



Glocal perspective on the UBC cities' work with climate change mitigation and adaptation

A Report based on the results of CDP Cities Questionnaire 2018



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"The Baltic Sea Region has been a forerunner region in sustainable development during the last 25 years – we wish to be so also in the future. Our cooperation with CDP aims on supporting our UBC member cities with more information and contacts on the global arena, important for an efficient transaction into becoming carbon free, smarter and more attractive cities."

Björn Grönholm | Head of UBC SCC



"Over 50% the world's population live in cities and it's here that the transition to a sustainable future will be won or lost. But we are already seeing unprecedented engagement and action on climate change in our cities and Baltic cities are no exception. We are proud to be partnering with UBC and to jointly help cities learn from each other by showcasing their climate leadership in the region and beyond."

Kyra Appleby | Head of CDP's cities program

Profile of CDP and UBC

CDP provides the world's only global natural capital disclosure system. Currently over 620 cities across 90 countries, 120 states and regions, and more than 6800 companies from 80+ countries - representing 81% of the global 500 and over 50% of the market capitalization of the world's largest 30 stock exchanges - use the system to report, share and take action on climate change every year. CDP analyses the data provided by the companies, governments and cities to create knowledge and provide reports on the findings. The insights this brings enables investors, companies, cities and governments to understand and act on the business case for reducing impacts on the environment and natural resources. Over 2000 institutional investors representing over a third of the worlds invested capital rely on the CDP system. CDP is a global notfor-profit organization, founded in 2000 and headquartered in London.

www.cdp.net/en

Union of the Baltic Cities (UBC) is the leading network of cities in the Baltic Sea Region (BSR). UBC mobilizes the shared potential of its member cities for democratic, economic, social, cultural and environmentally sustainable development of the Baltic Sea Region. UBC works for the attainment of its vision of the Baltic Sea Region as a dynamic, innovative and attractive global growth center, where success is based on smart, green, resource-efficient and sustainable economic and social development. UBC wants to see the Baltic Sea Region cities becoming increasingly recognized as global forerunners in Climate-smart development creating a high quality living environment for their inhabitants. UBC was founded in 1991 in Gdansk, Poland and it has around a hundred member cities from all 10 countries from the Baltic Sea Region - Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russia and Sweden.

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CDP is the leading global organisation for voluntary climate reporting, providing a unified system for disclosing and managing environmental data. Working through a process of measure – disclose – manage, the data provided is analysed by CDP in order to create knowledge and understanding that enables companies, cities, local and national governments, and investors to better tackle the challenges and seize opportunities provided by climate change. Using the tools provided by CDP, all stakeholders can identify potential actions for e.g. increased energy efficiency, resulting in a more sustainable and economical organization. Formed in 2000, over 6800 companies, 620 cities, and 120 states and regions now report to CDP, with the numbers constantly increasing.

In order to manage one must measure

The transformation based on the Paris Agreements in 2015 has increased extensive involvement, the ambitions and the speed of cities globally. The needs of knowledge, good practices and success factors and resources have therefore also improved a lot. Cooperation, co-creation and benchmarking are crucial elements of resilient and vigilant cities in becoming climate smart and more sustainable. UBC and CDP have been collaborating since 2016. For the current 2019-2021 period, both organisations aim to increase both the number of reporting UBC cities as well as improve the quality of the responses to provide the municipalities with the best benchmarking experience. In the report, the data submitted publicly by the UBC cities through the CDP Cities Questionnaire 2018 has been compared to the global situation – thus, providing UBC cities with a broader perspective in how our cities are doing regarding climate change-related work.

In order to manage well, one must measure. This principle will help our cities to grasp their full potential in becoming climate resilient leaders via climate adaptation and mitigation efforts in the coming decade toward the global 2030 target year.





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Important notice:

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The UBC has prepared the analysis in this report based on responses to the CDP 2018 cities information request that was the basis of the UBC and CDP MOU. All information and views expressed herein by UBC are based on its judgment at the time of this report and are subject to change without notice due to economic, political, industry and city-specific factors.

Who reported?

