



The Economic Impact of an EfW Incinerator in Newhaven

Proof of Evidence
June 2003

Evidence on behalf of Lewes District Council in relation
to objection to policy WLP9 (Site specific allocations for
energy from waste and material recovery facilities)

This proof of evidence has been prepared for Lewes District Council as part of its objection to the East Sussex and Brighton and Hove Waste Local Plan.

This proof of evidence has been produced by **cebr**, an independent economics and business research consultancy established in 1993 providing forecasts and advice to City institutions, government departments, local authorities and numerous blue chip companies throughout Europe. The author of this report is Mark Pragnell.

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London, June 2003

CONTENTS

1. Introduction	4
Introduction	4
Structure of the report	4
2. Economic profile of Newhaven	7
Introduction	7
Newhaven overview	8
Population and housing	9
Employment and workforce	14
Industry	17
Tourism	19
Economic deprivation	20
Conclusion	20
3. Research on the economic impact of major waste facilities.....	22
Approach	22
Impacts on house prices of EfW plants	23
Impact of Energy from Waste facilities in the US	23
A study to estimate the disamenity costs of landfill in Great Britain	26
House price level comparison original research	27
Comparison of results	30
Applicability of studies and reasons for scepticism	30
Impacts of EfW plants on industrial composition and growth	32
4. The local economic impact of an EfW plant.....	35
Assumptions regarding the proposals.....	35
Impacts on housing and local amenity	35
Impacts on industry mix and economic growth	36
5. The DTZ Pieda study: A critical appraisal.....	37
The DTZ Pieda Consulting report	37
Explanation of the differences in findings.....	37
Studies unavailable to DTZ Pieda	38
Differences in interpretation	38
6. Alternative waste strategy	42
7. Overall conclusions	43
8. References.....	44

This proof of evidence has been compiled by Mark Pragnell of the Centre of Economics and Business Research.

Mark Pragnell is Managing Director of the Centre for Economics and Business Research (**cebr**). He has 8 years experience in evaluating economic impacts. Mark began his career at **cebr** 8 years ago and has since worked for Railtrack and the Consumers Association as an economist and researcher before returning to **cebr** as a director three years ago. Mark has particular experience in the housing market, regularly speaks on the subject and produces an annual housing market briefing, Housing Futures, which analyses future trends in the housing market. Mark is a member of the Strategic Planning Society and the Society of Business Economists.

Mark has been responsible for many studies investigating the economic impact of local developments, transport infrastructure and various other aspects of government policy and local attractiveness. These include:

- Economic evaluation of the Leigh Busway project. (Greater Manchester Passenger Transport Executive, 2002)
- Regeneration benefits from new stadium (Swansea Football Club, 1999).
- Economic impact of ending night flying from UK airports (UPS 2000)
- Impact of congestion charging options on local economic activity in London (for a major London property developer, 2000)
- Impact of transport measures on local socio-economic development in Greater Manchester area (Greater Manchester Passenger Transport Executive, 2000).
- Impact of 'green taxes' on aggregates extraction (British Aggregates and Construction Materials Industries, 1997) quantifies the impact on aggregates use of the introduction of a 'green tax' on aggregates extraction. The study focussed especially on the impact of such a tax on the use of secondary materials in construction.
- The economic effects of the classification of Borax and Boric Acid (Borax 2000) studies the economic implications for the EU of the classification of borax and its derivatives as a hazardous substance.
- The economic impact of aggregates tax and the climate change levy on the cement, concrete and aggregates industries? (British Cement Association, Quarry Products Association, Construction Products Association, and British Pre-Cast Concrete Federation, 2001)
- Economic impact on the boroughs of Greater Manchester of the Metrolink 2000 proposals (Greater Manchester Passenger Transport Executive, 1997).
- Economic analysis and projections for the North West (North West Development Agency 2002)

Mark also has experience in the economics of waste management having managed the following studies:

- The economics of recycling plastics (British Plastics Federation 1998)
- The economics of recycling EPS waste (British Plastics Federation 1995)

Mark is an expert on the housing market and regularly speaks on the subject. His experience in this field includes:

- Housing Futures, **cebr**'s annual briefing on the state of the housing market and its future prospects.
- Sustainable accommodation for key workers (nPower, 2002).
- The illusory north-south divide (BBC Radio 4 Today Programme, 2000) Research to show that, although incomes may be lower outside London and the South East, standards of living can be higher.

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1. INTRODUCTION

Introduction

- 1.1 **cebr** has been commissioned by Lewes District Council to assess what, if any, economic impacts an energy from waste incinerator (EfW) might reasonably be expected to have on Newhaven if it were located there¹.
- 1.2 An EfW incinerator could potentially affect a location's attractiveness in four ways:
- As a place to live
 - As a place to work
 - As a place to do business
 - As a place to visit
- 1.3 We have attempted to determine whether EfW incinerators give rise to such impacts. Where there is evidence that they do, we have attempted to investigate the nature and scale of these impacts and whether such impacts could reasonably be expected to occur in Newhaven.
- 1.4 A report by DTZ Pinda Consulting² in March 2002 for East Sussex District Council concluded that:
- 'The evidence from elsewhere is that incinerators do not have a substantive impact on property prices in the long term'³, and that,*
- 'There is no substantive evidence from elsewhere that an EfW plant makes it more difficult to attract inward investment'⁴*
- 1.5 The first of these statements refers to attractiveness as a place to live whilst the second refers to attractiveness as a place to do business. As part of this proof of evidence we have set out to determine whether and to what extent these two statements are true.

Structure of the report

- 1.6 The remainder of this proof of evidence is divided into six chapters.
- 1.7 **Chapter 2** provides an overview of Newhaven's economy in the past and present and discusses plans for Newhaven's future. The information on the

¹ We have assumed that the EfW facility proposed for Newhaven would be an incinerator. See Alan Potter's proof of evidence.

² Reference (2)

³ Reference (2) page 32, paragraph 5.16

⁴ Reference (2) page 31, paragraph 5.11

Newhaven economy is put in context through comparisons with that of its neighbours and of wider geographic areas such as East Sussex and the UK.

- 1.8 This chapter investigates:
- The relatively low value of the Newhaven housing stock and plans to increase housing provision
 - The relatively low wages and low levels of education and qualifications that characterise workers in Newhaven
 - The relatively high levels of deprivation among Newhaven's residents
 - The dominance of the manufacturing sector in the Newhaven economy and the relatively small role played by the service sector compared to other comparator areas.
- 1.9 **Chapter 3** presents research relevant to the economic impact of EfW incinerator facilities. This section draws on original research by **cebr** and other relevant studies to examine potential impacts of waste facilities on house prices. House prices are a measure of the attractiveness of a location as a place to live. It also investigates the impact of EfW incinerators on industrial structure.
- 1.10 The analysis of house price impacts focuses on three studies:
- "House Prices during siting decision stages: The case of an incinerator from rumour through operation" by Kiel and McClain of Boston University¹
 - "A study to estimate the disamenity costs of landfill in Great Britain" by Cambridge Econometrics for the Department of Environment, Food and Rural affairs (DEFRA)²
 - A study conducted by **cebr** into the house price impact of EfW incinerator facilities in the UK.
- 1.11 The first of these studies investigates how house prices vary by distance from an EfW incinerator in North Andover, Massachusetts. This study uses statistical analysis to determine price impacts over time and at different distances from the EfW incinerator facility.
- 1.12 The second study is concerned with the impact on house prices of all UK landfill sites. The study finds that house prices are related to distance from UK landfill sites and uses this statistical result to estimate the total loss in house price equity.
- 1.13 The final study was undertaken by **cebr** as part of this proof of evidence. It investigates the relationship between house prices and distance from all UK EfW incinerator facilities for which we could source data.

