BEA-APP
BALTIC ENERGY AREAS
A PLANNING PERSPECTIVE

EU STRATEGY FOR THE BALTIC SEA REGION
FLAGSHIP

Interreg
Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

English summary of –

Climate and Energy Strategy for Blekinge, with actions 2017-2020 revised 2017/2018

Region Blekinge, PP3

September 2018

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1. Introduction

This document is an English summary of the Climate and Energy Strategy for Blekinge and it also provides a brief overview of the structure and some examples of each part of the strategy. The full strategy consists of; *vision, focus areas, it's connection to other targets and strategies, comprehensive targets, baseline, a section on the forum of Climate Cooperation for Blekinge, an action plan containing almost 70 actions and specifications of their primarily and secondarily responsible actors,* as well as a *description of the follow-up and implementation process.*

The Climate- and Energy Strategy for Blekinge (including actions) has been developed within the regional forum of Climate Cooperation for Blekinge. This makes the content well anchored among stakeholders; politicians at all levels (regional and local), municipalities, businesses, university etc. The County Administrative Board of Blekinge is ultimately responsible for the Strategy. The strategy was adopted and became official in June 2013 and the revised version were developed and adopted during 2017/2018, containing an updated action plan for 2017-2020. This document is an English summary of the revised version, which was adopted in April 2018 by the County Administrative Board of Blekinge. This document is authored by Sarah Ericsson and Jenny Rydquist at Region Blekinge in September 2018.

The Swedish title for the strategy is "Klimat- och energistrategi för Blekinge – åtgärder 2017-2020". In English translated to "Climate and Energy strategy for Blekinge – actions 2017-2020".

2. Summary of Regional Climate- and Energy Strategy for Blekinge

The Strategy is based on the Swedish Government's vision of a climate neutral Sweden by the year of 2045. This vision has been decomposed into four distinct strategies in the Strategy, so-called four focus areas; reduced energy consumption, renewable energy, transports and engaging more people.

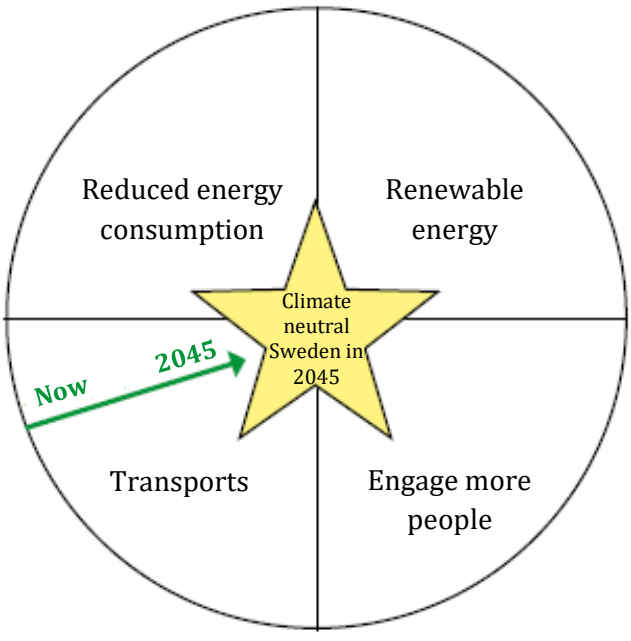


Figure 1. Sweden's Climate Vision 2045 is the beacon - no net emissions of greenhouse gases in Sweden in 2045. The Climate- and Energy Strategy for Blekinge consists of four focus areas.

Target descriptions are made for each focus area to create a visionary picture of the future in terms of sustainability. The descriptions are based on the outcome of the process work that preceded the strategy.

The strategy presents its comprehensive climate- and energy targets for Blekinge, within their respective focus area. This section also includes equivalent targets on national and international (European) level.

The baseline is described in the document by a range of climate and energy statistics for Blekinge and a brief description of the potential of various sectors of society. It also describes the potential to adapt society to walking, bicycling and public transport through the field of spatial planning.

After the baseline a comprehensive approach of the main priorities in Blekinge is presented, followed by a section describing the Climate Cooperation as well as a section about the implementation process. In the action plan responsible actors for each measure are identified. The measures are grouped into subareas for each Focus area.

The strategy and the measures apply during 2017-2020. Energy and climate work in Blekinge include all sectors of society; households, industry, business, agriculture/forestry, government and transportation.

2.1 Comprehensive climate- and energy targets

The comprehensive climate- and energy targets includes, as described above, regional targets for Blekinge, national targets set up by the Swedish Government, and international targets set up by the European Union. The targets are also divided into the four main strategies presented before. Below are the comprehensive targets for Blekinge, in each focus area. Despite following the same structure as national and international targets, the regional targets are set with a slightly higher level of ambition:

	Comprehensive targets for Blekinge 2020
REDUCED GHG EMISSIONS	By 2020 GHG emissions are reduced by 50% compared to 1990. This means that GHG are 3,5 tonnes CO2eq/capita in 2020 (more than 30% less than in 2010)
REDUCED ENERGY CONSUMPTION	By 2020, energy consumption is reduced by 20% compared with 1990. This means that energy consumption in Blekinge is max 5297 GWh (30% less than in 2010)
RENEWABLE ENERGY	By 2020 the share of renewable energy will stand for 80% of the energy consumption. In 2010 it was 62% renewable energy.
TRANSPORTS	By 2020, the share of renewable fuels account for at least 15%. In 2010, the proportion of renewable fuels 6%.
ENGAGE MORE PEOPLE	By 2020 the citizens are to be well aware of consumption impact on the climate.

2.2 Baseline – brief summary

The latest official statistics on greenhouse gas emissions available on regional level represents year 2014. That specific year the emissions in Blekinge reached a total of 614 000 tones, which is equivalent to 4 tones per resident. The regional target for Blekinge 2020 is 3,5 tones per resident. Since 1990 there has been a 38% decline in greenhouse gas emissions in Blekinge, but the target for 2020 is 50%.

