

creative policy packages for waste: the Netherlands

overview

The Netherlands has achieved high recycling rates through a combination of high landfill tax, landfill bans and limitations on incineration capacity. The Dutch also use a range of voluntary agreements and have measures to stimulate markets for recyclates. The Dutch example is interesting for UK policy not just because of the diversity of instruments in play, but because Dutch policy-makers are candid about some of the limitations of the strategy and are presently grappling with the need for new instruments and new institutional arrangements to make further progress.

who did we interview?

- Pieter Roos, Co-ordinator International of the Directorate for Chemicals, Waste, Radiation Protection in the Netherlands Ministry of the Environment
- Fred Knitel, Managing Director of Shanks Netherlands, a private waste management company
- Hans Jager, from the Products and Companies team of Stichting Natuur en Milieu (Society for Nature and the Environment), one of the Netherlands' leading NGOs

what kind of country is the Netherlands?

The Netherlands is a country roughly a sixth of the size of the UK with a population of 15.9 million people, giving it a high population density of 382 people per square kilometre. Two thirds of the country is around or below sea level, constraining landfill development. Landfill capacity is enough for about ten years.

Collection and disposal of household waste is almost entirely in public hands, while the private waste industry is mainly focused on processing, including recycling and the management of commercial and industrial waste. If commercial and industrial waste is disposed of, it is to public landfills or incinerators. Construction and demolition waste, a substantial part of commercial and industrial waste, is mainly recycled in government organised and financed infrastructure.

what has been achieved?

The Netherlands started from a relatively high base of recycling in 1985 (50 per cent for all wastes, 16 per cent for household waste). For household waste, collection of glass bottles has taken place since the 1970s and some recycling markets, like paper and metal cans, were already recognised for their high value which led to investment by the recycling industry. The high recycling rate for total waste is primarily accounted for by the high recycling rate of industrial waste (64 per cent) and of waste from construction and demolition (51 per cent).

Between 1985 and 1995 the recycling rate¹ for total waste² increased from 50 per cent to 73 per cent and surpassed the national target of 67 per cent set for 2000. The recycling rate for household waste³ jumped from 16 per cent to 42 per cent between 1990 and 1995 but has not progressed much since 1998: at 45 per cent in 2000, it was below the 60 per cent national target set for 2000.

In addition, the growth of industrial waste appears to have been ‘decoupled’ from GDP growth between 1985 and 2000. This has not occurred for household and commercial waste.

Definitions of total waste and household waste (there is no municipal waste category as such) are comparable to those of the UK.

what were the motivations behind the waste strategy?

Interviewees cited growing public pressure through the 1980s around issues including dioxin emissions from incineration plants and their impact on milk quality, pollution from landfill sites and the growth in waste generation requiring more treatment capacity in an already constrained environment.

what are the principal instruments?

landfill tax, landfill bans and limitations on incineration capacity

The combination of instruments was crucial. Hans Jager comments: “The cost of landfilling went up, which raised financial incentives for recycling. At the same time, landfill bans were introduced on combustible waste, but there is insufficient incineration capacity for them all, which stimulates recycling”.

1 Recycling figures also includes reuse and composting.

2 Includes household waste, commercial waste, tyres, end-of-life vehicles, agricultural waste, manufacturing waste and waste from energy production.

3 Household waste includes bulky household waste.

The landfill tax on non-hazardous combustible waste started at NLG 28.5 (13.70 ECUs, £11.30)⁴ per tonne in 1995 and was subsequently increased over time to reach NLG 140 (€63.50, £38.70) in 2000. There is also a landfill tax on non-hazardous non-combustible waste of NLG 27.50 (€12.50, £7.60) per tonne in 2000 and a tax on hazardous waste in the NLG 200 to 300 range (€91-136, £55-83) in 2000. The landfill tax on non-hazardous combustible waste has been increased to 165 NLG (€75, £47) per tonne in 2002. The landfill tax was introduced at around the same time as landfill bans for some 32 categories of wastes, including household waste, which must be either recycled or incinerated⁵. However, since ten out of the 11 incineration plants are in the hands of central government, the government is able to place constraints on incineration capacity to prevent incineration from competing with recycling. Fred Knitel confirms the point about incineration capacity: “Because of the high cost of incineration, there is always a fear that the asset might be under-utilized. That’s why incineration capacity has been voluntarily kept under optimal capacity and this has de facto enhanced recycling”.

mandatory or incentivised separation of recyclables

For household waste, there is separate kerbside collection of organic wastes, mandatory since 1994, and almost total participation of municipalities in voluntary schemes for separate collection of paper/cardboard, glass, metals, textiles and small chemical wastes. These materials are mainly collected by kerbside systems but bring systems are also used. The legal framework enables these voluntary schemes to be made mandatory. Some local authorities have also introduced pay-per-bag schemes to stimulate the separation of recyclables.