In 2018, altogether **641 cities** reported to CDP worldwide with 488 cities worldwide reporting publicly. **120** of the cities reporting publicly are from Europe, with **53** from the Baltic Sea Region (UBC countries).

The number of UBC cities who are reporting to CDP has increased from 6 active cities in 2016 to 28 active cities in 2018. Overall, there were ten UBC cities who reported to CDP for the first time. The reporting cities were: Pärnu, Tartu and Sillamäe from Estonia. Espoo, Helsinki, Kemi, Lahti and Turku from Finland. Rostock and Greifswald from Germany. Liepāja, Riga and Jelgava from Latvia. Šiauliai, Panevežys and Tauragė from Lithuania. Kristiansand and Arendal from Norway. Gdynia and Gdańsk from Poland. Malmö, Karlskrona, Örebro, Linköping, Växjö, Umeå, Trelleborg and Visby from Sweden.

In terms of their basic descriptors, the reporting UBC cities vary a lot in terms of profiles (size, geography etc.). The smallest city with a population around 13, 280 was **Sillamäe** in Estonia and the largest city with a population of 644, 700 was **Helsinki** in Finland. Among the cities there are both coastal and non-coastal cities and cities with different circumstances as it comes to closeness to water – higher altitude (**126 metres**) and lowest altitude (**5 metres**).

There were non-UBC cities reporting publicly from all other countries in the Baltic Sea Region besides Russia. **Moscow** reported non-publicly – which means that **all 10 Baltic Sea Region countries participated in disclosure activities**.

European capitals reported, including **London** (United Kingdom), **Paris** (France) and more as well

BEFORE 2017: 6 ACTIVE CITIES



as some of the Baltic Sea Region capitals including **Stockholm** (Sweden), **Oslo** (Norway), **Vilnius** (Lithuania), **Copenhagen** (Denmark) and **Warsaw** (Poland).

From the global perspective, **an array of diverse global metropoles and capital cities worldwide** were reporting in 2018, including **Tokyo** (Japan), **Seoul** (South Korea) and **Vancouver** (Canada) but also smaller cities - some with population less than 5,000 - also reported.

Note that in the report, data has been analysed only for the cities who have reported publicly or given a permission to UBC to use their data for this purpose.

UBC cities reporting in 2018





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Mitigating climate change

Tackling climate change needs both **mitigation and adaptation actions** for the cities to cope with the challenges accompanying the changing climate conditions. Mitigation through the reduction of greenhouse gases emissions helps to reduce the amount of carbon dioxide and other pollutants released to the atmosphere whereas other measures like regulating building codes help to add to the adaptation part.

For effective action to be taken, it is important to have committed city leaders who are willing to c act and are committed to their goals. 60% of the cities reporting to CDP in the Baltic Sea Region have the necessary commitment with **37% of the UBC cities having an official commitment to climate adaptation.**

The lower levels of official commitment of the UBC
cities might be the result of smaller municipalities
and cities responded to the shortened version of
the questionnaire and thus did not provide enough
information about all aspects of their climate work.

Mitigating climate change – one emissions reduction activity at a time!

According to the results of the CDP Cities Questionnaire 2018, **two-thirds of the Baltic Sea Region (BSR) cities have an action plan for reducing greenhouse gas emissions.** More than half (56%) of the UBC cities have an action plan for reducing emissions when compared to global average of just 45% of cities reporting of having a clear plan for reducing their city's emissions.

Our region and the UBC member cities are in the front when it comes to pathing out measures towards climate change mitigation efforts. These action plans have been realized in the form of real actions – in total, **86% of the emissions** reduction activities that cities have indicated of undertaking in the Baltic Sea Region, are currently being in the implementation phase. Our cities are more action-oriented than the global peers since their activities only accounted for 70% of being under implementation.

According to the results of the CDP Cities Questionnaire 2018, the **nine main fields** of where cities are reducing and try to reduce emissions are

- buildings,
- community-scale development,
- energy supply,
- finance and economic development,
- food and agriculture,
- mass transit,
- outdoor lighting,
- private transport, and
- waste.

