



THE IMPACT OF CLIMATE CHANGE ON THE URBAN ECONOMY AND URBAN GOVERNANCE

Erasmus University Rotterdam.

The case of Rotterdam



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Introduction

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- Urban dimension of climate change
- From a regional economic point of view
- And urban governance point of view



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The urban economy and the competitiveness of cities

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- Global-local paradox
- Ability to learn and innovate
- Macro influences: of which climate change
- Firm characteristics
- Business climate



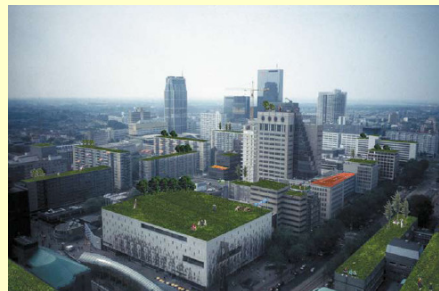
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The impact of climate change on urban competitiveness

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- Climate-sensitive activities: tourism, forestry and agriculture
- Redistribution of activities may occur
- Climate often supporting condition (actual but also expected and perceived conditions)
- Quality of life factor: attractiveness and safety



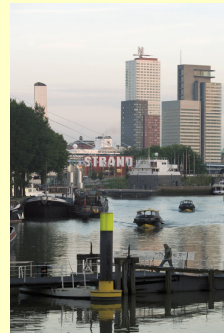
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Climate change as driver of innovation

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- Adaptation economy
- Economic opportunity for vulnerable and densely populated regions
- NL: 'leading' in water and delta technology
- New products and services for home market and for export
- E.g. infrastructure, buildings, coastal protection, water supply, agriculture and public health



SYNERGIE:
 Veiligheidsopgave
 +
 Waterkwantiteitsopgave
 +
 Waterkwaliteitsopgave
 +
 Stedelijke opgave
 =
WATER IS KANS!

WATERPLAN Rotterdam 2
WERKEN AAN WATER VOOR EEN AANTREKKELIJKE STAD

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Responding to climate change: robustness and above all adaptability

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- Provide resistance towards external disturbances
- CC: uncertainty about magnitude, time frame, impact, duration and locus of the change
- Devise a system that can absorb and accommodate uncertain future events
- Build resilience into both human and ecological systems



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Governance and not government as approach for facing climate change

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- Not hierarchical and monocentric governments
- But multi or polycentric governance
- Connective capacity; the ability to connect different frames, values and ambitions
- More room for variety of actors, ideas, relations etc.
- Adaptive governance is multi-level, multi-scale and multi-actor



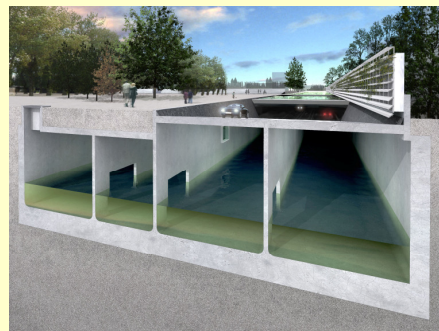
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Conditions facilitating adaptation and innovation

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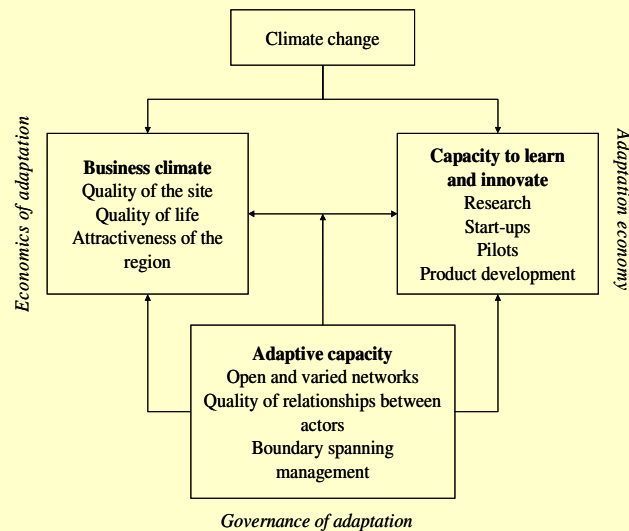
- Open and varied informal actor networks
- Good qualitative, i.e. trustworthy, relationships between actors
- Boundary spanning management in which actors act on the boundaries of their organisation and are focussed on co-evolution with their context



