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Stimuli for climate adaptation in cities: *insights from Philadelphia, an early adapter*

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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

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

Intro | Design | Findings | Discussion

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

Uittenbroek, 2014: 95

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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, preseverance

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?

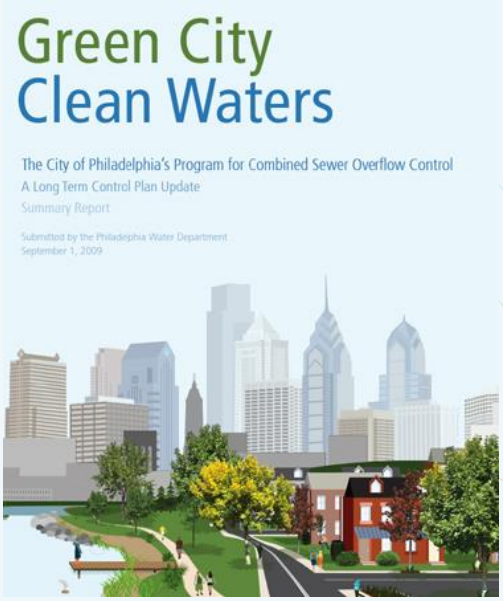
Methods: Explorative case study (Philadelphia USA), reconstruction of two climate adaptation programs based on triangulation: interviews (December 2013), policy documents and newspaper articles

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)

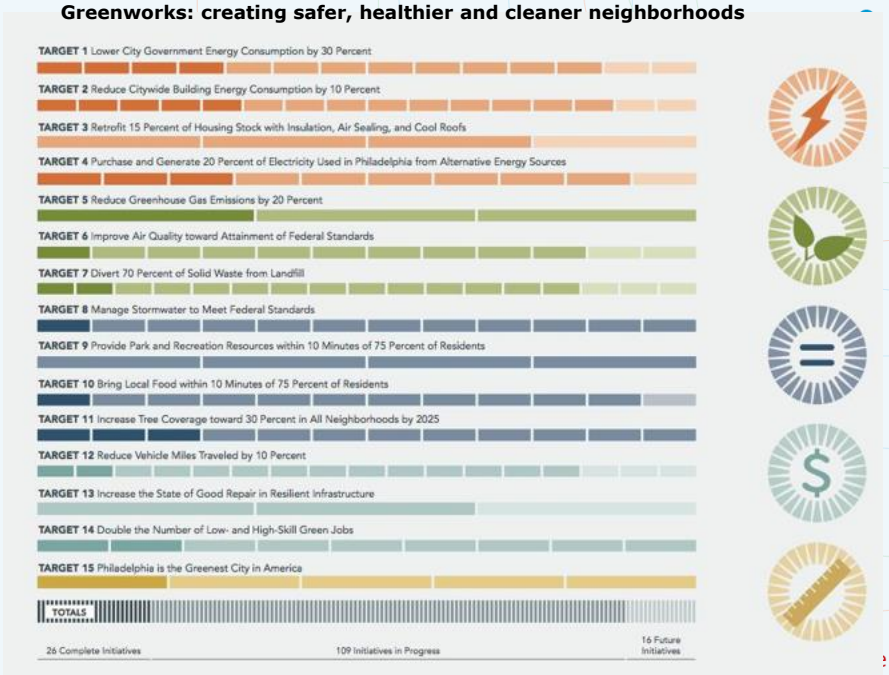
Not clear however what triggered this city to adapt and what this meant for the governance of adaptation

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



GREENWORKS
PHILADELPHIA

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

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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Governance approaches

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

Stimuli

		Greenworks	Green City, Clean Waters
Who	*People*	Next Great City coalition, Political leadership	Regulations, financial limitations
When	*Momentum*	Elections, societal pressure	Collective entrepreneurship in water department
Why	*Framing*	Sustainability in relation to energy, environment, equity, economy, engagement	Societal, economic & environmental benefits
How	*Capabilities*	Political pressure, special bureau, metrics	Finanical 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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