City solutions



Making brownfields more sustainable - Tallinn Street Quarter in Riga, Latvia (image credit: Kristiina Paju)

60% of Baltic Sea Region cities have official commitment to climate adaptation. 37% of the responding UBC cities have official commitment.

UBC cities tend to be active in a variety of fields and implement many different measures ranging from energy efficiency and retrofit measures for buildings to green economy development. Most emissions reduction activities thus, similarly to both global and regional trends, have a focus on construction/buildings and mobility sectors.

11 out of 28 UBC cities (40%) reported that they are currently actively reducing emissions through different activities: **Turku, Lahti, Espoo, Panevėžys, Šiauliai, Tartu, Visby, Malmö, Linköping, Kemi, Karlskrona.**

Emissions inventories are databases that have information about the sources, consistency and amounts of greenhouse gases and other air pollutants that are discharged into the atmosphere.

Globally, **58% of the cities have a city-wide emissions inventory** in use, helping to monitor and measure the environmental impact.

A smaller number, 50% of the cities in the global context indicated that they have emissions inventory for local government operations.



People rallying for more efficient climate change mitigation in Germany (image credits: Markus Spiske)

In the Baltic Sea Region, **city-wide emissions inventories help 42 cities (79%) to measure the effectiveness of their reduction of emissions** and almost half of the cities (47% or 25 out of 53 cities) indicated that they are using an emissions inventory for local government operations which is close to the global average.

In the context of reporting UBC member cities, 64% have city-wide emissions inventory in use – cities like Helsinki, Tartu, Riga, Turku, Örebro, Karlskrona, Kristiansand and others are expressing leadership in climate-smart city management.

As UBC cities across the Baltic Sea Region are targeting carbon neutrality, the mitigation activities regarding mobility solutions, as well as the utilisation of renewable energy sources and fixing energy efficiency in the ageing city structures can be seen as the most potential pathway towards decarbonisation.

City solutions



In the Finnish city of Turku, the new city bikes aim to support the city's strategy to achieve carbon neutrality by 2029 through making sustainable mobility solutions part of everyday life for the locals (image credits: Anna Lilja, City of Turku)

For a comparison on the global perspective, **70% of the activities reported by the cities globally are already making the change happen** and reducing emissions from their communities whereas 22% of the reported activities will be taking place in the near future.

Adapting to the changing climate

Baltic Sea Region cities have shown **smart climate leadership** by being more ambitious than the average global city. Cities across the world are becoming more and more conscious about climate hazards and the risk they pose to their communities and livelihoods.

Since the climate hazards and their intensity differ from city to city based on the city's geographical and other factors, there are a variety of actions being taken. Some of the examples of the adaptation actions include designing hazard resistant buildings in the community, green roofs and walls, retrofit measures for energy efficiency, increasing public awareness and preparedness regarding the climate hazards (including crisis management), heat mapping and thermal imaging as well as the creation of different kinds of risk/vulnerability assessments.

Climate change adaptation plan can be seen as the next step of becoming climate resilient. Globally, **36% of the cities have published a climate change adaptation plan**, whereas 25% of cities have not. In the Baltic Sea Region, the number of cities having a plan for climate change adaptation is considerably higher - **57% Baltic Sea Region cities reported that the City Council had published a plan that addresses climate change adaptation**.

41% of the responding UBC cities (Turku, Växjö, Örebrö, Greifswald, Rostock, Liepaja, Malmö, Arendal, Karlskrona, Riga and Umeå) have also published a plan on climate change adaptation. Seven UBC cities have not published a plan, and another seven UBC cities responded to be in progress on creating one). 2 cities intend to undertake this process of publishing a plan in the future. Since cooperation with the citizens and inclusive stakeholder engagement is beneficial for identifying risks and solutions for the

City solutions



Climate adaptation strategy from Helsinki - showcasing one city's solution of climate change adaptation planning (publication)

wellbeing of their communities, CDP also inquired how many cities have an **engagement plan for including stakeholders in climate adaptation planning activities**. According to the results, **22% of global cities include stakeholders in climate change adaptation planning** in some way or another. This trend of involving stakeholders in climate adaptation planning seems to be on the rise since 61 more cities aim to develop this process in the near future.