¹ Reference (1)

² Reference (3)

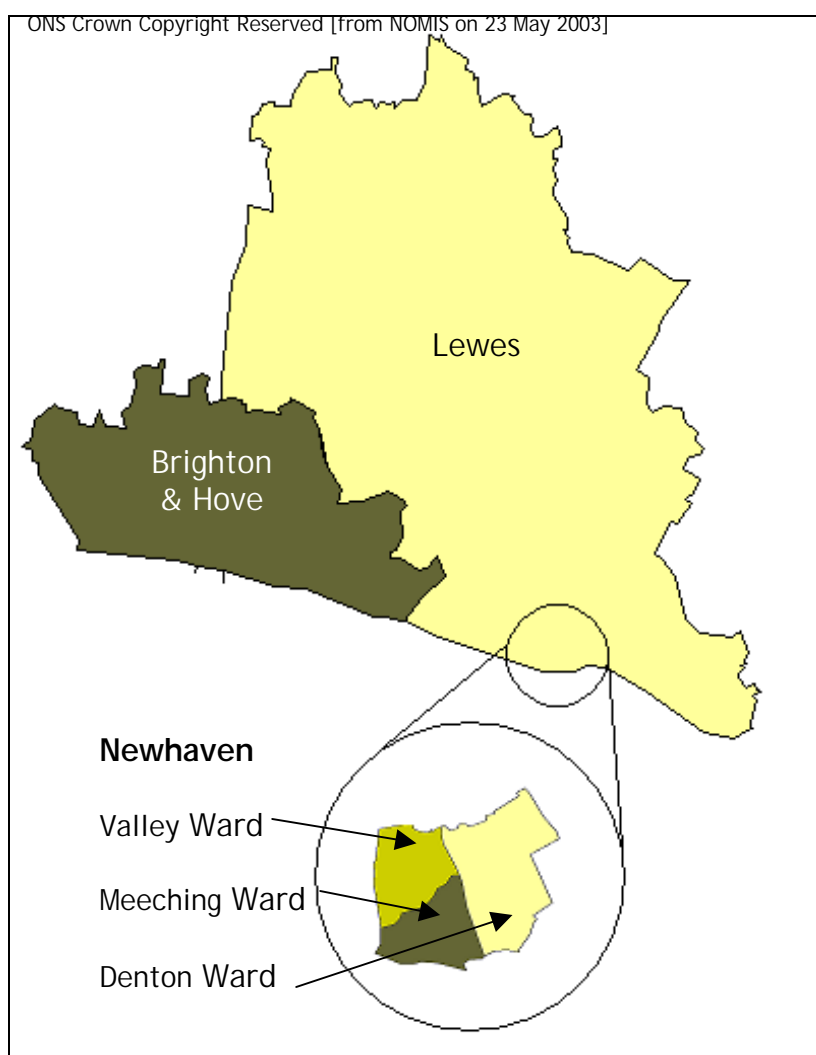
- 1.14 **Chapter 4** relates the impacts discovered in chapter 3 to Newhaven and reconciles the available evidence with impacts on Newhaven's attractiveness as a place to live, work, do business and visit as a tourist.
- 1.15 This chapter asks what the impacts of an EfW incinerator facility would be on Newhaven's existing residents, businesses and visitors and how developments planned for Newhaven may be affected by the proposed new EfW incinerator. It also evaluates the likely impacts on Newhaven's long-term development.
- 1.16 **Chapter 5** explains why we have reached different conclusions from the DTZ Pidea study. It explains our differences in approach and interpretation.
- 1.17 **Chapter 6** explains how an alternative waste strategy which did not include an EfW incinerator would have a smaller negative economic impact on Newhaven. Under the alternative strategy, sites would be smaller and more dispersed through the plan area. In addition, it explains that the positive economic impacts of the alternative strategy are likely to be greater, or at least no smaller, than those of the East Sussex and Brighton & Hove Waste Local Plan.
- 1.18 **Chapter 7** contains our overall conclusions on the economic impact of the proposed Newhaven EfW plant and the alternative strategy.

2. ECONOMIC PROFILE OF NEWHAVEN

Introduction

- 2.1 This chapter examines the economic situation of Newhaven and compares this with other local economies, the regional economy and the national economy. It also presents the plans for future development.
- 2.2 We have selected the following comparators to put the information on Newhaven in context:
 - Brighton & Hove
 - Lewes district
 - East Sussex
 - South East
 - Great Britain (or England and Wales depending on data availability)
- 2.3 We also consider recent developments in the town and plans and policies which are relevant to Newhaven's future economic development.
- 2.4 Newhaven does not constitute an administrative area so for the purposes of this economic comparison we have taken Newhaven to be the three wards of Newhaven Meeching, Newhaven Denton and Newhaven Valley. All of these wards fall within the Lewes District.

Figure 2.1: Newhaven, Lewes and Brighton & Hove



Newhaven overview

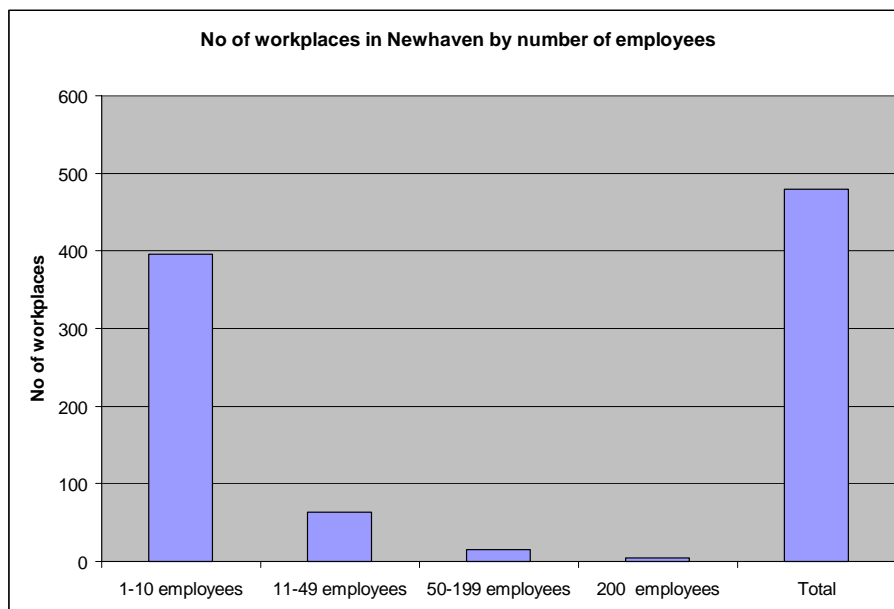
- 2.5 Newhaven is the industrial centre of Lewes district. The town started as the Saxon settlement of Meeching which developed a natural harbour in 1579 when the river Ouse broke through the shingle bar. Historically, the economic focus of Newhaven has been the port and port related activities. The railway reached Newhaven in the 1840s and was soon followed by a cross channel ferry service. Today, the port has a cross channel car ferry service provided by Hoverspeed and Transmanche, and freight connections to Dieppe.
- 2.6 The port continues to be an important part of the economy of the town and is strategically important for the wider region. The importance of gateways are recognised in the Regional Planning Guidance for the South East¹. Lewes District Local Plan recognises the importance of the port to the

¹ See Debbie Portchmouth's proof of evidence

economy and includes policies which allow for the improvement and modernisation of the existing port area¹.

- 2.7 Newhaven now has a population of 10,200². There are 5,771³ people employed, predominantly in the manufacturing sector.
- 2.8 The town supports nearly 500⁴ businesses. The major employers are Parker Pen, Bevan Funnell and Concorde Lighting.
- 2.9 Figure 2.2 below shows the number of workplaces in Newhaven by size. This is not exactly the same as the number of businesses there (as some will have more than one office or branch), but is a good indication of the distribution of business sizes.

Figure 2.2: Distribution of workplaces by size, 2001



Source: Annual Business Inquiry Workplace Analysis data, 2001 from National Statistics

Population and housing

- 2.10 We now turn to the population and housing mix in Newhaven. The purpose of this section is to present a factual picture of the size and composition of Newhaven's population and its housing stock.
- 2.11 Newhaven has a resident population of 10,200⁵. Figure 2.3 demonstrates that the population age structure of Newhaven is similar to that of the

¹ See Debbie Portchmouth's proof of evidence.

² Source: National Statistics, Oxford University population estimates for wards in England, mid 1998

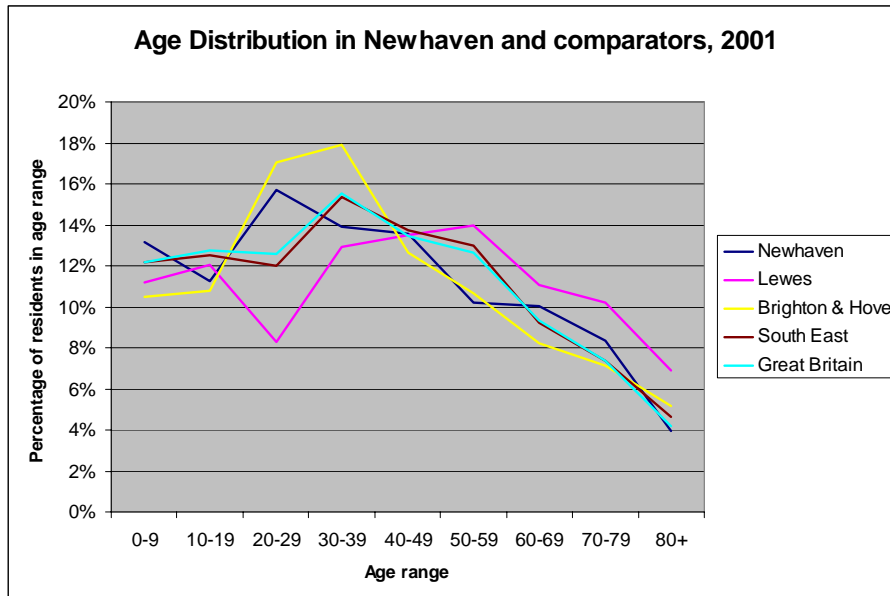
³ Source: Annual Business Enquiry Workplace Analysis, all employees, 2001

⁴ Source: Annual Business Enquiry Workplace Analysis data, 2001 from National Statistics

⁵ Source: National Statistics, Oxford University population estimates for wards in England, mid 1998

Great Britain as a whole and is 'younger' than that of the Lewes district as a whole.

