

**The Interreg IVB
North Sea Region
Programme**

*Investing in the future by working together
for a sustainable and competitive region*



SCoop!

Sustainability Cooperation & Opportunities

7 Interreg projects on sustainability in the Northern Netherlands

NS SEP • Drenthe

Aquarius • Drenthe

Cradle to Cradle Islands • Friesland

CARE-North • Friesland

Biochar • Groningen

Build with Care • Groningen

NEND • Groningen



Sustainability

In this exclusive edition of Scoop! we present seven Interreg projects dealing with the issue of sustainability. Drenthe, Groningen and Fryslân, the three northern provinces of the Netherlands, are all dealing with the subject of sustainability. For example, they have formulated high ambitions in the '100,000 Houses Plan'. This plan includes stimulating projects and the necessary policy changes required to achieve optimal energy efficiency in new housing and the reduction of energy use in existing houses. The Northern provinces also want 100,000 vehicles to be running on renewable fuels or electricity by 2015. Focussing on a sustainable future, innovative solutions are being sought for water management, adaptation to climate change and the agricultural sector.

In order to achieve these ambitions partnerships are being formed in the region involving municipalities, water authorities, companies, businesses and learning institutes. However, the search for partners is not limited to the North of the Netherlands alone. Within the North Sea Region Interreg IVB programme we cooperate with regions and organisations from the seven North Sea countries that share our goals. Supported by European subsidies and the joint efforts of the regions our high ambitions are becoming a reality.

There are dozens of organisations and hundreds of people from the North of the Netherlands involved in our projects, which means that businesses can develop, our learning institutes can exchange knowledge internationally, farmers can test innovative techniques, municipalities can gain more experience with regard to sustainable housing development, recycling and water management and water authorities can further develop innovative climate adaptation. And of course this European cooperation is also an ideal opportunity for businesses and organisations from our northern region to present themselves on an international platform.

Interreg projects are often at the crossroads, between scientifically tested innovations and their wide scale adoption or introduction. Tried and tested by practical experience. The North of the Netherlands continues to renew itself in this way. Yes, sustainable innovation is the answer!

Ben L.J. van Os
Interreg Coordinator & Project Manager
The Province of Drenthe

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Opportunities

During a meeting of the NSR Monitoring Committee held in Groningen last April, current Interreg IVB projects in the North Netherlands were invited to present themselves at an information market. This event, which was organized by the North Netherlands Alliance (SNN), was officially opened by the Queen's Commissioner in Groningen Mr. Max van den Berg. It offered an ideal chance to meet and share information and experiences with politicians, members of the Interreg Monitoring Committee and Secretariat, and those involved in the programme through regional projects in the provinces of Drenthe, Fryslân and Groningen.



Scoop! for Ben van Os and Max van den Berg

Scoop! not only means 'sensational news' or 'exclusive story' but it is also an acronym for Sustainability, Cooperation & Opportunities. We took the above-mentioned opportunity to present the first Dutch edition of the 'Scoop!' magazine, coincidentally hot from the press. This proved to be the perfect time and place to launch it. Scoop! was received with great interest and there were many requests for the English version. Well here it is! We hope this special edition will give you an idea of what the NSR Interreg IVB Programme is about and that you get an impression of just some of the internationally cooperative and innovative projects on sustainability that are running in the North of the Netherlands at the moment.

Deirdre Buist
Senior Project Secretary for Interreg
The Province of Drenthe



The Interreg B programme has been initiated by the European Commission to stimulate cooperation between the regions and has a budget of € 138 million for the duration up to 2013. Lead Partners can apply through the programme's 'calls' for project funding. If they comply with the programme requirements, half of their investments will be covered by the European Regional Development Fund (ERDF).



NS SEP, Aquarius, Cradle to Cradle Islands, Care-North, Build with Care, Biochar, NEND

In this Scoop! magazine you will find information about these projects - all connected by the theme 'Sustainability'.

NS SEP = Sustainable Energy Planning – designing energy neutral housing.

Aquarius = Adaptation to climate change – testing innovative and sustainable solutions for farmers

Cradle to Cradle Islands = Innovative and sustainable solutions for islands – self-sufficiency with regards to water, energy and the use of materials.

Care- North = Stimulating the use of 'green gasses' and the development of electric vehicles.

Build with Care – CaRe stands for Carbon Reduction – stimulating energy efficiency in urban areas.

Biochar = Climate saving soil – agricultural sector contributes to reducing the impacts of climate change.

NEND = Stimulating the use of renewable energy

What is Interreg?

Interreg IVB

The Interreg programme consists of three strands but all the projects presented in this unique edition of Scoop! are Interreg IVB projects (with the exception of NEND which falls under the IVA strand). The projects focus on transnational cooperation in the North Sea Region and the programme is now in its fourth phase (2007 – 2013), hence the name Interreg IVB.

