Bradwell Socio-Economic Study: Economic Impact Assessment Report

A Final Report by Regeneris Consulting




Nuclear Decommissioning Authority | Magnox | EnergySolutions

MALDON DISTRICT COUNCIL

Bradwell Socio-Economic Study: Economic Impact Assessment Report

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Regeneris Consulting Ltd

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1. Executive Summary

1.1 In Summer 2012 Magnox Limited in partnership with Maldon District Council and the Nuclear Decommissioning Authority (NDA) commissioned a study which had two core objectives:

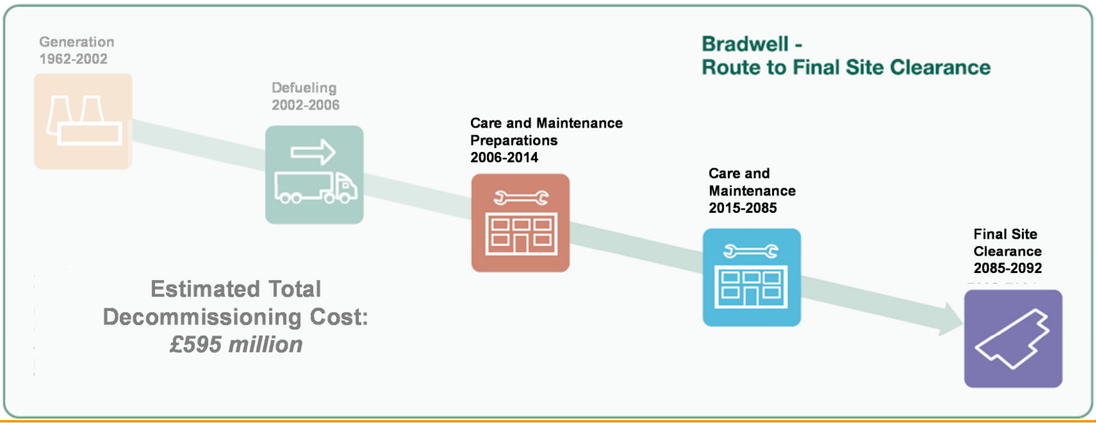
- To ascertain the socio-economic impacts of the decommissioning process at Bradwell
- To develop an Action Plan setting out the possible interventions going forward to mitigate against the negative impacts of decommissioning

1.2 This report focuses on the former of these two objectives, setting out the results of a detailed technical assessment of the current economic contribution of Bradwell and how this is likely to evolve in coming years

The Decommissioning Process at Bradwell

1.3 Bradwell Nuclear Power Station reached the end its scheduled power generation lifetime in 2002 and subsequently began decommissioning. Nuclear decommissioning in the UK is the responsibility of the Nuclear Decommissioning Authority (NDA), which provides the financial resource required to undertake decommissioning at each site. Each site is operated by a Site License Company – in the case of Bradwell, this is Magnox Ltd. As highlighted by the diagram below, decommissioning is both a lengthy and complex process – at Bradwell, the process is expected to last until 2092/93.

Figure 1-1: Bradwell Lifetime Plan



Source: Based on diagram set out in Bradwell Lifetime Plan (Magnox Ltd) and information from NDA

1.4 Different levels of activity on site at Bradwell (both in terms of expenditure and employment) are associated with each phase of decommissioning. Of particular significance is the impending transition from the Care and Maintenance Preparations phase to the Care and Maintenance phase. This transition (in 2015) will see levels of activity on site decline to minimal levels. As such, this transition period is the primary focus for this study.

The Current Economic Impact of Bradwell

1.1 Bradwell is currently an **important component of the local economy**. The site is currently in the Care and Maintenance Preparations phase of decommissioning and levels of activity on-site remain relatively high – in 2011/12, NDA funding for activities on site totalled £92 million.

1.2 It is estimated that Tier One activities at Bradwell directly support up to 900 jobs and GVA of £49.7 million. When taking indirect (supply chain) and induced (employee spending) impacts into account, it is estimated that Bradwell supports up to around 1,000 jobs and GVA of around £52.5 million at the Maldon level, around 1,100 jobs and GVA of around £54.9 million at the Essex level, and around 1,800 jobs and GVA of £90.71 million at the UK level.

Bradwell: Summary of Current Economic Impacts

	Tier One	Tier One, Indirect and Induced		
		UK	Essex	Maldon
Employment (inc sub contractors)	900	1,800	1,100	1,000
GVA	£49.7 million	£90.7 mil	£54.9 mil	£52.5 mil

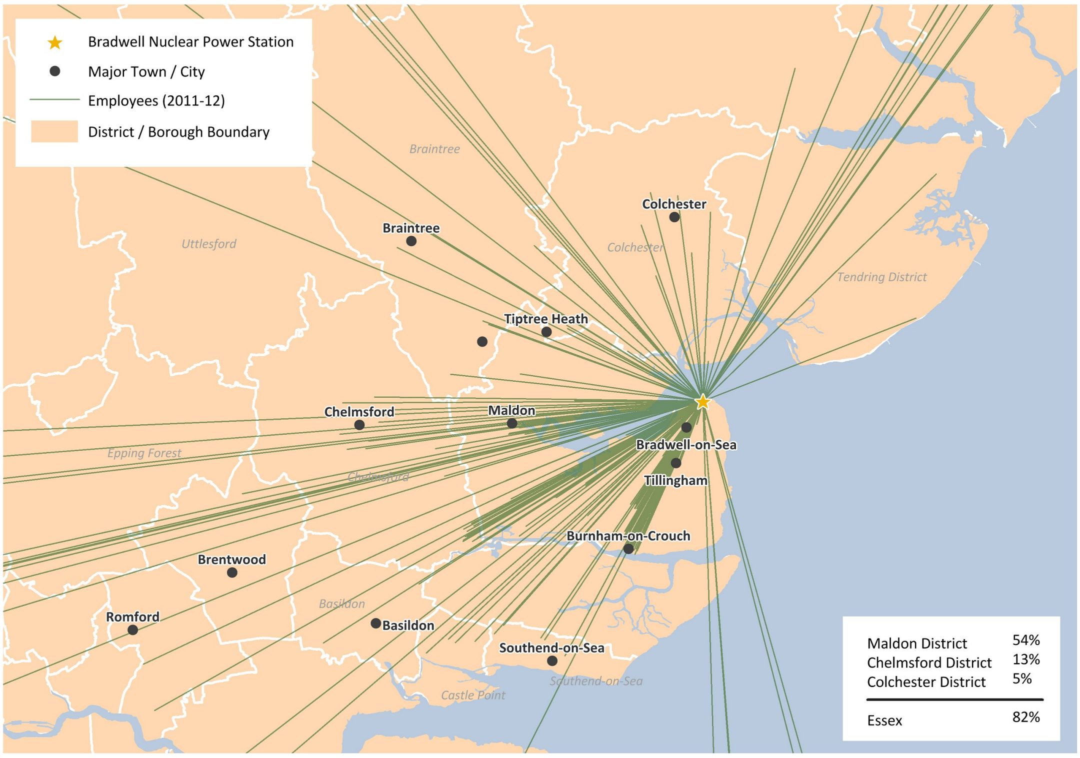
* Note – Exchequer Benefits have only been calculated for Magnox activities – they do not take account for Tier One sub-contracting activities.

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

1.3 The nature of jobs provided at Bradwell is also an important factor to consider. Over four decades, Bradwell has been a source of full time, year round positions. These are important factors and benefits to the local economy, given that rural and coastal areas are often characterised by industries which provide a lot of seasonal / temporary and part time work. It is also interesting to note that Magnox jobs at Bradwell cover a relatively broad occupational profile and are filled by employees with a relatively wide skills profile. This is significant as it means that jobs supported by the site are theoretically accessible to a wide profile of the local labour market.

1.4 The important role that Bradwell plays in the sub-regional labour market is highlighted by the map below which shows that over 80% of Magnox Employees at Bradwell (not including Agency workers) live within Essex. In total, Magnox and Agency jobs at Bradwell account for around 8% of all jobs on the Dengie Peninsula and around 2% of all jobs in Maldon District.

Place of Residence of Current (2011) Workers Directly Employed at Bradwell by Magnox Ltd



Source: Information from Magnox Ltd

1.5 Wider socio-economic benefits relating to Bradwell include the provision of training (and consequential up-skilling of members of the sub-regional labour market), and the provision of community funding to relevant local organisations and projects.

The Economic Impacts of Future Decommissioning Activities at Bradwell

1.6 In 2015 Bradwell is due to enter the Care and Maintenance Phase of decommissioning. The transition to the Care and Maintenance phase will see the level of **economic impact supported by Bradwell reduce to minimal levels**:

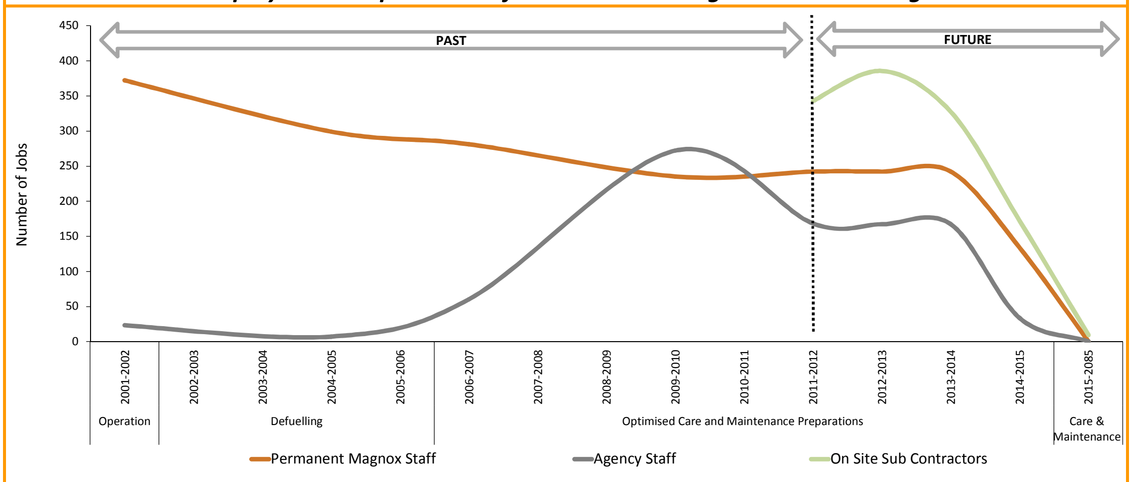
- In the remainder of the Care and Maintenance Preparations phase up to 2015, levels of activity on site are expected to remain strong. During this period, the site will receive average funding of £79.9 million per annum from the NDA. As such, during this period current levels of economic impact are likely to be largely sustained – with around 800 Tier One jobs and £40 million Tier One GVA supported

- After 2015, levels of funding will immediately drop to minimal levels. In 2015/16, funding of £3.3 million from the NDA is projected – a decline of 97% from 2011/12 levels. Levels of funding (and hence activity on site) are then projected to remain low over the remainder of the Care and Maintenance period (to 2085). As such, after 2015, the level of economic impact supported by Bradwell is projected to decline to negligible levels – both in terms of employment and GVA

Bradwell – Changes in Economic Benefits during Decommissioning

	Passage of Time	Tier One	Tier One, Indirect and Induced		
			UK	**Essex**	**Maldon**
Employment	**2011/12**	900	1,800	1,100	1,000
	Average 2012-2015	800	1,700	900	800
	Average 2015-2085	<10	50	20	15
GVA	**2011/12**	£49.7	£90.7	£54.9	£52.5
	Average 2012-2015	£39.9	£86.3	£44.2	£42.2
	Average 2015-2085	£1.6	£3.2	£1.8	£1.7

