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Environmental policy evaluation: Experiences in the Netherlands

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ABSTRACT

In many countries there is an ongoing debate on the choice of an adequate set of indicators to evaluate the effectiveness of environmental policy and the sustainability of current developments. Experiences in the Netherlands, in the past decades, have shown that this is a never-ending debate. Political preferences for certain types of indicators change over time and differ between the various stakeholders. Therefore, any set of indicators should be broad enough to be resilient to changing political climates and to facilitate discussions between various stakeholders on trade-offs between economic and ecological targets.

1. Introduction

This article reflects on the evolution of environmental policy evaluation and reporting in the Netherlands.

What is the development in relevant indicators in environmental policy and how can we explain this development? The Netherlands has a long tradition in environmental policy planning and evaluation. This environmental planning tradition has partly been based on the organisation of the endless struggle against water. The policy focus on improving cost-effectiveness, over the past decades, has led to regular policy evaluations. This article aims to describe, which lessons could be learned from this tradition.

Two types of environmental policy evaluation can be distinguished: ex ante (forward looking) policy evaluations and ex-post (backward looking) evaluations. Ex ante policy evaluations in

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the Netherlands are reported in 'environmental outlooks'; ex post policy evaluation in 'environmental balances'.

In 1988, a year after the Brundtland report 'Our Common Future', the first National Environmental Outlook was published (RIVM, 1988). In order to guarantee a regular production of such ex-ante policy evaluation studies, an environmental assessment agency was set up to complement the existing economic and social assessment agencies. The current PBL Netherlands Environmental Assessment Agency originally was part of RIVM, the National Institute for Public Health and the Environment, but became an independent body in 2006. Together with the economic and social assessment agencies (CPB and SCP), the PBL (or rather its legal predecessor RIVM) was given the task of supplying policymakers with analyses so that they could make the best informed choices in matters relating to the three pillars of sustainable development. This assessment agency started to explore future developments in environmental quality and made assessments of the costs and impacts of additional policy measures. These environmental outlooks were linked to the political, four-yearly process of developing national environmental policy plans.

Around 1993, it was recognised that those scenario studies should be supplemented with annual reports that would 'monitor actual developments in the quality of the environment in relation to social and economic developments and as a result of policy measures' (Staatsblad, 1996). Thus, these monitoring reports (Environmental Balances) were not simply intended as a description of the state of the environment, but also as a tool for policy improvement. The ultimate goal was to learn lessons about the effectiveness of policies and to identify the potential need for policy adaptation. The learning cycles related to these reports were intended to lead to more cost-effective policy. The Environmental Balance was seen as an independent annual policy evaluation report to the Dutch Parliament.

The PBL is a scientific government agency (as is RIVM). It has no mandate to prescribe policies or to formulate environmental targets. It evaluates policies and assesses policy options on a neutral and scientifically sound basis. All of its reports, data and methods are publicly available (see www.pbl.nl and www.compendiumvoordeleefomgeving.nl). PBL's professional independence has been established in law, as is the annual production of the Environmental Balance. The Environmental Policy law states that environmental balances should be based on the best knowledge available at various institutes in the Netherlands and that, in case of scientific disagreement, the different points of view should be presented. The government may request that certain topics are included, but the PBL is free to add topics, as well. The Environmental Balance is to be presented to the Dutch Cabinet, and the Cabinet is required to forward the report to parliament. It became part of a set of documents submitted to parliament for the annual budget discussion. The idea behind this was that, by presenting environmental challenges to parliament on an annual basis, the environmental issues could remain high on the political agenda.

In the process of setting up the first Environmental Balance, a project was started to define the ideal set of indicators to be monitored. After more than two years of interaction with the scientific community, policymakers and stakeholders, a set of indicators was established. The main criterion for selecting an indicator was its connection to a policy target, in order to monitor the distance to target. This enabled an easy comparison between indicators. Indicators were summarised in a key-results table, showing the remaining challenges. As the colours green, yellow and red were used to accentuate whether or not an environmental problem was sufficiently under control, this table became known as the 'traffic light table'. Experience over subsequent years showed that this original, well-considered set of indicators was subject to continuing changes. In actual practice, new indicators had to be added following developments in science and political attention.