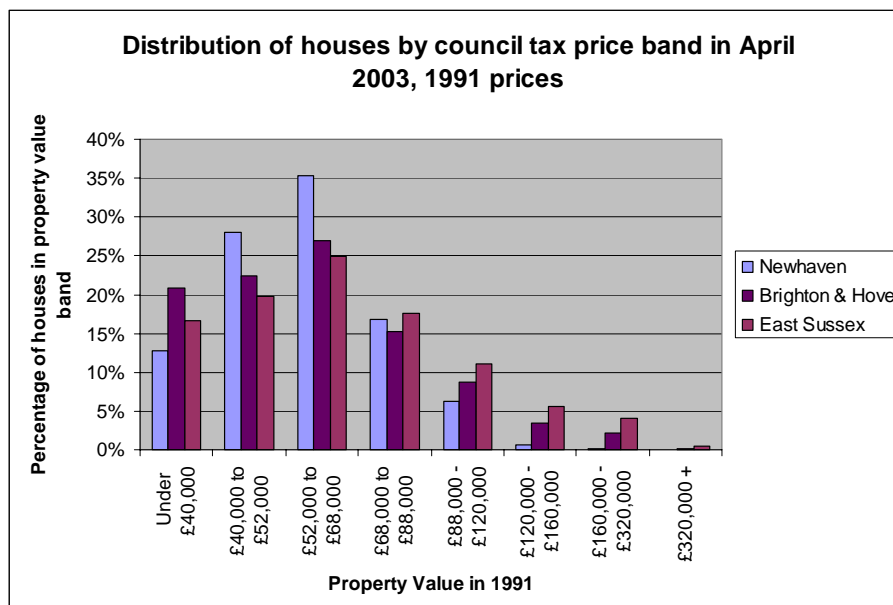
Figure 2.3: Age profile of Newhaven and comparators, 2001



Source: National Statistics mid-year population estimates for 2001. Newhaven data is from the 1991 census as mid year population estimates are not available at ward level.

- 2.12 Newhaven has a lower proportion of young people than Brighton & Hove, but a higher proportion than Lewes District as a whole. Only 8 percent of the residents of Lewes district are aged between 20 and 29, whereas nearly 16% of the population of Newhaven falls into this age group. Brighton has a much higher proportion of residents aged between 20 and 39 than both Newhaven and Lewes.
- 2.13 Newhaven has a lower proportion of residents in all age groups over 50 years old than Lewes. The age distribution of residents over the age of 40 in Newhaven is similar to that in Brighton, although Newhaven has a higher proportion of people aged 60 to 79.

Figure 2.4: Distribution of houses by council tax price band in April 2003, 1991 prices

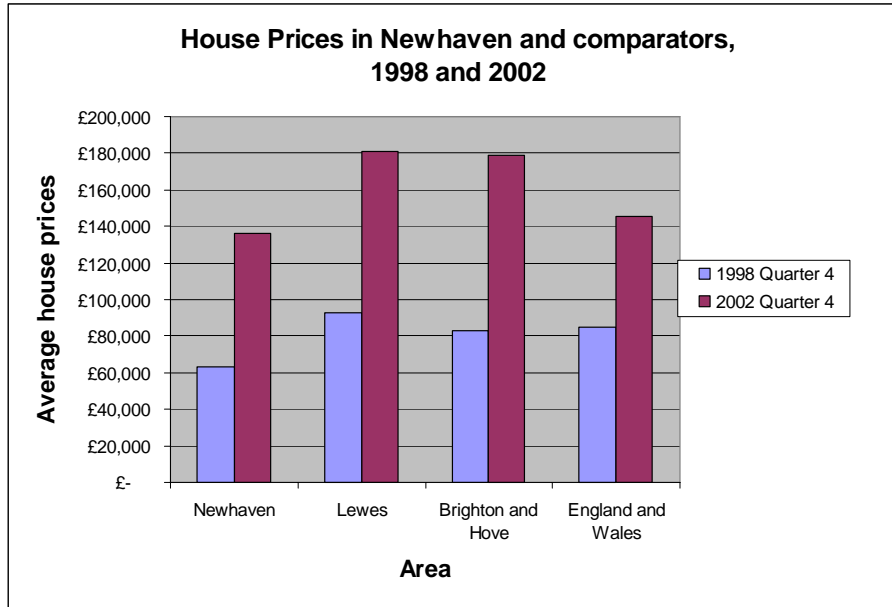


Source: Lewis District Council Finance and Community Services, Brighton City Council Local Taxation Services, South East Valuation Office

- 2.14 Figure 2.4 shows the distribution of the housing stock by council tax bands in 2001. Properties are allocated to price bands based on the value of the property in 1991.
- 2.15 Newhaven has a greater proportion of lower value houses than the comparator areas. In Newhaven, 76 percent of all houses had a value in 1991 of less than £68,000 (Council tax bands A, B and C). In Brighton & Hove, only 70 percent of houses fall into these lower price bands and in East Sussex as a whole, only 61 percent do.
- 2.16 Only one percent of houses in Newhaven fall into Council Tax bands F, G and H (valued over £120,000 in 1991), whereas in Brighton & Hove and East Sussex as a whole these figures are six percent and ten percent respectively.

2.17 We have collected information on the average prices of houses in the comparator areas from the land registry. These are shown in Figure 2.5.

Figure 2.5: Average house prices in Newhaven and comparators, 1998 and 2002

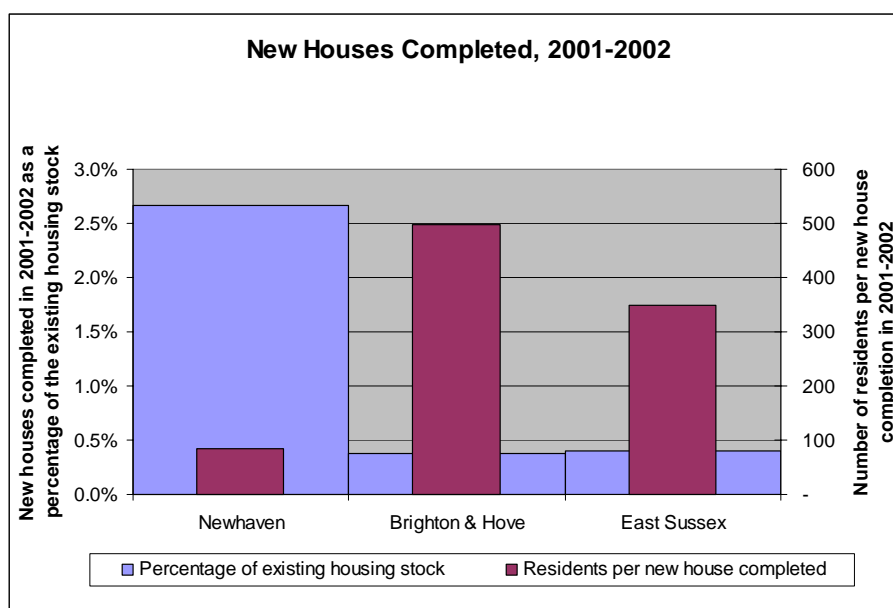


Source: Land registry, Q4 1998 and 2002

2.18 On average, house prices Newhaven are £44,900 lower than in Lewes District as a whole, £42,600 lower than in Brighton & Hove and £9,500 lower than in England and Wales in the fourth quarter of 2002. Recently the gap between house prices in Newhaven and in England & Wales has narrowed as prices in the South have risen faster than in the North of the country.

2.19 Newhaven is also an area that has recently seen a high level of new house completions and has been earmarked for further development. New house completions are shown in Figure 2.6 below.

