



Department
for Environment
Food & Rural Affairs

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Monitoring Strategy for National Policy Statement for Hazardous Waste

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1. Introduction

1.1 The Government has undertaken an Appraisal of Sustainability (AoS) of the Hazardous Waste National Policy Statement as required by the Planning Act 2008. The AoS incorporates the requirements of the Strategic Environmental Assessment (SEA) Directive¹. This Monitoring Strategy sets out the approach, roles and responsibilities for monitoring the strategic effects of the NPS which have been identified by the AoS. This includes consideration of positive and negative effects predicted by the AoS and the consideration of unforeseen adverse effects that might arise from the implementation of the Hazardous Waste NPS so as to be able to take appropriate remedial action.

The SEA Directive requires:

“Member States shall monitor the significant environmental effects of the implementation of plans or programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.” *Article 10, SEA Directive.*

- 1.2 The Monitoring Strategy sets out the Government’s intentions at a strategic level for monitoring the effects of the NPS identified in the AoS. Its detailed contents are provisional and will be developed in consultation with Government departments, devolved administrations, regulators and industry in order to ensure that the monitoring system is robust and able to respond flexibly to new information and changing conditions as it is used. For that reason, the material set out in this strategy is not exhaustive.
- 1.3 Section 2 of this document outlines the guiding principles and key issues underpinning the approach to the Monitoring Strategy. The subsequent sections outline the approach to monitoring in accordance with the requirements of the SEA Directive 2001/42/EC and good practice guidance.
- 1.4 Monitoring helps to compare the effects predicted through the AoS process against the actual effects of the NPS when it is implemented. In identifying the monitoring requirements of the significant effects of the Hazardous Waste NPS, the following have been considered:
- Why monitor? (section 3)
 - What should be monitored, with reference to the AoS framework? (section 4)
 - What should be done if adverse effects are found? (section 2)
 - What sort of information is required? (sections 4 and 5)
 - What are the existing sources of monitoring information? (section 5 and Table 1)
 - Are there any gaps in the existing information, and how can these be filled? (section 5 and Table 1)
 - Who is responsible for the various monitoring activities, when should these be carried out, and what is the appropriate format for presenting the monitoring results? (sections 5 and 6)

¹ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

2. Guiding Principles

2.1 The following principles guide the Monitoring Strategy.

Effects Identified in the Assessment

- Monitoring will be undertaken to address the effects of implementing the plan (i.e. the NPS) identified in the AoS. These effects will arise mainly from construction and operation of hazardous waste infrastructure which is consented in line with the NPS;
- With a view to avoiding duplication, monitoring will employ existing measures where appropriate²; and
- Predicted positive and negative effects will be monitored in accordance with this strategy and will take into account the monitoring of significant cumulative effects at the strategic level.

Unforeseen Effects

- Unforeseen adverse effects will be monitored by considering any changes to baseline conditions captured through existing monitoring.

Reporting / Outcome

- Defra will **collate and report** monitoring information;
- If significant adverse effects are identified, Defra will review this information in consultation with the appropriate regulators or authorities concerned to ensure that appropriate remedial action is taken; and
- The monitoring strategy will be reviewed periodically, in consultation with the relevant regulators and statutory consultees, and will be revised if necessary, for example, to reduce monitoring of predicted significant effects that have not arisen in practice, or increase monitoring of effects which have become more significant. The review of the monitoring strategy may be timed to coincide with review of the Hazardous Waste NPS, which suggests after at least five years.

² The SEA Directive (Article 10) allows for existing monitoring arrangements to be used if appropriate, with a view to avoid duplication of monitoring.

3. Why Monitor?

3.1 The SEA Directive requires monitoring of the significant effects of implementing the plan, including unforeseen adverse effects. The Directive provides that:

“Member States shall monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.”

