March 2025

# Nuclear decommissioning funding

The government has made some welcome commitments to the nuclear energy sector, not least the recently announced reforms to planning rules to make it easier to build nuclear power stations. We look forward to working with the government to help get new nuclear built and ensure the sector delivers a new generation of well-paid, highly skilled, unionised jobs.

However, as much as the efforts to build new projects are welcome, we remain concerned about other parts of the nuclear life cycle. In particular, Prospect (alongside other recognised trade unions in the sector) remains extremely concerned about the future of nuclear decommissioning in the UK.

It initially appeared that the Nuclear Decommissioning Authority (NDA) and its operating companies—Sellafield Ltd, Nuclear Restoration Services (NRS), and Nuclear Waste Services (NWS)—faced severe funding cuts as part of the ongoing Spending Review (SR). Having made strong representations about the risks associated with this, we are now reasonably assured that significant funding cuts are no longer on the table during this current SR, and the worst-case scenario has been avoided. However, we remain concerned about the long-term funding of nuclear decommissioning and strongly believe that lessons need to be learned from this episode.

Nuclear decommissioning consists of long-term programmatic work and funding such work for short periods of time only, with the threat of future funding cuts constantly looming, creates a series of problems. Below, we explain the problems associated with this approach and outline an alternative. In addition to providing long-term certainty for nuclear decommissioning services, we believe that alternative we are proposing would provide greater value for money the UK taxpayer, as well as making it easier for the government to meet its fiscal rules.

# The problems sudden funding cuts would have created

There is no ambiguity about what the NDA is trying to achieve. It is currently responsible for 17 legacy nuclear sites, and all of them need to be fully decommissioned, sooner or later. There is no question about 'what' should be done, or 'if' it needs to be, the only questions are about 'how' and about 'when'. Therefore, suddenly reducing the resources it has at its disposal, as threatened in the SR, would not have reduced the overall lifetime cost of decommissioning the legacy sites that the NDA is responsible for. Indeed, the opposite would have happened. Because even if substantive decommissioning work was paused, there are still significant fixed, recurring costs which need to be borne to keep the sites safe in preparation for future decommissioning. The NDA has reported to the House of Commons Public Accounts Committee (PAC) that around 40% of the annual cost for decommissioning Magnox stations is typically spent on maintaining,

operating and safeguarding the sites.<sup>1</sup> The longer substantive decommissioning work is deferred, the more these costs will build-up. For some sites, these costs might be worth bearing for a number of years to allow radioactivity to decrease to safer levels prior to decommissioning. However, this should be a technical consideration. Suddenly imposing top-down spending cuts means that the NDA has to postpone project work on sites which are technically ready for decommissioning or where decommissioning is already underway.

Therefore, imposing the deferral of decommissioning work via sudden funding cuts would necessarily increase long-term costs. It would be the very definition of 'sticking-plaster politics' that this government has decried: making the fiscal arithmetic easier in the short run by cutting what you can cut now, making no progress on the substantive issue at hand, all while storing up a bigger bill for future generations of taxpayers.

Sudden funding cuts would also have other negative impacts which would inhibit future decommissioning projects when they do eventually go-ahead:

- **Skills loss**. Significant funding cuts would lead to significant jobs cuts at the NDA and its operating companies. These job losses would likely come through voluntary redundancy schemes which would likely result in senior, experienced staff leaving with high settlement payments. As well as representing poor value for money for the taxpayer, losing employees in this way would negatively impact on the UK's nuclear skills base at exactly the time when we should be nurturing it.<sup>2</sup>
- Institutional knowledge loss. As highlighted by the PAC, a lack of knowledge about the
  UK's legacy sites remains a major problem in decommissioning them.<sup>3</sup> Employees at the
  NDA's operating companies (Sellafield and NRS) are gradually building their understanding of
  these sites, but large-scale redundancies would remove some of the only people who have a
  grasp of the challenge at hand.
- Socioeconomic damage. The NDA Group employees 17,000 people, many of these
  employees are based at Sellafield, but many thousands are also based at the legacy nuclear
  sites are based all across the UK. These sites are often based in some of the most
  economically deprived areas (e.g. North Wales, West Cumbria and the Northern Highlands)
  where highly skilled, high-paying jobs are hard to come by. Suddenly removing the
  employment and income provided by nuclear decommissioning activities would, therefore,
  severely damage communities most in need of economic support.

Sharply ramping down funding for legacy decommissioning services is therefore a 'lose-lose' proposition. It would (a) increase the long-term costs of decommissioning, (b) make decommissioning more challenging when it does happen, and (c) hammer communities most in need of an economic lifeline. It is also worth noting that the communities hosting nuclear decommissioning activities are often contained within marginal Westminster constituencies.<sup>4</sup> Cutting well-paid jobs in these communities and exacerbating uncertainty regarding the future of legacy sites in these communities would also likely have political ramifications for the government at the next election.

