



FOURTH MEETING

Esbjerg, Denmark

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Agenda Item: 5

Subject: Final reports Thematic Groups Agriculture, Energy, Fisheries, Industry/harbour

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Attached are the final reports of the Thematic Groups Agriculture, Energy, Fisheries and Industry/Harbour.

Each sectoral report is structured as follows:

- Vision
- Strategy
- Obstacles
- Recommendations
- Projects and actions

Background information on the development of the TG reports can be found in the Minutes of the respective TGs which are on the WSF website.

PROPOSAL: The meeting is invited to discuss the reports and raise comments as appropriate

C O N T E N T S

Sustainable agriculture in the Wadden Sea Region 3

Sustainable energy in the Wadden Sea Region 6

Sustainable fisheries in the Wadden Sea Region..... 9

Sustainable industries and harbours in the Wadden Sea Region..... 12

Sustainable agriculture in the Wadden Sea Region

THE VISION

- **Agriculture in the Wadden Sea region should be given the possibilities to develop in a profitable way taking due account of**
- **the full variety of the typical cultural Wadden Sea landscapes (dykes, rivers, mounds, etc.)**
- **the characteristic flora and fauna of the Wadden Sea region (geese, lapwing, etc.)**
- **and contributing to viable and dynamic rural communities**

THE STRATEGY

In order to work towards the Vision, the following Strategy will be pursued, related to the Structure of the sector and the possibilities for broadening the income basis by Service and Product Diversification:

STRUCTURE OF AGRICULTURE

1. Scale enlargement

Scale enlargement is an important condition for the survival of most agricultural holdings. It generally leads to higher efficiency and may also reduce environmental impact.

Scale enlargement should be done in balance with the typical Wadden Sea landscape, be socially acceptable, avoid conflicts with tourism and respect biodiversity and environmental quality.

2. Spatial adaptation: farming in suitable areas

In order to increase the efficiency of agriculture and thus, to improve profits and decrease the environmental impact, agriculture should, as much as possible, be concentrated in areas best suited for this purpose, amongst others taking account of soil quality and water management.

3. Local Cooperation

Local cooperation between farmers in production, service and added value will increase efficiency, spread risks and enhance the number of possibilities for broadening the income spectrum

SERVICE DIVERSIFICATION

4. Nature and landscape management

Nature management and landscape management by farmers or cooperations of farmers are considered potentially good options for generating additional income, provided there is sufficient local cooperation of farmers and there are good contracts with competent authorities (sufficient compensation, long-term perspectives)

5. Tourism, recreation and direct selling

Tourism, recreation and direct selling may generate additional income for farmers, provided these activities are professionalized and coordinated at the regional level.

The actual contribution to the income of farmers will strongly depend upon the location of the farm, but active creation of attractions and events is less site-dependent.

PRODUCT DIVERSIFICATION

6. Medicine-low, Pesticide-low, animal friendly products

High-quality products from “regular” agriculture, i.e. products grown with low or no medicines and pesticides and which are animal friendly, will be eligible for cross-compliance support, i.e. will be financially supported by regulations of the Common Agricultural Policy

7. Organic products

It is expected that there will be a market segment for organic products in future. The size of this segment will strongly depend upon consumers’ attitude, welfare development, government support and promotion

8. Added value

Adding value to bulk products, i.e. the own production of cheese, eggs, bread etc., may generate additional income, especially in combination with tourism and recreation and in local cooperation settings (higher product diversity, shared selling point). Promotion and labeling of regional products are also very relevant.

9. Energy

The generation of energy (mainly own supply through biogas, wind and solar energy) will contribute to lowering production costs of farmers

10. Wadden Sea label

A Wadden Sea label for all Wadden Sea products might be a relevant element for the sector strategy, but is still connected with many uncertainties. For that reason the feasibility and added value of a Wadden Sea label should be investigated in a project (see below).