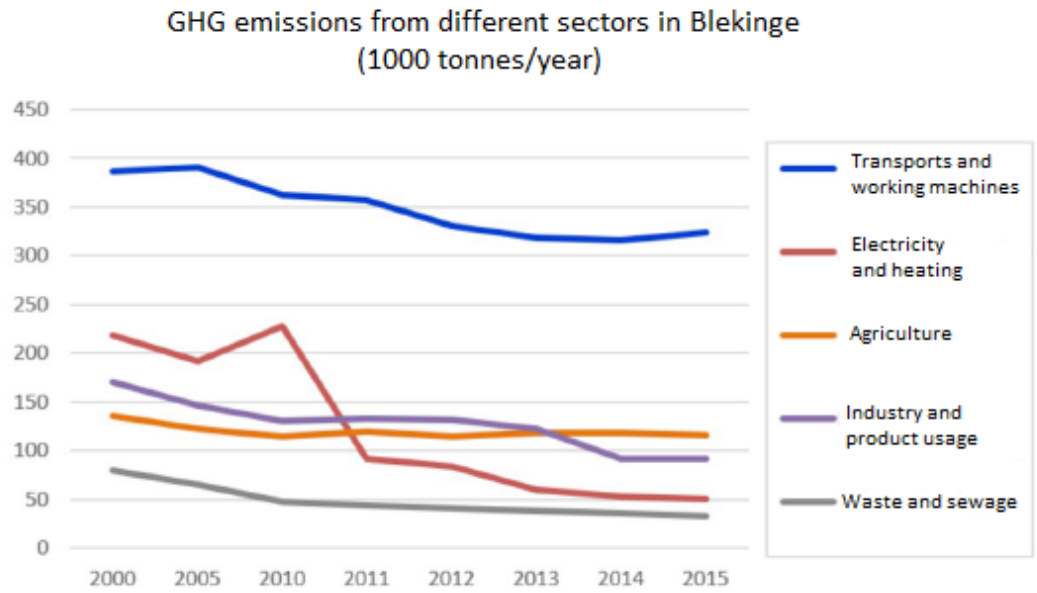


Figure 2. Climate affecting emissions for different types of usage. Data received from the national emission database.

Different types of transports, especially passenger cars, and working machines are causing the highest GHG (greenhouse gas) emissions in Blekinge. The emissions have decreased over the years, though that decrease is declining now. The biggest contributor to the decrease in emissions is the energy supply sector, due to transition from fossil oil to renewable energy.

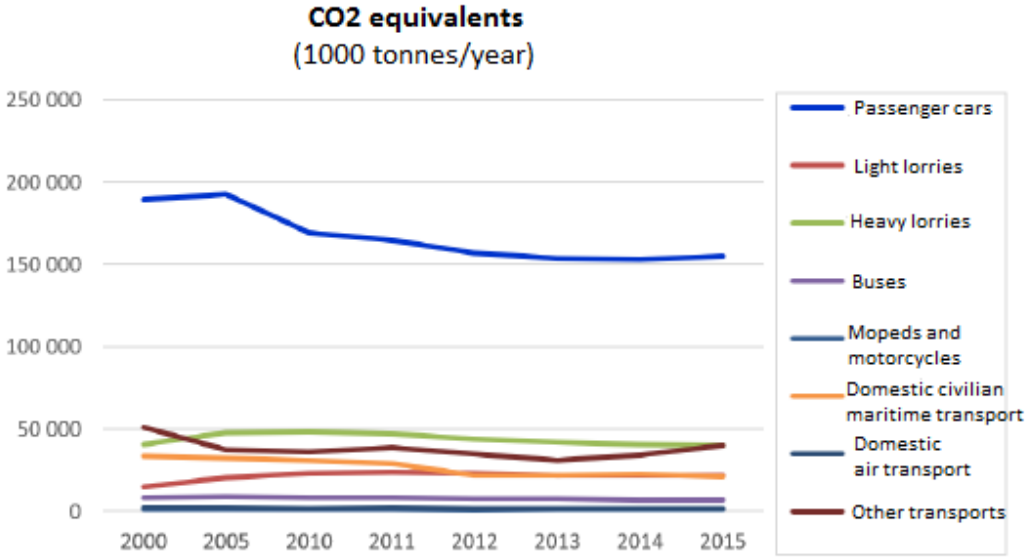


Figure 3. Total GHG emissions for different types of transports. Data received from the national emission database.

Swedes travel by air transport more and more, and its climate impact is increasing. The number of air travels per capita has more than doubled since the early 1990s. Air travelling has at the same time become more efficient, mainly because of fewer empty seats in the planes.

Swedish consumption leads to emissions in both Sweden and other countries. The main part of these emissions come from the production of imported goods. Whilst emissions deriving from Swedish consumption decreases in Sweden, it also leads to increasing emissions in other countries.

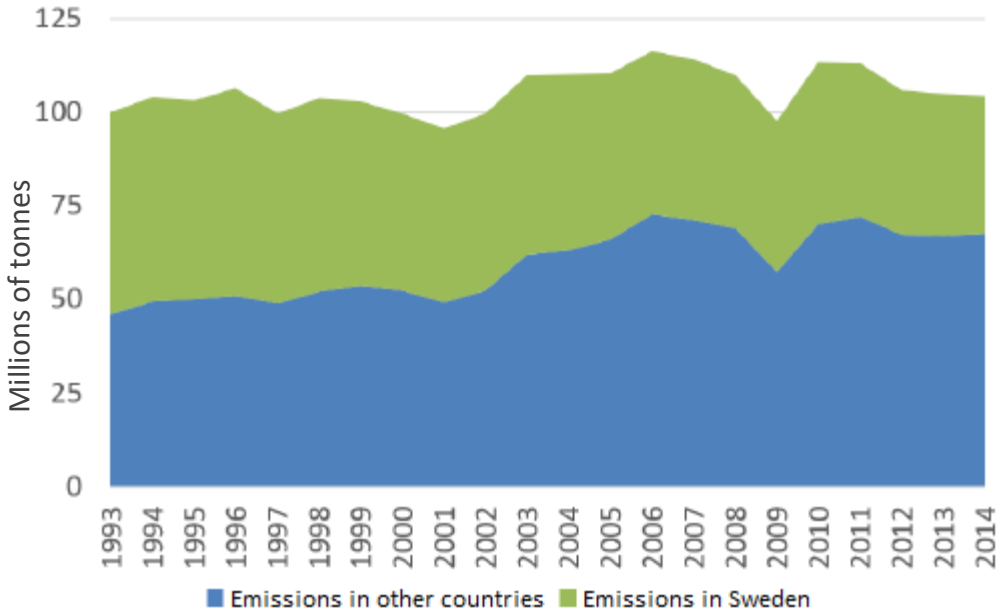


Figure 4. Emissions in Sweden and other countries deriving from consumption. Data from Swedish Environmental Protection Agency.