<sup>&</sup>lt;sup>1</sup> House of Commons Public Accounts Committee, 'Oral evidence: The Nuclear Decommissioning Authority's management of the Magnox contract', 5 October 2020, Q33.

<sup>&</sup>lt;sup>2</sup> As explained below the decommissioning workload is going to increase sharply over the coming years.

<sup>&</sup>lt;sup>3</sup> House of Commons Public Accounts Committee, '<u>The Nuclear Decommissioning Authority's</u> management of the Magnox contract', Twenty-Eighth Report of Session 2019–21, 27 November 2020.

<sup>&</sup>lt;sup>4</sup> For example, Suffolk Coastal, Whitehaven and Workington, Hastings and Rye, and Yns Mon.

# The deeper problems associated with the current, short-term funding model

Even if sharp funding cuts have been avoided in the current SR, there are still underlying problems associated with the general approach to funding legacy decommissioning projects. Particularly, the short-term nature of the funding model and the inability for the NDA to plan beyond the latest SR period.

The certainty regarding the NDA's mission should be an advantage. It should allow for long-term planning and long-term investments (including in the workforce) which create cost efficiencies. However, because NDA funding is only ever confirmed for the next two or three years at most, these benefits cannot be realised. The National Infrastructure Commission highlighted this issue in its report on the cost drivers of major infrastructure projects in the UK:

...the Nuclear Decommissioning Authority has a pipeline of work over decades but it cannot commit to work beyond spending review cycles, meaning it cannot derive the efficiencies that long term pipelines should provide.<sup>5</sup>

The absurdity of this approach is brought home by the current situation. The NDA has set-forth a three-year business plan (covering 2024-27), but not only is the timescale already very short in the world of nuclear decommissioning, there isn't even any certainty regarding the funding of the last two years of that plan. In the document, the NDA says that "funding for the second and third years of this business plan (2025/26 and 2026/27) has not yet been established", which begs the question as to what the point of the plan is in the first place.<sup>6</sup>

The PAC have said that there is no transparency as to when legacy sites will ultimately be decommissioned, which makes accountability more difficult.<sup>7</sup> In one sense this is completely correct; it is very difficult to hold the NDA accountable if there are not clear timelines that it is working to. However, under the current funding model, how could it be otherwise? The lack of transparency regarding the future of these sites is clearly a function of the short-term nature of the NDA's funding model and its inability to commit to decommissioning activities beyond the very short-term. How can it make firm commitments to decommissioning certain sites within certain timeframes if it does not have any certainty regarding the resources it will have at its disposal the year after next?

For as long as the current funding model remains in place, the NDA and its operating companies will only ever be able to make incremental progress. The lack of a long-term planning horizon will make the NDA less efficient with the resources it *does* have and limit the ability of both government and parliament to effectively hold the NDA to account.

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<sup>&</sup>lt;sup>5</sup> National Infrastructure Commission, 'Cost drivers of major infrastructure projects in the UK', October 2024.

<sup>&</sup>lt;sup>6</sup> Nuclear Decommissioning Authority, 'Nuclear Decommissioning Authority: Business Plan 2024 to 2027', 17 April 2024, p 16.

<sup>&</sup>lt;sup>7</sup> House of Commons Public Accounts Committee, '<u>The Nuclear Decommissioning Authority's</u> management of the Magnox contract', Twenty-Eighth Report of Session 2019–21, 27 November 2020, p 8.

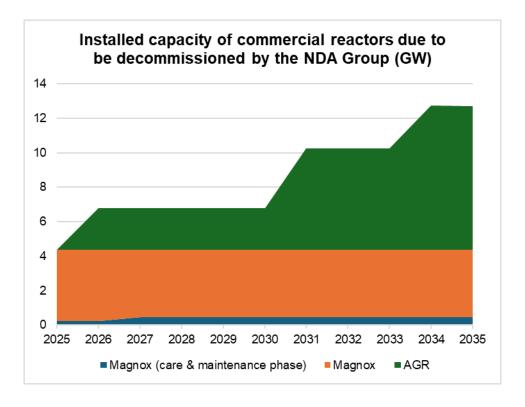
## Why these problems need to be addressed

As outlined below, there are several reasons why a new and more effective funding is going to become even more necessary over the coming years.