OBSTACLES

The implementation of a sustainable agriculture strategy is currently hampered by

- Insufficient room for bottom-up processes
- Redundant/unnecessary Wadden Sea protection rules and regulations
- No level playing field: differences in rules and regulations for same issues
- Insufficient reliability and feasibility of nature management contracts and regulations (financing, time perspective)
- Insufficient evaluation of nature protection programs
- Insufficient insight/awareness of costs and benefits for society of nature protection programs
- No agreed common definition of Wadden Sea region specific flora and fauna
- Insufficient maintenance of gullies and river outlets in the Wadden Sea creating water problems for farming in the hinterland

RECOMMENDATIONS

In order to remove the above obstacles and to clear the way for a sustainable agriculture strategy the following is recommended:

- Provide sustained financial support for nature and landscape management

- Use results and proposals of local and regional projects (Leader +, model regions Uthlande, Bremen, Ostfriesland) in national and trilateral policies
- Provide administrative support and compensation measures improving the conditions for island farmers (diversification on islands)

PROJECTS

The following project are considered relevant for specifying the strategy

- Inventory and assessment of redundant/unnecessary Wadden Sea protection rules and regulations, including national differences
- Inventory and assessment of product labels in the Wadden Sea region (which have been successful, which not and for what reasons)
- Elaboration of the Strategy for a pilot region
- Inventory and definition of Wadden Sea rural area specific flora and fauna, including an inventory and assessment of existing nature management plans
- Improve conditions for agriculture in the hinterland with respect to the increasing ground water levels and temporary floodings of fresh water

Sustainable energy in the Wadden Sea Region

THE VISION

- **Saving energy of more than 20 % of the total consumption within 20 years**
- **Increase of the energy efficiency (transformation, processing)**
- **Preferred use of renewables and gas as primary energy sources**
- **Securing of energy supply for the society**
- **Power generation and exploitation of energy resources in the Wadden Sea Region to be in harmony with the resilience of the sensitive ecosystem**
- **The Wadden Sea Region as demonstration area for sustainable energy use**

THE STRATEGY

In order to work towards the Vision, the strategy of the energy sector contains the following elements:

1. Wind energy production in the Wadden Sea Region

Wind energy has a substantial share in electricity production in the WSR. It is still a growing market with a well-known technology. The locations of the future wind parks are considered off-shore and do require installations of various facilities both, on- and off-shore. Additionally, integrated planning is a precondition to undertake all necessary activities with respect to best environmental practice, to minimize environmental impacts and to take nature protection sites into consideration.

2. Solar energy and biomass as renewable energy production

The main recent elements of solar energy are collectors for heating water. Solar cells for electricity generation is an available technology but still rather expensive and not very efficient. Big technology breakthroughs are expected. The technology of using biomass for energy supply is available however on an old standard but new plants could contribute to minimizing the amount of organic waste and to reducing N₂ emissions in the agricultural sector.

3. Extended development of combined heat and power systems (CHP)

CHP, also known as cogeneration, is an efficient, clean, and reliable approach to generating power and thermal energy from a single fuel source. By recycling waste heat, CHP systems achieve typical effective electric efficiencies of 50% to 70% — a dramatic improvement over the average 33% efficiency of conventional fossil-fueled power plants.

4. Construction of LNG terminals

Liquefied natural gas (LNG) was seen for many years as little more than a way of moving gas to markets where pipelines are not feasible. Now it is seen by the stakeholders as a potential of meeting the increasing gas needs of a global world. In terms of market outlook, Europe is expected to be a significant growth market. Expected gas supply gaps in the USA and Europe, and reducing LNG costs, could make LNG an attractive prospect for the growing energy demand.

5. Extraction of hydrocarbons in WSR

In the WSR, there are some hydrocarbon resources which are considered exploitable within the next 20 – 30 years. In the Netherlands, the Wadden Sea gas deposit is about 35 billion m³, which corresponds with the Dutch consumption of one year. The drilling for German Wadden Sea oil (Mittelplate) has a share of about 2% of the total oil supply in Germany, a small part but a contribution to the strategy of getting more independent from imports.

6. Implementation of policies for energy saving and increase of efficiency

Energy saving includes:

- Energy savings for consumers with an emphasis on a reduction of more than 20% in the total private consumption.
- Energy savings in building blocks and service centers.
- Energy audits, benchmarks, labels (for industry) contribute to savings.
- Taxation & subsidies and simplified regulations are also part of saving policies.