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Analytical framework



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Rotterdam: context

- World port and medium-sized city in densely populated Rhine delta
- Quite susceptible to climate change
- Urban vision 2030: quality of life for residents and economic vitality
- Investing in attractiveness, safety and innovation
- Economic structure: port and industrial complex, healthcare, creative industry



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Impact on business climate of Rotterdam

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- Rising water supply from sea, river, air and soil
- Water safety and accessibility of port: two potentially conflictive interests
- Therefore concept 'open closable Rijnmond'
- Path dependency of petrochemical industry
- Find new combinations and accept creative destruction



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The impact of climate change on the capacity to learn and innovate in Rotterdam


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- Medical complex: knowledge to cure or prevent climate-related diseases
- City Making: Climate resilient buildings, e.g. floating districts
- New combinations with renewable energy e.g. tidal energy
- City Ports area as large test site
- Export knowledge and expertise



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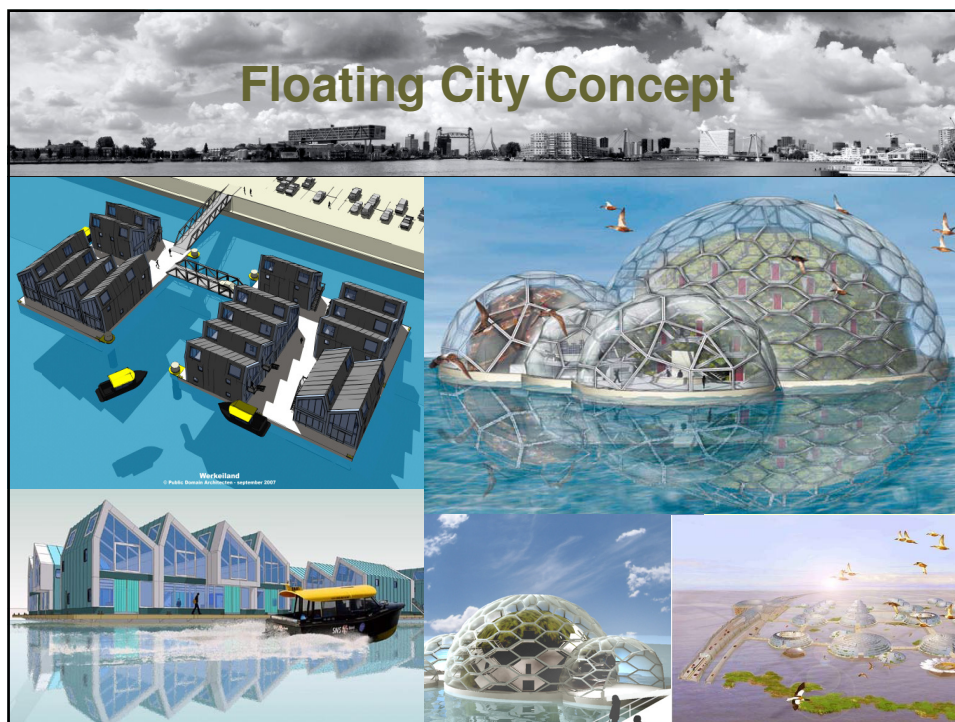
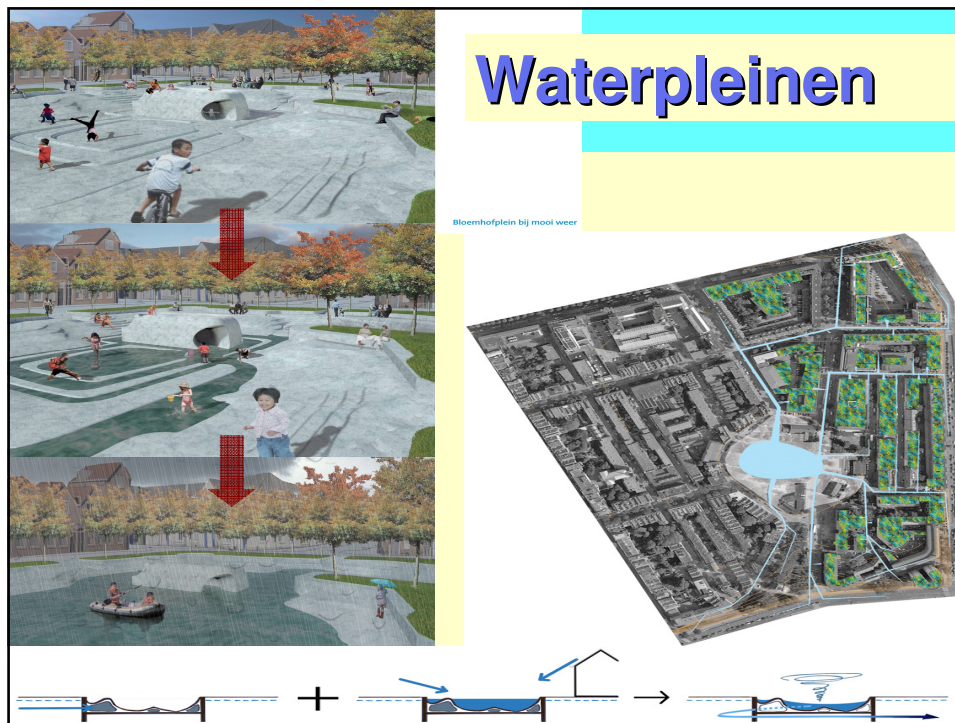
Adaptative capacity: governance, networks and policies