2. Theoretical framework used for policy evaluation

Over the past 15 years, the PBL and its legal predecessors published annual environmental balances, providing an overview of the state of the environment including an evaluation of national and international policy interventions. The policy evaluation is based on facts and figures obtained from primary data sources in the Netherlands and underlying data are made available in the 'data compendium' on the internet (PBL, CBS, WUR, 2011, http://www.compendiumvoordeleefomgeving.nl/).

All data are subject to stringent quality control. Especially after a public debate about the reliability of the environmental balance much attention was paid to scientific quality control and uncertainty communication. The scientific quality is regularly reviewed (Petersen et al., 2011; Wardekker et al., 2008; Van der Sluijs et al., 2008; Van Asselt et al., 2001; Van Asselt 2000; RIVM, 2000). A special guideline for uncertainty management was developed, see the *Guidance for Uncertainty Assessment and Communication* (http://leidraad.pbl.nl) and *Dealing with Uncertainty in Policymaking* (PBL, CPB, and Rand Europe, 2006).

The framework of driving forces, pressures, state, impacts and responses (DPSIR), as adopted by the European Environment Agency (EEA) (EEA, 1995), is applied as the coherent framework for the indicators used in the data compendium and the Environmental Balances (see Fig. 1). It enables linking of economic indicators and technological performance indicators to indicators of ultimate environmental ends, such as temperature change, biodiversity and health. The costs of environmental policy has been a crucial indicator in all indicator sets, as this enables assessment of the cost-effectiveness of environmental policy and the trade-offs between economy and the environment.

Policy may be regarded as a rational and goal-oriented process. Policy evaluation is first of all focused on the changes in environmental indicators and the effectiveness of policy measures: are policy goals being met as a result of policy intervention? From the rational perspective, the question of cost-effectiveness of policy also arises: is the policy goal met at the lowest cost? The goal-oriented rational perspective regards policy as a rational problem-solving process. Ideally, this process consists of the following steps: agenda-setting, goal-setting, development of different policy options, selection and implementation of policy measures and evaluation to assess whether a goal has been reached (see e.g. Crabbé and Leroy, 2008; Dunn, 2004). Although, in actual practice, the policy process is often organised less linearly, this schematisation nevertheless is useful to understand the intended role of the Environmental Balance, namely, as the last step in the policy cycle (and, if results are unsatisfactory, as the first step in a new cycle).

A requirement for goal-oriented assessments is an understanding of the causal relationships. For example, in order to indicate the effectiveness of a certain policy strategy, emission reductions should be traceable to the policy measures that were applied, while emission reductions resulting from, for instance, lower economic growth should not be attributed to the policy. Assessment of policy effectiveness also requires analysis of the impacts of several policy measures, as a policy strategy will hardly ever consist of only one measure. Especially as environmental policy measures are both implemented at European and national level, distinction between measures is relevant to enable evaluation of the effectiveness of European and national policies, separately. For example,

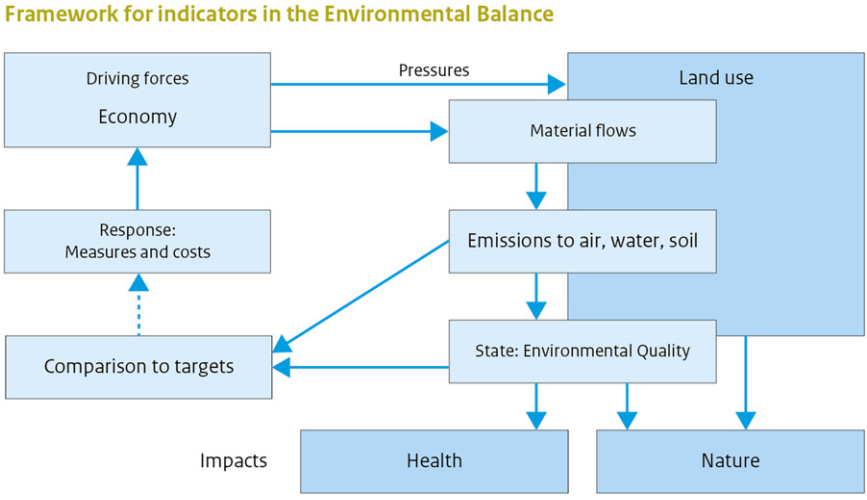

Fig. 1. Framework of indicators used for the Environmental Balance.