“In order to comply... existing monitoring arrangements may be used if appropriate, with a view to avoiding duplication ...”³

3.2 Monitoring is an established element of plan making and assessment / appraisal procedures. It serves to inform reviews and updates of the plan by providing the plan maker and wider decision makers with information as to how predicted effects are being realised and managed. The benefits of monitoring the environmental and other sustainability effects arising from the implementation of the hazardous waste NPS include:

- Identifying and tracking unforeseen effects should they arise or if the significance of effects changes;
- Enhancing an understanding of how the natural, social and economic environment is changing as a result of the new hazardous waste infrastructure development; and
- Identifying whether strategic level actions are necessary to enhance or reduce identified effects.

3.3 Monitoring may also be used to assess the effectiveness of proposed mitigation measures. The emerging findings of the AoS have informed the development of the hazardous waste NPS and have included the incorporation of mitigation measures where appropriate. For example, mitigation measures were proposed in relation to: Air Quality and Emissions; Population; Health and Well-Being; Noise; and Spatial Planning and Land Use. The significance of these effects and the effectiveness of mitigation measures will be addressed through monitoring requirements determined at the next level of assessment and consent.

3.4 Monitoring of significant effects arising from the hazardous waste NPS will provide information to the public and wider stakeholders on how the effects of plan implementation are being reviewed and managed.

³ Article 10 of the SEA Directive.

4. What needs to be monitored?

- 4.1 Monitoring must cover all the significant effects identified at national, regional and local level, for example:
- those that may give rise to irreversible damage;
 - where there is uncertainty over possible adverse effects, or their significance, and where monitoring would enable mitigation measures to be taken;
 - those that may indicate a breach of regulation or recognised standards; and
 - those where beneficial aspects could be enhanced.
- 4.2 Monitoring involves measuring indicators which establish a link between implementation of the NPS and the likely significant effect being monitored. The analysis of indicators may include:
- Change in patterns and trends of indicators;
 - Baseline information and predicted effects;
 - Changes in the direction of indicators against comparable locations and receptors;
 - Changes in significance of effects;
 - Use of quantitative and qualitative information; and
 - Interpretation of monitored data results.
- 4.3 However, the guidance for monitoring (SA/SEA) states that it is not necessary to monitor all the effects considered as part of the appraisal process. In accordance with guidance and in line with the principles set out in Section 2, the effects (positive and negative) identified by the AoS of the hazardous waste NPS are addressed in this monitoring strategy, together with provision for identifying any unforeseen or uncertain adverse significant effects.
- 4.4 The effects identified by the AoS are summarised below. These effects are then detailed in the Monitoring Framework (Table 1).
- 4.5 For the purposes of this AoS, significant effects requiring monitoring have been taken to mean those effects on AoS objectives identified as either 'major' or 'minor' adverse effects or significant beneficial effects, as well as 'uncertain' effects. No major adverse effects on AoS objectives were identified in the AoS. The following were identified as minor adverse or uncertain effects during the AoS:
- Minor negative effect of hazardous waste infrastructure on the following AoS objectives: Air Quality and Emissions; Population; Health and Well-Being; Noise; and Spatial Planning and Land Use.
 - Minor negative effect of ship recycling facilities on the following AoS objectives: Waste Management; and Biodiversity, Flora and Fauna.
 - Minor negative effect of landfill infrastructure on the following AoS objectives: Climate Change Adaptation and Resilience; Air Quality and Emissions; Traffic and Transport; and Landscape.
 - Minor negative effect of oil regeneration infrastructure on the following AoS objective: Water Quality and Resources.

- Uncertain effect of all hazardous waste infrastructure on the following AoS objective: Health and Well-Being.
- Uncertain effect of WEEE, oil regeneration and ship recycling facilities on the following AoS objective: Flood Risk.
- Uncertain effect of oil regeneration and ship recycling facilities on the following AoS objectives: Coastal Change and the Marine Environment.

4.6 The following was identified as a significant positive effect:

- Significant positive effect of bioremediation/ soil washing facilities on the following AoS objective: Soils and Geodiversity.

