APPRAISAL OF SUPPORT FOR NUCLEAR COMMUNITIES

UK SITUATION AND INTERNATIONAL PERSPECTIVES

Advisory Services

Author: Dr Michael Zdanowski
Check & Approval: Philip Davies, Head of Service

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1 INTRODUCTION

The UK Parliament's Public Accounts Committee (PAC) concluded in October 2018 that it was not convinced that the Nuclear Decommissioning Authority (NDA) was achieving the wider economic benefits that would help justify the vast amounts of public investment at Sellafield and across the NDA estate.

According to the Committee:

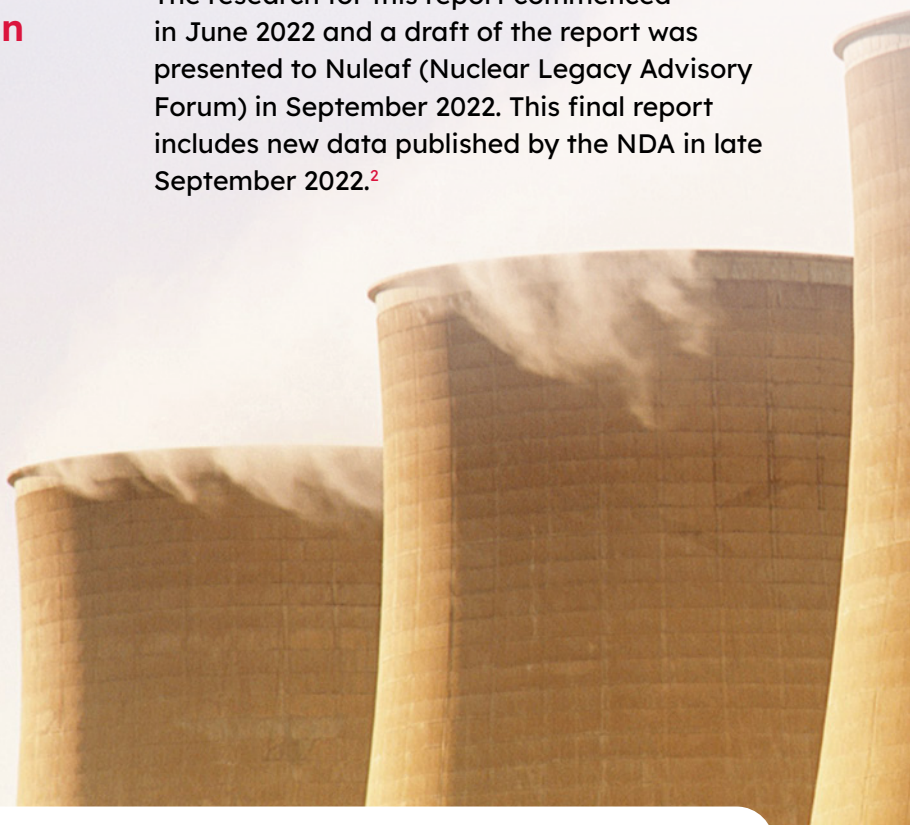
"The NDA and Sellafield Limited have an opportunity to lead and accelerate the development of the UK's nuclear sector, creating skills, jobs and economic growth. The NDA accepted that [it] does not yet do enough to maximise the potential socio-economic benefits of its expenditure on nuclear decommissioning."[1]

The central purpose of this report therefore is to evaluate the socio-economic impact of the NDA's work across the UK's nuclear communities. This evaluation focuses on quantifying the direct benefit of the NDA's work in the UK. The research has been augmented by conversations with key stakeholders with responsibility for socio-economic regeneration in UK nuclear communities in Somerset, North Wales and Cumbria.

This report responds to two further objectives. It charts the impact and contribution from the wider energy sector to local communities in the UK by providing case studies of their work.

Finally, this report has evaluated the impact and contribution of European-based organisations with a similar remit to the NDA that have been tasked with providing socio-economic and environmental benefits to nuclear communities.

The research for this report commenced in June 2022 and a draft of the report was presented to Nuleaf (Nuclear Legacy Advisory Forum) in September 2022. This final report includes new data published by the NDA in late September 2022.[2]



[1]See House of Commons Committee of Public Accounts – **Nuclear Decommissioning Authority: risk reduction at Sellafield (2018)**

[2]See **Economic impact assessment of Magnox sites**, May 2022. See also: **The economic contribution of the NDA to the West Cumbria economy**, April 2022.

2 SCOPE OF REPORT

The findings in this report address the following three questions.

1. What is the extent to which the NDA 'adds value' to local communities where decommissioning sites are located?

The report has focused on quantifying the impact locally and nationally related to:

a. Direct and indirect employment.
b. Support for the supply chain.
c. Wider investment in community benefit schemes.
d. Investment in skills and training.
e. Investment in environmental sustainability.

2. How do community benefits from decommissioning sites compare with other industries such as nuclear power stations, onshore or offshore renewables or fracking?

For each example, where the information is available, case studies have been provided to showcase the community benefits provided, how these are calculated and on what basis it was felt appropriate to provide such benefits.

3. How does the added value provided by the NDA compare with that offered by nuclear decommissioning organisations in other countries?

This report has investigated other benefits provided to communities hosting decommissioning facilities, nuclear waste stores, waste management infrastructure or for onsite disposal.

The focus has been to provide quantified assessment and analysis of the data for each of the above, highlighting good practices where appropriate.

3 ANALYSIS & FINDINGS

Section 3.1 analyses the quantitative data on the added value to communities in relation to:

- Direct and indirect employment.
- Support for the supply chain.
- Wider investment in community benefit schemes.
- Investment in skills and training.
- Investment in environmental sustainability.

3.1 ADDED VALUE TO THE COMMUNITIES

Sellafield

Analysis shows that Sellafield delivered around £2.1 billion in GVA (gross value added) to the UK economy according to figures provided for 2016/17[3].

70% of this £2.1bn GVA figure is generated in the local economy defined as Cumbria and Warrington. In 2021, Sellafield's total GVA increased from £2.1 billion to £2.52 billion. However, the GVA generated within Cumbria and Warrington decreased from £1.47 billion to £778 million.[4]

Table 1: GVA data for Sellafield from 2017 (2013 prices) and 2021 (2019 prices)

Year	Sellafield total GVA	Direct contribution	GVA generated from UK supply chain	GVA generated via direct and indirect employment	Sellafield GVA generated in Cumbria and Warrington
2016/17	£2.1 billion	£720 million	£960 million	£430 million	£1.47 billion
2020/21	£2.52 billion	£1.30 billion	£1.36 billion	£633 million	£778 million

According to the analysis, the figures in Table 1 will likely have underestimated the true impact of GVA, as it is difficult to quantify the impact on the local economy of employees spending their wages. Data for local supply chain activities, which have an indirect impact on GVA, is also missing.

[3]Report: **The Economic Impact of Sellafield** by Oxford Economics - June 2017 (Page 4)

[4]Report: **The economic contribution of the NDA to the West Cumbria economy** - April 2022 (Page 1)

Dounreay

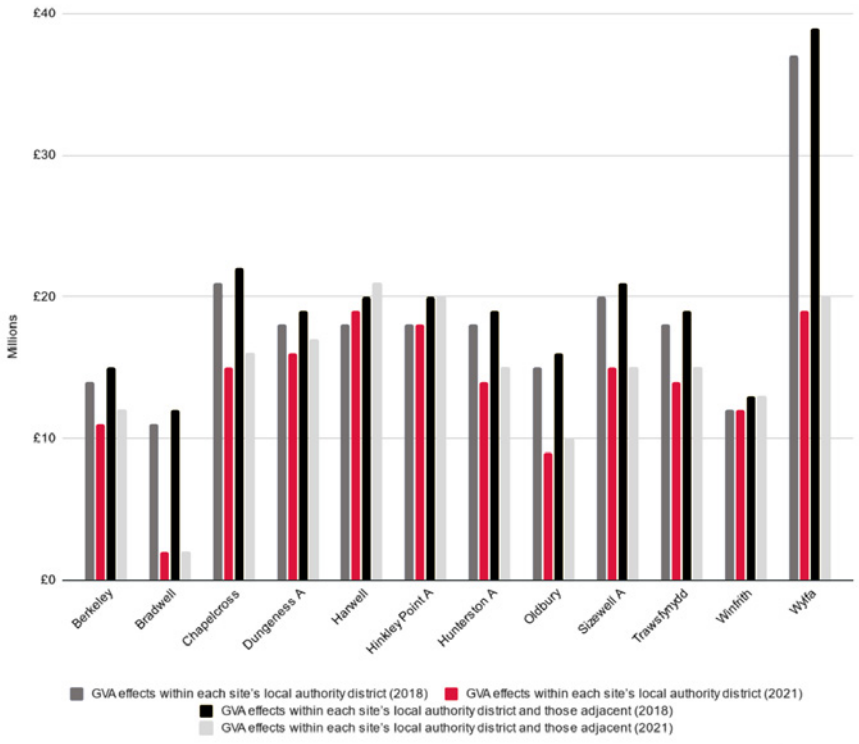
The recent Dounreay Socio-economic report[5] estimates the site contributes a total of £77.5million per annum to the local economy with the North Highlands and Moray Space Cluster, joint funded by Dounreay and Highlands and Islands Enterprise[6], estimated to be capable of generating £22million. In 2019, the NDA pledged £5m towards a project to upgrade Scrabster Harbour, close to the Dounreay site, to improve its capacity to receive cruise ships and vessels working in the offshore oil and gas industry. It was anticipated then that 50 new jobs would be created as part of the scheme.[7] By 2020-21, work on the pier and quay walls created a 375-metre deep-water berthing area, including a new 250-metre outer berth. 2022 saw the completion of redevelopment work at Scrabster Harbour with the NDA's contribution increasing capacity at St Ola Pier, allowing access to larger vessels and opening up opportunities such as offshore energy construction and maintenance, as well as cruise ship docking.[8]

Magnox sites

The Magnox sites make a quantifiable but varying contribution to the local economies where they are present. This is in terms of employment, GVA and tax receipts.[9]

Chart 1 below outlines the GVA calculated for the various Magnox sites for (a) the local authority for where the site is located and (b) adjacent areas, citing data from both the 2018 and 2021 Economic Impact Assessment reports.