Figure 2.6: New houses completed in 2001-2002



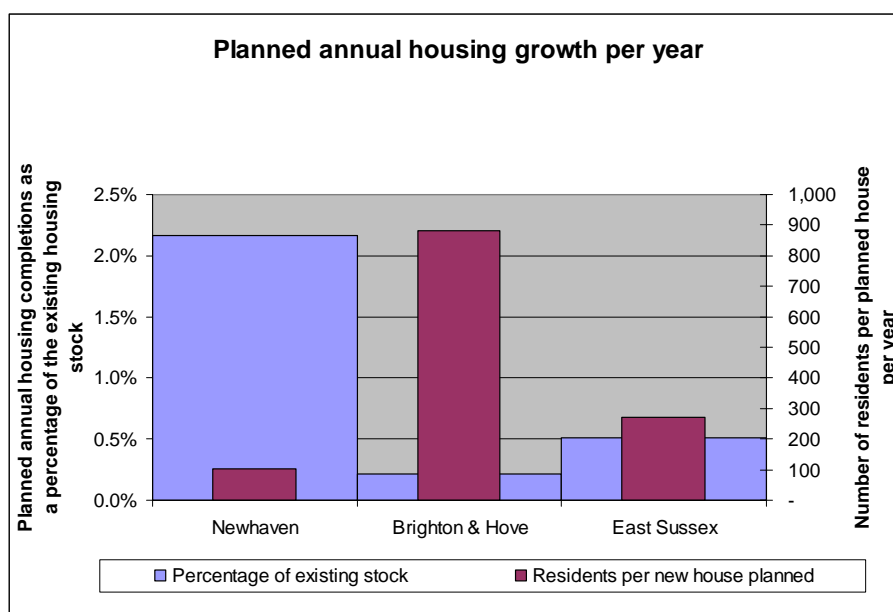
Sources: Lewes District Council Housing Land Availability in Lewes District, April 2002; ESCC Housing completions 1991 - 2001; ODPM, Housing Statistics Postcard December 2002. The data for Brighton and Hove and East Sussex are for new houses completed 2000-2001 as this is the latest available.

2.20 Newhaven has increased its housing stock by over 2.5 per cent in the last year, whilst Brighton and Hove and East Sussex have increased their housing stock by under half of one per cent in the same period. Newhaven has built one house for every 83 residents, whereas Brighton & Hove and East Sussex have built one house per 499 and 349 people respectively.

2.21 This growth in the housing stock is expected to continue in Newhaven. The town is recognised by the Lewes District Local Plan as one of the most suitable areas for expanding the housing stock in Lewes District. Also under consideration is the development of other allocated housing sites including a second phase of the West Quay regeneration. A planning application is currently being considered for some 100 residential units on this site including a site at Railway Quay, adjacent to North Quay, which is allocated to accommodate a minimum of 200 dwellings¹. The Plan also contains regeneration initiatives such as the improvement/enhancement of the marina facilities. Figure 2.7 shows the planned rate of housing growth in Newhaven and the comparators.

¹ See Debbie Portchmouth's proof of evidence

Figure 2.7: Planned annual housing growth per year, local plan periods



Sources: Lewes District Local Plan (Adopted March 2003) Target number of dwellings 2001-2006; East Sussex and Brighton & Hove Structure Plan projected housing 2006-2011

2.22 Planned housing growth in Newhaven is greater than that in Brighton and Hove or in East Sussex. Current plans envisage a growth in the housing stock in Newhaven of 2.2 percent per year, or a house each year for every 102 people in Newhaven. Brighton & Hove has plans to grow its housing stock by 0.2 percent per year and East Sussex as a whole by 0.5 percent per year. The periods of comparison differ between areas as the various planning documents have different time horizons.

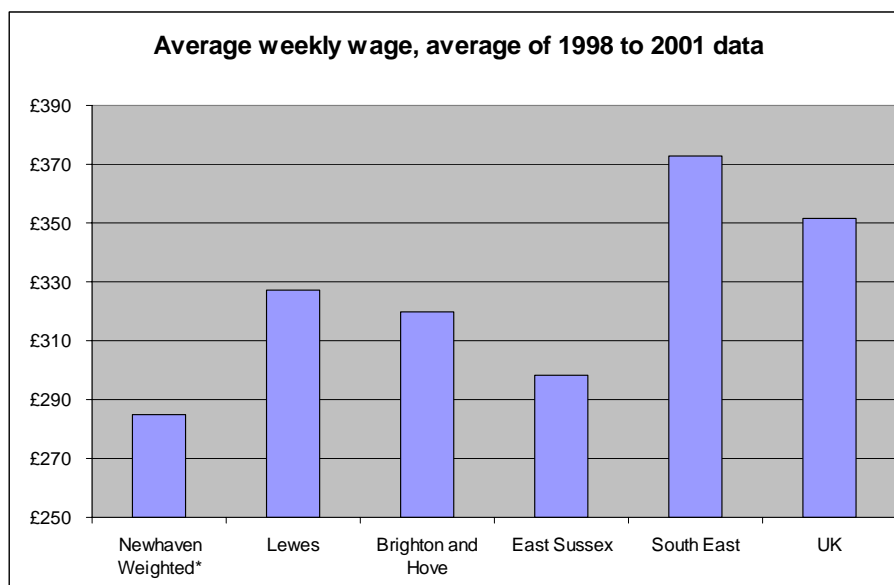
Employment and workforce

2.23 This section describes the characteristics of the Newhaven labour market. We have examined wages, skills and levels of unemployment.

2.24 In 2001 5,771¹ worked in Newhaven. This compares to a total of 33,000 in Lewes district and 123,000 in Brighton and Hove. Newhaven employs 18 per cent of the employees in Lewes district.

¹ Source: Annual Business Enquiry Workplace Analysis, all employees, 2001

Figure 2.8: Average weekly wages in Newhaven and comparators, average of years 1999-2001



Source: New Earnings Survey all occupations, average of available data for 1999 to 2001

2.25 The Newhaven workforce is poorly remunerated relative to the comparator areas. Figure 2.8 shows the average weekly wage of all workers in Newhaven and the comparator locations.¹ Wages in Newhaven are 81 per cent of the UK average, 87 per cent of those in Lewes and 89 per cent of those in Brighton and Hove. Workers in Brighton and Hove for example earn £35 more per week on average than their counterparts in Newhaven.

2.26 These low wages are consistent with the qualifications and skills evident in the workforce. This can be seen from the education component of the index of multiple deprivation statistics compiled by the government. The education component of these statistics is based on:

- Working age adults with no qualifications for 1995 to 1998
- Children aged 16 and over who are not in full-time education in 1999
- Proportions of people aged 17 and older who have not successfully applied for Higher Education (UCAS) for 1997 and 1998
- Key Stage Two primary school performance data for 1998.
- Primary school children with English as an additional language in 1998
- Absenteeism at primary level for 1998

2.27 This measure therefore captures deficiencies in adult skills and education as well as qualifications amongst children.

¹ The wages shown are the average of available data for 1999 to 2001. Newhaven Valley ward is not included as this ward does not contain sufficient employment to generate a robust dataset in the New Earnings Survey. Data for Newhaven is therefore the average of wages in Newhaven Meeching and Newhaven Denton wards between 1999 and 2001.

Table 2.1: Indices of deprivation, rank of education domain, 2000¹

	Newhaven	Lewes District	Brighton & Hove	South East
Average rank of wards (of 8,414, 1 = most deprived)	811	4,244	3,067	4,915
Decile (1 = most deprived, 10 = least)	1	5	4	6
Rank of most deprived ward (of 8,414, 1 = most deprived)	355	355	10	10
Rank of least deprived ward (of 8,414, 1 = most deprived)	1,562	8,347	6,452	8,412

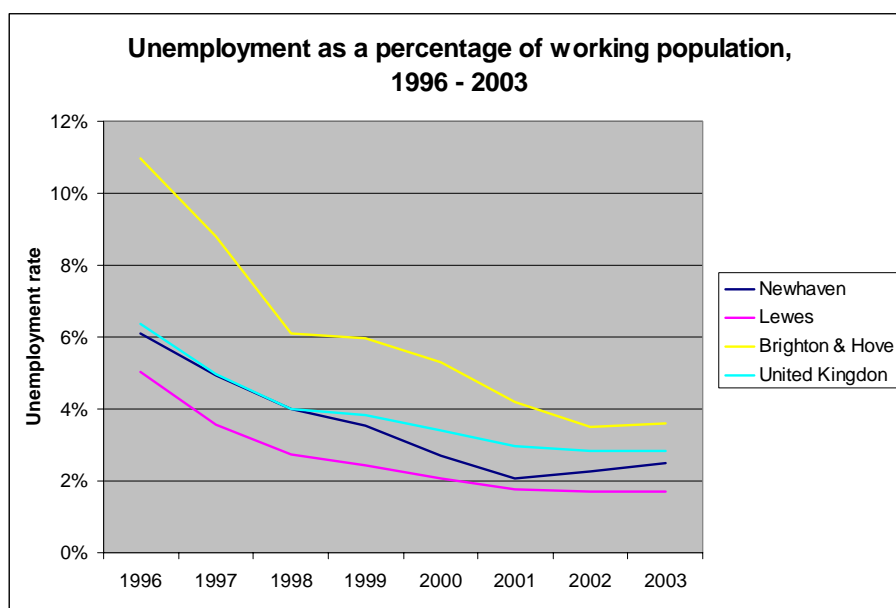
Source: Department of Environment Transport and the Regions Index of Multiple Deprivation Data, 2000, Education domain. Average over all wards within area.