5. Who is responsible for monitoring the Hazardous Waste National Policy Statement?

- 5.1 Defra is the plan maker, responsible for delivering and reviewing the National Policy Statement for Hazardous Waste and will undertake monitoring of the overall progress of the NPS, including the effects covered by this draft monitoring strategy.
- 5.2 Defra will collate, organise, interpret and report the monitoring data from the key identified information sources, in line with the effects identified in the Monitoring Framework (Table 1). As part of this monitoring strategy, Defra envisages producing a monitoring report, which should make recommendations for any proposed amendments or more substantial changes to the policy and the National Policy Statement.
- 5.3 The baseline data compiled during the preparation of this AoS provides a basis for predicting and monitoring effects. Monitoring should make use of existing monitoring data provided by relevant national, regional and local environmental and planning authorities. Pollution control and environmental management monitoring is carried out by the environmental authorities; human health protection is through the health authorities. Regional Planning Bodies and Local Planning Authorities monitor the effectiveness of their spatial plans, including indicators such as employment and access to community facilities and services.
- 5.4 As part of the monitoring strategy and in line with Article 10(2) of the SEA Directive on avoiding duplication of monitoring, Defra will seek to draw on existing available information and data sources as detailed in Table 1. Key information is available from the hazardous waste database for England and Wales managed by the Environment Agency. This includes data on arisings, transfers and fates of hazardous waste by region in England and Wales. In addition the Environment Agency has access to data on sites permitted under the environmental permitting regime, including sites for the management of hazardous waste. Information is available on compliance with environmental permits and on the location of sites.
- 5.5 Thus, the hazardous waste NPS will be monitored through the use of existing established indicators and data sources / providers, covering the effects identified. Where gaps in data and information requirements are identified they will be addressed through the review process. Relevant information and data is gathered and reported (including in line with statutory duties) by various agencies and organisations, as illustrated below.
- **Environment Agency** – management of hazardous waste under the hierarchy, compliance with environmental permits, tracking and movement of hazardous waste data, water quality (chemical, biological and ecological); liquid and gaseous discharges; information on flood and coastal erosion risk
 - **Department for Environment, Food and Rural Affairs** – UK Sustainable Development Indicators
 - **Department for Health / Office of National Statistics** – epidemiological studies on health effects of hazardous waste facilities and other relevant statistics e.g. national statistics online
 - **Natural England** – list of and condition status of designated European sites and Sites of Special Scientific Interest (SSSIs) <http://www.sssi.naturalengland.org.uk/Special/sssi/reportIndex.cfm>
- 5.6 **Table 1** presents a list of monitoring indicators for the adverse and uncertain effects identified in the AoS. Other monitoring may be considered to ensure that positive effects of the NPS are also achieved.

6. What is the frequency of monitoring?

- 6.1 Monitoring should be undertaken once the plan has been designated and begins to produce effects. The hazardous waste NPS will facilitate new hazardous waste infrastructure and it is expected that the timetable for the implementation of individual infrastructure projects will vary, with development taking place over a number of years and at different scales. The effects of the NPS in implementation will therefore not be immediate, and monitoring should take account of development timetables accordingly. Defra will monitor the frequency and timing of new developments under the NPS and begin monitoring accordingly.
- 6.2 Data sources for the monitoring measures identified in section 4 largely draw on established systems of data gathering and reporting that are typically collated on an annual basis. However, in some cases the relevant data is not currently collected and its future collection will be dependent on the availability of resources. The frequency of data collation and the reporting of monitoring data for the NPS should also take account of the progress of the NPS's implementation and be undertaken at intervals that are consistent with the strategic nature of the development effects being monitored. The requirements for monitoring, including the frequency of data reporting should be reviewed in line with any updates or changes to the plan.
- 6.3 The SEA Directive and the Planning Act do not prescribe the time and frequency of preparing monitoring reports. It is recommended that the first review of decisions should take place within at least five years after the designation of the NPS, followed by a subsequent monitoring review of developments 10 years after. If significant developments are brought forward under the NPS in its early stages, then Defra will compile a monitoring report sooner, for example within 2-3 years of the designation of the NPS.