For industrial waste, there is mandatory separation of hazardous waste, asbestos, paper/cardboard and electric/electronic appliances for all businesses; mandatory separation of glass, plastics, textile, wood and metals for all businesses when these wastes are generated above certain levels; and, from 2001, mandatory separation of all waste at source for certain specified businesses.

clear legal framework

Pieter Roos from the Dutch Ministry of the Environment stresses that these instruments need to be seen as part of a larger legal framework that gives bite to the strategy and enables the introduction of a range of instruments, including producer responsibility agreements.

producer responsibility agreements

Packaging covenants were introduced in 1991 and 1997. There are also producer responsibility agreements which are initially voluntary. However, the Ministry of the Environment can make them binding on the whole sector. This has occurred for end-of-life vehicles, paper and cardboard and agricultural plastic films.

4 1995 exchange rates based on average interbank rates for 1995 (ECUs, not Euros), 2000 exchange rates based on average interbank rates for 2000, 2002 exchange rates based on interbank rate at 30 July 2002.

5 Waste substances (Prohibition of Landfill) Decree (January 1997).

enhancing the market for recyclates

Other important government interventions include certification schemes for certain recyclates, to ensure products of good quality, combined with pre-payment of recycling costs in the form of a levy on goods paid by the consumer. Pieter Roos comments: “In general, the relatively low cost of recycling compared to disposal and of secondary resources compared to primary resources, enables recycled products to be price competitive”.

what have been the key factors in success?

interactive policy-making

Pieter Roos identified interactive policy-making with both local government and industry as being of key importance. This means that the setting of goals and then the implementation of the strategy are seen as the common responsibility of national, regional and local governments and are achieved through a collaborative process. An example of this is the development of a communication strategy on waste. Similarly, agreements on producer responsibility are developed with industries through a process of negotiation.

public ownership of the waste infrastructure

Hans Jager identified public ownership of the waste infrastructure as a major factor: since the local governments own most landfills, the waste management industry mainly makes its money with recycling.

what were the major problems for the strategy?

appropriate timing of instruments

Pieter Roos: “Landfill tax and landfill bans are influential but there have to be alternatives in place before they bite – when first introduced they did not have as much effect as expected because recycling facilities did not develop as fast as expected.” The shift in policy from public to private investment in waste infrastructure exacerbated this, as a lack of certainty in policy and regulation discouraged private companies from investing.

producer responsibility has not had the desired results

Hans Jager: “We assumed that producer responsibility regulation would encourage companies to change products and make them more compatible for recycling but this did not happen. There are a lot of collection systems in place, so that industries don’t have to do the processing of the waste themselves, but these collective systems decrease the incentive to change their products. There is no incentive towards better product design between companies within the same category because there is no differentiation of the extra price paid by the consumer on the basis of the products’ recycling performance.”

what are some of the issues for the future?

source separation is seen to be at a maximum

Although at quite high levels, recycling rates seem to have stabilised, this raises the possibility of expanding incineration. Pieter Roos: “The Netherlands may have reached the maximum achievable on source separation, or at least a lot of effort will be needed to improve. It is difficult to enforce. There is effort to develop high tech incineration, with at least 30 per cent energy recovery, as an alternative to source separation”.

