Nuclear Decommissioning Authority

Draft Business Plan

1 April 2022 to 31 March 2025

Any enquiries related to this publication should be sent to us at:

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Nuclear Decommissioning Authority

Draft Business Plan

Financial year beginning April 2022 to
financial year ending March 2025

Published for consultation on 6 December 2021

Introduction to the consultation

Our consultation on this draft Business Plan starts on 6 December 2021 and closes on 31 January 2022.

This consultation

We want to hear from anyone who has a comment on any aspect of this document. In your response, please tell us whether you're replying as an individual or representing the views of an organisation. If you're acting on behalf of an organisation, please tell us its name and, if applicable, how you gathered the views of its members.

When looking at the responses, we'll give greater consideration to those that are based on evidence, rather than personal expressions of support or opposition.

You can respond by letter or email using the contact details below. Please address all responses to NDA Business Planning, Business Plan Consultation.

By Letter:

NDA Business Planning,
Business Plan Consultation,
Nuclear Decommissioning Authority,
Herdus House,
Westlakes Science and Technology Park, Moor Row,
Cumbria, CA24 3HU

Email: businessplanning@nda.gov.uk

If you've got a question or concern

If you've got a question relating to this consultation, or concern about how it's being carried out please let us know, using the contact details already stated. Please mark your correspondence with 'business plan consultation'.

Confidentiality and data protection

Any information we receive in response to this consultation, including personal data, may be subject to publication or disclosure in accordance with UK information access legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004), unless suitable exemptions/ exceptions apply. If you want the information that you provide to be treated as confidential please let us know but be aware that we cannot guarantee confidentiality in all circumstances. For example, an automatic confidentiality disclaimer generated by your IT system won't necessarily be binding on the NDA. Please refer to Information Commissioner's Office (ICO) guidance on Information provided in confidence for more detail.

Most of the personal information we collect and process is provided to us directly by you. This could include your name, email address, and anything that could be used to identify you. It is an essential part of the consultation process, so that we can contact you regarding your response or for statistical purposes. The NDA is committed to protecting the privacy and security of your personal information. Our Personal Information Charter explains your rights and gives you the information you are entitled to under data protection legislation (the Data Protection Act 2018 and the UK General Data Protection Regulation). If you would like to exercise any of these rights please contact our Data Protection Officer at dpo@nda.gov.uk. If you are dissatisfied with the way we have processed your data you may also contact the ICO.

Additional copies

This draft business plan is available at www.gov.uk/nda.

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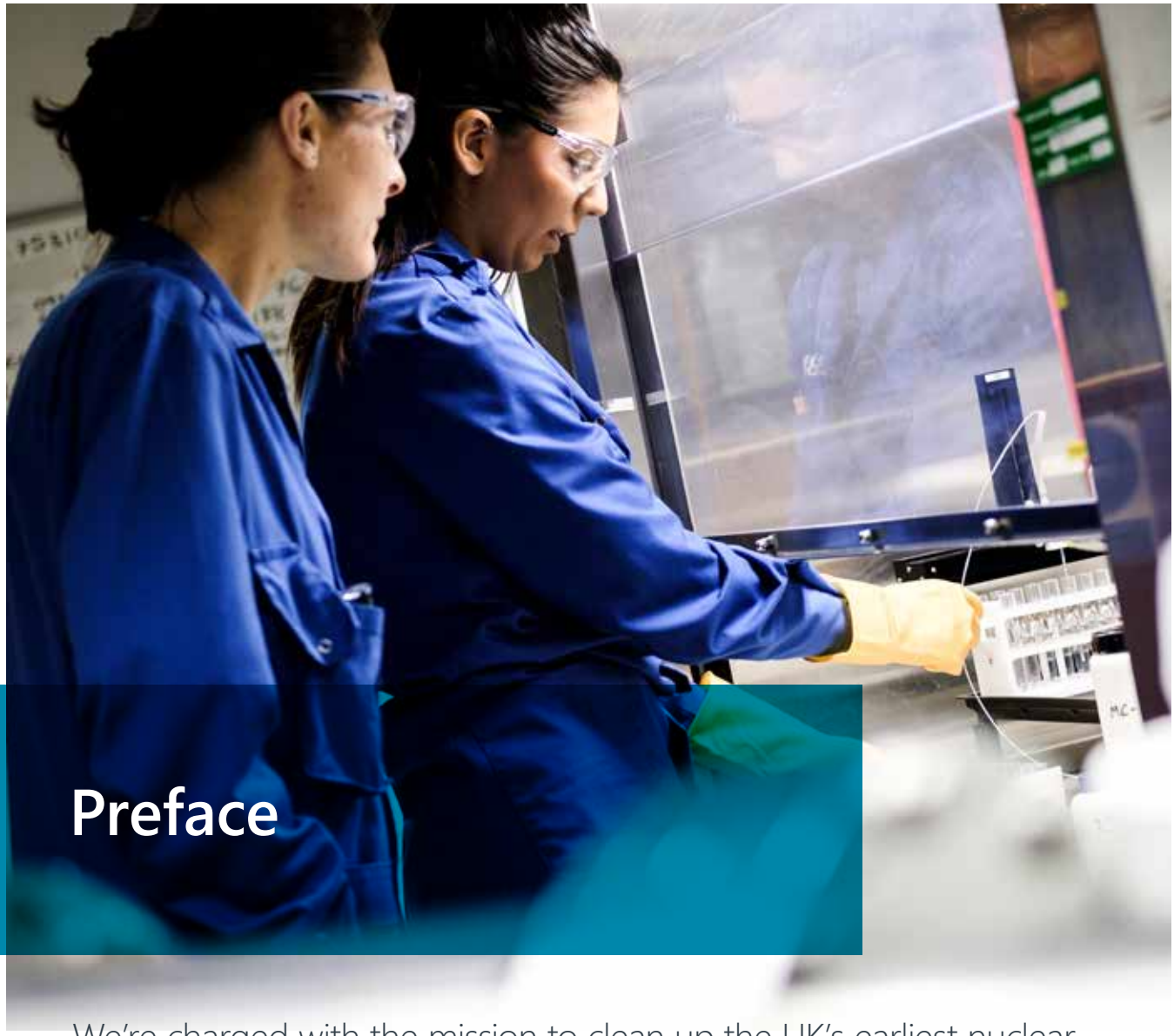
A copy of the consultation criteria is available at www.gov.uk/government/publications/consultation-principles-guidance

Next steps

We'll consider responses to the consultation and revise this draft document as appropriate.

Subject to approval by the UK and Scottish Governments, we'll publish the final version of our Business Plan before the end of March 2022.

Contents



Preface

We're charged with the mission to clean up the UK's earliest nuclear sites safely, securely and cost-effectively. Doing this with care for our people, communities and the environment is at the heart of our work. We're committed to overcoming the challenges of nuclear clean-up and decommissioning, leaving our 17 sites safe and ready for their next use.

Engaging openly and transparently on our work is important to us. This Business Plan is one of several publications which we create and consult on every year. In line with Energy Act requirements, it sets out the activities that will take place over the next three years to advance our important clean-up and decommissioning work and operate our facilities safely and securely. It shows anticipated funding for each of the businesses for 2022/23 and outline total funding for the following two years. We show how the activities are helping to deliver our mission by aligning them to the 47 Strategic Outcomes identified in our Strategy and Mission Progress Report. We also include key work across our range of critical enablers vital to the delivery of the mission.

This document provides the high-level overview of business activity. All the NDA group companies engage in their own operational planning which includes detailed targets, budgets, and key deliverables. These individual plans are subject to appropriate governance within the operating companies and are consolidated at a group level for reporting and measuring performance. Performance against the top-level group priorities and targets is summarised each year in a Mid-Year Performance Report and at the end of the year in our Annual Report and Accounts.

How we communicate our strategy and report progress

ENGAGE WITH OUR STAKEHOLDERS

NDA Strategy

Latest edition: March 2021

Twelve week public consultation every five years. Describes how we will deliver our mission, ensuring that the UK's nuclear legacy sites are decommissioned and cleaned up safely, securely, cost-effectively and in ways that protect people and the environment.

Energy Act requirement. Covers 100+ years.
Published every five years.

NDA Business Plan

Latest edition: March 2021

Eight week public consultation every year. Describes key activities across the group over the next three years that align to our strategic outcomes and details the funding available for the next year.

Energy Act requirement. Covers three years (the first year in more detail).
Published every year.

REPORT PROGRESS

Mission Progress Report

Latest edition: November 2021

Provides our stakeholders with a clear and concise story of NDA mission progress since 2005, that demonstrates delivery of our strategic themes and outcomes as explained in our Strategy.

Covers 100+ years.
Published every year.

NDA Mid-Year Performance Report

Latest edition: February 2021

Provides a progress update against Business Plan activities and incorporates the NDA group targets.

Published every year.

NDA Annual Report and Accounts

Latest edition: July 2021

Describes achievements and spending. Reports against Business Plan activities and contains an overall progress update against our mission.

Published every year.

A message from our Chief Executive David Peattie

Welcome to the NDA's Business Plan, setting out our plans to 2025.

Simplification

The last three years have seen us taking significant steps to simplify the way the NDA and our companies are organised, so we can maximise the way in which we clean up and decommission our legacy nuclear estate. Our new operating model is built upon a subsidiary approach, bringing together the organisations responsible for delivering the NDA mission into one group. Moving away from the previous contractual approach of the parent body organisation model is already helping us to transform the way we're working.

The principle is to simplify the way we operate and move to fewer legal entities, focusing our efforts on performance and value for money. With the last two site licence companies, Dounreay and LLWR, becoming NDA group subsidiaries earlier this year, the intention is now to bring some of our organisations together to harness the benefits of their scale and synergies. LLWR will join with RWM in 2022 and subject to all the necessary approvals, Dounreay will join with Magnox within the next 18 months. The subsidiaries will sit alongside the NDA, Sellafield and Nuclear Transport Solutions (NTS) and make up a simplified, yet stronger NDA group. NTS, launched in April 2021, saw us bringing together our shipping expertise, held by International Nuclear Services, with Direct Rail Services' rail operations.

These structural changes will see the NDA's operating companies working in four pillars: Sellafield, Magnox with Dounreay, Nuclear Transport Services and our new waste division. Our functions will work across the organisations in a matrix, enabling us to make the whole greater than the sum of our parts.

The new ways of working are already reaping rewards for us and the period covered by this Business Plan is about embedding our operating model to maximise the full benefits that coming together affords us.

We have received an outline three-year funding settlement after participation in the 2021 Spending Review process. The overall increase in government funding and growth in expenditure for 2022/2023 demonstrates Government's continued support for our mission at a time when public finances have been stretched dealing with the pandemic.

Delivery

The next three years will see more progress being made on some of the highest hazards on our legacy nuclear sites. At Sellafield, over half of the solid waste from the Pile Fuel Storage Pond has already been removed from the facility and we look forward to the first box of waste from the Pile Fuel Cladding Silo being delivered to stores in 2022. This will be another important step in managing this hazard safely.

"We are simplifying the way we operate and moving to fewer legal entities, focusing our efforts on performance and value for money."

At Dounreay, important work will continue on the shielded radioactive waste store, where drums of intermediate level waste will be stored for the longer-term in accordance with Scottish Government policy. This year has seen huge steel doors installed and the first roof beams lifted into place.

Across the Magnox sites, work will progress in line with the revised site-specific rolling strategy. The overall strategy and site-specific details will be published when appropriate governance and stakeholder engagement is complete.

The work to find a suitable location for a Geological Disposal Facility, to provide long-term disposal of higher-activity radioactive waste, will continue to be important in the next few years and beyond. This year we've announced a third community working group in Lincolnshire and two community partnerships have formed in Cumbria, which will boost engagement with local communities and trigger local investment funding.

Following our progress is now easier, through our Mission Progress Report. We launched the second iteration of the report recently, including the latest updated forecasts in our 120-year plus mission delivery programme.

We expect to complete another of our 47 strategic outcomes in the period with the planned cessation of Magnox reprocessing in 2022 at Sellafield.

Carbon net zero

Across our group, sustainability and our commitment to becoming carbon net zero by 2050 is a priority, though we know we must also make progress in the shorter term to reduce our carbon impact. As a group, we're coming together to meet stretching goals. We're setting our ambitions high, and they'll need us to transform the way we use energy to fuel our sites and buildings and our use and re-use of materials. That said, we're making progress. This year we celebrated the fact that 100% of NTS' Pintail cargo ship was able to be recycled at the end of its proud service, avoiding any of the vessel having to go to landfill – a first for the UK. Meanwhile, in 2030 we will have switched off Sellafield's combined heat and power plant which has seen emissions decrease due to a reduction in demand for electricity and an improvement in efficiency of the plant.

Our people

Workplace culture continues to be especially important to the NDA group's leaders, building on the significant work that's taken place across our organisations in recent years. Creating great places to work is a core part of the NDA group's vision and in September this year we launched our new five-year strategy on inclusion, setting ourselves stretching goals to achieve by 2025. These goals support our aim to attract, retain and develop a high-performing, highly skilled, talented, and motivated workforce that's more representative of modern Britain and create a culture in which they can thrive. We've made great strides already and our group-wide diversity and inclusion networks offer a forum and support for underrepresented groups. Similarly, we continue our drive to reduce our gender pay gap and work towards ensuring a more inclusive and representative workforce.