Transnational

Transnational cooperation implies the cooperation of various regions across countries. Each partner contributes to the project's development and financing. The issues that cross national borders require a transnational approach. A good example is flood management, where measures taken in one country affect neighbouring countries.

The Interreg IVB North Sea Region Programme

The North Sea Region includes regions in Sweden, Denmark, Germany the Netherlands, Belgium, Norway, England and Scotland. The Interreg programme sets strategies, priorities

and socio-economic analyses for the North Sea Region (NSR) for 2007- 2013.

The aim of the Programme is to make the North Sea Region a better place to live, work and invest in. The future development of the North Sea Region, however, will be determined by its ability to achieve economic progress through shared development objectives and shared resources, building on individual regional strengths and territorial potentials.

The Programme has four Programme priorities:

- Increase the opportunities for innovation
- Enhance the quality of the environment in the North Sea Region
- Improve the accessibility of places in the North Sea Region,
- Delivers sustainable and competitive communities.

In this magazine we present projects dealing with the subject of sustainable management of the environment.

Interreg projects make a difference in regional development and transnational cooperation. The regions have developed a taste for European cooperation and continue to join forces in creating a sustainable, natural and healthy environment for future generations in Europe.

Sustainable results in Interreg

Economy

- Millions of euros invested in innovative projects.
- Extra company investment in business development.
- Increased value of the environment and real estate in project areas.
- New business settlements in the pilot areas.
- Employment on the rise in rural areas and the economy is stimulated by the broader approach that has developed during the projects.
- More and closer collaboration between governments, businesses, universities and knowledge centres.
- Goodwill between residents, entrepreneurs and local authorities.

Innovation

- Innovative ideas resulting from the projects are now implemented and developed further by other organisations and regions.
- New ideas on water management are tested.
- Sustainable and innovative means of transportation are being developed.
- Increased awareness regarding water quality, water usage and the importance of good water management for the region.
- Projects dealing with improving safety measures in flood-risk areas now regularly integrate solutions for the improvement of water quality at the same time.
- Standard project developments integrate methods and insights developed in the projects to comply with the European Water Directive.
- Other regions and countries also build on Interreg's knowledge base and project experience.

Effects on policy

- Continued promotion for Interreg and European cooperation by delivering guest lectures and presentations, publications and websites, and visiting the regional projects with interested parties from home and abroad.
- Using the experience gained in Interreg projects, governments and organisations have improved strategies in project development, water management and environmental issues.

Benefits for society

- More respect for cultural diversity in Europe.
- Inhabitants have a renewed pride in their regional environment.
- Public participation in water management is increasing.
- Public awareness of water management has improved and knowledge of the related issues has increased among farmers.

On a personal level

- Enthusiastic and motivated staff.
- Broader knowledge of the various fields of expertise among staff members.
- Greater understanding of the advantages of European cooperation.
- Sustainable networks on all levels in a European context.





North Sea Sustainable Energy Planning

The partners in the EU Interreg IV B project North Sea Sustainable Energy Planning (NS SEP) have high ambitions. We are aiming for energy neutral regions, towns, villages and neighbourhoods and renovation projects that cut back energy use dramatically. We are tackling sustainable energy issues in poorer urban areas, building and extending the network of cooperating organisations in the North Sea region that promote sustainable energy and exchanging knowledge and experience. Partners include municipalities, provincial and regional government authorities, universities, energy suppliers and knowledge institutes from Germany, Denmark, Belgium, Scotland, Sweden and the Netherlands.

Sustainable energy planning in the North Sea Region

Renewable energy is a subject that many organisations are dealing with at the moment. Municipalities, environmental organisations, provincial authorities, businesses, universities and knowledge institutes are all currently developing initiatives. Obviously, much more can be achieved by working together on a plan, a strategy. It is not always known which energy source is most feasible, from an economic perspective, in a particular region. Some measures require a cross-border view, when considering bio mass or wind energy, for example. That is why, when dealing with sustainable energy issues, careful planning and an integrated assessment procedure are required. The choice of energy sources can greatly influence spatial planning and development and the quality of living in a region. These sources must also be affordable. An integrated regional approach offers many opportunities. NS SEP is a 'learning by doing' project focussing on a number of crucial aspects with regards to sustainable energy- planning on a regional level.

NS SEP aims to:

- Build an international 'knowledge' network - spreading beyond the participating regions;
- Create a structured plan and implementation process;
- Translate policies and ambitions into feasible and achievable 'business cases'.

These are all requisites for achieving the international and regional goals concerning renewable energy.

Who are the partners?

There are 14 partners involved in NS SEP, including Aberdeen, Drenthe, Tynaarlo and the regions around Varberg in Sweden, Osterholz in North Germany, Kortrijk and Leiedal in Belgium and Middelfart in Denmark. The partnership includes not just governmental authorities but also private businesses and regional cooperative organisations. All are united in the process of translating ambitions into projects that can be implemented, building networks and joining public-private cooperations. At the end of the NS SEP project the regions will have a number of new projects ready to be implemented.

