

2019 COPENHAGEN URBAN LAB

ARUP

URBAN HEAT

RAMBOLL

IWA YOUNG WATER
PROFESSIONALS
the international
water association DENMARK

HOFOR



CALL FOR PARTICIPANTS

INTRODUCTION

Denmark has a very strong water sector known for innovative partnerships and cooperation. The links between water management and urban planning are strengthening and integrated planning approaches are increasingly applied. Joint efforts across traditional planning corridors are provoking a transformation towards more liveable cities.

Copenhagen is a great example of such efforts with city-wide strategies, catchment specific cloudburst masterplans and co-created projects at the local level. In 2020 Copenhagen will host the IWA World Water Congress & Exhibition under the theme **Water for Smart Liveable Cities**. The conference will gather thousands of professionals passionate about water and provide an opportunity to showcase the Nordic approach towards **building resilient communities** and for mutual knowledge-sharing. Key in securing a sustainable water future is our **workforce of tomorrow**. The urban lab supports both!

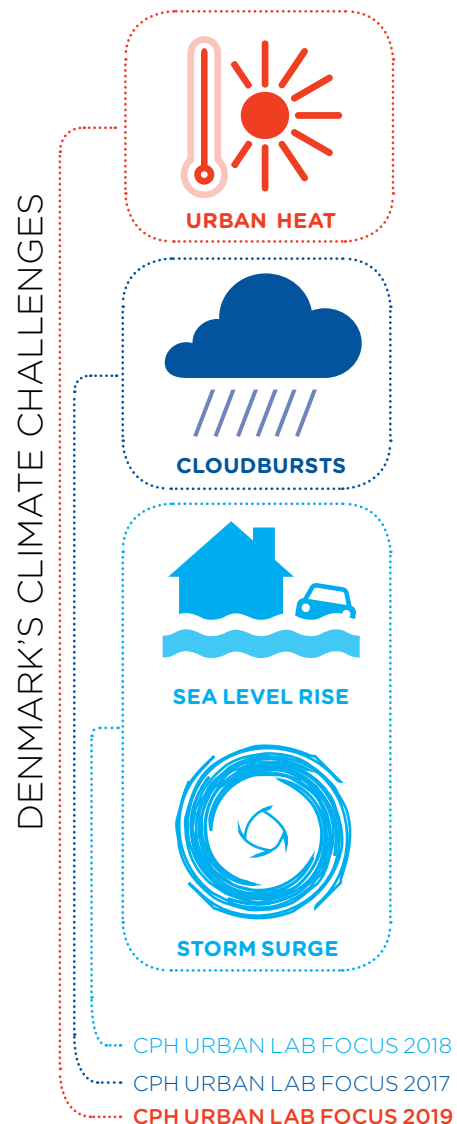
The **Copenhagen Urban Lab 2017** was organized and led by Rambøll, co-hosted by the City of Copenhagen and supported by organizations in the Danish water sector. A team of 6 young professionals from around the world spent 10 days in the City working on **cloudburst management** and Skt. Jørgen's Lake.

A similar setup made the **Copenhagen Urban Lab 2018** possible. Jointly funded by the City of Copenhagen, the Utility for Greater Copenhagen (HOFOR), the Young Water Professionals Denmark (YWPDK), Vand i Byer, Kamstrup and Rambøll, A team of 8 young and international professionals spent 10 days in the city building concepts for **storm surge protection** in Amager Strand.

Both urban labs have been successful in providing input and perspective on climate adaptation to the city, and in providing capacity building to the young professionals and across the local and global water sector.

Rambøll is organizing the third **Copenhagen Urban Lab 2019** leading up to the IWA conference in Copenhagen in 2020, this time on **Urban Heat** mitigation. Our aspiration is to have all the lab participants across the years and lab outcomes culminate in a larger lab during the conference focusing on integrating the outcomes, building resilient cities and addressing relevant climate challenges.

The 2019 lab will be organized by Rambøll, sponsored by Arup and HOFOR and co-hosted by the City of Copenhagen, and the City of Frederiksberg.