Our focus to futureproof our mission saw the launch of our revised early careers strategy, setting out our areas of aspiration and ambition over the next five years. The strategy considers key areas that will help support our work to inspire and attract a diverse range of individuals into the NDA group, while ensuring a pipeline of talented and skilled people at the right point in time to support our decommissioning mission.

Trusted to do more

Earlier this year the UK Government announced its decision to entrust the NDA group with a new, nationally important UK decommissioning programme, which will be the most significant increase to the NDA's portfolio since our creation in 2005. Recognising the skills, knowledge and experience housed within the NDA group's organisations, the ownership of seven EDF Energy advanced gas-cooled reactor (AGR) sites will transfer to us over the next decade for future decommissioning. Each site will move across on a rolling basis once defueling and fuel free verification are complete, for the decommissioning work to be overseen and managed by Magnox. EDF's defueling work will be supported by Sellafield and NTS alongside other parts of the NDA group. This decision by the Government is testament to the strides we've taken towards a key part of our NDA group vision, being trusted to do more. We'll be working with EDF to ensure the seamless transfer of stations in the coming years.

Our achievements this year, both operationally and culturally, have been progressed amidst the effects and difficulties still being posed globally by COVID-19. Our organisations and people have risen to these challenges and are testament to the professionalism and adaptability of our people and their efforts to deliver the mission, have great places to work and to be trusted to do more.

David Peattie
NDA Group Chief Executive Officer

The NDA

It's our duty to carry out this highly complex mission safely and efficiently, ensuring people and the environment are safeguarded at all times.

Safety is, and always will be, our number one priority.

We lead the nuclear clean-up and decommissioning mission on behalf of Government and develop the strategy for how it should be carried out.

We evolve our strategy every five years and published our fourth iteration in March 2021.

We strive to deliver best value for the UK taxpayer by focusing on reducing the highest hazards and risks, while ensuring safe, secure and environmentally responsible operations at our sites.

We seek ways to reduce the level of public funding from Government by generating revenue from commercial activities.

As owners of one of the largest nuclear decommissioning and remediation programmes in Europe, our main priority is to lead the work across the NDA group. We also play an important role in supporting government's aspiration for the UK to be a global leader in the civil nuclear sector.

How we're set up

We're a non-departmental public body created by the Energy Act 2004 to lead the clean-up and decommissioning work at our 17 sites on behalf of government.

We're sponsored and funded by the Department for Business, Energy and Industrial Strategy (BEIS).

Our plans for cleaning up the sites are approved by BEIS and Scottish Ministers, who provide a framework for us.

We have five offices across the UK, in Cumbria, Dounreay, Harwell, Warrington and London, and employ 389 permanent staff.

Our sites

The UK's nuclear landscape began to take shape in the post-war period and has evolved over many decades. Our 17 sites reflect this and include the first fleet of nuclear power stations, research centres, fuel-related facilities and Sellafield, which has the largest radioactive inventory and the most complex facilities to decommission.

Current plans indicate it will take more than 100 years to complete our core mission of nuclear clean-up and waste management. The ultimate goal is to achieve the end state at all sites by 2125.

17
nuclear sites across the UK

17,500
employees across the group

1,043
hectares of designated land on nuclear licensed sites

800+
buildings to be demolished

The NDA group

We don't deliver our mission alone. Accomplishing this important work requires the best efforts of the entire NDA group.

Over the last few years, important decisions have been taken on the way in which the organisations that deliver the NDA mission are managed, to create a stronger and more simply structured NDA group.

In the last twelve months we've taken the final steps to move to a group (subsidiary) operating model, away from the previous contractual, parent body organisation approach. Dounreay Site Restoration Ltd (DSRL) became an NDA subsidiary in April 2021, followed by LLWR in July. These follow similar changes for Sellafield in 2016 and Magnox in 2019.

Moving to a group model is enabling us to take further moves to improve and simplify structures, and this year we announced our intention to join Dounreay with Magnox and bring RWM and LLWR together into one waste organisation. This will see the NDA group being made up of the NDA and its four key component parts: Sellafield, Magnox with Dounreay, our waste organisation (Nuclear Waste Services) and Nuclear Transport Solutions. Our other subsidiaries include Rutherford Indemnity, NDA Archives and NDA Properties.

The scope of the NDA group is set to grow, following arrangements agreed by the UK Government and EDF for decommissioning Britain's seven advanced gas-cooled reactors (AGRs). The AGRs will reach the end of their operational lives over the next ten years and as they come offline their ownership will transfer to the NDA for decommissioning, utilising the expertise of our group and significantly Magnox and its experience in decommissioning the older Magnox stations.

Our Vision

As well as our shared mission, our unified vision reflects the collective ambitions of the NDA group:

Deliver our mission together safely, securely and more creatively, transparently and efficiently

Create great places to work and taking pride in what we do

Trusted to do more in the UK and globally

Our funding

We are publicly funded through the Department for Business, Energy and Industrial Strategy (BEIS). Our total planned expenditure is voted upon annually by Parliament in line with the Spending Review.

Funding framework

Government has shown continued support for the NDA mission over recent years with increased grant funding offsetting the decline in commercial revenue following the close out of THORP reprocessing contracts in 2018. Spending review 2021 set funding for three financial years from 2022/23 to 2024/25.

Commercial income

We maximise revenue from our existing assets and operations to help fund decommissioning and clean-up, in order to reduce the level of public funding needed to meet the scope of our plans and delivery of the NDA mission.

Our commercial operations are primarily spent fuel and nuclear materials management with additional opportunities identified in providing transportation services.

We will pursue all commercial opportunities using our existing assets, operations and people where they do not materially impact on our core mission or increase our liabilities.

Prioritisation and allocation of funding

Within affordability constraints, we will seek to maintain progress and maximise value for money through the effective implementation of our strategy. This means focusing on reducing our highest hazards and risks, whilst ensuring that safe, secure and environmentally responsible site operations are maintained.

Planned income and expenditure in 2022/23

This Business Plan sets out our anticipated income and expenditure for 2022/23 as agreed with Treasury and the BEIS.

Our total planned expenditure for 2022/23 is £3.645 billion, of which £2.825 billion will be funded by UK Government and £0.820 billion by income from commercial operations.

Planned expenditure on site programmes will be £3.389 billion, while non-site expenditure is expected to be £0.256 billion.

This non-site expenditure includes skills development, socio-economic, research and development, insurance and pension costs, fees to businesses, implementing geological disposal and the NDA operating costs as detailed on page 16.

£3.645bn
Total planned expenditure 2022/2023

£2.825bn
Funded by UK government

£3.389bn
Planned site expenditure

£0.256bn
Planned non-site expenditure

Planned income and expenditure summary 2022/23

£M Businesses/Sites	Decom & Clean-up Costs (A)	Total Operations Costs: Running Cost (B)	Total Operations Costs: Capex (C)	2022/23 Plan Total (A+B+C)	2021/22 Plan Total
Sellafield Ltd	1,196	706	443	2,345	2,220
Magnox Ltd	515			515	505
Dounreay Site Restoration Ltd	205			205	200
Radioactive Waste Management Ltd	92			92	78
LLWR Ltd	85			85	77
Springfields Fuels Ltd	30			30	36
Capenhurst	31			31	22
Nuclear Transport and Contract Management		86		86	107
Non-Site Expenditure	256			256	249
TOTAL	**2,410**	**792**	**443**	**3,645**	**3,494**
Income				820	964*
Net (grant funded)				2,825	2,530*

Notes:
1. Numbers may not cast due to rounding
2. Final Annual Site Funding Limits issued in March 2022 may be adjusted to reflect efficiency, performance and portfolio pressures.
3. The NDA reserves the right to reallocate funding to meet prioritised programme needs.

* Additional income and corresponding reduction in Grant-in-Aid / Net spend reflect changes in timing assumptions of revenue recognition - no impact on expenditure level.

Summary of NDA funding 2022/23 onward

Summary of NDA funding	2022/23 £M	2023/24 £M	2024/25 £M
Income	820	802	924
Government Funding	2,825	2,963	2,940
Expenditure	(3,645)	(3,765)	(3,864)
Net	-	-	-

Our funding contd

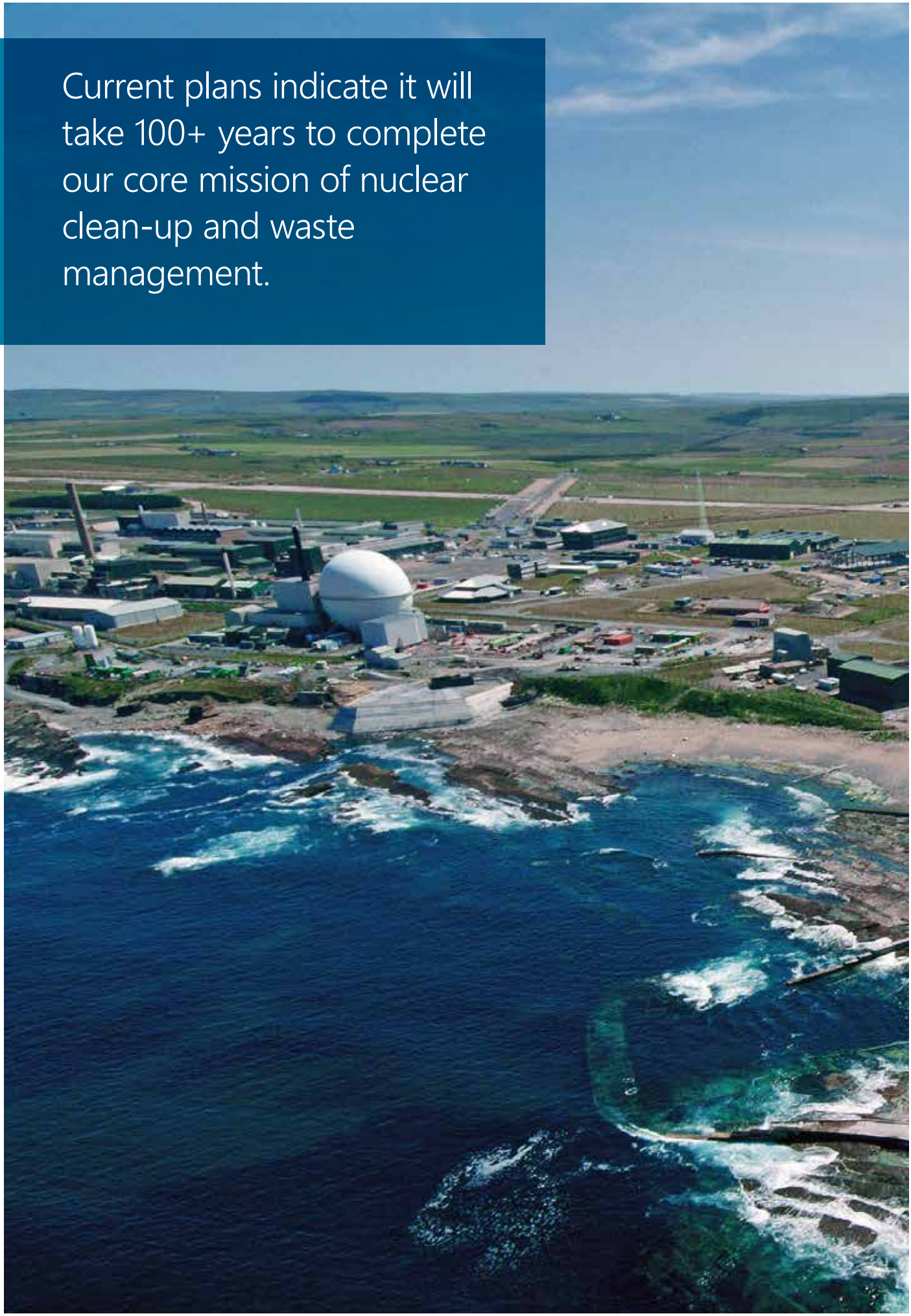
2022/23 breakdown of non-site expenditure

Non-site expenditure	2022/23 Plan £M	2021/22 Plan £M
NDA operating costs	66	66
Critical enablers	71	67
Estate Insurance	11	23
Other central spend	108	93
Total	**256**	**249**

2022/23 breakdown of planned income by category

Income source	2022/23 Plan £M	2021/22 Plan £M
Reprocessing and fuel management services	548	545
NDA - INS transport	51	76
NDA Contracts	177	307
Intra site services	44	36
Total	**820**	**964**

Current plans indicate it will take 100+ years to complete our core mission of nuclear clean-up and waste management.



