

Presentation Outline

- **Background – What is an Integrated Impact Assessment (IIA)**
- Scope of this study
- Changes to Policy and Legislative Context
- Key Outputs
- Suggestions for improvement for IIA / Strategy 2026.

What is the IIA?

An Integrated Impact Assessment (IIA) comprises the combined assessment results of:

- A Strategic Environmental Assessment (SEA)
- A Health Impact Assessment (HIA)
- A Socio-economic Impact Assessment (SeIA)

The IIA of the NDA Strategy consists of three main volumes:

- Volume 1: Main report
- Volume 2: Detailed Options Assessment
- Volume 3: Baseline Report and Policy and Legislative Context Review

.....and an additional *“Non-technical Summary Report”*

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Project Scope

- Our project scope to produce the IIA was to take into account the following key points:
- This IIA aims to inform, but not drive, future NDA strategic decision-making
- This is a REFRESH of the 2016 IIA, not a rewrite
- Consider the key strategic changes in each Strategic Theme compared to the 2016 strategies:
 - impacts have been assessed in detail and cascaded throughout the 3 volumes
- Impacts of key changes to national and international legislation and regulation.
- Emerging Scope: Suggest potential improvements in methodology to produce the next IIA for NDA Strategy 2026.

Scope of the IIA – Geographical and Temporal Scope

The geographical scope of the IIA remains as the whole of the UK. Whilst there are no NDA sites in Northern Ireland, impacts on Northern Ireland are considered if relevant.

It is assumed in the 2016 IIA that the Strategy will be in operation until the final site in the NDA estate achieves its stated End State (around 2120). However, it is also assumed that the Strategy will be reviewed and updated on a 5-year cycle within this period.

Strategy Topics

Strategic Theme	Topics assessed in the 2016 IIA	Topics assessed in the 2021 IIA
Site Decommissioning and Remediation	Decommissioning Land Quality Management Site Interim and End States Land Use	Decommissioning Land Quality Management Site Interim and End States Land Use
Spent Fuels	Spent Oxide Fuel Spent Magnox Fuel	Spent Oxide Fuel Spent Magnox Fuel Exotics
Nuclear Materials	Plutonium Uranics	Plutonium Uranics
Integrated Waste Management ¹	Radioactive Waste	Radioactive Waste

¹ The topics of Liquid and Gaseous Discharges and Non-radioactive Waste fall into this topic, but were not assessed in the IIA as other UK-wide strategies cover management of these materials.

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Key Policy and Legislative Changes

- Climate change
 - Final stages of decommissioning and clean-up
 - Waste and recycling
 - Scope of environmental impact assessments
 - Brexit
- *NOTE: The next 6 slides give EXAMPLES of key policy and legislative changes for information only.*

Climate Change

- **Paris agreement 2015**: reduce emissions, add resilience, finance
- 2019 UK commitment to '**net zero**' by 2050 (by 2045 in Scotland)
- **Clean Air Directive 2016**: apply existing commitments for 2020 onwards as set out in Gothenburg Protocol 2012
- **2019 UK Clean air strategy**: repeats existing commitments and adds one - reduce PM2.5 concentrations across UK so number of people exposed to $> 10 \mu\text{g}/\text{m}^3$ is reduced by 50% by 2025
- **2017 UK air quality plan for NO2**: promotes electric vehicles, updated procurement standards
- **2019 Persistent Organic Pollutants Directive**: revised list/limits
- **Met Office UKCP18**: use this for climate change projections

Final Stages of Decommissioning and Clean-up

- **2018 GRR** (environment agencies' guidance on permit surrender): WMP, SWESC, dates for delivery of initial WMP and SWESC set in revised site permits, in-situ disposal and disposal for a purpose are potential options if shown to be the optimal solution, implications of groundwater protection for these options to be developed. Implications on managing land contamination sustainably.
- **2018 BEIS consultation on amending the regulatory framework** for nuclear sites in the final stages of decommissioning and clean-up proposes that Nuclear liability ends when OECD Exclusion criteria are met and Nuclear licence ends when no nuclear safety and security issues remain. The environment agencies regulate until the environmental permit is surrendered (see GRR).
- **REPPiR 2019**: revised annex 1 levels which are used to define bulk quantities and hence stores that need a licence.