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- Climate programme office
- Mitigation programme: reduce carbon emissions, energy use reduction, renewable energy
- Adaption examples: floating buildings, green roofs, water squares, blue connection
- City Ports organisation and Clean Tech Delta (Triple Helix)
- National government has longer time frame
- Dutch Delta Design 2012



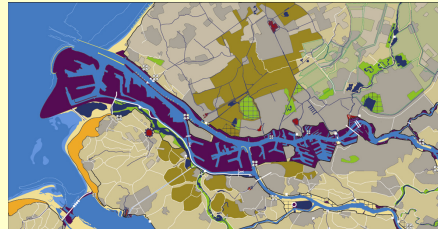
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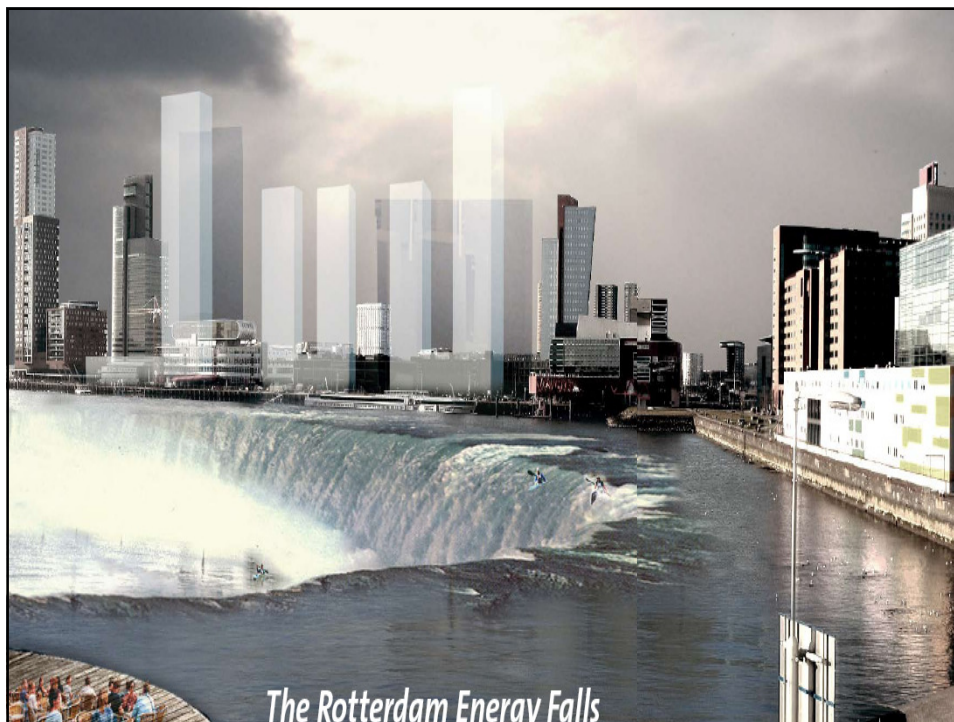


Conclusions

- Economics of adaptation; Governance of adaptation; Adaptation economy
- Rotterdam: chance-related approach
- To strengthen the economic structure and urban attractiveness
- New synergies: f.i. floating districts and tidal energy
- Intervening existing government scales and domains
- Adaptive governance capacity may also facilitate the capacity to learn and innovate



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The Rotterdam Energy Falls