ENGLISH SUMMARY

THE ENERGETIC SOCIETY

In search of a governance philosophy for a clean economy

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Prelude

Sustainability, the question of how our system of prosperity could be maintained, is one of the main issues of the coming decades. This report more specifically examines the ecological dimension, the responsible management of resources, nature and the environment.

Although we are aware of the broad outline of the problem and the need for change, the question is: How and where do we start? This first edition of the PBL Trends Report addresses this question. How should we react to what we are facing? Which options are available to the government? In short, this relates to governance philosophy. In this report, we address the issue of how knowledge, know-how and creativity available within society could be utilised – more than currently is being done – for sustainable production and consumption to take root. The report reflects the environmental policy discourses of the past decades, and leads to a number of elements that may support a vital local environmental policy for the times ahead.

The road to sustainability

Ecological challenges are and will remain enormous. Society needs to scale back its resource use and the ensuing pressures on the environment, by a factor of five. This means having to operate 80% to 90% more efficiently. Individual societies are faced with the challenge of realising a full decoupling between economic growth and the use of natural resources. There is no quick fix for such a decoupling; all of our creativity, efforts and skills will be required to develop a strategy that combines such a decoupling with improvements in social quality.

From a global perspective, western countries are faced with the task of having to realise sustainability within what we call the 'energetic society'; a society of articulate, autonomous citizens, and autonomous operating companies. One of the characteristics of this society is that the energy of these citizens and companies will be directed *in favour of* as well as *against* government projects. Citizens in western countries currently often rally against sustainability projects, such as wind parks, carbon capture and storage (CCS) systems, or new overhead power lines. Nevertheless, there are also large groups of citizens, companies and institutions motivated to act and change. These groups, however, find insufficient links with national policy. This may cause government to become caught between the various parties, while a collaboration with this energetic society may offer chances of effectuating a decoupling between growth and environmental pressure.

In its Trends Report, the PBL formulates government challenges, by combining two large societal developments:

1. The need to attune our natural resource use to the earth's carrying capacity. This is the challenge that we are faced with, for the coming decades.
2. The emergence of what we call the 'energetic society'; a society of articulate citizens, one with unprecedented reaction speed, learning ability and creativity.

There is a future for an innovative, liveable society that is founded on sustainability. Innovation means scope for action and initiative, accepting the fact that mistakes will be made, and making certain that improvements are identified and distributed rapidly. Such innovation calls for a different type of government. Shortly put, the question is how the government could exploit the potential of this energetic society on the road to sustainability. Such is PBL's quest in its Trends Report.

The challenge

On this road towards a more sustainable society and cleaner economy, there is much to be gained in many areas. A world growing to 9 billion people by 2050, while running a healthy economy, automatically generates an increasing demand for food, oil and other strategic resources. This, in turn, will lead to greater land, water and marine exploitation. The consequences – climate change, large-scale losses of nature areas and biodiversity – may be destructive. And then there is the ongoing issue of human health; in various Dutch regions, as well as in other countries, air quality standards continue to be exceeded, especially as a result of heavy road traffic.

In light of the above challenges, the Dutch Government may justify its policies particularly by indicating the enormous reductions needed in the future: 50% or 70% in certain areas, 80% in others. A justification that, although factually correct, does not seem to mobilise. Confronted with such percentages, many feel paralysed and powerless, as the implicit idea is that we should just use 'less' of everything. However, this is incorrect – it is not so much a case of using less, but rather of greater efficiency. This is not about reducing quality; it is about ensuring that future generations may also enjoy a good quality of life. Rather than setting limits, the aim should be one of motivating both citizens and industry to change their production and consumption patterns.

Improved mobilisation of society calls for a different attitude by government. It requires a step up from the mindset of conventional environmental policy – of there being limits to growth. This has been the basis of forty years of successful environmental policy; however, it is ready for some reassessment, as the current management model, in effect, has three major shortcomings.

To begin with, there is a lack of legitimacy. Citizens are not merely passive voters; they increasingly wish to be involved in deliberation and decision-making processes. If government fails to give this fact sufficient consideration, decisions will lack accountability. This would carry the risk of citizens becoming political objects, and of the national government finding itself wedged between mistrusting, environmentally sceptical citizens, on the one side, and industry, local governments and citizens wanting to take positive action, on the other.

