



Knowledge network for **S**ystem Innovations
and transitions (www.ksinetwork.nl)

Transformative Change towards sustainability

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Persistent problems

- our society faces a number of persistent problems
- many examples: climate change, energy supply, water problem, mobility problem, agriculture, health care
- persistence is due to system failures that are deeply rooted in our societal structures
- regular policy aimed at incremental improvement is not enough to resolve persistent problems

transformative change is needed



Transition

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

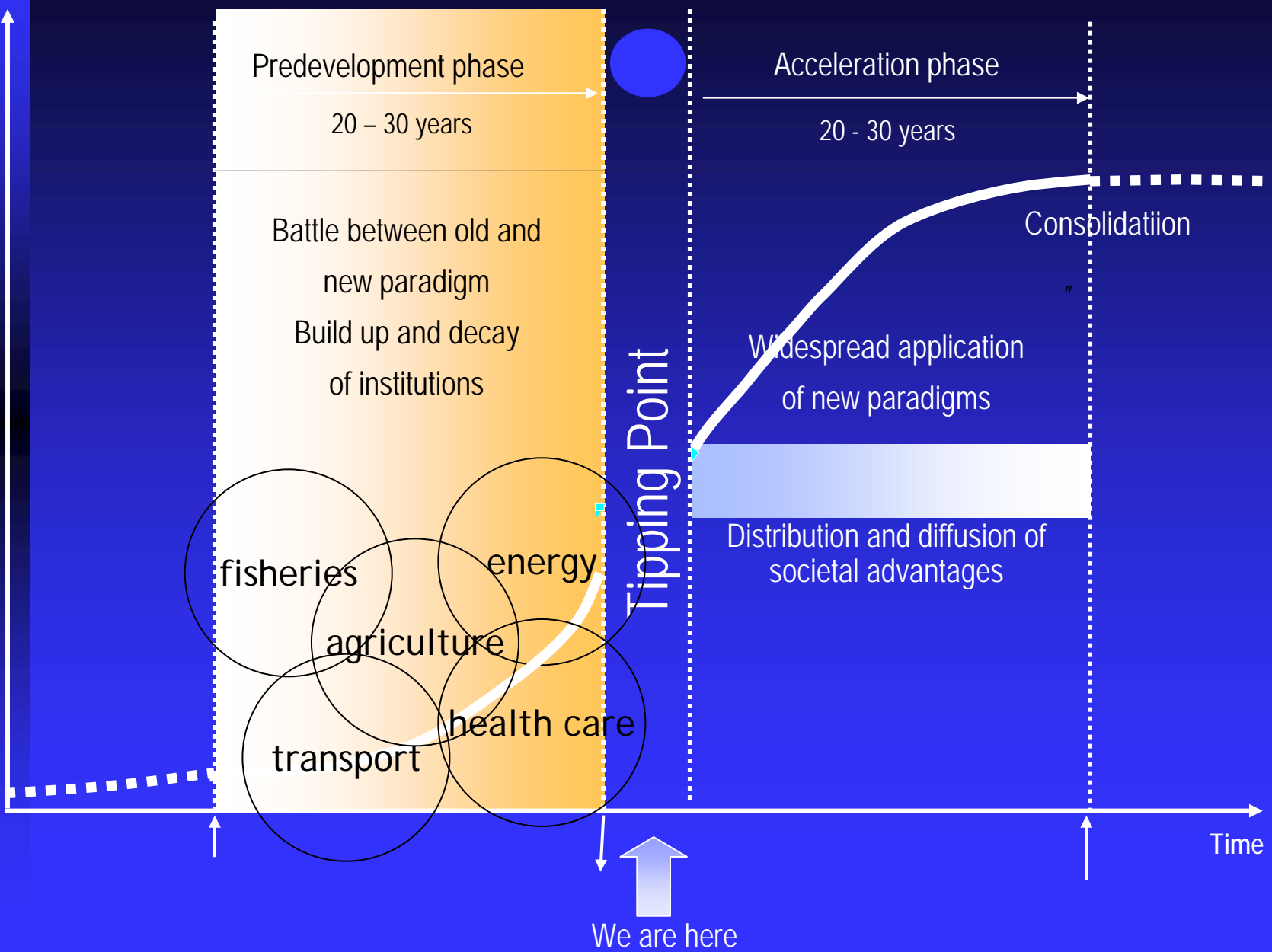
- **structure:** physical infrastructure, economic infrastructure (market, consumption, production), institutions (rules, regulations, collective actors)
- **culture:** collective set of values, norms, perspective (shared orientation), paradigm (defining problems and solutions)
- **practices:** routines, behaviour, ways of handling, implementation at the individual level