Chart 1: GVA of Magnox sites to the local authority district and adjacent areas 2018 and 2021[10]

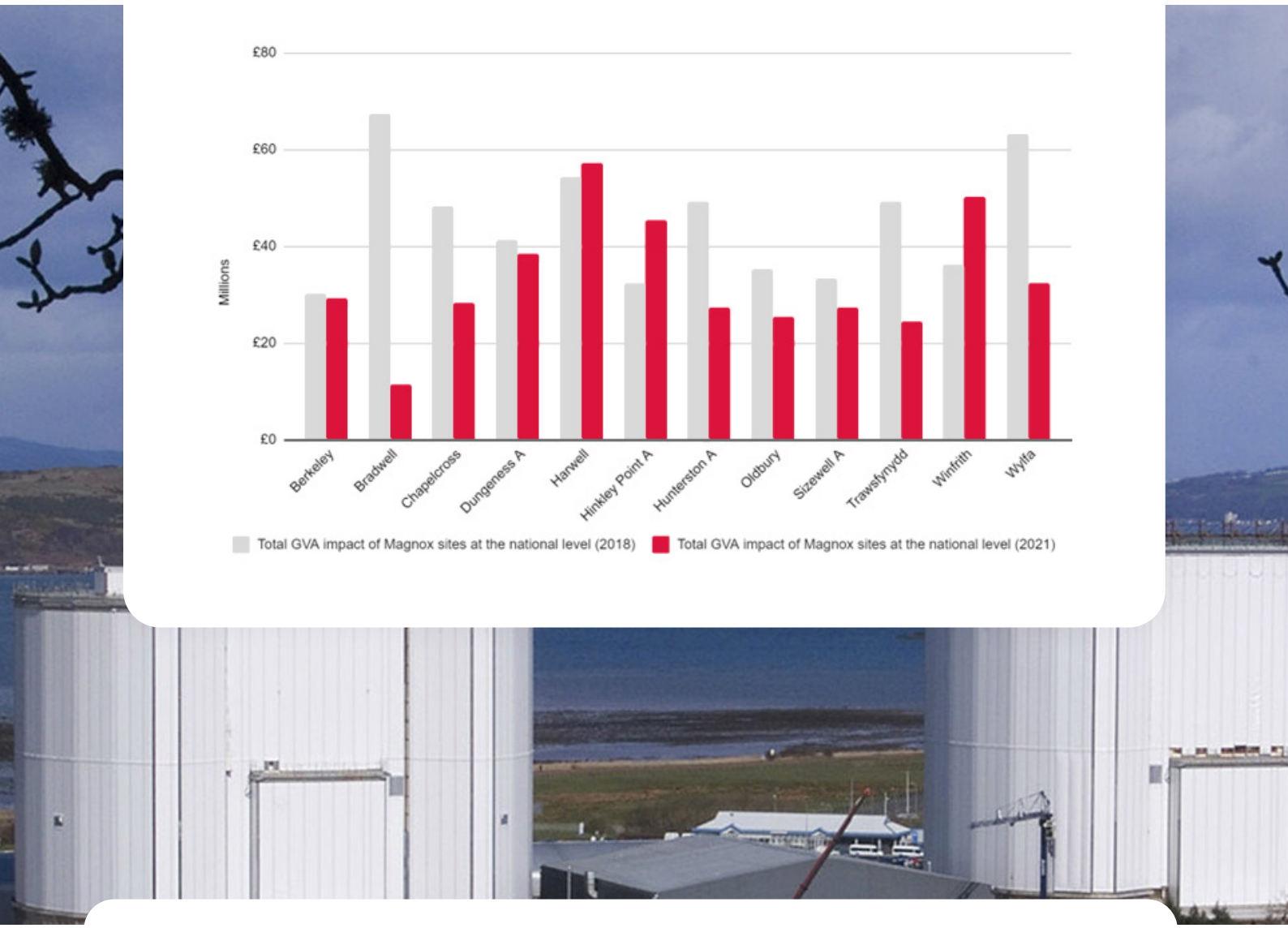


[5] **Dounreay Socio Economic Annual Review** (Page 20)
[6] Website: **Highlands and Islands Enterprise**
[7] See: **NDA cash will boost economy around Scrabster Harbour - GOV.UK (www.gov.uk)**
[8] See: **NDA Annual Report and Accounts 2021/22**
[9] See: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 4)
[10] Report: **Economic Impact Assessment of Magnox Sites** (Pages 38 and 39)

Analysis of the data to compare the local GVA figures from the Economic Impact Assessment reports in 2018 and 2021 highlight a clear trend. At three quarters of the Magnox sites, the GVA locally has decreased. This trend covers the local authority district and the adjacent areas. At a few sites the decrease is dramatic. At Bradwell, the GVA locally is just 17% of what it was in 2018 and at Wylfa the GVA is only 51% of what it was previously. However, it should be noted that Wylfa was generating in 2018, but not in 2021; while Bradwell entered Care and Maintenance during this period.

It is important to understand the GVA benefit nationally as well as locally as much of the supply chain for the decommissioning sites requires specialist technical expertise that may not be available in the immediate or adjacent areas. Chart 2 compares the data for GVA impact nationally from 2018 and 2021. Here it is possible to see that the GVA decline has not been as strong and there are a few more sites, notably Hinkley Point A and Winfrith where there is a clear increase in GVA. The significant uptick in GVA at Winfrith is likely to be due to some land being delicensed and turned over to new businesses on science park.

Chart 2: GVA impact of Magnox sites nationally 2018 and 2021[11]



[11]Report: **Economic Impact Assessment of Magnox Sites** (Pages 38)

3.1.1 DIRECT AND INDIRECT EMPLOYMENT

Chart 3 below compares the 2020 direct and indirect employment figures across Sellafield, Dounreay and the Magnox sites combined.

Sellafield

The site is responsible for 10,851[12] of the 14,492 direct jobs created across all UK nuclear sites undergoing decommissioning (75%) and 44,000[13] of the 48,850 estimated jobs created indirectly across the whole of the UK by the NDA (90%).

Funding to target jobs and support for local businesses in Cumbria is being put in place. In 2021, Copeland Borough Council received £2.39 million from the Sellafield Impact Fund and £7 million from the Nuclear Decommissioning Authority's socio-economic fund to advance the Industrial Solutions Hub at Cleator Moor.[14]

The economic assessment suggests that this funding, along with other financial assistance from other partners, will generate more than 100 new jobs over a period of 18 months. The overall scheme should create more than 700 new jobs in the local area within the next ten to 15 years.

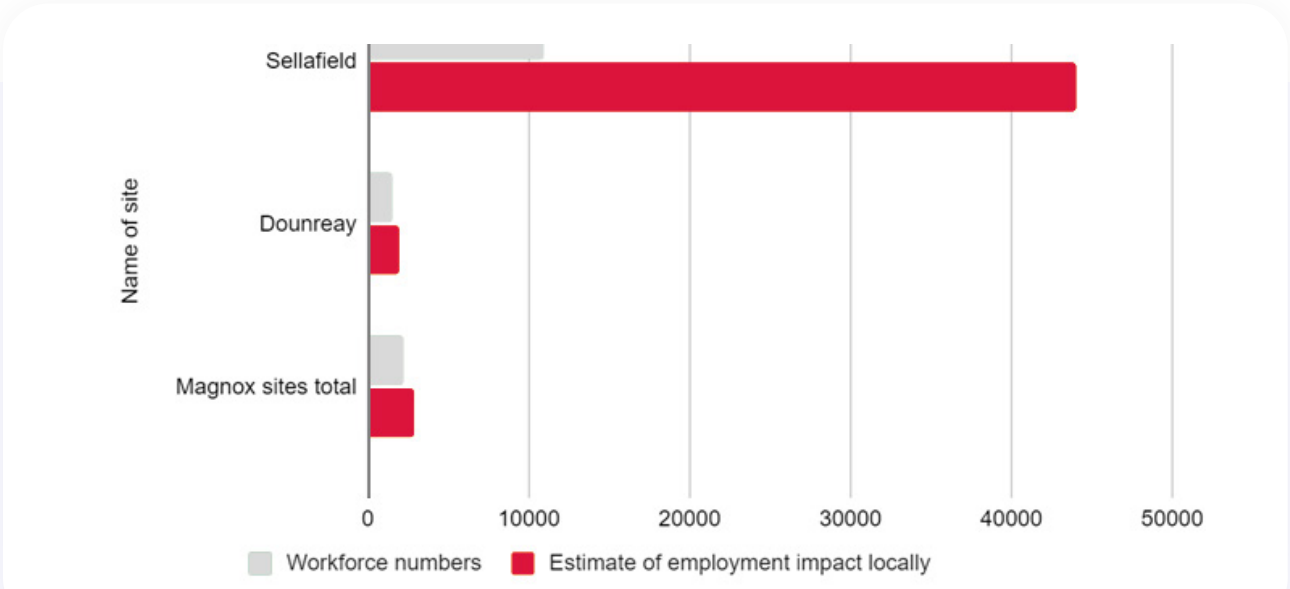
Dounreay

According to the Dounreay 2021 report, approximately 1,500 people are employed by the site directly.[15] The estimate of employment impact locally by the NDA in the local social and economic impact strategy report from 2020 is 2,000 jobs. This figure is striking given the relatively small population of Caithness – 26,486 according to the 2011 national census.

Magnox sites

The Magnox sites currently account for a relatively small, but not insignificant number of direct and indirect jobs in the local community. The workforce numbers from 2020[16], put the total number of directly employed people at 2,141.

Chart 3: Direct workforce numbers and estimate of employment impact locally in 2020[17]



[12] **Sellafield Ltd Annual Report and Financial Statements 2021/22, Section 11. Significant accounting judgements, estimates and assumptions**

[13] **Report: NDA local social and economic impact strategy - 2020 update** (Page 6)

[14] Place North West: **Funding corralled for Cumbria supply chain hub**

[15] Report: **DSRL Dounreay 2021** (Page 17)

[16] Report: **Magnox Socio-economic Plan 2016-21** (Pages 18 to 27)

[17] Report: **NDA local social and economic impact strategy - 2020 update** (Page 6)

Table 2: Breakdown of total workforce numbers and estimate of employment impact locally for Sellafield, Dounreay and Magnox sites.

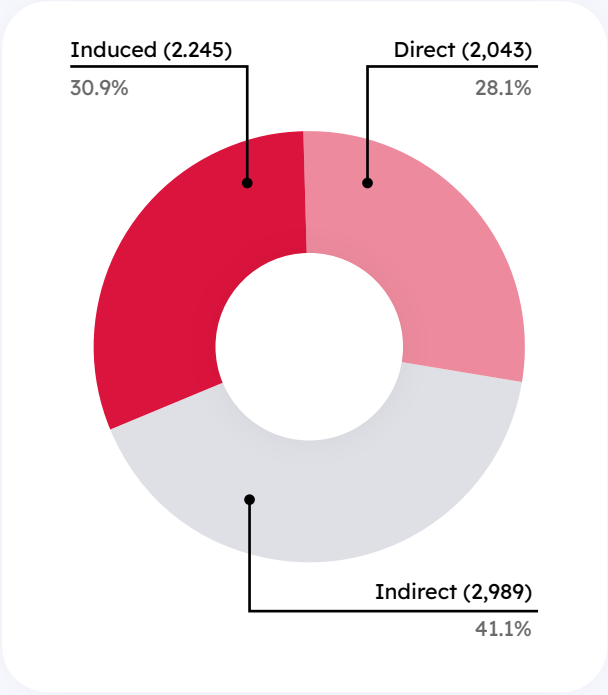
Name of site	Workforce numbers (Apr 2020)	Estimate of employment impact locally[18]	Local dependency on site
Sellafield	10,851*[19]	44,800	High
Dounreay	1,500*[20]	2,000	High
Magnox sites total	2,141[21]	2,850	Mixed
Bradwell	18	103	Low
Dungeness A	151	209	High
Hunterston A	132	208	Medium
Trawsfynydd	148	207	High
Wylfa	251	521	High
Chapelcross	192	286	Medium
Hinkley Point A	168	217	Low
Winfrith	164	186	High
Berkeley	132	170	Low
Harwell	240	289	Medium
Oldbury	358	200	Low
Sizewell A	187	255	Medium

*Sellafield and Dounreay numbers are for 2021

[18]Report: **NDA local social and economic impact strategy - 2020 update** (Page 6)
[19]**Sellafield Annual Review 2020-2021** (Page 9)
[20]Report: **Dounreay 2021** (Page 17)
[21]Report: **Magnox Socio-economic Plan 2016-21** (Pages 18 to 27)

More recent data analyses the direct, indirect and induced impact of the Magnox sites nationally rather than locally.[22] The data in Chart 4 highlights how the indirect and induced impacts can be significant when compared to the numbers for those directly employed.

Chart 4: Breakdown of employment impact of Magnox sites at the national level, 2021



The Hunterston A and Winfrith sites have investment plans to increase local jobs. Around £300 million is expected to be invested in Ayrshire where Hunterston A is located and it is expected to deliver around 7,000 new jobs across a wide range of sectors.[23] In Winfrith, the Dorset LEP Strategic Economic Plan plans to provide a business environment that accommodates up to 40,000 additional jobs by 2021.

