



**Tackling obstacles experienced by manufacturers & construction companies** that are willing to innovate and try to market adaptation solutions

*research results from a Dutch, urban context*

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## Context



Inventory of **experiences and recommendations** from a collection of recent research **projects** by different parties, that **monitored advancements in adaptation**

Focused on adaptation in **three different markets** for construction sector:

### 1) Buildings



### 2) Public space



### 3) Infrastructure

*Not waterways, dikes, canals, dams, locks ...*

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## What's the issue ?



The established **climate adaptation 'scene'** consists mostly of

- Scientists
- Consultants
- Active citizens
- Designers, planners
- Governance, policy specialists

**Companies that actually produce technology and build** climate adaptation measures are still **marginally represented** in the adaptation community

This has **partly** to do with the stepwise progress of the adaptation process: the **focus in the past years** was (justly) **on** the indispensable **research** of climate scenarios, effects, risks, strategies, finance, **conceptual design** of measures and kick-starting **pilots**



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## What's the issue ?



But also, there is an apparent **sluggish development of a significant market** for adaptation measures

**Building companies** that are innovating and offer adaptation measures and technology, **report hindrances in the market place:**

- Adaptive capacity of constructions is **not a criterion in tenders**
- Clients do not know how & what to ask for because there are **no regulations or standards** for adaptation

→Consequently, companies that are able to offer concepts with **added adaptive capacity** are **not** able to utilize this as a **competitive advantage**

→ **Without a healthy market** for adaptation measures in which innovation is rewarded with commissions for construction, **adaptation will not proceed fast enough** or even come to a standstill

This worries policy makers & branch organizations



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## What are the obstacles ?



Most stakeholders summarize the multitude of obstacles as:  
“too much **uncertainty** about **return on investment**”

Digging deeper uncovers underlying obstacles...



On the part of **clients** (mostly public authorities):

- **No shared sense of urgency** (with the people that decide on commissions)
- **Presumption** that exact effects of climate change are **too uncertain**
- **Presumption** that adaptation is **expensive**
- **Not able to monetize risks** of climate effects
- **Not clear who suffers** from climate effects and **who profits** from adaptation or **who is responsible** adaptation
- **No knowledge** about (**added benefits** of) available measures
- **Not able** to incorporate adaptation as a **benchmark** in **tenders**
- **Economic crisis** dampened building activity

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## What are the obstacles ?



On the part of **governance**:

- Adaptation **not ranked high** on the **political agenda**
- **Political interest** focused **on short term** and quick wins
- **Inadequate co-operation** between authorities and departments



On the part of **manufacturers** and **builders**:

- **Lack of proven technology** (‘innovation paradox’)
- **Unable to unlock academic knowledge** →
- **Not able to quantify and monetize** the **adaptive capacity** of measures with convincing accuracy
- **Economic crisis** drained company funds for innovation



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## So, what should be done ?



First win: In The Netherlands, authorities and the construction sector **acknowledge** the **obstacles** and are **willing to work on solutions**

Some **key recommendations** for actions (in motion):

- Create **long term strategies** with political commitment for urban development/renewal that **establish trust, stimulate co-operation** and **investments** (*clients*)
- **Be less conservative** in choice of materials, techniques etc. Stimulate awareness of the need for technological changes (*clients, constructors, branch organizations*)
- Create possibilities for **experimentation** (*clients*) and use these to **build a portfolio of proven technology** (*constructors, applied scientific community*)

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## What should be done ?



- **Create technology** that serves **multiple functions**, including adaptation, to create shorter-term revenues (*constructors*)
- **Transfer** part of technical **innovation budget** to building **awareness & sense of urgency** (*national government, constructors*)
- Even better **knowledge transfer** to clients and constructors ( >>>'tools', *applied science community, education, national government*)
- **Exchange of knowledge on tendering and contracting**. For instance, the use of Design Build Finance Maintain (**DBFM**) contracts (*clients*)
- Creating **proven** technology and upscaling **takes time. Start NOW** and *utilize the recovery from the economic crisis* (*clients, constructors, applied scientific community*)



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## What about subsidies and legislation for adaptation?



Absence can be considered an obstacle ('easy complaint')

**Subsidies** are (at the moment) primarily available for development of technological innovations (€ € € € → 'what')

Dutch **policy does not tend towards compelling legislation** for adaptation. Building **standards** (like ISO) will **help**

Long-term **subsidies** for implementation of technology **and legislation** are **not the key to continuity in adaptation**. **Market mechanisms** are preferred

(limited) **subsidies** by the national government are required to **stimulate market launch** (€ → 'why, how')

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## One way of matching supply to demand...



Generally, adaptation of a city calls for the **accumulation of many small modifications** of public space, infrastructure and buildings, **that add to urban resilience as a whole**

So, **every** constructive **renewal** and **all maintenance** provide **opportunities** for **adding adaptive capacity** ('retrofitting')

This is a **basic principle** used in municipal **adaptation strategies** (**demand**) and therefore also for **innovation & market strategies** of the construction branch (**supply**)

This is where supply and demand meet → creating a **joint development agenda** makes sense and underpins **commitment on both sides**

*On top of this, other demands create additional opportunities for innovative constructors ...*

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## Raising the bar even higher



Opportunities rise for (consortia of) constructors that offer multifunctional concepts that add to:

adaptation  
+  
mitigation  
+  
resource efficiency  
+  
health & liveability



and thereby **attract** cross sectorial co-investments



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## Discussion & sharing experiences



- **How is the market** for adaptation concepts **developing** in your country?
- **How is the construction sector acting** in your country? Pro-active? Wait-and-see? Pointing the finger towards the government? Not reacting at all? ...
- **Which obstacles** for construction companies that offer adaptation solutions are **most prominent** ?
- **Suggestions for solutions** to overcome these obstacles?