An extensive streamlining for reduced energy consumption is necessary if renewable energy sources are to be sufficient. It is also a key element if we are to reach the national government's vision of a climate neutral Sweden by the year of 2045. Studies have shown that there is great potential for increasing efficiency in different sectors. Through spatial planning it is possible to adapt and develop society to walking, bicycling and public transports. Transports can be significantly more efficient through a more developed route planning, coordination of transport types and increased energy efficiency in motors. In Blekinge most fossil energy is used in the transport sector, and there is high potential for a fast adaption to renewable fuels. For this to be possible Blekinge will need a well-developed supply network of fuel stations and charging points.

2.3 Comprehensive approach – what is most important for Blekinge?

It will take powerful measures to reach the targets for Blekinge 2020 as a step on the way towards the vision of a climate neutral Sweden in 2045. All sectors of society will need to pitch in; households, the industry, businesses, agriculture/forestry, public service and transports. A lot of work is in progress on decreasing society's climate change impact, and in Blekinge the total emissions of GHG have decreased with 20% since 1990. Transports are the single area that stands for the main part of climate impacts, and passenger cars stands for a majority of emissions.

The pace of our adaption process will need to increase further in all its width, if we are to reach the targets:

1. Especially large actions will be needed to decrease emissions from transports.

2. It is strategically important to, in a sustainable way, make good use of the energy that can be obtained through by-products and biomass in the nearby area, for example forestry, animal husbandry and household waste.

3. All actions for a decreased climate impact will be developed within sustainable development as a holistic perspective.

Many of the suggested actions are neutral in relation to other interests aside from the ones about decreasing climate impact. Actions that has the potential to affect other interests often comes with the prerequisites to find solutions which are favorable in more than one perspective. Other actions could require more reasoning, coordination and actors who are willing to search for innovative solutions.

A suitable approach in the action plan, in relation to the comprehensive climate- and energy targets, is to:

1. Primarily reduce energy consumption (for example through additional insulation of houses, creating more efficient driving routes for freight transports).

2. Secondarily use energy more efficient (for example through obtaining waste heat, switching to more energy efficient goods, economical driving).

3. Thirdly go full scale on adaption to renewable energy (for example, converting from oil to district heating or geothermal energy).

It is also important to take gender equality into thought when working for a decreased climate impact. Studies have shown that women leave a smaller ecological footprint than men, which is explained due to that man have greater access to financial resources, bigger mobility and travelling. A behavioral change among men is therefore identified as a key factor in the work to decrease climate impacts.

2.4 The Forum of Climate Cooperation for Blekinge

Klimatsamverkan Blekinge
NÄRINGSLIV, OFFENTLIG SEKTOR OCH ORGANISATIONER TILLSAMMANS

The forum of Climate Cooperation for Blekinge was founded in 2011. The aim was to create a good foundation for regional collaboration between different actors within climate- and environmental work. The work is led by the county administrative board of Blekinge, together with Region Blekinge and Energikontor Sydost (Energy Agency for Southeast of Sweden). The forum aims to be a coordinating and driving force in the County's climate- and energy work, and works by the key concept of creating consensus, collaboration and coordination without needing to create new organizations.

Actor	Meetings	Acitivity
Steering committee Gathers representatives in leading positions for public and private actors in the progress to decrease emissions and cope with the effects of climate change. The governor of Blekinge is chairperson. The steering committee is important for establishing the regional strategy.	The steering committee assembles two times per year. One meeting is for discussing prioritised actions for Climate Cooperation for Blekinge, the other for study visits at the committee members organisations where timely issues are to be discussed.	Give priority to Climate Cooperation's focus areas based on developed action plans. Each representantive contributes with specific knowledge from its organisation in the development of actions. The members also contribute to the exchange of experience and spread of best practises.
Group of officials Climate- and environmental strategists from the municipalities and county council in Blekinge.	About four times per year	The meetings are aimed at sharing knowledge and experience, at coordination and collaboration. Within the group single actions are discussed - formation and planning, implementation and results.
Drafting group Representatives from the county administrative board of Blekinge, Region Blekinge and Energikontor Sydost.	One or two times per month	The drafting group performs the main operational work witihin Climate Cooperation. The group produces factual basis and suggests business plans among other things. They also initiate and administrate meetings for the steering committee and the group of offcials.
Theme groups With make-up of suitable representatives, for example with the theme "sustainable building"; housing associations, the municipial planning department, building companies etc.	When needed	Does work within specfic themed areas, for example sustainable building. A theme group can be in charge of one or a few actions from the strategy.

2.5 Implementation and follow-up of targets and actions

In connection to the latest revision from 2017, the climate- and energy actions were integrated with the action plan for the national environmental objectives. The implementation and follow-up of these actions also follow the same structure as the action plan for the national objectives.

The intent is that actions are to be commenced and completed within the programme period 2017-2020. For each action there is suggestions for a primarily responsible actor and secondarily actors, as well as for a follow-up. The primarily responsible actor gets the task to initiate the action and follow it through. The secondarily actors are expected to contribute to the follow-through, for example by implementing it in their own organisations. It is up to the actors themselves to see that the actions are being implemented and prioritised. A few of the actions have a time-limit, but most of them does not have a deadline for implementation since the actors need to find the opportunities to plan the actions into their businesses. When committing to implementation of an action the actor has to precise what time they plan to commence. The list of commitment will be updated annual at the same time as the follow-up. Some actions are suitable to follow through within the ordinary business, while others demand a startup of projects and possibly external funding. A specific funding does not come with the actions in this programme.