Local authorities and Local Enterprise Partnerships (LEPs) around some Magnox sites are using wider growth plans to increase local jobs. Through the Ayrshire Growth Deal, around £300 million is expected to be invested in Ayrshire where Hunterston A is located. This is expected to deliver around 7,000 new jobs across a wide range of sectors.23 In Winfrith, the Dorset LEP Strategic Economic Plan plans to provide a business environment that accommodates up to 40,000 additional jobs by 2021.[24]

These investments are important as there is currently a high level of dependency for jobs on the Winfrith site and the employment rate in the local authority district where Hunterston A is located is very low.[25] In fact, Magnox is recruiting over 30 Level 2 - 6 engineering and business apprentices in 2022.[26]

However, it is anticipated that workforce numbers for Dounreay and most of the Magnox sites will decrease as decommissioning work is completed. Magnox is currently reviewing the timelines for decommissioning its sites. For some sites this will result in their decommissioning being brought forward while for others a deferral strategy with varying deferral periods will be the chosen approach.[27]

[22]Report: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 4)
[23]Presentation: **North Ayrshire NDA Funding Priorities**
[24]**NDA Economic Development Strategy 2020-2026** (Page 19)
[25]Report: **Economic Impact Assessment of Magnox Sites** (Page 48)
[26]News story: **Magnox apprentice recruitment open**
[27]See case study: **Timing of the Magnox Reactor Decommissioning Strategy**

3.1.2 SUPPORT FOR THE SUPPLY CHAIN

Overall NDA

The NDA provides data for direct and indirect spend with SMEs across all sites as part of their SME action plan to "improve SME engagement to ensure that SMEs have a fair opportunity to contribute to the UK nuclear sector".[28]

The NDA group as a whole has an annual budget of around £3.3 billion, of which £1.8 billion is spent with suppliers. Interestingly, over the time period covered by Table 3 the direct spend with SMEs has increased, while the indirect spend with SMEs has decreased over the same period. It is possible that programmes to encourage SMEs to tender for opportunities directly have been impactful. SMEs may also have felt it too risky to be indirect suppliers after the Carillon crisis in 2017/18, where at one point as many as 30,000 SMEs were thought to be owed money.[29]

The result has been for the overall spend with SMEs to remain largely consistent. It is possible that during the fiscal year 2020/21 the overall spend with SMEs was lower due to pandemic related challenges. Analysis of the 2021/22 and 2022/23 data will be required to understand if it was a one-off annual result due to the pandemic or whether the overall decrease in spend is part of a longer trend.

Table 3: Direct and indirect SME spend across all NDA sites

Fiscal Year	NDA group target	Direct SME Spend	Indirect SME spend	Overall NDA group SME spend
2017/18	25.5%	0.9%	27.7%	28.6%
2018/19	29%	7.8%	24.7%	32.5%
2019/20	32%	15.0%	17.0%	32.0%
2020/21	33%	12.6%	16.1%	28.7%

Sellafield

Sellafield has data for its supply chain spend with small and medium sized enterprises (SME) going back to the 2016/7 financial year. Table 4 outlines the spend with SMEs as a proportion of total influenceable external expenditure according to the Sellafield Supply Chain Directorate 2021/2 annual review.[30]

To put the percentages into context, Sellafield's total supply chain spend for 2021/2 was £1.32 billion. It is assumed that the SME target and SME spend achieved is for the overall (direct plus indirect) SME spend data.

The data highlights the significant improvement at Sellafield to increase the proportion of spending with SMEs from 21.8% in 2016/17 to 34.3% in 2021/22. This is a consistent year on year increase.

A lack of improvement in 2019/20 and decrease in 2020/21 may have been related to delays because of the pandemic. Further analysis of the resilience of initiatives to encourage SMEs to tender and to support them to win contracts during challenging times may reveal more insight.

No breakdown for whether the SMEs were local to Cumbria could be found.

[28] NDA SME Action Plan 2019-2022

[29] The Guardian: Subcontractors lay off staff as Carillion crisis spreads

[30] Sellafield Ltd Supply Chain Directorate, 2021/2 Annual Review

Table 4: Sellafield percentage of supply chain spend with SMEs

Financial Year	SME spend target	SME spend achieved
2016/17	23.5% - 25%	21.8%
2017/18	25% - 29%	26.9%
2018/19	29% - 31%	30.9%
2019/20	31.0%	30.6%
2020/21	32.0%	28.3%
2021/22	31% - 33%	34.3%

The annual review points to several initiatives to encourage and support SMEs to tender for contracts, including:

- Face-to-face only SME supplier forums to showcase procurement opportunities.
- Information on procurement routes on their website.
- Live contract opportunities via their tender management system as well as procurements that will be tendered in the coming months and years.
- A platform that enables SMEs at a local and national level to collaborate and deliver innovative solutions.

Transparency of the procurement opportunities, beneficial routes for SME engagement and face to face contact are the best ways to encourage SMEs to tender for opportunities so that they are clear about the process and requirements for the tender. For example, targets are set with Tier 1 framework holders like AXIOM Joint Venture (JV) partnership within the Design Service Alliance (DSA). There are metrics to report back to Sellafield stakeholders that they are creating work opportunities with SMEs embedding accountability.

Due to the complex nature of much of the work related to decommissioning, SMEs often need to collaborate with other businesses to be able to fulfil contracts. This can be incredibly challenging for SMEs to set up and to communicate. The perception is that big businesses are seen as less risky, which can be off putting for SMEs.[31]

Sellafield also published a Programme and Project Partners (PPP) Supply Chain Strategy in 2021.[32] One of the principles of the strategy is to achieve social impact throughout the supply chain, which in turn benefits local communities. To further this programme of work, a Social Impact Toolkit was designed to help supply chain partners in the programme to better understand what social impact is, why it is important, how to embed it into their own procurement processes, and how to support positive changes in the community.[33]

[31] IT Pro: **SMEs struggle to gain a fair slice of public sector technology contracts**

[32] **The Programme and Project Partners Supply Chain Strategy. PPP is a 20-year framework with four major partners designed to plan and execute major project delivery.**

[33] **The Programme and Project Partners - Social Impact Toolkit**

Dounreay

Data from the Dounreay Socio-Economic Alliance for financial years 2018/19[34], 2019/20[35], 2020/21[36] and 2021/22[37] in Table 5 outlines total supply chain spend for the site which has ranged from £98.5 million to £121 million. The proportion of the supply chain spend with SMEs has achieved its target and the percentage spend was higher than the 33% target set by the UK government in 2015.[38]

Interestingly, the number of SMEs Dounreay engaged with in 2021/22 decreased by 33 businesses compared to the previous year, even though total supply chain spending increased by £22.9 million. This suggests that initiatives to encourage SMEs to apply for tender opportunities need to be long term programmes.

The top 20 suppliers with a local base have remained consistent over the period for which data is available. While it is not possible to verify if the top 20 suppliers with a local base are the same for each of the years, it is quite likely to be the case. This suggests that more can be done to encourage suppliers to set up a base in the local area.

Table 5: Supply chain spend data for Dounreay 2018 to 2022

Financial Year	Total Supply Chain Spend	SME Spend Target	SME Spend Achieved	Number of SMEs	Top 20 suppliers with local base
2018/19	£100 million	27%	36%	231*	10
2019/20	£121 million	29-31%	34%	353*	11
2020/21	£75.6 million	No data	No data	397	11
2021/22	£98.5 million	No data	No data	364	11

*Value is for SMEs registered with Dounreay only

[34] Dounreay socio economic review 2018/19
[35] Dounreay socio economic review 2019/20
[36] Dounreay socio economic review 2020/21
[37] Dounreay socio economic review 2021/22
[38] Big opportunities for small firms: government set to spend £1 in every £3 with small businesses

Magnox sites

According to the Economic Impact Assessment of the Magnox sites, the purchase of goods and services are mostly from national supply chains.[39]

Table 6: Magnox site supply chain spend in local authority and local authority plus adjacent districts

Site	Spend in the local authority district that the site is located in		Spend in either the local authority district that the site is located in or an adjacent one	
	2018	2021	2018	2021
Berkeley	£29,000	£5,000	£34,000	£49,000
Bradwell	£56,000	£1,893,000	£56,000	£1,893,000
Chapelcross	£93,000	£95,000	£525,000	£324,000
Dungeness A	£479,000	£194,000	£590,000	£210,000
Harwell	£330,000	£167,000	£546,000	£384,000
Hinkley Point A	£1,000	£10,000	£47,000	£85,000
Hunterston A	£1,002,000	£142,000	£1,694,000	£307,000
Oldbury	£119,000	£29,000	£164,000	£125,000
Sizewell A	£17,000	£53,000	£17,000	£53,000
Trawsfynydd	£236,000	£57,000	£412,000	£273,000
Winfrith	£151,000	£123,000	£189,000	£212,000
Wylfa	£403,000	£97,000	£586,000	£331,000

Table 6 above shows varying levels of success with increasing supply chain spend with local businesses between 2018 and 2021. At some sites the spend with local suppliers increases and in others it decreases. The one site with a notable change is Bradwell.

Here the percentage of overall supply chain spend locally jumped from 0.12% to 23.16% and from £56,000 to £1,893,000.[40]

Generally, only a small percentage of purchases are made with local suppliers. The average supply chain spend in the local authority district and adjacent areas for where the Magnox site is located was 1.89% in 2018.[41] This increased to 3.59% in 2021.[42] The increase can be attributed to the large increase in local supply chain spend at Bradwell.

Notably, Harwell and Winfrith are two Magnox sites that have the largest supply chain spend.[43] These two sites also have the largest GVA impact nationally (£57 million and £50 million respectively).[44] However, as can be seen in Table 6, the local supply chain spend is incredibly small in comparison.

[39] **Economic Impact Assessment of Magnox Sites**
[40] Report: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 38)
[41] Report: **Economic Impact Assessment of Magnox Sites** (Page 35)
[42] Report: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 38)
[43] Report: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 36)
[44] Report: **Updated Economic Impact Assessment of Magnox Sites** – May 2022 (Page 41)

3.1.3 WIDER INVESTMENT IN COMMUNITY BENEFITS SCHEMES

In the NDA's 5-year Strategy, effective from March 2021, the organisation sets itself a specific objective to "support the maintenance of sustainable local economies for communities living near NDA sites and, where possible, contribute to regional economic growth."[45]

Sellafield

Sellafield invests in a number of different organisations and initiatives locally. Funding and support for the West Cumbria Sites Stakeholder Group[46], which includes representatives from local government, regulators, unions and community groups has been on-going, as is the norm for decommissioning sites.

Sellafield has a Social Impact Strategy that dates to 2020.[47] The principles of the SiX programme (social impact multiplied)[48] is to ensure that at least £10 million per year is spent by the business in the communities closest to operations on projects co-created with local communities and based on key Sustainable Development Goals identified by the United Nations.[49]

The Sellafield SiX programme is informed by the Reboot Integrated Programme, where public and private sectors come together to identify priority projects.[50] Its goal is to deliver social value and make Copeland a better place to live, work and visit.