Pieter Roos does not see incineration as a controversial issue. Hans Jager disagrees: “It is still very confrontational – ash from waste incineration plants is reused at a high cost because the quality [leaching behaviour] is not good enough”.

markets for recyclates

Fred Knitel sees difficulties in further market development: “It is difficult because consumers and producers tend to favour virgin materials. You need to make the recyclates price attractive enough for them to switch from using virgin materials to recyclates”.

a need for greater transparency and certainty

Pieter Roos: “Interactive policy-making was a strategy with good results, but it can also lead to slow and non-transparent decision-making and complicated compromises and legislation. For instance, on the packaging covenants it is not clear who is responsible for what. In the future, a temporary covenant may have a role but the main emphasis will be on regulatory instruments”.

exports of waste and eco-dumping

Hans Jager is also concerned about the exports of waste. Under the Dutch general principle, waste for disposal has to be kept in the country. Waste for recycling can, in accordance with the European waste law, be imported and exported. There is now a lot of construction and demolition waste exported with the residues after recycling, up to 50 per cent, being cheaply landfilled. For example, there has been a 100 per cent increase in shipments to Germany. This is because of the availability of efficient sorting and recycling capacity abroad. In the Netherlands this waste would have to be landfilled. Pieter Roos suggests there is no evidence of eco-dumping.

Pieter Roos noted that this points to a larger problem. The waste market is becoming more and more international, while at the same time, the ability of individual EU member states to control waste decreases because of international EU legislation. If member states and the European Commission do not anticipate this development well enough, the risk of eco-dumping might increase. Hence the Netherlands wants to make European harmonisation one of the main issues of the National Waste Management Plan.

decoupling economic growth and waste generation

In terms of waste reduction efforts, it is clear that economic growth and growth of household waste and similar industrial waste are not decoupling. Hans Jager comments: “Economic growth is encouraging the consumption of more products and recycling is only keeping up”.

what are the lessons for the UK?

Pieter Roos: “Interactive policy [plans, covenants] are good in the beginning where there are big gains to be made – but if you want to improve further, industry has to improve products, make more changes, increase the markets for recycled products. Taxes and voluntary systems alone don’t work. More radical instruments are needed”.

Fred Knitel: “Without drastic increases in landfill costs, through taxes, you can forget about recycling and keeping streams separate”.

the Netherlands - competent authorities

6.7



Source: VROM, Recycling achievements in Europe (Resource Recovery Forum).

- The country is a parliamentary democracy, divided into twelve provinces, with a constitutional monarchy
- The Ministry of Housing, Spatial Planning and the Environment is responsible for designing and implementing waste legislation and policies, and recently, for waste management planning
- Until the end of 2001, waste disposal had been managed at the regional level:
 - Provinces were responsible for planning final disposal and for granting licences to large waste disposal and treatment plants
 - The Waste Management Council (AOO), created in 1990 through a co-operation agreement between government, provinces and local authorities, was responsible for drawing up national action plans for waste. Ten-year plans were produced and revised every three years, which specifically focused on the planning of new disposal capacity
- However, the overall management of waste has now been transferred to central government, together with most of the provinces' regulatory powers:
 - This has been followed by the removal of the inter-provincial barriers to the movement of waste and the institution of a national waste management planning
 - The co-operation agreement relating to AOO was amended
- The local authorities are responsible for the collection and treatment of household waste. They can also issue licenses to smaller companies and draw up regulations for separate collection

the Netherlands - waste management plans

6.8

	memorandum on prevention and recycling 1988	NEPP1 (1990-1994)	NEPP2 (1995-1998)	NEPP3 (1999-2002)																				
type of waste	<ul style="list-style-type: none"> • 30 priority waste streams 	<ul style="list-style-type: none"> • Total waste (see Definitions) 																						
general objectives	<ul style="list-style-type: none"> • Waste prevention • Recycling 	<ul style="list-style-type: none"> • Waste prevention • Waste separation, reuse and recycling 																						
specific plans	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • First 10-year National action plan for waste (1992, AOO) • Action programme for separation of dry waste components (1993) 	<ul style="list-style-type: none"> • Second ten-year waste programme 1995-2005 • Programme for separate collection of MSW (1995) 	<ul style="list-style-type: none"> • 2002-2006 national waste management plan (announced in June 2001) 																				
targets	<ul style="list-style-type: none"> • Quantity and treatment method targets for all 30 waste streams 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • Total waste targets: <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th></th> <th>1990</th> <th>2000</th> <th>2010</th> </tr> </thead> <tbody> <tr> <td>Prevention</td> <td>0%</td> <td>10%</td> <td>8%</td> </tr> <tr> <td>Recycling</td> <td>64%</td> <td>67%</td> <td>67%</td> </tr> <tr> <td>Incineration</td> <td>6%</td> <td>15%</td> <td>18%</td> </tr> <tr> <td>Landfill / Discharge</td> <td>30%</td> <td>8%</td> <td>7%</td> </tr> </tbody> </table> • Household waste recycling: 60% by 2000 with collection targets for specific fractions* 		1990	2000	2010	Prevention	0%	10%	8%	Recycling	64%	67%	67%	Incineration	6%	15%	18%	Landfill / Discharge	30%	8%	7%	<ul style="list-style-type: none"> • Total waste recycling: 80% by 2010
	1990	2000	2010																					
Prevention	0%	10%	8%																					
Recycling	64%	67%	67%																					
Incineration	6%	15%	18%																					
Landfill / Discharge	30%	8%	7%																					
results	<ul style="list-style-type: none"> • The proportion of waste reused (including recycled) increased from 61% to 72% in the period 1990-1996 		<ul style="list-style-type: none"> • 74% of total waste reused and recycled in 1997 • 45% of household waste recycled in 1997 	<ul style="list-style-type: none"> • NA 																				