- 2.28 The table shows that, on average, Newhaven faces a lack of education and skills compared to the comparators. Even the ward in Newhaven with the most skilled workforce is ranked 1,562 out of 8414 (i.e. within the 20% of wards in England most lacking in education and skills).
- 2.29 To address this skills shortage, the Sussex Downs Training and Enterprise Centre on Denton Island was completed in 1999 at a cost of over £2m. A training strategy has also been developed from the Single Regeneration Budget (SRB)². The Newhaven Strategic Network set up in 2002, has the ongoing objectives of developing a more highly skilled workforce in particular increasing education within the town.
- 2.30 Newhaven is characterised by relatively low unemployment compared to the comparators. This information is presented in Figure 2.9 below.

¹ Generally when working with averages of ranks, as in the table 2.1, as the area under investigation gets larger, the average rank will tend towards the median (in this case the median is 4,207) and the range will increase. A national comparator is not included in the analysis as the average rank would simply be the median and the range of deprived wards would be from 1 to 8,414.

² See proof of evidence by Debbie Portchmouth, paragraph 3.22

Figure 2.9: Unemployment levels over time



Source: Office for National Statistics claimant count data. Data on working population has been sourced from the 1991 Census to calculate an unemployment rate.

- 2.31 Unemployment in Newhaven is lower than the national average and lower than that in Brighton and Hove, but higher than that in Lewes District. Unemployment has reduced in all of the comparator areas between 1996 and 2003, reflecting the national trend.

Industry

- 2.32 The structure of Newhaven's economy is biased towards manufacturing and away from banking, finance and insurance and other services sectors. Table 2.2 below shows the industrial structure in Newhaven (as measured by the number of employees working in different sectors) and compares this with other locations.

Table 2.2: Proportion of workers by sector in Newhaven and other areas, 2001

Sector	Newhaven	Lewes	Brighton & Hove	South East	England	Great Britain
Manufacturing	44.8%	15.9%	4.1%	11.2%	14.2%	14.3%
Distribution, hotels and restaurants	23.2%	22.7%	24.6%	26.0%	24.5%	24.4%
Public administration, education & health	15.9%	35.9%	25.1%	22.7%	23.9%	24.5%
Transport and communications	5.8%	4.1%	5.5%	6.2%	6.3%	6.2%
Banking, finance and insurance, etc	4.6%	11.3%	31.4%	23.4%	20.4%	19.8%
Other services	3.4%	5.1%	5.5%	5.3%	5.2%	5.3%
Construction	1.6%	4.2%	2.6%	4.2%	4.5%	4.5%
Agriculture and fishing	0.5%	0.4%	0.0%	0.4%	0.3%	0.3%
Energy and water	0.2%	0.4%	1.0%	0.6%	0.7%	0.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Annual Business Inquiry data (2001) sourced from the Office for National Statistics.

- 2.33 Newhaven, like the rest of the economy, has seen a reduction in the importance of manufacturing. Since 1995 the percentage of employees in manufacturing has fallen from 49.9% to 44.8% (a fall of 5.1% which is similar to that seen in the UK as a whole). However, the manufacturing sector still dominates the local economy.¹
- 2.34 The distribution, hotels and restaurants sector has been growing (from 14.3 percent of employment in 1991 to 23.2 percent in 2001). Again this is a trend seen elsewhere, but one that is stronger in Newhaven than elsewhere.
- 2.35 The banking, finance and insurance sector in Newhaven is small and employment in the sector contracted through the mid 1990s. Since then however, it has recovered and employment in banking, finance and insurance has grown steadily.
- 2.36 This indicates that Newhaven's economy has traditionally been dominated by manufacturing, but its economy is now moving away from reliance on manufacturing towards a services economy. However, manufacturing is still dominant.
- 2.37 Initiatives and policies in Newhaven designed to support business development include:
- Existing commitments for a new business park and high-tech development at Newhaven East-side.

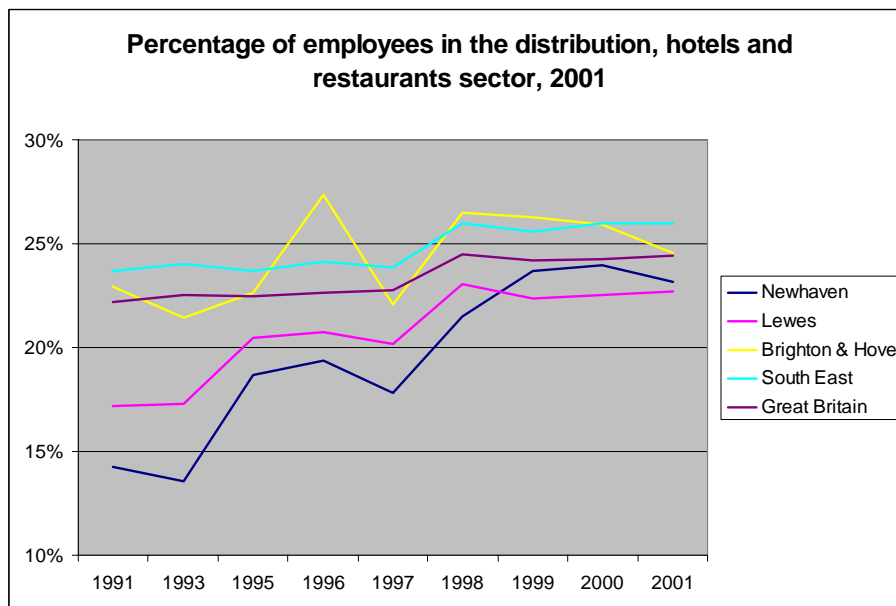
¹ Source: Annual Business Inquiry, 2001 and Annual Employment Survey, 1991. The business inquiry replaced the annual employment survey in 1999.

- Second Phase development of Denton Island to provide a Nursery and Business Enterprise Hubs.
- 2.38 The foundations are in place for Newhaven to broaden its industry mix by expanding its service industries and reducing its reliance on manufacturing.

Tourism

- 2.39 The tourism industry has a growing importance to Newhaven. This is partly reflected by the increasing numbers of individuals working in the restaurant and hotel sector (see Figure 2.10 below) although tourism in its entirety is more difficult to measure. Adjacent locations such as Lewes, Brighton and the Sussex Downs Area of Outstanding Natural Beauty (which adjoins the built up area of Newhaven) benefit significantly from the tourism industry.

Figure 2.10: Proportion of workers in the distribution, hotels and restaurants sector, 2001



Source: Annual Business Enquiry Workplace Analysis sourced from National Statistics

- 2.40 The Newhaven Strategic Network was set up in 2002 and has the ongoing objective of developing the town as a tourist destination as well as a more general objective of enhancing and improving the environment, including the town centre, industrial areas and the approach to the town.
- 2.41 A proposal is under consideration by the Countryside Agency for the South Downs Area of Outstanding Natural Beauty to become a National Park. Were this to go ahead Newhaven may benefit from an increase in tourism business.
- 2.42 At Avis Road a newly extended public open space adjoins a 'Travel Lodge' Hotel. Within this area Paradise Park attracts some 350,000 visitors per

year. The recently restored Newhaven Fort and Castle Hill attract a further 37,000 visitors per year.

- 2.43 Several other developments have sought to improve the availability of recreational space. On the west of the River Ouse (which bounds the west of the area of search of the EfW incinerator facility) £100,000 has recently been spent on regeneration with further investment anticipated. Denton Island has also been subject to major regeneration (from the South East England Regional Development Agency and the Single Regeneration Budget) which has included the development of public open space.
- 2.44 Further, indoor bowling and marine leisure facilities have undergone recent major development¹.

Economic deprivation

- 2.45 The government's index of multiple deprivation combines information on income, employment, health and disability, education skills and training and geographical access to services to give an overall indicator of prosperity and well being. Table 2.3 shows Newhaven's relatively high levels of economic deprivation.

Table 2.3: Rank of index of multiple deprivation rank (out of 8414 wards), 2000

	Newhaven	Lewes District	Brighton & Hove	South East
Average rank of wards in area (1 = most deprived)	2,152	4,606	2,701	5,556
Decile (1 = most deprived, 10 = least deprived)	3	5	3	7
Rank of most deprived ward	1,276	1,276	439	77
Rank of least deprived ward	3,159	7,597	6,609	8,412

Source: Indices of Deprivation DETR 2000, average over all wards within area.

- 2.46 The Newhaven Community Development Association, a voluntary organisation, has been established with the objective of developing sustainable community regeneration.²

Conclusion

- 2.47 Newhaven has a low value housing stock and jobs in the town are relatively poorly paid.

¹ See Debbie Portchmouth's proof of evidence

² See Debbie Portchmouth's proof of evidence

- 2.48 The local workforce is relatively poorly qualified and the town is relatively deprived.
- 2.49 Newhaven's industry is still dependent on the manufacturing sector, although its significance is slowly declining as service sector jobs are increasing.
- 2.50 The distribution, hotels and restaurants sector, in particular, has grown indicating that tourism and leisure activity has increased.
- 2.51 Newhaven plans a major increase in its housing stock and improvement in local facilities (e.g. recreational space) in order to regenerate the area.

