

Cross Collaboration Creates Sustainable Solutions to Complex Challenges

By Pernille Krüger Mertz and Jørn Sanne-Wander

Coast to Coast Climate Challenge, Denmark

Climate change and the consequences which we are already experiencing – increased precipitation, rising groundwater levels etc. - require holistic solutions and cross border as well as interdisciplinary cooperation on all levels. The Danish EU LIFE climate change adaption integrated project “Coast to Coast Climate Challenge” shows the way.

The global climate is changing at a rapid pace, with rising temperatures and increased frequency of extreme weather events. This affects both cities and rural areas, as water knows no administrative or geographical borders. Thus, neither should the solutions.

This was the background for the collaboration between 17 Danish municipalities, the Central Denmark Region, water companies and universities - 31 partners in total - in the project Coast to Coast Climate Challenge (C2C CC). In 2017, the project set out to develop solutions to a range of specific local challenges and in the process also developed a new model for climate adaption in broad partnerships.

The most pronounced future challenges in Denmark will be increases in the annual average precipitation and changes in precipitation patterns with longer dry periods and more heavy rain events. Residential areas have issues draining off water, big and small streams overflow, agricultural fields are flooded, and communities along the coast and fjords are more often hit by flooding due to heavy storms. At the same time, sea and groundwater levels are rising. Further, we will experience longer periods of drought, especially in summer. This is the face of climate change in most of northern Europe: There is too much water, too often and some time we lack water in hot periods. Climate change will increase these extremes.

The C2C CC project partners set out to develop and apply solutions for this type of climate change experience. Also, with the outlook to help other European regions to mitigate climate change and to inform the future EU Climate Adaptation Strategy.

COLLABORATION ON SUSTAINABILITY

As water does not respect borders, the climate challenge must be solved holistically and through close cooperation across sectors and municipalities. This is not an easy task. Water-related climate issues are complicated due to the many interests and stakeholders involved. That is why sustainable solutions require coordination across silos if we want to create solutions that not only alleviate the climate threat but also enable us to build climate-resilient societies.

C2C CC is now three years into the project, and the results are already promising. The midway milestone was celebrated in October 2019 with a national conference where 300 experts, officials and citizens discussed how to secure a future for society, with an altered climate. The conference took stock of the latest knowledge. The many complex aspects of climate change adaptation were analysed and debated. The gathering put forward a set of recommendations and key points for decision-makers and the many actors involved in climate change adaptation. One single message stood out: We must act in concert and work together holistically if we want climate change adaptation. Work across borders and sectors.

“The National Conference on Climate Change Adaptation initiated a ball of climate change adaptation recommendations, which can be taken further by other climate actors. The recommendations can be sharpened and further developed as we get more experience and find new solutions and concepts.”

Dorthe Selmer, Project leader C2C CC



Exhibit A: Gudenå River

A regional example of the need to work across silos is the Gudenå River. It runs through seven municipalities and is by far the longest river in Denmark. Many interests are at stake when winters become much wetter, and summers become drier. Adapting to the increased pressure on the water system is a comprehensive and demanding task for the seven riparian municipalities. Non-coordinated local action in one place, like dams, will lead to hazards in another municipality, like flooding. The Gudenå River is in this way a microcosm of global climate change: Collective challenges require collective solutions. When working in partnerships across municipalities, utilities, knowledge institutions and together with citizens, ambitions are raised, reality and research are linked, and holistic solutions become possible. However, to do so is not straightforward. One of the recommendations from the national climate conference was that solutions must be made across professional, administrative, and organisational boundaries. Experience of strategic cross-border collaborations of subject, organisation, and geography clearly shows that to avoid sub-optimisation that only benefits locally, stakeholders must collaborate to find solutions that are designed to benefit all.

To create a common understanding of the Gudenå River catchment area, C2C CC has, based on both qualitative and quantitative data, mapped different values linked to the Gudenå River. Climate problems and possible solutions are visualised through a calculation model made by the Danish Hydraulic Institute (DHI). A result of this is that stakeholders find it easier to relate to the many different problems along the Gudenå River. This ultimately has made it easier to see which solutions, besides solving the water-related issue, also create added-value. Using mapping of values and calculation models as tools for communicating different scenarios have changed the whole planning paradigm of the Gudenå River to a more holistic approach. Before, municipalities and landowners were driven by their own interest without much consideration for, i.e. the downstream cities. And beyond optimising the solution, costs are reduced, damage is avoided, and added value occurs. There are hundreds of rivers like the Gudenå River in Europe – the C2C CC partners hope to inspire others to act together and help them to replicate the success.



Exhibit B: Citizen-driven climate change

The way we approach climate change adaptation matters to the citizens. A second recommendation from the conference was that engaging citizens in climate change adaptation is vital for public endorsement and will lead to the added value that benefits the local communities. This is another European challenge, as the need for climate change adaptation is often viewed differently by adaptation planners and citizens. This is because climate change is an abstract phenomenon for many people, and it may be difficult to relate to the problems that follow. Research shows that people do not react to intangible numbers and reports. Instead, narratives can make the debate about the climate more present and relevant to the citizen. To put this information into practice, C2C CC teamed up with Aarhus University and a number of local museums to enhance citizen involvement in the coastal part of Hedensted Municipality between Snaptun and Juelsminde. The area filled with summer cottages and permanent residents is threatened by rising sea levels and greater volumes of water being transported from several watercourses in the coastal hinterland.