At the same time the partners in the NS SEP network are discovering, in practise, what is needed to create a successful network and they are learning from each other - seeing the different approaches, exchanging knowledge and experience. Several questions are being jointly tackled, using practical situations.

- How do you create regional energy planning?
- How can this regional energy planning be adapted to the local situation in a municipality or a neighbourhood district?
- How do you ensure that the available technical knowledge and practical experience filters down to the level of the municipal spatial planning departments, energy supply companies and regional businesses so that the ultimate goal of sustainable, energy-neutral housing development can actually be achieved?
- How do you build and expand a sustainable regional network?
- Can this be translated into useful business models for other regions and districts?
- What tools are needed?
- How do you guide the energy planning process so that set goals are achieved?

In short: How do you gain the necessary political ambition?
How can future projects learn from all this?

How do you model the transition towards the housing developments of the future?

Within Europe the North Sea Region is the most specialised in renewable energy research and development. Our common background and geographical similarities call for combined methods.

What is Drenthe's role?

For years the Province of Drenthe has played an active role regarding climate and energy policy and sustainable housing development. Drenthe wants to take practical steps - from ambitions to the actual implementation of sustainability plans and projects. The knowledge gained from NS SEP participation can be directly applied in practise

in Drenthe as the project focuses on energy planning and practical implementation in the region and in small and medium sized municipalities. The Province of Drenthe disseminates the knowledge gained to all the municipalities in the province involved in plans for sustainability, the implementation of ‘climate contracts’ and the ‘100,000 Houses Plan’. This is an energy programme for sustainable, energy-neutral building involving the three provinces of the Northern Netherlands (Drenthe, Fryslân and Groningen).

What is the Municipality of Tynaarlo’s role?

The Municipality of Tynaarlo is planning a new, completely sustainable housing development to the east of the village of Vries. This development, called ‘Vries Nieuwe Stukken’ (VNS), will eventually be energy-producing and this requires a new approach to building concepts, recycling, water purification – all with the utmost consideration for the relationship with the present surroundings and the natural environment. The planning process focuses on integrated work methods, breaking down inter-departmental fences. New forms of organisation, participation and creative thinking are needed. Practical expertise has greatly influenced the plans from the beginning. To start, feasibility, implementation and risk analyses were carried out, for example. The role of the Municipality is that of manager and initiator. During the planning phase there is a differentiation between fundamental choices and issues that can be decided upon at a later date.

The plan is robustly based in a landscaped design. Therefore the surroundings - inspired by the ‘Esdorp’ characteristic of Drenthe- are not just of aesthetic value for the residents but also have function regarding the energy, recycling and water-filtering chains of the future housing development. Within this framework there is enough room for flexibility; individual choices from local and regional companies, contributions from ‘sustainability whiz-kids’ and of course from the local inhabitants and potential future residents. The energy supply will be worked out in a ‘business case’ within the NS SEP project.

What does this mean for the people of Drenthe?

The people of Drenthe are used to a high quality of living - the province is renowned for its natural beauty. NS SEP will pay its contribution to clean, affordable energy becoming a natural fact here too!

More information: www.northseasep.eu



Fig. 7: Gemeente Tynaarlo. Aspecten van wonen in VNS, (Veenhuis 2009)



Aquarius

Aquarius is a project subsidised by the EU and the Dutch Ministry for Spatial Planning and the Environment (VROM). Within Aquarius the Province of Drenthe, the water authority Hunze en Aa's, LTO Noord (the regional organisation of the Dutch Federation of Agriculture and Horticulture) and the Grontmij are working on adaptive measures for climate change in the agricultural sector in the Veenkoloniën of Drenthe. The project is a cooperation between other Dutch and European partners within the Interreg IVB Programme.

The farmer as water manager

As part of the Aquarius project there is a unique pilot project taking place in the Drentsche Veenkoloniën in the Northern Netherlands. Innovative solutions are being tested for practical measures to improve water use efficiency and water conservation. The latest techniques are being used to help farmers adapt to climate change.

How did this project come about?

Within the framework of a national research and innovation programme the northern provinces in the Netherlands are carrying out a project called 'Climate and Agriculture'. This project is a specific cooperation between local governmental authorities (water authorities and provinces) and the agricultural sector (production, supply and processing branches).

As a result of climate change, higher temperatures and rising CO2 levels the general situation for agricultural production could improve. But the sector will also have to deal with extreme weather conditions; heat waves, heavy rainfall and flash flooding and longer periods of drought. Such extremes could form a serious threat for future harvests, unless we are prepared. With good farm management many of the problems can be dealt with. In the Veenkoloniën it's clear that the availability of good quality water at the right time is of crucial importance for agriculture.

The sector itself can do its share by using water more efficiently. The Aquarius project was initiated to test possibilities with regards to efficient water use. A dozen farmers are working together with the water authority Hunze en Aa's to test the latest technological solutions.