incumbent structure, culture and practices need to be broken down and new (sustainable) ones need to be built up



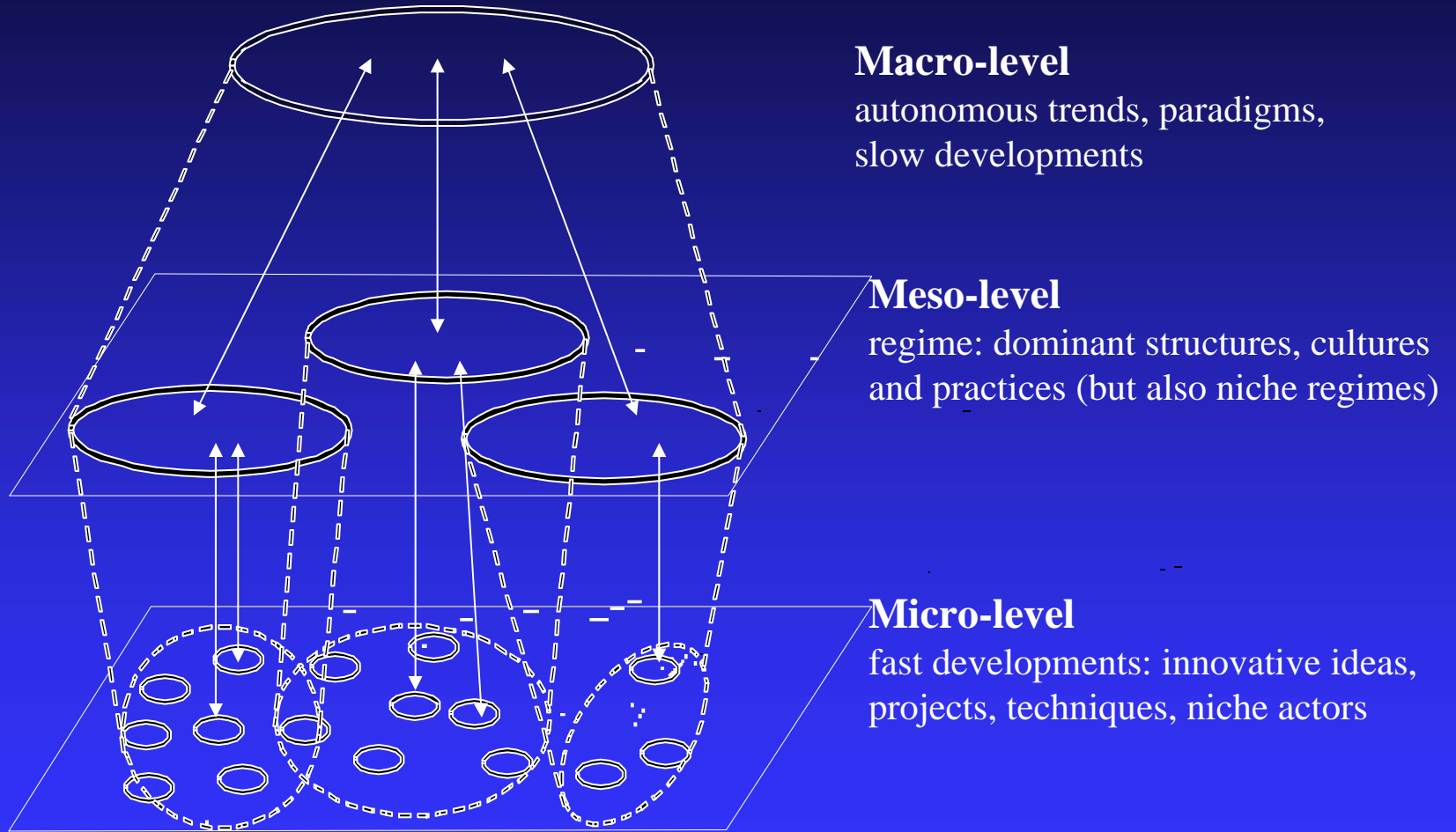
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Breakthrough to sustainable society