Employment Requirements for Bradwell During Decommissioning



NOTE: Data not available to calculate sub-contractor headcount pre 2011/12

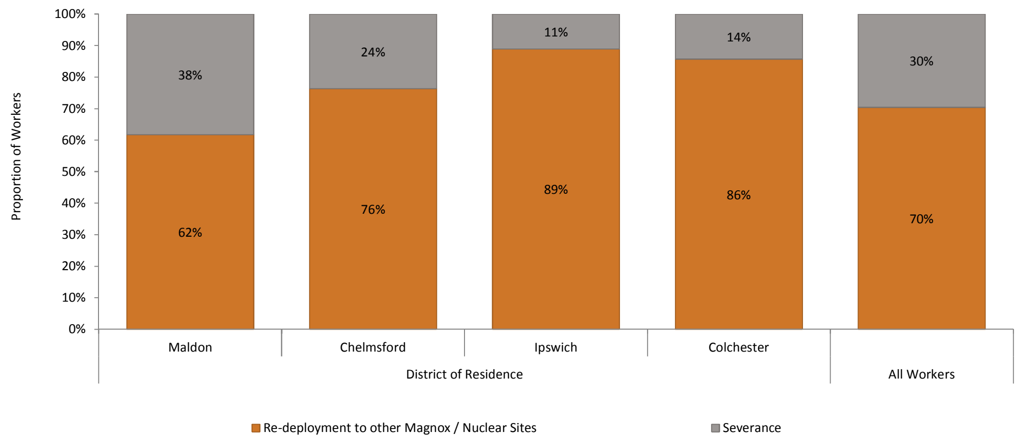
Source: Based on Magnox Ltd Information and Regeneris Consulting Calculations

The Consequences of Future Decommissioning Activities

1.7 The likely consequences of these projected trends are numerous and multi-layered. Some of the most important implications include:

- **Implications for Magnox Employees –** Magnox has suggested that three options exist for employees after 2015 – re-deployment to other Magnox sites elsewhere in the UK; re-deployment to other nuclear sites in UK; or severance. Early indications of how these options might ultimately play out suggest that around 70% of employees (up to 180 people) will be looking to take the 'redeployment' option. Under this option, workers would move to other sites elsewhere in the UK, with detrimental impacts for the sub-regional labour market. Around 30% of employees are likely to take the severance option – around 70 workers in total. It will be important that steps are taken to assess the characteristics of those who are taking the severance option, and in those instances where workers are looking to remain in the labour market, provide assistance where necessary (particularly around transferability of skills)

Magnox Employees – Likely Destination Post 2015



Note: this chart only includes around two thirds of current Magnox employee

Source: Based on Magnox Ltd Information

- **Implications for Agency Workers** – There are currently around 170 Agency workers at Bradwell. This is a significant number and it is important to note that Agency workers will not have access to the same rights or opportunities post 2015 as those available to Magnox employees. Clearly, it will be important to engage with these workers at an early stage where possible. The focus should be placed on understanding the skills which have been gained whilst working at Bradwell and the extent to which these are transferable to other industries.

- **Implications for Local Businesses** – Evidence suggests that there are some parts of the local economy which are reliant on the activities of Bradwell – in particular, the local guest houses, restaurants and a range of other local service businesses which currently benefit year round from the high number of sub-contractors / temporary workers staying in the area. Going forward, it will be important to engage with these businesses to assess the extent to which they understand the forthcoming implications of decommissioning for their business and assess any instances where the provision of support might be beneficial.

- **Implications for Supply of Local Accommodation** – Concerns currently exist within Maldon District Council that Bradwell sub-contractors are having a negative influence on the local housing market and the local tourism sector by saturating the supply of local accommodation. However, analysis suggests that the current distribution of Bradwell sub-contractors (clustered in accommodation relatively close to the site) is perhaps more of an issue than the absolute supply of accommodation. As such, in the short term, efforts to address the local supply of accommodation should focus on achieving a more even distribution of Bradwell sub-contractors within the sub-region. This might be achieved through closer dialogue between the NDA, Maldon District Council and Magnox, and subsequently between Magnox and sub-contractors. A second option which has been suggested to address the local supply of accommodation is the provision of funding to convert several vacant premises locally into accommodation for workers (subsequently reverting to accommodation for residents in housing need). We conclude that this is a less appropriate solution to the issue, given the level of investment required, the absence of an appropriate funding stream and the timescales involved (given that sub-contracting activity will all but disappear after 2015).

2. Introduction

Scope of Work

2.1 Regeneris Consulting was appointed in summer 2012 to examine the socio-economic impacts of nuclear decommissioning at Bradwell Nuclear Power Station on the sub-regional economy and to set out a socio-economic action plan for the local area going forward.

2.2 Since construction activity started at Bradwell 1957, the site has been an important provider of jobs and driver of economic activity within the sub-region. However, Bradwell reached the end of its operational life in 2002 and subsequently begun the decommissioning process. Decommissioning activities at Bradwell are being carried out by Magnox Limited, on behalf of the Nuclear Decommissioning Authority (NDA). Current plans envisage that the decommissioning process will culminate in 2092/3. To date, decommissioning activities have continued to demand relatively high levels of activity on-site at Bradwell. However, under the next phase of decommissioning – due to start in 2015 – levels of activity on site will decline to minimal levels until the final clearance of the site begins in 2085.

2.3 In this context, Magnox Limited in partnership with Maldon District Council and the Nuclear Decommissioning Authority (NDA) commissioned a study which had two core objectives:

- To ascertain the socio-economic impacts of the decommissioning process at Bradwell
- To develop an Action Plan setting out the possible interventions going forward to mitigate against the negative impacts of decommissioning

2.4 This report focuses on the former of these two objectives, setting out the results of a detailed technical assessment of the current economic contribution of Bradwell and how this is likely to evolve in coming years.

Study Context

2.5 Bradwell Nuclear Power Station has formed an important component of the Maldon and wider Essex economy since energy production began in the early 1960s. However, in 2002, the site reached the end its scheduled power generation lifetime and entered decommissioning.

2.6 Nuclear decommissioning in the UK is the responsibility of the Nuclear Decommissioning Authority (NDA) – a non-departmental public body created by the 2004 Energy Act. The NDA provides the financial resource required to undertake decommissioning at each site. Each site is operated by a Site License Company which is responsible for ensuring that decommissioning targets set by the NDA (targets which have a strong focus on efficiency and safety) are met. In return for meeting these targets, the Site License Companies are eligible for the payment of an 'incentive fee'. The Site License Company in charge of decommissioning at Bradwell is Magnox Ltd.

2.7 The current schedule for decommissioning at Bradwell is set out below in Figure 2-1. This highlights that the decommissioning process comprises four main stages of activity:

- Defueling – the removal of fuel from site. This phase was completed at Bradwell in 2006. Levels of activity on site remained strong during this phase.

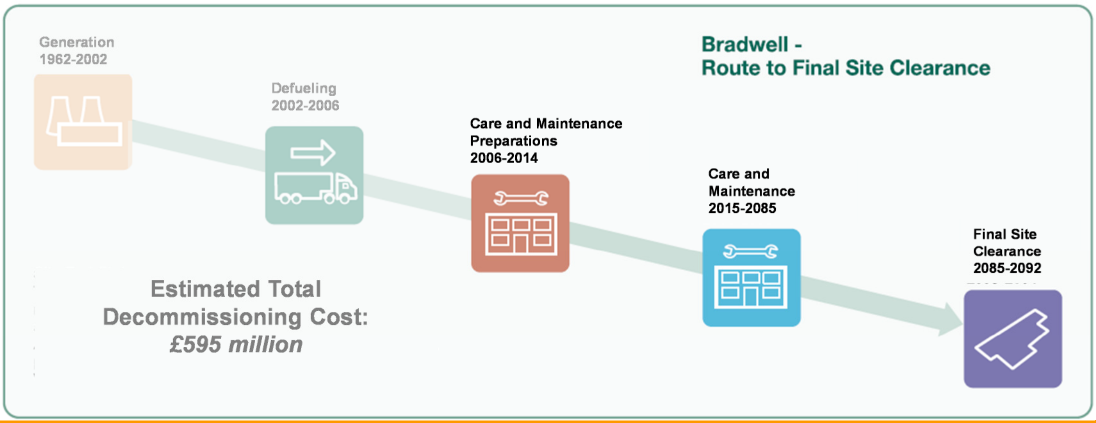
- The Care and Maintenance Preparations (C&MP) period aims *"to make the site passively safe and minimise the amount of surveillance and maintenance required during the C&M phase"*. This phase is due to end at Bradwell in 2014/15. Again, levels of activity on site have remained strong during this phase.

- Care and Maintenance (C&M) – under this phase, **levels of activity on site reduce to minimal levels.** *"The site remains in quiescent state for a prolonged period during which, no significant dismantling work will be undertaken. This allows reactor radiation levels to decay to facilitate dismantling"*. This phase is due to take place at Bradwell from 2015-2085. **The economic implications of the imminent transition to this phase of decommissioning at Bradwell are the primary area of focus within this study**.

- Final Site Clearance (FSC) – *"On completion of C&M, all remaining buildings will be cleared, including the reactor. Following ground remediation and landscaping the site will be de-licensed"*. This phase will see a significant increase in levels of activity on site, but is not due to take place at Bradwell until 2085.

2.8 Reflecting the complexities of nuclear decommissioning, it is important to note that the schedule for decommissioning at Bradwell is subject to change going forward. However, for the purposes of this socio-economic assessment it has been assumed that the process will follow the schedule set out in the diagram below.

Figure 2-1: Bradwell Lifetime Plan



Source: Based on diagram set out in Bradwell Lifetime Plan (Magnox Ltd) and information from NDA

2.9 The above context highlights that decommissioning is both a lengthy and complex process. Different levels of activity on site at Bradwell– both in terms of cost and employment – are associated with each phase of decommissioning. This is of core significance to this study – each phase of activity impacting upon the local economy in different ways.

2.10 Of particular significance is the impending transition from the Care and Maintenance Preparations phase to the Care and Maintenance phase. This transition will see levels of activity on site decline to minimal levels by 2015. As such, this transition period is the primary focus for this study.

Approach – Economic Impact Methodology

2.11 As discussed above, this assessment primarily focuses upon how the economic impact of Bradwell is likely to evolve as the decommissioning process progresses over the next five years. The assessment considers the economic contribution that operations at Bradwell make to the UK as a whole, as well as to the Essex and Maldon economies.

2.12 The economic contribution of Bradwell has been considered in terms of direct, indirect and induced impacts. These are explained below:

- **Tier One Economic Impacts –** These economic impacts are a direct consequence of the activities and operations of Bradwell – including both the activities of Magnox and the activities of Tier One sub-contractors on site. In some cases, sub-contracting could be treated as an indirect impact. However, for the purposes of this assessment it has been treated as a direct impact, given the important role that sub-contracting plays in day to day operations at Bradwell. Tier One impacts are measured in terms of the numbers employed, the associated employment income, the wealth created from operations (i.e. GVA[1]) and the payment of taxes to the UK Exchequer. Information on direct impacts was provided by Magnox Ltd, collected via a number of bespoke proformas and one-to-one discussions with senior staff.