The Aquarius project was initiated to test the possibilities with regards to efficient water use

What does the future hold?

The situation at the moment is that we can expect a heat wave approximately once every three years in the North of the Netherlands. In 30 years time there will be, on average, one heat wave a year. This will have an impact on certain crops – potatoes are particularly sensitive to heat-waves, as are grasslands.

Longer and more frequent periods of drought will affect many crops, depending on the time of the season. Warm, wet weather greatly increases the chances of pestilence and disease while higher winter temperatures will affect crops in storage. Sugar beets lose a percentage of their sugar content while seed-potatoes and onions will need to be cooled technically. Dairy farmers can also expect challenges. Consider heat-stress in cows leading to a decrease in milk production, flooded conditions which encourages liver-fluke, warmer weather in summer and winter causing an increase in diseases and sick animals.



The sand and peat soils of the Veenkoloniën are very sensitive to drought and dryer years have shown a negative effect on crop yields. The average crop damage in this area as a result of long dry periods could be as much as 30%. At the moment almost 40 million m³ of water are pumped into the Veenkoloniën from the IJssel Lake during an average summer. The water is used to control water levels, for irrigation, for operational management in factories and maintaining levels in nature areas.

By combining sensor technology with surface water management it is possible to anticipate and respond to the hydrological situation.

What is happening during this test phase?

In exclusively agricultural areas (such as that of the Drentsche Veenkoloniën) water retention can only be achieved by 'made to measure' level-control. This is a question of good timing and is only possible with automated, remote-controlled weirs.

By combining sensor technology with surface water management it is possible to anticipate and respond to the hydrological situation. Methods are being developed to control surface water levels and soil moisture on farms. On a local level the participating farmers have, in effect, become managers of their own water systems as they test small weirs and sensors which continuously register the amount and quality of the soil moisture on their land. The water authority is working on a regional level. Approximately 10 small weirs will be placed along field ditches. These weirs are operated by the farmers. Three larger weirs will be adapted so that they can be operated remotely. Finally, the farmers are investing in new sprinkling techniques and the installation of wireless soil sensors.

Research carried out in the Climate and Agriculture Programme has produced information regarding the relationship between moisture levels and the crops grown, and gives a clearer view of what situations to expect in the coming years. This information is vital if we are to make well-founded decisions for the future.

When can we expect results?

We can have results tomorrow if needed. By keeping in close contact with the farmers on a regular basis, and weighing the pros and cons of the techniques used, the possibilities regarding efficient water use and their cost-effectiveness should be clear. Researchers, local farmers, the Water Authority of Hunze en Aa's and the Province of Drenthe are cooperating fully. All are very motivated in their search for solutions to the potential effects of climate change in the agricultural sector in the Northern Netherlands. Of course all the knowledge gained is shared with our European partners. The Aquarius project runs from 2009 – 2012.

More information:

www.aquarius-nrs.eu

www.projectwatersense.nl

www.klimaatonderzoeknederland.nl





CARE-North

provinsje fryslân
provincie fryslân



The CARE-North project is about reducing dependency on the conventional oil import, improving energy efficiency and thus reducing the use of fossil fuels in countries around the North Sea region. It is time to redirect our strategies on transport – as well as on land-use patterns – in order to foster a new mobility culture. The CARE-North project is developing strategies and implementing pilot projects of low-carbon transport, directly reducing the dependence on mineral oil. Each partner region or city is working on a ‘lighthouse’ project dealing with the themes of sustainable development, the improvement of economic conditions for businesses and the creation of new markets. The pilot projects focus on electrical vehicles, sustainable fuels for transport and creating a change in attitude and behaviour (by stimulating the use of public transport and bicycles). Attention is also being paid to evaluating the social costs of CO2 emissions.

Within the scope of the CARE-North project the cities of Gothenburg, Malmö, Bremen and Aberdeen are concentrating on themes connected to city transport systems, public transport and commuter transport.

The Province of Fryslân, together with METRO (West Yorkshire Integrated Transport

Authority) in Leeds are also dealing with regional transport, whereby Fryslân strongly promotes the importance of individual means of transport as well. Challenges exist, as the habits of millions of people worldwide need to be influenced and their behaviour shifted. The Dr. Robert Gordon University, Malmö are also involved in projects dealing



with behavioural changes and the active stimulation of other transport concepts.

100,000 Vehicles Plan

As part of the North Netherlands Energy Agreement (Energieakkoord Noord Nederland) the three Northern provinces have set their ambitions with regard to climate adaptation measures even higher than the national goals of the Dutch ministry. Together Drenthe, Fryslân and Groningen want to produce 40 to 50 Mw of renewable energy while reducing CO2 emissions by 4 to 5 megatons by 2012. One very important aspect is that the regional economy profits from this. The Province of Fryslân is leader of 100,000 Vehicles Plan. They aim to have at least 100,000 vehicles and boats running on renewable energy by 2015. Fryslân is committed to stimulating electric mobility and the use of (regionally produced) biogas - particularly as this offers new market opportunities for the agricultural sector.