#### Overall demand for decommissioning services is due to rise significantly in the coming years

The problems highlighted above are likely to be exacerbated over the coming years as the NDA's workload increases. It is currently responsible for decommissioning the UK's 17 legacy nuclear sites but has also agreed to decommission EDF's seven AGR stations, once EDF has defueled them. Exactly when these stations are handed over to the NDA is uncertain, but it is possible to make rough estimates. The NRS recently announced that is expects that, after four years of defueling, it will take over the Hunterston B and Hinkley Point B sites next year. Hartlepool and Heysham 1 are now expected to stop generating in 2027, so if one assumes it will also take around four years for defueling for those sites, they could be handed over to NRS is 2031. This could be about the same time as Dungeness B gets handed over, as it was suggested that it could take ten years to defuel this site when its closure was confirmed in 2021. Heysham 2 and Torness would be the final sites handed over the NRS, potentially in 2034 after they finish generating in 2030.

These handovers create a sharply rising profile of work for the NDA (and for NRS in particular) over the coming decade. This profile is illustrated in the below chart:



In principle, resources from older projects which have been progressed should be freed up for newer projects. However, as a result of the issues highlighted above, there are not clear timelines setting out when projects will progress to each phase of decommissioning. It is possible that

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<sup>&</sup>lt;sup>8</sup> Nuclear Restoration Services and Nuclear Decommissioning Authority, 'Major application step brings Hunterston B closer to joining NRS', 13 March 2025.

<sup>9</sup> BBC News, 'Dungeness B: Kent's last nuclear power station closes early', 8 June 2021.

Calder Hall at Sellafield may join Bradfield in the care & maintenance phase in 2027.<sup>10</sup> However, as the chart illustrates, this would represent only a small minority of the capacity of ex-commercial Magnox sites, with the vast majority of such sites remaining in the early decommissioning phase, with none close to final decommissioning.<sup>11</sup>

Given that demands on the NDA are going to rise significantly over the coming decade, the NDA should be investing in its workforce and preparing to take-on *more* projects, rather than considering redundancies and mothballing projects on legacy sites.

#### <u>Different funding arrangements for AGR decommissioning threatens legacy decommissioning</u>

The funding for decommissioning Magnox sites is provided to the NDA through the Spending Review process. In contrast, there is already funding in place to pay for the decommissioning of AGR sites in the form of the Nuclear Liabilities Fund (NLF). The NLF has its own issues. It has not been adequately funded in the past and the government has had to make substantial capital injections in recent years—£5.1bn in 2020 and £5.6bn in 2022—to ensure it has sufficient resources. 12 Having done that, there is now a risk that EDF's ability to use the fund to pay for defueling threatens its adequacy once again. 13 Nevertheless, when the NDA takes over the AGR sites from EDF, there will at least be a pot of money there which the NDA can draw upon to pay for decommissioning efforts. In general, this is a good thing which will help the NDA and NRS plan the decommissioning of AGR sites in a more rational way. However, it also represents a significant risk to the decommissioning of Magnox reactors and other legacy sites, given that they will be drawing on the same pool of skilled workers to do the work. If the NDA does not have the funding available to make substantial workforce investments and to make substantial progress on decommissioning legacy sites, there is a risk that the focus of it and its workforce gravitates towards AGR decommissioning, given that that there is more funding and more certainty about the long-term future of that work. Clearly, this would further hold-back progress on legacy decommissioning efforts, increasing the total time and cost of the projects even more.

#### Slow progress on legacy decommissioning prevents economic renewal

Slow and uncertain progress with the decommissioning of legacy sites holds back land being released for other purposes, nuclear-related or otherwise. The previous government designated Wylfa as the next preferred site for a large-scale gigawatt nuclear power plant (i.e. after Sizewell C), but slow decommissioning progress will prevent the release of land for such a project. Relatedly, a lot of land held by the NDA could be appropriate for non-nuclear ventures. For example, at the legacy Harwell research site, 50 acres of land was released to be used for a new vaccine manufacturing centre. 14 Other legacy sites across the country could benefit from land being released for new ventures, providing new economic opportunity for historic nuclear communities, but for as long as our approach to nuclear decommissioning remains as it is today, such possibilities will be closed off.

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<sup>&</sup>lt;sup>10</sup> Nuclear Decommissioning Authority, '<u>Decommissioning the world's first commercial nuclear</u> power station', 3 September 2029.

<sup>&</sup>lt;sup>11</sup> Installed capacity of commercial Magnox reactors is an imperfect measure, not least because there are a number of old research sites where substantial decommissioning efforts are required. However, it still gives an indication of how much the NDA's workload will increase in the coming years in relative terms.

<sup>&</sup>lt;sup>12</sup> Nuclear Liabilities Fund, 'History', accessed 25 March 2025.

<sup>&</sup>lt;sup>13</sup> House of Commons Committee of Public Accounts, '<u>The future of the Advanced Gas-cooled</u> Reactors', Third Report of Session 2022–23, 20 May 2022.