to what extent is pollution reduced by European-wide technical standards, and how much of the reduction could be attributed to national taxation measures and subsidies? Furthermore, non-environmental policies also will have an influence. For example, the introduction of European milk quotas in 1984 had a significant impact on the development of nitrogen losses from Dutch agriculture. Also significant was the contribution of energy policy to the development of air pollution. In some cases, disentangling contributions of individual measures become quite complex. The development of domestic greenhouse gas emissions, for example, is the result of both the European emission trading scheme (ETS) and national measures, but the interactions between the two are complex and require modelling of the European market for CO_2 emission permits.

A special concern in ex ante policy evaluations is the distinction between implemented and proposed new policy measures. This distinction is important, because the expected effects of proposed policy measures are more uncertain than those of policy measures that already have been implemented. After all, in the time before a proposed policy measure is implemented, many changes may occur. Treating proposed policy measures, as if they were already implemented, may result in a picture that is too optimistic when it comes to achieving goals. Several times, experts at the PBL and policymakers estimated different future effect of proposed measures (the latter claiming a 100% implementation rate), in which cases the PBL used its independent position to report its own view.

For new policy measures, their influence on the cost-effectiveness of already existing measures has to be taken into account. The costs of implementing emission standards for cars, for example, become less when car sales are discouraged by the introduction of higher taxes.

Apart from the above-mentioned aspects of accountability, policy evaluation is also a tool to better understand and improve policymaking. From this learning perspective, we should recognise that policy is the result of a political process involving many actors within society. Knowledge on causes and effects is a necessary condition for effective policy. However, it is not a guarantee for success, since knowledge is often incomplete, uncertain and based on assumptions. Here comes the aspect of different value perceptions into play. If a policy proposal conflicts with societal value patterns and perceptions of how problems are to be interpreted, it will be rejected (Fischer, 2003). When stakes are high and science is ambiguous (such as in the climate debate), the value of policy analyses and even data may raise doubts among some stakeholders and politicians, who may start to reframe the problem. During the history of Environmental Balances environmental problems were reframed several times.

In their perception and assessment of problems people are led by conceptual frames. A frame is a more or less coherent constellation of facts, narratives, beliefs, world views, values and preferred actions. Boezeman et al. (2010) show that, in the Netherlands, 'constraining' frames were altered by 'reconciling' frames. Constraining frames focus on the ecological limits to growth, whereas reconciling frames focus on win–win opportunities in the environment and economics. Boezeman et al. (2010) also show that the alternation of frames seems to correlate with economic cycles and public attention for environmental problems. In years of recession, environmental issues have a lower priority, which causes the emergence of frames that emphasise the mutual reinforcement of economic and environmental goals. During an economic boom, policy frames emerge that express concern over the exceedance of the ecological carrying capacity and urge adherence to absolute limits to environmental pressures.

Consequently, frames play a major role in the indicators considered relevant for environmental policy-making. In a constraining frame, indicators of the realisation of policy targets related to end points, such as health, temperature increase and biodiversity and associated national emission ceilings and spatial footprints, are most relevant to policymakers. In a reconciling frame, the policy focus is on indicators of efficiency improvement, decoupling, relative changes in emissions and comparisons with performances in other countries.

3. Results: the changing content of the Environmental Balances

Original key questions answered in the Environmental Balance were as follows:

- What are the policy targets?
- What is the remaining distance to these targets?

- Which policy measures were effective in reducing distance to target?
- Would a more cost-effective approach have been possible?

The Environmental Balance describes trends for various indicators (see Fig. 2) and several results are also illustrated by maps (see Fig. 3). The content of this annual report has evolved over the past 15 years. The first editions (1995–1998) mainly contained information on the development of emissions ('pressures') in comparison to emission targets, concentrations in air, water and soil in comparison to environmental quality standards, and the costs of environmental measures. The key question was whether the Netherlands was on the right track to meet the environmental targets laid down in the National Environmental Policy Plans. Ex ante policy evaluations only took into account policy measures that had actually been implemented at the time of writing. The contribution of each of the measures was calculated and presented in a decomposition figure (see Figs. 4 and 5).