Multiple Levels





Examples of transitions

- from coal energy supply to gas energy supply
- from extensive to intensive agriculture
- from an industrial - to service - to knowledge economy
- from fossil fuel based energy supply to renewable energy supply

not spontaneous processes



Why do transitions often fail?

game, rules and players

transition requires a new structure, culture and practices

transition requires new rules, new players and new game

dominant players have too many interests to defend and don't want to change the rules drastically

only new players can 'break open' the game and change the rules

more, different, better



Sustainability as orientation

sustainability serves as guiding orientation for transition

sustainable development is a socially and scientifically contested notion: *no unique definition or approach*

transition approach

organize reflexive search and learning process with stakeholders [frontrunners] to assess what sustainability is in a particular context



Transition governance

rules of thumb

- long-term thinking as the basis for short term policy
- think in terms of multiple domains (multi-domain), different actors (multi-actor), different levels (multi-level)
- learning as an important aim for policy ('learning-by-doing' and 'doing-by-learning')
- using uncertainties as a starting point for governance
- keeping options open (wide playing field)



Transition approach

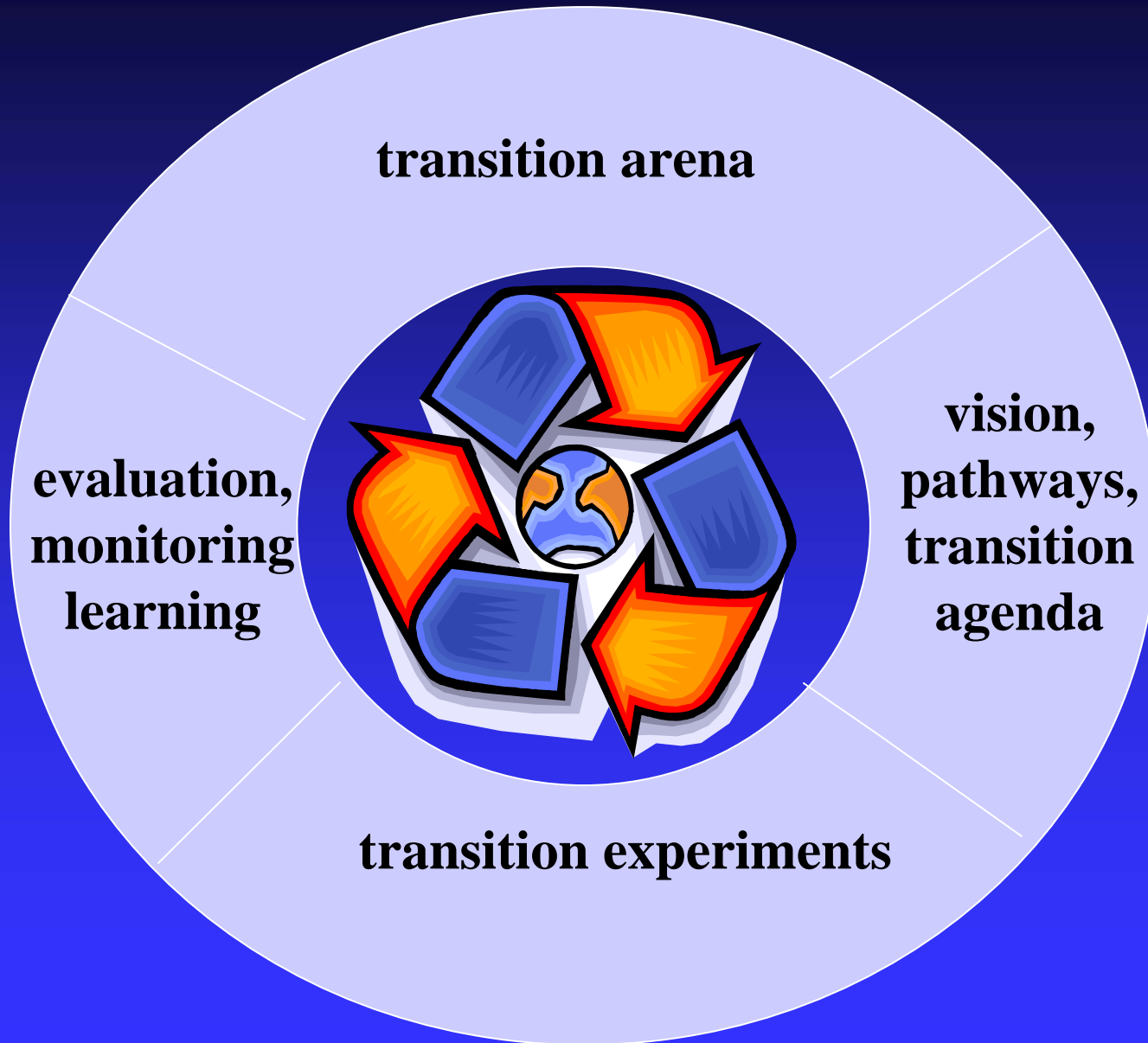
principles

- put energy in frontrunners and not in the pack
- bring frontrunners together in protected spaces
- develop a long-term agenda, incl. vision + pathways
- start with portfolio of transition experiments
- create new coalitions around pathways & experiments