COLLABORATION ON SUSTAINABILITY

Using local identities and historical narratives to engage citizens has proved fruitful in making intangible climate scenarios more tangible. It has allowed citizens to come up with suggestions for holistic climate solutions with added value such as more and improved nature, beneficial for the local biodiversity as well as recreational purposes, and it has enhanced local ownership. Additionally, the approach has increased awareness of the relation between nature and culture. All in all, the involvement has increased the added value and ownership of the solutions. The C2C CC partners hope that others in Central Denmark Region, Denmark and Europe, can make use of this model, as having the population on one's side is a massive boost to the ability to make real change, not only in the fight for adaptation but in the fight against climate change as well. This public support and understanding of the matters at hand are in great demand, given that the EU wants to achieve climate neutrality by 2050.

The future? Water Valley!

To increase the collaboration in climate change adaptation is not an easy task. But the examples of close collaboration of the Gudenå River and citizen-driven climate change adaptation in Hedensted Municipality have shown that it is possible to change the traditional planning paradigm with a more holistic approach that allows solutions to not only solve the climate threat but create added value for, i.e. nature and citizens. Facilitating the C2C CC project, the Central Denmark Region has positioned itself as a leading actor in holistic climate change adaptation that succeeds in working across geographical and sectorial boundaries. The next step for the region is to be recognised for its many innovative water technologies that can be used in climate change adaptation, the same way as Silicon Valley is known for its IT. It is called Water Valley. With the C2C CC project ending in 2022, the Central Denmark Region and C2C CC have made the foundation for a Water Valley that will contribute to more sustainable development within the water- and climate area. The contract of Water Valley was officially signed during the national conference of climate change adaptation. The initiative is based on the Quadruple Helix framework which will ensure that the partnership in Water Valley includes the public, knowledge institutions, the industry and the civil society when working with water- and climate-related issues. With the two communication- and innovation beacons, Climatorium in Lemvig and Aqua-Globe in Skanderborg, the knowledge and innovative technologies developed in Water Valley will be disseminated on a local, national, and global level. Thus, making sure, that the results and ideas developed by the C2C CC partners will live on, spread, and become a strong foundation for intelligent and effective climate adaption – in the EU and globally.

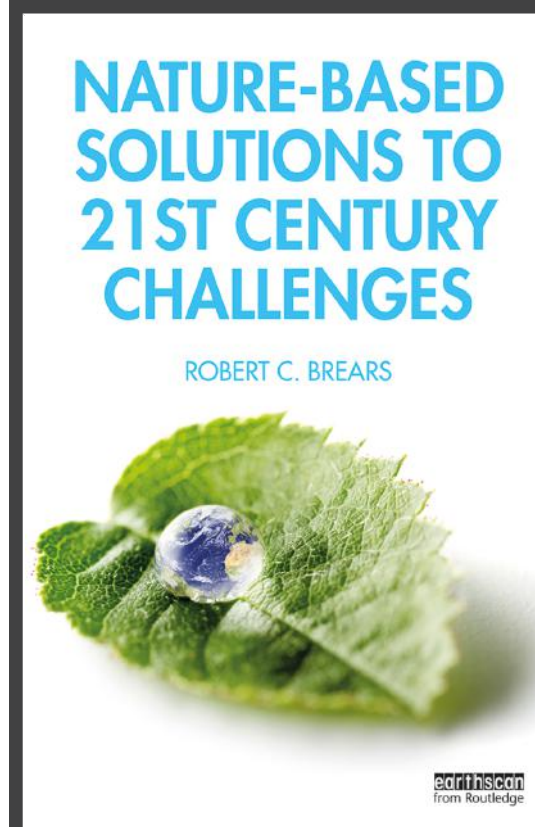
Download all the recommendations of the mid-term conference [here](#)

Have a look at the StoryMap of the subprojects [here](#)

Have a look at the project webpage [here](#)

“FACTBOX”

The Central Denmark Region is at the leading edge of holistic and inclusive climate change adaptation with the facilitation of the EU LIFE project Coast to Coast Climate Challenge (C2C CC) project. Since January 2017, C2C CC has gathered 17 municipalities in the Central Denmark Region in an ambitious climate project, which aims to increase resilience to future climate challenges. It works with innovative solutions to protect cities and rural areas while creating more value for the citizens. The C2C CC project connects municipalities and helps them collaborate with each other, local utilities, private companies, and knowledge institutions. Across 24 subprojects, C2C CC works with the entire water-cycle, which enables the project to gather valuable data, knowledge and experience that is shared among the partners. The project is funded by €7 million through the EU LIFE programme and has a total budget of € 11.6 million.



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