

## Transition management: an interesting model for Germany

### Transitions to sustainability

Transitions to sustainability are the focus of attention in the Netherlands. There is a widely shared view that the current trajectories of fossil-fuel based energy, intensive farming and car-based transport are not sustainable. Attention is being given to alternative systems *besides* possibilities for making the trajectories more sustainable. Examples of such alternative systems are: customised mobility based on different transport modes, energy systems based on renewables, and precision farming.

The interest in system innovations is motivated by environmental and economic reasons. The alternative systems should be attractive not only from an environmental point of view but also from an economic point of view (in terms of generating jobs, income and superior products and services to individual end-users). It is accepted that the above system innovations will have disadvantages, which may or may not be overcome. For this reason, the Dutch government opts for the simultaneous exploration of multiple options and adaptive policies, based on iterative and interactive decision making. New systems are not implemented but “grown” in a gradual manner, relying on feedback and decentralized decision-making.

The following transitions are explored in the Netherlands:

- **Transition to sustainable energy**  
Goal: to develop a system of energy supply that is reliable, efficient and emission-low.
- **Transition to biodiversity and sustainable use of natural resources**  
Goal: to maintain biodiversity which is essential for food supply, fertility of soils and climate and promote the prevention, re-use and recycling of natural resources .
- **Transition to sustainable agriculture**  
Goal: to realise an agricultural system with minimal impact on environment that

does not impair human health, landscape qualities and animal well-being.

- **Transition to sustainable mobility**  
Goal: to create a transport system that produces low emissions and little nuisance from noise whilst maintaining high levels of accessibility, safety and spatial values.

### Transitions

Transitions here refer to important changes in functional systems. They involve multi-level changes through which society or an important societal subsystem fundamentally changes.

Examples of past transitions are:

- The transition from sailing boats to steamships (1780-1914);
- Demographic transition: from high birth rates and death rates to low ones (2<sup>nd</sup> halve 19th century);
- The shift from coal to natural gas for residential heating (1960-1975).

The transitions were the outcome of the interplay of many developments and took one generation (25 years) or more – although this is not a strict law. They are the result of developments in such areas as economy, culture, government, technology and ecology. For a transition to occur different development have to come together causing a path of development based on new practices, knowledge, social organisation and different guiding principles.

It can be argued that sustainable development is the main transition challenge of our time in which the general direction is more or less clear but the choices to be made are surrounded with uncertainty and different routes are possible. It is journey to a better future for which there is no roadmap. Guidance for managing this journey is offered by a set of management principles under the name of *transition management*.

### What exactly is transition management?

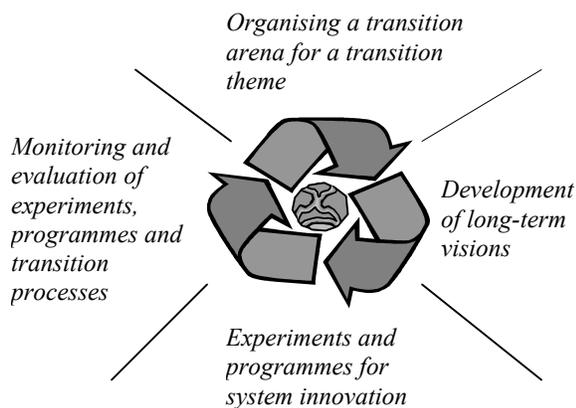
Transition management is a new steering concept that relies on ‘darwinistic’

processes of variation and selection. It makes use of “bottom-up” developments and long-term goals both at the national and local level. Learning and institutional change are key elements which means that transition management not so much concerned with specific outcomes but rather with mechanisms for change. The basic philosophy is that of *goal-oriented modulation*: the utilisation of ongoing developments for societal goals. An important question therefore is: what do people really want, both as users and citizens?

Collective choices are made “along the way” on the basis of learning experiences at different levels. Different trajectories are explored and flexibility is maintained, which is exactly what a manager would do when faced with great uncertainty and complexity: instead of defining end states for development he sets out in a certain direction and is careful to avoid premature choices.

### **Circular elements of transition management**

Transition management does not consist of a step plan but uses certain broad heuristics, which are depicted in the below figure



Key elements of the transition management cycle are: anticipation, learning and adaptation. The starting point is the structuring of problems – to achieve a common outlook. This is followed by the development of long-term visions and goals. Goals are being set via the political process and deliberations in transitions arenas. The government acts as a process manager, dealing with issues of

collective orientation and adaptation of policy. It also has a responsibility for the undertaking of strategic experiments and programmes for system innovation. Control policies are part of transition management. For sustainability transitions, overall frame conditions must reflect environmental costs – prices should “speak” the environmental truth. This is something for government and politics.

Transition management aims for generating “momentum” for sustainability transitions. Not all companies will contribute to a transition, but once a new development takes shape, others will follow suit, including companies invested in the old system. This is already happening in the area of energy where oil companies are moving into the business of renewables. When this happens the change process becomes a force of its own. This is a critical phase in a transition in which also unwanted path dependencies occur. Society has to develop antennas (via ‘assessment tools’) for systemic effects. Transition management requires continuous anticipation and adaptation.

### **Policy integration**

The integration of various policy areas is part of transition management. Areas for integration are: science policy, fiscal policy, innovation policy and regulation (both national and international). This is an important but difficult task. The use of transition agendas and transition arenas should help to achieve this. Policy integration is probably aided by a more open approach of policy making in which learning is institutionalised.

