



# RENEWABLE ENERGY IN BALTIC SEA REGION

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**BACKGROUND PAPER FOR WORKSHOP  
REGIONS AND SUSTAINABLE  
DEVELOPMENT GOALS PROJECT**

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# Climate change and energy transition

**There is unequivocal scientific evidence that humans have affected the climate and Earth system, with climate changes leading to increased average temperatures globally. These have led to widespread effects globally, including e.g. warming oceans, shrinking ice sheets, sea level rise, increased ocean acidification and an increasing frequency of extreme events including rainfall and record high temperatures.**

**As this warming and the direct and indirect impacts are projected to increase, affecting the lives and well-being of societies and economies globally, Governments across the world have agreed to take action to halt the underlying causes of climate change, including the emissions of Green House Gases (GHG).**

**Building on the principles of the 2030 Climate and Energy package, the EU has through its Climate and Energy Framework outlined three key targets for 2030:**

- At least 40% reduction in GHG (from 1990 levels)**
- At least 27% renewable energy share of final consumption by 2030**
- At least 27 % improvement in energy efficiency (reviewed in 2020 with a 30% target in mind)**

**At COP 21 in Paris 2015 and entering into force in December 2016, the UN signed the Paris Agreement with the goal to strengthen the global response to the threat of climate change: aiming to keeping global temperature rise well below 1.5 -2 degrees Celsius compared to pre-industrial levels. Through the Agreement, the 196 signing Parties also agreed to achieve Nationally Determined Contributions (NDCs) to reduce national emissions and adapt to the impacts of climate change.**

**In addition, the EU Strategy for the Baltic Sea Region (EUSBSR) includes policy areas and horizontal actions addressing reduction and management of risks of climate change in the Baltic Sea Region. These include macro-regional approaches to low-emission development and adaptation.**

**Tackling climate change and pollution, including mitigation and adaptation, requires more efficient use of energy as well as a rapid transition to renewable sources of energy. In order to succeed in meeting EU and global targets for combatting climate change and reducing GHG emissions (Green House Gases), all stakeholders need to be involved and contribute, thus requiring awareness, motivation, leadership, innovation and solutions as well as multi-level governance.**

**Following the different agreements and frameworks, countries in the Baltic Sea Region (BSR) have set out ambitious climate targets and national aims to decarbonize their economies and reach better energy efficiency in e.g. transport and buildings and lower emissions from industry, as well as adopting plans for climate adaptation and financing of actions.**

## **Energy transition by local and regional authorities in the Baltic Sea Region**

**Many cities and regions across the Baltic Sea Region show great leadership and have adopted climate targets more ambitious than those adopted by their national governments. Examples include the islands of Gotland and Bornholm, with Gotland aiming to be fossil free by 2025 (compared to national Swedish target of 2045) and Bornholm in 2025 (compared to national Danish target of 2050).**

**The transition to renewable energy is complex and includes both human, financial, technical and policy aspects. These can include acceptance and engagement by the general public, grid integration, as well as storage and transportation solutions. The combinations of these naturally differ between cities/regions in the BSR and the mix of solutions hence needs to be tailored to suit each area. However, local and regional authorities in the Baltic Sea region share some common challenges and opportunities with respect to the needed transition to a low-carbon economy. These include improving energy efficiency in buildings, industry and transport, as well as development of renewable energy solutions such as wind and bioenergy, solar and hydropower.**

## **Benefits for local and regional authorities**

**Reaching the targets of a low/zero-carbon economy naturally has many benefits for local and regional authorities, both in terms of climate change but also regarding health, innovation, growth and creating new employment when reinventing our carbon intensive infrastructures and finding new and innovative technologies.**

**In the last couple of years, technological advances in the energy sector have sky-rocketed while prices have dropped to a level now outcompeting fossil fuels as a long-term solution.**

This has lead, and will continue to lead, to cheaper and more sustainable and resilient sources of energy and electricity (both in terms of annual energy dependency and momentary production capacity). In addition, measures that reduce GHG emissions through increased share of renewable energy and/or improved energy efficiency reduce import dependency (thus adding to the resilience as well as providing a buffer against future high prices of imported electricity/energy).

## Connections between Agenda2030 and renewable energy

The Agenda2030, adopted by the UN in September 2015, is a new global framework encompassing an ambitious set of 17 Sustainable Development Goals (SDGs) and 169 associated targets that integrates and balances the three dimensions of sustainable development, ending poverty, reducing inequalities, protect the planet and ensure that no one is left behind. This universal call to action requires action by all countries, mobilizing governments and stakeholders at all levels, including citizens, civil society, private sector, academia etc.