PURPOSE

The purpose of the Copenhagen Urban Lab is two-fold:

1. Capacity building
To introduce young professionals from across the world to the nordic approach to urban planning, water management and climate resilience and adaptation
2. Fresh perspective
To invite a diverse group of young professionals to reflect and provide fresh perspective on our approach to urban planning, water management and resilience

The Copenhagen Urban Lab journey begins with careful selection of each team member from the many applications based on individual profiles and the overall, constellation of the team, consisting of eight young professionals.

Once selected, the eight participants will be virtually introduced and start preparing for their 10 days in Copenhagen together in August 2019. You can see the executive summaries from previous years here:

2017



2018



“Within this intense programme, each member gained valuable experiences, new partnerships, and learned important lessons about coastal adaptation and human-centred urban design.”

Urban Lab Team 2018



URBAN HEAT



The Urban Heat Island (UHI) effect describes the phenomenon where an urban area is significantly warmer than the surrounding lands. The higher temperatures experienced in urban areas can have enormous consequences for the health and wellbeing of people living in cities. The UHI effect occurs because of an increased fraction of paved surfaces such as concrete and asphalt, which have high heat capacities and thermal conductivity, and reduces the water saturation and cooling effects from evaporation from the top soil. In urban areas solar radiation is reflected to a lesser extent, and a large fraction of the solar energy is converted to heat. The UHI effect can exacerbate heat waves, which, among other impacts, have been shown to cause economic losses because of reduced labour productivity and an increased demand for cooling.

areas have a regulating effect on temperature by reducing the heat of the surrounding areas. Increasing the extent of blue and green areas, creating pockets and corridors with cool and more comfortable areas during heat waves etc. and the use of green roofs and facades can contribute to reducing the UHI effect. Implementing green and blue solutions in various urban spaces through the city is expected to have a greater impact than a few large parks (KU, 2010). Furthermore, the choice of plant is important. Plants with a deep net of roots are preferred as they evaporate water through extended time periods and have a greater cooling effect. Implementation of white roofs and other radiation reflecting surfaces is another mitigation option, which is known to greatly reduce the UHI effect.

More than half of the world's population live in cities and the urban population is expected to grow to about 66% by 2050 (Nature, 2017). The impacts of climate change in cities are likely to be amplified by those of the UHI effect affecting millions of people across the globe. These impacts can be limited by incorporating mitigation options in city planning when renewing or developing urban areas.

In Copenhagen in 2010 surface the temperatures of up to 47 degrees were measured on the warmest day. On other warm days surface temperatures between 32 and 44 degrees were measured in the city, while the temperature was up to 12 degrees lower in land areas outside the city (Ingeniøren, 2017; KU, 2010).

Various mitigation options can be implemented to minimize the UHI effect. Vegetation and green

What does the Copenhagen approach to UHI look like?





photo by Soledad Ramon



photo by Arlen Stawasz



photo by Arlen Stawasz

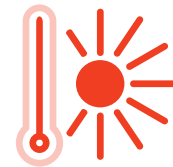


photo by Arlen Stawasz



photo by Ramboll

2019 PROGRAM



CHALLENGE

The Copenhagen Urban Lab 2019 team will be tasked to deliver local insights based on their geographical and scientific backgrounds to build an inventory of the most significant urban heat effects including categorizing and exemplifying (reduced cooling needs, improved health, fewer heat related sickness and death, damages and breakdown of power, and other infrastructure types, environmental impacts, etc.). You will develop a toolbox with leading experts from Denmark and apply this in a site specific plan mainly using blue-green infrastructure to reduce UHI and other innovative approaches to building liveable cities. The reduced cooling and other co-benefits will be a key focus in developing solutions.

LAB DATES

18-26th of August 2019

PREPERATION

Accepted participants will be invited for an online information and networking session prior to the lab. A detailed program will be provided along with potential materials.

PRELIMINARY PROGRAM

The program is kicked off with an introductory meeting and workshop with key stakeholders. The first couple of days, the team will be listening to and learning from a fantastic array of landscape architects, urban planners, and engineers from relevant local and national actors. Reflecting through these talks and your own experience, you will develop your toolbox and apply this to the case area. The Copenhagen Urban Lab concludes with a presentation to key stakeholders.