Waste and Recycling (1)

- **Waste Framework Directive 2018/85**: reduce waste, recycling targets, waste is resource, use sustainable material
- **Landfilling directive 2018/850**: reduce disposal by landfilling
- **2018 EC Guidance on list of waste** as revised in 2014 and 2017
- **UK resources and waste strategy 2018**: promote circular economy
- **UK 2018 review of 2009 discharge strategy**: good progress
- **2016 Wales Environment Act**: prohibit/regulate disposal by incineration
- **2019 Jagdag list of hazardous substances for protection of groundwater**: lead is hazardous
- **New Scottish environmental permitting regulations 2018**: rad and non-rad in same regulations
- **Revised EPR 2018 and government guidance 2018**: includes revised 'out of scope' levels

Waste and Recycling (2)

- **NDA Radioactive waste strategy 2019** : Risk-informed waste management and lifecycle consideration
- **UK LLW strategy 2016**: risk based rather than waste classification, some boundary ILW could be disposed at LLW facility, not all LLW can be safely disposed of at LLWR
- **NIA65 liability for damage Order 2016 and Prescribed site regulations 2018**: will bring disposal sites into liability regime when Paris Convention ratified (no licence required), defines low risk installations and transport
- **GDF: BEIS Implementing Geological Disposal** - Working with Communities 2018, version for Wales 2019, National Policy Statement for geological disposal infrastructure 2019, ONR licensing guidance 2019, 2018 regulators' review of RWM generic disposal safety case
- **2016 implementation strategy for Scotland's HAW policy**

Scope of Environmental Impact Assessments

- **EU EIA Directive 2014/52 and Alignment of reporting obligations Order 2019:** simplify, reduce administrative burden and improve environmental protection
- **2017 New T&CP regulations, 2017 Infrastructure Planning regulations, 2017 T&CP Scotland regulations, 2018 EIA for decommissioning regulations enact EU Directive 2014**
- Extra factors: population and human health, biodiversity, environmental effects of major accidents and/or disasters
- Detailed mitigation measures at the screening stage, alternatives and comparison of their environmental effects
- Environmental statement must be based on scoping opinion (where obtained) and must be prepared by a competent expert.

Brexit

- **European Union (Withdrawal) Act 2018:** creates new category of law = 'retained EU law', and gives the government some restricted power to adapt and remove laws that are no longer relevant.
- **EU exit regulations:** to amend regulations so that they still function, e.g. to refer to international standards rather than European standards
 - Transfrontier shipment 2019
 - EPR 2019
- **Article 37:** UK will either provide equivalent review or continue to submit information to EC group of experts.
- **Future changes:** will depend on details of future relationship. Government appears to want 'difference' rather than 'alignment'

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Key Outputs

- There is considerable uncertainty regarding how options will be implemented in the future and at the site level. The results of this assessment should therefore be viewed as being indicative of potential impacts but not absolute or certain.
- Development of new and modification of existing facilities will be needed for some of the preferred strategic options. This generally involves a range of major environmental and health risks and socio-economic opportunities.
 - Many adverse impacts of construction can be mitigated by reusing existing facilities.
 - Adverse environmental impacts from construction could be reduced if joint treatment or storage facilities are constructed to manage different types of materials and wastes.
- Implementation of a number of the preferred options may put pressure on the existing nuclear skills base. This pressure will be increased due to demand from the UK's new nuclear build programme.
 - Some of the adverse socio-economic impacts associated with closing facilities may be mitigated by transferring staff to alternative facilities or sites.
- Health risks associated with options are linked to environmental and socio-economic changes.

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Suggestions for IIA Strategy 2026

- Eden NE has identified 14 areas for potential change, with the aim to improve the applicability and usability of the IIA.
 - These suggestions are still under discussion
- A few examples of these suggestions are covered in the following slides

Example Suggestions for IIA (2026)

Streamlining

- The three volumes total around 350 pages, which inhibits the use of the IIA by decision makers.
- The site specific baselines in Volume 3 could be streamlined. These baselines are informative, but do not underpin much of the assessment.
- Many structural suggestions, such as moving the legislative and policy review into a separate document.

Linking to the NDA Value Framework

- The IIA assesses options against a number of topics, including eleven Strategic Environmental Assessment (SEA) topics, five Socio-economic Impact Assessment (SeIA) topics, and seven Health Impact Assessment (HIA) topics. All of these topics can be linked back to criteria given in the NDA Value Framework, either at the Tier 1 or Tier 2 level.

Critical Enablers

- In many cases the impacts of a strategic option is influenced by its implementation. This consideration is not fully accounted for in the current IIA and could be improved bringing in the assessment of Critical Enablers.

Example Suggestions for IIA (2026)

Climate Change

- The IIA considers some climate effects such as sea level rise, storm surges, flood risk (both pluvial and fluvial) and coastal erosion. However the current IIA did not **fully** consider the effect that the NDA's strategy had on the NDA's ability to adapt to and mitigate climate change. These omissions include:
 - extreme high or low temperatures;
 - droughts;
 - heavy snowfall;
 - increased frequency of lightning;
 - any subsistence or desiccation associated with the above;
 - extreme strong wind events.
- Suitable metrics would need to be identified to enable such consideration.

END