- **Indirect Economic Impacts –** These impacts (also termed supply chain impacts) arise from the purchase of goods and services from suppliers, who in turn make purchases from their suppliers and so on. The purchases of Bradwell therefore lead to a chain of purchases throughout the economy. It is worth noting again that we have categorised the first tier of sub-contracting activity at Bradwell as Tier One impacts rather than Indirect Impacts. When considering Indirect Impacts at the UK level, we have only included those goods and services purchased within the UK. Similarly for analysis of indirect impacts at the Essex and Maldon levels, only those goods and services known to be purchased respectively within these geographies have been included in the analysis. Again the indirect economic impact is quantified in terms of GVA and jobs.

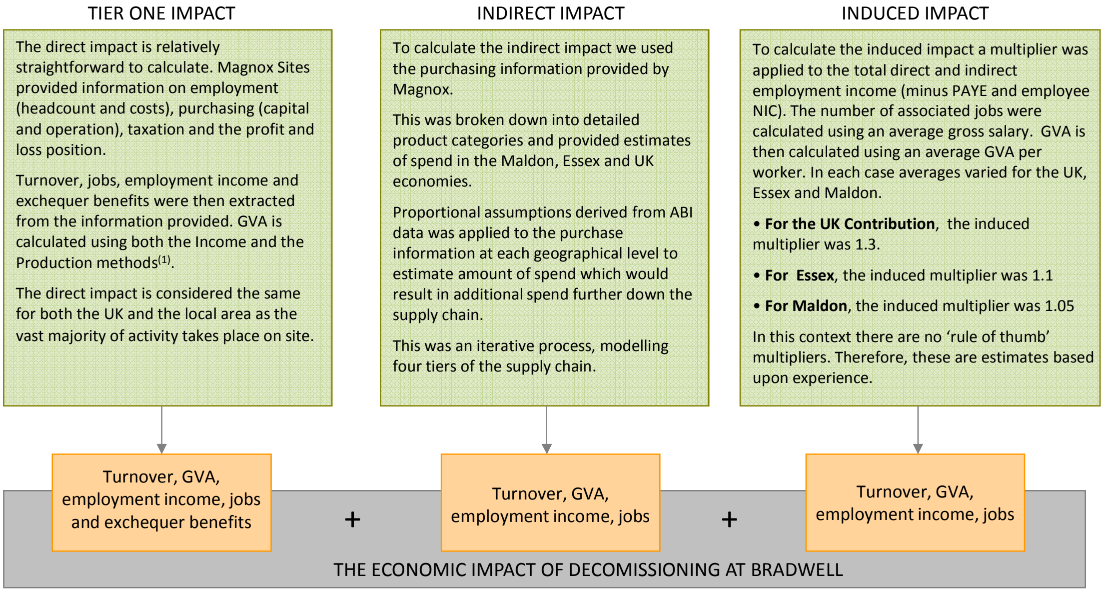
- **Induced Economic Impacts –** Workers who are employed at Bradwell and those staff who are supported indirectly by Bradwell throughout the supply chain will spend their wages in the economy. This, in turn, supports further economic activity and employment. This is what is referred to as the induced impact.

2.13 Whilst measurement of the above impacts provides in depth quantitative analysis, it does not necessarily pick up on softer, more intangible impacts – these include potential impacts such as skills and training. As such, where necessary we have supplemented data with qualitative analysis based upon evidence from consultations and our own knowledge of the local context.

[1] GVA is used in the estimation of Gross Domestic Product and measures the contribution of a particular activity to the economy. The GVA figure can also be described as a combination of wages received by employees, plus profit generated. Thus it is the economic value created by operations which is distributed back into the economy.

2.14 In estimating each of the above we have used widely accepted economic techniques. Below we have set out the methodology diagrammatically. Further detail on the assumptions made in the economic impact model is provided throughout this report.

Figure 2-2: Bradwell Economic Impact Assessment: Impact Model



Source: Regeneris Consulting, 2012

2.15 There are a number of caveats in the assessment. The most important of these are set out below, whilst reference to others is made where relevant throughout the rest of the report:

- Reflecting the complexities of nuclear decommissioning described above, it is important to note that the schedule for decommissioning at Bradwell is subject to change going forward. However, for the purposes of this socio-economic assessment it has been assumed that the process will follow the schedule laid out in current plans (described in the previous section and correct in Autumn 2012).

- The data required to estimate the economic impact of Bradwell has been collected from Magnox Ltd. However, it is important to note that much of the forward facing data is based on high level estimates made by Magnox Ltd. Where data has not been provided, we have made assumptions based on our experience elsewhere – and in particular our previous experience in assessing the economic impact of decommissioning at Dungeness A Site in Kent (another Magnox Site). Data regarding future impacts should therefore be regarded as illustrative of key trends rather than as definitive and set in stone.

- For the purposes of this exercise, Bradwell has been treated as a separate accounting centre. Magnox Ltd itself is a large company which is responsible for nine sites across the UK. There are a number of implications of this –

  - ➢ We have not sought to quantify any impacts relating to the activities of Magnox Ltd at a central level – such as the company's corporate and HQ functions which are located at a central site in Gloucestershire. Despite this, it is important to note that day to day running of Bradwell is the responsibility of the Bradwell corporate team, which is located on site and thus has been included in the assessment

- Magnox Ltd does not account for its profits at the individual site level – only at the overall company level. As a result, this assessment does not pick up on any profits (and associated economic impacts) made by Magnox Ltd as a result of its activities at Bradwell. It has not been possible as part of this assessment to disaggregate overall company profit and allot it to the activity of an individual site such as Bradwell.

3. Current Economic Role of Bradwell

3.1 This chapter outlines the current economic role that Bradwell Nuclear Power Station plays in the sub-regional economy, focusing on:

- The **nature and scale of current activities** at Bradwell
- The quantum and nature of **employment** that activities at Bradwell supports
- The scale of **Gross Value Added** (GVA) generated by activities at Bradwell

The Nature and Scale of Current Activities at Bradwell

3.2 As described in the previous section, Bradwell is currently in the Care and Maintenance Preparations phase of decommissioning. This phase began after the completion of defueling in 2006 and is due to end in 2015.

3.3 Levels of activity on-site are currently relatively high – in 2011/12, NDA funding for activities on site totalled £92 million. The expenditure profile of this funding is outlined below:

Table 3-1: Expenditure Breakdown, 2011-12

Expenditure Category		**2011/12 Cost (£ million)**
CAPEX and OPEX Purchasing	Sub-Contracting Costs	£55.7
	Equipment Costs	£1.3
	Material costs	£3.3
	Utilities/Rates	£0.1
	Travel and Entertainment	£1.1
	Other Costs	£1.8
	Total Purchasing	**£63.2**
Staff Costs		**£29.4**
Total Operating Expenses		**£92.5**

Source: Based on Information from Magnox Ltd

3.4 As highlighted by the above table, overall costs can broadly be broken down into two categories:

- **Staff Costs** – these account for around a third of all costs and relate to staff employed by Magnox and also Agency staff
- **OPEX and CAPEX Purchasing –** purchasing activity accounts for around two thirds of all costs. Within this category, nearly 90% of costs relate to Sub-Contracting activities. The scale of Sub-Contracting activities reflects the diverse range of activities taking place on-site during decommissioning and hence the demand for a wide range of specialists

3.5 Magnox Ltd has provided further detail on the nature of purchasing at Bradwell. As would be expected, purchasing is wide ranging in nature. An overview of the types of the purchases on goods and services made in the last financial year is set out in the table below which sets the largest 20 contracts and suppliers for Bradwell.

Table 3-2: Top 20 Suppliers and Contracts, 2011-12

Name of Supplier	Main Types of Goods & Services	Value of Goods & Services (£ms)
Costain	Deplant Demolition & Disposal	Over £10 million
Capita	Mng Consult Support Functions	Over £5 million
Energy Solutions	Mng Consult Eng Design & Safety Case	
Doosan Babcock	Elec ; C & I ; Mech Services	
Radwise	ESHP	Over £2 million
Promanex	Facilities Management	
Erith Contractors Ltd	Deplant Demolition & Disposal	
Deborah Services Limited	Access and Insulation	
LLW Repository Ltd	Waste Retrieval & Storage	Over £1 million
Vinci Construction UK Limited	Civil Eng and Construction	
Gardiner & Theobald LLP	Mng Consult Support Functions	
Babcock Nuclear Services	Fuel Route Services	
Interserve	Civil Eng and Construction	
Health & Safety Executive GBS	Mng Consult Support Functions	Over £0.5 million
Mott MacDonald	Mng Consult Support Functions	
Nuvia (RWE Nukem)	Nuclear Technology and Innovation	
Serco	Mng Consult Eng Design & Safety Case	
Terberg DTS (UK) Ltd	Plant ; Equip ; Materials	
Unitech	Environmental Services	
Crane Care Ltd	Plant ; Equip ; Materials	

Source: Based on Information from Magnox Ltd

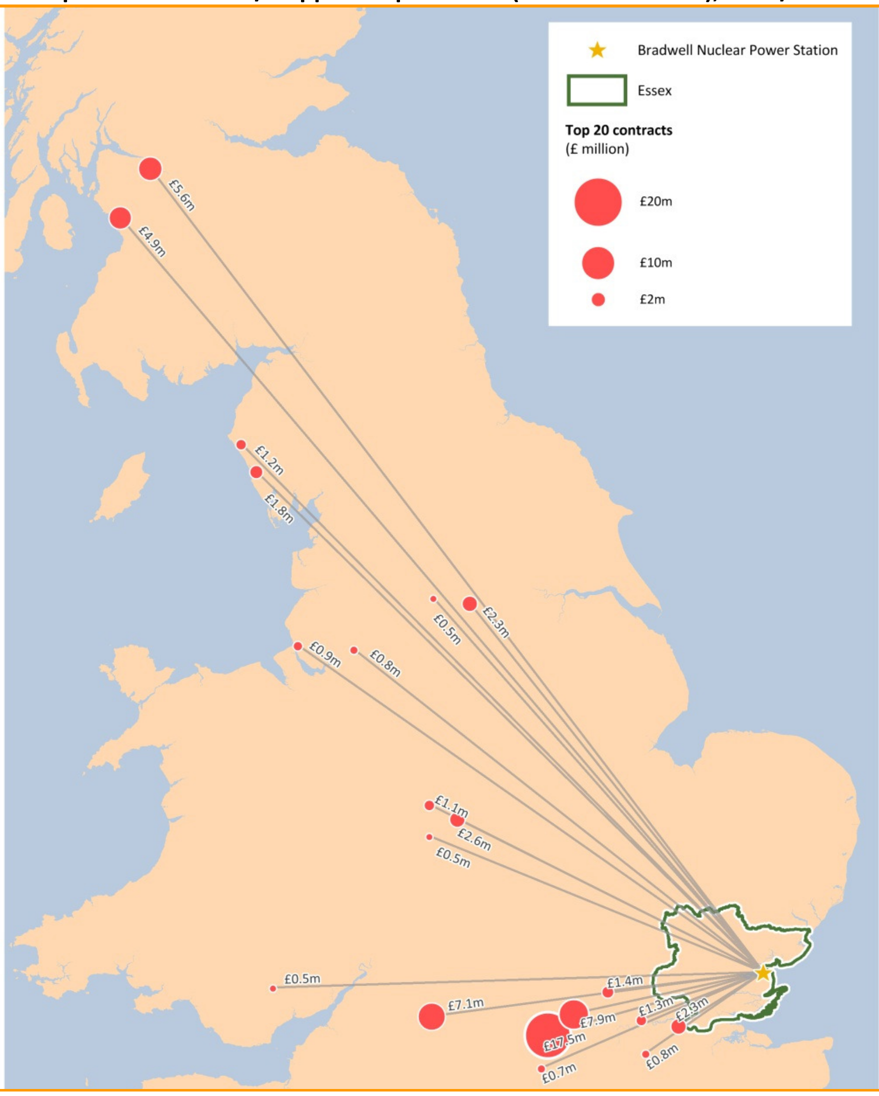
3.6 Magnox Ltd estimates that the majority of bought in goods and services from Tier One suppliers is sourced from within the UK[2]. However, possibly partly reflecting the fact that Magnox Ltd operates sites throughout the UK (and hence is likely to have established national supply chains), levels of local supply chain expenditure (in Essex and Maldon District) are relatively low. In 2011/12, none of the largest 20 contracts were placed with firms in Essex. Of the contracts which were placed within Essex, the largest 20 had a combined value of less than £1 million. However, 70% of the total value of these contracts was with firms located within Maldon.