The first Environmental Balances were developed in a time when 'strong sustainability' was the political norm. Industry and trade unions had advised government to define environmental limits,

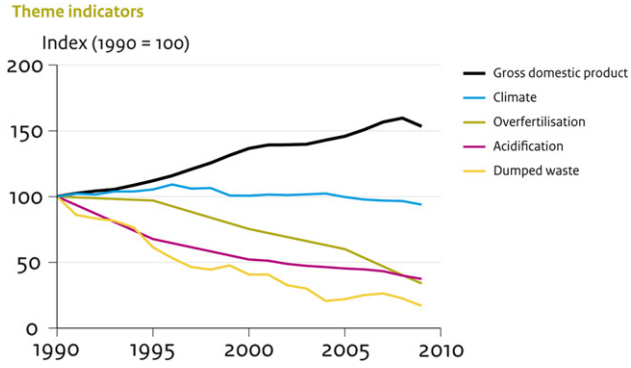

Fig. 2. Trends in environmental pressures compared to GDP development (1985=100) (PBL Netherlands Environmental Assessment Agency, 2011).

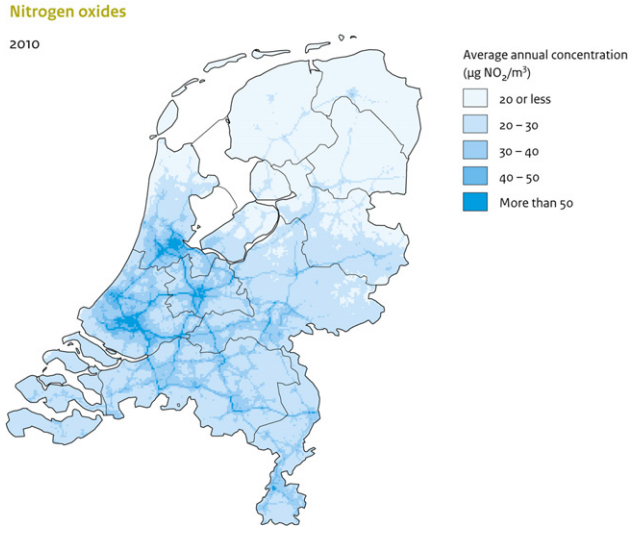

Fig. 3. Air quality in the Netherlands (Velders et al., 2011).

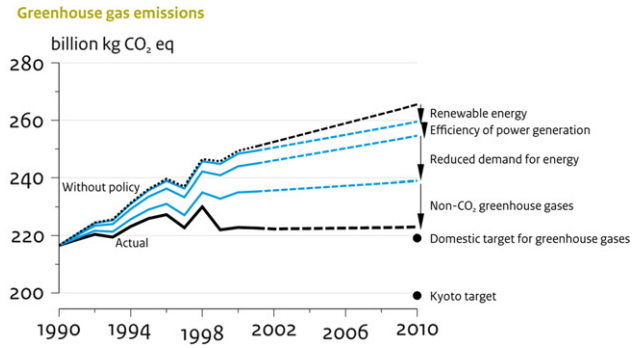

Fig. 4. Decomposition of the development in greenhouse gas emissions in the Netherlands (RIVM, 2002).

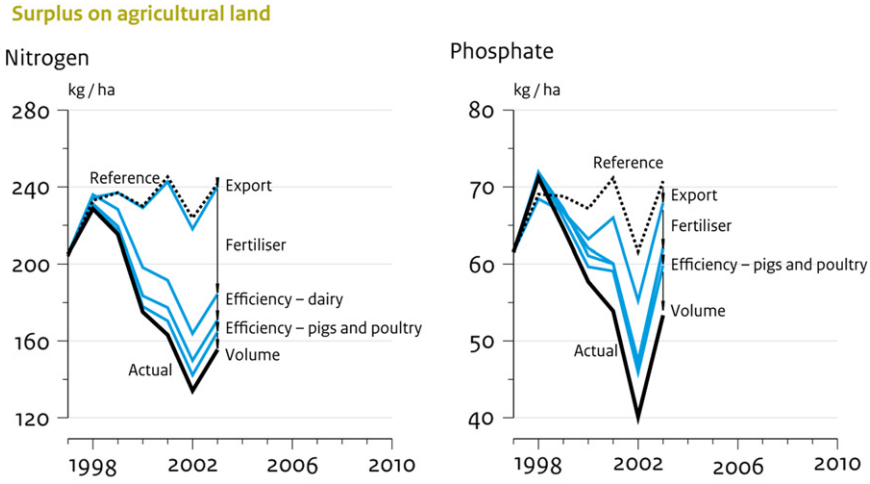

Fig. 5. Decomposition of the development in overfertilisation (RIVM, 2005).

