

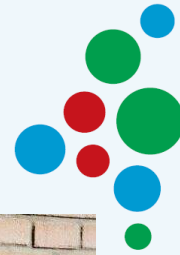
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## Stimuli for climate adaptation in cities:

*insights from  
Philadelphia, an  
early adapter*



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**Intro** | Design | Findings | Discussion

## Introduction

- **Cities** and **climate change**: flooding, heat stress, drought  
⇒ economic damage to urban systems and services, health impacts, social disruption
- The focus has been on **barriers**: uncertainty, limited financial resources, little local expertise, lack of political commitment, undefined role for local governments
- **Identification** of **stimuli** for climate adaptation: relevant!  
Increased inclination to respond and possible explanation for the understanding of barriers to climate adaptation
- Moreover, stimuli could possibly explain the applied **governance approach** to climate adaptation in cities

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## A special role for municipalities

- They can organize responses to local impacts, set up networks and manage the delivery of resources to facilitate climate adaptation
- Governance of climate adaptation:
  - A **dedicated** approach: specific attention, allocated resources, adaptation strategy/ policy
  - A **mainstreaming** approach: adaptation is integrated in existing policy domains – competition of other policy objectives



	Dedicated approach	Mainstreaming approach
<i>Objective</i>	Adaptation as main objective	Adaptation as one of the objectives
<i>Policy process</i>	Linear	Dynamic
<i>Criterion for evaluation</i>	Conformance	Performance
<i>Framing of adaptation</i>	Main objective (explicit)	Added value (implicit)
<i>Political commitment</i>	Direct	Indirect
<i>Agenda-setting arena</i>	Political arena	Policy department arena
<i>Resources</i>	New assigned resources supported by new organizational structures	Reallocating resources within existing organizational structures
<i>Policy design</i>	Specific policy	Synergies in policy objectives
<i>Implementation</i>	Fast	Erratic



## Theoretical framework for stimuli

- **Who:** institutional entrepreneurs, political leadership
- **When:** windows of opportunities, focus events/ calamities, elections, societal pressure
- **Why:** framing ⇒ explicit or implicit
- **How:** allocation of resources, installation of new regulations, skills to build networks and coalitions, advocacy, brokerage, perseverance



## Research design

*Aim:* to **identify stimuli** for climate adaptation in cities and more specifically to **examine how these stimuli influence the governance approach** to climate adaptation.

*Research question:* what stimuli have triggered climate adaptation in Philadelphia and how have these stimuli influenced the city's governance approach to climate adaptation?

*Methods:* Explorative case study (Philadelphia USA), reconstruction of two climate adaptation programs based on triangulation: interviews (December 2013), policy documents and newspaper articles



## Why Philadelphia?

Literature has indicated this city as an 'early adapter', having organized various climate adaptation responses (Kaklstein *et al.* 1996; Gartland 2008; Rosenzweig *et al.* 2011; Mainmone *et al.* 2011; Edwards 2013)

Not clear however what triggered this city to adapt and what this meant for the governance of adaptation

Two programs were analyzed: Greenworks and Green City Clean Waters programs

## Green City Clean Waters



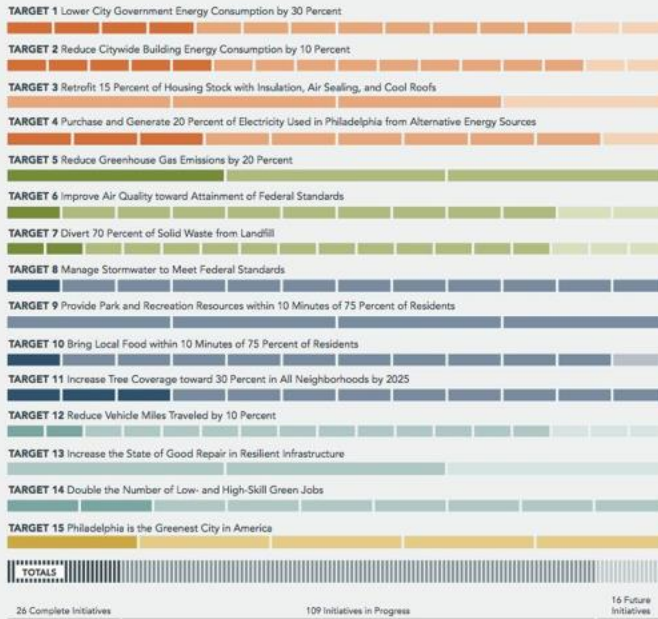
The City of Philadelphia's Program for Combined Sewer Overflow Control  
A Long Term Control Plan Update  
Summary Report  
Submitted by the Philadelphia Water Department  
September 1, 2009



Philadelphia Water Department



## Greenworks: creating safer, healthier and cleaner neighborhoods



## Greenworks

- Started, in 2007, from the bottom up; a coalition of local organizations ('Next great city')
- Picked up by the candidate for mayor who was actually voted (stimulus?!)
- 'Sustainability' overall goal
- Until 2011, climate adaptation as an implicit goal ("these things [goals and targets] are valuable *in any case*")
- Major's office of Sustainability responsible, but without specific budgets → have to be made available by the sectors

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## Green city clean waters



- Goal: how to deal with combined sewage overflow?
  - Problem since 1997: enforcement of the Clean Water Act (1972) by EPA
  - Problem 2: costs of extra 'grey' infra excessive
  - Search for alternatives: retention ponds, permeable pavement, green roofs etc. ('green infra')
  - Solution chosen: green infra plan (much less expensive)
  - Framed as a long-term solution (addressing, among other things, climate change)
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### Intro | Design | **Findings** | Discussion



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## Governance approaches

<i>Policy program</i>	<b>Greenworks</b>	<b>Green City, Clean Waters</b>
<i>Initiator within municipal organization</i>	Mayor (political agenda)	Policy department (policy agenda)
<i>Stimuli</i>	i.a. elections, societal pressure, political leadership and power, metrics	i.a. regulations, collective entrepreneurship, networking, advocacy
<i>Governance approach</i>	Dedicated approach (mainly)	Mainstreaming approach (mainly)



## Stimuli

		<b>Greenworks</b>	<b>Green City, Clean Waters</b>
<i>Who</i>	<i>People</i>	Next Great City coalition, Political leadership	Regulations, financial limitations
<i>When</i>	<i>Momentum</i>	Elections, societal pressure	Collective entrepreneurship in water department
<i>Why</i>	<i>Framing</i>	Sustainability in relation to energy, environment, equity, economy, engagement	Societal, economic & environmental benefits
<i>How</i>	<i>Capabilities</i>	Political pressure, special bureau, metrics	Financial resources, networking, perseverance, flexibility



## Discussion

- Climate adaptation responses are **not organized** in a **vacuum**: it is a **combination** of stimuli
- **Different combinations** of stimuli can result in a certain governance approach
- **Co-existence** of governance approaches in Philly: dedicated and mainstreaming approach





## New insights

- Only one case study, but:
  - More insight into stimuli (we know a lot about barriers...)
  - More insight into what explains a particular governance approach to adaptation (rather than taking action as such)

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Thank you!



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