“Ramboll not only has the water engineering techniques, but can also factor them and all the other aspects into the big calculation – and simplify it. Cost-effectiveness means not only the amount of savings in terms of avoided property damage but also the extent to which the new green areas will improve residents’ health and quality of life.”

Alan Cohn
Director for Integrated Water Management, Department of Environmental Protection, New York City

Making resilience investments just Climate hazards and climate change will not be spatially even and socially just and will in many cases exacerbate already existing inequalities. Ramboll brings together leadership and insight into climate justice, with a special focus on operationalizing social equity into planning processes, business cases and resilience design. The social equity and climate justice aspect relates both to the climate risk reduction and to the added values created, see below.

Often, exposure to climate change is not evenly distributed. Communities are not equally exposed. Some communities are more vulnerable than others. These aspects represent the core of CLIMATE JUSTICE and are rarely taken into account in our climate adaptation projects.

CLIMATE JUSTICE

“Being able to function is what is ethically significant, and injustice is found in the limitation of capabilities necessary for that functioning.”

CLIMATE JUSTICE


CONTACT

Christian Nyerup Nielsen
Senior Director, CNN@ramboll.dk
+45 5901 6277

Trine Stausgaard Munk
Head of Resilience, North America
trsv@ramboll.dk
+1 857 277 4689

CO-BENEFITS & CLIMATE JUSTICE

MAKING THE CASE FOR CLIMATE ADAPTATION

WWW.RAMBOLL.COM/SERVICES-AND-SECTORS/WATER
A crucial component in resilience planning and implementation is the added values that climate adaptation projects can bring to society. Of these, aspects of social equity and climate justice are and should increasingly shape and inform design and decision-making processes to make climate adaptation investments just!

**CO-BENEFITS AND CLIMATE JUSTICE**

The purpose of climate adaptation is climate risk reduction. However, planned and designed properly, climate adaptation can provide indirect benefits ("Co-Benefits"). Co-Benefits could include (natural) air and water quality, and ecosystem services, (social) improved health, social cohesion, and education and (economic) increase in employment, and real estate values.

How co-benefits are calculated

Unlike climate risks, Co-Benefits are not dependent on probabilities, but rather the spatial outlay and characteristic of proposed measures, urbanization, demography, and other dynamic parameters. Co-Benefits can be maximized through thoughtful and integrated design processes both on the social, economic and natural side. Our methodology for calculating Co-Benefits can be simplified into three overall steps:

First, a unit price inventory is built reflecting local priorities and conditions. Secondly, land-use patterns, demographics, climate adaptation interventions and pathways are simulated spatially to map correlations. Lastly, the Co-Benefits are distributed over time to get a holistic understanding of their socio-economic impact.

**DEFINING CLIMATE JUSTICE**

Boston, USA

Ramboll and UMass Boston Sustainable Solutions Lab partnered in early 2018 to collaboratively develop an approach to building holistic business cases, that favor climate justice, influence decision-making processes, and help communicate climate adaptation as an opportunity, rather than an expense by defining, operationalizing and monetizing social indicators in climate justice and adaptation!

**THE CLIMATE ADAPTED CITY**

An attractive and green city

An exposed city

A clean and climate safe city

**THE EXPOSED CITY**

City floodings are analyzed and general abatement measures

**THE CLIMATE JUSTICE BUSINESS CASE**

The business case for climate resiliency is often only made up of the costs and benefits, but including the co-benefits not only makes a better business case for climate adaptation, but also a more holistic and accurate one!

**CLIENTS AND PARTNERS**

When a city isn’t adapted to extreme climate events, it is exposed to high floods risks including damages on infrastructure and buildings, loss of effects and production, and citizens may feel unsafe. Through investments into climate adaptation, a more resilient city can be built, where citizens not only experience less flood risk, but also gain the added values from climate adaptation such as a more attractive, green city, and a safer city.

We assist a wide range of clients and partners in understanding their climate change risks and their adaptation options, as well as building business cases for potential actions and identifying implementation and funding strategies. Our clients include:

- Cities & utility companies
- Infrastructure owners
- Industrial clients
- National governments
- International organisations
- University & hospital campuses
- Public & private developers

**SOCIO-ECONOMIC OPTIMUM**

Copenhagen, Denmark

After a very destructive cloudburst in Copenhagen in July 2011, the City began to invest heavily in protecting against extreme rainfalls in the future. The protection of the city is the catalyst for designing a blue and green city with higher recreational values, more urban quality and increased biodiversity. Ramboll built the business case to help illustrate the economic potential in maximizing co-benefits.