Secondly, an *implementation deficit* has emerged. In a society of articulate citizens, implementation cannot be forced. Whenever political decisions are put into effect, many unexpected questions are raised, plans appear not to fit specific situations, or (expensive) adjustments seem needed. When government rules singlehandedly, it carries all of the responsibility and, often, will be opposed by its citizens.

In third place, a *learning deficit* can be observed. The strong governmental orientation leaves little room for mobilising new creativity. Conventional thinking, in terms of linear policy cycles, focuses on knowledge management and coordination. In addition, it assumes a greater amount of knowledge within government than is actually available. A linear policy cycle does not acknowledge society's learning abilities; therefore, social dynamics are insufficiently utilised for the realisation of public targets.

A new governance philosophy not necessarily starts from scratch. Recently, the Organisation for Economic Co-operation and Development (OECD) developed an alternative framework of thought in its strategy for green growth, and the United Nations Environment Programme (UNEP) has made proposals for such a framework in its initiative for a green economy. According to the framework for green growth, we stand at the starting gate of a 'green race'. Who, in the face of rising energy prices, will end up possessing the technology to generate renewable energy most efficiently? Who will develop substitutes for depleted resources? Who will supply the fast trains and provide rail connections between urban agglomerations, in a future of high fuel prices? These issues are not unrealistic. Moreover, such a framework of thought has organising abilities.

The greening of the economy gives new meaning to innovation objectives. The framework of thought indicates the need for economic dynamics that take these new ecological issues as a starting point. This is an established insight; the economy knows physical and economical boundaries in the form of resources, energy and resilience. A strategy for green growth and a clean economy, therefore, first and foremost assumes the pricing of natural resources. Something that is also explicitly acknowledged and named in the OECD's strategy for green growth. Such pricing may provide a significant impulse to the creativity of citizens and industry. Efficiency, thus, would become even more important and waste more costly.

By combining green growth and the framework of thought of the energetic society, a new beckoning mindset would be created. One that presents new opportunities, offers new openings, releases more energy, and would stimulate existing available societal creativity to flourish.

However, there is no recipe or road map to a sustainable society. Society is far too complex and governmental power too limited.

Social engagement and urban dynamics

In order to tap into the energy of society, government must restore the relationship between abstract environmental issues and people's everyday environment. The city and neighbourhood levels are crucial in this respect. Cities are crystallisation points within society – important entities within which people live, work and travel.

Current developments in western European countries are changing the nature of the urban agenda from what it was during the past decades. The contemporary agenda is one for the *energetic society*: citizens and companies getting together, interacting to create a chain of 'creative competition' that has turned out to be of great economic value. The future of our economy lies within regional cities, as they harbour much innovation potential and provide starting points for the realisation of a clean economy.

The challenges for future, sustainable cities are those of improving urbanisation and restructuring existing cities. After all, 70% of the European cities of 2050 already exist. Thus, present cities determine those of the future.

Starting points for new governance strategies towards sustainable development may be discovered in a contemplation of city planning traditions. The well-documented 'battle' over New York City planning, between Robert Moses and Jane Jacobs over half a century ago, may teach us something about the tools required for twenty-first-century planning.

Where Moses in his urban planning devoted special attention to *structure*, Jacobs pointed especially to the importance of engagement and of using people's *creativity*. A combination of both these considerations would create a balance; one that would do justice to the strength of a well-organised urban structure on the one hand, and that would have an eye for the valuable dynamic of the existing and ever changing society, on the other. In this way, the social capital, stored within the structures of existing cities, could be utilised to the fullest. It will take great skill to subsequently mobilise the creativity and innovative capacity of citizens and companies within these existing structures.

Urban development, thus, shows us two paradigms: the visions of planners on the one hand, and those of citizens and users on the other. Planners, over the past fifty years, have managed to get government on their side. Simultaneously, citizens have been seeking ways of exerting influence and trying to frustrate planning strategies. Subsequently, we developed an ever more complicated game of negotiations, in which representatives from large interest groups (governments, project developers, corporations, and housing associations) spoke on behalf of citizens. The recent financial crisis has jeopardised this process of collective bargaining. The governmental task for the twenty-first century will be to find a way out of this impasse.