as they considered environmental problems of a higher order than social and economic issues (SER (Social Economic Council), 1989). Indicators in the Environmental Balance covered the complete chain of Driving Forces–Pressures–State–Impacts–Responses. Key indicators concentrated on the environmental pressures, such as emissions, manure production and noise. In addition, the Environmental Balances reported on indicators of the quality of air, water and soil, and, as far as policy targets existed, those of impacts on health and ecosystems. In some cases, targets existed for policy responses, such as the growth in car mobility, energy efficiency and the share of renewable resources. For these policy responses, indicators also were included.

A conclusion regularly drawn in the Environmental Balances stated: 'emissions and other environmental pressures are decreasing ('the trend is OK'), but they decrease not (fast) enough to meet the environmental targets in time'.

After the economic recession of the 1990s, and following the *Policy document on Environment and Economy* (VROM, EZ, LNV, V&W, 1997), the strong sustainability frame shifted towards the view that economic and environmental targets could be reconciled. In the Environmental Balance, indicators for decoupling and eco-efficiency were awarded more attention than those for environmental end points. Indicators for national emission totals remained part of the key results table, to the dismay of some of the policymakers. Decoupling indicators showed a more positive picture; although emissions were not going down fast enough to meet policy targets, at least they were decreasing (or increased less than the rise in GDP).

At the end of the 1990s, the booming economy caused the return of a strong sustainability frame (Boezeman et al., 2010). As a result the idea that limits should be set to contain transboundary effects of Dutch production and consumption gained popularity. Consequently in the fourth National Environmental Policy Plan the ecological footprint concept was embraced (see VROM, 2001). At that time, indicators were added in the Environmental Balance for indirect greenhouse gas emissions due to consumption in the Netherlands and for indirect global biodiversity loss caused by Dutch agriculture.

After 2003, Dutch Environmental Policy became encapsulated by EU regulations. No new National Environmental Policy Plans were published. The Environmental Balances started to pay more attention to the international policy context, for example, by showing the importance of EU coordination aimed to reduce transboundary influences on the development of domestic environmental quality. The Environmental Balances became more forward looking and at the request of policymakers new envisaged policy measures were also taken into account in the evaluation of environmental developments in the following four to five years. The most recent Environmental Balances also have assessed the effect of the financial crisis on emission developments. The possible influence on for example innovations and private and public investments was estimated.

Additional key questions became as follows:

- Will the Netherlands be able to meet its international obligations on time?
- What cost-effective additional measures would be available to close the remaining gap between national projections and international obligations?

Meeting international obligations, to date, has remained one of the core issues in environmental policy and information in the Environmental Balances became more and more geared towards associated international reporting requirements. Sometimes definitions had to be adapted. For example, emissions from aircraft and international shipping according to international protocols were not included in the domestic emissions. European regulations over the course of the past decades extended from technical emission limit values for installations and mobile sources to air and water quality limit values, allowable nitrogen losses from agriculture (see Fig. 6) and national emission ceilings for greenhouse gases and air pollutants. Furthermore, additional indicators for nature conservation were needed because the European Commission started to enforce the protection of selected ecosystems.

A recurring message in the Environmental Balances has been that, in order to adhere to national emission ceilings and air quality limit values, the Netherlands would have to take measures that go beyond the European technical standards. This creates the dilemma that such additional national regulations may contradict free trade regulations within the EU.

When fulfilling international obligations proved increasingly difficult, international comparisons also became part of the Environmental Balances, giving some new messages: ‘The Netherlands will not meet the target, but the situation in other countries is worse’, or ‘Even though our industrial sector has the lowest emission factors, people in the Netherlands are exposed to the highest concentrations of particulate matter in Europe’. International comparisons provided insight into the effectiveness of policy measures applied in other countries. Examples are road pricing schemes in London and Stockholm, low-emission zones in Germany, the policy to reduce car accessibility in Paris, and, more recently, the effects of imposed speed limits in Spain.