OBSTACLES

The implementation of a sustainable energy strategy is currently hampered by the following:

- in Germany it is planned to install 40,000 MW capacity of wind energy generation (off shore), which is a third of the total existing electricity production capacity (110.000 MW). The needed facilities have big impacts on the environment. (facilities needed: converters, 1,000 are in discussion; power cables, each 200 MW for AC and 1000 MW for DC)
- coastal areas have to pay higher prices for wind generated energy, subsidies for wind energy have to be regularly distributed to all consumers
- off-shore wind parks constitute risks with regard to shipping safety
- there is not enough space for near-shore wind parks, and off-shore sites might be too far for energy transport
- there is no available storage capacity for wind generated electricity
- only large scale use of solar energy will visibly contribute to an alternative energy market, this hampers new initiatives
- low efficiency of solar cells as well as the high prices of the generated electricity hinder the installation
- the little knowledge of possibilities and advantages of using organic waste leaves this energy source unexploited
- the production of only electricity by CHP is too expensive and cannot compete with other production lines
- LNG terminals constitute a risk for men
- the need for huge industrial areas and deep water ways could lead to impacts on the environment
- possible impacts on the environment with regard to gas exploitation in the Wadden Sea, like the subsidence of the area above the gas fields (suggested 10cm within 20 years) causes resistance to exploitations in sensitive areas
- there are still risks of polluting the Wadden Sea ecosystem by hydrocarbons

RECOMMENDATIONS

In order to remove the above obstacles and to clear the way for a sustainable energy strategy the following is recommended:

- to implement wind parks outside the 12sm zone and not near-shore as is still practise in Lower Saxony
- subsidies for wind energy must be regularly distributed to all consumers
- for safety reasons, a risk assessment for off-shore wind parks must be undertaken; an insurance must be compulsory for the wind park operators
- to initiate pilot projects to collect experience with distant off-shore sites
- solar energy is a good alternative energy source, it has to be strongly promoted and supported
- the challenge of using biomass, particularly organic waste, should be taken seriously by the government and new guidelines should be implemented

- awareness should be increased for Combined Heat Power systems (CHP) to implement efficient energy generation systems
- an EIA, as well as a risk assessment have to be carried out for the installation of LNG terminals
- before planning LNG terminals in the WSR, a cooperation with other areas like Rotterdam should be taken into account
- if LNG terminals in the WSR are necessary to secure the energy supply in the future, the installation should concentrate on one location to minimize the impacts
- the oil and gas drilling should be carried out from on-shore whenever technically possible
- use the existing facilities and infrastructure in the near future (10 years), to avoid severe economical disadvantages
- the exploitation of oil and gas in the sensitive Wadden Sea requires the highest technological standard and best environmental practise. These knowledge is a benefit which can be used in other areas for a sustainable hydrocarbon supply
- to introduce policies for higher taxation of heavy energy use and for supporting energy saving
- initiatives should be taken which aim at a changing behavior in consuming energy

PROJECTS

The following projects are considered relevant for specifying the strategy

- to strengthen alternative energy sources, wind energy should be emphasized by further projects in the WSR
- development of spatial plans to remove single turbines and small wind parks and, concentration of wind turbines at some areas to minimize space use on-shore (up to 1% of a county in SH)
- development of an integrated planning for off-shore sites (EEZ) and stimulation of applications
- new programs are needed to promote and support the use of solar energy (also financial subsidies are still needed)
- installation of solar energy facilities in tourist areas and for summer houses, to produce e.g. hot water
- initiation of pilot projects by installing of solar cells for remote locations
- the counties should initiate decentralized energy supply to also use heat where it is needed like in hotels, pools, glass houses.
(e.g. coal based CHP systems are running with an efficiency of 75%)
- LNG terminals have so far been constructed outside the WSR, e.g. in the UK, Italy, Spain and France, which underlines the growing market share. A study for future requirements of the WSR should be undertaken
- a campaign could be started to inform the public about possibilities in energy saving.
- labels for low energy use in production and processing should be awarded
- more eco-team programs (cooperation in the neighbourhood) should be initiated to save energy
- decentralized energy management systems should be implemented. This includes e.g. different prices for industry and households during day and night
- the WSR is a region with high natural and cultural values and vulnerable to climate change. Therefore, a Wadden Sea region wide program should be initiated to promote renewable energy and energy saving systems in order to maximize demonstration value in tourism areas. (pioneer role of WSR)

Sustainable fisheries in the Wadden Sea Region

THE VISION

- **A healthy, dynamic ecosystem**
- **Long-term profitable fishing**
- **Keep occupation and added value in the region**

THE STRATEGY

In order to work towards the Vision, the following Strategy will be pursued:

1. Integrated Resource Management

Fisheries in the Wadden Sea and adjacent coastal zone will be based upon Integrated Resource Management.

The aims of Integrated Resource Management are to reduce impacts on the ecosystem and to guarantee the reproduction of the stocks.

Integrated Resource Management will as much as possible make use of long-term licenses and flexible rules and regulations, tuned to the dynamics of the Wadden Sea ecosystem.