Follow-up
The actions aim at both public and private actors. Because of reasons connected to resources the follow-up only targets public actors. The County Administrative Board of Blekinge will perform an annual follow-up by asking the actors about the grade of implementation of specific actions. This grade is based on a four-graded scale:

- Completed or almost completed, or continuously on-going, G.
- Half completed or more, H.
- Commenced but not yet half completed, P.
- Not yet commenced, E.

In connection to the follow-up there will also be opportunities to present results and environmental effects from the actions.

The aim of the follow-up is to:

- Create an overall-picture of the work process with the actions.
- Act as basis for the county administrative board's tasks to support the municipalities and other actors in their work with the actions.
- Complementing the annual regional follow-up of the environmental objectives which the county administrative and the Swedish Forest Agency performs, and where the situation and development of the environment is analyzed and assessed.
- Inspire actors to develop their environmental work.

2.6 Connection to BEA-APP and the General Planning Criteria

As described in the BEA-APP project application and the English summary of the Climate and Energy Strategy for Blekinge (as well as for Skåne), it was revised during the project to include spatial planning aspects, as part of a broader, cooperative update process. The relevant partner from the BEA-APP project (PP3 Region Blekinge) contributed content regarding spatial planning for renewable energy. However, the County Administrative Board of Blekinge is ultimately responsible for the strategy relevant to their region, also described in the project application and English summary. The main contribution from the BEA-APP project was to further connect spatial planning with the renewable energy concepts as well as bringing international knowledge about spatial planning and renewable energy into the working process. The County Administrative Board of Blekinge has been an associated partner throughout the project and they have participated in both transnational conferences as well as the final conference of the project. In our renewable energy concept, spatial planning has not been implemented in a specific chapter. Instead we have chosen to integrate spatial planning in all four focus areas, with targeted actions including primarily responsible actors. All of these targeted actions can be found in Appendix 1 in the English Summary of our renewable energy concept.

The General Planning Criteria
It should be stressed that when this English Summary was written, the General Planning Criteria (output from WP 2.2) were not fully developed and could therefore not be fully implemented and were instead included as an appendix (Appendix 2) in the summary. However, as mentioned in the section above, spatial planning is implemented throughout all focus areas including more concrete actions. A few examples of this are the following:

- Focus area “Renewable Energy” (p.12): We have a theme called comprehensive planning and detailed development planning with five targeted actions for spatial planning and renewable energy.
- Focus area “Renewable Energy” (p.13): We have a theme called solar power within spatial planning with two targeted actions.
- Focus area “Transports” (p.15): We have a theme called comprehensive planning and detailed development planning as well, with two targeted actions.

It should also be underlined that more actions, in all focus areas, connect to spatial planning even if it is not expressed in those exact words. For example “favour walking, bicycling, and public transport” also includes spatial planning, since actions like this demands sufficient infrastructure.”

Appendix 1: Climate- and Energy Actions 2017-2020

Reduced energy consumption

Focus area & actions	Primary actor(s)	Secondary actor(s)
Reduced energy consumption		
1. Increase knowledge about actions for energy efficiency within the municipalities and county administrative board.	County administrative board (CAB)	Municipalities
2. Give counselling about actions for energy efficiency to small and medium-sized businesses in connection to environment protection activities.	CAB	Municipalities Business sector
3. Perform energy-saving actions in workplaces.	Energikontor Sydost Municipalities Swedish Forest Agency Business sector County counsil Region Blekinge CAB	
4. Further develop networks for bigger property owners in the county that is about energy efficiency and renewable energy production. This goes for both public and private property owners.	Climate Cooperation for Blekinge	Property owners Business sector Municipalities
Total cost of ownership in procurements		
1. Increase awareness about the use of total cost analysis as an instrument in procurements. This will be done by arranging seminars/educational occasions.	Climate Cooperation for Blekinge	Municipalities County counsil Business sector
2. Introduce objectives about using total cost analysis. Objectives about TCO should be introduced for all costs related to operating- and capital budgets.	Energikontor Sydost Municipalities County counsil Region Blekinge CAB Business sector	
3. Use TCO in connection to development of suggested actions for energy efficiency in properties. The aim is to identify cost-efficient investments.	Municipalities Business sector County counsil	CAB
Utilise excess heat		
1. Map out the prerequisites for geothermal energy and energy storage in aquifers. According to the Geological Survey of Sweden there are good prerequisites for both larger and smaller facilities to be used in the bedrock.	Climate Cooperation for Blekinge	Geological Survey of Sweden
2. Utilise excess heat in development of new businesses. Inform about the possibility of using excess heat for both existent and new businesses. Information can be given in connection to facilities supplying excess heat.	Climate Cooperation for Blekinge	Municipalities Business sector
3. Set up meetings between energy companies and industrial companies to utilise excess heat. It is done in the purpose of discussing possibilities of utilise excess heat from industries to district heating networks in Blekinge.	Climate Cooperation for Blekinge	Municipalities Energy companies Business sector Energikontor Sydost

Clean air		
6. Reduce emissions of nitrous oxide. Actions are taken to reduce emissions of nitrous oxide from hospitals, health centres and dental offices.	County counsil	
Environmental consideration in building		
1. Inform about sustainable building. Develop fliers with recommendations of material choices, energy choices, indoor environment and waste to developers and constructors.	Municipalities	CAB BTH
3. Implement environmental standards in contracts to inspire developers to build energy efficient. Request energy- and climate efficient solutions in contracts, such as charging stations at home or opportunities for carpools.	Municipalities	CAB