In facilitating rational policy decisions cost-effectiveness curves play an important role. They present the environmental effects and costs of various policy measures in ascending order of costs per unit of emission reduction (see Fig. 7). Cost-effectiveness curves show the minimum additional costs involved in meeting a particular environmental policy target.

A concise and clear way of presenting key results from an environmental policy evaluation was the ‘traffic light’ table. At one glance, policymakers could understand which targets were met and which problems were still persisting under current policy measures. However, clarity and nuance do not go together well. Soon a request was made for modification of this table, starting with ‘verdicts’ not only being based on absolute levels, but also on trends. In addition, policymakers asked for more than only three scoring categories, and that uncertainty margins would be included, as well

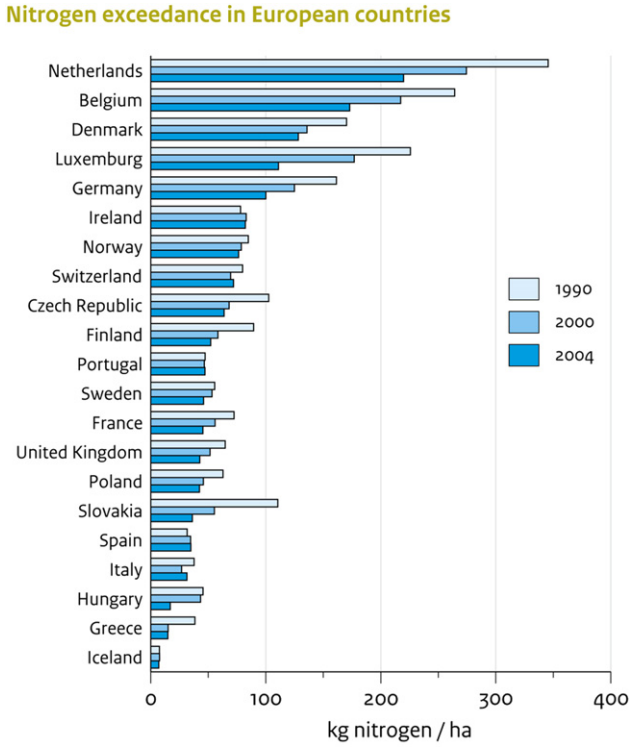

Fig. 6. Nitrogen excess in Dutch agriculture per hectare, compared to other EU countries (PBL Netherlands Environmental Assessment Agency, 2010).

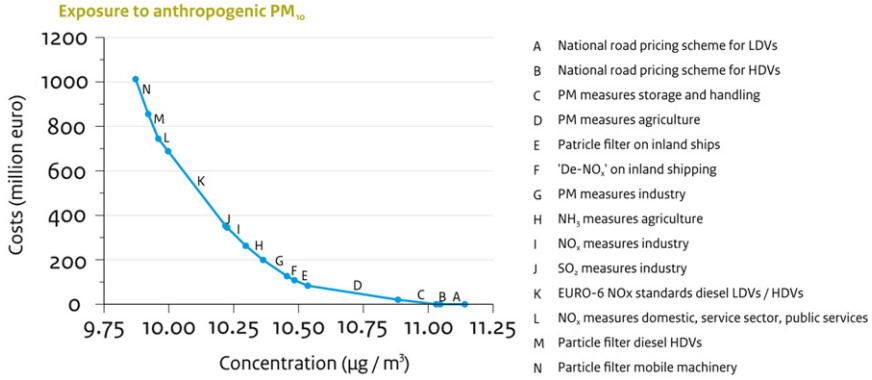

Fig. 7. Cost-effectiveness of policy options to reduce exposure to particulate matter (based on Smeets et al., 2007).

as policy measures that had not yet been implemented (see Fig. 8). Contrary to original expectations, implementation of policy actions remained slow and the summarising 'traffic light' table remained looking predominantly red, even after more than 10 years of annual policy evaluations. In parliament, only opposition parties seemed pleased and Cabinet irritations grew. In the end, this led to a new orientation for the Environmental Balance, one with less policy evaluation and more policy solutions.