Note: * Fractions with specific targets include paper and board, glass, textiles, ferrous metals, non-ferrous metals, plastic
NEPP - National Environment Policy Plan.

Source: Recycling achievements in Europe (Resource Recovery Forum), VROM (NEPP3), ENDS Environmental Daily, 26/06/2001.

the Netherlands - definitions

6.9

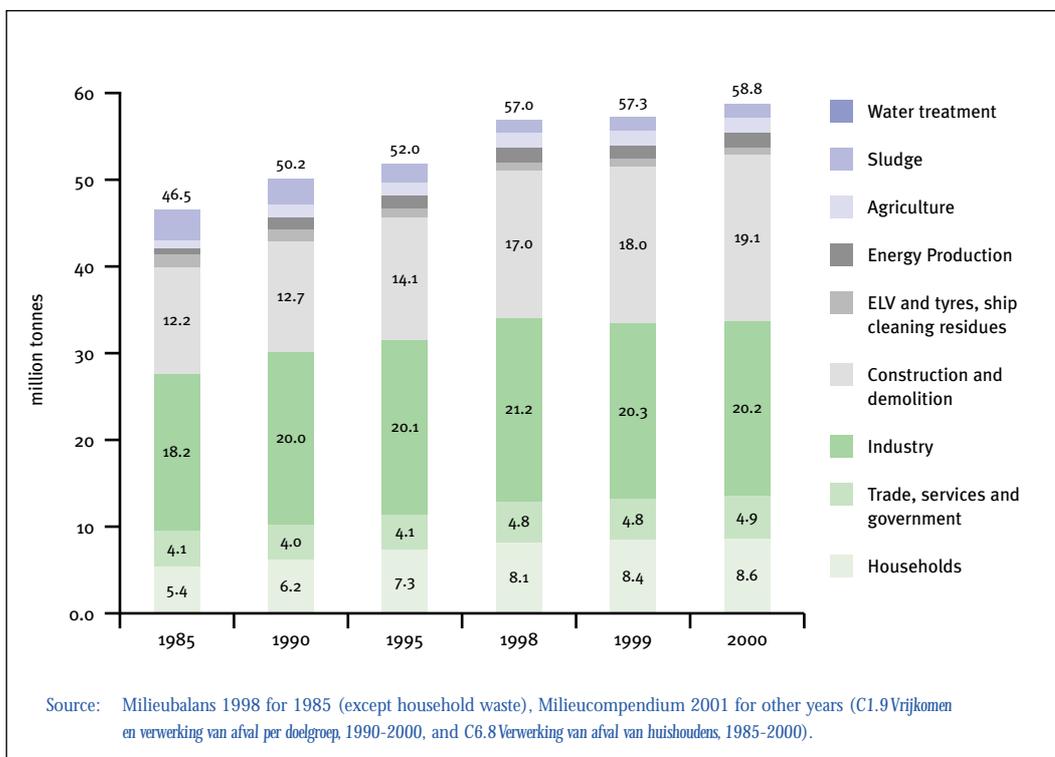
waste categories	waste treatment	measurement
total waste Includes both hazardous and non-hazardous waste Household waste: excludes end-of-life-vehicles and wastewater; includes bulky household waste Trade, services and government: includes waste from offices, shops and services and waste from street sweeping Construction and demolition waste Car wrecks and tyres, ship cleansing waste Agricultural waste: excludes surplus manure Industrial waste: includes oil refineries Energy production Sewage and wastewater treatment sludge Water treatment	waste prevention “Relative decoupling” of the increase in the GDP and the increase in the waste supply	waste prevention Difference between GDP growth and waste supply growth
	recycling Reuse - There is no distinction between reuse and material recovery Recycling Composting - Home composting is not included in the monitoring data as it is considered prevention	waste recycling The Environmental Agency (RIVM) and the Waste Management Council (AOC), are responsible for data collection which is done by questionnaires. Information is also obtained from provinces through reporting obligations for some companies and waste types (mainly hazardous)
	disposal Incineration Landfill Discharge	waste disposal As above
other waste streams Dredging waste and soils Contaminated soil Manure surpluses Radioactive waste		