Table 1: Monitoring Indicators for Adverse and Uncertain Effects

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 1	Criteria applicable to ship recycling facilities: potential impact associated with waste types removed from ship recycling facilities and need to treat these wastes separately and in accordance with the waste hierarchy.	Minor Negative	<ul style="list-style-type: none"> • Hazardous waste recycled, recovered or reclaimed per region (amounts and comparative percentage per annum) • Type of hazardous waste managed (tonnes per classification / annum) 	<ul style="list-style-type: none"> • Environment Agency 	<ul style="list-style-type: none"> • Future forecasts for hazardous waste arisings in England per hazardous waste type • Trends and future forecasts for hazardous waste arisings per hazardous waste sector • Waste arising from different hazardous waste infrastructure types
AoS 3	Criteria applicable to landfill infrastructure: need to demonstrate methods for the reduction of emissions related to new landfill, including transport impacts.	Minor Negative	<ul style="list-style-type: none"> • Carbon dioxide or other GHG output per facility (CO2 emissions per facility type of known capacity) 	<ul style="list-style-type: none"> • Local authorities • National Statistics Online • Environment Agency 	<ul style="list-style-type: none"> • No specific data are available on the contribution of the hazardous waste sector/facility to greenhouse gas emissions. • Efficiency of and greenhouse gas emissions associated with each hazardous recovery and disposal facility. No specific data is currently available. • Collection of any data for this indicator is subject to availability of resources.

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 4	Criteria related to generic impacts of all hazardous waste infrastructure: in identifying the most sustainable options, reducing impacts upon the environment as a whole and emissions in particular should be taken into consideration.	Minor Negative	<ul style="list-style-type: none"> • Compliance with emission limits specified in environmental permits • Compliance with health based ambient air quality standards 	<ul style="list-style-type: none"> • National Statistics Online • Environment Agency • Defra 	<ul style="list-style-type: none"> • Data available on environmental permits • Air quality standards set by Government
AoS 5	Criteria applicable to landfill Infrastructure impacts: Currently there is no requirement to demonstrate transportation impacts specifically related to new landfill infrastructure, which can generate significant transport movements.	Minor Negative	<ul style="list-style-type: none"> • Data on distance hazardous waste transported between origin and disposal/ treatment site (km or miles per annum) • Volume of hazardous waste treated / disposed of outside of region of origin (tonnes or % by region per annum) 	<ul style="list-style-type: none"> • Environment Agency 	<ul style="list-style-type: none"> • Transport requirements per management type (and potential impact on traffic) • Parameters on data on distance travelled to be specified – e.g. for hazardous waste to landfill or by identifying specific facilities granted a development consent order • This data is currently not collected and its collection would be subject to the availability of resources.

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 6	Criteria applicable to ship recycling facilities: due to siting criteria, this type of infrastructure may have greater potential for adverse impacts on European sites and other flora, fauna and biodiversity, although it is recognised that other types may also have an impact.	Minor Negative	<ul style="list-style-type: none"> Risk to designated site (quantified or qualified risk impact on named designated site) 	<ul style="list-style-type: none"> Natural England: Complete list of SACs, SPAs, and Ramsar sites in England 	<ul style="list-style-type: none"> Potential effect of each type of hazardous waste facility on SACs / SPAs / Ramsar / other designated sites, ecosystems, biodiversity, flora and fauna in England and adjacent countries
AoS 7	Criteria applicable to oil regeneration infrastructure: water resources are an important consideration in the development of this type of infrastructure.	Minor Negative	<ul style="list-style-type: none"> Volume of water consumed per management option (litres / annum) Number of water bodies achieving good ecological status under the Water Framework Directive objectives 	<ul style="list-style-type: none"> Environment Agency 	<ul style="list-style-type: none"> Indicative data on consumption of water per hazardous waste management option This data is currently not collected. Its collection would depend on the availability of resources.
AoS 8	Criteria applicable to WEEE, Oil regeneration and ship recycling infrastructure: siting of these type of infrastructure may result in a location in floodplain.	Uncertain	<ul style="list-style-type: none"> Number of facilities proposed for construction in a floodplain (n / annum) 	<ul style="list-style-type: none"> Environment Agency Flood mapping for England 	<ul style="list-style-type: none"> Differential impacts of various types of hazardous waste management facility