The knowledge basis for Integrated Resource Management must be derived from integrated trilateral research programs, trilateral exchange of relevant information, trilaterally comparable methods for stock estimation and trilaterally harmonized monitoring.

2. Long-term perspective

A long-term perspective for Wadden Sea fisheries is a prerequisite for the survival of the sector. Conditions for a long-term perspective are long-term licenses and improvement of the image of the sector.

Long-term licenses will be a central element of integrated resource management plans.

Improvement of the image will include enhancing local support, amongst others by maintaining and increasing added value in the region and by safeguarding cultural-historical fishery elements.

3. Labeling

The position of Wadden Sea fisheries products will be strengthened by establishing a Wadden Sea label. Products under this label will be subject to strict quality controls and will be actively promoted. The identity of the region will benefit from such an approach.

4. Diversification

The sector will strive for diversification and scale optimisation, both within the framework of integrated resource management.

Diversification and scale optimisation imply the fishing of a variety of species by vessels best suited for this purpose (in terms of good profits and low ecosystem impacts). Mixed licenses, embedded in integrated resource management plans are needed for diversification.

Also regional processing and regional selling will contribute to diversification of the chain of catching, processing and marketing.

5. Organisation

Mandatory national and trilateral organisation of fish producers in producers' organisations is a prerequisite for integrated resource management.

6. Facilities

Good facilities in all current fisheries harbours, i.e. infrastructure, education and training (within the whole chain), hygienic control facilities and related services (ship yards, suppliers etc.) are a basic condition for the long-term perspective of the sector and the

7. Innovation

Innovation is necessary to reduce ecological impacts and improve profits. Innovation is only possible with proper financial and administrative support. Innovation should be carried out within a trilateral research framework.

8. Best Environmental Practice

The sector will apply Best Environmental Practice (BEP) on vessels and in harbours. This concerns BEP in fishing methods, sailing and processing.

OBSTACLES

Fisheries in the Wadden Sea and adjacent waters is to a very high degree determined by conditions set by local, regional national and international authorities.

The implementation of a sustainable fisheries strategy is currently hampered by

- Static rules and regulations, not tuned to the dynamics of the system;
- Unnecessary and too complicated rules and regulations causing unnecessary losses of material and a high administrative burden;
- Insufficient or lacking long-term perspectives, mainly as a result of short term licenses;
- Insufficient support by local and regional authorities of local and regional economic developments;
- Increasing user conflicts resulting in loss of fishing grounds, for example by harbour extension and offshore wind parks.

RECOMMENDATIONS

In order to remove the above obstacles and to clear the way for a sustainable fisheries strategy the following is recommended:

- A Political Commitment on long-term perspectives for sustainable fisheries in the Wadden Sea
- Long-term resource-based management plans, as a basis for flexible long-term licenses and mixed-species licenses
- Harmonisation and optimisation of rules and regulations
- Possibilities for carrying out innovative pilot-projects for improvement of fishing efficiency and reduction of ecosystem impact
- Compulsory trilateral POs responsible for resource management
- Integral marketing strategy for Wadden Sea products
- Active support of traditional fisheries by local and regional authorities
- Trilateral research and exchange of research information

PROJECTS

The following project are considered relevant for specifying the strategy

- An inventory and comparison of fisheries-relevant facilities in all Wadden Sea fishery harbours;
- An inventory of all relevant rules and regulations (incl. Safety standards) and an analysis of national and regional differences in implementation and application;
- An investigation of possibilities for promotion of Wadden Sea products, including a comparison of current labelling systems;
- An inventory of bycatch of shrimp fishing.

Sustainable industries and harbours in the Wadden Sea Region

THE VISION

The vision of the industry and harbor sector includes the following elements:

- **Full employment in the WSR**
- **Cluster of industry plants**
- **Specialization in production and marketing of quality products and services**
- **Wadden Sea harbors competitive with harbors outside the area.**
- **Optimum harbor capacity and cooperation in the Wadden Sea countries.**

THE STRATEGY

In order to work towards the vision of the industry/harbor sector of the WSR, the following strategy will be pursued:

1. Initiatives for clustering of interdependent large scale industries and attraction of related business services

Concentrations of interconnected companies, specialized suppliers, firms in related industries and associated R&D institutions, that compete but also co-operate. Clusters do have synergistic advantages through shared facilities and services. Examples are concentration of chemical industry at harbor locations with a close connections to power plants and refineries.

