Governing Urban Sustainability Transitions

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DRIFT

- Sustainability science action research institute
- Scientific agenda: patterns, dynamics and governance of transitions
- Practice agenda: accelerating social, ecological and economic sustainability

→ Practice informs theory and vice versa; society as learning laboratory
Persistent unsustainability
Persistent urban sustainability problems

• Cities are complex, path-dependent, self-organising entities
  - Very difficult to give long-term direction

• Many autonomous external pressures
  - Ageing, urbanisation, energy/resources, economic crises, ...

• Cities as the locus of (un)sustainable development
  - Where global problems and solutions become manifest

→ Unsustainability lock-in requires transitions
Transitions

fundamental change of structure, culture and practices in a societal (sub)system

- **culture:** collective set of values, norms, perspectives (shared orientation), paradigms

- **structure:** physical infrastructure, economic infrastructure, institutions, rules, regulations, collective routines

- **practices:** behaviour, operation, implementation

→ *Shared discourse and language for multi-actor learning and innovation processes*
Transition levels

Macro-level: landscape
autonomous trends, paradigms, slow changes

Meso-level: regime
Dominant structure, culture and practices

Micro-level: niches
innovative ideas, projects, technologies, niche actors

Based on Geels and Kemp, 2001

Dutch Research Institute For Transitions
Transition phases

Based on Rotmans et al, 2001
Source: Stockholm Resilience Center and DRIFT, 2010
Transitions and/or resilience?

Röckstrom et al, 2009
Resilient cities

- Governance and smartgrid networks
- Ecological resilience
- Social self-organisation
- Local economy
- Spatial sustainability
Urban resilience: a transition challenge

- Social: resilient, self-sustaining communities and social services, social cohesion and equity,

- Ecology: urban biosphere, closed resource cycles, natural watersystems, multiple space-use, renewable energies

- Economy: ecosystem services, local economy, internalisation of externalities

- Governance: organized self-organisation
Transition Governance Framework

- Problem structuring, establishment of the transition arena and envisioning
- Developing images, coalitions, and transition-agendas
- Monitoring, evaluating, and learning
- Mobilizing actors and executing projects and experiments
TM: dealing with transitional dynamics

TM 1.0
Creating space and convergence
Arenas, experiments
Discourse and culture

TM 2.0
Focus on breakthroughs
Institutions for transition
Upscaling and structural change
Transition arenas

Regular policy arena
- Short term
- Peloton
- Incremental change
- Problem- and goal oriented

Transition arena
- Long term
- Frontrunners
- System-innovation
- Problem- and goal searching
MUSIC project
www.themusicproject.eu

Aberdeen
(United Kingdom)

Ghent
(Belgium)

Montreuil
(France)

Rotterdam
(The Netherlands)

Ludwigsburg
(Germany)
Transition approach

Process

Transition team
Experts/civil servants
Transition arena
  Frontrunners
Transition network
  Organisations
  Coalitions
  Entrepreneurs/change agents

Content

Transition analysis
  Framing the transition
  Envisioning
  Inspiring challenge
Agenda building
  Multiple pathways
Experiments
  Upscaling innovations
Iteration between vision/arena and experiments

TRANSITION AGENDA

Start project

Long-term and generic

Step 1 City analysis

Step 2 selection

Step 3 Problem analysis

Step 4 envisioning

Step 5 network/coalitions

Step 6 actions

City transition vision

City transition analysis

City transition network

multiple transition experiments

ITERATION:

Iteration between vision/arena and experiments

Energy neutral school

Urban energy map

Green roof program

Block by block

Step 6 dissemination

Start project

Time
“Het wordt tijd dat je de wereld gaat redden mama.”

“Vooruit met de transitie!”