Our strategic approach and themes

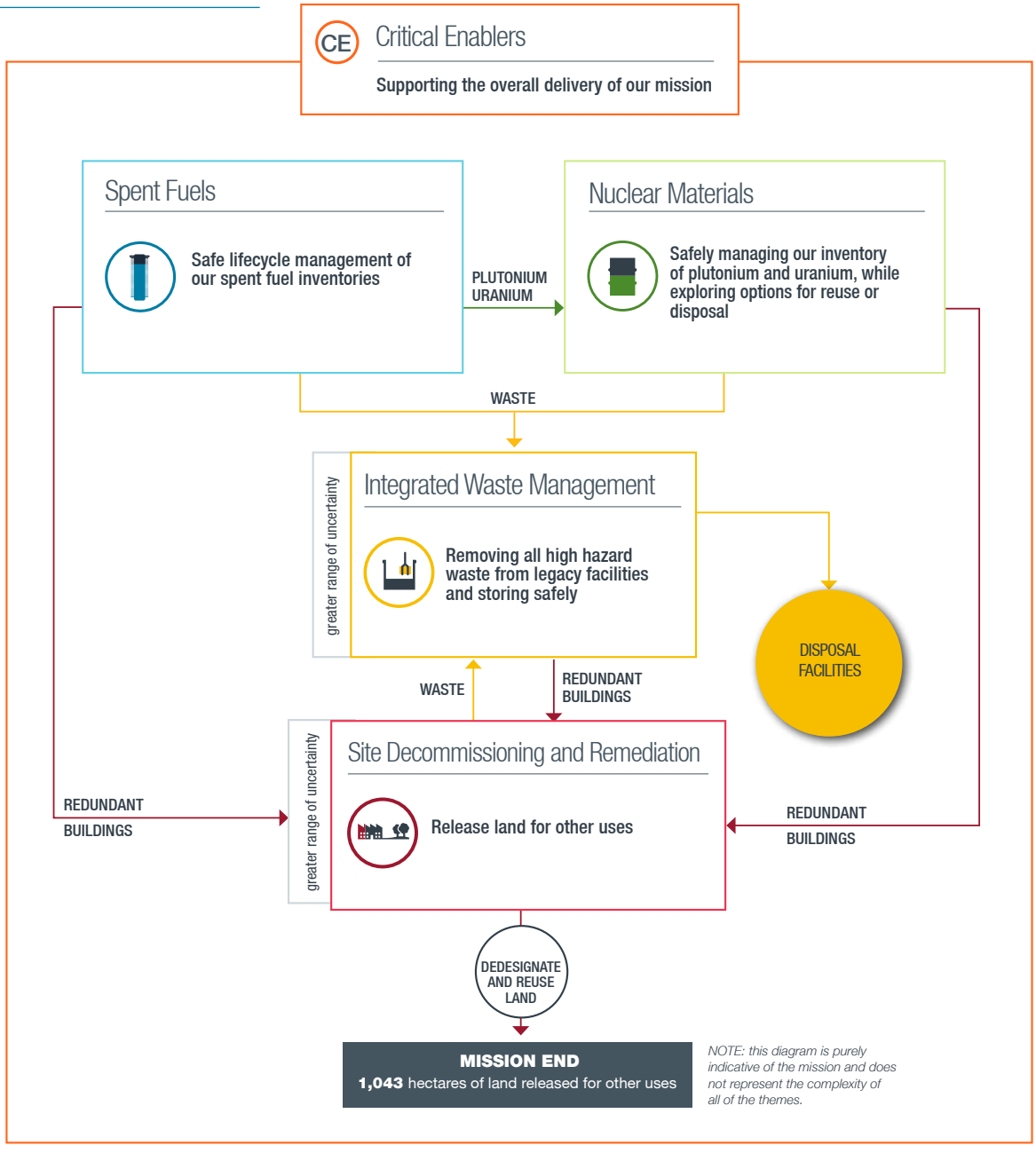
We use five strategic themes to describe all the activities needed to deliver the NDA's mission.

The first four strategic themes, Spent Fuels, Nuclear Materials, Integrated Waste Management and Site Decommissioning and Remediation relate directly to our clean-up and decommissioning work and are known as driving themes.

The fifth theme describes the important activities needed to support the delivery of our mission and is known as Critical Enablers. The diagram below demonstrates how they interplay.

Currently, the most urgent task is dealing with our sites' highest-hazard materials, spent fuel, nuclear materials and highly-radioactive wastes. Once the inventory has been made safe, the redundant nuclear facilities can be dismantled and demolished.

Integration of our strategies



Our five themes

Spent Fuels

Our strategy defines our approach to managing the diverse range of spent fuels for which we are responsible, which are divided into Magnox, Oxide and Exotic. Once spent fuel is removed from a reactor, it is stored in a pond or dry store until it can be dispatched to Sellafield.

Reprocessing extracts materials (plutonium and uranium) that could potentially be re-used and also generates highly radioactive wastes, or fission products.

The NDA's strategy is to bring the reprocessing programme to an end. The THORP reprocessing plant has already closed and the Magnox reprocessing plant will follow. All remaining spent fuel will be safely stored until a permanent solution for disposal is available.

Our spent fuel work is separated into fifteen strategic outcomes that we must deliver, outlined on page 22.

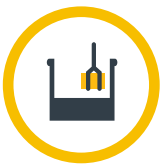
Nuclear Materials

Our strategy defines our approach to dealing with the inventory of uranics and plutonium currently stored on some of our sites. These nuclear materials are by-products from different phases of the fuel cycle, either manufacturing or reprocessing. All nuclear materials must be managed safely and securely, by either converting them into new fuel or immobilising and storing them until a permanent UK disposal facility is available.

All of our plutonium is stored at Sellafield. Our uranium is located at a number of our sites and we are continuing to consolidate it at sites which we consider are best suited to its management.

Our nuclear materials work is separated into ten strategic outcomes that we must deliver, outlined on page 23.

Integrated Waste Management



Our strategy considers how we manage all forms of waste arising from operating and decommissioning our sites, including waste retrieved from legacy facilities. Managing the large quantities of radioactive waste from electricity generation, research, the early defence programme and decommissioning is one of the NDA's biggest challenges. Some of this radioactive waste is in a raw (untreated) form, some has been treated and is being interim stored and, in the case of low level waste, some has already been permanently disposed of.

Retrieving, treating and interim storing the radioactive waste from Sellafield's four legacy ponds and silo facilities is the NDA's highest priority.

Our integrated waste management work is separated into fourteen strategic outcomes that we must deliver, outlined on page 24.

Site Decommissioning and Remediation

Our strategy defines our approach to decommissioning redundant facilities and managing land quality in order that each site can be released for its next planned use.

After the buildings on our sites have been decommissioned, decontaminated and dismantled the land will be cleaned up to allow it to be released for other uses. At that point, its ownership would transfer to the new user of the land.

The NDA is currently assessing alternatives for the final stages of decommissioning that could lead to earlier release of land, continued employment and opportunities to reuse the land.

Our site decommissioning and remediation work is separated into eight strategic outcomes that we must deliver, outlined on page 25.

Critical Enablers

Some of the work we do, we describe as 'critical enablers'. Critical enablers cover the important activities needed to support the overall delivery of our mission. See pages 26 to 29 for more detail.

Work featuring in 2022-2025

Work to construct the Dounreay Cementation Plant store extension

This Business Plan covers the work we will do over the next three years to progress or complete activity across our five strategic themes. You can find the 2022-2025 plans for each of the NDA group operating companies on pages 32 to 59.

The next few pages present in more detail examples of some of the important work that will either be completed or advanced in the next three years. This near-term activity is mapped against our strategic themes and specifically to the 47 outcomes* that make up our mission.

*Our 47 outcomes cover all our strategic themes except 'critical enablers'.

Spent Fuels

SPENT MAGNOX FUEL		End date
1	**All sites defueled**	**COMPLETED**
2	All legacy Magnox fuel retrieved	2025
3	All Magnox fuel reprocessing completed	2022
4	All remaining Magnox fuel in interim storage	2025
5	All remaining Magnox fuel disposed	2125
SPENT OXIDE FUEL		
6	All EDFE Oxide fuel received	2035
7	**All legacy oxide fuel retrieved**	**COMPLETED**
8	**All oxide fuel reprocessing completed**	**COMPLETED**
9	All remaining oxide fuel in interim storage	2035
10	All remaining oxide fuel disposed	2125
SPENT EXOTIC FUEL		
11	All exotic fuel defueled	2024
12	All exotic fuel consolidated	2028
13	All exotic fuel reprocessing completed	2022
14	All remaining exotic fuel in interim storage	2028
15	All remaining exotic fuel disposed	2125

Spent Fuels 2022-2025

Magnox Reprocessing Plant - Sellafield

End of reprocessing

Delivering strategic outcome 3 - All Magnox fuel reprocessing completed

Delivering strategic outcome 11 - All exotic fuel defueled

Delivering strategic outcome 13 - All exotic fuel reprocessing completed

Magnox reprocessing operations are now scheduled to finish in 2022. This will be the final stage in reprocessing the remaining spent fuel from the UK's Magnox reactors, the world's first type of commercial nuclear power station.

The plant, at Sellafield, had been scheduled to close in 2020, but delays and a controlled shutdown of the plant, caused by the COVID-19 pandemic, means the end of Magnox reprocessing is now expected in 2022.

The end of Magnox reprocessing will mark the end of a remarkable chapter in Sellafield's history.

There are just over 270 tonnes of Magnox fuel left to process. This is less than 1% of the total quantity of fuel that has been through the chemical process to separate uranium, plutonium and fission products from the spent nuclear fuel.

Dounreay Fast Reactor

Work to remove the last remaining radioactive fuel elements from inside the Dounreay Fast Reactor and transporting the material for consolidation at Sellafield will continue to be a priority.

For more information on the management of spent fuels please see section five of the NDA Strategy.

Nuclear Materials

PLUTONIUM	End date
16 All plutonium produced	2022
17 **All plutonium consolidated**	**COMPLETED**
18 A: All plutonium repacked in long-term storage B: All cans not suitable for extended storage repackaged	2060
19 All plutonium in modern interim storage	2060
20 All plutonium reused or disposed	2120
URANICS	
21 All uranium produced	2022
22 All uranium consolidated	2025
23 All uranium treated	2055
24 All uranium in interim storage	2055
25 All uranium reused or disposed	2120

Nuclear Materials 2022-2025

Hexaflouride drums being stored at Capenhurst

Uranium consolidation

Delivering strategic outcome 22 - All uranium consolidated

Reprocessing spent nuclear fuel separates uranium, plutonium and other fission products. Large quantities, approximately 54,000 tonnes of uranium, in various forms, have been generated as a legacy of the UK's civil nuclear programme. The NDA is responsible for safely managing this inventory of uranic material.

80% of this uranic material has now been consolidated at the Capenhurst site in Cheshire, where it is safely stored pending a decision on future use or disposition.

Approximately 3,000 tonnes of uranium still need to be consolidated:

- 2,000 tonnes in the form of uranium hexaflouride at Springfields fuel manufacturing site in Lancashire
- 270 tonnes at Sellafield have yet to be produced through reprocessing operations
- The remainder is held in various sites across the NDA group

Good progress continues to be made in the programme of work to re-validate the inventory and the timescales for moving the remaining inventory to Capenhurst, including ongoing monitoring and assessment to ensure the material continues to be stored safely.

Integrated Waste Management

LOW LEVEL WASTE		End date
26	All LLW produced	2127
27	All LLW treated - to enable diversion or reuse	2127
28	All waste suitable for disposal in NDA facilities	2127
29	All waste suitable for permitted landfill disposed	2127
INTERMEDIATE LEVEL WASTE		
30	All ILW produced	2120
31	All legacy waste retrieved	2048
32	All ILW treated	2120
33	All ILW in interim storage	2120
34	All ILW disposed	2125
HIGH LEVEL WASTE		
35	All HLW produced	2030
36	All HLW treated	2030
37	All HLW waste in interim storage	2030
38	All overseas HLW exported	2025
39	All HLW disposed	2104

Integrated Waste Management 2022-2025

Doors being cut in the Pile Fuel Cladding Silo

Legacy ponds and silos

Work to deliver strategic outcome 31 - All legacy waste retrieved

The next three years will see work at Sellafield's four legacy ponds and silos gather pace to remove high hazard waste for safe storage in modern facilities at the site.

The ponds and silos pose some of the most complex decommissioning challenges in the world, and significant progress has already been made in retrieving some of the waste.

This year over half of the solid waste at the site's Pile Fuel Storage Pond facility has been removed.

At Sellafield we look forward to the first box of waste from the Pile Fuel Cladding Silo (PFCS) being delivered to stores in 2022, which will be another major step in the safe management of this high hazard facility.

Pile Fuel Cladding Silo doors being installed

Site Decommissioning and Remediation 2022-2025

Site Decommissioning and Remediation

OPERATIONAL AND PLANNED		End date
40	All planned new buildings operational	2090
41	All buildings primary function completed	2127
DECOMMISSIONING AND DEMOLITION		
42	All buildings decommissioned	2131
43	All buildings demolished or reused	2133
SITES		
44	All land delicensed or relicensed	2135
45	All land in End State - all planned physical work complete	2134
46	All land demonstrated as suitable for reuse	2135
47	All land dedesignated or reused	2333

Trawsfynydd, North Wales where reactor decommissioning is being brought forwards

Magnox Reactor Decommissioning

Work to deliver strategic outcomes 42 and 43 - All buildings decommissioned, demolished or reused

Following a review of Magnox reactor decommissioning, we concluded that a site-specific approach should be taken, based on a range of factors including design, location, age and condition. This new approach was set out in Strategy 4, published in March 2021.

The intention is that the site-specific decommissioning strategies will be continually reviewed and optimised using the learning obtained from the sites being decommissioned.

This important programme of work will be informed by local and national stakeholder views and will include any necessary revisions to enabling strategies like skills and the supply chain.

Dounreay Prototype Fast Reactor Decommissioning

Work to deliver strategic outcomes 42 and 43 - All buildings decommissioned, demolished or reused

This year saw one of the most significant hazards at Dounreay removed, following 4 years of complex problem solving, in a 40-hour operation.

