formula was chosen whereby an 'average' family's endeavours to live as 'sustainably' as possible and they are observed for six months. During this period their CO2 production is monitored constantly. The 'passive' house in which they live has been built with the utmost consideration for sustainability (including an exterior wall covered with solar panels) and the family car is an electric Volvo, to mention just a couple of

examples. For A-hus it is a very interesting learning process, Mr Järevik tells us. 'But that's not all. This house is already in production and will soon be on the Swedish market'. It's the beginning of a great adventure, according to the enthusiastic A-hus director. 'But some things can only be changed by the people themselves. Eating meat, for example, results in sky high personal CO2 emissions'.

The role of the municipalities

The last theme of the day deals with the role played by the municipalities. They have an important role in achieving the ambitions of North Sea SEP. That was made even more obvious by Henk Kosmeijer, Councillor for the Municipality of Tynaarlo. Ambition, according to him, is not a dirty word: 'It is good to set high goals. If you are the most sustainable municipality only for one day, that doesn't matter. It means that others have learned more from you and brought it even further'. Using a new housing development in Vries, The Bronnen, as example Kosmeijer tells the audience how his municipality is working on sustainability. With the prospect of ever increasing energy prices developing an area that is self sufficient is a good idea. Working everything out is another thing. Kosmeijer: 'This is pioneering work. I have lots of questions; what are the possibilities

for geothermic energy? Is a park full of solar panels something for us? What are the chances for new business models? I want to explore as many options as possible so that I can say later – we did our very best.'

Besides the Bronnen, Tynaarlo is also involved in other projects dealing with sustainability. Kosmeijer mentions the replacement of old school buildings with new, and accommodation; 'That means investing, but with the old buildings we're heating the air outside more than the rooms inside – that's how much is being wasted'. The retro-fitting of existing buildings is a priority. The Councillor of Tynaarlo warns that we need to think long term. 'You may think it's best to keep the costs down now but you're only passing the problem on to



future generations. Despite the crisis and municipal cut-backs I argue that we must not make cuts in the agenda for sustainability'. Kosmeijer has high expectations of the new business models and that is where the challenge lies for the future: 'The technique is available. With the Bronnen we are going for solutions that have been proved and tested, and profitable. It's about using that technique in such a way that an achievable business case can be developed. I'm confident that this will happen'. The role of the residents – another recurring theme on this day – is just as important, according to Kosmeijer. An area like the Bronnen, with its image of sustainability, can attract interested parties. 'Then we must persuade them to invest. But that will only work if we can guarantee a certain return on investment'.

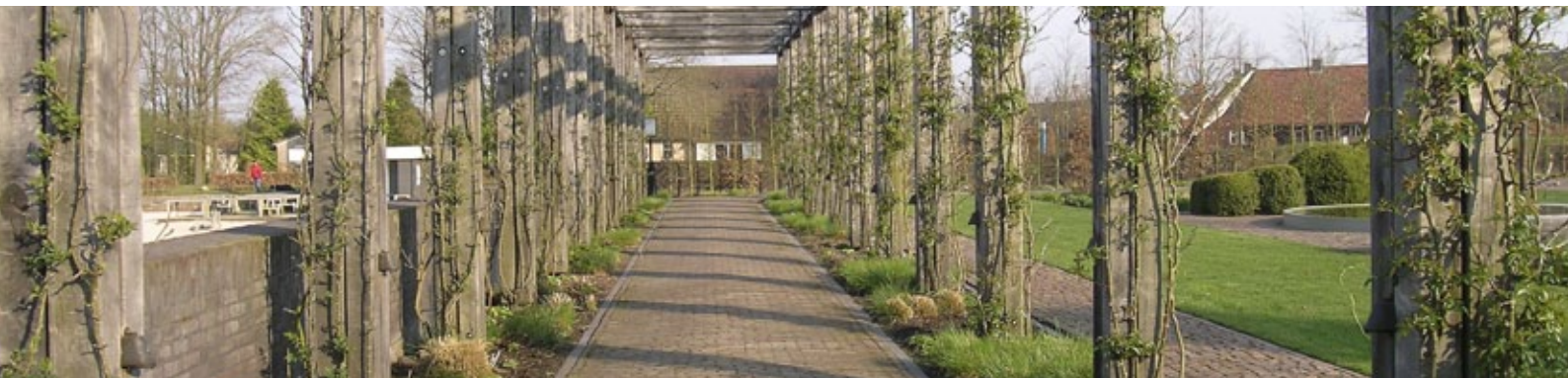
We hear a different, less enthusiastic story from Per Heller, council member of a small municipality in Denmark: 'We aren't that far yet, we are only getting started. We still have to make a plan for sustainable energy-planning', he admits honestly. It is no fault of

