



LOWCAP

Low Carbon Regions in the North Sea



**The LOWCAP pathway for delivering
a low carbon, energy efficient North Sea Region**

Policy Recommendations

The Interreg IVB
North Sea Region
Programme



European Union
The European Regional Development Fund



The LOWCAP pathway for delivering a low carbon, energy efficient North Sea Region

In the LOWCAP (Low Carbon Regions in the North Sea) project a number of policy recommendations for delivering a low carbon, energy efficient North Sea Region have been identified. The LOWCAP cluster project presents a review on the knowledge exchange and experiences from four Interreg projects. Key results from these projects have been compiled and analysed to produce a North Sea Region Programme perspective on low carbon and energy efficiency issues. The recommendations will address both the European [EU] and the North Sea Region level [NSR].

“The LOWCAP project has been extremely valuable not only for the North Sea Region but for the EU as a whole and I’m delighted to be able to support it. The project has tackled a number of key issues which are of significant relevance to help meet the EU 2020 targets for carbon reduction and energy efficiency.”

LOWCAP is a great example of member states and regions working together and sharing their experiences and knowledge to work towards a common goal and these policy recommendations are the fruit of this worthwhile collaboration.”

Alyn Smith
MEP, member of the Industry,
Research and Energy committee

Reducing carbon emissions and increasing energy efficiency reduces the release of harmful gases attributed to climate change. Not only that but it helps make savings on fossil fuel imports, increases energy security, creates green jobs and improves living standards.

Following the European Commission’s 2020 Strategy on climate and energy, member states need to reduce greenhouse gas emissions (GHG) by 20%, increase the share of renewables to 20% and achieve a 20% energy efficiency target by 2020. Beyond 2020, the EU aims to reduce carbon emissions from 80% to 95% by 2050. As is also stated in the North Sea Region Strategy for 2020, the focus should be centered on promoting innovation in low-carbon technologies in sectors such as transport, industry, buildings, climate-proofing land use and planning regulations. Technical innovation can aid the North Sea Region to become a sustainable and competitive low carbon region.

Translating EU-wide targets into practical initiatives which deliver real change is a major challenge for policy makers on all policy levels. Therefore LOWCAP’s recommendations are an important contribution from the North Sea Region to the whole EU discourse on carbon reduction and energy efficiency.