Around 1,810 litres of radioactive sodium coolant (approximately 1.7 tonnes) remaining in a 'heel' pool at the base of the reactor vessel in the Prototype Fast Reactor (PFR) has been pumped out using specially designed equipment.

Removing the heel pool was a major hurdle in the programme that has now been overcome, as the amount of liquid metal had to be reduced before the interior of the reactor vessel could be treated. It paves the way for the next step in the decommissioning of PFR to take place and the project is on course to complete the clean out work by the end of 2023.

The technical and practical challenges to overcome were considerable. The project required the support from all the disciplines and specialists available on site as well as contractors off site. The project could not have been delivered without this collaborative approach.

Pile Chimney decommissioning progress

Work to deliver strategic outcomes 42 and 43 - All buildings decommissioned, demolished or reused

Nuclear clean-up teams have removed the huge diffuser at the top of the Windscale Pile Chimney on the Sellafield site after three years of careful dismantling. The diffuser gave the 125-metre chimney its distinctive top-heavy appearance and its removal has taken away the seismic risk associated with the chimney.

Work is now taking place to remove a metal frame platform and reduce the access shaft. Once that work is complete, a key delivery milestone will be met. Following this, work will start on demolishing the chimney barrel.

Critical Enablers 2022-2025

Group structure

Bringing the group together

In January we'll take another step in our journey to create a stronger and more simply structured NDA group with our waste subsidiaries joining to create a single waste division, Nuclear Waste Services. This will bring together LLWR and Radioactive Waste Management to enact the NDA's integrated waste management programme. It will be an exciting milestone for our group and will allow us to grow our waste capability and expertise even further.

This year, following Dounreay joining the NDA group as an NDA subsidiary, we announced the intention to join Dounreay with Magnox. There will be no fundamental change to the current work programme at Magnox, or at Dounreay, and over time, will bring more opportunities for collaboration and enhance our sharing of skills and knowledge.

These changes follow on from successfully bringing together our transport operating companies, Direct Rail Services (DRS), International Nuclear Services (INS) and Pacific Nuclear Transport Ltd (PNTL) in April 2021 to create Nuclear Transport Solutions (NTS), a centre of excellence for nuclear transport, packaging and logistics.

Diversity and inclusion

Making inclusion part of our DNA

Creating great places to work is a core part of the NDA group's vision. At the heart of this is developing a culture of respect and inclusion where diversity is embraced, and people can feel included, respected, and able to perform at their best.

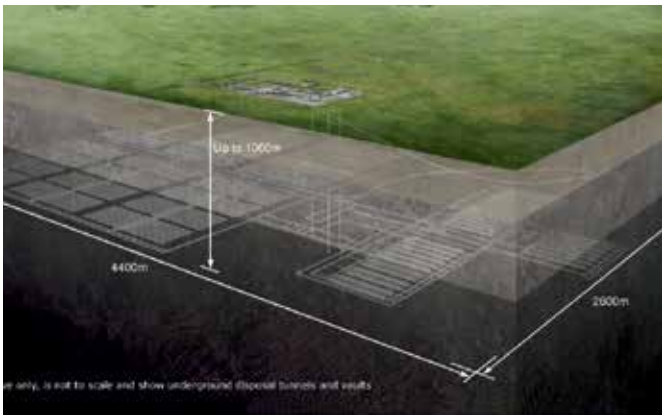
Our group diversity and inclusion journey has gained some momentum this year as we saw the launch of our NDA group Inclusion Strategy 2021-25. This strategy builds on the positive foundations that have been built since the development of our first strategy in 2018. 2021/22 has been a critical year as we move from foundation building to the next phase, focused on embedding inclusion into the DNA and culture of all our operating companies.

Our Inclusion Strategy focuses on five key themes:

- Inclusive Culture and Leadership - Leading inclusively, creating safe environments so people can bring their full selves to work.
- Workforce Diversity - Building diversity, recruiting and maintaining a workforce that includes people from all backgrounds, bringing different viewpoints and ideas into our business.
- Embedding Inclusion through the employee lifecycle - Integrating inclusivity, ensuring our employees feel included at every step, so everyone can flourish.
- Respect, dignity, and employee voice - Engaging our people, listening, understanding, and acting on what our employees think and feel, so we can build a truly inclusive culture.
- Flexibility, agility, and smarter working - Creating an agile culture, developing working arrangements built on mutual trust and business benefit, supporting productivity, employee wellbeing and helping us to attract and keep our talent.

We have set ourselves stretching goals, against which we'll measure ourselves and use to report progress over the next five years. See our NDA group Inclusion Strategy 2021-25 for more detail.

GDF community engagement



Progress to the next stages of finding a suitable site

Radioactive Waste Management's work with local communities to find a willing community and a suitable site to host a geological disposal facility (GDF) has stepped up a gear.

Following last year's announcement that the first community working groups had been formed to explore the opportunity of hosting a facility built to safely dispose of the UK's higher activity radioactive waste, work continues to progress to the next stage of engagement.

Two Cumbrian working groups - Copeland and Allerdale - have both recently identified potential search areas where RWM could begin to look for a site for the GDF. Two search areas have been proposed in Copeland and one in Allerdale, with a community partnership forming for each.

This will unlock investment funding of up to £1 million a year for community projects that drive economic development, improve the environment and community well-being. This figure would rise to £2.5 million a year if site investigations progress to the point of deep borehole drilling.

Separately, three local authorities have now agreed to join a working group which is being formed in Theddlethorpe, Lincolnshire.

The formation of the working group will be the starting point for wider engagement about geological disposal, between RWM and the parties involved so that together they can understand if there is a site that might be suitable, and if the community might be willing to host a GDF.

Cyber security

National cyber collaboration

Working with partners from across the sector, the NDA's cyber security resilience programme is busy preparing for the national cyber exercise Golden Osprey to be run in 2022. The fifth in an annual series for the sector, it will be hosted at the Energus facility in West Cumbria, after a fully remote execution in 2021 due to COVID.

Working closely with Department for Business, Energy and Industrial Strategy (BEIS), Office for Nuclear Regulation (ONR) and the National Cyber Security Centre (NCSC), the exercise scenario and simulation environment is developed under guidance from a steering committee composed of experts across the sector. To ensure a high degree of relevance and realism, scenario development is supported by the NCSC, ONR, EDF Energy, Westinghouse Springfields Fuel, Urenco, Sellafield, Nuclear Transport Solutions, Dounreay Site Restoration Limited, Atos, and the Civil Nuclear Constabulary (CNC).

Unique across all critical infrastructure sectors and taking on greater challenges each year, the exercise provides the opportunity for experts to test and renew skills, improve technical knowledge and proficiency, and develop analytical and communications skills in a very dynamic environment. Typically, the scenario is developed around the concept of sophisticated adversaries targeting critical infrastructure and the supply chains that support it.

Attended by over 20 different sector organisations from across the UK over the years, this one-of-a-kind exercise brings significant training and upskilling opportunities to West Cumbria and the north of England. Through onsite and remote visits, an observer platform, and peripheral activities, the exercise series has helped hundreds better appreciate cyber threats and improve the sector's overall preparedness to counter them.

Critical Enablers 2022-2025

Research and innovation

Defence and security accelerator

The NDA entered a five-year collaboration agreement with the Defence and Security Accelerator (DASA) to support work on challenges aimed at driving forward innovation across sectors.

The agreement enables fully-funded NDA challenges and co-funded opportunities on areas of mutual interest and benefit. Working together leverages greater research and development funding and further access to a wider supply chain.

By collaborating outside of the traditional nuclear sector with those that look to answer similar core challenges, the NDA group has access to wider expertise, lessons learned from previous projects and identify new technology transfer opportunities. Working with other sectors forms a key part of the NDA group's approach to innovation, as outlined in the latest NDA Strategy.

Earlier this year, the NDA co-funded a competition through DASA with the Defence Science and Technology Laboratory focusing on telexistence capability which allows people to operate in environments without physically being there. The project supports the NDA's goal of ensuring safer working environments for people as it moves through its decommissioning mission.

Public engagement

Strategy 4 – Public and Stakeholder Engagement as a key enabler

Public and stakeholder engagement is a key enabler to our mission, as set out in in the NDA's strategy. The Energy Act 2004 established the NDA as an open and transparent organisation with a duty to engage and consult with stakeholders.

In 2021 we published our fourth iteration of the NDA strategy, following a robust period of consultation. In line with safety measures relating to the COVID-19 pandemic, we had to move away from our tried and tested face-to-face engagements to virtual means to connect with our stakeholders. The priority remained maintaining a meaningful consultation and hearing from a diverse as possible range of people.

Adopting digital mechanisms has opened up new opportunities for us, and allowed for greater levels of flexibility, making it easier for some of our stakeholders to get involved. Despite worries about the impact of COVID-19 on our ability to consult, we've received our greatest ever consultation response this year.

Engaging with stakeholders is a continual priority for us, helping us to develop goals and outcomes informed by external perspectives. We share an aspiration with our stakeholders to extend our reach to groups who, in the past, we've found it harder to engage with, including young people. This will see us prioritising digital, visual, and creative communications alongside our more traditional routes, and further improving the flexibility of our interactions to encourage an even more diverse discussion.

Sustainability

We have a legal, moral, and ethical responsibility to deliver our mission sustainably, with care for our people, communities, and the environment. Demonstrating its importance to the NDA group, sustainability has been introduced as a critical enabler to our mission in the NDA Strategy 4, published in 2021. To enable our commitment to delivering sustainable outcomes, an NDA group Sustainability Strategy and Policy will set the direction for the NDA group in this important area and set down the goals we will work towards. Some case studies of sustainability at NDA:

100% of 3,865-tonne specialist nuclear vessel recycled in a unique first for UK fleet

The decommissioning of Oceanic Pintail has set the standard others must follow after 100% of the 3,865-tonne specialist nuclear vessel was recycled.

Nuclear Transport Solutions (NTS), which operated Oceanic Pintail, set Dales Marine Services the challenge of ensuring the world-class cargo vessel was reused.

Applying a number of innovative techniques, every part of the NDA-owned vessel was recycled in a UK first. The achievement supports both the NDA group and Government's carbon net-zero ambitions.

Nucleus, the Nuclear and Caithness Archives – Working towards Net Zero

Nucleus was established by the NDA in 2015, in Wick, Caithness Scotland to manage the nuclear industry's records.

Throughout 2021 and beyond, the site is working towards carbon net zero status. This will include an upgrade to the lighting, heating, and introducing solar power.

The multiple environmental and social economic benefits being delivered and sought include:

- More than 60 jobs for local people
- Rainwater harvesting providing all the water required for toilet flushing as well as additional water saving features.
- Reduced CO_2 transport emissions by introducing a digitisation project, removing the need to physically transfer large amounts of records around the UK

NDA Value Framework – Renewed focus to sustainability and social value

The decisions we make must deliver value for money in its broadest sense. Our stakeholders, including government, require that we have a clear definition of value for money applied to nuclear decommissioning.

The latest version of the NDA's Value Framework gives renewed focus on demonstrating sustainability and social value of decisions taken using the NDA Value Framework decision-criteria reflecting both the ambition of stakeholders involved in nuclear decommissioning, the aspirations of wider UK government policy and is aligned to the UN Sustainable Development Goals.

On track to cut plastic pollution at LLWR

LLWR is playing its part in reducing waste plastic by opting to incorporate an additive to the tarmac for use in the current resurfacing work, on the site perimeter track.

In every tonne of asphalt used for resurfacing, 3kg of bitumen are replaced with the equivalent of the plastic additive. This additive is composed of non-recyclable waste plastics which would have previously been destined for landfill.

Some 12,840kg of the additive will be used in the project. A single use plastic bag weighs around 4.5g, so the amount of recycled plastic equates to 2,853,333 single use bags that will now no longer reach landfill.

The WELL project!

Western Excellence in Learning and Leadership (WELL) was a project co-designed by Sellafield Ltd, the NDA, Cumbria County Council and school heads from the Cumbria Alliance of System Leaders. It aims to close the disadvantage attainment gap, raise pupil achievement, improve the quality of teaching, and enhance students' health and wellbeing in Cumbria. Highlights include:

- 118 schools have implemented proven interventions to support resilience and learning for disadvantaged students
- 43 school have completed youth mental health first aid training
- 40 schools now have staff qualified as Emotional Literacy Support Assistants
- 71 schools were provided with surplus IT equipment to support disadvantaged learners to access material through the lockdown.

Oldbury Lagoon 3

Oldbury Site's 'Lagoon 3' is an area of designated land owned by NDA and leased to Magnox adjacent to the Oldbury Site. The ecological value of regenerating this area has been highlighted by South Gloucestershire Council, Natural England and the Avon Wildlife Trust.

Magnox is working with the NDA to develop a strategic solution to:

- Create an area of wetland suitable for important wintering bird species
- Make the area accessible for visitors and local community
- Highlight NDA's commitment to ensuring the ecological/ environmental sustainability of our sites
- Potentially hand over ownership of the lagoon to a third party to manage as a nature reserve

NDA group key activities

Preparing for decommissioning work at the Low Level Waste Repository

The NDA group's key activities for the next three years are set out on the following pages.

All activities and dates shown in the subsequent pages represent the latest emerging information and are subject to change.

Where we expect an activity to complete during the Business Plan period, this is clearly stated. All other activities will continue into the following year.