The Copeland Community Fund is an agreement negotiated with the Government to support local communities in the Borough of Copeland and to recognise the service Copeland provides to the UK by hosting the Low Level Waste Repository (LLWR) close to the village of Drigg. The LLWR gives the Fund £1.5m a year for every year that the repository is operating in addition to an initial endowment of £10 m.[51]

Table 7: SiX programme initiatives and funding where known

SiX programme initiative	Value
Fund for community and voluntary groups	£1.3 million
Support for local families	£660,000
Fund for financial education	£175,000
Nurture young entrepreneurs	No specific amount specified
Making community activism the norm for young people	No specific amount specified

[45] Nuclear Decommissioning Authority Strategy effective from March 2021
[46] West Cumbria Sites Stakeholder Groups
[47] Sellafield Ltd Social Impact Strategy
[48] Introducing SiX - Sellafield Ltd's new social impact programme
[49] Department of Economic and Social Affairs - Sustainable Development
[50] Reboot Integrated Programme. Also see: Reboot hosted by BEC – BEC (discoverbec.com)
[51] Website: Copeland Community Fund

A further breakdown for the investments being made in the local community for the fiscal year 2021/22 can be seen in Table 8 from Sellafield's annual report and financial statements.[52]

Table 8: Investments in the local community in 2021/22 as part of Sellafield Social Impact Strategy

Investments	Value amount	Description	Partner organisations
Western Excellence in Learning and Leadership	£1.3 million (year 3 of a multi-year programme)	To improve educational attainment at schools across West Cumbria	Cumbria County Council NDA
Industrial Solutions Hub	£1.3 million	To create 'cluster building' and diversify the economy beyond nuclear	Copeland Borough Council Industrial Solutions Hub
Barclays Eagle Lab	£0.4 million (for year 2)	For small businesses looking to grow at the Whitehaven Bus Station	Barclays
Lead and change sustainability challenge	c. £0.1 million	For secondary schools in West Cumbria to take part in a sustainability challenge	None found
Community projects	£0.9 million	24 third sector organisations delivering projects to address social needs locally	None found
Transforming West Cumbria Bedrock	£0.5 million	Enabling organisations to benefit from the fund that is designed to increase the resilience and capability of the third sector	None found
Total	£4.4 million		

The investments found varied between infrastructure projects, supporting local businesses, education and supporting a large number of third sector organisations. All investments are in line with the Sellafield Social Impact Strategy.

[52] Sellafield Ltd Annual Report and Financial Statements 2021/22

Dounreay

Table 9 outlines projects the received investment in the fiscal year 2021/22 in the areas surrounding Dounreay as outlined in the Dounreay Socio-Economic Review report.[53]

Table 9: Investments in the local community in 2021/22 from Dounreay Socio-Economic Review

Title	Description	Annual funding / project value	Organisations supported
Covid-19 recovery	Community infrastructure support. Grant support was made available up to £1000	£10k	20
Caithness and North Sutherland Fund	Funding for community projects that will increase the attractiveness of Caithness and North Sutherland as a place to live, work and invest	£300k	No data
Dounreay Communities Fund	Support for community organisations and local charities	£25k	30
Dounreay Employee Charity Fund	Voluntary scheme with Dounreay employees donating a sum of money each month	£9.5k	10
North Coast Visitor Centre	Relaunch of the former Caithness Horizons centre in Thurso	£75k	No data
Strathnaver Museum	No data	£80k	No data
Venture North	Staff salaries and various tourist activities	£97k	No data
Scottish surfing championships	Support for operations	£10k	No data
Caithness Transport Forum	Support for operations	£10k	No data
Public service obligation for Wick / John O'Groats airport	Support the Chamber to develop a robust business plan to make the case for a public service obligation (PSO) for Wick / JOG Airport.	£1.3 million	No data
North Highland College	Engineering, Technology and Energy Centre (ETEC) manager	£26k	No data
Transport for Tongue	Enable students to transit from north Sutherland to Thurso for their further education.	£10k	No data
Total		£1,952,500	

Similar to the findings for Sellafield the types of investments and amounts vary per project. Areas include infrastructure, tourism, education, transport and support for the third sector. As above, investment in Scrabster Harbour has reached £5m – a far greater sum than local community investments presented above.

[53] Dounreay Socio Economic Review 2021/22

Magnox sites

Between 2012 and 2021, both Magnox and the NDA committed over £14 million to socio-economic projects in the local areas of the sites.[54]

Socio-economic data from the Magnox Socio-Economic Plan[55] reveals the amount of direct investment flowing into local projects. Chart 5 below outlines the cumulative funding between 2012 and 2018 for each site.

The data shows there is a large amount of variation with regards to funding across the sites. As such, this data should be viewed as a high-level picture over a long time period.

Investment into communities is far greater in high priority sites as Chart 6 shows. This is highly likely to be due to activities in low priority areas winding down and there being less money to invest in socio-economic projects or a lack of staff members to lead on such initiatives. The total amount invested between 2012-2020 at Magnox sites as represented in Chart 5 below was £7,642,804.

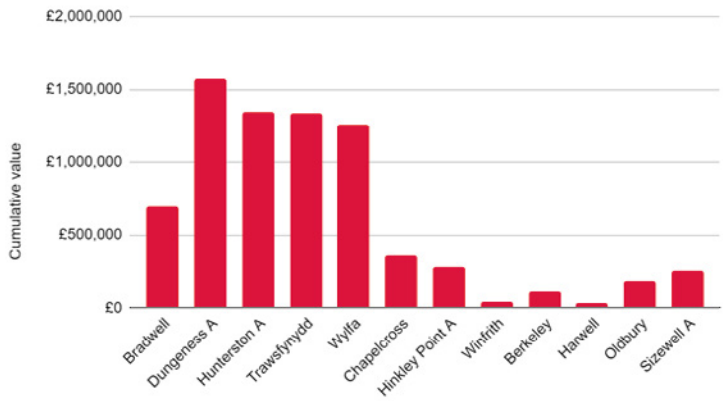


Chart 5:

Cumulative value of Magnox socio-economic projects (2012-20) per site

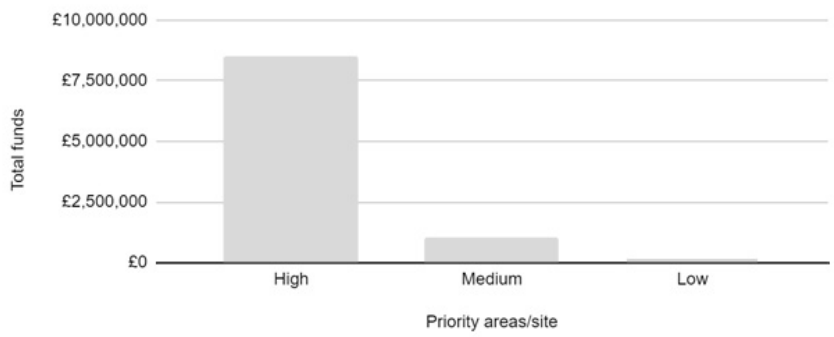


Chart 6:

Total funds by priority Magnox areas / sites

[54]Report: **Updated Economic Impact Assessment of Magnox Sites – May 2022** (Page 7)

[55]**Magnox Socio-economic Plan 2016-21**

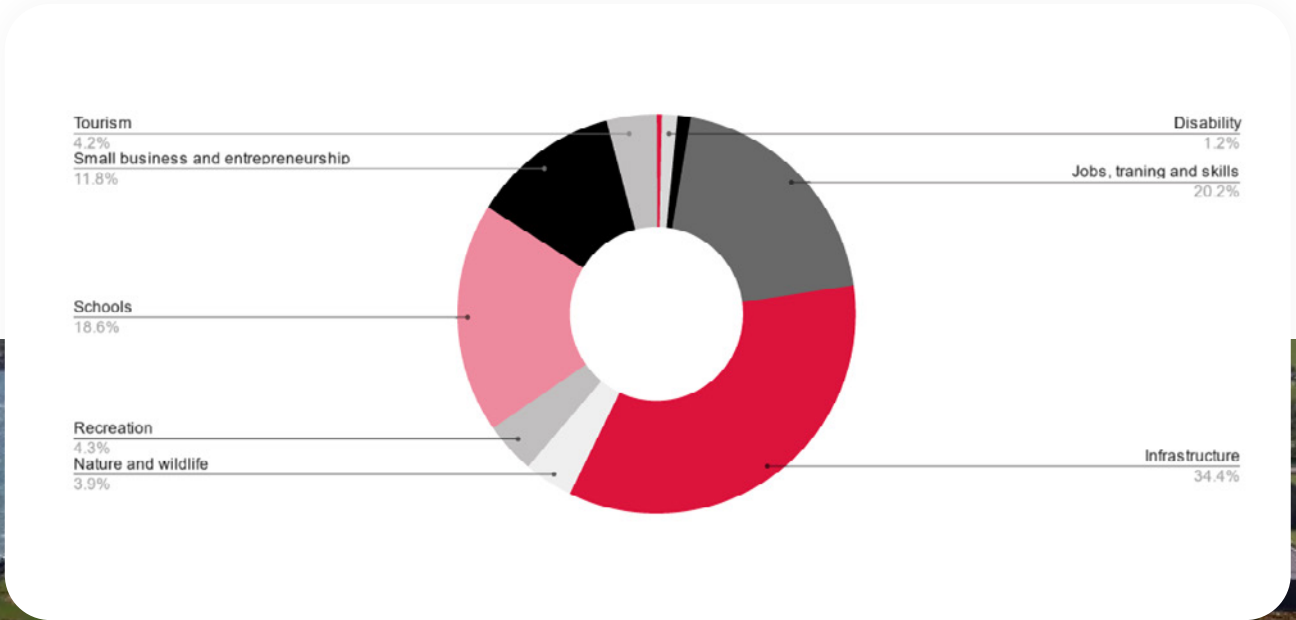
Table 10: High to low priority sites for Magnox/NDA socio-economic funding[56]

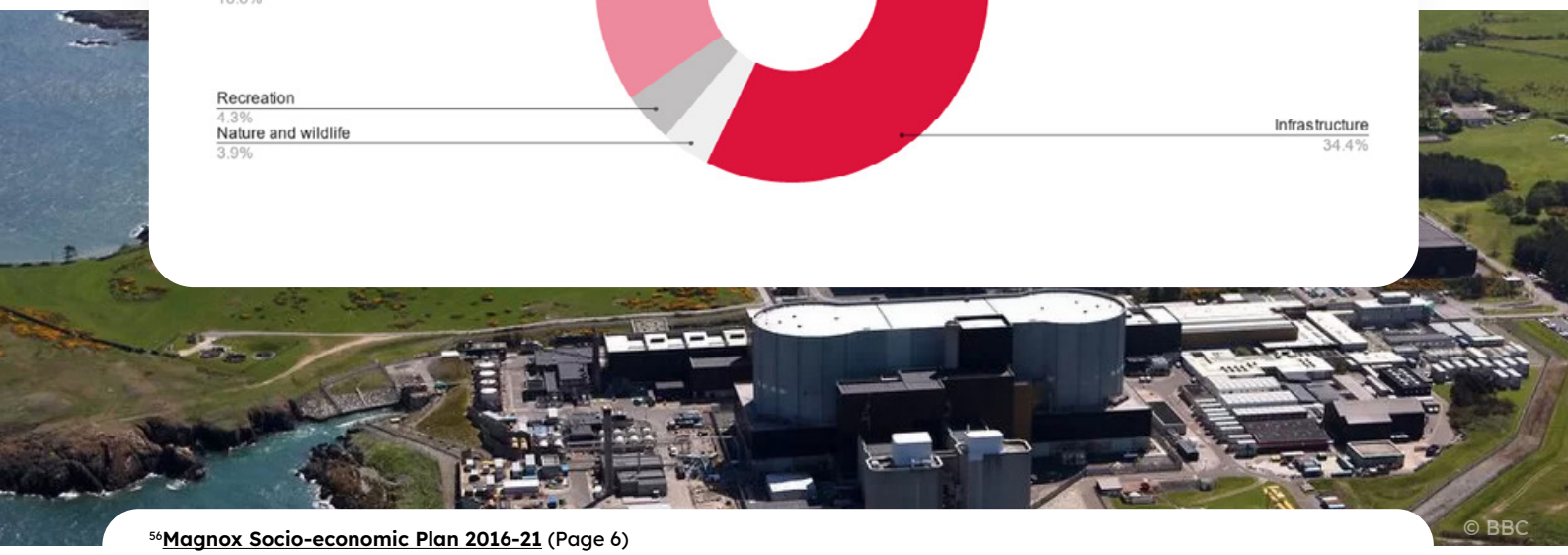
High priority areas / sites	Medium priority areas / sites	Low priority areas / sites
Bradwell	Chapelcross	Berkeley
Dungeness A	Hinkley Point A	Harwell
Hunterston A	Winfrith	Oldbury
Trawsfynydd		Sizewell A
Wylfa		

Further analysis of the qualitative data describing details of the different projects that received investment as part of the Magnox socio-economic plan has also been carried out.[57] The data is for 2012 onwards. In most cases there was a clear description of the project or rationale for the investment. In two instances there was no information provided and these were left out of the analysis.