3.7 These trends are visualised in the maps below.

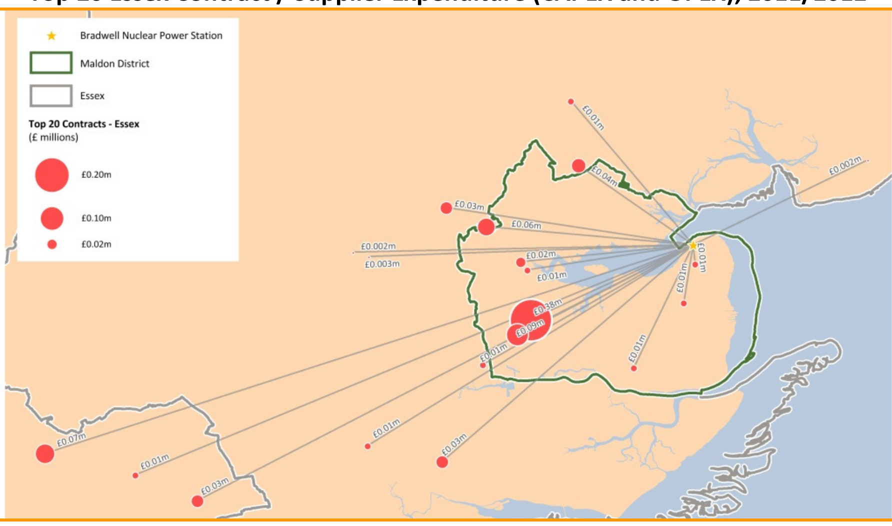
[2] It is important to note that there are always difficulties in assessing where expenditure is received – in some cases expenditure may be allotted to the address of a head office whilst not necessarily relating to that location.

Figure 3-1: Bradwell External Purchasing

Top 20 UK Contract / Supplier Expenditure (CAPEX and OPEX), 2011/2012



Top 20 Essex Contract / Supplier Expenditure (CAPEX and OPEX), 2011/2012



Source: Based on Information from Magnox Ltd

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3.8 Using the above information on the nature and scale of activities at Bradwell, we have estimated the level of economic impact currently supported by the operation of the site. This is set out below.

Economic Impact of Current Activities – Employment Supported

3.9 Activities at Bradwell currently support a significant quantum of jobs. These can be broadly split into three employment categories – Tier One (or Direct) Employment, Indirect (or Supply Chain) Employment and Induced Employment.

Tier One Employment

3.10 Tier One Employment (sometimes referred to as Direct Employment) refers to those jobs supported directly through activities on site at Bradwell

The scale of Tier One employment

3.11 In 2011/12, Tier One employment supported by activities at Bradwell totalled around 900, including around 750 jobs on-site at Bradwell. This employment can be broken down into a number of categories:

- In 2011/12 there were around 250 employees on site who were employed directly by Magnox Ltd
- The site also provides a number of positions for agency workers – there was an average headcount of around 170 agency workers in 2011/12
- Reflecting the nature of the decommissioning process (and the changing demand for different skills and specialisms) sub-contracting, activities at Bradwell also directly support a significant quantum of sub-contractors[3]. In 2011-12, we estimate[4] that these numbered around 500 on average, with around 350 of these located on site at Bradwell. It is important to note that this is an average figure for the year – more than the other types of employment, the level of sub-contracting activity at Bradwell fluctuates from month to month, according to the nature of on-site operations.

[3] As discussed in Chapter 2, sub-contracting employment could be treated as an Indirect Impact. However, for the purposes of this assessment it has been treated as a Tier One impact, given the important role that sub-contracting plays in day to day operations at Bradwell

[4] Employment figures for sub-contractors were not available. As such, employment has been estimated by applying values for average turnover per employee (for relevant industrial sectors) to the value of sub-contracts at Bradwell in 2011/12

Table 3-3: Bradwell: Estimated Tier One Employment Impacts, 2011/12

		Headcount	Gross Employment Income
Magnox Activities	**Magnox Employees**	240	£26.0 million
	Agency Workers	170	
	Total	410	
Sub-Contractors	**On Site**	340	£10.5 million
	Off Site	180	
	Total	520	
Total		**930**	**£36.6 million**

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

3.12 The scale of these figures can be contextualised by considering them against the overall quantum of employment locally. The table below highlights that on-site Tier One jobs at Bradwell account for around 16% of all jobs on the Dengie Peninsula, and around 4% of all jobs across Maldon District.

Table 3-4: Local Employment Contribution

	Bradwell Employment (Tier One, Exc. Sub-Contracting)	Bradwell Employment (all Tier 1, On Site Jobs)
Number	410	750
% of all Dengie Jobs	8%	16%
% of all Maldon District Jobs	2%	4%
% of all Essex Jobs	0.1%	0.1%

Source: Magnox Ltd and Business Register and Employment Survey (BRES)

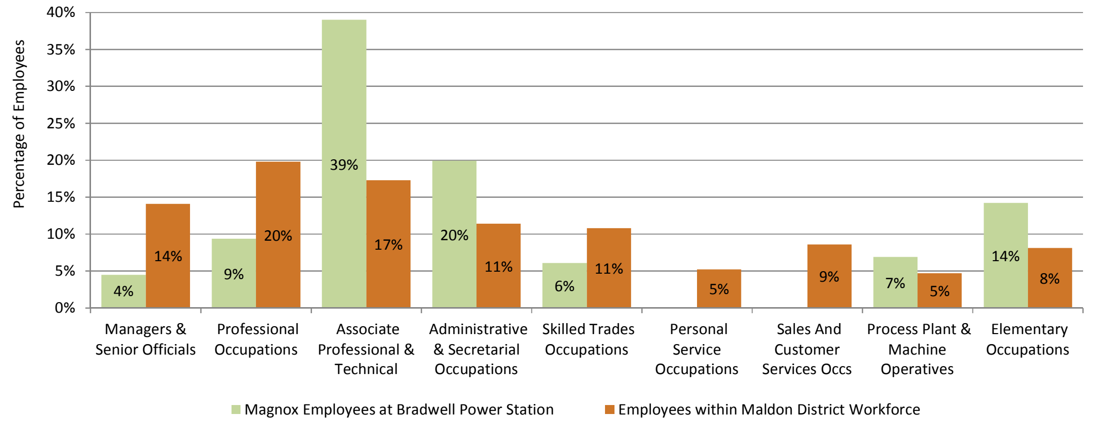
The Characteristics of Magnox Jobs at Bradwell

3.13 It is not just the quantum of jobs which is important – the nature and quality of the jobs are also important considerations. Due to data limitations, in this section we refer only to employees at Bradwell employed directly by Magnox (i.e. excluding agency workers and sub-contractors).

3.14 Significantly, jobs provided at Bradwell by Magnox are typically **full time, year round positions** which have provided **relatively secure employment over a long time period**. These are important factors and benefits to the local economy, given that rural and coastal areas are often characterised by industries which provide a lot of seasonal / temporary and part time work.

3.15 Employment at Bradwell also covers a relatively broad occupational profile, with positions suitable for people across a relatively wide skills spectrum. As would be expected given the nature of activities involved in nuclear power generation and decommissioning, a high proportion of employment provided by Magnox at Bradwell requires relatively high levels of skills – over 50% of jobs are classified as Associate Professional, Professional or Managerial positions. However, in addition to these highly skilled (and in some cases specialised) workers, the site also provides other employment opportunities for workers across the skills spectrum. This is significant as it means that jobs supported by the site are theoretically accessible to a wide profile of the local labour market. The chart below highlights the range of occupations that are supported on site – from the senior managerial down to technical and elementary positions.

Figure 3-2: Occupational Profile of Magnox Jobs at Bradwell Compared to Maldon District Average



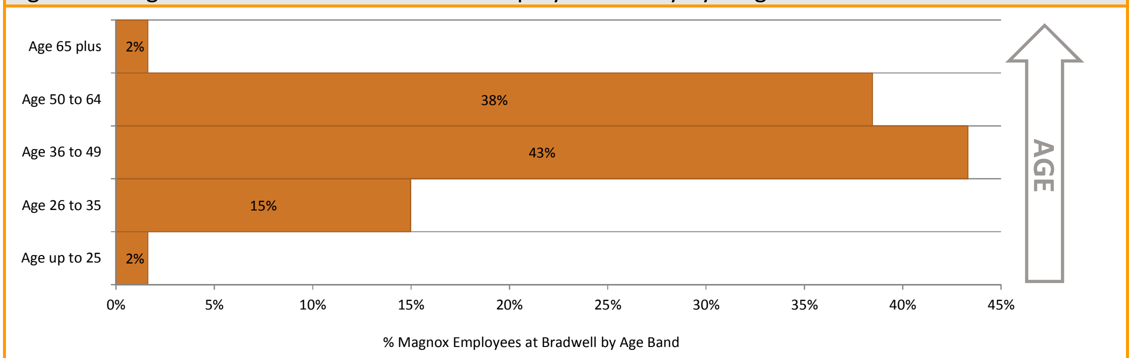
Source: Information from Magnox Ltd

The Characteristics of Magnox Employees at Bradwell

3.2 It is also useful to consider the characteristics of employees at Bradwell, including employee demographics, skills, and travel to work patterns. Again, due to data limitations, **in this section we refer only to employees at Bradwell employed directly by Magnox** (i.e. excluding agency workers and sub-contractors).

3.3 As highlighted by the chart below, Bradwell has a relatively distinct age profile – with a relatively small proportion of employees in younger age groups, and a comparatively high proportion of workers in older age groups. Around 40% of workers are aged 50 or over. This is a significant characteristic, with implications for the scale and nature of impacts likely to arise from decommissioning. This is explored in the next chapter which focuses in detail on the impacts of decommissioning over the next few years.

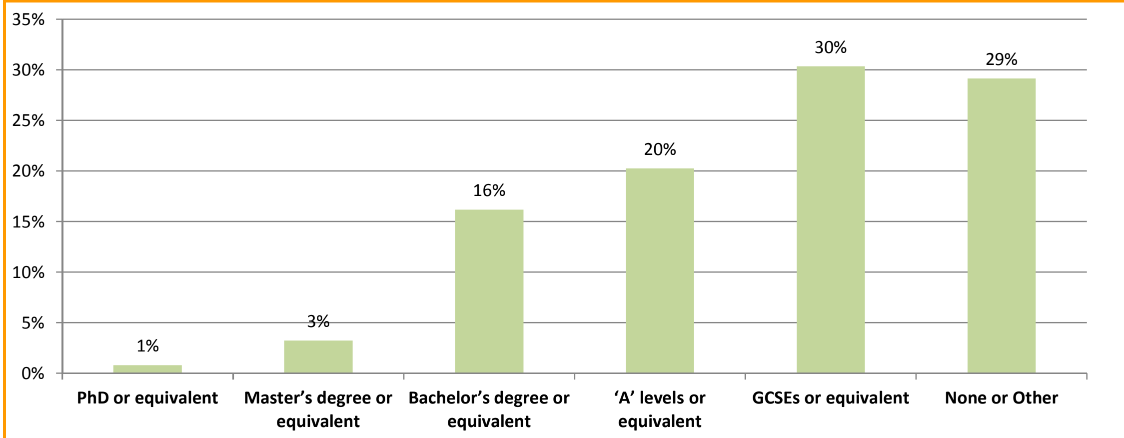
Figure 3-3: Age Profile of Bradwell Workers Employed Directly by Magnox



Source Magnox Ltd and Regeneris Consulting Analysis

3.16 Reflecting the occupational spread of jobs at Bradwell discussed previously, Magnox employees have a relatively wide range of qualifications. It is important to note that there is no data for around 30% of Magnox employees – this could either mean they have no qualifications, or that they have unrecorded qualifications. Around a fifth of all employees have degree level or higher qualifications, a fifth have A Level or equivalent qualifications, whilst just under a third have GCSE or equivalent qualifications. As with the occupation profile, this is significant in highlighting that Bradwell benefits a relatively wide profile of the local labour market, from those qualified to the highest level, to those with fewer formal qualifications.