Day 1:	Kick-off with key stakeholders
Day 2:	Urban Heat Intro + team building
Day 3:	Site introduction and visit
Day 4:	Urban Heat programing
Day 5:	Midway feedback
Day 6:	Toolbox application
Day 7:	Toolbox application
Day 8:	Testing of solutions
Day 9:	Refinement
Day 10:	Publix presentation

SOCIAL PROGRAM

During the 10 day program, participants will dine across the city to get familiar with the different neighbourhoods, and could include an evening in Tivoli, an afternoon on the water, a bike tour etc.

OUTCOME

The final outcome of the Copenhagen Urban Lab 2019 will be a toolbox applicable to the Danish Urban Heat planning context along with a how-to developed through its application on the site area.

In addition to a written executive summary, the team will be encouraged to wrap up their findings in a short video /animated presentation.

Outcomes will inform the next steps towards planning for a warmer future in Copenhagen and beyond.

BUDGET

Accomodation and meals will be covered during the Lab. Participants are expected to arrange their travel to Copenhagen independently.

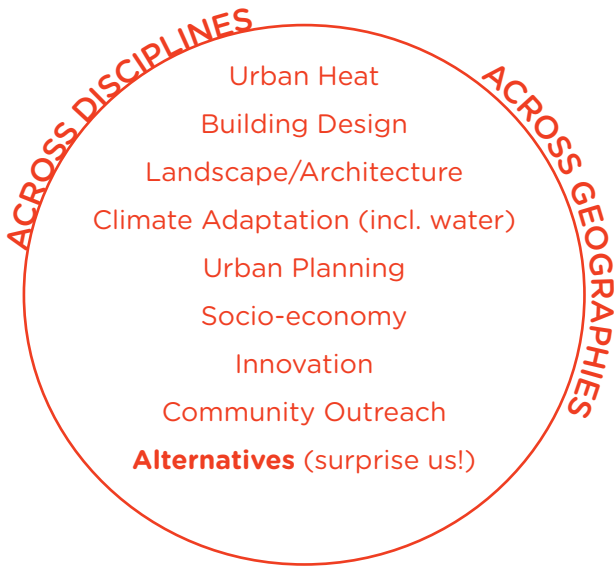
SPONSORS

The Copenhagen Urban Lab 2019 will be sponsored by Ramboll, Arup and HOFOR.

QUESTIONS

Should you have any questions regarding the Copenhagen Urban Lab or precedures, please contact Trine Stausgaard Munk at trsv@ramboll.dk.

2019 TEAM



8 Young Professionals

NOTE

<35

All participants must be under the age of 35



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Participants will organize own travel to Copenhagen. Hotel accommodation and meals will be covered.

PROFILES

The Copenhagen Urban Lab 2019 will be open to 8 young professionals. It will be a diverse team with mixed geographies, nationalities, cultures, gender, disciplines etc. The call is open to both international and local young professionals.

We encourage anyone under the age of 35 with an interest in the topic or process to apply. All participants, both local and international, will be expected to take part in the full programme.

APPLICATION REQUIREMENTS

Applicants should submit one single 2-page PDF consisting of a **1-page CV** & and a **1-page motivation** answering the following:

1. Which discipline are you applying to?
2. What excites you about the topic and program?
3. What do you offer to the team?
4. How will you apply and disseminate your experience after the Lab?

SELECTION PROCESS

Applications will be reviewed and scored by the organizing committee based on the following parameters:

- Overall CV
- Clear motivation tailored to the Urban Heat challenge and program
- Clear motivation addressing team contribution and dissemination
- Combined team matrix

All applicants will be notified by **May 27th**.

Please send your 2-page PDF to Trine Stausgaard Munk at trsv@ramboll.dk no later than

May 13th 2019



*"In order to solve complex problems,
we need diverse perspectives - the
Copenhagen Urban Lab brought together
young multi-disciplinary professionals from
across the globe to tackle storm surge, one
of the greatest challenges in the history of
mankind."
Copenhagen Urban Lab 2018*

CONTACT



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