The analysis revealed 10 different areas receiving investment. A percentage breakdown is provided in Chart 7 and Chart 8. Table 11 provides a breakdown of the monetary amounts invested in each area.

Chart 7: Magnox sites: Breakdown of funds by investment area since 2012





[56] **Magnox Socio-economic Plan 2016-21** (Page 6)

[57] **Magnox Socio-economic Plan 2016-21**

Chart 8: Magnox sites: Total funds value by investment area since 2012

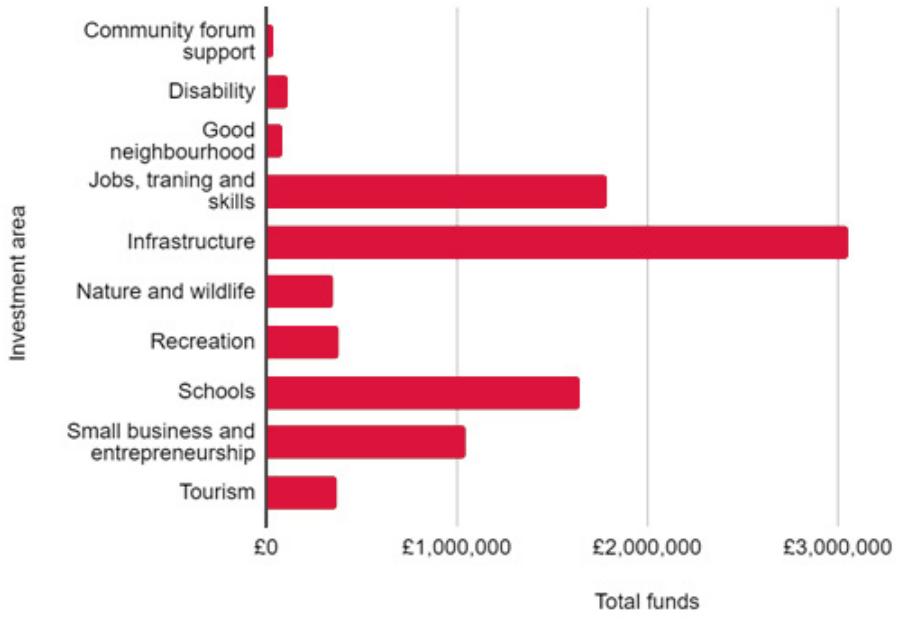


Table 11: Magnox sites: Total funds value by investment area since 2012

Investment area	Total funds
Community forum support	£33,000
Disability	£110,148
Good neighbourhood	£82,764
Jobs, training and skills	£1,788,602
Infrastructure	£3,049,754
Nature and wildlife	£346,325
Recreation	£379,250
Schools	£1,645,845
Small business and entrepreneurship	£1,048,668
Tourism	£368,500

3.1.4 INVESTMENT IN SKILLS AND TRAINING

Sellafield

As part of Sellafield's Social Impact Strategy, a key goal is to support the development of sustainable incomes.[58] A report by Oxford Economics covering the period 2017-2022 forecasted a cut in the number of roles totalling 3,000, with significant impact on communities in Copeland and Warrington.

Possibly as a result of this analysis Sellafield's three largest investments in the community in 2021/22 were related to skills and supporting the diversification of jobs beyond solely relying on the nuclear sector. Table 12 below outlines these top three investments taken from Table 8 in section 3.1.3.

Table 12: Top three investments by Sellafield in 2021/22 related to skills and training

Investments	Value amount	Description	Partner organisations
Western Excellence in Learning and Leadership	£1.3 million (year 3 of a multi-year programme)	To improve educational attainment at schools across West Cumbria	NDA Cumbria County Council
Industrial Solutions Hub	£1.3 million	To create 'cluster building' and diversify the economy beyond nuclear	Industrial Solutions Hub Copeland Borough Council
Barclays Eagle Lab	£0.4 million (for year 2)	For small businesses looking to grow at the Whitehaven Bus Station	Barclays

[58]Report: **Sellafield Social Impact Strategy 2020**

Dounreay

Dounreay has been investing in STEM skills and activities for several years. Findings from the data highlights the focus being on young people and schools with a STEM ambassador programme, investment and training for apprentices as well as activities for young people increasing year on year.

Table 13 summarises the activities undertaken by Dounreay to enhance skills and knowledge related to STEM.

Table 13: Summary of activities related to skills building by Dounreay from 2018/19 to 2021/22

	2021/22	2020/21	2019/20	2018/19
Dounreay apprenticeships / graduates employed	8 Engineering apprentices 3 Business apprentices 17 Summer students 8 Health physics trainees 12 Graduates 2 Quantity surveying	8 Engineering apprentices 3 Business apprentices 4 Health physics trainees 9 Graduates	8 Engineering apprentices 3 Business apprentices 2 Joinery apprentices 15 Graduates	No data
Developing the Young Workforce	3 High schools involved 214 pupils attended 8 Companies in area have signed up to the Young Person's Guarantee	Dounreay business and STEM ambassadors provided mock interviews 3 High schools involved 200 pupils attended	2 Dounreay reps provided talk to primary school 5 Dounreay business ambassadors provided mock interviews 3 High schools involved	212 S4 pupils provided with mock interviews Step into STEM event: 400 pupils attended over four days
STEM ambassador programme	17 STEM ambassadors 23 Schools offered support during pandemic	14 key STEM ambassadors 23 Schools offered support during pandemic	14 key STEM ambassadors 23 Schools supported	86 Registered Dounreay STEM ambassadors 32 Women STEM Ambassadors
STEM resources	9 STEM ambassadors are being trained	No data	97 STEM ambassadors 124 ambassadors involved 159 activities held 2197 pupils involved	Several STEM ambassadors have been trained to run 11 STEM events and workshops

Magnox sites

The analysis in 3.1.3 on the different projects being funded across the Magnox sites revealed that investment in training and skills often went hand in hand with job creation related socio-economic investments.

Support for small business and entrepreneurship socio-economic investments were found to be distinctly different types of projects but could include support for building commercial skills.

A total of £1,788,602 worth of socio-economic investments into local community projects was related to jobs, training and skills development across all of the Magnox sites, while small business and entrepreneurship investments totalled £1,048,668.

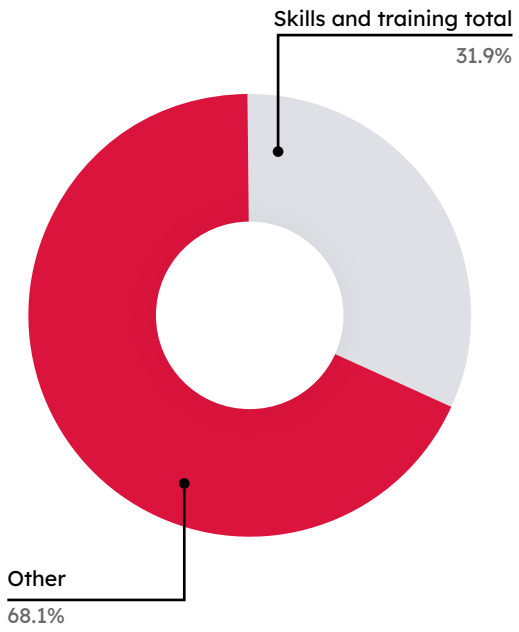
Wylfa / Anglesey example

NDA funding on the island of Anglesey is instructive and acts as an example of how a local authority (Ynys Mon / Isle of Anglesey County Council) interacts with the NDA.

The NDA has funded many projects in partnership with the Council, which has resulted in long-term transformational change on the island creating jobs and opportunities for its residents. The NDA Business Plan and Magnox Socio-Economic Plan is integral to the North Anglesey Economic Regeneration Plan.[59] Overall, investments include development funding for several industrial sites and premises and the £11m link road development in Llangefni[60], which has facilitated the development of the Coleg Menai campus into a regional centre of excellence.

More recently the NDA has supported the Council with £495,000 of development funding over three years to target specifically socio-economic issues in North Anglesey.

Chart 9: Proportion of investment across Magnox sites for skills and training (sum of investments into jobs, training and skills and small business and entrepreneurship)



3.1.5 INVESTMENT IN ENVIRONMENTAL SUSTAINABILITY

The NDA has taken action to map out and reduce its carbon emissions.[61] The NDA's target is the same as that of the UK government 'to achieve Net Zero by 2050 in England and Wales and by 2045 in Scotland'. As a result, a calculation has been made for the organisation's carbon footprint for 2019/20.[62]

Table 14: NDA scope 1, 2 and 3 emissions data

Scope	CO2 (Tonnes)	Definition
Scope 1	293,375.5	Direct emissions from the fuel burnt
Scope 2	46,921.6	Indirect emissions from electricity purchased
Scope 3	706,652.4	Other indirect emissions, such as business travel and goods and services procured
Total	**1,046,949.5**	

The greatest contribution to CO2 emissions is from Sellafield, as it is the largest and most complex decommissioning site.

The NDA has also measured its water usage per site for 2019/20, which comes to a total of 6,953,380 m^3.

The NDA is part of the Greening Government Initiative and has developed its own Greening Government Commitments (GGC). These GGC targets cover corporate performance and impacts rather than the wider emissions generated by NDA/NWS operations. Performance is measured against a 2009/10 baseline.[63]

[59]See: **North Anglesey Economic Regeneration Plan**

[60]For background on Llangefni see: **https://www.gllm.ac.uk/locations/llangefni**

[61]For NDA Group Sustainability Strategy 2022 see: **NDA_group_Sustainability_Strategy_2022.pdf (publishing.service.gov.uk)**

[62]**NDA Draft Business Plan 2020 to 2023** (Page 5)

[63]RWM became part of Nuclear Waste Services in January 2022. See: **https://www.gov.uk/government/organisations/nuclear-waste-services**

Table 15 below outlines the targets and the performance for 2019/20 and 2020/21.[64] The data indicates a significant reduction in greenhouse gas emissions and other waste.

Table 15: Breakdown of NDA GGC targets and performance for 2019/20 and 2020/21

GGC Target	2019/20 performance	2020/21 performance
Reduce greenhouse gas emissions by 66%	61% reduction	82% reduction
Reduce domestic flights by 30%	58% reduction	99% reduction
Reduce waste generation by 25%	63% reduction	86% reduction
Reduce landfill disposal to less than 10%	Reduced to 0%	Reduced to 0*
Reduce paper use by 50%	72% reduction	98% reduction
Reduce water use by 10%	27% reduction	71% reduction

*All non-recyclable waste from the NDA Corporate Centre is used in an Energy from Waste plant rather than sent to landfill.

Some of this reduction can be attributed to the Covid-19 pandemic requiring staff to work from home and an inability to travel due to the restrictions that were in place over the time period. Additionally, the data does not consider the energy use or resources by employees when working from home.