Source: Compendium 2001.

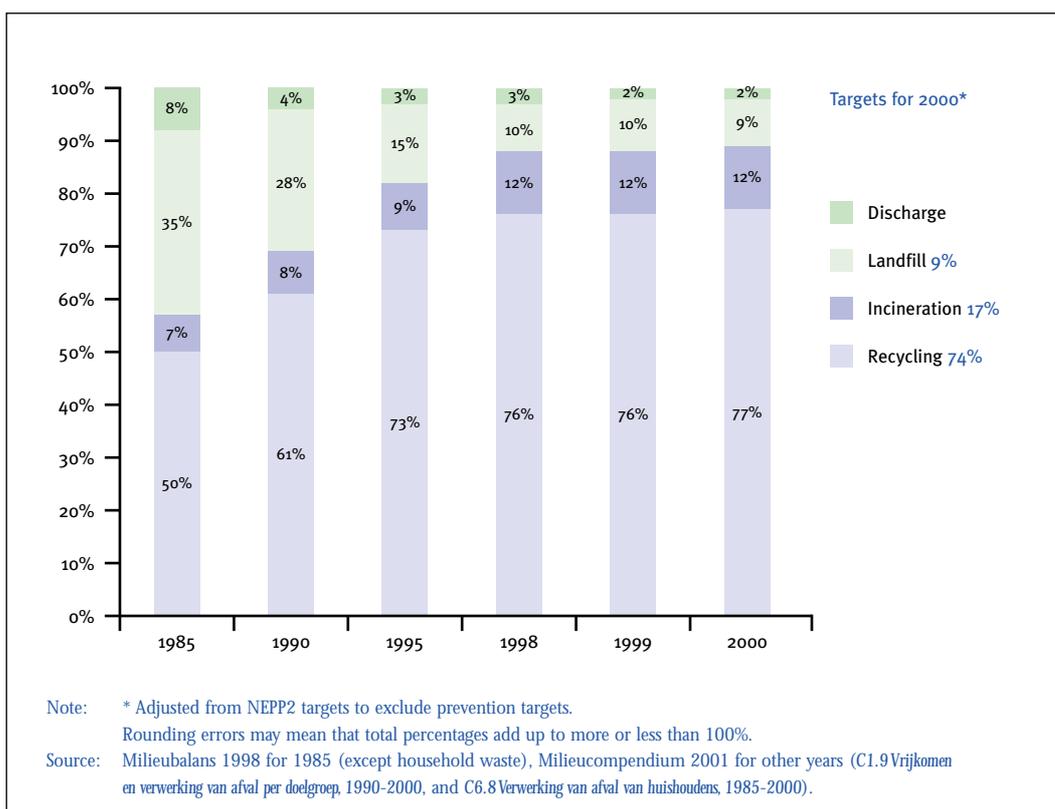
the Netherlands - total waste arisings and treatment