In the Baltic Sea Region 9 out of 53 Baltic Sea Region cities have a concrete plan for stakeholder engagement for adaptation planning, the UBC cities included are Arendal, Riga and Lahti. 6 Baltic Sea Region cities intend to undertake this process in the future, including UBC cities Turku, Helsinki and Espoo – indicating a positive trend towards more inclusive policy making in our region.

We need whole societies to tackle climate change - involving different stakeholders in climate adaptation planning leads the way!

What kind of risks do the UBC cities foresee?

Globally, **50% of the cities have a climate change risk/vulnerability assessment** in place to be aware and more prepared in the face of the climate change whereas 21% of the cities do not. In the Baltic Sea Region, **66% of the cities have undertaken a climate change risk/ vulnerability assessment** whereas another 20% reported it to be in progress. **16 of the 28 UBC cities (59%) reported having undertaken such an assessment** with 22% being in the process of undertaking one. In the global context, **the worries about the public health sector in the face of climate change** are significant. Depending on the city's location, heat waves and droughts, as well as flash/ surface floods, can pose a **high risk for the health of already vulnerable groups** and create **a lack of resources** in the public health care system. The impact that climate change has on public healthcare systems could be looked into more carefully in the future to boost climate resilience in cities both locally and globally.

Climate hazards identified

The cities have listed **the most significant climate hazards** their city faces right now or could face in the future. Globally, the most significant climate hazards are

- flash/surface floods,
- rainstorms, droughts,
- · heat waves,
- extreme hot days,
- river floods and
- coastal floods.

Cities further indicated the top three assets or services that could be affected by climate hazards.

Globally, the top three assets/services that could be affected are **1**) **public health 2**) **residential assets/services and 3**) **water supply and sanitation** services/assets.



River floods pose a dangerous challenge to many global and European cities (image credits: <u>Chris Gallagher</u>)



Heatwaves and extreme hot days can cause many problems for tha community's well-being (image credits: Markus Spiske)

For the cities in the Baltic Sea Region, the most significant climate hazards were identified as

- rainstorms,
- heat waves.
- coastal floods.
- river floods, and
- flash/surface floods

On the average, the top three assets/services that could be affected by the climate hazards are

1) residential assets/services,

- 2) transport services/assets, and
- 3) water supply and sanitation assets/services.

After a closer look from the UBC cities' perspective the most concerning climate hazard for the UBC cities seems to be **rainstorm**, followed by **heat waves**, **coastal floods**, **droughts**, **heavy snow**, **severe wind** and finally **flash/surface flood and water-borne diseases** – all relevant to our region with significant impacts to our cities.

The UBC cities identified the top three services/ assets that could be impacted by the climate hazards as **1**) **transport**, **2**) **public health and 3**) **water supply and sanitation**. Surprisingly, the assessment given by our member cities regarding the top affected services includes **public health which is in line with the global trend**. Water supply and sanitation is also a concern worldwide, and solutions of how to prepare for emergencies should be sought after actively already at the present moment.

Climate change-related social risks need resilient approach from our cities for continuous well-being

The social dimensions of climate change have been discussed for example by the World Health Organization (WHO). In their publications, WHO emphasizes that climate change has potential impact for **health**, **food security**, **employment**, **incomes and livelihoods**, **gender equality**, **education**, **housing**, **poverty and mobility** – either directly or indirectly – of the people living in our cities (*The Social Dimensions of Climate Change*, *WHO 2011*).

According to the CDP Cities Questionnaire 2018, **79% of the cities worldwide responded that climate change does present social risks to their cities**.

The main social risks that the cities face were identified as

- An increased risk to already vulnerable populations 24%,
- Increased demand for public services (including health) – 19%,
- Increased incidence and prevalence of disease and illness 14%.

For example, some of the social risks that climate change poses for global urban communities can include **food insecurity** and **emergence of food deserts** as a result of long drought periods or heat stress caused by the heat waves that would take its toll on the most vulnerable such as children and the elderly.

Furthermore, in many Asian cities, air quality can hurt their citizens' lung health. All these contribute to the main global social risks.