Renewable energy

Focus area & actions	Primary actor(s)	Secondary actor(s)
Expansion of solar cells		
1. Establish Blekinge's regional objective for solar power. Communicate and encourage public and private actors/organisations to get behind the objective.	Climate Cooperation for Blekinge	Region Blekinge Energikontor Sydost Municipalities Business sector
2. Promote Blekinge as a county with good prerequisites for solar power. The promoting will be done in collaboration with the tourism sector with the aim to both increase installments of solar cells and entice more visitors to the county.	Climate Cooperation for Blekinge	Region Blekinge Energikontor Sydost Municipalities
3. Accept the Fossil Free Sweden initiative about having solar cells installed on at least one of one's own rooftops by the year of 2020.	Municipalities County counsil CAB Business sector	
Biogas production		
1. Inspire to collaborations with focus on biogas production. Gather farmers and other stakeholders to discuss startups of biogas production, exchange experience and present best practises.	Climate Cooperation for Blekinge	Forestry- and agric. sector LRF* Municipalities
Increased use of bio fuels		
1. Map out large consumers of fossil energy and suggest suitable renewable alternatives. In connection to the mapping one will look at options for applying for external funding.	Climate Cooperation for Blekinge	Business sector Municipalities
2. Create meeting places for imaginable producers and consumers of biofuels. Workshops, conferences, study visits and/or courses will be arranged for discussing different market models and present best practises.	Climate Cooperation for Blekinge	Forestry- and agric. sector Energikontor Sydost Municipalities County counsil Region Blekinge CAB
3. Arrange events in the purpose to bring attention to a fossil free husbandry. Bring attention to fossil free work machines within farming and inspire to the use of biodiesel.	Climate Cooperation for Blekinge	Forestry- and agric. sector Energikontor Sydost Municipalities County counsil Region Blekinge CAB Business sector LRF Hushållningssällskapet**
Comprehensive planning & detailed development planning		
5. Present areas for production facilities for renewable energy in the comprehensive plan. It means that both existent and planned areas for wind, solar, biomass including organic waste is presented in the plan.	Municipalities	CAB

* LRF = Lantbrukarnas Riksförbund
(*translated: The Federation of Swedish Farmers*)

** Hushållningssällskapet
(*translated: The Rural Economy and Agricultural Societies*)

7. Investige where it would be appropriate to develop distribution systems for district heating and cooling, when locating new development areas.	Municipalities	CAB
8. Present industries with potential for delivery of excess heat in the comprehensive plan. Connections to Sustainable Transports and Smart Energy, focus area Utilise Excess Heat.	Municipalities	CAB
9. Present bottlenecks in the electricity- and heating network. The action will be performed in identified areas.	Municipalities	CAB
10. Present a map in the comprehensive planning over the district and local heating networks together with industries with potential for excess heat. The map can also be combined with a layer that shows how the need for energy looks. In the project Heat Roadmap Europe there is mapping material that shows the need for energy and large industries with excess heat. It can be developed further with district heating and more business for excess heat. Should be developed in collaboration with crisis management and be presented in a scale that they find suitable considering risks and safety. Connections to Sustainable Transports and Smart Energy, focus area Utilise Excess Heat.	Municipalities	CAB
Solar power within spatial planning		
1. Spread the solar power map for Blekinge. Spread the map and give information about the importance of solar energy in sustainable energy supply.	Climate Cooperation for Blekinge	Municipalities
2. Carry out educational occasions with the aim to plan for solar energy. Aimed at municipial and regional city planners about prerequisites for solar energy in planning processes and how to plan for more solar energy.	Climate Cooperation for Blekinge	Municipalities

Transports

Focus area & actions	Primary actor(s)	Secondary actor(s)
Infrastructure for renewable fuels		
1. Develop a regional strategy for fuels. This action includes a pilot study to match public actors' vehicle fleets against the production potential in Blekinge.	Climate Cooperation for Blekinge	Energikontor Sydost Region Blekinge County counsil Municipalities
2. Develop infrastructure for fossil free fuels in Blekinge. To develop this infrastructure in Blekinge, startups of projects with relevant collaboration partners is necessary.	Climate Cooperation for Blekinge	Region Blekinge Miljöfordon Sverige** Municipalities
3. Increase knowledge of renewable fuels among public actors and businesses.	Climate Cooperation for Blekinge	CAB Energikontor Sydost Municipalities Business sector
4. Increase charging opportunities for electric vehicles at dwellings and work places. Give information to property owners about creating charging opportunities at dwellings and work places.	Climate Cooperation for Blekinge	Municipalities Property owners Business sector
5. Introduce objectives for renewable fuels in the organisation's transports. By this action one can accept the Fossil Free Sweden initiative about 100% fossil free transports domestically by the year 2030.	Municipalities County counsil CAB Business sector	
6. Introduce objectives for a percentage of fossil free good deliveries. Goes for both products and services. Introduce a routine for follow-ups at the same time. By demanding fossil free deliveries the market is stimulated to offer this. To decrease the risk of not receiving offers, the demands can at first hand be fossil free, and at second hand lower limits.	Energikontor Sydost	CAB
7. Request fossil free fuels at procurements. Shape procurements for vehicles, transports and delivery of goods so that they contribute to a comprehensive net of charging stations and fuel stations.	Municipalities County counsil Business sector Region Blekinge	CAB
Efficient freight transports		
1. Implement a coordinated distribution of goods (KoSaVa*)	Olofström municipality Ronneby municipality Karlskrona municipality	Energikontor Sydost
2. Improve coordination of transports within commodity chains. Informative efforts about best practises and coordination for actors in all parts of the chains.	Climate Cooperation for Blekinge	Energikontor Sydost Business sector Interest groups Municipalities
Passenger transports - behavioural changes		

* KoSava is a municipial coordinated distribution of goods, where the municipality takes controll over parts of the transport flow to decrese the number of deliveries, the number of kilometers driven and therefor their emissions.

** Miljöfordon Sverige (directly translated: Green Vehicles Sweden) is an organisation which carries out projects concerning more environment-friendly transports and vehicles.