<sup>&</sup>lt;sup>14</sup> House of Commons Public Accounts Committee, '<u>The Nuclear Decommissioning Authority's</u> management of the Magnox contract', Twenty-Eighth Report of Session 2019–21, 27 November 2020, p 12.

#### Lessons from other countries

For the reasons outlined above, we need a better model for funding nuclear decommissioning for legacy sites. As a result of the UK's complex nuclear legacy, it is not possible to make straightforward comparisons to the decommissioning efforts of other countries. Nevertheless, there is still much we can learn from how other countries do things. A few examples are set out below.

#### **United States**

One of the best examples of decommissioning services delivered through the private sector is the **United States**. Like in many countries, plant operators in the US are legally responsible for decommissioning and have been mandated to build up funds to pay for decommissioning during the operating lifetime of the plant. The distinct feature of the US system though, which underpins their model of private sector delivery, is the sheer scale of the potential market for decommissioning services. At its peak in 1990, 112 plants were operated, and over the next three decades it is likely that over 100 plants will be shut down and decommissioned. <sup>15</sup> This has created significant incentives for specialist decommissioning companies to emerge. And because there are so many plants which need to be decommissioned, there is an effective commercial incentive for these companies to deliver efficiently: successful delivery on one project foreshadows further contracts for other projects. The level of demand for decommissioning services is such that multiple enterprises are able to operate at scale—three such entities have emerged in recent years—creating competitive pressures which further incentivise efficient delivery. <sup>16</sup>

#### <u>France</u>

In **France**, the responsibility for decommissioning nuclear power stations also rests with the operators. To Operators are also obliged to accumulate funds to pay for decommissioning, and these funds are 'inalienable' (i.e. they cannot be appropriated for any other purpose, even in the case of the bankruptcy of the operator). Additionally, the operator must adopt a strategy which seeks to complete decommission in the shortest possible timescale (i.e. no deferred decommissioning and putting sites into a 'care and maintenance' phase for decades). All nuclear power stations are run by the state-owned energy company, EDF, and rather than seek to outsource, EDF chooses to undertake this work itself.

In previous years, there have been questions as to whether EDF was underestimating the cost of decommissioning, setting too little aside. However, EDF's calculations (which they review every 6-months) are audited by the French government every year. So, while there is clearly a significant public financial liability associated with this given that EDF is a stated owned company, the government has the power to make EDF change course and set aside more money from its commercial operations to fund future decommissioning efforts, should it think it necessary. Additionally, it should be noted that estimated decommissioning costs are already very low in comparative terms, e.g. €300m per GW of generating capacity compared to €1.4bn per GW in

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<sup>&</sup>lt;sup>15</sup> Rebecca Lordan-Perret, Robert D. Sloan, Robert Rosner, '<u>Decommissioning the U.S. nuclear fleet: Financial assurance, corporate structures, and bankruptcy</u>', Energy Policy, Volume 154, 2021.

<sup>&</sup>lt;sup>16</sup> International Atomic Energy Agency, 'Global Status of Decommissioning of Nuclear Installations', IAEA Nuclear Energy Series, No. NW-T-2.16, 2023, p 27.

<sup>&</sup>lt;sup>17</sup> Information in this section from World Nuclear Association, '<u>Nuclear Power in France</u>', 4 February 2025 and OECD Nuclear Energy Agency, '<u>Ensuring the Adequacy of Funding for Decommissioning and Radioactive Waste Management</u>', 6 July 2023, pp 117-28.

<sup>&</sup>lt;sup>18</sup> Financial Times, 'Nuclear reactor clean-up weighs on EDF', 19 April 2016.

Germany.<sup>19</sup> Therefore, if decommissioning costs do end up increasing, they will be doing so from a low base.

#### Spain

In **Spain**, all nuclear decommissioning and all long-term management of radioactive waste is defined in law as an essential public service and as the responsibility of the state. They have a single, specialist state-agency, Enresa, which is responsible for all nuclear decommissioning and radioactive waste management services. Plant operators are required to defuel reactors before handing the stations over to Enresa and are financially liable for the decommissioning that follows. To cover these costs plant operators are required to pay into a decommissioning fund managed by Enresa during the operational lifetime of the plant and are liable to pay extra fees if they decide to shutdown plants early. Amongst other mechanisms, the Fund is provided for primarily by levying plant license holders per kWh of electricity generated. Enresa does its own decommissioning cost calculations and reviews and updates them at least once a year, submitting them to the Spanish government and state auditors for their endorsement.<sup>20</sup>

The two decommissioning projects Enresa has completed so far have been completed quickly and cost-effectively:

Vandellos 1, a 480 MWe French UNGG gas-graphite reactor, was closed down in mid-1990 after 18 years' operation, due to a turbine fire which made the plant uneconomic to repair. In 2003 ENRESA concluded phase 2 of the reactor decommissioning and dismantling project, which allows much of the site to be released. The cost of the 63-month project was €93 million. After 30 years in Safestor, when activity levels have diminished by 95%, the remainder of the plant will be removed.