NDA Corporate Centre

Important milestones

2022-2025

- Lead the strategic diversity and inclusion agenda across the NDA group
- Implement the NDA group Sustainability Strategy, and progress an embedded NDA group and NDA Corporate Centre common approach to Sustainability
- Implement and embed the NDA Leadership Academy and develop an NDA group Talent Strategy which will enable us to attract, develop and retain the talent and leaders we need to deliver the mission
- Refresh and 're-imagine' a new future for our organisation helping us continue to make the NDA a great place to work

Planned expenditure for 2022/23

£66 million

Key activities	Timescale
Spent Fuels	
Continue to work with EDFE and our subsidiaries on the integrated and collaborative delivery programme for the safe and cost-effective defueling of AGR power stations, the AGR Operating Programme	**2022-2025**
Work with our group businesses to optimise the strategy for the Consolidation of exotic fuels from Dounreay to Sellafield	**2022-2025**
Nuclear Materials	
Work with the UK government on a disposition solution that puts the UK's plutonium beyond reach	**2022-2025**
Implement a programme of research and development to mature the credible options for plutonium disposition	**2022-2025**
In line with our Strategy, and following business case approval, implement the preferred approach to dealing with the NDA owned uranium hexafluoride at Capenhurst	**2022-2025**
Integrated Waste Management	
To make more use of a risk informed approach for waste management and to seek solutions that help to optimise the lifecycle of both radioactive and nonradioactive wastes. This risk-informed approach enables wider application of the Waste Hierarchy and allows us to make optimum use of our treatment, storage and disposal infrastructure	**2022-2025**
Work with group businesses to explore alternative disposal options for Higher Activity Waste	**2022-2025**
Site Decommissioning and Remediation	
Ensure that approaches to decommissioning and remediation reflect the changing level and nature of hazards that exist throughout the lifetime of a nuclear installation, and support businesses with developing proportionate arrangements	**2022-2025**
Review the use of Safety and Environmental Detriment scores to determine if and how they might be improved as a consistent means of expressing the level of risk to people and the environment. Seek to develop meaningful indicators for other factors in the Value Framework as an input to decision-making	**2022-2025**
Work with government, regulators and local communities to ensure that remediation of our sites is safe, sustainable and publicly acceptable, and enables their beneficial reuse as early as possible	**2022-2025**
Facilitate beneficial reuse of wastes generated from demolition activities and land remediation to restore sites where it represents the most sustainable solution	**2022-2025**
Engage with UK government and local government to better understand what they need from NDA land and develop our understanding of the controls required to reuse our sites safely where residual contamination is being managed	**2022-2025**

Key activities	Timescale
Regulatory control	
Continue working with regulators and government to determine institutional controls appropriate to restoration of nuclear sites will remain	**2022-2025**
Critical Enablers	
Develop strategic opportunities that optimise delivery of the mission	**2022-2025**
Active participation in the Nuclear Sector Deal to help achieve HMG deliverables	**2022-2025**
Provide support to government on nuclear new build decommissioning plans	**2022-2025**
Develop a group-wide accommodation strategy (including welfare, warehousing, transport and logistics) allowing effective re-use of the operational land for construction of new facilities required to deliver the NDA mission	**2022-2025**
Sustainability & Health, Safety, Environment & Wellbeing	
To ensure that our mission outcomes and the journey to deliver them are sustainable	**2022-2025**
Having established our group carbon footprint, group carbon policy and a roadmap to net zero by 2050, we will develop and implement carbon reductions through carbon management plans at each operating company	**2022-2025**
We will deliver a natural capital baseline assessment of our NDA owned land and develop a plan to improve the environmental value of this land where this aligns with other strategic land use opportunities	**2022-2025**
Contribute to environment sustainability performance and meet Greening Government Commitment	**2022-2025**
Lead in the area of Mental Health and Wellbeing across the NDA group and further enhance the wellbeing community across the group	**2022-2025**
Security, Resilience, ICT, Information Governance & Digital	
Implement new ICT programmes to allow smarter, flexible working across the NDA CC. To include digital transformation and Information Governance initiatives aimed at improving the way we work, whilst maintaining information security and legislative compliance	**2022-2025**
Lead on the development and co-creation of a Digital Vision and Strategy for the group	**2022-2025**
Support implementation of forthcoming new nuclear emergency preparedness standards across the NDA group, as part of the UK's implementation of the Basic Safety Standards Directive 2013	**2022-2025**
Cyber Security	
Proactively deter, detect, defend against, recover from and be resilient to both current and evolving cyber threats	**2022-2025**
Research, Development and Innovation	
Work with other nuclear and non-nuclear organisations to encourage and leverage cross-sector investment in RD&I and foster technology transfer between sectors and internationally	**2022-2025**
Lead the promotion and adoption of technology and innovation across the NDA group, developing an environment where innovation can thrive	**2022-2025**
Work collaboratively across the NDA group to embed good practices in Technology and Innovation Management and Technical Assurance	**2022-2025**
People	
Enable and drive the delivery of our mission through our people by attracting, retaining and developing a high performing, highly skilled, talented and motivated workforce and creating a culture in which they can thrive	**2022-2025**
Lead the strategic diversity and inclusion agenda across the NDA group ensuring effective governance and oversight to drive One NDA Inclusion, including achieving targets in the Nuclear Sector Deal and supporting our vision to create great places to work	**2022-2025**
Implement government led reforms of public sector pensions across the NDA group	**2022-2025**
Asset Management	
To secure safe, reliable, maintainable and sustainable asset performance and optimise through life cost of assets	**2022-2025**
Supply Chain	
To build commercial capability which maintains a resilient, sustainable, diverse, ethical and innovative supply chain that optimises value for money for the UK taxpayer when sourcing goods and services	**2022-2025**
Socio-Economics	
To support the maintenance of sustainable local economies for communities living near NDA sites and, where possible, contribute to regional economic growth	**2022-2025**
Public and Stakeholder Engagement	
To build a better understanding of our mission among the public and our stakeholders and maintain their support, confidence and trust	**2022-2025**
International Relations	
To be a world leader in facilitating international collaboration in nuclear decommissioning	**2022-2025**
Transport	
To ensure the effective, safe and secure transportation of materials to enable the successful delivery of the NDA mission	**2022-2025**
Non-NDA Liabilities	
To identify, assess and decide how to manage non-NDA liabilities, whether public or private sector, to deliver greater value for the UK, while ensuring the successful delivery of our mission remains our priority	**2022-2025**

Sellafield Limited

Sellafield Ltd is an NDA subsidiary, responsible for operating and decommissioning Europe's largest and most complex nuclear site. This includes cleaning up nuclear facilities and safeguarding nuclear fuel, materials and waste.

Important milestones

2022-2023

- Complete Magnox reprocessing and continued interim storage in FHP for any remnant fuel
- PFCS - First box of waste from early retrievals delivered to store
- Complete decommissioning and demolition of the upper diffuser section of the Windscale Pile Chimney Number 1

2023-2024

- Enhanced capacity to receive/ manage and interim store AGR spent fuel from EDF Energy, to support bulk defueling

2024-2025

- Enhanced / optimised sort and segregation of alpha waste

Planned expenditure for 2022/23

£2,345 million

Site in Cumbria

276 hectares

Hectares dedesignated

0 hectares

All 276 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

All Buildings Decommissioned or Relicensed	TBD
All Land Demonstrated as Suitable for Reuse	2125
All Land Dedesignated or Reused	2125

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Spent Fuels		
All spent fuels discharged from the operating Advanced Gas-Cooled Reactor (AGR) power stations and defueling of all Magnox power stations reactors are sent to Sellafield for management. The receipt of AGR fuels will continue until the end of the AGR electricity programme, whilst all the Magnox fuel has now been received at Sellafield. The management of AGR fuel under contracts with EDF Energy provides a significant income stream to NDA		
Spent Magnox Fuel		
First Generation Magnox Storage Pond Complete the capability to export all fuel for interim storage	**2022-2023**	2
Complete Magnox reprocessing and continued interim storage in FHP for any remnant fuel	**2022-2023**	3 4
Spent Oxide Fuel		
Enhance capacity to receive/manage and interim store AGR spent fuel from EDF Energy, to support bulk defueling	**2023-2024**	6 9
Spent Exotic Fuel		
Continue to receive Dounreay spent exotic fuel to be reprocessed or stored, and develop alternative capability for receipt and management of remaining spent exotic fuels from Dounreay	**2022-2025**	12 14
Integrated Waste Management		
The various activities across the site produce wastes in many forms. These require varying degrees of treatment and onward processing. The site continues to focus on safe, efficient management of these wastes, including: the conversion of Highly Active Liquor (HAL) into passively safe vitrified waste; the return of vitrified material overseas; and the management of on-site intermediate and low level wastes. The areas of principal focus are the redundant Legacy Ponds and Silos facilities, made up of the Pile Fuel Storage Pond, Pile Fuel Cladding Silo, First Generation Magnox Storage Pond and Magnox Swarf Storage Silo. These facilities supported the development of the nuclear programme in the UK from the early 1950s. Subsequently, they supported electricity generation from the fleet of Magnox power stations. The programmes include the removal of nuclear fuel, sludge and solid material which require the provision of equipment to retrieve the various wastes and then treat and store them. This process needs to take into account the role of integrated waste management in achieving hazard reduction and long-term safety, security and environmental protection requirements.		
Low Level Waste		
Continue to generate savings and preserve capacity at the Low Level Waste Repository by enhancing capability to divert waste to LLWR and the supply chain	**2022-2025**	27
Intermediate Level Waste		
Pile Fuel Storage Pond (PFSP) • Progress supporting programme activities	**2022-2024**	31
First Generation Magnox Storage Pond (FGMSP) • Support risk reduction from FGMSP through continued removal of fuel and waste from the facility	**2023-2025**	31
Magnox Swarf Storage Silo (MSSS) • Continue retrievals from MSSS • Progress the capability required for bulk retrievals	**2022-2025** **2023-2024**	31 31
Pile Fuel Cladding Silo (PFCS) • First box of waste from early retrievals delivered to store	**2022-2023**	31
Support the NDA's strategy by continuing the programmes to receive and treat waste materials from Harwell and AWE Aldermaston	**2023-2024**	32
Support future waste treatment through implementing the capability to actively demonstrate characterisation, size reduction and decommissioning	**2022-2025**	32
Support risk reduction by developing additional capability for treatment of intermediate level liquid wastes and storage of by-products	**2023-2025**	32
High Level Waste		
Continue the programme to repatriate overseas-owned vitrified waste to its country of origin	**2022-2025**	38
Support reprocessing plant decommissioning by determining the capability to process High Active Post Operational Clean Out of solids through the Vitrification Plant, and commence processing if capacity exists	**2023-2025**	36

Key activities	Timescale	Strategic Outcome
Nuclear Materials		
Sellafield is the custodian of the majority of the UK's inventory of separated plutonium which is held in safe and secure storage.		
Plutonium		
Continue the safe and secure storage of plutonium by developing the capability to repack/retreat plutonium in line with UK policy	**2022-2025**	18 19
Uranics		
Support future decommissioning by implementing plans for consolidated storage of Sellafield uranics	**2022-2025**	22 24
Site Decommissioning and Remediation		
Decommissioning and demolition		
Complete decommissioning and demolition of the upper diffuser section of the Windscale Pile Chimney Number 1	**2022-2023**	42 43
Commence post operational clean-out (POCO) of Magnox Reprocessing Plant	**2022-2023**	42
Critical Enablers		
A number of key enabling activities require specific focus, ranging from infrastructure refurbishment or replacement projects, through to key change programmes which aim to improve operational delivery and efficiency on site.		
Continue the Sellafield transformation to support future business requirements including the development and embedding of a value-led culture	**2022-2025**	-
Develop and embed the long-term partnership with the supply chain	**2023-2024**	-
Progress the transformation of project delivery on site and continue to embed the Programme and Project Partnership	**2022-2025**	-
Support small and medium enterprise organisations by increasing overall spend with them in line with the government growth agenda	**2022-2025**	-
Continue to embed the Sellafield security enhancement programme	**2022-2025**	-
Continue with improvements to the site utilities infrastructure	**2022-2025**	-
Continue the programme to ensure the analytical services capability is available to support the mission	**2022-2025**	-
Active participation in the Nuclear Sector Deal to help support HMG key deliverables	**2023-2024**	-
Working to embed the capability to proactively protect, detect, respond and recover against current and evolving cyber threats	**2022-2025**	-
Manage and deliver asset management and continuous improvement capability and performance to support mission delivery	**2022-2025**	-
Regulatory Control		
Ensure discharges are in line with UK discharge strategy	**2022-2025**	-
Reduce environmental risk (including retrieval and treatment of legacy wastes, reduction of HAL stocks)	**2022-2025**	-

Magnox Limited

Magnox is an NDA subsidiary, responsible for 12 nuclear sites across the UK: Berkeley, Bradwell, Chapelcross, Dungeness A, Harwell, Hinkley Point A, Hunterson A, Oldbury, Sizewell A, Trawsfynydd, Winfrith and Wylfa. Magnox also generates electricity at the Maentwrog hydroelectric plant.