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 10	Criteria applicable to oil regeneration and ship recycling infrastructure: siting requirements of these type may result in locations that may affect coastal processes.	Uncertain	<ul style="list-style-type: none"> • Number of facilities located adjacent to the coast • Performance of such facilities against environmental permit requirements 	<ul style="list-style-type: none"> • Environment Agency • Local authorities role in leading shoreline management plans 	<ul style="list-style-type: none"> • Location specific requirements of hazardous waste management facilities e.g. a ship recycling facility and potential impact on coastal geomorphology
AoS 11	Criteria applicable to landfill infrastructure: lack of consideration of post-use rehabilitation within the application for a new landfill site.	Minor Negative	<ul style="list-style-type: none"> • Number of facilities sited in or adjacent to protected sites e.g. AONBs (n) 	<ul style="list-style-type: none"> • AONB (www.aonb.org); National Parks (www.nationalparks.gov.uk) 	<ul style="list-style-type: none"> • Location specific requirements of each facility type • Differential impacts of various types of hazardous waste management facility
AoS 13	Criteria applicable to all hazardous waste infrastructure: whilst potential social impacts may be identified through the assessment process, there is no requirement to avoid such impacts.	Minor Negative	<ul style="list-style-type: none"> • Location of hazardous waste facility in relation to deprived populations • Number of infrastructural improvements / additional services made as a result of facility development (n) • Employment rates in areas located near hazardous waste facilities (%) • Literacy rates in areas located near hazardous waste facilities (%) 	<ul style="list-style-type: none"> • Overall Index of Multiple Deprivation (Super Output Areas) 	<ul style="list-style-type: none"> • Social and socio-economic impacts of different types of hazardous waste facilities proposed

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 14	Criteria applicable to all hazardous waste infrastructure: there is no specific requirement to comply with HSE legislation.	Minor Negative	<ul style="list-style-type: none"> • Have regard to long term evidence of epidemiological studies indicating adverse health effects arising from proximity to hazardous waste management facilities 	<ul style="list-style-type: none"> • Health Profile (Department for Health) • Office of National Statistics 	<ul style="list-style-type: none"> • Impacts on health and well-being from different types of hazardous waste management facilities • Health inequalities related to existing location of hazardous waste management facilities
AoS 14	Criteria applicable to all hazardous waste infrastructure: whilst there is a requirement to assess health impacts, there is no specific requirement to avoid such impacts as part of the development of new infrastructure.	Minor Negative			
AoS 14 and AoS 16	Criteria applicable to all hazardous waste infrastructure: Common Law and Statutory Nuisance: request for the grant of a defence of statutory authority against nuisance claims	Uncertain			

AoS Objective	Topic	Significance	Effect to be Monitored	Possible Source of Information	Limitations / Data Gaps (if applicable)
AoS 16	Criteria applicable to all hazardous waste infrastructure: Common law and statutory nuisance.	Uncertain	<ul style="list-style-type: none"> Average noise output during day / night time facility operation at defined receptors (LAeq 18 hr day time / 24 hr night time) 	<ul style="list-style-type: none"> Environment Agency Local authority 	<p>Noise levels associated with each type of facility and their potential impact on the environment/ society</p>
AoS 16	Criteria applicable to all hazardous waste infrastructure: noise – linkage between noise and the ES required, as well as specific reference to sub-surface and underwater noise is lacking.	Minor Negative			<p>Environment Agency monitoring of relevant environmental permit conditions</p>
AoS 17	Criteria applicable to all hazardous waste infrastructure: health – potential for hazardous waste infrastructure to have indirect health impacts if it affects the use of open space for recreation / physical activity.	Minor Negative	<ul style="list-style-type: none"> Location of new hazardous infrastructure in relation to recreational and green spaces. 	<ul style="list-style-type: none"> National Land Use Database 	<ul style="list-style-type: none"> Impact on land use of each type of hazardous waste installation Locations / sites of future potential generation of hazardous waste and existing zones allocated for (hazardous) waste management



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