Figure 3-4: Bradwell Magnox Employees – Qualifications Held



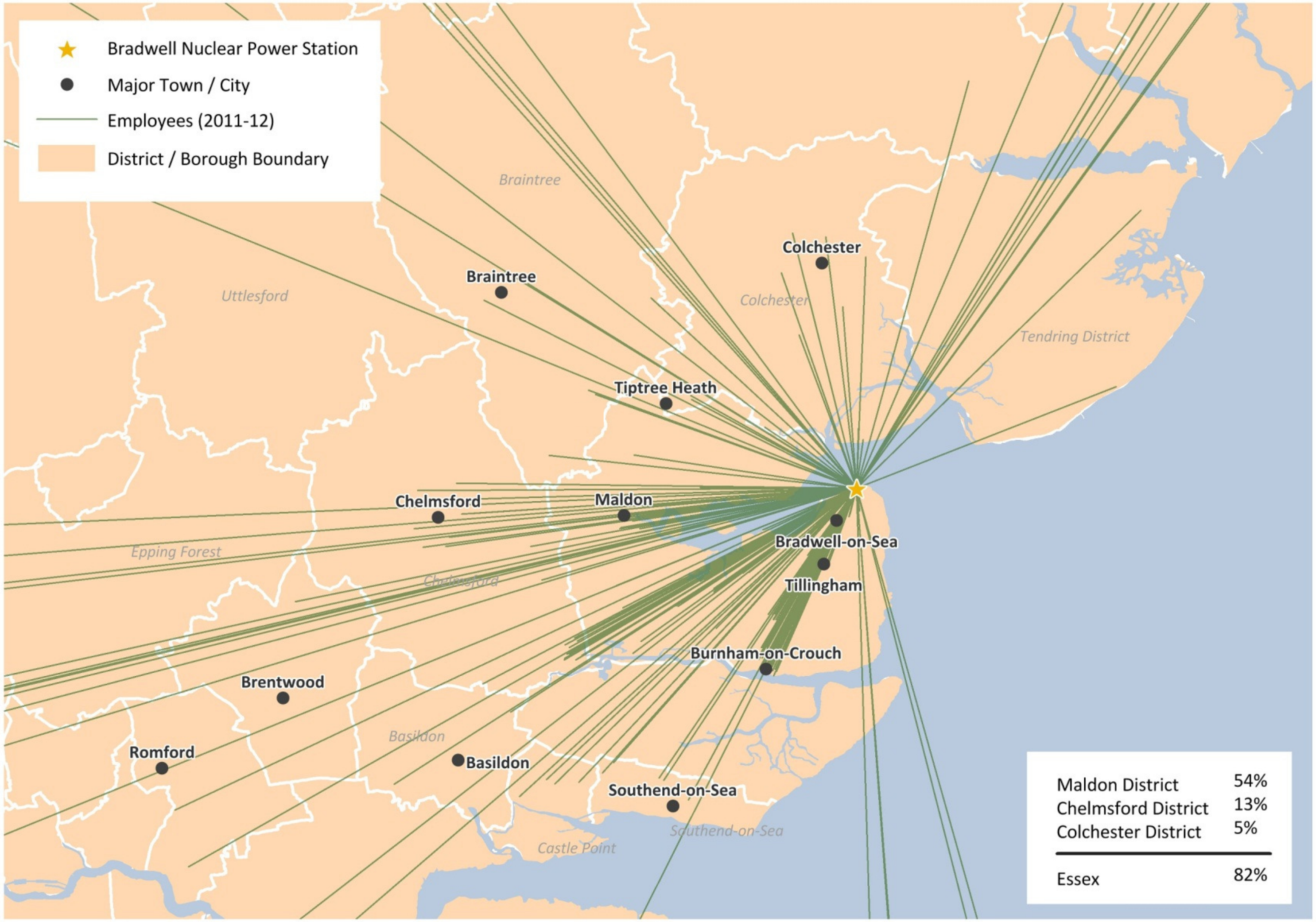
NOTE: None / Other could refer to either 'no qualifications' or instances where qualifications are unrecorded

Source: Information from Magnox Ltd

3.17 In considering the economic role of Bradwell in the local area, it is important to consider the travel to work patterns of employees. These patterns impact upon the extent to which Tier One benefits (such as the spending power of employees) are concentrated locally, or are dispersed over a wider area. Interestingly, Magnox employees at Bradwell live over a relatively broad area. Just over half of all employees (54%) live in Maldon District, whilst a further 13% live in Chelmsford District and around 5% live in Colchester District. In total, around, 82% of employees live within Essex. Of those employees who live within Maldon, over three quarters live on the Dengie Peninsula (42% of all employees).

3.18 These patterns are illustrated graphically in the map below which uses postcode information to identify the places of residence of Magnox Ltd employees who work at Bradwell:

Figure 3-5: Place of Residence of Current (2011) Workers Directly Employed at Bradwell by Magnox Ltd



Source: Information from Magnox Ltd

The Characteristics of Tier One Sub-Contractors at Bradwell

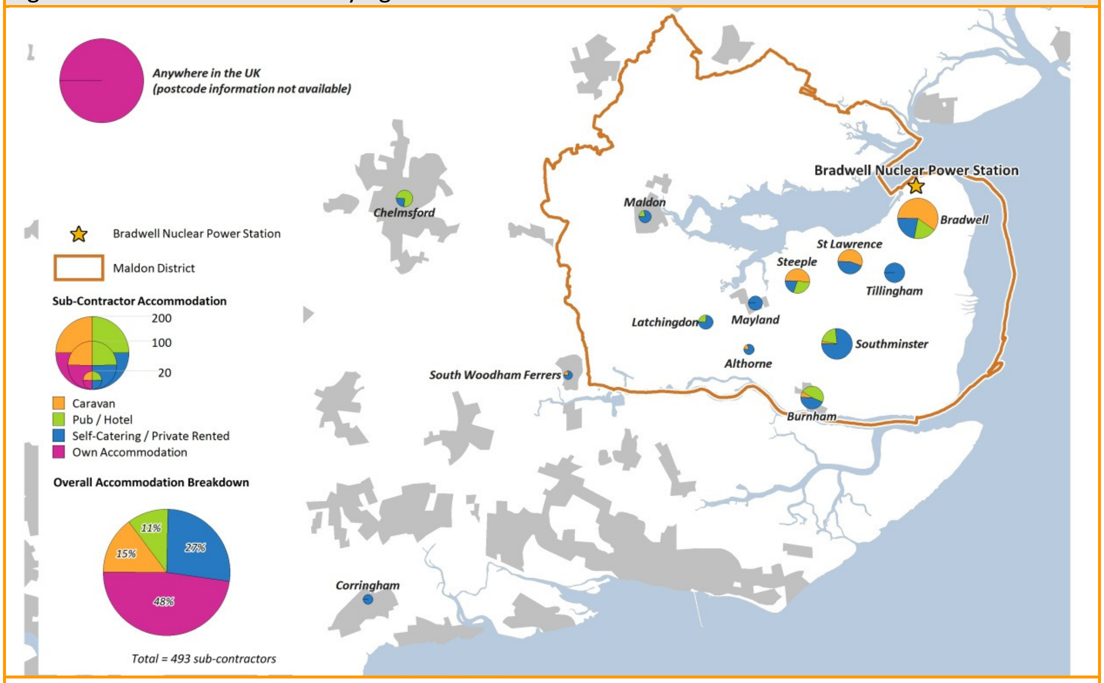
3.19 As noted above, there are currently significant levels of Tier One Sub-Contracting activity at Bradwell.

3.20 One of the most important considerations in relation to Tier One Sub-Contractors is their impact upon local accommodation. Given the relatively isolated geographical location of Bradwell, and the fact that sub-contracts are awarded to companies from across the UK, many workers stay in local accommodation whilst working on site at Bradwell. Clearly, this will fluctuate throughout the year, depending upon the quantum and nature of activities being sub-contracted. However, information provided by Magnox suggests that:

- Of the 500 Tier One Sub-Contractors working on-site in 2012, just over half were staying in local accommodation, whilst the remainder were travelling to Bradwell from home.

- The majority of those sub-contractors staying in accommodation are staying within Maldon District, with around 130 staying in local houses, around 70 staying in caravans and around 50 staying in local Pubs and guest houses.

Figure 3-6: Sub-Contractors Staying in Local Accommodation



Source: Based on Information from Magnox Ltd

3.21 There are a number of consequences – both positive and negative –of these trends.

3.22 On the **positive** side, the sub-contracting activity is generating additional economic impact within the local economy – providing strong support for local accommodation businesses and also other local amenity / service providing businesses. These economic impacts are quantified within the Indirect and Induced Impacts.

3.23 On the **negative** side, anecdotal reports have indicated that sub-contractors could be constraining the local tourism sector by saturating the already limited supply of local visitor accommodation. Anecdotal reports also suggest that sub-contractors may be impacting upon the ability of Maldon District Council to provide accommodation for local residents in housing need.

3.24 In respect of these negative impacts, the map below illustrates the 45 minute and 60 minute drive times areas from Bradwell, along with accommodation provision within Maldon District. These drive time areas are often taken as industry standards[5] when considering the accommodations impacts of construction workers / sub-contractors. The map shows that even within Maldon District – which accounts for only a small proportion of the 60 minute drive time area – the supply of accommodation options far exceeds the current distribution of Bradwell sub-contractors as illustrated in Figure 3-6. As such, the conclusion can be drawn that the current distribution of Bradwell sub-contractors (i.e. clustered in relatively close proximity to the site) is more of an issue than the absolute supply of accommodation. **The implications of this are considered in Chapter 5.**

Figure 3-7: Bradwell Drive-Times and Maldon District Accommodation Options

NOTE: Accommodation data only available for Maldon District

Source: Based on Information from Magnox Ltd

Indirect (Supply Chain) Employment

3.25 In additional to the Tier One employment described above, activities at Bradwell also **support a quantum of indirect employment** – employment within the supply chains supported by operational expenditure at Bradwell

[5] To exemplify this, 45 and 60 minute drive time areas are both used in separate assessments of the supply of accommodation for construction workers for new build nuclear powers stations at both Hinckey Point and Wylfa.

3.26 We have estimated the quantum of employment likely to be supported by this expenditure using the methodology set out in the previous chapter. Again, it is important to note that we have excluded Tier One Sub-Contracting activity from this – these are accounted for under Tier One impacts.