1. Do a traveling habits survey. Do surveys continuously within the own organisation to identify actions for decreasing car travels to, from and during work. The action also includes decreasing air travels.	Energikontor Sydost Municipalities Swedish Forest Agency County counsil Region Blekinge CAB Business sector	
2. Develop sustainable bicycle-, moped- and carpools. Access to vehicle pools that is ran on renewable fuels should exist in every municipality and should also be available for the public. The action includes informative efforts about these pools.	Municipalities County counsil	CAB Energikontor Sydost Region Blekinge
3. Inform of carpooling systems and sustainable communting. Perform informative efforts to get car travelers to use public transport, bicycle or carpools.	Climate Cooperation for Blekinge	Region Blekinge Municipalities Business sector
4. Develop a meeting- and travel policy in the aim of increasing possibilities to distance work. The actions aims to encourage online meetings, stimulate and ease travling to and from work, as well as work travels using public transport, bicycling or walking.	Energikontor Sydost Municipalities County counsil Region Blekinge CAB Business sector Swedish Forest Agency	
5. Introduce objectives for fossil free work travels. Introduce a routine for follow-ups at the same time. The action should be performed within respective organsisation.	Energikontor Sydost Municipalities Swedish Forest Agency County counsil Region Blekinge CAB Business sector	
6. Increase the number of no-travel meetings. Do efforts with help from ICT-staff to increase the number of meetings that do not require traveling, within one's own organisation.	Energikontor Sydost Municipalities Business sector County counsil Region Blekinge CAB Swedish Forest Agency	
7. Arrange educational occasions for professional and private traffic about economical driving at sea.	Climate Cooperation for Blekinge	Energikontor Sydost Region Blekinge Municipalities SMA* STA** SCG***
Comprehensive planning & detailed development planning		
4. Plan venues for commerce so that they are within reach for walking, bicycling and public transport.	Municipalities	CAB Region Blekinge STA
6. Present infrastructure for renewable fuels in the comprehensive plan. Connections to Sustainable Transports and Smart Energy, focus area Infrastructure for renewable fuels.	Municipalities	CAB
Favour walking, bicycling and public transport		

* SMA = Swedish Maritime Administration

** STA = Swedish Transport Administration

*** SCG = Swedish Coast Guard

1. Take public transport in consideration when planning development areas. Will be done in planning to decrease the need for cars. It goes for both new and existent areas including workplaces and places for tourism and recreation.	Municipalities	CAB STA
2. Arrange a seminar on how to, within the field of planning, make walking, bicycling and public transport an outset instead of car traffic.	Municipalities	CAB Region Blekinge
3. Introduce objectives for prioritising safe and attractive walking- and bicycle lanes instead of car lanes in detailed development planning.	Municipalities	CAB STA
4. Produce a strategy for how to develop bicycle traffic in the municipality. In the strategy one should plan for a coordinated, safe and fast net of bicycle lanes to make bicycling simple and passable.	Municipalities	CAB STA
5. Expansion of bicycle lanes. The aim is to create a travel flow that makes the car unnecessary and the city more attractive.	Municipalities	CAB STA
6. Build parking lots for bicycles and cars in connection to hubs in the public transport. The first step is to identify stops and stations with a larger amount of people getting on and off and where there is need for more parking.	Region Blekinge	CAB Municipalities STA
7. Develop an up-to-date parking norm connected to environmental consideration. This norm presents the number of car- and bicycle lots per flat, per employee, or per square meter building area.	Municipalities	CAB
8. Implement a parking policy. The policy should encourage use of public transport instead of passenger cars.	Municipalities	CAB

Engage more people

Focus area & actions	Primary actor(s)	Secondary actor(s)
School and preschool		
1. Produce a regional strategy for education within sustainable development. The strategy will be developed in connection to the Swedish curriculums and according to UN's global action plan GAPESD (Global Action Programme on Education for Sustainable Development)	Energikontor Sydost	Region Blekinge CAB BTH Kreativum Science Center Municipalities
2. Create a regional knowledge node for education within sustainable development. The node will work as support for schools in the region with the implementation of the strategy described above.	Energikontor Sydost	Region Blekinge CAB BTH Kreativum Science Center Municipalities
3. Offer schools support in the process of reshaping the regional strategy to a local action plan. A concrete support can be to inspire schools and preschools to work according to Grön Flagg* or Skola för hållbar utveckling**.	Energikontor Sydost	Region Blekinge CAB BTH Kreativum Science Center Municipalities
4. Produce packages for skills development that will be offered to headmasters and educators.	Energikontor Sydost	Region Blekinge CAB BTH Kreativum Science Center Municipalities
5. Create networks for exchanging experience and skills development between educators/schools/municipalities.	Energikontor Sydost	Region Blekinge CAB BTH Kreativum Science Center Municipalities
Sustainable investments		
1. Arrange a regional inspiration day with focus on policies for sustainable investments and placements.	Climate Cooperation for Blekinge	County counsil
2.Produce or update the organisations investment- and funding policy. The organisations capital investments shall lead in the same direction as the objectives for ecological, social and economical sustainability.	Municipalities CAB Region Blekinge County counsil	Business sector
Sustainability demands in procurements		
1. Increased competence about environmental demands in public procurements. This competence need to be increased for the right considerations and demands to be asked. Seminars, workshops etc can be arranged in following areas; transports, foods, contracts, lightening, healthcare as well as cleaning.	Energikontor Sydost Municipalities County counsil Region Blekinge CAB	
2. Introduce objectives for a number of procurements with demands according to state-of-the-art level or advanced level. Introduce a routine for follow-ups at the same time for all procurements, including contracts and consulting jobs.	Energikontor Sydost Municipalities County counsil Region Blekinge CAB	
Foods		