Until 2010, Environmental Balances did not address the question of whether policy targets themselves were the right ones to achieve sustainable development. Dutch Government, however, became more and more interested in the trade-offs between the different policy targets. In 2010,

Theme	Trend 1990-2005	Trend 2000-2005	Target achievement[2]	Environmental costs[1] 2006
Climate: domestic target			(2008-2012)	
Climate: Kyoto commitment			EU (2008-2012)	
Rate of energy savings		*	(2010)	1250
Renewable energy			(2020)	
Renewable electricity			(2010)	
Emissions NO_x			EU (2010)	
Emissions SO_2			EU (2010)	
Emissions NH_3			EU (2010)**	
Emissions NMVOC			EU (2010)	1750
Emissions: particulate matter				
Air quality: particulate matter, NO_2			EU (2005/2010)	
Nitrate in groundwater			EU (2009)***	
Phosphate accumulation in soils			EU (2015)	
Pesticide-induced environmental pressure			(2010)	2595
Chemical quality of surface water			(2010)	
Ecological quality of surface water			EU (2015-2027)	
Deposition on nature areas			EU (2015)	
Fall in water table			EU (2015)	Unknown
Health effects: particulate matter				
Noise (bottlenecks)			(2020)	365
Noise nuisance				
External safety: societal risk				Unknown
External safety: location-based risk[3]			(2010)	Unknown
Soil remediation			(2030)	630

[1] Environmental costs to society, including central government costs; detailed information can be found in Annex 6 (in the Dutch original publication).
[2] European obligations.
[3] Based on resolving the problem sites within the 10^{-6} contour.

* Energy saving in the period 2000-2005 relative to 1995-2000.
** No account taken of the 'ammonia gap'.
*** Target will probably be achieved in the period 2010-2015.

Colour	Trend	Target achievement
	falling linear trend	> 66% chance of achieving
	-	55-66% chance of achieving target
	no significant trend	45-55% chance of achieving target; also referred to as 'fifty-fifty'
	-	33-45% chance of achieving target
	rising linear trend	< 33% chance of achieving target
	not applicable	no target set
	indeterminate	indeterminate

Fig. 8. Overview of key results: 'traffic light' table, Environmental Balance 2007 (PBL Netherlands Environmental Assessment Agency, 2007; see for data: www.compendiumvoordeleefomgeving.nl/).

the PBL was asked to broaden the scope of the Environmental Balance and to also include spatial policy and nature conservation policy targets. After 15 years of Environmental Balances pointing out problems, the government requested that from now on they would explicitly provide more information on the possibilities for tackling persistent problems. The emphasis should be on the question 'What can we do?' The first 'integrated' Environmental Balance was published in September 2010 (PBL Netherlands Environmental Assessment Agency, 2010). This 'integrated' Environmental Balance will be published biennially and is to pay special attention to the interrelations between environmental, ecological and spatial developments. One of the consequences of this step towards further integration is that many indicators related to traditional environmental topics, such as air quality, acidification, noise pollution and greenhouse gas emissions, are not included. Traditional topics have been replaced by integrated themes, such as 'climate, air and energy policy', 'urbanisation, transport and accessibility' and 'nature and rural developments'. These themes offer an integrated future vision and include indicators for topics like energy and food security, congestion

and recreation. As a consequence besides the Ministry of Environment, other ministries are also involved in the selection of indicators.

Currently, the government is not only interested in the trade-offs between environmental, ecological and spatial developments, but also between the three elements of sustainable development: economy, ecology and the social system. As a follow up of the Sustainability Outlooks (RIVM, 2004; PBL Netherlands Environmental Assessment Agency, 2008), the government requested the three Dutch assessment agencies (CPB in economics, PBL in environment and SCP in the socio-cultural field) to collaborate with Statistics Netherlands, in order to create a Sustainability Monitor, to be published regularly. The first Sustainability Monitor for the Netherlands was published in 2009 (CBS, CPB, PBL, and SCP, 2009), the second in 2011 (CBS, CPB, PBL, and SCP, 2011). Its purpose is to assess whether the Netherlands is moving towards a sustainable future, considered from the economic, social and environmental perspectives. Additional indicators cover competitiveness, employment, innovation and old age pensions. There are still a number of major problems involved in this process, such as the aggregation of different indicators in such a way that general and policy-relevant conclusions may be drawn and crucial trade-offs between the three pillars may be indicated.