3. RESEARCH ON THE ECONOMIC IMPACT OF MAJOR WASTE FACILITIES

- 3.1 An EfW incinerator could potentially impact on Newhaven's attractiveness in four ways:
- As a place to live
 - As a place to work
 - As a place to do business
 - As a place to visit
- 3.2 The attractiveness of a place cannot be measured directly so instead we have investigated impacts on variables which indirectly show how the attractiveness of a place may have changed.
- 3.3 The best indication of how attractive a place is to live is to measure the price of houses and compare them with house prices in similar areas. The way we have been able to investigate Newhaven's attractiveness as a place to work and do business is through the types of industry which locate there.

Approach

- 3.4 There are two basic ways to determine the likely effects of a new EfW incinerator. These are:
- To examine actual impacts elsewhere where circumstances are similar
 - To ask people how it would change their behaviour
- 3.5 The first method relies on data about what has already happened and so does not depend on answering hypothetical questions. Using the second approach, local factors can be investigated in detail, but the analysis relies on judgements about what people say they will do rather than what they have done.
- 3.6 Our approach has focussed on the first of these two methods. We have collected evidence from elsewhere through a comprehensive literature review and have undertaken original research where no existing studies were available.
- 3.7 We have examined the impacts of EfW incinerators on house prices. And also on the industrial mix. This, whilst not directly measuring attractiveness as a place to work or do business, does provide some insight into the possible effects of EfW incinerators on industry.

Impacts on house prices of EfW plants

Economic Principles

- 3.8 The value of a house is determined by its characteristics, including the area in which it is sited. How pleasant a place is to live in should therefore be reflected in the prices of houses in that place. If undesirable or unneighbourly facilities are located nearby, we would expect this to be reflected in the price of houses close to those facilities.
- 3.9 The main reason for investigating house price impacts is that (once characteristics of the dwellings themselves have been taken into account) they give a good indication of how pleasant a place is to live in. Any reductions in house prices would indicate that an area has become a less desirable place to live. The main effect of reductions in house prices is a loss of equity for existing owners.
- 3.10 In Newhaven, the housing stock is of lower value than other areas locally. Impacts on house prices will affect home owners of relatively low wealth and equity.

Research Methods

- 3.11 We have drawn on existing research both in the UK and abroad and have conducted original research to determine whether EfW sites have an impact on the prices of surrounding houses.
- 3.12 **cebr** has performed an extensive literature search of both UK and overseas studies and discussed the impact of EfW facilities with authors of academic papers on the subject and individuals with knowledge of their location and operation.
- 3.13 The literature search identified several relevant studies. The two most significant were a study from the USA which evaluated in detail the impact of an EfW incinerator¹ and one published by DEFRA into the disamenity effects from landfill sites as measured by UK house prices². We have drawn on these studies in compiling our conclusions.

Impact of Energy from Waste facilities in the US

- 3.14 This section sets out the findings of a US study into the impact of an energy from waste incinerator on house prices in North Andover, Massachusetts. In this section we examine what the study consisted of, what the key results were and how relevant they are to our study. The study was conducted by

¹ Reference (1) – Kiel, K A and McClain, K T

² Reference (3) – DEFRA. “A study to estimate the disamenity costs of landfill in Great Britain”. Cambridge econometrics in association with EFTEC and WRc, February 2003

Katherine A. Kiel and Katherine T. McClain of the Northeastern University, Boston, Massachusetts in 1993¹.

- 3.15 North Andover is a town of 9,724 households spread over an area of 27.85 square miles and located 24 miles north of Boston².

Methodology

- 3.16 The technique used by the study is to model house prices using regression analysis to establish the sensitivity of house prices to a number of different factors, including the distance from the EfW facility.
- 3.17 The study investigated how house prices change over time from before any information was publicly available through the construction period, early operations and mature operations. The first reports of an incinerator in North Andover appeared in the local press in late 1978, groundbreaking took place in 1983 and operations began in 1985.
- 3.18 Systematic changes in the size or elaborateness of houses sold over the period were taken into account by controlling for variables relating to the type of property including the age of the property, the living area, the number of rooms and number of bathrooms, the size of the lot.
- 3.19 The study also included a detailed description of each property's location including the distance from the incinerator, the distance from the central business district, the distance from the main highway junction and whether the property had a lakeside location. Again these factors were controlled for in the regression analysis to ensure that there was not a market shift towards selling less (say lakefront) properties.
- 3.20 Regional trends in property prices were taken into account by indexing house prices to average house price changes in the Boston area. Changes in prices are therefore relative to the regional average, to exclude the possibility that any results were due to regional trends in house prices.
- 3.21 The study design does not take into account the nature and timing of other local events in the statistical analysis. It is therefore possible that some other local event near the incinerator could have affected local house prices. However, as the effect demonstrated by Kiel and McClain is related to distance from the EfW incinerator, any other factor would have to be have its centre here. Kiel and McClain do consider this and report that no significant changes in factors known to affect house prices (such as changes in the areas skill set or ethnicity) occurred in the area.

Results

- 3.22 The study found that:

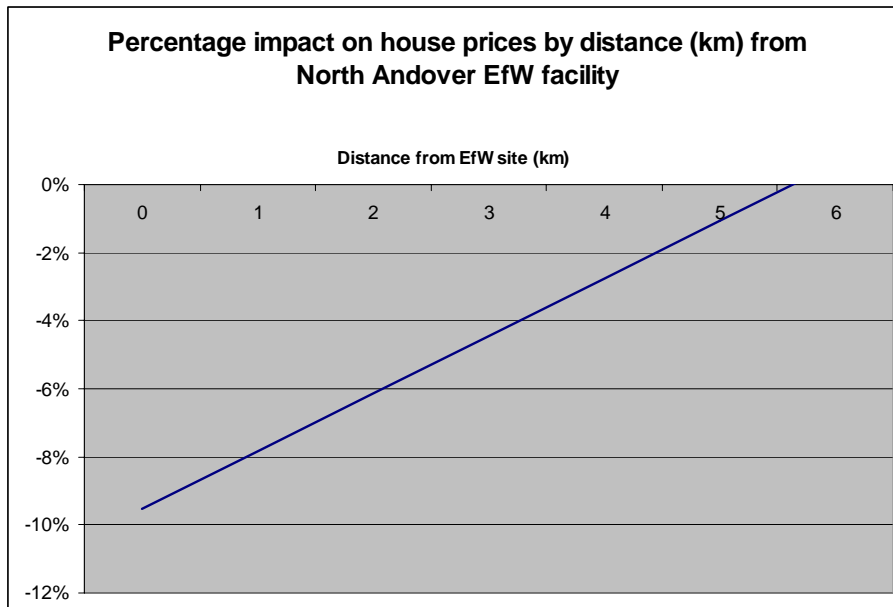
“the evidence suggests that the incinerator is a negative externality for North Andover overall”

¹ Reference (1) – Kiel, K A and McClain, K T

² Figures from US Department of Housing and Community Development, 2000

3.23 The ongoing effect was found to have an impact on house prices of \$6607 per mile, against an average house price at the time of \$242,242. The effect was evident up to a distance of 3.5 miles. After converting the distances into kilometres the findings of the study translate into the graph shown in Figure 3.1 below.

Figure 3.1: Percentage impact on house prices by distance (km) from North Andover EfW site



Source: Kiel and McClain 1995 [reference (1)]

3.24 The study found evidence that house prices close to the incinerator dropped relative to prices elsewhere on rumour of the new site, fell further when construction began, fell further still when operations began and recovered slightly after four years of operation, although they were still significantly lower than they would otherwise have been. The results reported in Figure 3.1 are for the effects which persist after at least four years of operation.

3.25 This indicates that until construction commences, there is some doubt over whether the facility will exist and this is reflected by a less significant impact in prices. The slight lessening of the impact after several years may reflect the fact that some concerns over the facility are discovered to be groundless.

“... 4 years after the plant went into operation, sufficient evidence about the incinerator’s impact on residential life should have accumulated. Distance should no longer be significant if resident’s fears were unfounded or new buyers were indifferent to the facility. However, the coefficient on distance remains significant and positive¹”.

¹ Reference (1) – Kiel, K A and McClain, K T. page 245

A study to estimate the disamenity costs of landfill in Great Britain

- 3.26 The second study relevant to our work quantified the impact of landfill sites on property prices at different distances from the facility for houses across Great Britain.¹
- 3.27 In this section we examine what the study did, what its key findings were and consider how relevant the conclusions are for the impact of UK incinerators.
- 3.28 The study was commissioned and published by the Department for Environment, Food and Rural Affairs (DEFRA) and conducted by Cambridge Econometrics, a well respected economics consultancy specialising in statistical analysis.