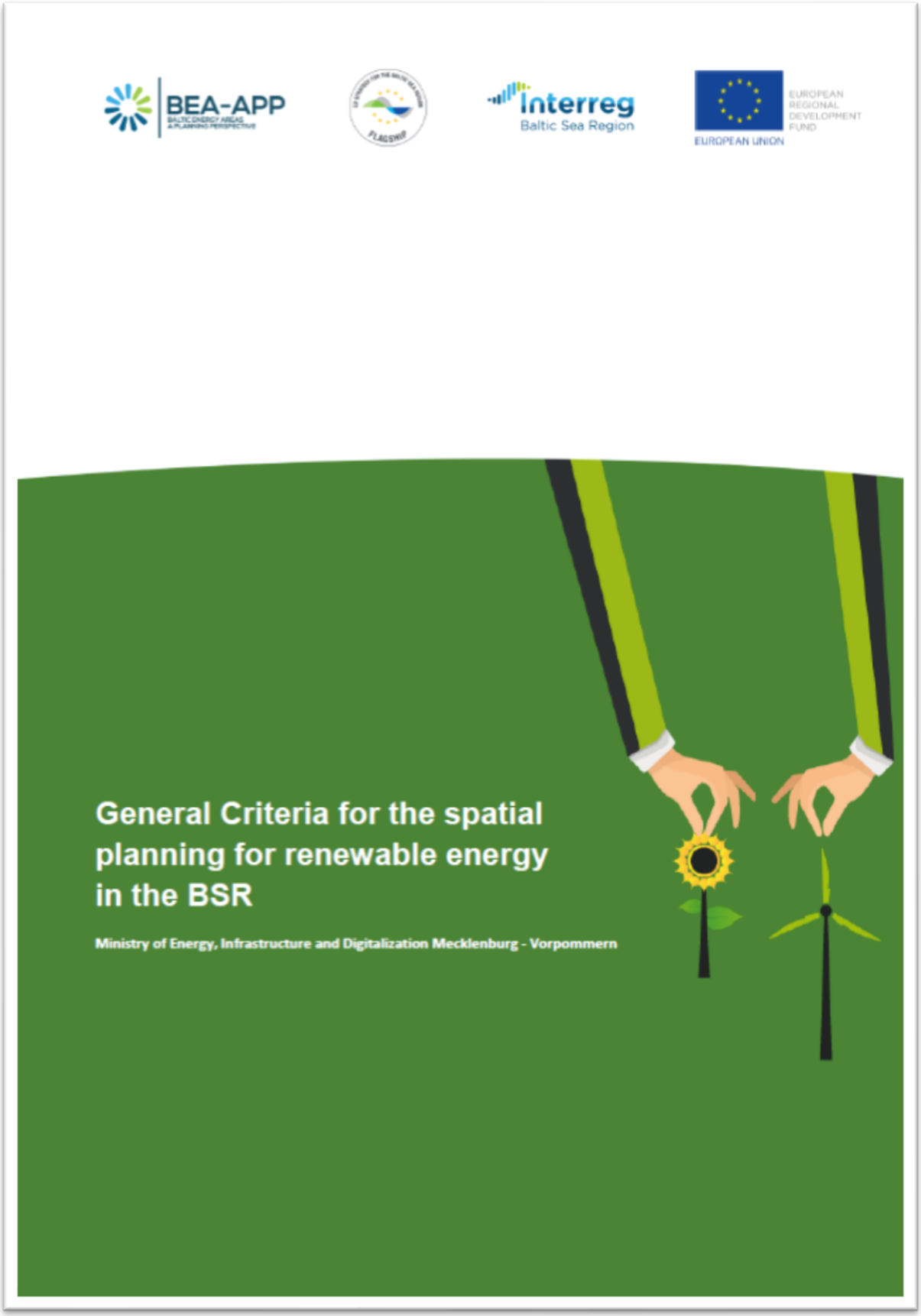
* Grön Flagg (directly translated = Green Flag). A part of the international network Eco-shools.

** Skola för hållbar utveckling (directly translated = School for sustainable development). A reward given by the Swedish National Agency for Education.

1. Produce a template with sustainability standards the municipalities can use for arrengers of conferenses and meetings. Standards can for example include sustainable foods with smaller climate impacts.	Climate Cooperation for Blekinge	County counsil Municipalities
2. Perform climate calculations on municipial meals and adjust the menu from that.	Municipalities	County counsil
Smart consumption		
1. Arrange a seminar to increase the knowledge about nudging and useful tools.	Climate Cooperation for Blekinge	Municipalities Energikontor Sydost CAB
2. Encourage re-use of furniture and gear by arranging a place and dates for exchange at the own workplace. Re-use of goods that are environmental- and health appropriate should be taken in consideration.	Municipalities CAB Region Blekinge County counsil	Climate Cooperation Non-profit organisations Business sector
3. Develop shared services and re-use. Suggestions for services are free time/sports library, tool library, toy library and do-it-yourself library for bicycle reparations.	Municipalities CAB Region Blekinge County counsil	Climate Cooperation Non-profit organisations Business sector
5. Arrange a seminar to increase competence about circular business models in organisations.	Climate Cooperation for Blekinge	Region Blekinge Municipalities Business sector
Environment-friendly events & attractions		
3. Carry through projects to favour sustainable tourism in Blekinge - competence and counselling. It could be to illuminate solar cells as a hallmark for the sun coast, or to educate visitors about sustainable energy and tourism.	Region Blekinge	Municipalities CAB Energikontor Sydost Visit Blekinge Blekinge Arkipelag Statens Fastighetsverk*

* The National Property Board of Sweden

Appendix 2: General Criteria for the spatial planning for renewable energy in the BSR (output from WP 2.2 in the BEA-app project)



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Introduction

Spatial planning is a key instrument for establishing long-term frameworks for social, territorial and economic development both within and between countries of the Baltic Sea Region (BSR). In the BEA-APP project, the partnership developed a commonly agreed set of general spatial planning criteria for furthering the production and use of renewable energy in the participating regions.

Planning criteria represent framework conditions for the implementation of renewable energy installations in the BSR but there is no joint transnational consensus on planning criteria among the BSR countries.

The work was performed under work package 2.2. Information and data concerning planning criteria were collected and analyzed for the renewable energy sources *onshore wind energy, solar energy (PV), biogas* and *biomass with district heating*. The first step in the development of general planning criteria was a review of existing planning criteria for the renewable energy sources. As a second step, a comparison and evaluation of the different planning procedures and framework conditions for different energy technologies in the countries around the Baltic Sea was carried out. Another focus was given to potential conflicts and possible solutions.

The results of the study revealed that the spatial planning approaches differ between the countries in the BSR significantly. Some countries follow a more top-down approach (e.g. Germany), other countries have more bottom-up or locally organized planning systems.