Stimulation of carbon-responsible transport

The partners within the CARE-North project have set themselves the task of developing challenging, yet realistic, strategies and piloting solutions for carbon-responsible transport. The strategies involve integrating land-use planning and transport patterns, “re-imagining” the sustainable transport modes in a culture of mobility, developing technological and economic tools to enhance the efficiency of transport systems, and supporting post-fossil technologies. The Province of Fryslân wishes to promote and stimulate ‘green’ transport as a concrete part of the 100,000 Vehicles Plan.

Important activities include:

- Informing fleet-owners about the possibilities available for transition to alternative energy.
- Informing the local government authorities.
- Ensuring that transport companies have the latest relevant information regarding technical and economic possibilities.
- Spreading specific technical information concerning motors.
- Communicating the ambitions of Energy Valley as an area where innovation, sustainability and mobility are united.

The main aim is to use locally produced fuel and thus create product-market chains on a regional scale, boosting the region’s economy. Within the CARE-North project Fryslân will position new natural-gas stations and actively encourage the use thereof, on the strict condition that this natural gas is a so-called ‘transition fuel’ which will be replaced by ‘green’ fuel (i.e. biogas of the same quality) within a couple of years.

Driving on locally produced renewable fuel

Electric mobility on water

Electric mobility is another important spearhead for the CARE-North project. Besides stimulating electric mobility funds have also been set aside for pilot projects testing maritime charging points. Fryslân is witnessing an enormous development in the area of electrically run boats at the moment, particularly those used for recreation. This development must be facilitated with a good infrastructure and charging points.

For more information visit www.care-north.eu



Cradle to Cradle Islands

Cradle to Cradle Islands (C2CI) is a project within the Interreg IVB North Sea Programme and runs from 1st January 2009 till the summer of 2012. This project intends to use the innovative Cradle to Cradle® concept in relation to islands, focusing on three themes: energy/mobility, water and materials. In the vision of Cradle to Cradle® the idea is that waste does not exist anymore: 'waste equals food'.

There are 22 partners from 6 countries in the North Sea Region involved and the partnership encompasses 11 islands (or island groups): Ameland, Texel, Zeeland, Spiekeroog, Region Uthlande, Samsø, Tjörn, Anholt, Runde, Vagan and the Shetlands. The involved knowledge institutes and regional authorities are: TU Delft, Universities of Lund and Aalborg, the IRRi from Edinburgh, Zeeland University of Applied Sciences, EPEA, Wetsus, Wetterskip Fryslân, Vitens and the OOWV Water Board (Oldenburgisches-Ostfriesches Wasserverband). The Province of Fryslân is project leader.

The project in a nutshell

The aim of the C2CI project is to contribute to the environmental sustainability and economic profit of the North Sea Region. This will be done in close cooperation with government authorities, knowledge institutes and the business community. The involved islands are used as testing grounds to demonstrate innovative solutions. Working closely with the island communities and building on those initiatives is already underway; the idea is to create islands that are self-sufficient with regard to energy and water - following the Cradle to Cradle® philosophy. The project results will be shared on a wider scale, beyond the participating islands.

According to the Cradle to Cradle® concept, waste does not exist anymore: 'waste equals food'. The ideal is that all used materials are used and recovered at their highest possible value with no loss in quality and no extra demand on the environment.

The project expects to deliver the following results:

- Application of Cradle to Cradle® concept to develop energy responsible and sustainable solutions for island environments.
- Islands as labs and testing grounds for sustainable innovations.
- Developed networks of stakeholders to ensure transferability and dissemination of project results on the themes of water, energy and materials.
- Islands as a 'catalysts' for new developments.

The Province of Fryslân as Lead Partner

The Province of Fryslân is leading the project. Project managers Hans van Meerendonk and Anne de Vries have this to say: "The unique island circumstances require innovative and sustainable solutions for water, energy and mobility issues. From a learning perspective, islands are also the perfect places to demonstrate these solutions. The project and all the parties involved give us the energy and motivation to go with full force. It is a challenge to exploit the enormous amount of knowledge regarding sustainable development that is available within the partnership and to translate this into concrete projects. Local support from the islands' inhabitants is extremely important and it is something we approach with great care".

Just some of the pilot projects

Energy/Mobility

(theme coordination: TU-Delft, Aalborg University)

- Testing and applying the concept of 'blue energy' (mixing salt water and fresh water in order to produce electricity).
- Feasibility for increased use of solar, wind, wave and tidal energies.
- Designing and testing sustainable product services for island mobility, e.g. electric scooter.
- Optimising and improving sustainable transport between and on the islands.
- Testing a variety of alternative green technologies regarding renewable energy, waste recycling and resource conservation, e.g. heat exchange system and vacuum toilets.