searching, learning, experimenting



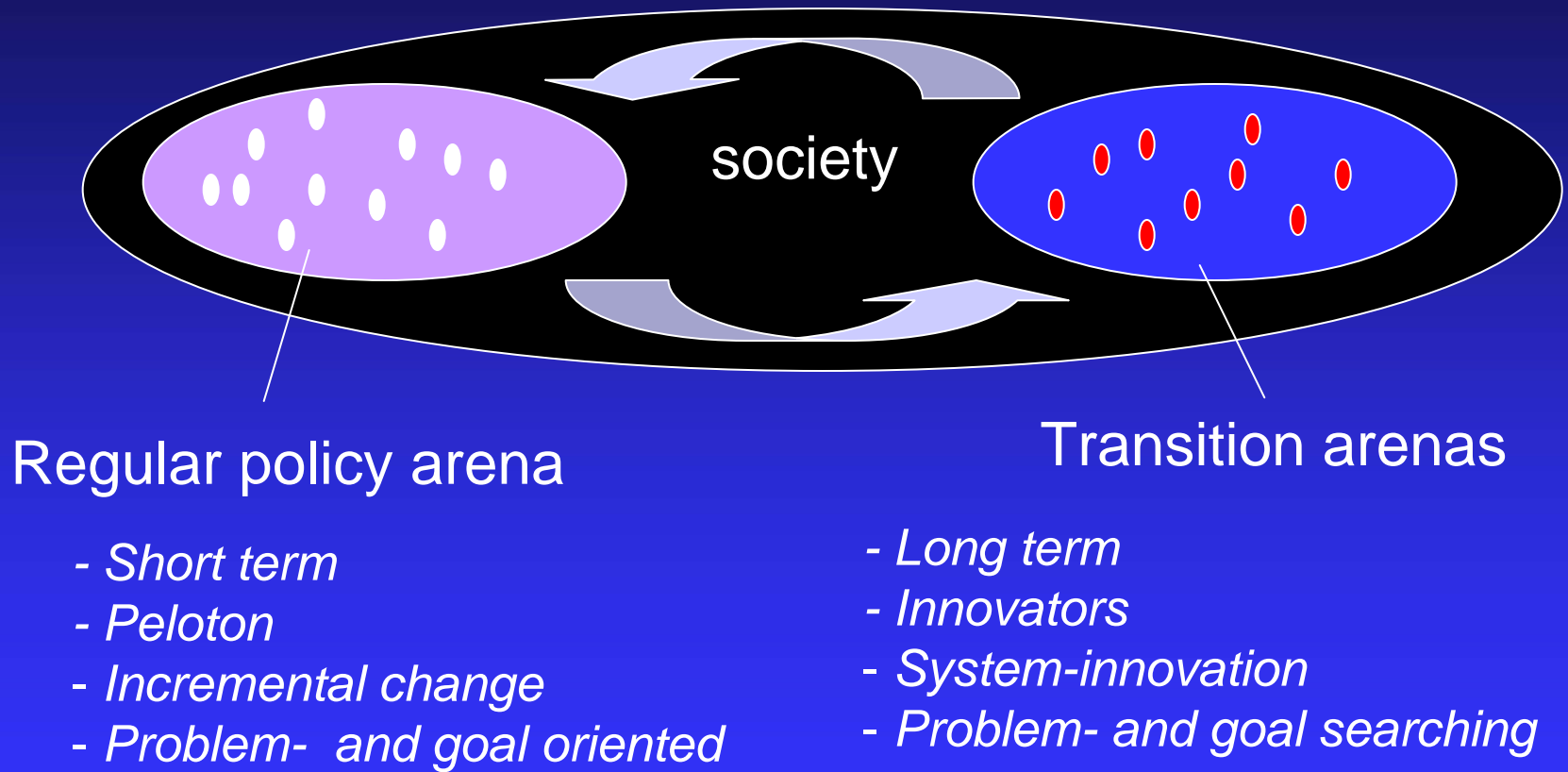
Transition approach cycle





The transition arena

space for experimenting and envisioning





Transition experiments

societal experiments with high risks (chance of failure)
and a high potential to contribute to a transition process

how to manage portfolio of transition experiments?

- *deepening* [learn as much as possible from an experiment]
- *broadening* [repeating an experiment in a different context]
- *scaling up* [anchoring of an experiment in the regime]



Transition Experiments

- energy delivering greenhouse
- rush hour avoidance