Recent research commissioned by the German Agency for Cooperation (GIZ) has concluded that some 21% of the 169 targets set by the SDGs can only be implemented by local and regional governments, an additional 24% should be implemented with local and regional governments and a further 20% should have a much clearer orientation towards local stakeholders (Misselwitz et al., 2016). The continued and increased efforts and leadership by local and regional authorities are thus crucial in order to reach the Agenda2030, with the SDGs placing cities and regions on the international radar as places for opportunities for people, planet, prosperity and partnership.

## SUSTAINABLE DEVELOPMENT GOALS



**Several of the 17 SDGs have direct and indirect bearing on renewable energy and local and regional authorities. Different regions view the interconnectedness differently, but below is a selection of relevant SDGs:**

**SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all**

**SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

**SDG 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

**SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable**

**SDG 12. Ensure sustainable consumption and production patterns**

**SDG 13. Take urgent action to combat climate change and its impacts**

**SDG 17. Partnerships for the goals**

**Mapping how your city/region is working with the Sustainable Development Goals and their interconnectedness can be a useful tool when looking for win-win solutions coupled to the transition to low/zero-carbon economies and motivating different sectors to come up with innovative solutions and cooperation. It could potentially also support better alignment between local/regional and national/international policies.**

## **Aim of workshop**

**Overall, our region has good possibilities to take the lead in finding cost-effective ways to increase the share of renewable energy and fulfill the targets of EU and global climate agreements. The Sustainable Development Goals provide a universal tool and momentum for positive transformational change for communities across the Baltic Sea Region. Tapping into the positive momentum that many cities and regions already show, our region has the potential to provide significant benefits to the personal wellbeing and quality of life of both individual citizens and our society as a whole.**

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**Many cities and regions are individually testing and assessing different solutions with regard to both renewable energy and other goals of the Agenda2030. We are however certain that increased transnational cooperation enhances the possibilities to reach these solutions faster and more cost-effective compared to if each city /region tackle the problem independently.**

**Our ambition and hope with this workshop is thus to help pave the way for increased cooperation and engagement between local and regional authorities in the BSR as well as with other relevant stakeholders. We wish to contribute to increased sharing of ideas and solutions, helping to provide a base for joint projects and fundraising. We are certain that the local and regional authorities and industries in the BSR can take the lead in inspiring and showing the rest of Europe and the world that the transition to a low-carbon economy is a win-win for our societies with respect to both economy as well as human and planetary well-being. However, we are well aware that these authorities also encounter challenges and obstacles in their journey and we wish to learn more about what these obstacles are and how we can jointly overcome them.**

**Below are some ideas and/or examples and we encourage you to write down additional ones or add to these for the workshop in Bornholm 27 September.**

**1) From your experience and viewpoint;**

**What can/should be done for enhancing the possibilities to tackle the transition to low carbon cities/regions through increased transnational cooperation compared to if each city/region tackled the challenges individually?**

- **It is clear that increased contact and collaboration between experts and practitioners in different areas and cities increase the chances to find common solutions and apply for funding (e.g. in INTERREG-applications where cross-border collaboration often is a prerequisite). Would you and your city/region benefits from closer collaboration and possibilities to exchange contacts, ideas and innovations are key for tackling joint problems (e.g. meetings, conferences, leadership programs and visits to test beds etc.)?**
- **Would coordinating between different cities/regions and their respective technologies –and then jointly apply for bridging finance to go from pilots to commercial/large scale demos (e.g. from NER300 funding programme, Strategic Energy Technology Plan, GEEREF) help your authority in its work?**

**2) Questions to be prepared by participants prior to the Bornholm workshop;**

**Please prepare to shortly introduce this to the other participants as a base for further discussion/collaboration**

- **What are the actions your city/region has taken on tackling this challenge?**
- **What would you need from other cities/regions in order to advance this work?**
- **Do you have suggestions for how e.g. the islands can collaborate regarding water, renewables, youth and tourism?**

## **Food for thought**

- **Are people in your city/region aware of the transition needed and how they can be part of the solution, including the health, economic and security benefits of the transition to local renewable energy systems?**
- **Are you using public procurement to favor renewable energy in e.g. public transport, electric/low-carbon emitting cars for city/company fleets, biogas-production from household and industrial waste?**
- **Can digital innovations, big data and e-governance help in reducing emissions further, e.g. by making public transport more demand-responsive?**

**Pilot in Västervik: replacing large buses on the countryside with a fixed route with demand-driven small taxis that provide public transport when needed.**

- **Have you mapped potential funding from e.g. EIB, NIB, Nefco, (In Sweden also KommunInvest & Klimatklivet) to help fund innovations and scaling up pilots or developing test beds?**

**Notes:**