the Danish government – they want the country to be free of fossil fuels by 2050. 'But how are we going to pay for this? This plan requires huge investments and tax pressures are already high'. Moreover, the inhabitants are not necessarily keen on renewable energy installations, such as wind turbines. A wind turbine of 150 meters in height meets opposition – a case of 'not in my backyard' according to Per Heller. 'Even though our council has been very careful in its approach. First of all we mapped wind patterns and potential locations, disregarding any areas that were close to nature of buildings. But even so, there was a direct, collective opposition from the inhabitants to the first plan for four wind turbines. There was a tsunami of protest', says Heller. This included everything from height, noise, reflection of light, low frequency noise. The debate resulted in a decision to research all these aspects and till this has been done the plan has been shelved'. Heller's conclusion: anyone who has big plans can run in to this situation.

Who takes the lead?

Central theme during the concluding forum discussion, led by Jelle van der Heide, Secretary for the provincial programme Climate & Energy, is the role distribution between parties at the local level. Who should take the lead – should this be per

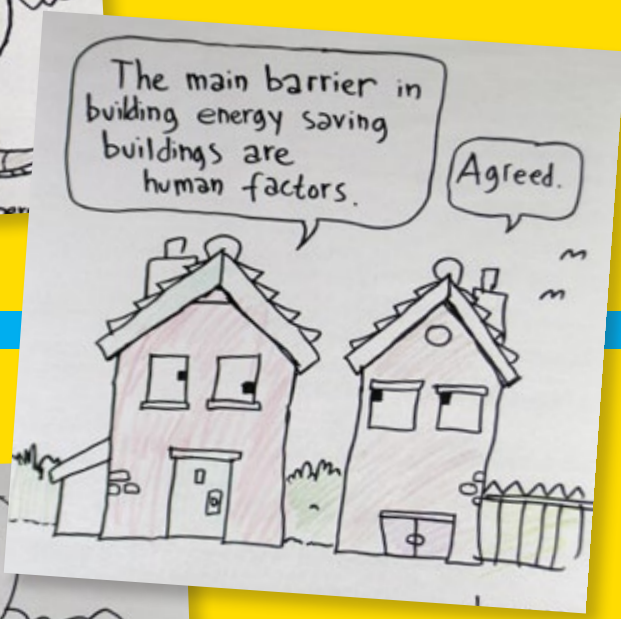
definition the municipalities, for example? Kosmeijer does not think so: 'We are team players. As municipality we can create the right preconditions but we are, at the same time, one link in a long chain'. However, his Belgian colleague Eric Lemey



begs to differ and believes that the municipalities should indeed be the forerunners: 'We must set a good example and show others how things must be done'. And that means following the principle of 'those who pay have the say', according to Gunnar Nordmark. 'We pay half of the costs of public transport. Without our contribution there just wouldn't be any public transport. By the way, we've been doing that since the 1970's, when we built the first bio-gas installation ourselves. More recently the municipality has built the first passive houses. So the local authorities most certainly can operate creatively'.

The panel's difference of opinion regarding the role of local authorities is also reflected in the audience. Some market parties think that the municipalities set too many restrictions: 'Give us more room for development. The techniques are there – take the One Tonne Life concept, for example. But we must be given the chance to utilize them'. Others point out that the authorities are the appropriate party to fill the gap between products and consumers. 'Information and education are of great importance'.

Not many of the participants believe that subsidies work; they send out the wrong signals to businesses and citizens. Kosmeijer sees more opportunities in working with a consortium, for example: 'Let's share the risks and the profits'. Per Heller believes that it would be easier for private initiatives if there was a uniform policy for investments: 'In Denmark each municipality has its own approach. That makes it pretty confusing for ambitious forerunners! You need to be very clear from the start about your policies and how long it will take for businesses to see a return on their investments'. The same applies to consumers' investments, Chris Ashe adds: 'It is up to the authorities to clarify that every Euro invested also yields a Euro'. Jelle van der Heide concludes in his summing up that it is now time for the local governments to make their move and become interactive with businesses and inhabitants. 'Not just locally but internationally as well'.





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