- electric vehicles
- CCS close to residential area
- sustainable roofs
- regulatory free zones



Ongoing transition processes

- six Dutch ministries have official transition policy
 - Water transition
 - Energy transition
 - Construction sector transition
 - Mobility transition
 - Biodiversity transition
 - Health care transition
- regional governments experiment with transition policy
 - Provinces Zeeland, Flevoland, North-Holland
 - Regions such as Zuidvleugel, Texel, Haarlemmermeer, Twente
 - Cities such as Almere, Rotterdam

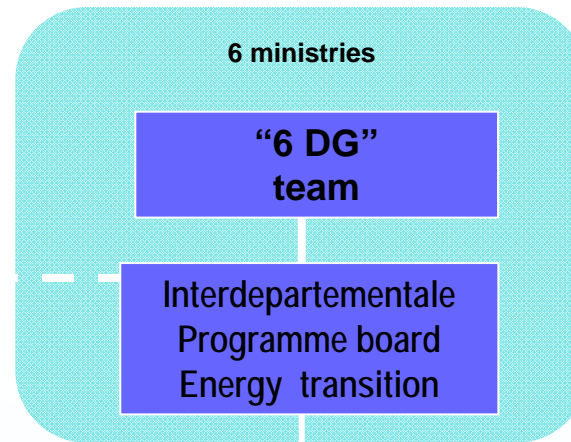
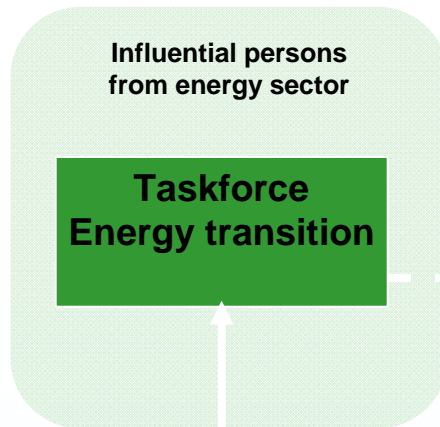