6.10

total waste arisings and source - absolute terms



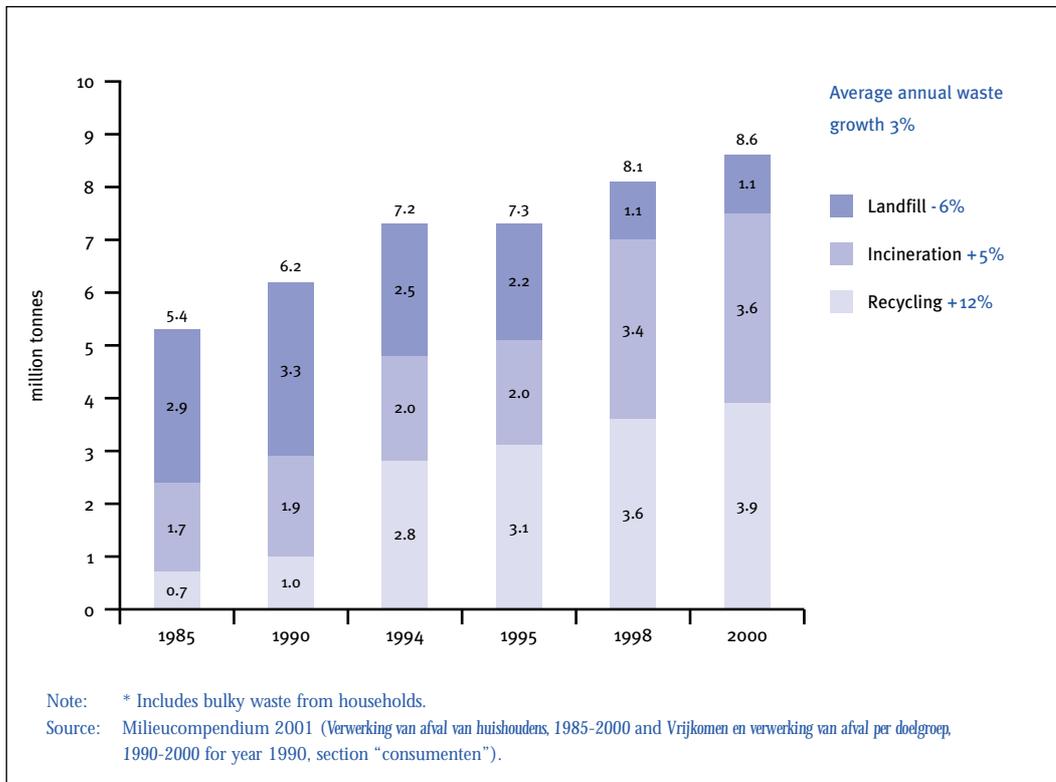
total waste arisings and treatment - relative terms



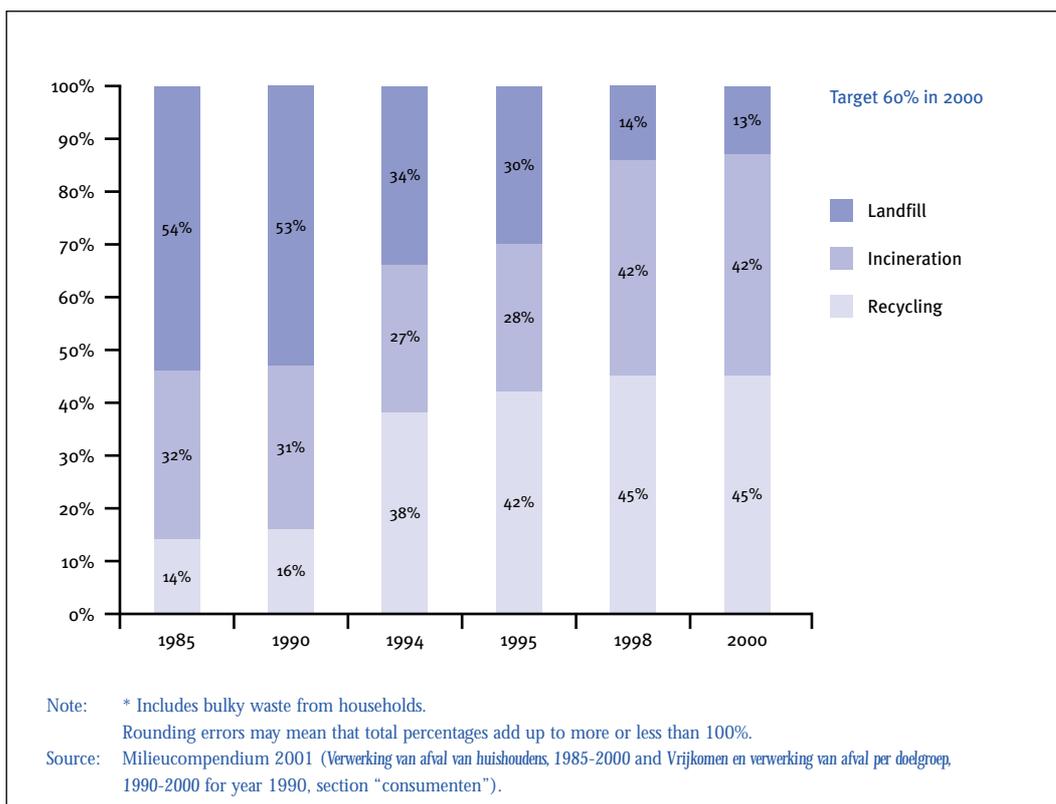
the Netherlands - household waste arisings and treatment