2. Strengthening and stimulating investments of/in the specialized food sector of the WSR (e.g. fish industry, quality agri-products)

Food industry is the second most important sector in the WSR but an high decrease of jobs is expected in the future. Main products are dairy products, fish, frozen food, tea and coffee.

The food industry with the sub-sectors food manufacturing is closely associated with agriculture and fishery and its market is more or less focused on the region.

Perspectives are segments like frozen and convenience food, regional quality products as well as new products, also in the field of biotechnology.

3. Further development of quality metal industry (production and processing) and engineering and related services (wind turbines, cars, ships, off-shore industry, etc.)

This is largest sector in the WSR and includes engineering, metal processing and production of metal products. The main sub-sectors are aircraft, vehicle, ship building and wind energy. In comparison to chemical industry, the companies are small or medium sized. While the employment of the sector is decreasing, the development of GDP is positive; engineering has quite good growth perspectives.

4. Acquisition of new harbor related activities, like green ship wrecking, specialized ship yards, recycling scrap metal.

Environmental concerns could lead to an increasing market for clean ship wrecking, like single hull tankers, old cargo vessels and naval vessels. Furthermore, advantages will be provided by recycling expensive raw materials. EU will issue stringent conditions for ship owners and flags of convenience (when coming to European ports) which leads to increasing wrecking of ships.

With regard to the global competition, WSR ship yard will have a future only by specialization, e.g. on cruise liners, tug boats, research vessels, etc. Technology and innovative know how is requested.

5. Harbor concept for big container vessels and feeder traffic in the WSR

Harbors have a high economic relevance, particularly for chemical, energy and food industry. Cargo transport is strongly increasing with an emphasis on container shipment. Traditional, the harbors are specialized on different cargo segments but the importance of harbors for the region and for economic development has led to an increase of pressure on harbor development and competition between regions. A concept can improve the possibilities to compete with Rotterdam/Antwerp, strengthen the portfolio of the different harbors and could give initiatives for new segments. The harbors would also benefit from cooperation in transport systems, common occurrence on the world market.

6. Long-term perspectives to guarantee accessibility of the Wadden Sea harbors, meeting environmental standards

Considering the function of the harbors, a long-term perspective in accessibility is necessary to keep the harbors alive. This is also an important issue for a proper short sea traffic in the WSR.

7. Establishment of “centers of excellence”

Besides traditional education (schools, universities, traineeship, etc.), special education and knowledge building for industry purposes is required. With regard to sector aims like specialization, cluster building and development of off-shore industries and harbor concepts, special knowledge can facilitate achieving the aims. New education concepts, implemented by like centers of excellence, can meet the specific needs of industrial businesses (e.g. specialization in ship building, food processing and engineering) in order to have advantages over other competitors.

OBSTACLES

The implementation of a sustainable industry and harbor strategy is currently hampered by

- a prohibition of use of farm houses/buildings for businesses purposes
- the existing regional responsibilities for the development of a common harbor concept
- the lack of financing of the development and establishment of “centers of excellence”

RECOMMENDATIONS

In order to remove the above obstacles and to clear the way for a sustainable industry and harbor strategy the following is recommended:

- that industry clusters should be seen as one industrial plant with regard to emissions
- to review the spatial plans with a view on clustering and related business services
- to stimulate the companies for further investments in the specialized food sector of the WSR
- to stimulate the companies for a further development of the quality metal and engineering business
- to stimulate the ship building industry to cooperate with centers of excellence
- to promoting green ship wrecking also in the WSR
- to develop concepts for harbors working together
- to take initiatives for the establishment of “centers of excellence”
- to further develop the existing institutions in the field of education and knowledge building as well as their cooperation
- to provide financial support, also by the EU, for the establishment of “centers of excellence”

PROJECTS

The following projects or measures are considered relevant for specifying the strategy:

- emphasizing the development of existing industrial areas
- initiate spatial planning activities to facilitate and support business services
- initiate a study of independent universities to investigate possibilities to reduce light and noise pollution

- facilitate and subsidize the fish/food processing industry
- implementation of pilot projects for labeling local processing and local product chains

- initiate a project “what is green ship wrecking”

- development of guidelines with regard to limitation of dredging estuaries and rivers
- provision of efficient shipping routes

- promotion of proper short sea traffic
- study about the function of the harbors

- initiatives to a better cooperation between universities (including applied science) and research institutions
- initiatives for technology transfer to companies