Energy transition

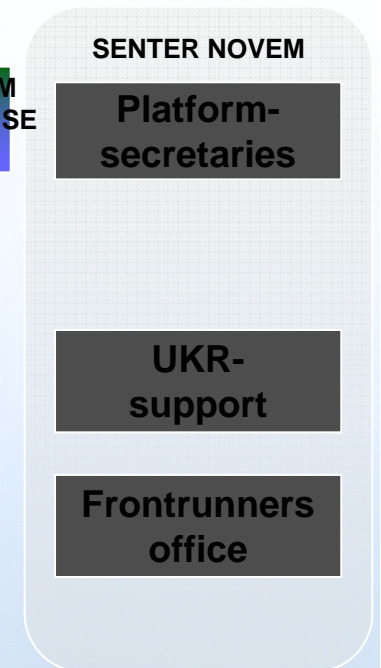
- in 2001 initiated by the ministry of Economic Affairs (EZ)
- started with a niche (small group of frontrunners within EZ) evolved into a movement with companies, NGOs, knowledge institutions and individuals
- vision has been developed [‘where do we want to go?’]
- 7 main themes chosen [platforms or arenas]
- 23 transition paths formulated [‘how to go there from here?’]
- 100 transition experiments set up [‘how to implement paths?’]

Energy transition

1
Long-term
vision



7
Transition
themes



23
Transition
-pathways

100-en
Transition
experiments





What has been achieved?

- sense of urgency, high ambition level
- new discourses, agenda of reform, breakthrough projects
- broad movement with 1000 people involved
- high amount of time, manpower, energy invested

but

still dominance of regime players and danger of becoming and execution process and institutionalized



Urban transition management: *transitionizing Rotterdam*

- strategic: fundamental debate on cities future and governance culture
 - role of government and the effectiveness of policy related to persistent problems
 - identifying the unsustainability of the city and debating long term sustainability principles
 - creating various strategic arenas in different areas and government institutions



Urban transition management: *transitionizing Rotterdam*

- tactical: reorientation and reorganisation of major programmes in crucial domains
 - Rotterdam Climate Initiative
 - 50% reduction of CO2 in 2025
 - Pact op Zuid
 - 1 billion Euro investment in battling social problems
 - CityHarbors
 - 35 year redevelopment of innercity industrial harbor area
- *reorienting programmes based on raising ambition, seeking coherence and new governance strategies*