Investment in environmental sustainability is likely in the future but has not been quantified yet:

- Cestyll Gardens is a 2.2 acre site close to Wylfa site on Anglesey. The garden is actively managed and maintained by the NDA, which is currently developing a programme of improvement and restoration work.
- 200 acres at Chapelcross site in Scotland. The NDA is working with local partners on developing a plan for the site with the potential for renewable energy a central feature.
- A variety of woodland types in Cumbria. The aim is to produce timber and wood fuel from the woodland, while enhancing wildlife and maintaining the woodlands.

Sellafield

Sellafield conducted an ecological impact assessment in December 2021.[65] Data was obtained via a desk-study and habitat survey undertaken in July and August 2021. Sellafield also hosts a monthly Sustainability Working Group for all relevant stakeholders to develop strategy and delivery on the environment.

Dounreay

Dounreay has a Biodiversity Action Plan, which was published in September 2020.[66] This includes a habitat assessment and management plan. Activities are included as part of a biodiversity programme outlined in Table 16 below. No data relating to the costs of the activities could be found.

Table 16: Programmed activities as part of Dounreay Biodiversity Action Plan

Activities Undertaken	Periodicity
Maintain a bird control programme	Annual
Survey for bat presence prior to demolition of buildings	As required
Survey Dounreay beach for ground nesting birds prior to access	As required
Pest and vermin control	Continuous
Environmental Monitoring Programme	Annual
ERICA Assessment	As required

[64]Report: **Nuclear Decommissioning Authority Annual Report and Accounts 2020 to 2021** (Page 102)
[65]Report: **Sellafield Ecological Impact Assessment December** 2021
[66]Report: **Dounreay Biodiversity Action Plan September 2020**

3.2 APPRAISAL OF COMPARABLE INDUSTRIES

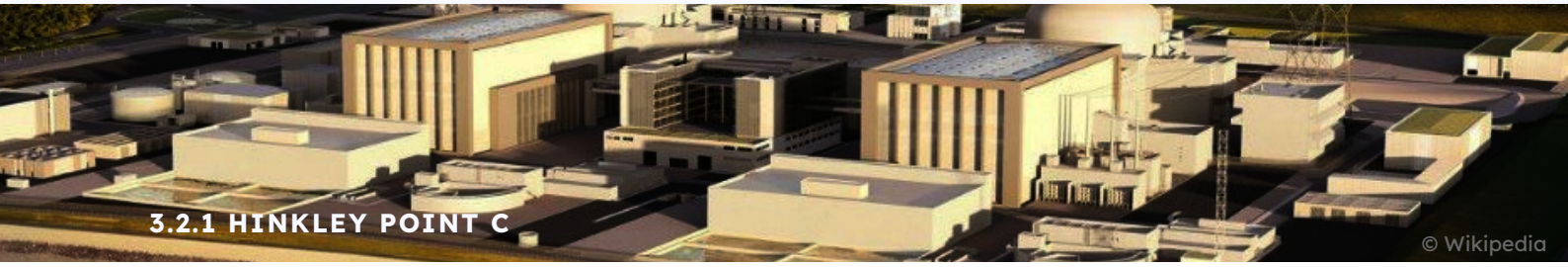
This section analyses qualitative and quantitative data on community benefits in comparable industries within the UK.

Insights are based on desk research and interviews with the following organisations:

- Hinkley Point C, Somerset.
- Rolls-Royce SMR (sites considered Wylfa, Wales and Cumbria, England).
- UKAEA's STEP programme (Development site now confirmed as West Burton, Nottimghamshire).
- London Array – Offshore Wind.

Specifically, this study focuses on the answering the following questions:

- What social and economic value do organisations want to generate?
- How much goes into the community in terms of resources and financial investment?
- What are the plans for the future?



3.2.1 HINKLEY POINT C

© Wikipedia

Hinkley Point C is the first new nuclear power station to be built in the UK in over 20 years. Sited in Somerset, the power station will provide electricity for around 6 million homes. As of May 2022, the power station is expected to open in June 2027 and total costs are estimated to be in the range of £25bn to £26bn.[67] It is being constructed by the energy company EDF, which has funded much of the socio-economic development in North Somerset.

According to EDF, construction and operation of Hinkley Point C will create 25,000 employment opportunities and up to 1,000 apprenticeships. EDF expects that 64% of the project's construction value will go to UK companies.[68]

Socio-economic impact

The Department for Business, Energy, and Industrial Strategy (BEIS) published a Wider Benefits Realisation plan in July 2018.[69] This outlined the socio-economic aspirations of the project that included:

- Employment opportunities, an education and skills programme.
- 1,000 apprenticeships.
- Improving skills and the supply chain.
- 64% of the construction value going to UK companies.
- £4 billion to be generated in the regional economy.

[67] BBC News: **Hinkley Point C delayed by a year as cost goes up by £3bn**

[68] **About Hinkley Point C**

[69] **Hinkley Point C Wider Benefits Realisation Plan** (July 2018)

To report on progress, Hinkley Point C publishes a socio-economic impact report each year. The latest report for 2022 indicates that there is a comprehensive programme to create social and economic value.[70] The report outlines investments, activities and milestones achieved for the following areas:

Improving social mobility

- £24 Million investment into local education and skills facilities.
- £500,000 investment into the setup and delivery of local employment hubs and an Education Business Partnership.
- £8 million to develop new Centres of Excellence in Bridgwater and Cannington.
- The Hinkley Jobs Service has supported almost 1,500 local people into work.
- 350 businesses from Sedgemoor and West Somerset are within the supply chain.
- Hinkley Point C also stepped in when local bus services were cut and now provides a free bus service linking the rural areas of West Somerset with Bridgwater.

Opportunities for skills and employment

- £24 million has been invested directly into education, skills, and employment.
- Three new Centres of Excellence have been created (Welding, Electrical and Mechanical), which have trained 500 people.
- A total of 15,500 people have been trained and assessed at the Construction Skills and Innovation centre since it opened in 2015.
- 922 apprentices trained at Hinkley Point C so far.
- EDF was one of the signatories for the National College for Nuclear with a site in North Somerset.
- Bridgwater & Taunton College has been a particular beneficiary of EDF's work at HPC with the new nuclear power plant acting as a 'catalyst' for skills development in the region.[71]

Supporting British businesses

- £1.2 billion has been spent with companies across the North of England so far.
- £4.1 billion has been spent with South-West companies so far, which is almost three times the original commitment.
- As a result, 64% of the value of Hinkley Point C will go to UK-based companies.

Education programmes

- 50% of state secondary schools in Somerset have been engaged in some capacity.
- 2,500 students watched the HPC-supported Somerset County Council Talent Academy broadcast on 'Learn Live.
- 293 businesses in Somerset have been connected with local education providers.

Supporting the community

- £123 million of community investment delivered to date against a target of providing £130 million to support the community.
- £13.3 million of Community Fund grants have been awarded to local projects.
- Five full time Hinkley Police Officers have been fully funded with Avon and Somerset Police.
- A free community bus service has been put in place to connect Somerset's rural routes.
- Hinkley Point C had the first vaccine centre on a UK construction site.
- A fully funded on-site GP surgery and minor injuries unit was also put in place.
- £700,000 was invested to support tourism.

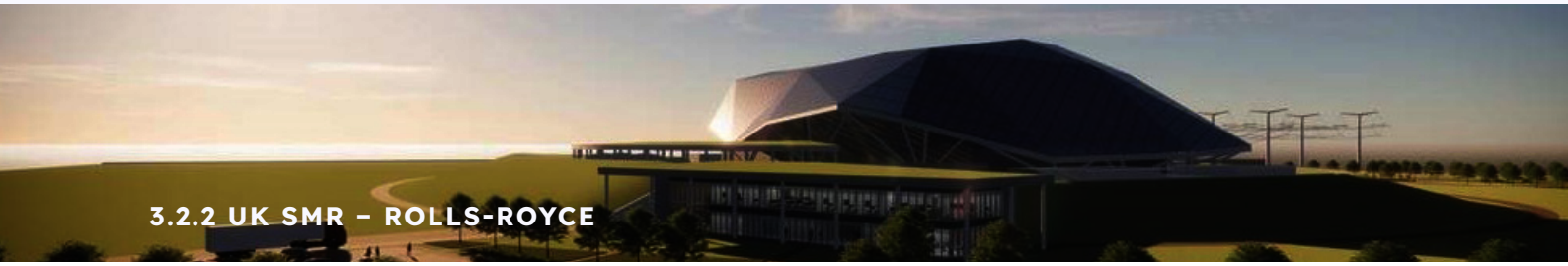
[70] **Hinkley Point C Socio-economic Impact Report** (2022)

[71] From interview with Matt Tudor, Director of Commercial Development, Strategy & Partnerships at Bridgwater & Taunton College, August 2022.

Protecting the environment

- 50 environmental specialists have been employed to work across the entire project.
- 65,000 trees and shrubs have been planted around the site.
- 102 solar and hybrid tower lights on the project, saving 500,000L of diesel from being burnt.
- 98% of the steel reinforcement used at Hinkley Point C is recycled.
- £540,000 donated to local environmental projects.
- 100,000 lorry loads will be taken off local roads by using the nearby jetty.

Hinkley Point C is a vast project. However, the social and economic value of the project has clearly been designed with a comprehensive well-developed strategy and associated budget for implementation. Many initiatives are similar to those seen elsewhere but on a larger scale, due to the budget allocated for such activities and the need for skills to be able to implement the project.



3.2.2 UK SMR – ROLLS-ROYCE

Rolls-Royce has been developing a new type of nuclear power station called a Small Modular Reactor (SMR). As the name suggests, the reactors are more compact than traditional power stations, but the modular design means that much of the manufacturing can be done off site in factories.

According to Rolls-Royce, approximately 90% of manufacturing and assembly activities are to be carried out in factory conditions.[72] This reduces the construction period considerably. Rolls-Royce has estimated that construction time for an SMR could be as little as five years from the start of construction to the generation of the first electricity.[73]

Desired socio-economic impact

Rolls-Royce's objective is to build a fleet of SMRs to benefit from economies of scale, to bring costs down and to start exporting factory-built reactors abroad.

As such, much of the Company's focus on community impact and socio-economic benefits are related to job creation as well as supporting and strengthening their UK supply chain. A key component of Rolls-Royce's proposition is that many of the components for the SMR can be bought from SMEs across the UK.

Rolls-Royce cites an established UK nuclear certified supply chain that supports the firm's submarine business. This consists of 260 companies across a wide range of commodities, including raw materials, forgings, mechanical components, pumps and valves, electrical controls and systems, instrumentation, software and engineering services. The aspiration is to expand this to over 450 accredited suppliers.

[72] Why Rolls-Royce SMR?

[73] Small Modular Reactors - once in a lifetime opportunity for the UK

Rolls-Royce is already part of the following organisations that support SMEs:

- Fit for Nuclear (F4N) – helps UK SMEs with 10 or more employees or with a turnover of £1.6 million get ready to bid for work in the civil nuclear supply chain.
- Sharing in Growth – this initiative by the UK Nuclear Advanced Manufacturing Research Centre helps SMEs in the UK nuclear supply chain increase their competitiveness and compete on the global stage. Rolls-Royce is the lead member.

Other socio-economic benefits are difficult to find as no SMRs have been commissioned by the UK government yet. However, Rolls-Royce has confirmed that Wylfa in North Wales and Cumbria are two sites with the potential to host the first UK SMR.[74] This is likely to do with both locations being sites where decommissioning is taking place, so there is a local workforce in need of jobs as well as locally based suppliers. Public acceptance of nuclear power in those locations is also high. The existing infrastructure that previous nuclear power stations have relied on make the locations advantageous.