3.27 We estimate that across the UK, Bradwell expenditure could indirectly support up to 400 jobs. However, as highlighted by the table below, relatively low levels of expenditure in Maldon and Essex consequentially result in relatively low levels of indirect employment supported in these areas.

Table 3-5: Bradwell: Estimated Indirect Employment Impacts, 2011/12			
	UK	**Essex**	**Maldon**
Employment	410	Less than 10	Less than 10
Employment Income	£10.2 million	£0.2 million	£0.1 million
Source: Based on Magnox Ltd information and Regeneris Consulting Calculations			

Induced Employment

3.28 **Induced employment** refers to the employment supported within the economy by the spending power of Tier Ones and Indirect employees.

3.29 Induced Impacts can be estimated at a range of geographical levels and are calculated by the application of induced employment multipliers. In this case we used multipliers of 1.3, 1.1 and 1.05 to estimate the induced impacts of Bradwell for the UK, Essex and Maldon respectively[6]. The estimated induced impact is captured in the following table.

Table 3-6: Bradwell: Estimated Induced Employment Impact, 2011/12			
	UK	**Essex**	**Maldon**
Employment	420	100	60
Employment Income (£ million)	£10.1 million	£3.0 million	£1.6 million
Source: Based on Magnox Ltd information and Regeneris Consulting Calculations			

Economic Impact of Activities – GVA and Exchequer Impacts

3.30 As demonstrated by the above, the operation of Bradwell generates clear impacts upon the functioning of local and wider economies by supporting employment. In addition to these employment provision benefits, there are also benefits in terms of economic output (GVA) and benefits to the Exchequer. Again, these benefits can be broken down into Tier One Impacts, Indirect Impacts and Induced Impacts.

[6] These have been assumed using standard guidance and our own experience of similar assessments. The standard guidance is set out in the English Partnership Additionaility Guide, accessed at http://collections.europarchive.org/tna/20100911035042/http://englishpartnerships.co.uk/communitiespublications.htm

Tier One (or Direct) GVA Impacts

3.31 The **GVA** impact can be described as a combination of **wages** received by those employees supported by Magnox and Tier One sub-contracting activities at Bradwell, plus **profit** generated:

- Turnover and Profit – since power generation ceased in 2002, all revenue at Bradwell has been provided by the NDA. The financial model underpinning this is described in Chapter 2. In 2011/2012 total turnover at Bradwell was estimated at £92.5 million. As discussed previously, the nature and complexities of the UK decommissioning model means that profit generated by Magnox Ltd is not accounted at the Bradwell level. In addition, we estimate that Tier One Sub-Contracting activities generate turnover of around £55.7 million (direct Magnox expenditure) and profit of around £10.5 million.

- Employment Income – As discussed in the previous section, around 400 Magnox and Agency positions are supported by activities at Bradwell. This equates to an employment income (net salary costs plus PAYE and employee National Insurance Contributions) of £26.0 million. In addition, we estimate that Tier One Subcontracting activities support around 500 jobs and gross employment income of around £10.5 million.

3.32 Based on these figures, it is estimated that in 2011/12, Tier One activities at Bradwell contributed GVA of £49.7 million to the UK economy.

3.33 Another measure of the economic contribution of Bradwell to the UK economy is the level of contributions made to the Exchequer. As no profit is generated at Bradwell, Exchequer Benefits comprise of Employee and Employer National Insurance Contributions, Employee PAYE and VAT on goods and services. In 2011/12 total Exchequer Benefits to the UK economy are estimated at £17.8 million. This figure just relates to Magnox activities – we have not estimated Exchequer contributions relating to Tier One sub-contractors.

Indirect GVA Impacts

3.34 We have estimated the level of GVA likely to be supported by Bradwell supply chain expenditure using the methodology set out in the previous chapter.

3.35 We estimate that across the UK, Bradwell expenditure could support indirect turnover of up to £68.4 million, generating GVA of up to £22.3 million. Again, levels of indirect impact are much lower at the local level, reflecting relatively low levels of supply chain spend in the Maldon and Essex economies.

Table 3-7: Bradwell: Estimated Indirect Employment Impacts, 2011/12

	UK	Essex	Maldon
Turnover	£68.4 million	£1.2 million	£0.8 million
GVA	£22.3 million	£0.4 million	£0.3 million

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

Induced GVA Impacts

3.36 We have estimated the level of GVA likely to be supported by the spending power of employees supported by activities at Bradwell, using the methodology set out in the previous chapter.

3.37 This suggests that across the UK, the activities of Bradwell currently supports induced turnover of up to £62.5 million and induced GVA of up to £18.7 million.

Table 3-8: Bradwell: Estimated Induced Employment Impacts, 2011/12

	UK	Essex	Maldon
Turnover	£62.5 million	£15.7 million	£8.2 million
GVA	£18.7 million	£4.8 million	£2.5 million

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

Wider Contribution

3.38 Whilst not necessarily a primary impact, it is important to recognise that Bradwell plays a role in **upskilling employees** – an important benefit for the local labour market.

3.39 This is summarised by the chart below which outlines training expenditure in recent years at Bradwell, and the total annual number of in-house and external training days received by staff.

Table 3-9: Training of Employees and Contractors at Bradwell

	2001/2	2007/7	2011/12
Training Expenditure (£000s)	£73,800	£306,000	£250,000
Number of Employees Receiving Training In House	115	240	180
Total no. of training days in-house	793	2,299	894
Number of Employee Receiving Training In House	50	120	100
Total no. of training days externally	529	1532	597

Source: Information from Magnox Ltd

3.40 Magnox Ltd also notes that it is currently supporting 5 staff members to train towards post graduate qualifications, 1 staff member to train towards degree level qualifications and 6 other staff members to train towards professional or vocational qualifications.

3.41 As part of its socio-economic strategy, Magnox also provides **community funding** where appropriate to relevant local projects / organisations in the sub-region. Examples include funding for organisations such as the local Citizens Advice Bureau, and funding for local projects such as Maldon Futures – a project which aims to engage young people in the world of business. This is discussed in more detail in the accompanying socio-economic plan.

Summary - All Current Impacts

3.42 It is clear that Bradwell is an important component of the local economy – especially in terms of the employment that it provides.

3.43 It is estimated that Tier One activities at Bradwell directly support up to 900 jobs and GVA of £49.7 million. When taking indirect and induced impacts into account, it is estimated that Bradwell supports up to:

- Around 1,800 jobs and GVA of £90.71 million at the UK level
- Around 1,100 jobs and GVA of around £54.9 million at the Essex level
- Around 1,000 jobs and GVA of around £52.5 million at the Maldon level

3.44 The disparity between these figures are representative of the comparatively low level of Indirect Impact at the Essex and Maldon levels relative to at the UK level – the direct result of relatively low levels of supply chain expenditure by Bradwell at the local level.

3.45 The overall employment and GVA impacts of Bradwell are summarised in the table below.

Table 3-10: Bradwell: Summary of Current Economic Impacts

	Tier One	Tier One, Indirect and Induced		
		UK	**Essex**	**Maldon**
Employment (inc sub contractors)	900	1,800	1,100	1,000
Turnover	£92.5 million	£279.0 mil	£165.1 mil	£157.2 mil
GVA	£49.7 million	£90.7 mil	£54.9 mil	£52.5 mil
Exchequer	£17.8 mill*	-	-	-

* Note – Exchequer Benefits have only been calculated for Magnox activities – they do not take account for Tier One sub-contracting activities and we have not calculated induced and indirect impacts for these

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

3.46 Wider socio-economic benefits relating to Bradwell include the provision of training (and consequential up-skilling of members of the sub-regional labour market), and the provision of community funding to relevant local organisations and projects.

4. Economic Impacts of Decommissioning

4.1 This section considers how the economic impact of Bradwell is likely to evolve over coming years as the decommissioning process progresses.

Future Changes in the Nature and Scale of Activities at Bradwell

4.2 As described in Chapter 2, in 2015 Bradwell is due to reach the Care and Maintenance Phase of decommissioning. This phase will see levels of activity on site reduce to minimal levels – as highlighted by the projected expenditure figures in the table below:

- In the period to 2015, levels of activity on site are expected to remain strong. During this period, the site will receive average funding of £90.1 million per annum from the NDA. During this period, levels of sub-contracting on site are expected to remain high with average annual expenditure on sub-contracting of £47.9 million

- After 2015, levels of funding will immediately drop to minimal levels. In 2015/16, funding of £3.7 million from the NDA is projected – a decline of 97% from 2011/12 levels. Over the whole Care and Maintenance period (to 2085) annual funding from the NDA is projected to average £3.2 million.

Table 4-1: Expenditure Breakdown, 2011-2085

		Care & Maintenance Preps		Care & Maintenance	
		2011/12	**2012-2015**	**2015-2016**	**Average 2015 - 2085**
CAPEX & OPEX Purchasing	Sub-Contracting	£55.7	£47.9	£0.0	£1.5
	Other Purchasing	£7.5	£20.1	£2.1	£0.6
	Total Purchasing	**£63.2**	**£68.0**	**£2.1**	**£2.1**
Staff Costs		£29.4	£22.1	£1.5	£1.1
Total Operating Expenses		**£92.5**	**£90.1**	**£3.7**	**£3.2**

Source: Based on Magnox Ltd information

Economic Impact of Future Decommissioning – Employment Impacts

4.3 Perhaps the most tangible impacts of the decommissioning process at Bradwell will be those relating to employment. The likely nature and timing of these impacts are outlined below.

Tier One Impacts

4.4 As highlighted in the previous section, the activities of Bradwell currently support around 900 jobs (including on-site Magnox Ltd employees, agency staff and Tier One Sub-Contractors). This position is projected to change substantially over the next part of the decommissioning period.

4.5 Magnox Ltd was able to provide estimates of likely employment requirements at Bradwell during the next phase of decommissioning. A number of clear headlines emerge from analysis of this information:

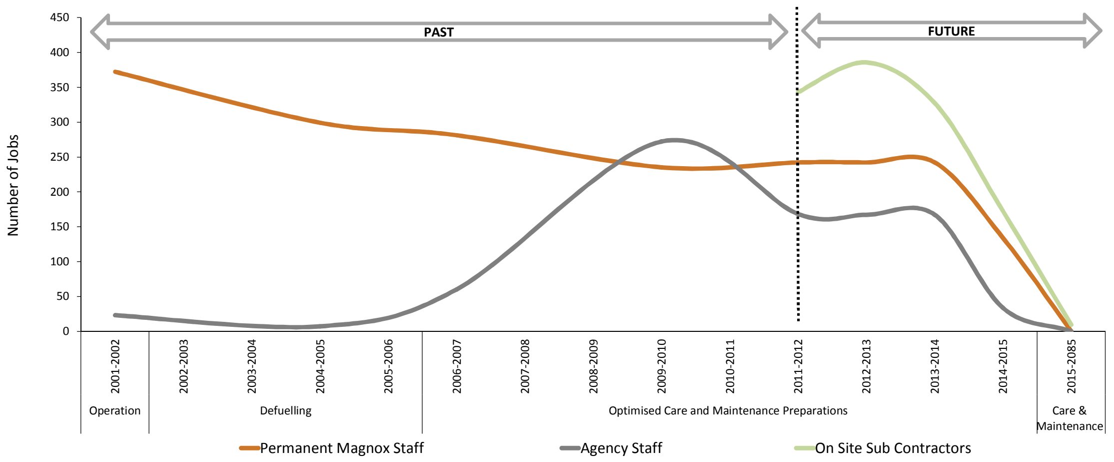
- The decommissioning process to date (i.e. since power generation ceased in 2002) has not resulted in a significant change in the overall number of positions at the site. In the final year of power generation (2001/2), the number of Magnox and Agency employees on site averaged just under 400 – similar to the average figure for 2011/12. However, the balance between Magnox and Agency workers has changed in recent years – with the ratio between the two changing from 94%:6% to 59%:41%. This reflects the fact that many positions which have been vacated in recent years have been filled by Agency workers rather than Magnox Employees. Information on changes in the level of sub-contractor employment is not available for this period.