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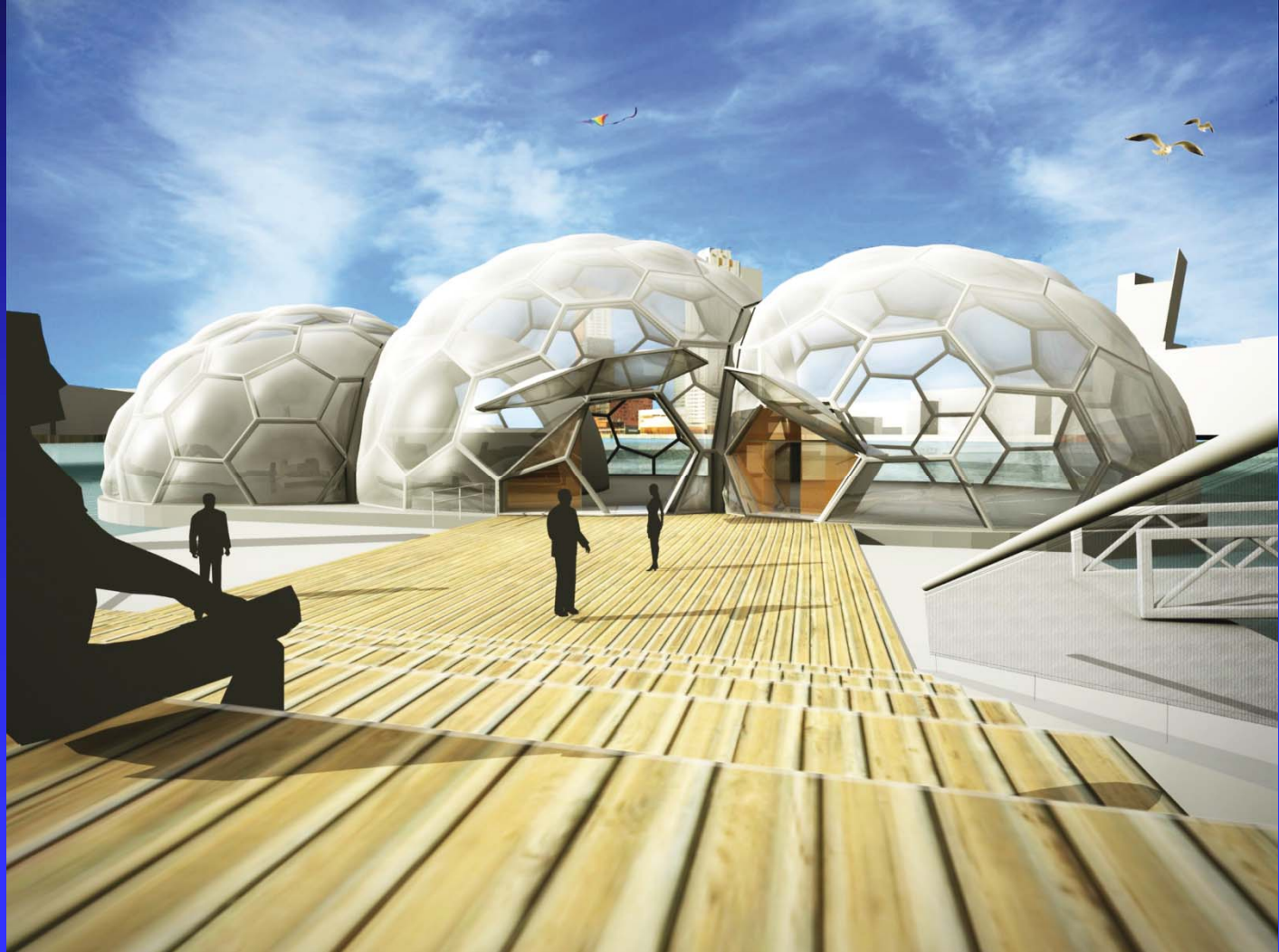
Urban transition management: *transitionizing Rotterdam*

- operational: transition experiments and actions
 - floating city
 - water mobility
 - urban agriculture
 - new communities/lifestyles
 - roof transition
 - energy service companies