In April 2006 the 142 MWe Jose Cabrera (Zorita) PWR plant was closed after 38 years' operation. Rather than using Safestor, dismantling the plant is being undertaken over eight years from 2010 by Enresa – on schedule and within budget, the total cost is estimated at €150 million at 2016 prices. About 4% of the plant's constituent material will need to be disposed of as radioactive waste, the rest can be recycled, including 43 tonnes of internal components. Used fuel is stored onsite. The demolition of the last large building at the plant, the turbine building, was completed in June 2022.<sup>21</sup>

The 466 MW Santa María de Garoña plant is the latest that Enresa has taken ownership of, in July 2023, and it has set out to complete decommissioning in approximately 10-years, at a cost of €475m.<sup>22</sup>

#### How the UK compares

The decommissioning of legacy nuclear sites in the UK is unlike all of the above examples. In one very narrow sense, we are like the US, in that we do rely on private sector companies to deliver nuclear decommissioning services. The NDA and its subsidiaries contract out a significant amount of work and even lists private companies as part of the organisational structure that it

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<sup>&</sup>lt;sup>19</sup> Source as above—EDF believe that the standardisation of the reactors will make their decommissioning more efficient than other countries.

<sup>&</sup>lt;sup>20</sup> OECD Nuclear Energy Agency, 'Ensuring the Adequacy of Funding for Decommissioning and Radioactive Waste Management', 6 July 2023, pp 161-74.

<sup>&</sup>lt;sup>21</sup> World Nuclear Association, 'Nuclear Power in Spain', 12 January 2024.

<sup>&</sup>lt;sup>22</sup> Enresa, '<u>Dismantling of the Santa María de Garoña Nuclear Power Plant</u>', accessed 28 March 2025.

submits as part of its annual report and accounts.<sup>23</sup> However, we do not have *any* of the features of the US model which encourages private sector companies to deliver decommissioning services efficiently:

- There is no set fund reserved to pay for decommissioning, so there is no budget guiding the actors involved in the process and setting a limit on costs.
- The party contracting out ('buying') decommissioning services, is not a private company with successful experience of holding commercial partners to account. Rather, it is a public sector body whose commercial failings have been well-documented.<sup>24</sup>
- The level of demand for decommissioning services in the UK is significantly lower than in the US, with the pipeline of work not high enough to encourage multiple private sector competitors to emerge.

Therefore, given that the budget for decommissioning is effectively open-ended, given that the UK public sector does not have the capability required to effectively hold commercial partners to account and given that there are not multiple private sector competitors offering decommissioning services, there is no incentive for private contractors involved in UK nuclear decommissioning to complete work efficiently and move-on. Instead, the incentives for private sector companies involved in decommissioning in the UK are to: hoard skills and expertise, encourage dependency, and to lengthen out the time projects take to increase the revenue and profit that can be made from each project.

Attempting to deliver efficient decommissioning with a market-based form of accountability is therefore completely unrealistic in the UK. However, the French and Spanish models demonstrate that efficient delivery is still possible without market pressure. In those models, the following features help ensure efficient delivery:

- Clarity on delivery responsibility. In advance of decommissioning, it is clear who will be responsible for delivering the decommissioning and what strategy they will take.
- Clarity on funding. It is also clear how the decommissioning will be paid for, with funding
  appropriate for the task set aside in advance. Because the budget for the total cost of
  decommissioning is already guaranteed, it is possible for the body delivering
  decommissioning to make long-term plans and commit to timelines which they can be held
  accountable for.
- Scale. There are economies of scale and efficiencies associated with one single body being
  responsible for all decommissioning services in the country. Learnings and experience can be
  utilised from project to project.

It is not possible to *guarantee* efficiency, but the scale and the provision of adequate resources at least makes it *possible* for the decommissioning bodies in France and Spain to deliver efficiently. The provision of clarity about what exactly the decommissioning body is mandated to achieve with those resources then allows for there to be a certain amount of accountability, which increases the chances of efficient delivery further.

It is sadly evident that the above features are absent from the UK's approach to decommissioning legacy sites. The NDA is formally responsible for decommissioning legacy sites, but beyond that, there is little clarity. From the outset of decommissioning a legacy site, it is not clear (a) what the

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<sup>&</sup>lt;sup>23</sup> Nuclear Decommissioning Authority, '<u>Annual Report and Accounts 2023/24</u>', 9 October 2024, pp 18-19.