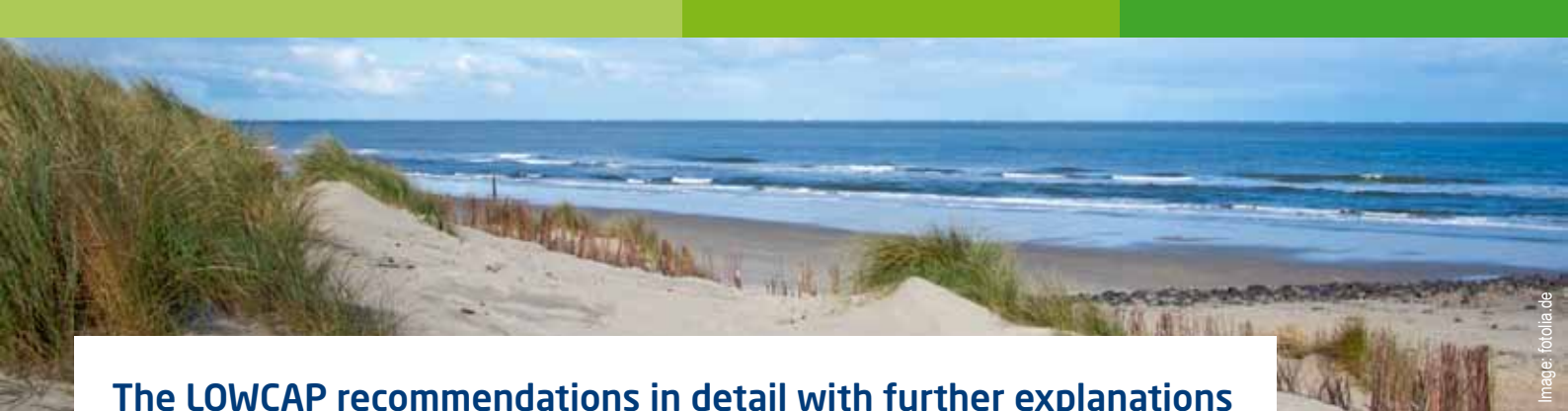


Image: fotofolia.de

The LOWCAP recommendations in detail with further explanations

Integrated energy planning is key to developing a low carbon and energy efficient North Sea Region.

Adopt integrated sustainable energy planning at EU, national, regional, city and neighbourhood level to foster a sustainable energy transition across Europe. [EU/NSR]

Create networks, collaboration and partnerships between local and regional actors. Stakeholders in public, private, academic sectors and business must work together to define a common vision and strategy. [EU/NSR]

Make energy efficiency a priority at all political levels by introducing legally binding energy efficiency targets at a national level that are in line with the other target areas of the EU climate and energy package. At present only "indicative national energy efficiency targets" are required. [EU]

The energy transition towards a sustainable energy system calls for action within sectors (e.g. building, transport, industry) and in cross-sectorial themes (e.g. land-use) from all policy levels and stakeholders. Integrated sustainable energy planning must involve multi-level and multi-actor arrangements to tackle the issues of energy efficiency, renewable energy, energy poverty, economic competitiveness, carbon reduction and energy dependency in a tuned, coordinated and integrated way which is aligned with the ambitions of the NSR. Local and regional actors play a crucial role: their potential to tackle these challenges is still underestimated, at the same time they lack accountability for low carbon and energy efficiency and are therefore identified as a non-technological barrier within the energy transition.

An energy transition also asks for a stronger European framework. The Energy Efficiency Plan from 2011 establishes a common framework of measures for the promotion of energy efficiency, but needs to be linked with clear binding targets on a national level. At present the Energy Efficiency Directive does not have legally binding targets at national level, but instead has legally "binding measures" such as an obligation to renovate public buildings. Article 3 of the Directive does introduce the notion of national targets however these are stated as "indicative national energy efficiency targets".

A better understanding of **human actions** in relation to low carbon and energy efficiency is crucial.

Develop a policy that addresses people's lifestyle and behaviour. Changing social norms is fundamental to enabling the transition to a low carbon, energy efficient Region. [EU/NSR]

Introduce binding requirements for all new Interreg projects dealing with low carbon and energy efficiency to take into account the consumption, lifestyle and behaviour of the participants involved and those they will impact on. [NSR]

LOWCAP recognises that key to achieving low carbon and energy efficiency is an understanding of the impact that individuals as well as public, private and third sectors can make by changing their behaviour, consumption and lifestyles. Lifestyle and behavior change are cross cutting issues that should be taken into account across all thematic areas. A change in consumption patterns has the largest potential for decreasing carbon emissions and increasing energy efficiency.

These recommendations seek to include elements of social research in all Interreg projects that specifically address the human aspects of a low carbon energy transition.



Image: dreamstime.com



Low carbon mobility needs more than just a change in fuels and propulsion technologies.

Highlight the negative impacts of an increasing volume of transport on social life, health and the environment to sustain a high quality of life for citizens. [EU/NSR]

Develop innovative mobility solutions and take other considerations into account, because low carbon mobility is more than just a change in fuels and propulsion technologies. [EU/NSR]

Encourage a more car-independent lifestyle and transport policy on a local, national and European level. This includes modern "sharing" options in transport-related research and demonstration activities. [EU/NSR]

The European White Paper on Transport sets ambitious targets with an interim target of 50% clean fuels by 2030, looking at the carbon emission levels of the transport sector still being above the level of the 1990s. The focus remains too much on technology, which will not solve the problems of congestion or space consumption for transport. The potential for organising mobility more efficiently needs to be further explored. Modern mobility services will play a crucial role in delivering alternatives to the private car.