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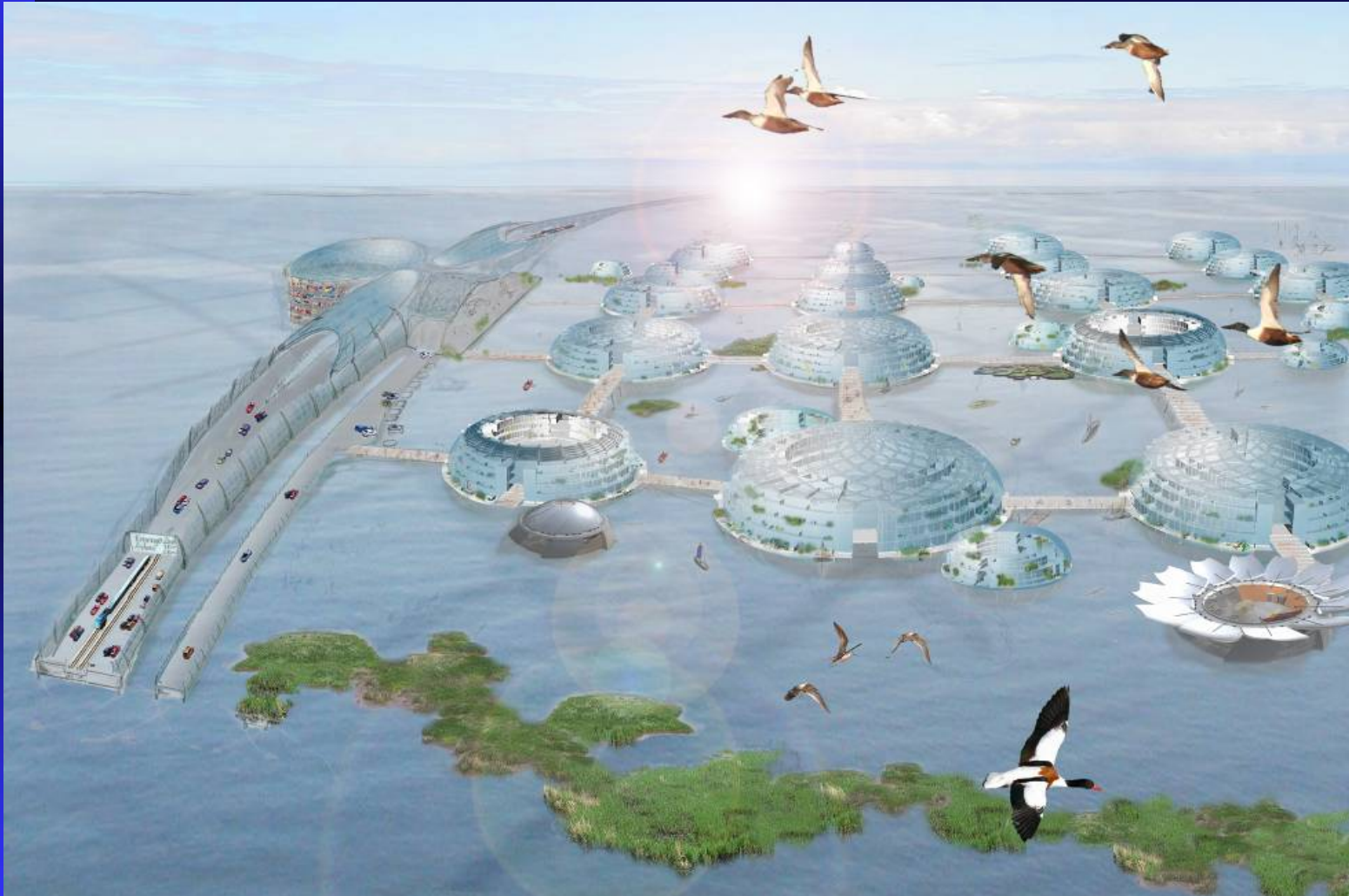
Floating Pavilion





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Floating City



Dutch Research Institute For Transitions



Role of government

not in a directing role

but

- a facilitating, enabling, stimulating role
- still an active but different role
 - formulating vision and high ambition level
 - creating space for frontrunners
 - stimulating and enabling transition experiments
 - removing barriers for sustainable innovation



Role of intermediary organizations

- brokery role
- co-designing role
 - co-develop transition instruments
 - initiating transition experiments
- monitoring role
 - monitoring progress of transition process
 - evaluating transition experiments



Successes and Failures

Successes

energy transition

health care transition

implemented in regular policy

Failures

mobility transition

biodiversity transition

not created enough critical mass



Lessons

- natural tendency to an execution process
- natural tendency of the government to fall back in the command-and-control mode
- the first period is relatively easy, thereafter arise winners and losers
- space for frontrunners is of crucial importance [financial, organizational, juridical, mental space]



International Context

- in Belgium two transition processes are running
 - sustainable housing, sustainable energy & materials
- in Finland transition programme for health care
- in other European countries growing interest
- in Australia city transition programme
 - Melbourne, Sydney, Brisbane, Cairns
- in Japan experiments with transition policy



Insights, no Answers

- transition approach is promising new governance mode
- principles underlying transition approach are universal but the application is context-specific
- the results so far are promising and stimulating
- transition approach can be applied at various scale levels [federal, province, regional level]