This new way of planning requires a different interaction between policies with respect to cities, citizen participation, spatial planning, mobility and the environment. A broader concept of policies relating to the local environment may inspire interest in the large issues for which government carries a special responsibility, such as climate change and the development of a system that would structurally reduce demands on resources.

Local environmental policy for an energetic society

In its study and management of solutions, government tends to follow a central approach. This approach makes it more vulnerable. Every strategy has both strong and weak points. Most solving strategies optimise only one specific dimension, while an integrated view on the environment encompasses at least three dimensions: the biophysical, socio-economic and socio-political dimensions. Up to now, often, the socio-political dimension of the environment would remain underexposed. In the coming times, this dimension will become increasingly more important to the success of policy.

Seeking the optimal solutions to complex issues of sustainability is like searching for the Holy Grail. Trying to find optimal solutions flows from the conventional governance model of 'analysis and instruction'; it is the world of Robert Moses, of survey–analysis–plan, of the central-rule approach. According to this model, all learning abilities are centralised at the beginning of the process, approaching the world as if it were an object. However, there is no technological solution 'waiting in the wings' to be implemented. Vehicles running on hydrogen, nuclear fusion, but also perhaps carbon capture and storage as solutions for CO_2 emissions from fossil-fuel combustion: waiting for such magical solutions would be a mistake. Moreover, an emphasis on optimal solutions gets in the way of the development of social dynamics. After all, the idea of an optimum presumes more knowledge of society and a greater control of the dynamics than could realistically be expected.

An alternative to studying the optimal solution would be 'variety and selection'. Experimenting, learning and scaling up are the main elements in this alternative.

Experiments, innovations and learning processes flourish, especially where there is room for renewal, creativity and intractability. In the energetic society such an incremental approach works better than the more conventional governance model of 'analysis and instruction'. In contrast to the conventional model, the government in the incremental approach does keep the large objectives in mind; however, it does not rely on absolute control, but rather places more emphasis on releasing energy, on learning ability, on the use of dynamic systems of regulation, on all levels, from local to global. Thus, creating more alternative operational options, using more intelligent and adjustable infrastructures, amounting to a greater acknowledgement of uncertainties about future developments in terms of growth and needs, and therefore with less emphasis on single-purpose infrastructure. Under a radical version of incrementalism, government can run processes much more pointedly, so that many relatively small steps may lead to a sizeable result. Furthermore, such radical incrementalism always reasons from the standpoint of the local environment of citizens and businesses.

This means that old hierarchical administrations make way for a horizontal and open form of governance, in a world of collaboration and competition, mutual learning and rivalry between designs and models. It is a governance philosophy according to which society is constantly in search of effectiveness, following a process of trial and error.

Under such a philosophy, a type of collaboration is required between government and society that will provide more dynamism to changing our production and consumption patterns. Over the course of fifty years, Dutch society has evolved from a hierarchical, compartmentalised society – with its stable labour relations, clear sectoral business organisations, and politics that organised social consensus in an orderly and coordinated fashion – towards a networking society. Government organisation is only gradually adjusting to this. Governance in a networking society requires a focus on the flows (of money, people, images) and nodes of activities and creativities.

According to the model of 'variety and selection', new governance philosophy focuses the attention on public objectives. For any elaboration of such objectives, however, the local situation is taken as a starting point, incorporating wishes, ideas and capabilities of local communities, using persuasive power instead of obligations, and focusing on learning processes within the policy process.

Perspectives such as those of green growth, predictable (global) competition over resources, and opportunities available to an energetic society for finding new technologies and solutions, result in a vision on how governance could be applied. A vision on a government that sets clear objectives, while mainly facilitating, promoting learning and cherishing innovators.

This vision on government steering includes at least five elements: (1) positioning, (2) infrastructure, (3) regulation, (4) financial instruments, and (5) monitoring and feedback. These elements are never employed in isolation. From these elements, a governance philosophy creates a coherent mixture of steering instruments. Focal point, thus, could be the aim to mobilise the energetic society in order to achieve the objectives of sustainability.