In the BSR there are increasingly complex social, economic, technological, and environmental factors that are present in planning. In addition, planning processes and planning criteria as well as management and prevention of conflicts often go together. As a consequence, it was found that a direct comparison of precise planning criteria and planning processes between the countries is not possible. In that background, more general spatial planning criteria for defining the best suitable places and growth areas for renewable energy were developed.
The general planning criteria represent central aspects for the spatial planning for renewable energy sources in the BSR region and are named as such in the following. Project results reveal that central aspects for spatial planning comprise the following thematic fields: *planning, society, economy*, as well as *other and crosscutting aspects*.

Planning

In the BSR, land-based spatial planning is carried out by all states at national, regional and local level. The level and binding force of spatial planning varies between the countries but in all of the BSR countries specific regulations exist. Regulations cover for example the minimum distance between wind power plants and residential areas, the size of solar power and biogas plants installations and permitting procedures for different RES.

The project outcomes and consultations of experts within the BEA-APP partnership revealed that the designation of specific areas in spatial plans and existing standard planning procedures are the core aspects to regard for the spatial development of renewable energy installations in the BSR. In this respect, the general aspects for the field of planning are:

1. Aspect: Designated areas for renewable energies: Areas intended for renewable energy installations. Others space-related uses, as far as they are incompatible with renewable energy installations, are exclude in this area or the competing uses have to be weighted (with a priority for renewable energies).

2. Aspect: Standard planning processes: Standardized planning processes in the BSR countries are in force for specific sizes and types of renewable energy installations and define e.g. the need for public participation, the legislative framework and authorities in charge.

Society

Throughout the BSR region, it is the vested interest of the concerned local communities that spatial planning decisions are understood and influenced by all of the interested parties and their representatives.

Concrete renewable energy projects often face skepticism and a "not in my backyard" attitude from the local community and other involved stakeholders which often leads to uncertainties, protests, and in the end, delays in spatial planning for renewable energy installations. Other stakeholders, like business representatives can also find their ways of influencing planning decisions directly or indirectly.

For this reason, the models, processes and rules of existing participation in the planning for renewable energy sources is a central aspect in spatial planning and therefore a general aspect.

3. Aspect: Models for participation in spatial planning: The purpose of public participation or at least stakeholder involvement is to ensure that stakeholder and public voices are heard. In this respect numerous participation models are in force and have to be considered for the spatial planning for renewable energies.

Economy

Despite various economic effects of the development of renewable energies in the BSR, the necessary acceptance in the expansion of renewable energies can be achieved by an economic participation of affected citizens and communities. Economic participation is a strong tool to avoid conflicts and paves the way for a higher regional added value. Actually implemented in Sweden, Denmark and Germany for e.g. wind turbines, financial participation models can play a major role for future reduction of the conflict potential of renewable energy installations in the BSR. For this reason, economic participation was selected as general aspect to improve the framework conditions for the spatial planning for renewable energies.

4. Aspect: Economic participation models: Economic participation can be achieved in the context of participation in regional energy cooperatives, community wind farms and solar parks and other formats. The goal is to increase local benefits for affected people from the added value of energy production.

Other and crosscutting aspects

5. Aspect: Natural renewable energy resources: The natural renewable energy resources can be evaluated by the use of renewable energy resource data sets providing information on e.g. feedstocks for bio-energy (e.g. crop or forestry residues), the characteristics of solar energy (e.g. irradiance, ground measurements) or wind energy (e.g. wind speeds, power density, ground measurements) for a particular region. Renewable energy resource availability differs throughout the BSR and, for variable resources (e.g. solar and wind) and in relation to time. For a holistic perspective for renewable energy production in the BSR, the different natural energy resource potentials have to be taken into account and therefore represent a general aspect.

6. Aspect: Grid capacity regarded in spatial planning: Renewable energy production from wind and solar are subject to natural variability. This variability creates distinct challenges to integrate the generated power into larger power systems and grids. In addition, wind and solar are relatively mature for use in large capacities and in wide areas. Therefore power generation has a significant impact on the capacities of high voltage grids that is likely to increase over time. Integration of renewable energy is a multilayer-challenge involving multiple decision-makers like energy storage resources, grid operators, energy market operators and transmission planning bodies. In case of renewable energy installations with large capacities or due national spatial planning regulations in single BSR states, a consideration of the grid capacity is general aspect for the spatial planning for renewable energies.

7. Aspect: Capacity and height of installations regarded in spatial planning: Especially for the spatial planning for wind energy, the capacity for power generation and height of the turbines is a central aspect in the majority of countries around the Baltic Sea. Capacity for power generation also plays an important role for the spatial planning for biogas- and biomass plants and solar power plants. With regard to national planning regulations and procedures in many BSR countries, the capacity and height of installations is a general aspect for spatial planning.

8. Aspect: Conflict potential: Conflicts related to renewable energy installations occur in all participating regions around the Baltic Sea. Some conflicts are related to different renewable energy sources (e.g. conflict regarding solar energy is the conflict between large photovoltaic parks and agricultural areas), other conflicts are specific to renewable energy sources depending from the way of energy generation. For wind energy such conflicts comprise e.g. environmental conflicts (e.g. caused by the influence of wind power plants on avifauna or species protection), landscape conflicts (e.g. caused by impact of wind power plants on cultural landscape, nature values and cultural heritage objects), or conflicts caused by noise, blinking and shadowing. Solar energy is often associated with conflicts regarding the architectural design of historical buildings. Biogas plants can stand in contradiction to air quality and noise protection. Biomass burning connected with district heating often face the problem of the capacity for heat supply and low demand for heat in the municipalities. For this reason, a multilayer, interdisciplinary conflict assessment to evaluate the conflict potentials for new renewable energy installations is necessary in the course of spatial planning. Therefore, the conflict potential represent a general aspect for spatial planning for renewable energies in the BSR region.

Outlook

The general planning criteria represent central aspects for spatial planning for renewable energies in the BSR. In future studies or projects, the approach of general planning aspects could be further developed with the aim to compare the planning situation for different RES in different countries around the Baltic Sea. The comparability of the planning situation in the countries pave the way to develop comparable planning perspectives for countries and regions, to assess bottlenecks, challenges and obstacles and to formulate county specific recommendations for changes of the current planning practice.