<sup>&</sup>lt;sup>24</sup> House of Commons Public Accounts Committee, '<u>The Nuclear Decommissioning Authority's</u> management of the Magnox contract', Twenty-Eighth Report of Session 2019–21, 27 November 2020.

budget is, (b) what the strategy is, and (c) which party will actually deliver the decommissioning services (i.e. the NDA itself or private contractors). It is not uncommon for decommissioning strategies to change, for (already rough) timelines to shift by decades, and for lifetime decommissioning cost estimates to shift by billions of pounds, all at the drop of a hat. The NDA is not blameless in all of this, but it must be acknowledged that the conditions have not been put in place to give it the best chance of succeeding. By drawing on the lessons from other countries, from Spain in particular, we can put those conditions in place.

## Proposed alternative approach and funding model

As explained above, there is no way we can replicate the US model. We cannot replicate the French model either, given that it is now many years since legacy sites have shut down and operators can no longer be made to contribute. However, it is possible to replicate many of the important features of the Spanish model, which (as outlined above) has been relatively successful thus far.

The Spanish model is premised on the state taking full responsibility, which is already the case for the UK's legacy nuclear sites, given that we do not have the option of holding operators accountable. Fully embracing the Spanish model would make a virtue out of this responsibility and move us away from the 'worst of both worlds' situation whereby the state has formal responsibility, but pays the private sector deliver (even though it has no incentive to do so efficiently).

As explained by the OECD Nuclear Energy, the clear assumption of state responsibility in the Spanish case allows for a highly coherent approach to decommissioning:

This particularly clear assumption of state responsibility, emphasised by a firm and transparent regulation, makes the Spanish system rather unique compared to other OECD countries: while nuclear power plant license holders in Spain are held financially responsible for the costs of decommissioning and RWM, the management of those activities, especially over the long term, falls exclusively within the competence of the state. This policy gives Spain an advantage: the ability to closely align legislative projects with long-term decommissioning and RWM strategies. Overall, the comprehensive management of all aspects of decommissioning and RWM allows for a high degree of coherence and traceability throughout the funding and management scheme.<sup>25</sup>

However, as also explained by the NEA, the coherence of the model relies on there being adequate funding put in place for the state decommissioning agency, Enresa, to do its job, with the arrangement requiring "realistic and comprehensive" estimates of future costs.<sup>26</sup> Having a proper budget in place, to cover the *total* cost of projects, allows Enresa to plan for the *total* decommissioning of sites.

Proposal: All-in-house model with long-term, reserved funding pot

Two main things need to happen for the UK to emulate the Spanish model:

 The UK state takes formal responsibility for all decommissioning activities as a matter of principle. Rather than having a fragmented public-private landscape for decommissioning skills and expertise, the NDA should seek to do everything in-house. This will give the NDA full control over the delivery of decommissioning, increasing

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<sup>&</sup>lt;sup>25</sup> OECD Nuclear Energy Agency, 'Ensuring the Adequacy of Funding for Decommissioning and Radioactive Waste Management', 6 July 2023, p 166.

<sup>&</sup>lt;sup>26</sup> As above, p 166.

- accountability, and allow the NDA to operate at scale and apply learnings from project to project.<sup>27</sup>
- 2. A fund of adequate resources is put in place to pay for legacy decommissioning projects in full. To allow the NDA to plan effectively, the funds to pay for decommissioning need to be in place in advance. We will not be able to charge legacy operators; the state will have to pay. However, rather than the piecemeal approach to funding we currently take, a formal estimate of lifetime decommissioning costs should be made, and a legacy decommissioning fund should be capitalised in line with that estimate. Governance mechanisms should be put in place to ensure that the funding level remains adequate and is appropriately adjusted if required.

With the above building blocks in place, the NDA would (for the first time) be in a position to effectively plan and deliver decommissioning services, and both parliament and central government would (for the first time) be able to effectively hold it to account.

#### Potential challenges

This approach would represent a significant shift and, as such, raises a number of questions. Potential challenges and responses to them are outlined in the below table.

Challenge	Response
Why would we give more responsibility and money to the NDA given the issues it has encountered in the past?	The NDA's performance is a function of its circumstances. As outlined in previous sections, its funding and operating model has not supported timely and cost-effective delivery of decommissioning services. The proposal is designed to change that.
	Moreover, the proposal will not actually give the NDA more money. The NDA already has an effectively unlimited funding stream guaranteed anyway (given the state's ultimate responsibility for decommissioning), so the continuation of the status quo is the most fiscally profligate option given how much it is likely to end up costing. This proposal is about trying to set effective funding limits and creating accountability around those limits.
Lack of knowledge about legacy nuclear sites means we can't make reliable estimates or set a long-term budget.	Because of the UK's complex nuclear legacy and the lack of knowledge of certain sites, it is likely that lifetime cost estimates will change more in the UK than in other countries. However, this does not justify the existing approach or undermine the rationale for the proposed alternative. Having a set budget for a long-term programme of work will still support the NDA's business planning and will still provide something for the government and parliament to hold the NDA accountable to.
	The challenging nature of the UK's nuclear legacy is a 'known-unknown' and the important thing would be to put appropriate governance arrangements in