6.11

household waste arisings and treatment* - absolute terms



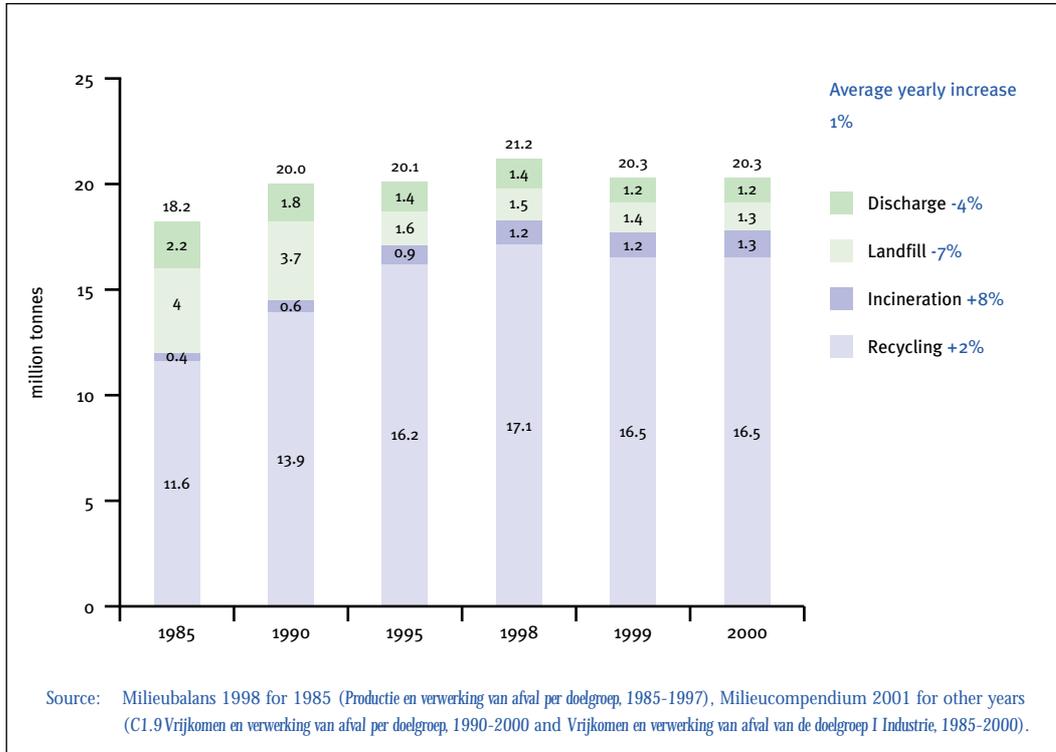
household waste arisings and treatment* - relative terms