Sharing is an important tool in sustainable transport strategies. Bike-, Ride- and Car-Sharing are good options for the efficient, convenient and cost effective use of transport vehicles. Car-Sharing for example reduces the carbon footprint of transport through the modal shift of customers and through better emission standards of Car-Sharing fleets. The North Sea Region has the potential to become a frontrunner in this field. The potential of (IT-based) sharing systems needs to be further exploited in order to move towards a 'single European mobility service market' - which goes beyond the current White Paper objective of a "single European transport market".

An increase in support for low energy, **low carbon building** design, construction and refurbishment is essential.

Focus new policy on low energy refurbishment of existing buildings. [EU/NSR]

Extend the 3% low energy refurbishment rate within the Energy Efficiency Directive to include all (public) buildings. [EU]

Agree a strong and consistent definition of a "nearly Zero Energy Building" within the North Sea Region. [NSR]

Current EU policy largely focuses on energy efficiency in new buildings; however this is not where the main problem lies. Existing buildings will continue to dominate total emissions from the buildings sector in 2020 and are likely to represent nearly 80 per cent of the EU's building stock, even by 2050. Therefore the 3% goal of the Energy Efficiency Directive needs to be implemented as planned. As it stands at the moment, covering only "central government owned and occupied" buildings, EU member states have greatly decreased the potential energy savings. Whilst in Sweden, France and the Netherlands many buildings are owned by the central government, this is not the case in Germany.

But acknowledging the variations in building culture & climate throughout Europe, European building legislation (Energy Performance of Buildings Directive) does not prescribe a uniform approach for the definition of "nearly Zero-Energy Buildings". The views on how such buildings should be defined, and the means and techniques to achieve almost zero energy consumption show considerable differences. The next logical step for the North Sea Region should be to formulate a common understanding of the principles for "nearly Zero-Energy Buildings" and to conclude on a strong regional definition.

Give Space to explore and implement new technologies, for example **Carbon Capture and Storage**.

Explore policy related to EU Emissions and Trading Systems, and the EU CCS Directive and take into account the whole implementation chain of industrial CCS, where it is appropriate and needed. [EU]

Establish a broad partnership in the North Sea Region which includes industry, to further develop new technological approaches including CCS, where necessary. [NSR]

To achieve the EU targets for low carbon several different approaches, including energy efficiency, increased renewable energy and new technologies must be taken into account. In order to achieve the ambitious North Sea Region targets, it might also be necessary to include CCS as a tool. In order to assess the role of CCS it is important to cooperate and work along the whole value chain (Carbon capture, transport and storage and enhanced oil recovery) as well as to evaluate environmental risks and energy balance. Locating and testing safe storage in the North Sea Region as well as developing a business model for common transport infrastructure in the NSR are two of the most important steps for evaluating CCS and should therefore be considered in order to reduce carbon emissions where applicable and necessary.

There are several legal barriers that make CCS across national borders challenging. A re-assessment of these would allow for smooth cooperation and partnership working across national borders as well as across the whole CCS value chain. Such evaluation, a risk assessment and backing by citizens and at the political level are necessary in order to enable an industrial application of CCS, where the demand exists.

The LOWCAP pathway - Summary of recommendations

- An integrated planning approach and multilevel governance arrangements are essential to the realisation of a low carbon and energy efficient North Sea Region.
- A better understanding of human actions in relation to low carbon and energy efficiency is crucial to change consumption patterns in a low carbon region.
- An increase in support for low energy/low carbon building design, construction and refurbishment is essential, as these have the biggest potential to increase the savings made on carbon emissions.
- Low Carbon mobility needs more than just a change in fuels and propulsion technologies, especially in the transport sector as its carbon emissions remain significant.
- More space should be given to explore and implement new technologies, such as Carbon Capture and Storage, where appropriate.