Planned expenditure for 2022/23

£515 million

Following a review of the Magnox reactor decommissioning strategy (strategic outcome 42), the NDA has endorsed a site-specific approach to Magnox reactor decommissioning which will involve a mix of decommissioning strategies. For some sites this will result in their decommissioning being brought forward whilst for others a deferral strategy will be the chosen approach; over the last year Magnox has developed the business case for this fundamental change of strategy.

The intention is that the site-specific strategies will result in a rolling programme of activity as the Magnox fleet is decommissioned. This will maximise the opportunity for sharing any lessons learned, developing and implementing new technologies, and strengthening wider capability. The programme will collectively be geared towards reducing risk, reducing lifetime costs, and growing skills and knowledge to deliver benefits both nationally and to local communities.

The site-specific decommissioning strategies will be continually reviewed and optimised using the learning obtained from the sites being decommissioned. It is expected that the strategy for decommissioning Calder Hall (a former Magnox reactor on the Sellafield site) will also incorporate learning from the lead Magnox site, Trawsfynydd. When the site-specific plans and dates are confirmed they will be published on the NDA's website.

Continued focus on safety and risk reduction will remain the overriding priorities across all the sites.

Key activities	Timescale	Strategic Outcome
Site Decommissioning and Remediation		
Decommissioning and demolition		
Continue estate decommissioning and demolition activities in line with individual site strategies	**2022-2025**	42 43
Continue reactor decommissioning	**2022-2025**	43
Continue to manage and remove asbestos	**2022-2025**	42
Continue development of site specific strategies as part of a rolling programme of decommissioning	**2022-2025**	42
Dedesignate or Reuse		
Continue working with Regulators to ensure appropriately scaled management arrangements and permissioning for Interim States and Interim End States are determined and agreed	**2022-2025**	44 45
Development of Interim State approaches, utilising revised management arrangements	**2022-2025**	44
Monitoring of management and maintenance arrangements for sites in Care and Maintenance	**2022-2025**	44
Progress land quality activities to support suitability for reuse	**2022-2025**	46
Progress land dedesignation and release to support reuse	**2022-2025**	47
Provision of support to nuclear new build	**2022-2025**	47
Nuclear Materials		
Uranics		
Continue the programme for the transfer of nuclear materials including regulatory permissioning	**2022-2025**	22
Integrated Waste Management		
Low Level Waste		
Delivery of the Magnox elements of the estate-wide low level waste management plan including diversion to alternative treatment including development of updated Integrated Waste Strategy	**2022-2025**	26 27 28 29
Intermediate Level Waste		
Progress activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Progress design and build of ILW retrieval plant	**2022-2025**	31
Continue to pursue opportunities to consolidate ILW to interim stores	**2022-2025**	33
Critical Enablers		
Support Government in activities to deliver preparations for decommissioning the Advanced Gas-cooled Reactor fleet	**2022-2025**	-
Prepare Magnox for the joining of Dounreay and each AGR as they reach fuel free state. Develop and deliver the joint programmes with DSRL and EDF	**2022-2025**	-
Support small and medium enterprise organisations by increasing overall spend with them in line with the government growth agenda	**2022-2025**	-
Continue enhancement of Cyber Security Capability and IT infrastructure	**2022-2025**	-
Optimise Asset Management capability and performance to support mission delivery	**2022-2025**	-
Progress development of workforce capability and skills for decommissioning in Magnox and the supply chain	**2022-2025**	-
Develop and deliver to the Sustainability Agenda	**2022-2025**	
Identify and realise opportunities in Research Development and Innovation	**2022-2025**	

Berkeley

Site in Gloucestershire

27 hectares

Hectares dedesignated

11 hectares

16 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Continue to progress activities to retrieve, treat and store ILW wastes	**2022-2025**	31 32 33
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Commence the deplant and demolition of the Caesium Removal Plant	**2022-2025**	42 43
Continue to progress the asbestos and plant removal from the Blower Houses	**2022-2025**	42 43

Bradwell

in Care and Maintenance

Site in Essex

20 hectares

Hectares dedesignated

0 hectares

All 20 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Site Decommissioning and Remediation		
Dedesignate and Reuse		
Ongoing management of site during Care and Maintenance period	**2022-2025**	44

Chapelcross

Site in Dumfries and Galloway

96 hectares

Hectares dedesignated

0 hectares

All 96 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW wastes	**2022-2025**	31 32 33
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Complete design and build of ILW Encapsulation facility	**2022-2023**	31 32
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Progress preparations for pond draining and stabilisation including waste retrievals	**2022-2025**	42
Prepare and execute land remediation of the Cooling Tower basins	**2022-2024**	46
Commence and progress Turbine Hall asbestos removal	**2022-2025**	42

Dungeness A

Site in Kent

20 hectares

Hectares dedesignated

0 hectares

All 20 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW wastes	**2022-2025**	31 32 33
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Continue to progress activities supporting consolidated ILW storage	**2022-2025**	33
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Commence and progress decommissioning the Active Effluent Treatment facilities	**2022-2025**	42
Prepare and progress the demolition of the boilers and associated buildings	**2022-2025**	43

Harwell

Site in Oxfordshire

107 hectares

Hectares dedesignated

23 hectares

84 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)	
Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**2025**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Nuclear Materials		
Uranics		
Continue the programme for the transfer of nuclear materials	**2022-2025**	22
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue preparations for decommissioning of the Radium Chemistry Laboratory facilities (B220)	**2022-2025**	42
Continue decommissioning, demolition, land remediation, reinstatement and delicensing of the Liquid Effluent Treatment Plant (LETP)	**2022-2025**	42 43 46
Continue preparations for the decommissioning of the British Experimental Pile Zero reactor (BEP0)	**2022-2025**	42
Continue the decommissioning of the Active Waste Handling facility (B459)	**2022-2025**	42
Dedesignate or Reuse		
Continue incremental release of land to the Harwell campus through targeted demolitions, remediation and clearance of land tracts	**2022-2025**	42 43 47

Hinkley Point A

Site in Somerset

19 hectares

Hectares dedesignated

0 hectares

All 19 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Complete design and build of ILW Encapsulation facility	**2022-2023**	31 32
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue and complete asbestos removal from the Reactor Building	**2022-2024**	42
Continue to progress the de-planting of the Reactor Building	**2022-2025**	42
Commence the decommissioning of the Active Effluent Treatment facilities	**2022-2025**	42

Hunterston A

Site in Ayrshire

15 hectares

Hectares dedesignated

0 hectares

All 15 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Commissioning of the solid ILW encapsulation plant	**2022-2025**	32
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue the decommissioning of the Active Effluent Treatment facilities	**2022-2025**	42
Continue to progress the deplanting of the Reactor building	**2022-2025**	42
Continue to progress the deplanting of the Cooling Pond overbuilding	**2022-2025**	42

Oldbury

Site in South Gloucestershire

47 hectares

Hectares dedesignated

32 hectares

15 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities supporting consolidated ILW storage	**2022-2025**	33
Commence the design and build of ILW retrieval plant	**2022-2025**	31
Continue to progress activities to retrieve, treat and store ILW (at Berkeley)	**2022-2025**	31 32 33
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue to progress the decommissioning of the Active Effluent Treatment facilities	**2022-2025**	42
Commence and progress the asbestos removal, deplant and demolition of the Turbine Hall	**2022-2025**	42
Commence the asbestos removal from the Reactor Building	**2022-2025**	42

Sizewell A

Site in East Suffolk

14 hectares

Hectares dedesignated

0 hectares

All 14 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to support consolidation of ILW storage	**2022-2025**	33
Commence design and build of ILW retrieval plant	**2022-2025**	31
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Commence and progress the decommissioning of the Active Effluent Treatment facilities	**2022-2025**	42
Progress and complete the asbestos removal, deplant and demolition of the Turbine Hall	**2022-2025**	42
Commence and progress the asbestos removal from the Boiler Houses	**2022-2025**	42

Trawsfynydd

Our lead and learn site for rolling decommissioning

Site in North Wales

15 hectares

Hectares dedesignated

0 hectares

All 15 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue and complete activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue and complete Reactor Height Reduction enabling activities	**2022-2023**	42
Commence, prepare, and progress Reactor Building Height Reduction	**2022-2025**	43
Continue deplanting, decommissioning and demolition of the Ponds complex facility	**2022-2025**	42

Winfrith

Site in Dorset

81 hectares

Hectares dedesignated

10 hectares

71 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)	
Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Low Level Waste		
Complete shipments of LLW (TRS) drums to LLWR	**2022-2024**	28
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue DRAGON reactor decommissioning, including the completion of the construction and installation of the Core Segmentation equipment	**2022-2025**	42
Continue SGHWR decommissioning, including the completion of the construction and installation of the Core Segmentation equipment	**2022-2025**	42
Commence and progress the removal of the discharge pipelines	**2022-2025**	42
Continue land remediation activities and end state development	**2022-2025**	46

Wylfa

Site in Anglesey

21 hectares

Hectares dedesignated

0 hectares

All 21 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Free from Spent Fuel	**ACHIEVED**
Free from Nuclear Materials	**ACHIEVED**
All Radioactive Waste Disposed	**TBD**
All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**TBD**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Intermediate Level Waste		
Continue to progress activities to retrieve, treat and store ILW	**2022-2025**	31 32 33
Continue to progress design and build of ILW retrieval plant	**2022-2025**	31
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue and complete asbestos removal from the De-aerator floor of the Turbine Hall	**2022-2023**	42
Commence and progress asbestos removal from the Reactor Building	**2023-2025**	42
Continue and complete the installation of a replacement Electrical Overlay scheme	**2022-2024**	42

Dounreay

Dounreay Site Restoration Limited

Dounreay Site Restoration Ltd (DSRL) is responsible for decommissioning and cleaning up the Dounreay site in the north of Scotland. It also operates a Low Level Waste (LLW) disposal facility to deal with waste from the site. The organisation became a wholly owned subsidiary of the NDA on the 1st April 2021.

Important milestones

The activities below are extracted from the current site Lifetime Plan. A revised Lifetime Plan is in development following the transition to an NDA subsidiary, and the dates shown are therefore subject to change.

2025

- All fuel in long-term storage or shipped off site.
- Dounreay Fast Reactor (DFR) dismantled

2027

- Prototype Fast Reactor (PFR) dismantled

2028

- Shaft and silo encapsulation complete

2031

- Site clearance and environmental restoration phase 3 complete

2032-33

- Interim end state achieved

Planned expenditure for 2022/23

£205 million

Site in Northern Scotland

60 hectares

(plus 12 hectares designated for LLW facility) in Caithness.

Hectares Dedesignated

0 hectares

60 hectares remain covered by the nuclear site licence, the 12 for the LLW facility are designated but not licensed.

SITE PROGRESS (ACHIEVED AND EXPECTED)

Defueled	2025
Free from Nuclear Materials	TBD
All Radioactive Waste Disposed	TBD
All Buildings Decommissioned or Relicensed	TBD
All Land Demonstrated as Suitable for Reuse	TBD
All Land Dedesignated or Reused	TBD

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Spent Fuel		
Spent Exotic Fuel		
Complete delivery of all in reactor DFR Breeder Fuel to Sellafield	**2022-2024**	12
Complete delivery of all fuels from DFR	**2022-2024**	12
Integrated Waste Management		
Low Level Waste		
Continue transfer of LLW to LLW facility	**2022-2025**	27
Complete design and build of D3110 Waste Treatment Plant	**2023-2024**	28
Intermediate Level Waste		
Complete construction of Dounreay Cementation Plant (DCP) Store Extension Construction	**2022-2023**	32
PFR Raffinate Immobilisation Complete	**2023-2024**	32
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Dounreay Material Test Reactor Building Complex Decontamination Complete	**2023-2024**	42
PFR - Complete Reactor Vessel Residual Sodium Treatment Operations - Turn Reactor Vessel atmosphere from nitrogen to air	**2022-2023**	42
Dounreay Material Test Reactor Structures demolished	**2023-2024**	43
Dedesignate or Reuse		
NDA and Regulatory permissioning in support of the Interim End State definition and arrangements for Dounreay	**2022-2025**	44
Critical Enablers		
Support small and medium enterprise organisations by increasing overall spend with them in line with the government growth agenda	**2022-2025**	-

LLW Repository Ltd

LLWR Limited

LLW Repository Ltd is now a wholly owned subsidiary of the NDA, following its transition from ownership by a Parent Body Organisation. This change was successfully completed in July 2021.

The NDA has announced the formation of a new waste organisation, to be known as Nuclear Waste Services, which will consist of LLW Repository Ltd and Radioactive Waste Management Ltd, together with waste-related scope previously delivered by NDA resources, (including the integrated waste management programme). The legal entities of LLWR and RWM will endure, although the intention is to move to a single legal entity operating under the Nuclear Waste Services brand at an appropriate point in the future. LLWR manages and operates in the UK's low level waste repository in west Cumbria, providing a safe, permanent disposal for a range of radioactive wastes. It's also responsible for delivering the UK's national low level waste programme and associated waste management services.

Important milestones

2022

- Formation of Nuclear Waste Services

2023

- Repository Development Programme (RDP) Tranche 1 design complete

2024

- RDP commence main construction

2026

- Environmental Safety Case (ESC) submitted to the Environment Agency

2027

- RDP Vault 8 closure

2030

- RDP final capping of Vault 8

Planned expenditure for 2022/23

£85 million

Site in Cumbria

100 hectares

Hectares Dedesignated

0 hectares

All 100 hectares remain covered by the nuclear site licence.