<sup>&</sup>lt;sup>27</sup> The NDA already subsumed responsibility for both the 1<sup>st</sup> and 2<sup>nd</sup> generation nuclear sites, the logic of this would mean that it would also decommission post-2008 sites, such as Hinkley Point C, Sizewell C, and any future Small Modular Reactor sites. Having clarity about this future pipeline of work would support business planning further and ensure the decommissioning skills base can be maintained.

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place to adapt budgets when something genuinely unknown comes to light. We suggest that a process is introduced whereby the NDA is responsible for making its own cost calculations and that these estimates are then audited by the government and/or a government agency such as the NAO.

Any one-off capitalisation would be too large.

The NDA's latest estimate for nuclear provisions (i.e. the total lifetime cost of decommissioning legacy sites) is £105bn, with Sellafield accounting for £74bn of this. Because Sellafield is a unique and complex site, attempting to set a long-term budget for its complete decommissioning is much harder than for other legacy sites. For the time being, we suggest that the government prioritise creating funds for decommissioning the UK's other legacy sites and for building a Geological Disposal Facility (GDF), the project responsibilities of NRS and NWS respectively. The NDA estimates the lifetime cost of decommissioning NRS sites at around £24bn and the lifetime cost of the NWS's work at around £7.5bn. The government could therefore capitalise the NRS's and NWS's entire work programmes in full by borrowing £10-15bn per year for two or three years. If this was deemed too much additional borrowing, it could instead fund the next 20 years of those work programmes, estimated by the NDA to cost around £17bn, on the understanding that the remaining funding for be provided by a future government as the initial 20year work programme came to a close.<sup>28</sup> While it would be far more preferable to capitalise these funds with resources equating to estimated lifetime costs, capitalising them with costs for the next 20-years' worth of work (with associated project objectives to complete during that time) would still be a significant improvement on the current system.

Capitalisations of this magnitude are substantial but have a clear precedent. As highlighted previously, the previous government topped up the NLF with £5.1bn in 2020 and £5.6bn in 2022.

The government is already struggling to meet its fiscal rules, how will this help? The advantage of funding decommissioning in this way, i.e. with one-off capitalisations, is that it eases the government's fiscal arithmetic. This explains why the Treasury was relaxed about injecting substantial amounts of funding into the NLF in 2020 and 2022, and, conversely, why it is so reluctant continue providing the NDA with reasonable annual funding settlements. Because NDA funding is a recurring and rising cost which shows up as current budget spending in every year of the fiscal forecast, it does not fit well with the government's fiscal rules which mandate that borrowing and debt decrease towards the latter end of a rolling five-year forecast period.

In contrast, a one-off capitalisation of a legacy decommissioning fund would not increase borrowing over the entirety of the forecast period. It would increase borrowing in the current fiscal year and/or the next fiscal year, but it would not have a recurring impact. Indeed, moving to this model would actively *create* additional headroom against the fiscal rules, because it would remove an annually recurring spending item from the latter part of the forecast period. The combined annual planned spending of NRS and NWS

<sup>&</sup>lt;sup>28</sup> All figures here are from the spreadsheet published alongside Nuclear Decommissioning Authority, 'Annual Report and Accounts 2023/24', 9 October 2024.

was around £1bn in 2024/25, so an amount at least as large as this could be removed from the medium- to long-term fiscal forecast under these proposals.

Regardless of the fiscal rules, this is still extra borrowing which will increase gilt market pressure.

Even if it is 'front-loaded' to the first part of the fiscal forecast period, a non-negligible amount of money would still have to be borrowed as part of this proposed capitalisation. However, experience over recent years has taught that gilt markets are more concerned about sustained increases in government borrowing over the medium- to long-term, than they are about absorbing short-term, time-limited spending commitments.

Additionally, the money that the government would borrow to capitalise the legacy decommissioning fund(s) would only be drawn down upon very slowly, with the large part of it invested. The investment strategy of the fund would be a matter for consideration, but no doubt a significant portion would be invested government bonds. So, the government would be giving with one hand and receiving a large amount of what it gave straight back with the other—the private gilt market would only be required to absorb a relative limited volume additional debt.

In summary, what we are proposing is not only more preferable from an operational delivery perspective, but also preferable from a fiscal perspective. As well as securing the future of nuclear decommissioning in this country, and increasing the chances of cost-effective delivery, it would ease pressure on the Chancellor and create a more favourable fiscal profile over the coming years.