4. Discussion and conclusion

What generic lessons can be learned from the Dutch experiences? The first lesson learned is that independent policy evaluation results cannot be ignored when they are formally embedded in the policy cycle. One of the success factors of the policy evaluations in the Netherlands has been the formal policy-cycle position of the Environmental Outlooks and Environmental Balances, linked to the national environmental policy plan and the annual budget discussions, respectively, and institutionalised by law. The interaction with policymakers (on required indicators and policy measures to be assessed), and the broad scientific basis (supporting data quality and methods) has contributed to the acceptance of their results. The efforts to build consensus within the scientific community has assured that political discussion is about policy response and not about data. The Environmental Policy Law explicitly includes the mandates of scientists and policymakers, in order to prevent potential conflict.

A second lesson learned is that especially ex-ante policy evaluations entail uncertainties that should be communicated clearly in order to identify potential policy risks. Such risks can be either financial (too much money is being spent without significant environmental improvement) or environmental (too little action is taken). Environmental Balances and Environmental Outlooks are not only based on measurements, but to a large extent also on model calculations. In 1999, a public debate on the reliability of the Environmental Balance took place when some scientists expressed concern about reduced funding for measurement activities and raised doubts over the quality of the models used (RIVM, 2000; Petersen et al., 2011). As a result, Environmental Balances and Environmental Outlooks paid more attention to uncertainties and connected policy risks. The probability of policy targets being achieved was quantified whenever possible. In addition, transparency was increased by making data and methods available on the internet, regular reviewing of methods by international experts, and more involvement by various stakeholders (parliament, local governments, industry, NGOs and the scientific community) in the selection of indicators and scenarios.

A third lesson learned is that the original indicator set proved to be less robust than was initially thought. Especially over the past decade, every year suggestions were made to look for indicators that would add a more positive perspective. For example, in situations of absolute emission levels being higher than the policy targets, the fact that emissions would still go down also needed to be stressed, or that reduction percentages would be larger than in other countries. The analysis of alternating frames explains why the indicator set used in policy evaluations is not a fixed set of indicators. The shifts in policy support for the strong or weak sustainability frame is most likely related to the economic cycle. This seems not to be a purely Dutch phenomenon. Currently, economic issues are at the top of the political agenda in Europe, in response to the economic crisis.

In the environmental arena this coincides with a shift in attention from strong sustainability indicators (aimed at protecting the environment via critical loads and levels) towards weak sustainability indicators, currently framed as greening the economy. See, for instance, the current preference of the European Commission for indicators for decoupling and resource efficiency (EC, 2010) and the tendency within the climate negotiations not to commit to new emission ceilings, but rather to agree on technological efforts. Also, within the UN Convention on Long-Range Transboundary Air Pollution, the preference is to define reduction targets rather than strict emission ceilings for 2020.

The various ways in which environmental problems are framed poses some challenges to the indicator set used for reporting on environmental developments. In the first place, flexibility is needed to enable adaptation of the indicator set for reporting over time. Secondly, a complete indicator set must be maintained, although not all indicators will be presented in each report. In the Netherlands, data on all indicators are made available via the internet. Thirdly, scientists could increase the coherence and consistency of the indicator set by quantifying the relationships between pressure and impact indicators, or between relative improvement targets and absolute environmental protection levels. Scientists could show, for instance, the extent to which policy targets for resource efficiency are consistent with absolute targets for greenhouse gas emissions.

In the current economic and political context, policymakers are more interested in positive signals about what works well and which promising new steps are possible, rather than be reminded of remaining distances to targets that were once agreed by former governments and now appear to be hard to reach. Only when international obligations are involved (such as climate and energy targets, national emission ceiling directives or air quality limit values) countries will have to monitor the distance to target indicators, systematically. For other environmental indicators, there is the risk that policymakers select only those that give positive messages and try to conceal others that do not support current policy. The tendency, in Europe, is not to present a coherent set of indicators in one policy evaluation report, but to produce evaluations for specific policy areas in separate reports and with a simplified selection of impact categories. This imposes the risk that inconvenient side effects are not taken into account in policy decisions.

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