Homeless man with his dog on the streets of London, UK (image credits: <u>Nick Fewings</u>)

In the Baltic Sea Region, half of the cities either thought that climate change does not present social risks or did not know if climate change would include social risks. 26% of the cities anyhow identified some possible social risks that their cities could face due to climate change:

- Increased demand for public services (including health) 52%,
- Increased risk to already vulnerable populations – 26% and
- Increased incidence and prevalence of disease and illness 10%.

The UBC cities also indicated the increasing

resource demand and risks related to population migrating from the rural areas to the cities besides the health-related social risks that are common for all the Baltic Sea Region cities. The health-related social risks include concerns regarding the vulnerable population, especially in the face of the heat waves and extreme weather conditions that make people think about alternative energy sources for preventing severe risks to health and service providers.

Climate refugees are being seen as one of the long-term potential social risks. Also, the boost to the tick population is expected with a warmer climate – thus, increasing the risk of Borrelia (lime disease) to spread as well as other **contagious diseases that are water-borne**.

Water-related risks

Water-related risks have been identified globally as more pressing as in the Baltic Sea Region, where the common belief seems to be that there are no substantial foreseeable risks to the water supply with only 28% of the cities expressing concern about substantive risks, whereas globally, water supply risks are a great concern for 56% of the cities.

Of the UBC cities, less than half (42%) of the responding UBC cities do foresee substantial risks to their cities' water supply when 32% of respondents do not foresee substantive risks to their city's water supply.

The most pressing risks identified by the UBC cities were: **increased water scarcity, declining water quality and ageing water supply infrastructure**. Our cities are battling increased water stress by taking action toward preserving natural environment and biodiversity in urban areas as a means of watershed preservation.

One of the key measures has been seen as an **investment for upgrading the water supply systems**. Some cities stress that cities need to **demonstrate leadership and offer** **environmental advising** to local inhabitants and other stakeholder groups.

Furthermore, investment into existing infrastructure helps to **reduce the probability of declining water quality** as well as water stress issues. Water monitoring and continuous quality audits were also seen as feasible measures to track the quality of the water and to reduce the probability of losing a share of the potable water to unforeseeable contamination issues.

Stormwater management (both human-made and nature-based stormwater systems) was also seen as an effective means for preparing cities for future climate hazards. More proactive cooperation between the cities and other actors like water companies and emergency services was also emphasized as a method for achieving better climate resilience.

City solutions





Stormwater management solutions were developed and tested by the cities of Tartu, Turku, Riga, Jelgava, Riga,Säderhamn, Helsinki and Gävle during the iWater project from 2015-2018. More information: <u>www.integratedstormwater.eu</u> (image credits: iWater project)

Recommendations

Cooperation

In the light of these results – from commitment and risk vulnerability to adaptation and mitigation -, it has become evident that co-operation in terms of sharing good practices on how our cities are mitigating climate change and what kind of actions they are taking in order to become more climate resilient are in the critical position for fostering real action. City representatives often highlight the importance of examples and inspiration that they gain from these examples to test and try out solutions in their communities.

Long-term perspective in planning

Since political decision-making is often done with a short-term perspective, there needs to be more focus on long-term planning and vision creation done inclusively with the local people. By imagining alternative long-term scenarios, it will be possible for the cities to become more resilient in the face of climate change – it will give an opportunity to discuss potential and probable impacts (political, economic, ecological, social, and cultural) and to find commonly agreed upon and holistic solutions with the local community.



In a systemic world, dealing just with the climate hazards alone is not a feasible option. By taking the holistic perspective, one should understand the importance of investment into the adaptation efforts before it is too late. It is time to act now, to find the common solutions and implement to be prepared in the face of the changing climate. Heat waves that kill the most vulnerable inhabitants, wildfires that destroy homes and livelihoods – often we do not get a warning before a catastrophe hits. Thus, to be prepared (including investments into improving current systems and facilities) and to have a feasible action plan made in cooperation with the local stakeholders is key to becoming more resilient in the face of climate change.