Water

(theme coordination: Wetsus)

- Sustainable supply of drinking water by desalination of sea water.
- Sanitation and separation of household water in several streams.
- Purification and re-use of the effluents of waste water treatment plants.
- Storage of rainwater underground during winter times to create sustainable water supply in summer.
- Use of other sources and new ways for drinking water production (salt, brackish, groundwater, etc.).

Materials

(theme coordination: EPEA)

- Design of an Eternal Island Holiday House that is energy producing, made with local materials, easily transportable and degradable.
- Set up of an innovative Research Centre on Biopolymers to adapt, for instance, polluting plastics into new water dissolvable environmentally friendly products and to make use of local available resources, like algae.
- Design and develop alternative building materials based on Cradle to Cradle® principles.
- Cradle to Cradle® solutions for the local marinas and surrounding buildings (development of Cradle to Cradle® docks, Cradle to Cradle® buildings, use of solar and wind energy, water treatment).



The next steps

During the initial starting phase of the project, in 2009, we made an inventory of feasible pilot projects on the islands. Now, in 2010, the first projects are being implemented. Through transnational cooperation between the knowledge institutes and the islands more projects and pilots are being selected and, with the help of external funding, will be implemented.

Project extension

C2CI is being followed with great interest internationally and it seems that the project has not only an experimental character but it is also exemplary. This is why we have applied for an extension for the project regarding the following:

- The development of a secondary network, “C2CI Knowledge Exchange Network”, to communicate and disseminate the knowledge and experience gained from the project worldwide; the Network will use innovative communication tools, like web applications of pilot projects.



- The possible inclusion of two new project partners from further abroad: Urban Answers – Sustainable City Planning organisation in the United States, ‘New York’ and University of Oulu in cooperation with Municipality of Hailuoto and Municipality of Oulunsalo from Finland in the Baltic Sea.

For more information: www.c2cislands.org / www.epea.com



Build with Care



Build with CaRe is a European project with 18 partners in Sweden, Germany, Belgium, the Netherlands, England and Scotland working together to promote energy efficient buildings. 'CaRe' stands for Carbon Reduction and refers to using energy carefully. The project's activities include demonstration objects, marketing, publicity, education, training, planning, policy, evaluation and analysis. The Build with Care project is co-financed by the Interreg IV B North Sea Region Programme.



The Municipality of Groningen is participating in Build with Care because the partnerships' ambitions fit with those of the City Council – to become the most sustainable city in the Netherlands and to be energy neutral by 2025. The insights gained from our European partners can be assimilated in future developments and Groningen's insights can be exemplary for other partners too. Build with Care (BwC) wants to make energy awareness the norm in the building industry. Climate change is posing enormous challenges and the building sector is one of the biggest energy consumers as it is responsible for the highest levels of CO2 emissions in the industrial sector. It is, therefore, no longer a question of 'whether or not' but 'how' to create more energy awareness amongst builders, architects, planners, carpenters, glass setters and manufacturers alike.

Despite all the available tested methods and opportunities for cost-efficiency, energy consumption in the building sector is still much higher than necessary. That is why all partners in the BwC project are co-operating to change the situation – by investing in education and research and by influencing public and political awareness.

Project activities

- Promotion and implementation of energy-efficient ICT tools;
- Promotion of energy-efficient building via the media;
- Stimulation of private investments in energy-efficient building;
- Setting up a building competition for the most sustainable house in Groningen.

The opportunities are there, but both builders and residents alike need to be convinced.

Who wouldn't want to pay just 1/5 of their heating costs?

A 'real-life' example is often the best way to convince people. In Gothenburg a so-called 'passive' apartment building was built which only uses half the energy in comparison to other conventional buildings. The residents' body heat and the various household appliances provide enough heating for the building. As a result of excellent insulation so little heat is lost that under normal circumstances no extra heating system is needed. In addition, solar panels on the roof ensure the hot water supply.

By considering future energy consumption from the start of the building process great savings can be made, even in the first year. Constructing and maintaining energy-efficient buildings does not cost more and offers the residents a high level of comfort. Moreover, they will notice little difference in comparison to conventional housing.

Passive housing

Loss of heat is reduced in such a way that no radiators or floor heating systems are required. This can be achieved by 'sealing' the house so that all leaks and cold bridges are eliminated and by using fresh air for heating.

Energy-efficient housing

Energy efficiency can be attained by using high-quality insulation, double glass, eliminating all draughts, using heat-retrieving installations etc.

Zero energy housing

In these houses a combination of energy-saving technology and energy re-cycling is used.





Renewing existing buildings

Existing buildings can also be improved. Within the BwC project the Municipality of Groningen is working together with building corporations to sustainably renovate existing houses – great gains can be achieved here with regards to energy saving. The Meerstad neighbourhood, for example, is being put forward for an ‘exhibition’ of energy-efficient housing, as a result of a competition on energy. A pilot project in the Tuinwijk neighbourhood of the city is another example. In the spring of 2009 Housing Corporation ‘De Huismeesters’ started a renovation project in the Tuinwijk, which is a typical old neighbourhood. The plan is to join up some of the 284 houses to make 110 houses suitable for families, singles and couples. The houses are being thoroughly renovated, whereby the original façade is retained as this is uniquely characteristic.