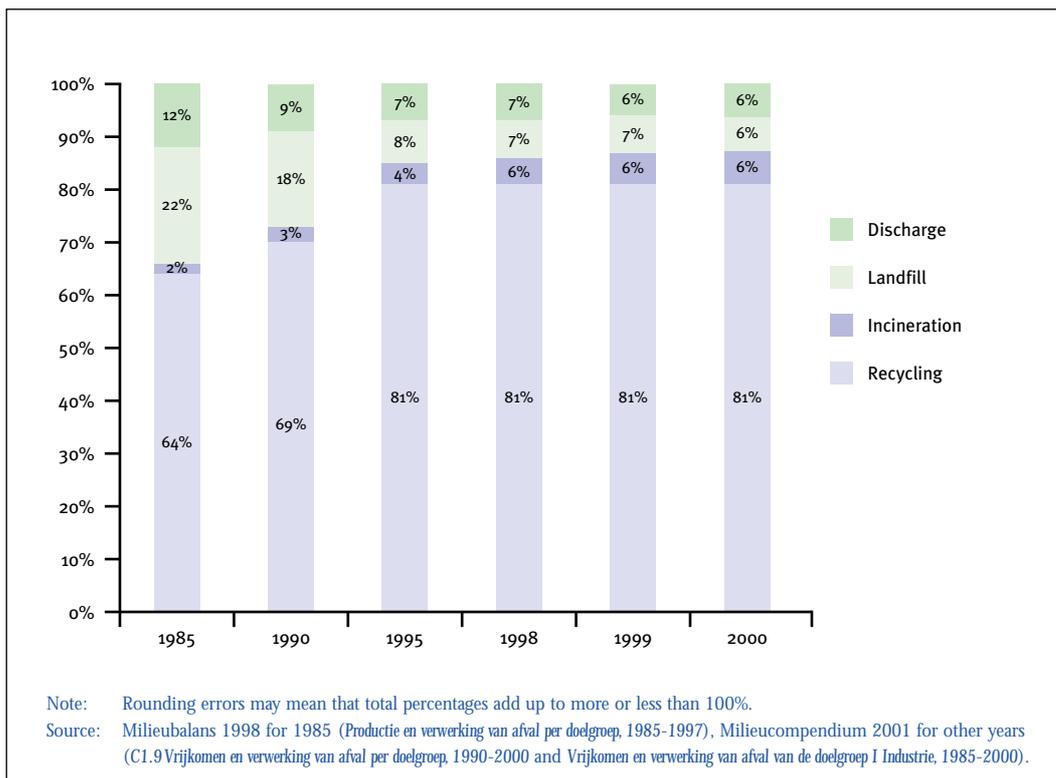
the Netherlands - industrial waste arisings and treatment

6.12

industrial waste arisings and treatment - absolute terms



industrial waste arisings and treatment - relative terms



the Netherlands - overview of policy packages

6.13

tool	target ▶	municipalities/consumers	businesses
legislative		<ul style="list-style-type: none"> Prohibition of landfill of 32 categories of waste (both domestic and commercial/industrial waste) if there is possibility for re-using, recycling or incinerating the waste (Waste Substances Decree – 1995, amended 1997) 	
		<ul style="list-style-type: none"> Mandatory separate house-to-house collection of organic household waste (Environmental Management Act – 1994) Landfill ban on household waste except where there is temporary shortage of incineration capacity (1995) 	<ul style="list-style-type: none"> Strict standards for waste incinerators (Waste Incinerators Decree – 1993) Strict standards for landfills (Decree on Waste Disposal at Landfills – 1995) Landfill ban on recyclable and combustible C&D waste (Waste Substances Decree – Jan. 1997) Mandatory separation of hazardous waste (including asbestos), paper/cardboard and electric/electronic appliances for all business (implemented by Chemical Waste Act – 1976 and the rest between 1998-2001) Mandatory separation of glass, plastics, textile, wood and metals for all businesses, above certain waste levels (implemented 1998-2001). Mandatory separation of all waste at source for specified businesses¹ (implemented 1998-2001) EPR legislation on electric and electronic appliances (1998) with a disposal levy paid by consumer at purchase point since 2000 EPR legislation for car tyres (1995), batteries (1995) Mandatory logo on small chemical products for the consumer market 1994
economic		<ul style="list-style-type: none"> Variable charging (some municipalities) Grants for consumers when buying new, energy efficient domestic appliances 	<ul style="list-style-type: none"> Waste tax (1995): levied on waste delivered to landfills and incinerators² (asbestos, non-treatable polluted dredging sludge and soil exempt from tax)
agreements		<ul style="list-style-type: none"> Separate collection of glass, paper/cardboard, textile and small chemical waste (voluntary agreement but can be made mandatory by Provincial Ordinances) 	<ul style="list-style-type: none"> Packaging covenants I (1991) and II (1997): voluntary agreements about the reduction and separation for recycling of packaging waste – covers paper/cardboard, glass, plastics and metal Voluntary producer responsibility agreements on ELVs³ (1995), plastic films for agriculture³, PVC exterior building materials, PVC piping, and paper/cardboard
information		<ul style="list-style-type: none"> 'Less waste - It's in your hand' campaign 	
R&D		<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Grants for research into waste prevention in small and medium-sized enterprises

Note: 1. Hotels and catering services, retail sectors, residential and amenity buildings, textile cleaning companies, motor vehicles establishment, storage depots and hauliers;
 2. Set at zero for incinerators;
 3. Also includes regulatory aspects.

Source: Ministry of Housing, Spatial Planning and the Environment.