Summary

The Baltic Sea Region and UBC cities have taken a leap towards more climate resilient urban development since 2015 and are in some areas presenting ambitiousness in carbon neutrality plans. In 2017, 45% of the UBC cities believed that climate change posed a threat to their city's wellbeing versus global 85%.

In 2018, 57% of UBC cities reported that climate change is a risk whereas the global 85% remained the same as the year earlier. This could be because of 10 more cities reporting in 2018 or because cities are taking the lead and addressing climate change issues more concretely? Whatever the reason, the growing number of UBC cities recognising the risks of climate change is a step forward where now more concrete and inclusive action plans can be made for all UBC cities to become more resilient.

The report also showed that UBC cities are keen to reduce their GHG emissions in the mobility field – driving the change from fossil fuels to renewables. Energy efficiency in buildings is another crucial measure for cutting the emissions – UBC cities are currently often upscaling their present energy systems for the buildings. Water supply does not seem to cause great concern, for the moment, in UBC cities due to our cities' location in the Baltic Sea Region. Yet, the water supply infrastructure is often ageing in the cities across the Baltic Sea and this demands investments to reduce the risk of declining water quality and, even, possible water scarcity.

"In order to manage well, one must measure"... and cooperate

The most cost-efficient way to develop our urban areas is by finding the benefit of strong cooperation. Our partnerships are important and vital. No one city is a lonely island! The UBC cooperation with CDP is an excellent example of a cooperation platform with benchmarking possibilities among cities of similar or different size in our region and globally. Together we are stronger, smarter and more sustainable!





Further information

<u>The CDP</u> <u>The UBC</u> <u>The UBC Sustainable Cities Commission</u>

UBC Sustainable Cities Commission (UBS SCC) is one of the 7 commissions of the Union of the Baltic Cities and it is hosted by the City of Turku, Finland. The UBC SCC is responsible for the Union's work on sustainability issues, coordinating the Union's entire UBC Sustainability Action Programme and managing numerous projects in the field of urban sustainability. The UBC SCC is coordinated by three co-chairpersons in close cooperation with the Head of the UBC Secretariat of Sustainable Cities Commission and the Advisory Board. <u>Read more</u>

The UBC Strategic Framework

The UBC's work with sustainability goes back to the establishment of the city network in 1991, one year before the UNs Conference on Environment and Development in Rio de Janeiro. Today UBC's sustainability work is guided by a many global conventions, European laws, macro-regional conventions and national regulations. The work is strongly linked to United Nations Sustainable Development Goals that links the work also to Council of the Baltic Sea State's Baltic 2030 Group, the Helsinki Convention on Protection of the Marine Environment of the Baltic Sea Area (HELCOM) and the cross sectoral EU strategy for the Baltic Sea region, that is also a macro regional strategy.

The UBC Sustainability Action Programme 2016–2021

The purpose of the Union of the Baltic Cities Sustainability Action Programme 2016–2021 is to guide the whole network of the UBC towards development of a smart and sustainable Baltic Sea Region. The programme gives strategic direction to the realisation of UBC's vision in the future - creating a smart, safe and sustainable Baltic Sea Region. The Action Programme was adopted as an annex to the UBC Strategy 2016–2021 by the XIII UBC General Conference in October 2015 in Gdynia, Poland, and it was guided and produced by the UBC Sustainable Cities Commission (UBC SCC) in collaboration with other UBC member cities. Sustainability Action Programme brings inspiration to all UBC cities to become the sustainability leaders in Baltic Sea Region and beyond! Read more

Memorandum of Understanding Between UBC and CDP

CDP and UBC agreed on a two-year MOU in to involve more cities in the development and reporting of target-oriented climate actions (Oct 2016). The co-operation includes involving more BSR cities to report for CDP and then by utilizing the analytical tools of CDP registry for studying the strategic leadership and key actions of these cities. In October 2018, UBC and CDP signed a follow-up MOU for 2019-2021 time period and aim to continue the collaboration to the fullest.



UBC UNION OF THE BALTIC CITIES



All steps in climate adaptation are important - we can all do our share!

For more information regarding UBC and CDP cooperation, pease visit www.ubc-sustainable.net