3.2.3 UK ATOMIC ENERGY AUTHORITY (UKAEA)

UKAEA is a government research organisation responsible for the development of fusion energy and related technologies. Its objective is to position the UK as a leader in sustainable nuclear energy. UKAEA is part of BEIS, operating as a non-departmental public body.

The strategic objectives of UKAEA are to:

- Be a world leader in fusion research and development.
- Enable the delivery of sustainable fusion power plants.
- Drive economic growth and high-tech jobs in the UK.
- Create places that accelerate innovation and develop skilled people for industry to thrive.

The third and fourth points can be seen as relating to community benefits, as the following activities indicate significant investment into creating direct and indirect jobs and supporting the supply chain and investing in skills and training.

- Fusion Technology Facility was opened in Rotherham, South Yorkshire in 2021 in addition to the expansion of the Culham Laboratory into what is now the Culham Centre for Fusion Energy (CCFE).[75]
- UKAEA has been working with the apprentice training centre, Oxfordshire Advance Skills (OAS). Through partnerships such as this the OAS is able to train up to 350 learners for UKAEA and over 20 other partners. The goal is to train over 1,000 apprentices by 2025.[76]

[74] Rolls-Royce SMR considers 'strong possibilities' for new nuclear in West Cumbria
[75] New building to drive innovation at thriving Culham
[76] UKAEA Annual Report and Accounts 2020/21

Socio-economic charters

While no mention was made of small businesses in the UKAEA's annual report, they have published a Supply Chain Charter.[77] The document states a commitment to SMEs to provide economic and social value as well as facilitate new high-tech jobs in the country. This is through open procurement plans, understanding partners' needs for investing in skills and by encouraging their supply chain partners to minimise their environmental impact. However, no specific targets could be found in relation to these goals.

UKAEA has also published a social Value Charter.[78] Here social value has been defined as tackling economic inequality, fighting climate change and providing equal opportunities. In terms of community benefits, the goals are related to providing economic and social value through supply chains. For instance, awarding contracts to SMEs and promoting sustainability in their supply chain. Another goal is to reduce the environmental impact of UKAEA itself.

3.2.4 LONDON ARRAY – OFFSHORE WIND

London Array is the second largest operational wind farm in the world. Commissioned in 2013, the project consists of 175 turbines, located 20 km (12.4 miles) off the east coast of Britain in the outer Thames Estuary. An onshore substation is based in Cleve Hill in Kent and the operations and maintenance base is located in Ramsgate. More than 100 jobs have been generated to operate the wind farm day to day.

Community impact

No strategy document or impact reports could be found in relation to the community benefits and planned activities, so the data instead has been gathered from individual sources.

A £850,000 community benefit fund was established when the onshore substation was built.[79] The community fund invested in a variety of projects including:

- £200,000 was donated to Kent Wildlife Trust for the organisation to handle how the money should be spent.
- £300,000 was donated to and handled by the Graveney and Goodnestone Trust. Details of the organisation itself are fairly opaque. Most of the funds were spent on a new car park and road crossing for Graveney Primary School.[80] A grant was also made in 2019 relating to the building of a solar power station in the community. The grant amount is not clear.
- A 10-year university bursary scheme to help fund one local student through university each year was established.
- A total of £5,000 was donated to Discovery Planet CIC and Foreland Fields Charity.[81] Both organisations are based in the Thanet area. The donation will be used to kit out new premises for hosting public events by Discovery Planet and towards creating a specialist disability community sport and leisure hub at foreland Field School.

[77] **UKAEA Supply Chain Charter**
[78] **UKAEA Social Value Charter**
[79] Orsted website: **London Array Offshore Wind Farm May 2019**
[80] **Graveney and Goodnestone Trust - Report and financial statements for year end Dec 2020**
[81] London Array website: **Powering Up Learning**

London Array has also been involved community events including:

- To mark World Ocean Day (8 June), the team at London Array joined Ramsgate Town Council in a two-hour litter pick.[82]
- London Array sponsored the annual Pilgrims Hospices Cycle Challenge in 2022.[83] The event involved around 1,000 cyclists and raised more than £90,000.
- Representatives of London Array were involved in a project involving over 400 school children to help them to learn about clean energy.[84]

Given that London Array is a private company it is possible that strategy and impact documents have not been published in the public domain. It is difficult to evaluate the social and economic impact that London Array is trying to achieve by investing in the community. The two largest donations made to Kent Wildlife Trust and Graveney and Goodnestone Trust suggest that a comprehensive community benefit programme has not been designed.

[82]London Array website: **Helping Turn The Tide On Rubbish**

[83]London Array website: **London Array Helps Power Hospice Fundraiser**

[84]London Array website: **Hundreds of Children Enjoy Discovery Planet Clean Energy Workshops in Ramsgate**

3.3 ADDED VALUE COMPARISON WITH NUCLEAR DECOMMISSIONING ORGANISATIONS IN OTHER COUNTRIES

This section examines the added value elements delivered by nuclear decommissioning organisations in other European countries based on the case studies of Finland, France, and Hungary. All three countries have advanced nuclear decommissioning programmes, particularly Finland and France, which therefore present an opportunity to seek examples of best practice, different approaches, and alternative models for delivering socio-economic support for those in nuclear communities.

Where available, it includes a quantification of direct and indirect employment, investment in skills and training, support for the supply chain and wider investment in community benefits schemes and in environmental sustainability.

The study has extended to examining whether other nations provide community benefits to communities for hosting decommissioning facilities, nuclear waste stores, waste management infrastructure or onsite disposal. The basis for the research in this section has rested on primary research in the form of interviews with key international stakeholders and supplementary background documents.

See appendix for list of interviews.

3.3.1 POSIVA - FINLAND

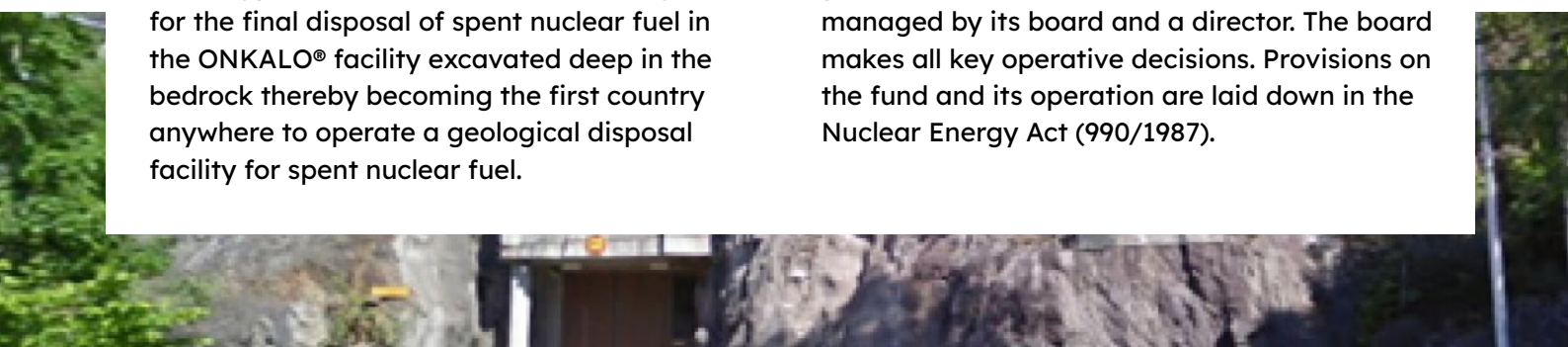
Posiva Oy is a Finnish organisation established in 1995 with the responsibility for handling the final disposal of spent nuclear fuel generated by its owners. Finnish law states that producers of nuclear waste are responsible for all nuclear waste management measures and their costs. Posiva has made decisive progress towards the implementation of final disposal, the production phase, as there is a strong desire not to pass on the decision to future generations. Indeed, Finland views itself as a pioneer of the final disposal of spent fuel. No other country has yet reached Finland's level for the implementation phase of final disposal, particularly for that of high-level spent nuclear fuel.

Posiva views itself as playing a significant role in the mitigation of climate change as part of the life cycle of nuclear power, because an effective final disposal solution enables the utilisation of emission-free nuclear power in energy production. Posiva is preparing for the final disposal of spent nuclear fuel in the ONKALO® facility excavated deep in the bedrock thereby becoming the first country anywhere to operate a geological disposal facility for spent nuclear fuel.

National Nuclear Waste Management

A National Nuclear Waste Management Fund has been established to raise, store and reliably invest the funds that are going to be needed to manage nuclear waste in the future. This provides society with a financial guarantee on nuclear waste management under all circumstances. The Nuclear Energy Act contains provisions regarding the National Nuclear Waste Management Fund, its duties and its activities.

The Fund's capital consists of the annual contributions of those with a legal obligation to manage nuclear waste, and of the Fund's returns. The Ministry of Economic Affairs and Employment determines the annual contributions to be paid into the Fund each year, ensuring that the Fund always has sufficient assets to cover the costs of all remaining nuclear waste management operations. The Fund is not included in the State Budget. The fund has existed for over 30 years and was established in 1988. The fund is managed by its board and a director. The board makes all key operative decisions. Provisions on the fund and its operation are laid down in the Nuclear Energy Act (990/1987).



Eurajoki municipality

Eurajoki is a municipality in the region of Satakunta in Western Finland. It has a population of around 9,500 people. Eurajoki has been a major beneficiary from the construction of a new European Pressurised Reactor (EPR) at nearby Olkiluoto nuclear power plant (2005-2022). At the start of the construction of the new plant at Olkiluoto, the municipality worked with Posiva to see which of the 150 locally based SMEs might be able to provide services to the plant. The priority was to ensure jobs for local people at the plant. However, local companies could not satisfy the demands of the plant and many construction workers were sourced from Poland.

According to the local municipality, it is difficult to quantify the number of local jobs created due to the construction of Olkiluoto. Information is not directly available from Posiva due to GDPR regulations. Johanna Huhtala, Director of Development at Eurajoen Kunta, Eurajoki municipality, estimates that at one time, there were around 7,000 local jobs that came as a direct result of the plant's construction. That figure now stands at around 2,000 local jobs.

Investment in the local Eurajoki community as a result of Olkiluoto is significant with 10-15m EUR per annum being invested by the Finnish Government, TVO[85] and Posiva into the area. Olkiluoto power plants three units (buildings) generate taxes and revenue that goes back to the local community. Eurajoki municipality representatives undertake regular meetings with politicians where they discuss the main issues related to the plant and benefits flowing to the area.

3.3.2 TEIT – HUNGARY

TEIT (Tarsadalmi Ellenorzo es Informacios Tarsulas)[86] is an organisation established in 1992 to act as a bridge between the nuclear power plant Paks I near Kalocsa, southern Hungary and the people who live in its vicinity. TEIT oversees and communicates to 16 municipalities representing around 60,000 inhabitants. Its headquarters is in Kalocsa in Bács-Kiskun county. Paks I is the first and only operating nuclear power plant in Hungary. In 2019, its four reactors produced more than 50% of Hungary's electricity production.[87]

TEIT organises activities for the communities living adjacent to Paks I. Activities range from:

- Plant open days.
- Village days.
- Cultural heritage days and programmes.
- Museum programme.
- Sports days.

There is a focus on providing educational programmes for the population of the 16 municipalities. This focuses around:

- Teacher training.
- Competitions for children.
- Physics lectures at TEIT's office.
- Summer camps for students.

TEIT's work extends to communications activities with the local municipalities, and it publishes material including videos on its website and produces brochures and newsletters about the operations at Paks I. TEIT communicates on social media via its Facebook page on features on local TV and Radio.

Key challenges faced by TEIT include bringing together the 'nuclear' communities that it works with that are separated by the Danube River. Given the lack of bridges in the area this means that communities often have long round trips over 70km if they want to cross the river to take part in events on either side of the river. TEIT often finds that local mayors are too busy to collaborate with the organisation. TEIT has an existing relationship with GMF – The Group of Municipalities with Nuclear Facilities – and takes part in international events organised by GMF.