SITE PROGRESS (ACHIEVED AND EXPECTED)

All Buildings Decommissioned or Relicensed	**TBD**
All Land Demonstrated as Suitable for Reuse	**TBD**
All Land Dedesignated or Reused	**2135**

TBD is shown when the date for completing the strategic outcome is not sufficiently clear for a specific date to be given at this time.

Key activities	Timescale	Strategic Outcome
Integrated Waste Management		
Low Level Waste		
Deliver the National LLW Programme to optimise LLW Strategy implementation. Work with consigning SLCs to improve waste forecast and inventory and continue segregated waste, treatment and disposal services	**2022-2025**	26 27 28 29
Intermediate Level Waste		
Work with NDA to support innovation in approaches to integrated waste management	**2022-2025**	32 33 34
Type B Packaging capability to support NDA and MOD customers	**2022-2025**	33
Site Decommissioning and Remediation		
Site End State Gate B paper delivered	**2022-2025**	44 45 47
New Build and Operations		
Enabling works for phased construction of the final cap for trenches 1 to 7 and Vault 8	**2022-2025**	41
Critical Enablers		
Support hazard reduction across the NDA group	**2022-2025**	-
Deliver the LLW packaging and transport services	**2022-2025**	-
Manage and operate LLWR safely to provide an effective UK disposal service	**2022-2025**	-
Consider options to further optimise operations at the LLWR	**2022-2025**	-
Continue to pursue overall cost savings in delivery of the Lifetime Plan	**2022-2025**	-
Support small and medium enterprise organisations by increasing overall spend with them in line with the government growth agenda	**2022-2025**	-
Active participation in the Nuclear Sector Deal and the North West Nuclear Arc to help achieve HMG key deliverables	**2022-2025**	-
Manage the existing LLWR Management and Operations contract through to completion and transition to new ownership arrangements	**2022-2025**	-
Deliver the LLWR Transformation Programme and actively support the development of One NDA	**2022-2025**	-
Mature and deliver asset management and continuous improvement capability and performance to support mission delivery	**2022-2025**	-
Regulatory Control		
Contribute to sustainability performance under the Greening Government Commitments (GGC)	**2022-2025**	-

Radioactive Waste Management Limited

Radioactive Waste Management Limited (RWM) is an NDA subsidiary, responsible for providing a range of waste management services including delivering a geological disposal facility in England and Wales. This includes finding a suitable site with a willing community to host this permanent and safe solution for managing radioactive waste.

Important milestones

2026

- Recommendation to the Secretary of State on sites to take forward for Site Characterisation

2030

- Start first round of deep borehole drilling

The NDA has announced the formation of a new waste organisation, to be known as Nuclear Waste Services, which will consist of LLW Repository Ltd and Radioactive Waste Management Ltd, together with waste-related scope previously delivered by NDA resources, (including the Integrated Waste Management Programme). The legal entities of LLWR and RWM will endure, although the intention is to move to a single legal entity operating under the Nuclear Waste Services brand at an appropriate point in the future.

Planned expenditure for 2022/23

£92 million

Key activities	Timescale	Strategic Outcome
Integrated Waste Management - Intermediate and High Level Waste		
Implement government policy on geological disposal of higher activity waste to deliver a suitable site and willing community	**2022-2025**	34 39
Through activity and enabling partners - Work proactively with waste producers, planning for and delivering waste management solutions	**2022-2025**	34 39
Through activity and enabling partners - Deliver a robust technical programme, support the GDF programme and waste management	**2022-2025**	34 39
Critical Enablers		
Ensure that we have willing communities – working closely with local community and local authorities to develop a detailed community vision once Community Partnerships are formed	**2022-2025**	-
Ensure that we have suitable sites – working closely with our supply chain to design studies for initial safety analyses, and environmental and economic assessments to establish suitability	**2022-2025**	-
Empower our people with clear direction, the right resource and outstanding support so we achieve our mission and our transition	**2022-2025**	-
Transition successfully into Nuclear Waste Services and maintain momentum of GDF programme	**2022-2025**	-

Nuclear Transport Solutions

Established in 2021, Nuclear Transport Solutions (NTS) is a centre of excellence and a strategic UK capability for the transport of radioactive and other critical materials.

Delivering our mission relies on being able to transport radioactive materials and other freight safely and sustainably. NTS supports this by transporting spent nuclear fuel from UK power stations to Sellafield, returning reprocessed products to customers overseas, and providing packaging and licensing solutions to the NDA group.

It also generates revenue through commercial opportunities in the UK and overseas – offsetting the cost of delivering decommissioning and clean-up work at the UK's oldest nuclear sites.

NTS operates Direct Rail Services (DRS) and Pacific Nuclear Transport Limited (PNTL) to deliver rail and shipping services for customers, building on decades of experience of providing safe, secure and reliable transport solutions.

Key activities	Timescale	Strategic Outcome
Spent Fuels - Spent Oxide Fuel		
Support AGR fuel movements by rail for EDF from stations to Sellafield, including preparations for the AGR defueling programme	**2022-2025**	6
Nuclear Materials - Plutonium and Uranics		
Support national nuclear material rail movements for Harwell, Winfrith and DSRL	**2022-2025**	17 22
Integrated Waste Management - High Level Waste		
Continue to deliver important international transports of vitrified High Level Waste (HLW) and conditioned Intermediate Level Waste (ILW)	**2022-2025**	36 37
Critical Enablers		
Establish and implement an Integrated Transport Programme to identify opportunities and realise benefits from better coordination and optimisation of NDA group transports	**2022-2025**	-
Seek opportunities for new business within nuclear shipping, rail, packaging and design by providing transport enabling solutions to UK and international markets	**2022-2025**	-
Undertake appropriate non-nuclear business to maintain and enhance the skills and capabilities required to support the core nuclear mission	**2022-2025**	-
Maintain and operate a fleet of specialist transport assets which meet the highest standards of quality, safety and security in order to support NDA operations	**2022-2025**	-
Attract and retain the necessary skills, capability and diversity of talent to deliver business in a safe, secure and reliable manner	**2022-2025**	-
Support the discharge of NDA obligations with respect to MOD nuclear rail transportation	**2022-2025**	-
Continue to deliver NDA's contractual obligations for transport of mixed oxide (MOX) fuel from France to Japan	**2022-2025**	-
Undertake a series of transformation activities that bring transport capabilities together into a single division that is efficient, commercially competitive and self-funding	**2022-2025**	-
Develop and implement a carbon reduction plan to successfully achieve the net zero carbon emissions aspirations	**2022-2025**	

NDA Archives Limited

NDA Archives is an NDA subsidiary, responsible for the Nucleus (the Nuclear and Caithness Archives). The facility is operated by a commercial partner and provides long-term records management and archiving services for the NDA group.

Key activities	Timescale
Critical Enablers	
Continuing development of the Hub and Spokes delivery model – centralised inventory and management with dispersed, off-site storage where appropriate	**2022-2023**
Re-competition of the commercial partner contract	**2022-2023**
Capacity management planning at Nucleus	**2022-2024**
Magnox collection sift completed and ready for accession	**2023-2024**
Development of accommodation options, including strategies/proposals for dealing with increased capacity needs at Nucleus and the Material and Samples requirements	**2023-2025**
Sellafield offsite collection sift completed and ready for accession	**2024-2025**

NDA Properties Limited

NDA Properties Ltd is an NDA subsidiary, holding and managing the majority of the non-nuclear property assets within the NDA group.

Key activities	Timescale
Critical Enablers	
Effective and efficient management and assurance of retained landholding consisting of 1,203 hectares across 92 properties	**2022-2025**
Review and deliver progressive environmental stewardship across the portfolio estate	**2022-2025**
Proactively dispose/release surplus assets no longer required by the NDA group or wider parts of government, including those that have high socio-economic value	**2022-2025**
To engage and collaborate with NDA group and stakeholders to target Carbon Zero objectives	**2022-2025**

Rutherford Indemnity Limited

Rutherford Indemnity Ltd provides insurance cover for the NDA group. It has a particular focus on nuclear liability related and property damage cover. The company is a wholly-owned subsidiary, managed for the NDA by Marsh Management Services Guernsey Limited, and has no direct employees.

Key activities	Timescale
Critical Enablers	
Provide optimal insurance coverage to the NDA to support its NDA group-wide insurance programme, exploiting opportunities to reduce overall cost of insurance risk and offering insurance solutions to meet the evolving needs of the group	**2022-2025**
Continue to deliver the target return on the investment portfolio, protecting Rutherford's ability to offer insurance on a cost-effective basis, maintaining liquidity in order to be able to respond promptly to a major loss	**2022-2025**
Continue to use a prudent proportion of Rutherford's assets to support infrastructure investment within the NDA group	**2022-2025**
Maintain capability for payment of dividends to the shareholder	**2022-2025**
Participate in joint tender with NDA for insurance broker services that support the group insurance strategy and the Rutherford reinsurance placement	**2022-2023**

Energus

Energus is an NDA subsidiary offering conference and events facilities and a range of training, education and business support services geared to providing and enhancing skills within both the local and national nuclear workforce.

Key activities	Timescale
Critical Enablers	
Continue to work closely with the NDA and stakeholders across the nuclear sector to upskill and develop the workforce of today and tomorrow	**2022-2025**
Continue to manage and facilitate a range of training opportunities for the NDA group and wider nuclear sector; including nucleargraduates and a range of functional programmes for both graduates and apprentices including: cyber security, Finance Audit and Risk, Radiation Protection, Commercial, business and civil engineering as well as other bespoke programmes to support the NDA People Strategy and the Nuclear Sector Deal	**2022-2025**
Continue to work in partnership with the National Cyber Security Centre (NCSC) and NDA Cyber Security Resilience (CSRP) to deliver a pipeline of cyber security young talent into the sector. Deliver CyberFirst and be the venue of choice for Cyber Security training in the North West	**2022-2025**
Provide a range of managed services within the people and skills arena including recruitment programmes, work experience and STEM engagement – supporting the NDA commitment to ED&I and achieving greater levels of social value and socio economic benefit to our communities and broader stakeholders	**2022-2025**
Provide a high quality training environment for all Sellafield apprentices, working with a range of education partners and suppliers	**2022-2025**
Continue to be a Cumbrian venue of choice for the NDA group's events, conferences and delivery of training and education	**2022-2025**

Springfields

- Planned expenditure for 2022/23 - £30 million
- 81 hectare site in Lancashire.
- All 81 hectares remain covered by the nuclear site licence.

Owned by Westinghouse Electric UK Holdings Limited

Springfields is a nuclear fuel manufacturing site and is located near Preston in Lancashire. The site is operated by Springfields Fuels Limited (SFL) and is used to manufacture a range of fuel products for UK and international customers, the processing of historic uranic residues and decommissioning of redundant facilities.

From April 2010, the NDA permanently transferred ownership of the company to Westinghouse Electric including the freedom to invest for the future under the terms of a new 150-year lease. SFL is contracted to provide decommissioning and clean-up services to the NDA to address historic liabilities.

Key activities	Timescale	Strategic Outcome
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Complete post operational clean out of the Residues Recovery Plant	**2022-2023**	41
Continue decommissioning of the Magnox Island	**2022-2025**	42 43
Nuclear Materials		
Uranics		
Continue to appropriately manage, care and maintain NDA stock of uranic materials	**2022-2025**	23 25

Capenhurst

- Planned expenditure for 2022/23 - £31 million
- 30 hectare site in Cheshire.
- 17 hectares have been dedesignated.
- Modification of Designating Direction signed by the Minister in May 2010 and July 2012.
- Remaining 13 hectares are covered by the nuclear site licence.

Owned by URENCO

The NDA Capenhurst site is located near Ellesmere Port in Cheshire.

In 2012, the site was transferred to URENCO, owners of the adjacent licensed site, and was amalgamated into a single nuclear licensed site. As part of this transfer, URENCO established Urenco Nuclear Stewardship (UNS), formerly known as Capenhurst Nuclear Services, to provide responsible management of uranic materials and carry out remediation work on behalf of the NDA.

UNS manages a large proportion of the NDA's uranic inventory and also provides broader decommissioning and demolition works for redundant facilities, in order to reduce liability and optimise space utilisation on site.

