

# From ocean to zip code in a changing climate

An online symposium on an integrated innovative approach for sustainable climate adaptation in a metropolis

The safety of population and urban assets along the rising seas are strained under forces of a changing climate. Nowadays, urban development demands a far wider set of disciplines to address sustainability in an integrated framework. The state of science and technology provides the means of adaptation, but what more does it take to translate the state-of-the-art scientific advancement to the safety and prosperity of citizens in this ever-changing context?

On 26 October professionals, scientists, decision makers and urban developers participated in this event to learn about the latest developments of the water sector on climate adaptation and exchange ideas with a panel of leading experts and policy makers.

This document provides an overview of key takeaways of the panel discussions. All recordings and presentations including the keynote speeches and pitches are available on the [Event Website](#).

## Introduction

Singapore and the Netherlands have a long history in knowledge and expertise exchange and in the areas of urban water management, adaptation to climate change, operational management systems and natural hazards, environmental risks and mitigation. The strong collaboration between Singapore and the Netherlands on climate change research and ways to deal with the effects rise under a MoU between the Singapore and Dutch governments.

## Takeaways of the panel discussion on Coastal Adaptation:

Addressing climate change is a global issue and we depend on the global efforts to mitigate. So, besides the obligations to act in our own country, we should also give attention to what we ask from and give to our neighbours.

“

*Guest of Honour - H.E. Margriet Vonno (Ambassador): What we are doing is very important for the future, especially in COVID19 times. The youth in Singapore and the Netherlands care and want to see action. I'm proud to be in this panel with people that want to make a difference.*

”

Singapore is far ahead in identifying the possible impacts of climate change and, amongst others, preparing for changes in demand and availability of water and food.



The Dutch Delta program showed that adopting the pathway approach necessitates adjustments, but it is an absolute game changer to become climate resilient and water robust.

“ *Keynote speaker - Mr Peter Glas (Delta commissioner): It is a necessity to be both resilient and robust in our pathways, this should be at the core of how we proceed.* ”

Decision making under deep uncertainty requires: an evaluation on how short-term decisions determine our long-term adaptation options, an integrated approach to a complex system of multiple drivers, continuous monitoring of the relevant drivers (physical, social and economic), acknowledgement of the influence of different stakeholders on decisions and conscience decisions by governments and business leaders for a more sustainable future with a multitude of co-benefits.

### Takeaways of the panel discussion on Urban Resilience:

Singapore is very resource challenged, particularly in land and water, but has been able to creatively make it a liveable and sustainable city over the past decades. The challenge for the future is to change traditional, mono-functional land use, to optimizing space for multiple, integrated purposes.

“ *Guest of Honour - Ms Annemieke Nijhof (CEO Deltares): Created knowledge can be applied into complex policy decision making and is the link between different time frames. The long-term changes in the environment (water and subsoil system), should be more leading in spatial planning than the short-term decision making based on for example economic aspects.* ”

It is a collaborative challenge to minimize the footprint of urbanization in the environment around us. The NUSDeltares alliance in which Dutch and Singaporean researchers work together to tackle these challenges is a good example.

Numerous methods are available to quantify biodiversity and which one to use mainly depends on the objective. Going from a concrete jungle to a greener environment with a higher level of biodiversity, by means of the integration of nature solutions with grey solution is the big challenge for the future.

“ *Keynote speaker - Mr Khoo Teng Chye (Director CLC): Climate change in an urban environment is a very complex problem, so let's look at the issue holistically; not one agency, one sector (public, private, etc) or one discipline (economic, social, physical), but one broad systems approach.* ”

The value of space has three dimensions: value of use (economic), value of how space is perceived (what it means to an individual), and value for the future. Some things are simply priceless and that should also be worth preserving. Better even, discussions about biodiversity should not only be about preservation, but about creating the conditions for an ecosystem to be as biodiverse as possible.

“ *Prof Lam Khee Poh (Dean, School of Design and Environment NUS): Sustainability starts with us. When rebuilding a future after Covid19, we need to take a step back and ask ourselves: is there an alternative way towards a more sustainable future?* ”

Ultimately what we need to understand is the solutions are already out there and climate change is a battle that we must fight together. The public, private sector and businesses need to become aware that they can do something themselves; they don't have to wait for government to act. We need a cooperative learning process and it is the duty of the experienced people in the field, to reach out and create space for others - especially the new generation - to get involved.