[85]Teollisuuden Voima Oyj is a Finnish nuclear power company owned by a consortium of power and industrial companies. See: **https://en.wikipedia.org/wiki/Teollisuuden_Voima**

[86]See: **http://teit.hu/**

[87]See: **https://atomeromu.mvm.hu/** as cited on: **https://en.wikipedia.org/wiki/Paks_Nuclear_Power_Plant#cite_note-1**

3.3.3 FRANCE

The CEA (French Alternative Energies and Atomic Energy Commission) is a key player in technological research, development, and innovation in four main areas: defence and security, low carbon energies (nuclear and renewable energies), technological research for industry; and fundamental research in the physical sciences and life sciences.[88]

The CEA provides public authorities and industry with the expertise and innovation needed to develop improved nuclear power generation systems. This extends to nuclear decommissioning where the CEA acts in a similar role to the NDA. In fact, the CEA considers itself to be a pioneer in decommissioning as two-thirds of France's end-of-life nuclear facilities fall under the CEA's remit.

Decommissioning at France's nuclear facilities involve scientific, human, and financial challenges. The organisation is involved in environmental sustainability initiatives, but these lie outside of its decommissioning work. The CEA is restricted by public spending rules and is unable to spend money externally.

The CEA conducts work throughout France given the country's large nuclear programme and work on every CEA site is configured differently according to local circumstances. For example, when decommissioning the Grenoble site, the CEA was asked to remove all background radiation from soil, which it achieved and to a lower radiological level than is normal. This occurred as the local government and community wanted to show that a nuclear site can be returned to 'greenfield' status.

At other former nuclear power plants where there are smaller populations, there is less pressure on the CEA to return a site to greenfield. At the Marcoule nuclear power plant in the tourist, wine and agricultural Côtes-du-Rhône region, local communities insisted that decommissioning meant that all potential contaminants were removed to protect the region's vineyards.

Decommissioning is largely welcomed by local communities in France unlike CGO, France's Geological Disposal Facility for storing nuclear waste long-term, which has been negatively received in many of the potential host communities.

CEA is a major employer in the regions in which it operates and, in many localities, like for Sellafield, someone has a family member working in the nuclear industry. Decommissioning work is seen as beneficial for a local community and wider region as it is seen as long-term.

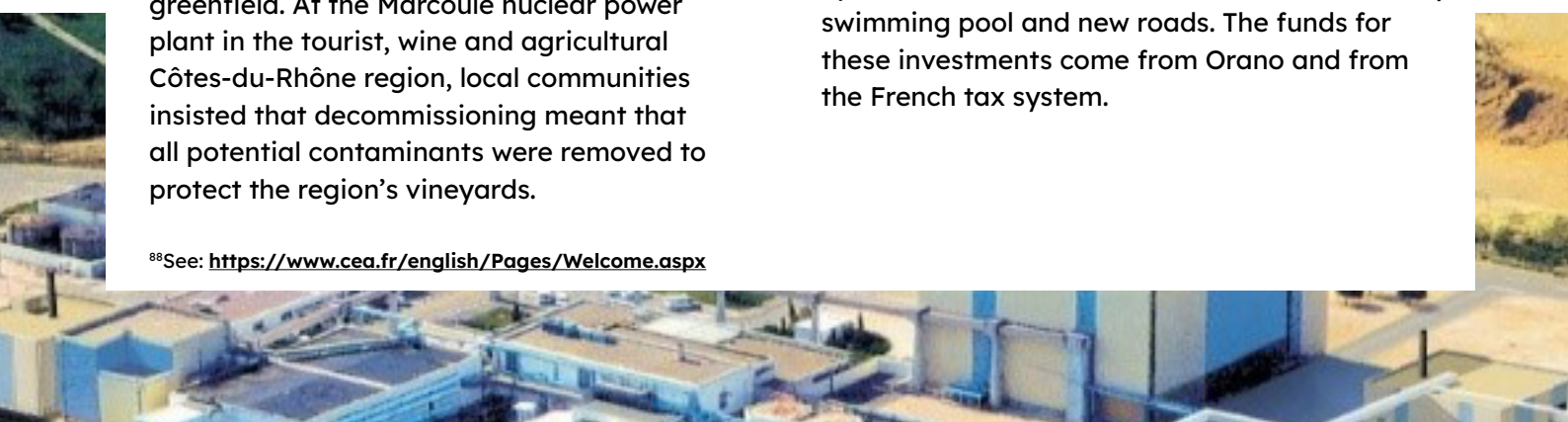
However, decommissioning work in France creates fewer jobs than operating a reactor. According to Vincent Gorgues, Senior Advisor to CEA's CEO and Strategic Director for Dismantling and Decommissioning, for every job in decommissioning, there are three for the operation of a power plant.

The CEA has a major challenge in transitioning from a workforce that is focused on the operational working population with those with decommissioning skills. Moreover, there is a skills gap in France with regard to getting people with the skills that are needed to decommissioning work. The CEA would like to improve this although the current renewed focus on nuclear new build in France is likely to divert resource and attention once more away from decommissioning.

The nuclear operator, EDF, is heavily involved in providing socio-economic benefits to the communities in which it operates. EDF's work has been well publicised in France and includes developing new housing for the workers who operate new nuclear power plants. In these communities, the company also invests in local facilities such as libraries as well as sporting clubs.

Orano, owner of La Hague, nuclear fuel reprocessing site in northern France, also invests heavily in the local communities in which it operates. Investments include a local community swimming pool and new roads. The funds for these investments come from Orano and from the French tax system.

[88]See: **https://www.cea.fr/english/Pages/Welcome.aspx**



3.3.4 LEGAL MANDATE TO SUPPORT MUNICIPALITIES

Data is available as a result of a survey by GMF Europe on the legal mandate to support municipalities financially in Bulgaria, Slovenia and Sweden. Nuleaf is a member of GMF and takes part in international events organised by GMF.

Table 17: Results from GMF Survey 2021

Nuclear industry / plant	Radioactive waste management organisation	Benefits
Kozloduy, Bulgaria	Kozloduy	150,000 EUR / year (2% of annual budget of State Enterprise Radioactive Waste)
Krsko, Slovenia	Krsko	Funds not available – though funding mentioned as part of a nuclear industry legal mandate
Sweden	Swedish Nuclear Fuel and Waste Management Co. (SKB) through the Nuclear Waste Fund	200,000 EUR / year in Oskarshamn

In Spain, funds are available to municipalities near nuclear sites. As is common across Europe, those municipalities that are closer to the nuclear facility receive more funding than those further away. The funding calculation in Spain is based on:

a) Distance to the reactor

b) Amount of waste

c) Population size

d) Area of the municipality

The formula that governs the funding arrangement is written in law.[89] For example, in 2021, Enresa, charged with managing radioactive waste in Spain, provided direct funding to the amount of 2,807,827 EUR to the municipalities in nuclear areas and a further 437,245 EUR for co-financing projects.

[89]See: **https://www.boe.es/buscar/doc.php?id=BOE-A-2015-2872**

4 CONCLUSION

1. The investments made by the NDA to support socio-economic development at various UK nuclear sites reveal a diverse picture of activity in the areas that this study addressed in terms of direct and indirect employment; support for the supply chain; wider investment in community benefits; investments in skills and training; and investment in environmental sustainability.

The research suggests that the NDA funding model is strategic. The data available shows that impact has been felt not just in terms of jobs and skills but with regard to the positive benefits flowing to the supply chain including for SMEs and community projects.

In particular, Sellafield is shown as a major contributor to the Cumbrian and North West economy. In 2021, Sellafield and LLWR (Low Level Waste Repository) made a £778 million GVA contribution to UK GDP across its operations in West Cumbria and Warrington[90] and provided a sizeable £2.1bn in GVA to the UK economy in 2016/17. Magnox and the NDA make an important contribution to the local communities working in partnership with local authorities and organisations through the Socio-Economic Scheme.

Finally, the funding provided by the NDA compares favourably with some of the case studies in section 2 with the exception of Hinkley Point C. Projects such as London Array, Rolls-Royce SMR and UKAEA's STEP appear light in detail about where socio-economic investments are and will be made. However, it is clear that EDF, constructor and owner of HPC, is a major contributor to the local and regional economy.

2. A key observation is that socio-economic data published by different sites where decommissioning is taking place is inconsistent. This makes it difficult to draw firm comparisons between sites. Consistent reporting methods and categorisations of investments could be encouraged for the NDA to build a better picture of spending and where it is going (e.g. to assist the public and stakeholders compare and contrast investments more easily).

At present, different data points and even different definitions of data points are sometimes unclear. For example, one site might quantify investment into 'jobs and skills' as a single finding. Other sites might split data between 'jobs' and 'skills' making direct comparisons difficult.

Furthermore, investments were sometimes stated as taking place over several years, which, makes it difficult to assess funding for a given year. Data on spending for multi-year projects and match funding could be broken down annually to enable clearer conclusions to be drawn. A general approach to data presentation would enable the NDA to gain greater understanding about where investments are made and the impact they potentially make.

A more consistent taxonomy across the NDA estate would make for greater clarity and confidence in quantitative assessments.

3. Data available for investments made towards embedding environmental sustainability at nuclear sites and within specific communities is limited. Given that sites with decommissioning activities are being prepared to be returned for other uses or to nature, there could be more information made available in the form of biodiversity and sustainability investments and impact. Sellafield's reporting in the form of its Carbon Management Plan 2020-2050 stands out for its level of detail. Biodiversity and sustainability are increasingly important areas of focus for the nuclear sector. Information on Government Greening Commitments (GGCs) would be welcome. However, data for water usage and carbon footprint at sites across the NDA estate is available.[91]

Sustainability was highlighted as a key area in several of the interviews with foreign stakeholders that were conducted as part of this research.

[90]Report: **The economic contribution of the NDA to the West Cumbria economy** (Page 1)

[91]See NDA group – **Sustainability at the NDA 2020/21**

4. APPENDIX

List of interviews conducted by Assystem:

19 July 2022 – Gerben Dijksterhuis, Mayor of Borsele, Netherlands

20 July 2022 – Doug Bamsey, Deputy Chief Executive at Sedgemoor District Council, UK

25 July 2022 – Csaba Dohoczki, Head of Communication at PIP Regional Development Company for Paks 2, Hungary

26 July 2022 – Meritxell Martell, Coordinator GMF Europe (based in Spain)

28 July 2022 – Tris Denton, Commercial and Programme Development STEP, UK

1 August 2022 – Angharad Crump, Energy Island programme delivery manager Isle of Anglesey County Council

3 August 2022 – Mats Rosen, Senior Official, Kavlinge, Sweden

3 August 2022 – Dr Vincent Gorgues, Senior Advisor to CEA's CEO and Strategic Director for Dismantling and Decommissioning, France

18 August 2022 – Matt Tudor, Director of Commercial Development, Strategy and Partnerships, Bridgwater & Taunton College, Somerset, UK

19 August 2022 – Johanna Huhtala, Kehitysjohtaja / Director of Development, Eurajoen Kunta, Eurajoki municipality, Finland

Input sought and provided in written form by:

June 2022 – John Burton, Nationally Significant Infrastructure Projects, Strategic Lead, Somerset West and Taunton Council

June 2022 – Rob Ward, Head of Nuclear, Energy & Sustainability, Copeland Borough Council, Cumbria, UK

July 2022 – Dr Vincent Gorgues, Senior Advisor to CEA's CEO and Strategic Director for Dismantling and Decommissioning, France

August 2022 – Tudur H. Jones, Economic Development Manager, Regulation & Economic Development, Anglesey Business Centre, Wales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