1. Clear positioning by government

Government could exert much influence by clearly positioning itself. The challenges of sustainability demand it. Citizens have no problems with a government that names the issues. They do have a problem with a government that appears not to care about the difficulties that citizens come across in their daily lives.

The business community is also aware of the challenges of sustainability. In facing these challenges, they need clarity about the government's objectives and about what is expected of them. A clear government will also free up new financing. Banks and private funds do not lack money but make risk assessments, and in doing so require a future that is as predictable as possible. Government could create a context whereby investments in sustainable innovation become more attractive.

2. Infrastructure determines routines

Infrastructure puts things in order. Infrastructure also services broader social objectives, including general economic development and sustainability. And above all, infrastructure is something for which society mostly looks to government; it is expensive, inert and of strategic importance.

Within a perspective of 'improved utilisation' there is much room for new operational options for citizens and industry. For example, this may entail changes to the rules of the game for the management and introduction of new mobility services.

Simultaneously, a more conventional infrastructural task exists; one on which there is broad consensus. For the twenty-first century, everything points to a second wave of electrification of society. The transition from fossil to renewable fuels requires more flexibility in energy transport, for which electricity offers certain options. This is a major task in terms of network constructions and their interconnection. In the field of energy, this would entail 'intelligent networks' and 'intelligent meters'.

3. Dynamic regulation for an energetic society

Regulation is a conventional instrument of proven effectiveness. In the first phase of environmental policy regulation has played an important role, for example in the reduction of acidifying substances in the Netherlands. In the twenty-first

century, regulation will remain a crucial instrument, with three concrete dimensions requiring attention.

Firstly, the government, up to now, particularly made use of fixed standardisation. However, with a more dynamic system of standardisation, government could make better use of the energetic society. The core of such a system is that government rewards those that embrace innovation and penalises laggards, or at the very least treats them with less preference. Such innovation-oriented, dynamic regulation could also provide a solution to the 'valley of death' problem, circumstances under which the distribution of innovative solutions often strands. To stimulate the distribution of innovation techniques, government may create conditions for successful completion of a business case for new technology. For instance, by raising the standards.

Secondly, the appropriate level of governance is key. European regulations, compared to national ones, are less intrusive in terms of competitive positions and in the past have shown great results. A commitment to the sustainability issue would logically speaking translate to a forward and innovation-oriented attitude of governments in a European context.

Thirdly, the government could remove self-raised barriers. Addressing or adjusting regulations that needlessly hamper sustainable innovation is in fact a matter of cherry picking. Certain regulations, such as technical specifications, hinder sustainability unintentionally. However, there are also rules that are meant to protect certain interests. These rules, especially, frustrate sustainable entrepreneurship; they offer non-innovative competition the advantage.

4. Financial instruments for behavioural change

By pricing detrimental environmental effects, polluting products and activities become more expensive. This would stimulate citizens and companies to choose environmentally friendly alternatives. Such pricing, in addition, would stimulate innovation; it would make it more attractive for industry to develop environmentally friendly and thus cheaper alternatives. A further greening of taxations, according to the OECD, would also be an important building block for further greening of the economy. However, further greening is no panacea because of a number of distributary effects, and also in this case asks for clear government positioning.

5. Monitoring and feedback

The government could exert much influence through the organisation of monitoring and feedback. This is one of the areas that, recently, have experienced most in the way of renewals. Monitoring and learning are fields that are closely connected. Moreover, monitoring especially is an instrument through which the government could demonstrate its support of transparent collaborations between citizens and businesses. When government, for example, asks companies and

institutions to publish their emissions, and guarantees the transparency of the whole process, this would have a disciplining effect. Fast and continued feedback on own behaviour and its consequences are important for behavioural changes within society.

The elements named above primarily concern the national government. However, naturally, today's administrations are many times more versatile than those of the past. Effective governance requires multiple levels, each of which with its own orientation and strength. As the local environment benefits greatly from a decentralised administration (province and council), in a similar manner small and medium-sized enterprises greatly benefit from national government. Effective energy and climate policy was and is predominantly a European affair.