#### Structuring the decommissioning bodies

Throughout this briefing, we have been consistently referring to the NDA, given that that it is currently the organisation which is formally responsible for decommissioning legacy nuclear sites. However, there is a question as to whether the current structure—of having the NDA as the umbrella organisation and having Sellafield, NRS, NWS, and NTS as the subsidiaries which do the operational work—is the right one.

The current structure suffers from the following issues:

- Lack of group-wide efficiencies. A potential justification to have the NDA as an umbrella organisation is that it can provide group-wide corporate functions in a more efficient way than if the operating companies provided them individually. However, it does not currently do this, with the operating companies remaining responsible for such functions. There is a current drive to 'streamline' certain functions and make the NDA corporate centre more responsible for certain corporate functions (e.g. finance, HR, communications) through the NDA's 'Functional Excellence' initiative. However, this initiative is likely to create more problems than it solves. For example, the employees in the different operating companies have different pay structures, different terms and conditions, and different pension schemes, and there is no straightforward way these different structures can be unified. After 20 years of existence the NDA does not have a streamlined corporate structure for its subsidiaries to fit into, and strong consideration should be given as to whether this attempted merging of corporate functions actually makes sense in its own terms, or whether it is a (somewhat cynical) attempt to justify the existence of the NDA as an umbrella organisation.
- Lack of effective leadership and working relationship between the layers. A key justification for the current structure is the potential synergy that might be gained from the

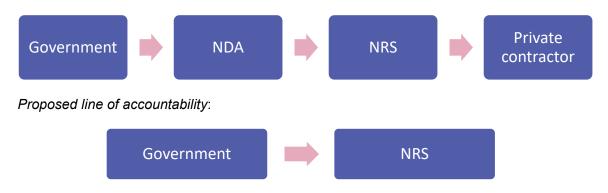
operating companies being part of a wider group. However, under the current leadership, such synergy is absent. We have observed an increasingly dysfunctional relationship between the NDA leadership and the operating companies, with little communication between them regarding key issues. Effective cooperation between the individual operating companies occurs in spite of the NDA, rather than because of the NDA.

- Additional layer of bureaucracy reduces accountability. As outlined above, a big part of the problem with the current model is the lack of accountability. Fundamentally, this problem is due to substantive decommissioning work being outsourced to the private sector. However, the problem is worsened by having two layers of bureaucracy at the public body level. Even if you bring all decommissioning work in-house, there will still be an issue whereby the body which is accountable to the government (the NDA) is not the body which is actually delivering the substantive decommissioning work (NRS and NWS). If there was effective leadership at the NDA and an effective working relationship between the layers, this might not be such a problem, but as highlighted above this is sadly not the case.
- Incentives to shift money between programmes. NWS, in charge of delivering the GDF,
  has suffered from being a part of the wider NDA group. Its work is very important for the wider
  decommissioning programme, but because its work is the most long-term and least urgent,
  there is an incentive to move funding away from it towards more urgent priorities if it's funding
  is not effectively ringfenced.

None of this undermines the need for a more effective funding model. However, it does mean that the government should strongly consider the structure of public decommissioning bodies as it puts a better funding model in place. As implied by the above, we are doubtful that the NDA is providing the value one would expect from an umbrella organisation which isn't doing substantive operational work itself. If we are going to put in place proper funds to finance the decommissioning of legacy nuclear sites and to finance the planning and construction of a GDF, it makes sense to provide those funds directly to the operational companies delivering those objectives, i.e. NRS and NWS, to maximise accountability. It is difficult to see what would be gained by delivering those funds through an intermediary body such as the NDA.

Therefore, if the government were to follow our recommendations of delivering all decommissioning services in-house through the public sector and putting in place adequate long-term funding mechanisms for the activities of NRS and NWS, we would recommend that the government also consider removing the NDA as a corporate layer. As illustrated below, following these recommendations would help create a direct line accountability, moving us away from the indirect (and ineffective) chain of accountability we have at present:

#### Current chain of accountability:



Parliament would similarly benefit from this more direct accountability. At present, parliamentary committees interview the leadership of the NDA as part of its inquiries and regular evidence sessions, but they are two-layers away from the party responsible for delivery. Under the

proposed system, parliament would directly hold accountable the leadership of the bodies which are directly responsible for delivery. (The above diagrams use the NRS as an example, but the same principle would also apply to the other subsidiaries of the NDA.)

To be clear, Prospect will fight tooth and nail for the interests of our members at the NDA doing important work, arguing for their redeployment to the operating companies where appropriate. However, we believe that addressing this question of the funding model provides an opportunity to rethink the structure of these bodies, and we will not stand in the way of a better funded and better structured system.