Key activities	Timescale	Strategic Outcome
Site Decommissioning and Remediation		
Decommissioning and Demolition		
Continue decommissioning and demolition of key facilities	**2022-2024**	41 42 43 47
Nuclear Materials		
Uranics		
Continue the safe storage and management of uranic materials, including uranium hexafluoride tails prior to processing through the Tails Management Facility	**2022-2025**	22 23 24 25

DELIVERY OF OUR MISSION UP TO 2040 - Spent Fuels and Nuclear Materials

STRATEGIC OUTCOMES

Spent Fuels

SPENT MAGNOX FUEL

1. All sites defueled - ACHIEVED
2. All legacy Magnox fuel retrieved
3. All Magnox fuel reprocessing completed
4. All remaining Magnox fuel in interim storage
5. All remaining Magnox fuel disposed

SPENT OXIDE FUEL

6. All EDFE oxide fuel received
7. All legacy oxide fuel retrieved - ACHIEVED
8. All oxide fuel reprocessing completed - ACHIEVED
9. All remaining oxide fuel in interim storage
10. All remaining oxide fuel disposed

SPENT EXOTIC FUEL

11. All exotic fuel defueled
12. All exotic fuel consolidated
13. All exotic fuel reprocessing completed
14. All remaining exotic fuel in interim storage
15. All remaining exotic fuel disposed

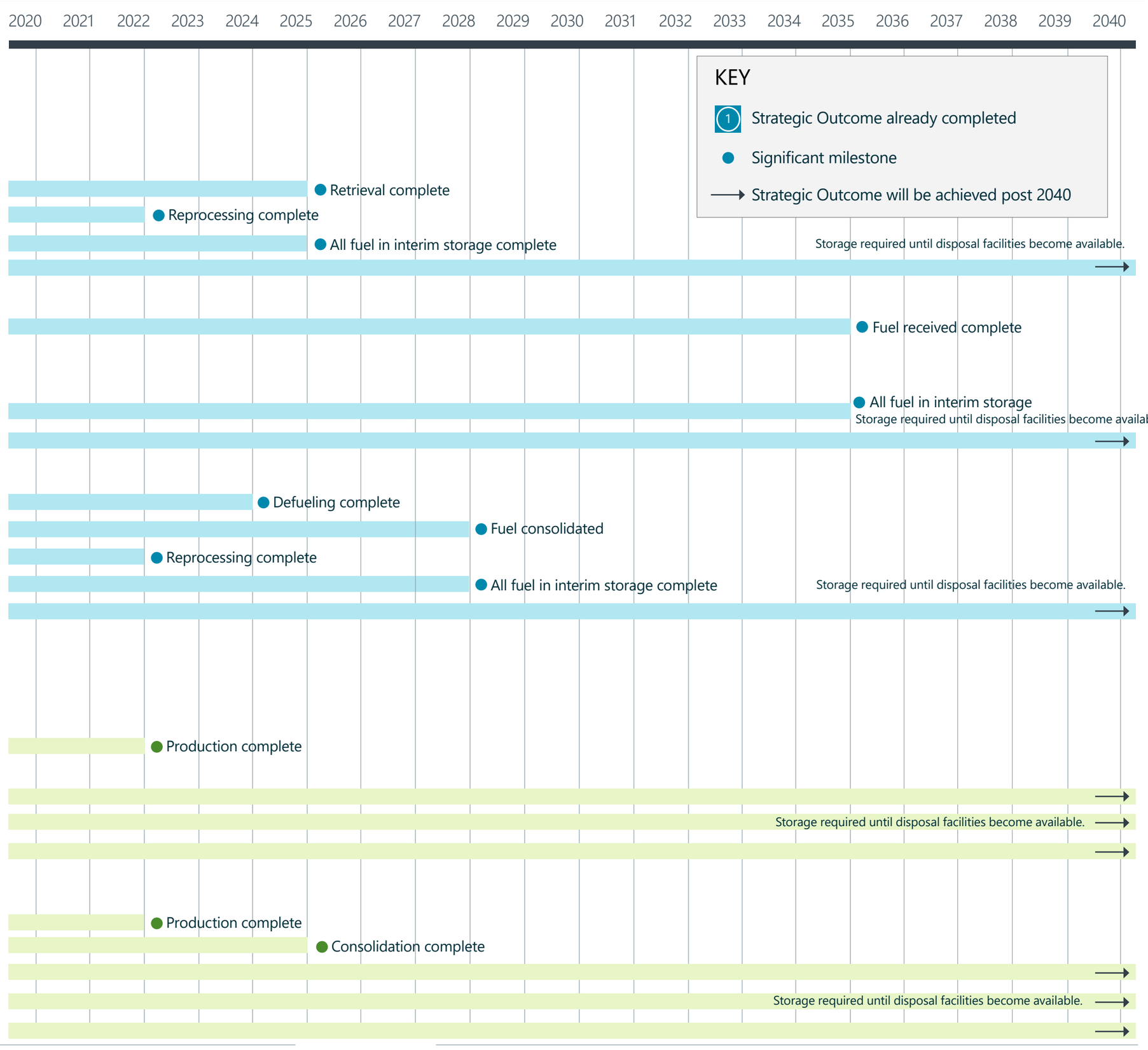
Nuclear Materials

PLUTONIUM

16. All plutonium produced
17. All plutonium consolidated - ACHIEVED
18. A: All plutonium packed in long term storage
    B: All cans not suitable for extended storage repackaged
19. All plutonium in modern interim storage
20. All plutonium reused or disposed

URANICS

21. All uranium produced
22. All uranium consolidated
23. All uranium treated
24. All uranium in interim storage
25. All uranium reused or disposed



All data above and in the subsequent pages, represent the latest information and are subject to change.

DELIVERY OF OUR MISSION UP TO 2040 - Integrated Waste Management and Site Decommissioning and Remediation

STRATEGIC OUTCOMES

Integrated Waste Management

LOW LEVEL WASTE

26 All LLW produced
27 All LLW treated - to enable diversion or reuse
28 All waste suitable for disposal in NDA facilities
29 All waste suitable for permitted landfill disposed

INTERMEDIATE LEVEL WASTE

30 All ILW produced
31 All legacy waste retrieved
32 All ILW treated
33 All ILW in interim storage
34 All ILW disposed

HIGH LEVEL WASTE

35 All HLW produced
36 All HLW treated
37 All HLW in interim storage
38 All overseas HLW exported
39 All HLW disposed

Site Decommissioning and Remediation

NEW BUILD

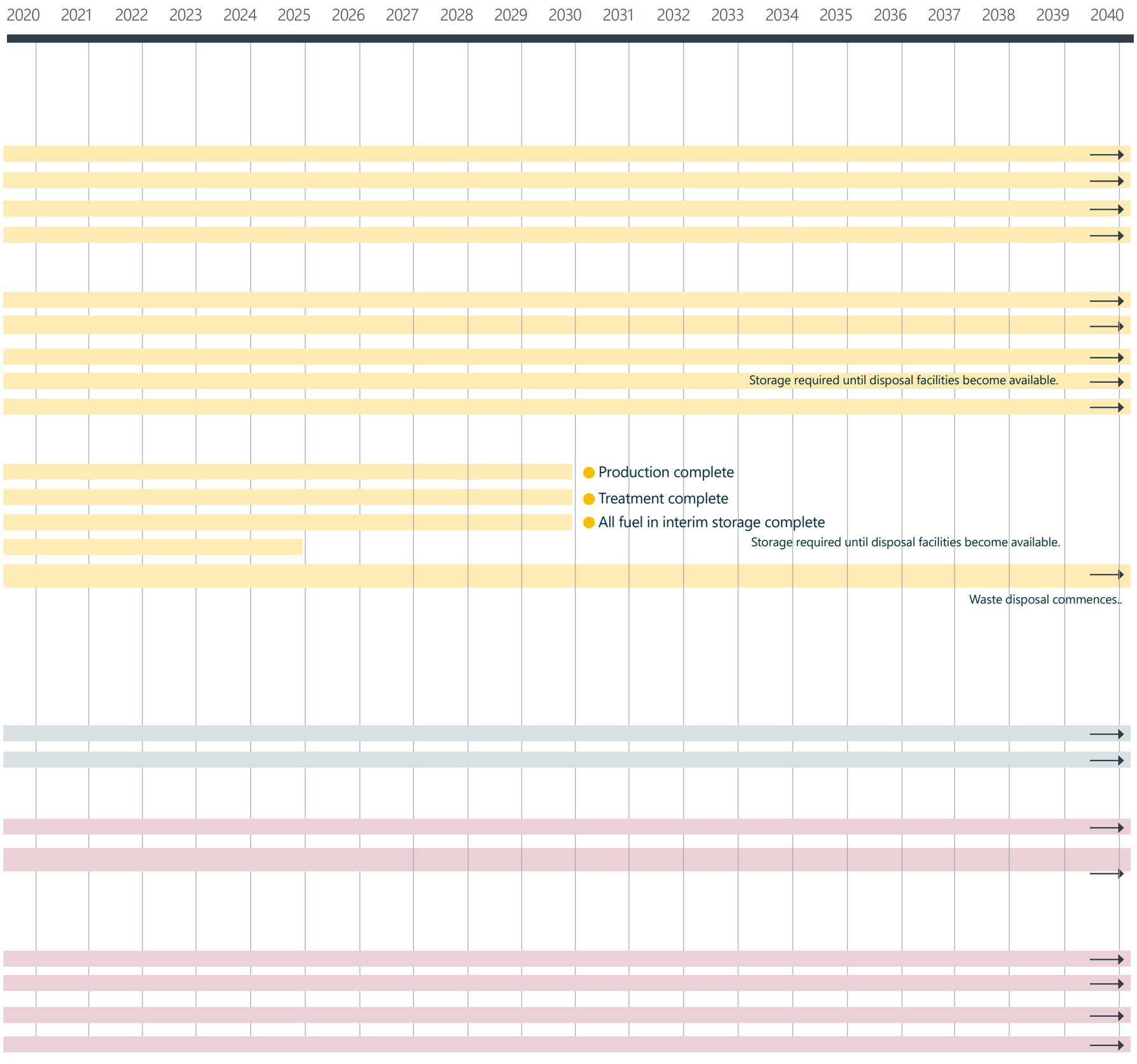
40 All planned new buildings operational
41 All buildings primary function completed

DECOMMISSION AND DEMOLISH

42 All buildings decommissioned
43 All buildings demolished or reused

DEDESIGNATE OR REUSE

44 All land delicensed or relicensed
45 All land in End State - all planned physical work complete
46 All land demonstrated as suitable for reuse
47 All land dedesignated or reused



References

1. **Energy Act (2004)**

Useful links

- Nuclear Decommissioning Authority (www.gov.uk/nda)
- Department for Business, Energy and Industrial Strategy (www.gov.uk/beis)
- Sellafield Ltd (www.gov.uk/government/organisations/sellafield-ltd)
- Magnox Ltd (www.gov.uk/government/organisations/magnox-ltd)
- LLWR Ltd (www.gov.uk/government/organisations/low-level-waste-repository-ltd)
- Dounreay Ltd (www.gov.uk/government/organisations/dounreay)
- Nuclear Transport Solutions (www.nucleartransportsolutions.com)
- Radioactive Waste Management Ltd (www.gov.uk/government/organisations/radioactive-waste-management)
- Direct Rail Services Ltd (www.directrailservices.com)
- URENCO Ltd (www.urenco.com)
- Springfields Fuels Ltd (www.westinghousenuclear.com)

Useful documentation

- NDA Strategy - March 2021
  www.gov.uk/government/consultations/nuclear-decommissioning-authority-nda-strategy
- NDA Annual Report and Accounts 2020-21
  www.gov.uk/government/publications/nuclear-decommissioning-authority-annual-report-and-accounts-2020-to-2021
- NDA Mission Progress Report (Nov 2021)
  www.gov.uk/government/publications/nuclear-decommissioning-authority-mission-progress-report-2021
- Mid-Year Performance Report 2020-2021
  www.gov.uk/government/publications/nda-mid-year-performance-report-2020-to-2021
- NDA group Inclusion Strategy 2021-2025
  www.gov.uk/government/publications/the-nda-group-inclusion-strategy-2021-to-2025
- NDA Gender Pay Gap Data 2019
  www.gov.uk/government/publications/nda-gender-pay-gap-report-and-data-2019
- NDA Direct Research Portfolio (DRP) Projects 2019/20: Quarter two update
  www.gov.uk/government/publications/nda-direct-research-portfolio-drp-projects-quarterly-update
- NDA 5-year research and development plan 2019 to 2024
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- NDA SME Action Plan 2019 to 2022
  www.gov.uk/government/publications/nda-sme-action-plan-2019-to-2022
- NDA local social and economic impact strategy 2020 update
  www.gov.uk/government/consultations/nda-local-economic-and-social-impact-strategy-2020-to-2026-draft-for-consultation
- NDA Sustainability Report 2021
  www.gov.uk/government/publications/nda-sustainability-report-financial-year-april-2020-to-march-2021

Glossary

AGR	Advanced Gas-Cooled Reactor
BEIS	Department for Business, Energy and Industrial Strategy
CAPEX	Capital expenditure
DFR	Dounreay Fast Reactor
DRS	Direct Rail Services Ltd
DSRL	Dounreay Site Restoration Ltd
EDFE	EDF Energy
ED&I	Equality, Diversity and Inclusion
FGMSP	First Generation Magnox Storage Pond
FHP	Fuel Handling Plant
GDF	Geological Disposal Facility
HAL	Highly Active Liquor
ILW	Intermediate Level Waste
INS	International Nuclear Services Ltd
LETP	Liquid Effluent Treatment Plant
LLW	Low Level Waste
LLWR	Low Level Waste Repository
MOD	Ministry of Defence
MOX	Mixed Oxide Fuel
MSSS	Magnox Swarf Storage Silo
NDA	Nuclear Decommissioning Authority
NDAPL	NDA Properties Ltd
NTS	Nuclear Transport Solutions
NWS	Nuclear Waste Services
POCO	Post Operational Clean Out
PFR	Prototype Fast Reactor
PFSP	Pile Fuel Storage Pond
PPP	Programme and Project Partner
RD&I	Research, Development and Innovation
RWM	Radioactive Waste Management Ltd
SGHWR	Steam Generating Heavy Water Reactor
SLC	Site Licence Company
SME	Small and Medium Enterprise
THORP	Thermal Oxide Reprocessing Plant
UKGI	UK Government Investments