“Transitie is een business-case”

“Transitie zal pas compleet zijn als ze iedereen bereikt.”
Rotterdam: energy based spatial planning

<table>
<thead>
<tr>
<th>Sustainable City</th>
<th>Sust. Mobility</th>
<th>Energizing City</th>
<th>Innovation Lab</th>
<th>Energy Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>city -50%</td>
<td>mobility -50%</td>
<td>behaviour</td>
<td>strengthen innovative economy</td>
<td>harbour -50%</td>
</tr>
<tr>
<td>• deals with corporations</td>
<td>• public transport, cycling</td>
<td>• All public vehicles co2 free</td>
<td>• innovation fund</td>
<td>• Carbon captivity storage</td>
</tr>
<tr>
<td>• Public lighting</td>
<td>• Renewable energy</td>
<td>• All public buildings co2 free</td>
<td>• Knowledge cluster of new techniques</td>
<td>• Deals with companies to filter</td>
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<tr>
<td>• Compulsory use of district heating</td>
<td>• Parking fees</td>
<td>• Campagne</td>
<td>• Research connections with universities to implement</td>
<td>• Biofuel</td>
</tr>
<tr>
<td>• Fiscal incentives</td>
<td>• vehicles and ships</td>
<td>• Incentives</td>
<td>• Happy shrimp farm</td>
<td>• CO2 to greenhouses</td>
</tr>
<tr>
<td>• Local laws</td>
<td>• Environmental zoning freight: city and harbour</td>
<td>• 3% per year</td>
<td>• banks</td>
<td>• Quai electricity</td>
</tr>
</tbody>
</table>

Worldwide energy and climate initiatives
CO2 reduction

From a list of solutions to an integrated spatial strategy
5 strategies

1. Re-inventing delta technology
2. Volume & Value
3. Crossing borders
4. Floating gentrification
5. Sustainable mobility

Long term: perspective 2040
Mid term: course 2025
Short term: action 2015

CityPorts
One of the images: Floating City

(Design: www.deltasync.nl)
...the transition experiment
Societal resilience and transition

- **Context:** withdrawing government, budget cuts
  - Social: developing local community based services; energy, food, mobility, education, health-care
  - Technical: developing smart 'gridworks'; data-based infrastructures and appliances

- **Community arena:** frontrunners develop shared vision and strategy
  - citizens, science, policy, business, organisations

- **Focus on empowerment and competence-building**
  - In families, school, public space and networks
Veerkracht (‘Social Resilience’)
Core transitional challenge

- Community empowerment
  - Developing self-organisational capacity
  - Paradigm shift towards self-awareness
  - Articulating community needs

- Policy transition
  - Participation in societal process
  - Toward integrative cooperation
  - Developing process governance capacity
‘Welcoming Square’
Urban transitions and their governance

• Cities as systems and niches
  - Framework and discourse for coproduction

• Urban sustainability challenges
  - (re)defining collective challenges

• Guiding and accelerating urban transitions
  - Envisioning, experimenting and empowerment

→ Urban Transition Labs and community arenas
Social economy

- Shift from efficient problem solving to effective prevention

- Local economy based on shared community services

- New business models and forms of financing
Transition in science (and education)?

- Science: less authority, more uncertainty
  - Scientists: knowledge brokers, co-creators, reflectors and observers

- Education: less disciplinary, more skills
  - Teachers: guides, knowledge providers, facilitators

- Action research as research method
  - Engagement and co-creation to inform theory and impact society simultaneously
TM 2.012 - dynamics

From
- Frontrunners
- Searching/learning/experimenting
- Predevelopment
- Creating space
- Deepening/broadening
- Developing discours/language
- Initiating/starting-up/building-up
- Knowledge development

To
- First followers (of the mainstream)
- Institutionalisation
- Take-off/acceleration
- Making use of space
- Scaling-up/structural change
- Action oriented
- Embedding/breaking-down
- Diffusion
## TM 2.012 - instruments

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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<tbody>
<tr>
<td>• Transitionanalysis</td>
<td>• Tippingpoint-/phase-analysis</td>
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<tr>
<td>• Arenas</td>
<td>• Transitioncoalitions</td>
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<tr>
<td>• Visions</td>
<td>• Public/political debate</td>
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<tr>
<td>• Scenarios</td>
<td>• Pathway-analyses</td>
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<td>• Development plans/business cases/legal innovation</td>
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<tr>
<td>• Experiments</td>
<td>• Destabilising actions/interventions</td>
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<tr>
<td>• Monitoring/evaluation</td>
<td>• Quantitative t-mon/reflexive pattern monitoring</td>
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</table>
Thank you for your attention

For more information and publications:
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