### **What makes transition management different?**

Transition management does not rely on blueprints but relies on iterative decision making in which also goals may change. Decisions are made on the basis of experiences and new insights. Policy choices would be more based on long-term desirability instead of on short-term solutions. Long-term possibilities are given support but still need to prove themselves to society. This way, society may discover what is best.

Through transition management space is being created for change. The space should not be too narrow, lest society will get locked into suboptimal solutions. To prevent this from happening, transition management opts for a portfolio approach and ‘evolutionary’ steering.

### **Transition policy for sustainable energy**

The Dutch government is committed to achieving a transition to sustainable energy. The transition is oriented towards the following goals: (1) secure and reliable services, (2) low prices and (3) minimal ecological damage and minimal negative impacts on society. The goals were set following a stakeholder consultation process.

Out of the different routes to meet these goals, 5 main routes were chosen, based on an assessment of the strengths of Dutch knowledge clusters and environmental priorities. The routes are: green gas, chain efficiency, bio-based resources, alternative motor fuels, and sustainable electricity. It is believed that especially clean fossil fuels, biomass and off-shore wind energy offer chances for Dutch business. For transition experiments for sustainable energy, 35 million euro is available, a large sum of money. The experiments should learn not just about technical issues but also about acceptance, user needs and markets.

Policy renewal is officially part of transition policy. The Dutch government is committed to better policies and to partnership. One thing it hopes to achieve through a more open, interactive approach is a better coordination of different policies (environmental policy integration).

### **Public support for Transition management**

Transition management is well-accepted in Dutch society. The main advisory councils (SER, Energieraad, Vromraad) support it. Transition arenas have been set up and new coalitions have been formed. The environmental movement is part of a coalition with business in the field of biomass. This shows that transition management builds upon interests and “movements” (change processes) in society. It is notable that the Ministry of

Economic Affairs is actively involved in Transition management for sustainable energy. Whereas, in the past they fought against environmental regulations, to protect business, they are now championing alternative energy. The reason for this is that transition management helps the Ministry to establish a partnership with business and to stimulate new business based on sustainable innovation. The fact that in the Netherlands the Ministry of Economic Affairs is responsible for energy and for innovation proved important here.

The Ministry for Agriculture, Nature and Fisheries also is very active. The Ministry became aware of the need for system innovation already in the 1990s, following animal disease and food crises and persistent difficulties to deal with manure and water pollution. The least active Ministries are the Ministry for Traffic and Water (responsible for the transition to sustainable mobility) and the Ministry for Development Cooperation (responsible for the biodiversity and natural resources transition). For these Ministries the approach of TM does not suit their agenda or capability.

### **Effects**

The Dutch government has just started with transition management. There are no results to be shown. In the short term, few results in terms of reduced emissions and new business are to be expected.

Expectations are rather high, whereas transitions research (Geels, 2005) shows that transitions in sociotechnical systems defy control and effective steering. Policy can do little more than increase the *chance* for a transition to occur and shape the features of it. This is also what transition management tries to do by way of evolutionary steering, oriented at processes of variation and selection. Processes of adaptation, learning and anticipation are institutionalised through transition management.

Conditions for success and application are: ‘sense of urgency’, leadership, commitment, willingness to change political culture (based on short-term goals), active government,

guidance, trust, and willingness to invest (Vromraad en AER).

It may be clear that sustainability transitions will require tough political choices (about the introduction of environmental taxes and phase out of non-sustainable practices). It is hoped that the commitment to sustainability transitions helps to make such choices, but whether this will happen is far from certain. Transition management is not an instrument but a framework for policy-making and politics (governance).

It is believed that transition management offers an interesting model for policy & governance, combining the advantages of incrementalism (do-able steps which are not immediately disruptive) with those of planning (articulation of desirable futures and use of goals).

### Something for Germany?

Germany can await Dutch experiences and learn from them, but it can also commit itself to sustainability transitions – to deal with German problems in a more integrated and long-term manner. Germany is more politicised than the Netherlands, with its consensual policies. But perhaps because of this they should adopt it or at least elements of it—to work towards change in functional systems *and* reforms in governance.

### Reading suggestions

- [www.vrom.nl/pagina.html?id=10949](http://www.vrom.nl/pagina.html?id=10949)
- [www.ez.nl/content.jsp?objectid=17827](http://www.ez.nl/content.jsp?objectid=17827)
- Rotmans, Kemp and van Asselt. (2001) 'More Evolution than Revolution. Transition Management in Public Policy', *Foresight* 3(1): 15-31
- Kemp en Rotmans (2004) Managing the Transition to Sustainable Mobility, in Elzen et al. (eds.). *System Innovation and the Transition to Sustainability: Theory, Evidence and Policy*, Edward Elgar, Cheltenham, 137-167. <http://meritbbs.unimaas.nl/rkemp>
- Kemp and Loorbach (2005) 'Dutch Policies to Manage the transition to Sustainable Energy', in *Jahrbuch Ökologische Ökonomik 4 Innovationen und Nachhaltigkeit*, MetropolisVerlag, Marburg, 123-150.

- Geels (2005) *Technological Transitions and System Innovations: A co-evolutionary and socio-technical analysis*, Edward Elgar, Cheltenham.

Contact: René Kemp ([r.kemp@merit.unimaas.nl](mailto:r.kemp@merit.unimaas.nl))  
Tel +31 43 3883864)



*Two roads diverged in a wood  
And I took the one less traveled by  
And that has made all the difference*

-- Robert Frost