Methodology

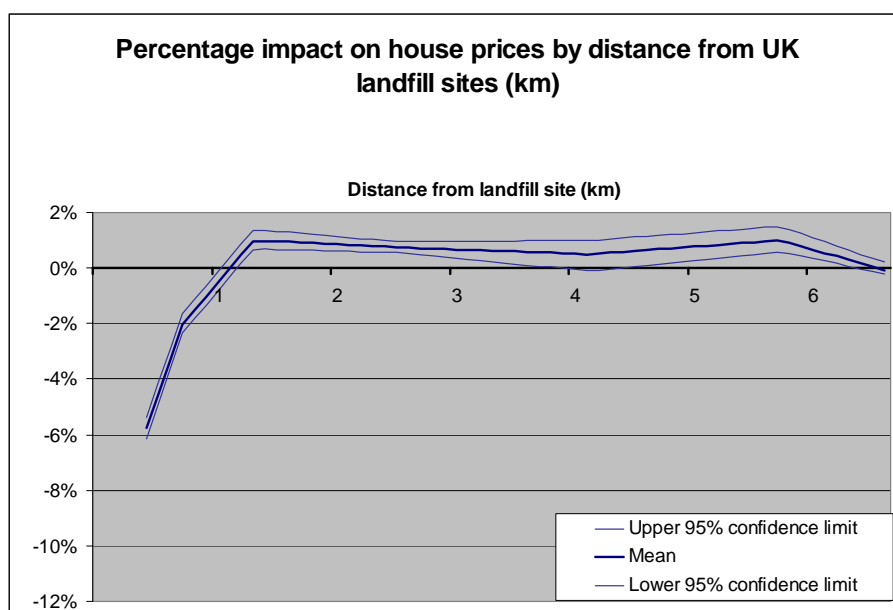
- 3.29 The study based its work on detailed data on house prices over time supplied by the Nationwide building society. The study evaluated the contribution of a comprehensive set of property characteristics, such as number of bedrooms, geographical location, whether the house was detached, terraced etc. to UK house prices. It also separated a number of other characteristics relating to the location of the property to understand their impact on house prices. One such characteristic was proximity to a landfill site.
- 3.30 The study then investigated the impact of landfill sites on house prices by distance from the landfill, by age of the landfill and by region.

Results

- 3.31 The study found a significant correlation between house prices and distance from landfill sites. Figure 3.2 below shows the relationship between distance from landfill sites and property price impacts.

¹ Reference (2) - DEFRA. "A study to estimate the disamenity costs of landfill in Great Britain". Cambridge econometrics in association with EFTEC and WRc, February 2003

Figure 3.2: Impact of UK Landfill sites on local property values



Source: DEFRA, Cambridge Econometrics, (2), 2003

- 3.32 The study concluded that landfills had a statistically significant negative impact on house prices and that it affected houses up to 1km away. Indeed, only 59.6% of the landfill sites considered by the DEFRA study were operational implying that a larger impact may have been observed for those that still accepted waste.

House price level comparison original research

- 3.33 We have undertaken limited original research into the impact of incinerators on house prices. This is based on a comparison of house prices close to incinerators with house prices in other local areas.
- 3.34 Most incinerators in the UK have been operational for several years. For this reason, it is difficult to obtain time series data which allows us to investigate house prices before and after the presence of incinerators. Instead, we have made comparisons with house prices in similar areas, further away from the incinerator site.

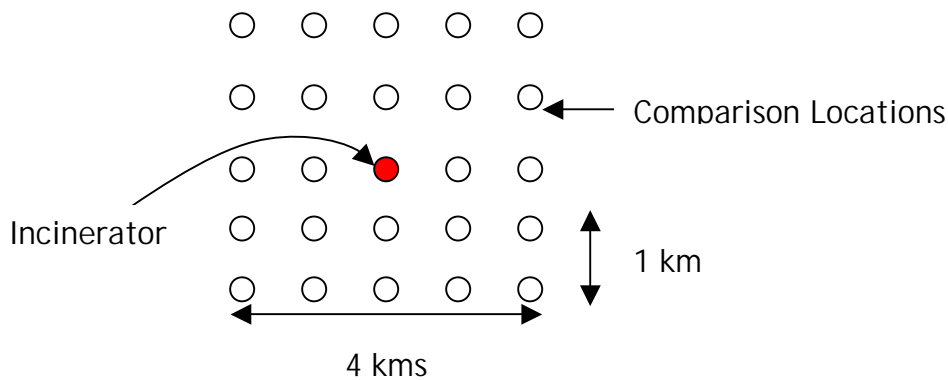
Methodology

- 3.35 We have compared the prices of houses in postcode sectors containing incinerators with those in neighbouring postcode sectors at different distances. Postcode sectors are quite small and contain an average of around 3,000 addresses. We have worked with postcode sector data as house price data is readily available at this level from the Land Registry.
- 3.36 To investigate the impact of incinerators on house prices we would ideally need to compare the price of houses near incinerators with those of similar

houses in neighbourhoods with similar characteristics and similar access to services. However, defining 'similar' areas is problematic.

- 3.37 We have used neighbouring postcode sectors as the most similar comparator as these are quite small so we would expect housing characteristics in the adjacent postcode sectors to be similar to those of the EfW sectors. These areas are most likely to be similar in characteristics than for example the local authority area as a whole or any other relevant non-arbitrary locations.
- 3.38 We have made the comparison in all of the sites for which data is available and have tested statistically whether a difference in prices exists.
- 3.39 For every incinerator for which data exists in the UK we compared the prices in the incinerator's postcode sector against the prices in postcode sectors in 24 different locations around the incinerator in the pattern shown below.

Figure 3.3: Locations for which house prices were gathered



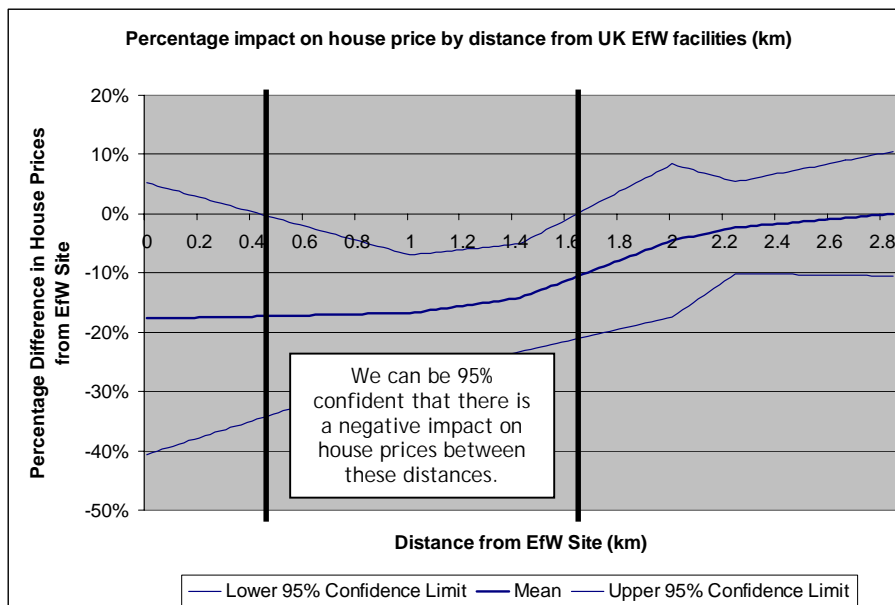
- 3.40 This method avoids systematic bias, but does result in situations where a single postcode sector is used to reflect values in two or more different locations (e.g. 1km north and 2 km north of the incinerator site).
- 3.41 House prices in all 25 locations were indexed to house prices in the incinerator postcode sector to allow comparisons across different incinerator locations. Over a large sample of comparisons of the price differences between adjoining districts we would not expect the difference to be statistically different from zero, unless there was some other factor at work.
- 3.42 The analysis is based on data from 10 incinerators in the UK and the Isle of Wight RDF facility. No house price data was available for the Lerwick, Edmonton or Wolverhampton incinerators so these have been excluded from the analysis.
- 3.43 The analysis is based on the relative price of houses near incinerators with prices elsewhere and the analysis is based on 259 data points from around the following EfW incinerators facilities:
 - Cleveland

- SELCHP
- Tyseley
- Dundee
- Coventry
- Dudley
- Stoke
- Nottingham
- Bolton
- Sheffield
- Isle of Wight (Refuse Derived Fuel facility)

Results

3.44 Figure 3.4 below shows how impacts in house prices are found to vary with distance from EfW facilities in the UK.

Figure 3.4: House price penalty in EfW sector by distance from incinerator



Source: **cebr** research based on Land registry house price data from Q4 2002

3.45 The mean trend shows a steady increase in house prices as distance from UK EfW incinerator facilities increases.

3.46 In each distance band the sample size for the study is relatively small and there is relatively high level of variation in the data. In postcode sectors containing EfW incinerators (shown as zero km from EfW sites on the graph) average house prices are 18 percent lower than house prices at 2.8km from EfW sites. However, we can only be 95 percent confident that the effect

will be between a 5 percent positive impact and a 41 percent negative impact at this distance (shown by the confidence limit lines).