The LOWCAP Project Cluster

Build with CaRe

The 'Build with CaRe (Carbon Reduction)' project aimed to mobilise all forces in order to make energy-efficient building design and construction the mainstream. Local and regional authorities, universities and institutes from 10 regions in 5 countries in the North Sea Region were active in the partnership. The project, which concluded in 2012, resulted in the development of several low energy demonstration projects, a robust evidence base to show the benefits of low energy buildings. Policy recommendations and a range of learning materials which can be used throughout Europe, have been developed.

www.buildwithcare.eu



North Sea Sustainable Energy Planning

This project aimed to improve the regional, sub-regional and local energy planning through joint development, implementation and evaluation of a transnational model for strategic energy planning. Business was at the forefront of this project, delivering energy business cases as well as models, testing of pilot cooperation models. Systematic development of new methods, road maps and tools was achieved through an integrated approach.

www.northseasep.eu



Care North

The aim of CARE-North was to develop a comprehensive, strategic and practical approach to urban and regional transport/ accessibility in the North Sea Region in the context of climate change and declining oil supplies. While the North Sea Region deals with the effects of climate change, the traditional understanding of transport is leading to a continued increase in CO₂ emissions, undermining other climate protection efforts.

CARE-North developed innovative carbon reduction strategies for urban and regional transport to maintain and improve accessibility in a more carbon-responsible way, and to make the NSR a leader in carbon-efficient accessibility.

www.care-north.eu



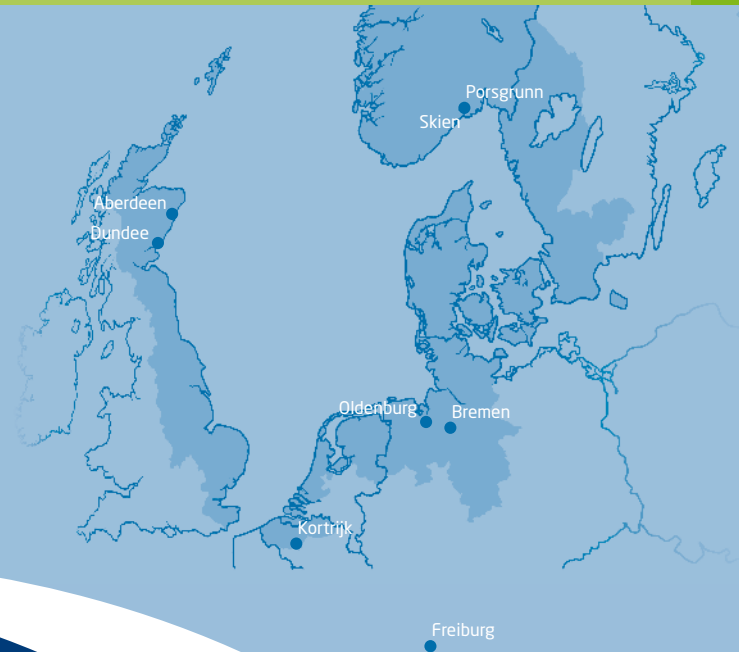
Tel-Tek

The overall aim of this project was to provide a basis for establishing a coordinated Carbon Capture and Storage (CCS) infrastructure in the Scandinavian countries, with special focus on the Interreg region Skagerrak-Kattegat.

Successful implementation of CCS depends on the establishment of cost efficient transportation and storage infrastructure. A prerequisite for such a development is international and regional cooperation between authorities, industry and politicians.

www.ccs-skagerrakkattegat.eu





The North Sea Region is a microcosm of Europe, in its mix of urban and rural, population intensive and sparsely populated, industrial and agricultural economies. It presents challenges and opportunities for carbon reduction and energy efficiency in different areas such as transport or building that mirror the demand of the wider EU community.

Therefore the North Sea Region is a key European player and low carbon and energy efficiency has to be a high priority in the upcoming programme period (2014-2020).

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