- Bradwell is due to enter its Care and Maintenance phase by the start of 2015. In line with this, activity on site at Bradwell will reduce to negligible levels within the next 4 years. By the start of financial year 2015-16, it is anticipated that employment levels (taking into account Magnox Employees, Agency Employees and Sub-Contractors) will decline to minimal levels

- The Care and Maintenance phase of decommissioning will last until 2085. Over this period, levels of activity will remain negligible. At certain points within the Care and Maintenance phase, there is likely to be some sub-contracting activity – but levels of employment relating to this are likely to be extremely limited (fewer than 15 jobs supported on average per annum).

4.6 The direct projected employment impacts of the decommissioning process at Bradwell are set out below. The chart presents data separately for all onsite employment (which includes Magnox Ltd employees, Agency Staff and Onsite sub-contractors). It is worth emphasising that these are **onsite** employment impacts – as noted in the methodology section, we have not sought to quantify the impact of decommissioning at Bradwell on centrally located Magnox jobs (e.g. those jobs located at the company's corporate and HQ functions).

Figure 4-1: Employment Requirements for Bradwell During Decommissioning



NOTE: Data not available to calculate sub-contractor headcount pre 2011/12

Source: Based on Magnox Ltd Information and Regeneris Consulting Calculations

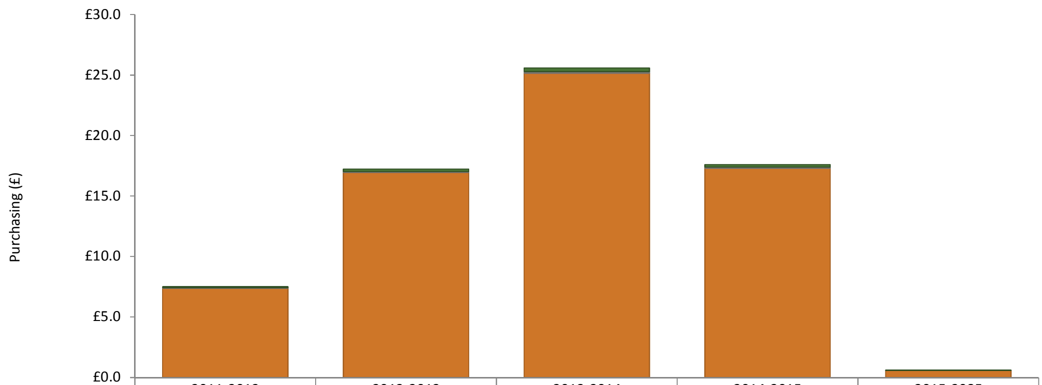
4.7 The consequences (both for Bradwell employees and the local economy in general) of the trends highlighted in the chart above are discussed in the next chapter.

Indirect Impacts and Induced Employment Impacts

4.8 As set out above, levels of purchasing expenditure at Bradwell are projected to decline significantly in the near future, with minimal levels of annual expenditure post 2015, compared to current levels:

- It is anticipated that total purchasing expenditure (excluding sub-contracting) will increase from around £7 million per annum in 2011/12 to around £25 million per annum in 2013/14. After this, expenditure is expected to decrease to around £17 million in 2014-15
- Post 2015, Bradwell will enter the Care and Maintenance Phase of decommissioning and expenditure is expected to decline significantly. Over the total Care and Maintenance period average annual expenditure (again, excluding Tier One Sub-Contracting) is projected to total less than £1 million per annum

Figure 4-2: Estimated Purchasing Supported by Bradwell (excluding Tier One Sub-Contracting)



	2011-2012	2012-2013	2013-2014	2014-2015	2015-2085
Maldon	£0.1	£0.2	£0.3	£0.2	£0.0
Rest of Essex	£0.0	£0.1	£0.1	£0.1	£0.0
Rest of UK	£7.4	£16.9	£25.1	£17.3	£0.6

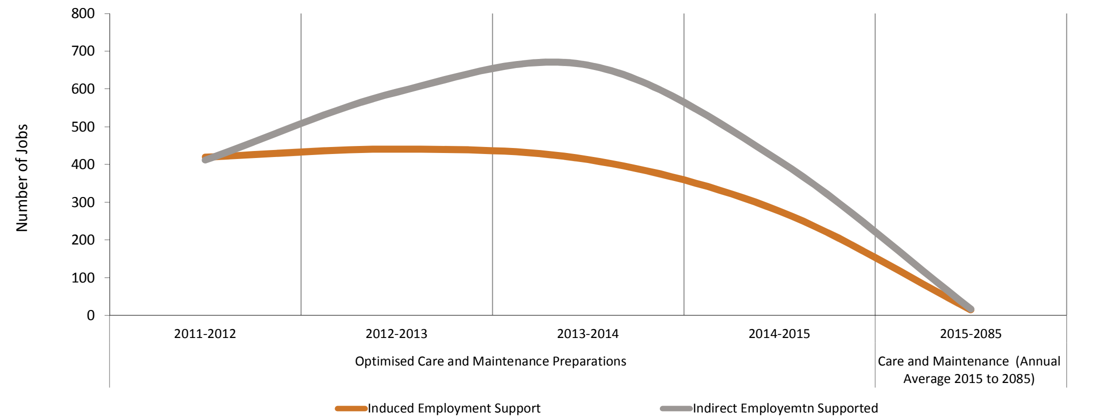
Source: Based on Information Provided by Magnox Ltd

4.9 These projected trends in expenditure will impact strongly upon the supply chains that Bradwell supports. Current levels of indirect employment impact (around 400 jobs at the UK level and fewer than 10 jobs at the Essex and Maldon levels) relating to Bradwell are likely to decline to negligible levels by 2015.

4.10 Reflecting substantial declines in the level of direct and indirect impacts, it also is anticipated that induced impacts relating to Bradwell will also decline substantially in the coming years.

4.11 The chart below outlines projected changes in levels of indirect and induced employment supported at the UK level going forward.

Figure 4-3: Estimated Induced and Indirect Jobs Supported **at the UK Level** by Bradwell – 2011-2085



Source: Based on Magnox Ltd Information and Regeneris Consulting Calculations

4.12 Again, the likely consequences of these trends are discussed in the next chapter and developed further in the accompanying socio-economic action plan.

Economic Impact of Future Decommissioning – GVA & Fiscal Impacts

4.13 The decline in levels of operational activity on site at Bradwell discussed above will impact significantly on the level of GVA that Bradwell supports in the local, regional and national economies.

Tier One GVA Impacts

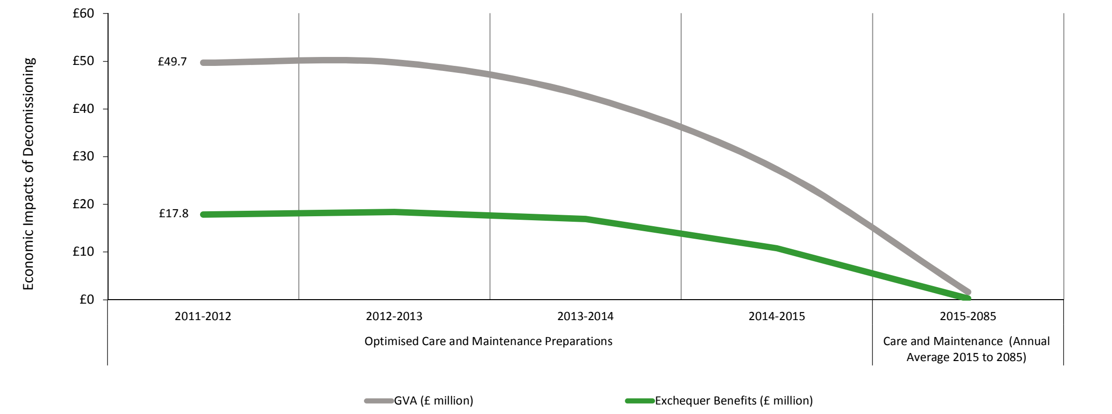
4.14 As discussed previously, since power generation at Bradwell ceased, all revenue at Bradwell has been provided by the NDA. The NDA will continue to provide funding for decommissioning activities at Bradwell through to the final site clearance phase after 2085. However, after the site enters its Care and Maintenance phase in 2015 levels of activity on-site (and hence levels of NDA funding) will decrease significantly.

4.15 The impacts of the decommissioning process at Bradwell in terms of Tier One GVA and Exchequer Benefits are set out below. The chart highlights that direct economic impacts relating to Bradwell will drop to a relatively low level by 2015:

- After 2015, **GVA** will total around £1.6 million per annum – from 2011/12 levels of £49.7 million
- **Exchequer Benefits** (relating to Magnox activities but not Tier One Sub-Contractors) will total around £0.2 million per annum – compared to current levels of £17.8 million.

4.16 Again, it is worth emphasising that these are impacts relating to **onsite** activity at Bradwell – as noted in the methodology section we have not sought to quantify the impact of decommissioning at Bradwell on central Magnox activity (e.g. those jobs located at the company's corporate and HQ functions).

Figure 4-4: Total Tier One Turnover, GVA and Exchequer Benefits attributable to Bradwell, 2011-12 and beyond



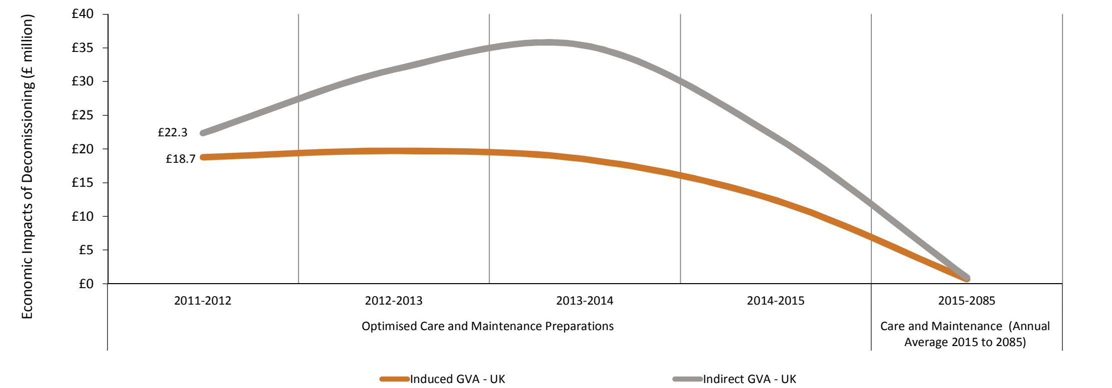
NOTE: Exchequer Benefits relate only to Magnox activities (i.e. exclude Tier One Sub-Contractors)

Source: Information from Magnox Ltd

Indirect and Induced GVA Impacts

4.17 The above trends in levels of Tier One activity have consequential impacts for the level of Indirect and Induced GVA impacts supported. Again, as highlighted by the chart below, these are likely to decline to minimal levels in the period after 2015.

Figure 4-5: Estimated Induced and Indirect GVA Supported at the UK Level by Bradwell – 2011/12 and beyond



Source: Based on Magnox Ltd Information and Regeneris Consulting Calculations

Wider Impacts of Decommissioning

4.18 As previously noted, Magnox currently plays an important role in upskilling its employees and hence members of the sub-regional labour market. This benefit is likely to all but disappear after 2015, as the level of on-site Magnox employees reduces to minimal levels.