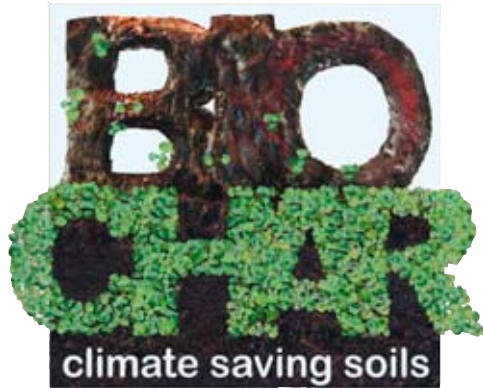
Inside the sanitation facilities will be updated. Moreover, a lot is being invested in making each house as energy-efficient as possible. All the facades, floors and roofs will be insulated and HR++ glass and HR central-heating systems installed. The residents, of course, are closely involved in all this. The most important question in this pilot is how, using a practical guide, a renovation scheme of this size can be approached structurally and how ad hoc situations can be avoided. Energy-saving solutions are not always easy to implement in practise. The ‘toolkit’ being developed, with practical do’s and don’ts, checklists and best practices, will be very useful in future projects.

For more information visit:
www.buildwithcare.eu



Biochar

Climate Saving Soils



Thirteen partners from seven different countries around the North Sea are working together on the 'Biochar: climate saving soils' project which is partly funded by the EU Interreg IVB North Sea Region Programme. The project runs from October 2009 to September 2013 and will explore how biochar can help combat the effects of climate change in Europe's North Sea region.

What is Biochar?

Biochar is a carbon-rich, charcoal-like material that makes soil more resistant to climate change. It is created in a man-made process called 'pyrolysis' that breaks down complex biomass materials by heating them at high temperatures, with exclusion of oxygen. Through this technique, carbon is trapped in the biochar and not released into the atmosphere.

It can store carbon in the soil for hundreds, possibly thousands, of years and could be a way of helping to slow down global warming. Such pyrolysis-based biochar systems can potentially reduce about one ton of CO₂ per ton of biomass used. Biochar is therefore a potential candidate for CCSS (Carbon Capture and Soil Storage) and also provides a source of bio-energy.

Benefits for agriculture and environment

Climate change in the North Sea region is predicted to have a pronounced effect on rainfall patterns. It could mean long and severe periods of drought, followed by heavy flood rains. That will have an effect on sustainable farming methods and on the stability of the soil. Biochar creates a more stable soil which is resilient to the effects of climate change. In particular, biochar improves the water-retaining capacity of the soil, reduces the amount of fertilizer needed and stops nutrients from draining away. This allows farmers to grow crops more efficiently and reduces the global impact of farming on the environment.

The Partnership

The Netherlands

The Province of Groningen (lead partner), Product Board for Arable Products, Commodity Board for Arable Farming/Kiemkracht, Nutrient Management Institute, WUR-Alterra.

Belgium

ILVO (Flemish Institute for Agricultural Research), University of Gent.

Germany

HAWK- University of Applied Sciences & Arts, Gottingen; 3N-Werlte.

Denmark

Risoe University.

Sweden

University of Uppsala

Norway

Bioforsk

United Kingdom

University of Edinburgh, UKBRC (United Kingdom Biochar Research Centre), University of Newcastle.

Each participating country will have its own national biochar research centre. The Dutch centre is at the research farm 't Kompas in Valthermond. Interested farmers and other parties can see demonstration fields here and gain insight into the production and usage of Biochar.





Kiemkracht is an alliance from Product Board Arable products and InnovationNetwork of the Ministry of Agriculture, Nature and Food Quality.

Biochar strategy: a win-win-win-win scenario

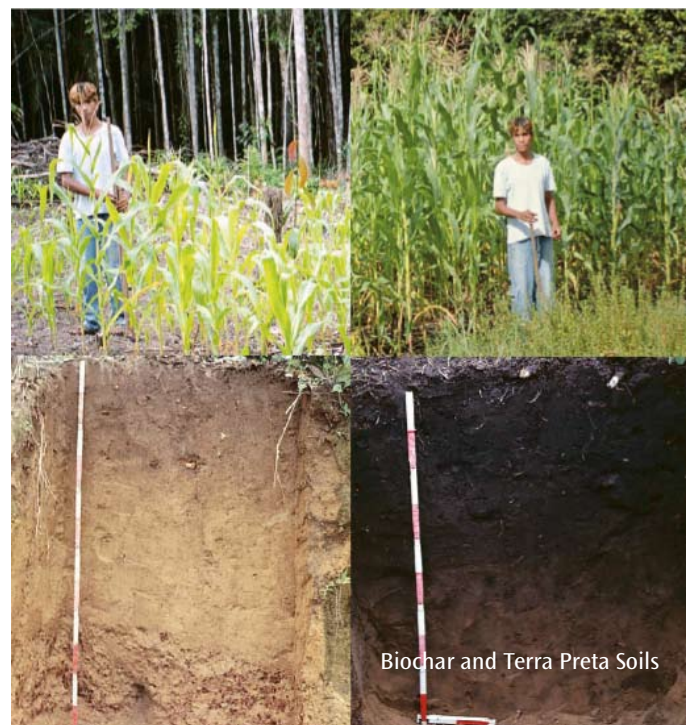
Converting biomass into biochar has four positive effects:

- Stores carbon in the soil for centuries, or longer, thus reducing CO2 in the atmosphere
- Improves the quality of soil and water
- Increases crop yields
- It is a possible source of bio-energy

Project goals

The project has two major goals. One goal is to establish a transnational strategy for Biochar production and application. The other goal is communicating with and educating people about biochar, including authorities, producers and end-users. To achieve these goals, it is important to exchange collected knowledge and current data. It is also important, to coordinate biochar standards, from feed stocks and logistics to production. So that we can asses environmental impact and how biochar can be reliably used for improving the quality of soil, keeping it stable and capturing carbon.

More information: www.biochar-nsr.eu



Biochar and Terra Preta Soils



Torrefactie installatie at BTG Enschede

NEND

The Interreg Steering Committee for the Eems Dollard Region (EDR) approved the project 'NEND – Duurzame Energie Nederland Duitsland' (Sustainable Energy in the Netherlands and Germany) on 4th March 2010. This project runs under the Interreg IVA Programme.

According to Pim de Bruijne, Chairman of the Steering Committee Interreg for EDR, the Eems Dollard Region has the potential to become one of the leading European regions with regards to energy. Main emphasis of the project is on sustainable use and development of renewable energy sources. The Dutch and German partners want to face the effects of climate change with a total of four work packages. Businesses will be closely involved in the project too.

Work packages

In Work Package 1 the central theme is energy efficiency and CO2 reduction in public and private buildings as well as in regional businesses. The energy efficiency levels must be heightened using a broad range of measures.

In Work Package 2 innovative materials and building concepts will be developed to ensure a sustainable approach to building, resulting in reduced energy consumption. Herman Wessels, Head of Interreg for EDR explains: "A list of criteria regarding sustainability will be drawn up to which both the Dutch and the German parties must comply".

In Work Package 3 production techniques and energy usage from renewable raw materials will be optimized. "The utilization of renewable raw materials, which has been limited for energy production and other applications to date, is now a priority", says Pim de Bruijne. Optimized sowing and harvesting strategies are still needed to profit from the specific characteristics of the crops being researched. This NEND work package will make a contribution here by, first of all, analysing the potential of these crops in the EDR area.

In Work Package 4 the photo-voltaic and solar systems technology will be developed further. These technological developments will create a basis which can generate new economic opportunities for businesses in the EDR area.

Because the partnership has close contact with the business sector, the Northwest Climate Centre in Aurich will build up an energy business network. This will ensure possibilities for an intensive transfer of knowledge and techniques between research institutes in the EDR region and SMEs in the area. In this way businesses can be sure that the right 'know-how' is available and close at hand, according to Hermann Wessels. In this respect the project is also supported by 'Energy Valley' from Groningen and the German 'Wachstumsregion Ems-Achse'. A synergy-affect is also created through the link between this project and the new graduate course on 'energy-efficiency' at the Hogeschool Emden-Leer. An 'energy network' is invaluable for the region. Industry, businesses and research institutes will be linked by themes and sectors. There has not been such an extensive cross-border project on this level in the region before, according to the SC Interreg-EDR chairman, as he clarified the importance of the NEND project once more.



The approved project has a total investment of approximately 7.6 million euro. Some 3.4 million of this is EU funding through the Interreg IVA Programme "Deutschland-Nederland". NEND is also funded by the federal state of Niedersachsen, the Dutch government and the Provinces of Drenthe, Fryslân and Groningen.

The Eems Dollard Region has the potential to become one of the leading European regions with regards to energy



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Scoop! has been published by the Interreg Project Management Team of the Province of Drenthe. May 2010

Very special thanks to all Project Managers and Assistants from Groningen, Friesland and Drenthe who contributed to the making of Scoop!

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Dutch Copy

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Graphic Design & Lay-out
Docucentrum, provincie Drenthe

Photography

Cover and page 7: Peter de Kan, Groningen; Rob de Jong, SAPH Feerwerd. Illustrations: Sylvia Karres en Brands landschapsarchitecten, Hilversum; page 17 Terra Preta Soils: photo Julie Major and Bruno Glaser. All other photos have been kindly made available.

This special edition of Scoop! was first published in Dutch in April 2010. A pdf-version is available in both languages on request.

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