Summary of Changing Impacts During Decommissioning

4.19 The projected changing economic impact of Bradwell during future decommissioning activities is summarised in the table below. The table highlights that levels of economic impact supported by Bradwell (both in terms of jobs and GVA) will decline to minimal levels post 2015:

Table 4-2: Bradwell – Changes in Economic Benefits during Decommissioning

		Time	Tier One	Tier One, Indirect and Induced		
				UK	**Essex**	**Maldon**
Employment	**2011/12**	↓	900	1,800	1,100	1,000
	Average 2012-2015		800	1,700	900	800
	Average 2015-2085		<10	50	20	15
GVA	**2011/12**	↓	£49.7	£90.7	£54.9	£52.5
	Average 2012-2015		£39.9	£86.3	£44.2	£42.2
	Average 2015-2085		£1.6	£3.2	£1.8	£1.7
Exchequer*	**2011/12**	↓	£17.8	-	-	-
	Average 2012-2015		£15.3	-	-	-
	Average 2015-2085		£0.2	-	-	-

* Note – Exchequer Benefits have only been calculated for Magnox activities – they do not take account for Tier One sub-contracting activities and we have not calculated induced and indirect impacts for these

Source: Based on Magnox Ltd information and Regeneris Consulting Calculations

4.20 The consequences of these changing levels of economic impact are examined in the next chapter.

5. Socio-Economic Consequences of Decommissioning

5.1 The previous chapters have highlighted the economic consequences of decommissioning at Bradwell in coming years. The key messages are relatively clear cut – whilst Bradwell currently supports a relatively high level of positive economic impact in the sub-regional economy (both in terms of employment and GVA), this impact will largely disappear post 2015.

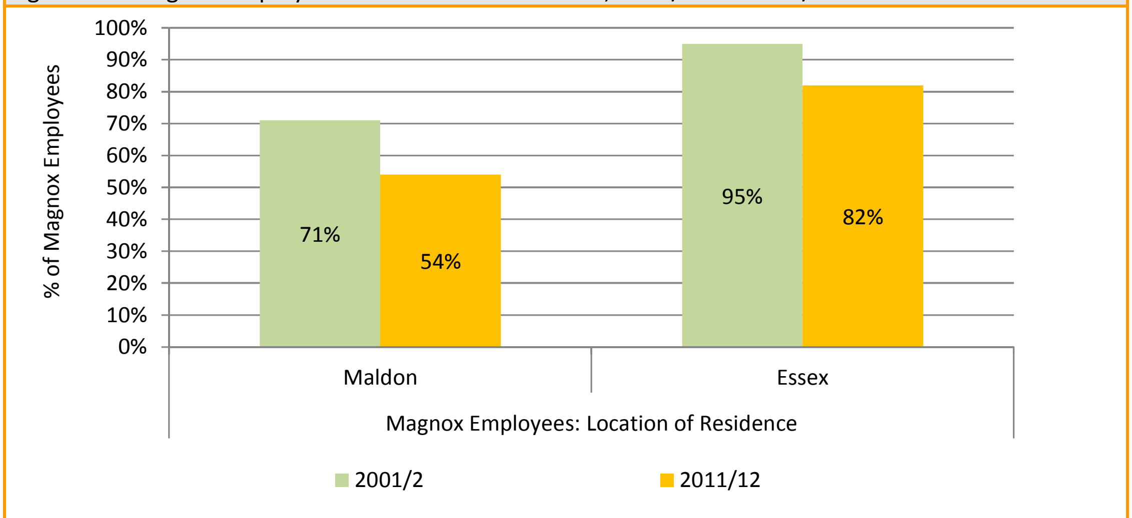
5.2 Consequences of this are numerous and multi-layered. Some of the most important implications are outlined below.

Implications for Magnox Employees

5.3 There are currently around 250 Magnox employees on site at Bradwell. Current projections suggest that none of these positions will remain after 2015, with decommissioning activities being carried out by sub-contractors / agency staff, managed by Magnox staff located centrally.

5.4 There are many factors to take into account when considering the implications of this. Clearly, the **geographical implications of impact** will closely reflect the current travel to work patterns of Magnox employees. Evidence provided by Magnox and highlighted in the chart below suggests that the travel to work patterns of Magnox employees at Bradwell have broadened considerably in the decade since decommissioning began. This is likely to reflect a number of factors – including changing recruitment patterns in recent years by Magnox (including temporary transfers from other sites) and Magnox employees beginning to adjust to the prospect of decommissioning and moving away from the area (in some cases Magnox positions have been replaced by Agency positions). The sum consequence of these patterns are that the negative impacts of decommissioning going forward are likely to be less geographically concentrated than previously might have been the case.

Figure 5-1: Magnox Employees – Location of Residence, 2011/2 and 2011/12



Source: Based on Magnox Ltd Information

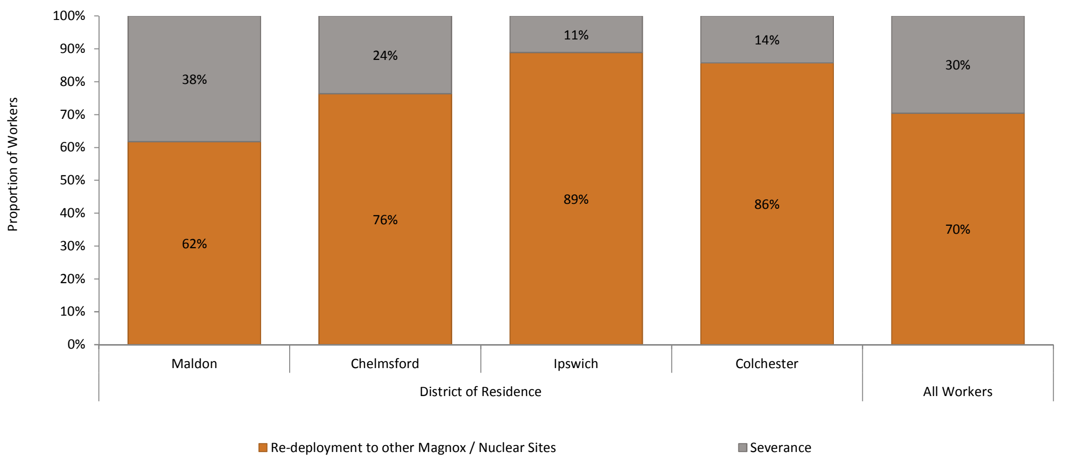
5.5 In considering the likely implications of the coming phase of decommissioning, it is also important to consider the **demography of workers**. As noted previously, the Magnox workforce at Bradwell is currently characterised by higher than average proportions of workers in older age groups – around 40% of workers are aged 50 or over. It is fair to assume that a certain proportion of these workers will opt to leave the labour market (i.e. retire) after leaving Bradwell. Again, the consequence of this will be a lessening of the shock to the local labour market and economy.

5.6 Magnox has suggested that **three options exist for employees after 2015** – re-deployment to other Magnox sites elsewhere in the UK; re-deployment to other nuclear sites in UK; or severance. Early indications of how these options might ultimately play out are summarised in the chart below. Whilst the information is currently only available for around two thirds of employees, the chart suggests that:

- Around 70% of employees are looking to take the 'redeployment' option under which they would move to other sites elsewhere in the UK. Applying this figure to the whole Magnox workforce, would suggest that around 180 workers could be looking to move to other sites throughout the country. The extent to which it will be possible to find positions elsewhere for this quantum of workers is currently unclear. However, whatever the final quantum of workers taking this option, there are clearly likely to be detrimental impacts for the sub-regional labour market, as skilled workers move elsewhere.

- Around 30% of employees are likely to take the severance option – around 70 workers in total. Again, reflecting the demographic characteristics of Magnox workers described earlier, a certain number of these are likely to be approaching retirement age. It will be important that steps are taken to assess the characteristics of those who are taking the severance option, and in those instances where workers are looking to remain in the labour market, provide assistance where necessary (particularly around transferability of skills).

Figure 5-2: Magnox Employees – Likely Destination Post 2015



Note: this chart only includes around two thirds of current Magnox employee

Source: Based on Magnox Ltd Information

Implications for Agency Workers

5.7 Over the past decade, the quantum of Agency workers at Bradwell has increased significantly – the current headcount total around 170. This is a significant number and it is important to note that Agency workers will not have access to the same rights or opportunities post 2015 as those available to Magnox employees. It has not been possible to source information on the characteristics of these workers. However, it is fair to expect that Agency workers will share many similar characteristics as the Magnox workers – including demography and travel to work patterns.

5.8 Clearly, it will be important to engage with these workers at an early stage where possible. The focus should be placed on understanding the skills which have been gained whilst working at Bradwell and the extent to which these are transferable to other industries.

Implications for Local Businesses

5.9 At face value, the relatively low levels of direct supply chain expenditure in the local economy by Bradwell would suggest that the impact of decommissioning on local businesses would be relatively minor.

5.10 However, evidence suggests that there are some parts of the local economy which are reliant on the activities of Bradwell – in particular, the local guest houses, restaurants and a range of other local service businesses which currently benefit year round from the high number of sub-contractors / temporary workers staying in the area.

5.11 Going forward, it will be important to engage with these businesses to assess the extent to which they understand the forthcoming implications of decommissioning for their business and assess any instances where the provision of support might be beneficial. The practicalities of this are considered within the accompanying Socio-Economic Action Plan.

Implications for Supply of Local Accommodation

5.12 As discussed in Chapter 3, concerns currently exist within Maldon District Council that Bradwell sub-contractors are having a negative influence on the local housing market and the local tourism sector by saturating the supply of local accommodation. In the short term, these presumed impacts are likely to persist as the quantum of sub-contractors on site at Bradwell is projected to be sustained in the period to 2015. Post 2015, the number-of sub-contractors is projected to decline to minimal levels and as such, it is fair to assume that at this point, the supply of local accommodation will increase significantly.

5.13 In responding to any short term shortfall in local accommodation, it is important to bear reference to the analysis in Chapter 3, which highlighted that the current distribution of Bradwell sub-contractors (i.e. clustered in accommodation relatively close to the site) is perhaps more of an issue than the absolute supply of accommodation.

5.14 As such, in the short term, efforts to address the local supply of accommodation should focus on achieving a greater distribution of Bradwell sub-contractors within the 45 and 60 minute drive time areas. This might be achieved through closer dialogue between the NDA, Maldon District Council and Magnox, and subsequently between Magnox, sub-contractors and relevant local businesses (e.g. accommodation suppliers and other service providers).

5.15 A second option suggested to address the local supply of accommodation is the provision of funding to convert several vacant premises locally into accommodation for workers (subsequently reverting to accommodation for residents in housing need). We conclude that this is a less appropriate solution to the issue, given the level of investment required, the absence of an appropriate funding stream and the timescales involved (taking into consideration the fact that sub-contracting activity will all but disappear within 3 years).

5.16 All of these implications are considered in detail in the accompanying Socio-Economic Action Plan.

6. Links to the Bradwell Socio-Economic Action Plan

6.1 This report sets out a detailed picture of the role that Bradwell currently plays in local and sub-regional economic performance and how this might change going forward.

6.2 Building upon both this context and the findings of detailed consultation with local stakeholders, the Bradwell Socio-Economic Action Plan has been developed. This examines possible responses to the impacts of decommissioning, presenting specific priorities, actions, and interventions targeted at strengthening and building economic performance in the sub-region going forward

6.3 The Bradwell Socio-Economic Action Plan accompanies this report.

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