- 3.47 We can only be confident that there is a negative impact on house prices which is statistically different from zero in certain distance bands (from 0.4 to 1.6 km from EfW incinerator facilities where the upper 95 percent confidence limit falls below zero).

Comparison of results

- 3.48 All of the studies suggest that there is a negative relationship between the distance from the facility or facilities investigated and local house prices. In all cases the strength of this effect declines with distance.
- 3.49 However, the magnitude and range of the effects differs substantially between the studies. The magnitude of the effect close to the incinerator is greatest in our own work, and smallest in the DEFRA landfill study. The effects have the greatest range in the North Andover study and the smallest range in the DEFRA study.

Applicability of studies and reasons for scepticism

- 3.50 The studies all find a negative impact on house prices which declines with distance. However, the studies do have some weaknesses and there are reasons why the results may not be directly applicable to the situation in Newhaven.

Causality

- 3.51 Without time series data it is extremely difficult to prove that the presence of incinerators *causes* house prices to be lower than they would otherwise be. It could be that house prices are lower in these areas because incinerators are deliberately sited in areas of low house prices.
- 3.52 This criticism applies to the DEFRA study and to our own work. However, there are some reasons to believe that incinerators may cause lower local house prices.
- 3.53 First, the North Andover study does use time series data and so avoids this criticism. It detected a significant negative impact on house prices before and after the incinerator was known about, under construction and operational.
- 3.54 Second, there is no evidence that incinerators are sited purely on the basis that local house prices are low. Land ownership and availability are usually more important.

3.55 Third, in nearly all cases incinerators are located on the site of previous waste disposal facilities so if there are no impacts on house prices, we may expect the relative attractiveness of areas to change over time. The fact that prices are significantly different around EfW incinerators and landfill sites indicates either that the relative attractiveness of the areas have not changed or that there is some persistent effect depressing house prices in these areas.

Reasons for increased unpleasantness

3.56 None of the studies above attempted to determine which features of the sites caused the reduced house prices. Candidates may include:

- Physical appearance
- Noise
- Odour
- Intrusion from the incoming waste deliveries
- Pest (such as seagulls and rodents)
- Concerns over health and local environmental quality

3.57 Between them the studies cover facilities which exhibit all of these characteristics to a greater or lesser degree. However, we have no information on the extent to which these factors individually impact on house prices.

3.58 The North Andover incinerator was built in 1985 and used inferior technologies to today's incinerators which are less polluting. Since the early 90s incinerators have significantly reduced the emissions, for example cadmium, mercury, lead, sulphur dioxide and dioxins have each fallen by over 90% between 1992 and 1998¹.

3.59 There is a consensus in the studies we have evaluated² that concerns over public health and local environmental quality have increased (both in the US and the UK) since 1985 when the North Andover facility began operations.

3.60 However, with regard to applicability of the DEFRA study, landfill sites and sites containing an incinerator facility are clearly different. However, the facilities do share some of the characteristics which may reduce an areas attractiveness such as deliveries of municipal waste.

3.61 Studies have attempted to quantify the relative importance of these factors by asking local people how much they would be prepared to pay to avoid these particular characteristics. In particular, Garrod and Willis conducted a survey of residents living close to a landfill site in Gateshead³ and found that people would be prepared to pay to reduce levels of litter and odour, but that noise was a much less significant factor.

¹ For source and a fuller discussion, please see the Environmental Services Association website

² For example in Reference (1) Introduction paragraph 1.

³ Reference (7)

- 3.62 Incinerators tend to handle much more waste than landfill sites. This larger quantity of waste is likely to increase other relevant factors such as heavy transport using the site. As a structure rather than a designated piece of land, incinerators are often visible from a greater distance away. However, landfill sites have a greater propensity for dust, litter and waste to blow into adjacent areas as well as the potential higher incidence of 'pests' such as seagulls.
- 3.63 Overall, both incinerators and landfill sites have attributes which make it unattractive to live close to them. The DEFRA study shows that for landfill sites, these characteristics are sufficient to have a significant local impact on property prices. Incinerators share some of these characteristics and there is some evidence to suggest that these characteristics do contribute to reducing the attractiveness of localities. However, there is no evidence which can be used to directly compare the effects of landfill and the effects of EfW incinerators.

Inadequate explanatory factors

- 3.64 Both the North Andover and the DEFRA studies took account of the types of houses sold. All three studies made an attempt to control for the quality of the neighbourhood in which houses were sold. In the North Andover study, this was done by controlling for distance to highways, lakeside location etc, whereas in our study we chose to analyse only very local areas where we would expect the housing stock and the quality and accessibility to local facilities to be similar.

Summary

- 3.65 Whilst there are reason for caution in directly applying the findings of the three studies, it is likely that an EfW incinerator in Newhaven would have an impact on the attractiveness of Newhaven as a place to live as measured by house prices. Moreover, we conclude that whilst the size of this effect and its range are uncertain it is likely to be negative and to decline with distance from the proposed EfW facility.

Impacts of EfW plants on industrial composition and growth

- 3.66 The DTZ Pineda study concludes that there:
- 'There is no substantive evidence from elsewhere that an EfW plant makes it more difficult to attract inward investment'¹*
- 3.67 To our knowledge there are no studies of the impact of EfW incinerators on the attractiveness of areas as a place to do work or to do business. We have undertaken original research to attempt to fill this gap.

¹ Reference (2) page 31, paragraph 5.11

- 3.68 In the absence of robust data on wages and commercial property rents at very local levels we have not been able to investigate the impact on attractiveness through either of these methods.
- 3.69 Instead, we have undertaken original research to determine whether and how EfW plants affect the composition of industry and its growth. The research is based on industry mix (as measured by the number of employees in different sectors) in areas occupied by EfW sites and comparable areas nearby split by broad industrial classification¹.
- 3.70 As with house price information, the smallest unit for which data is readily available is the level of postcode sectors. However, these are too small to contain a range of employers and determine an industry mix. Whilst the housing market is more well developed and present in almost all postcode sectors, the geographical spread of industrial units and business activity is more coarse.
- 3.71 For our analysis of industry mix, we have defined an area around each incinerator, the 'Incinerator Area', as the postcode sector containing the incinerator and those adjacent to it. We have then compared the industry mix in the Incinerator Areas with the industry mix in the relevant local authorities.

Table 3.1: Industry Mix close to incinerators and in respective local authorities

Industrial Sector	% of Employment					
	1991			2001		
	Incinerator Area	In Relevant Local Authorities	Relative Importance	Incinerator Area	In Relevant Local Authorities	Relative Importance
Construction	6.3%	4.8%	131.9%	5.2%	4.4%	117.4%
Manufacturing	27.7%	25.2%	110.0%	18.8%	16.8%	110.5%
Transport and Communications	6.3%	5.5%	115.2%	5.7%	5.3%	108.4%
Banking, finance and insurance	12.5%	13.8%	90.3%	16.0%	17.7%	90.7%
Distribution, hotels and restaurants	18.2%	20.5%	88.9%	18.3%	22.8%	80.2%
Other	29.0%	32.2%	96%	36.0%	33.0%	109.1%
Total	100%	100%		100%	100%	

Source: cebr research based on Annual Employment Survey data (1991) and Annual Business Inquiry data (2001)

- 3.72 The data shows a different industry mix in the Incinerator Areas than in their respective local authorities as a whole. Industry mix is skewed towards manufacturing, construction and transport at the expense of

¹ We have excluded the public administration, education and health sector from the analysis as location decisions in this sector are not based on commercial factors. Also, the agriculture, forestry and fishing, energy and water and other services sectors were not large enough to draw conclusions based on them.

distribution, hotels and restaurants and banking, insurance and financial services.

- 3.73 We also analysed the impact on industry mix by distance using the same 4 km by 4km grid that we used in the house price analysis. However, whilst a similar pattern is visible, the number of employees involved is very small and we do not believe that the results of this analysis are robust. These findings support our conclusions and indicate that the conclusions are not strongly dependent on the choice of geography employed in the analysis.
- 3.74 This analysis is subject to the criticism that causality is not proven. However, there is no consistent, long-term, time series data available to investigate the impact of siting an incinerator in a particular area.
- 3.75 The effect could work in either direction; either EfW incinerators are sited in areas where industry mix is skewed in the way described or EfW incinerators make areas less attractive as places to do business and cause a industry mix to be skewed away from image conscious sectors.
- 3.76 There is no evidence that the siting of incinerators has been motivated by the pre-existing industry mix, so we suggest that incinerators are likely to be the cause of the industry mix described above.

4. THE LOCAL ECONOMIC IMPACT OF AN EFW PLANT

- 4.1 We have used the analysis in the previous section to answer the following questions:
- Will an Efw incinerator impact on Newhaven's attractiveness?
 - Is the presence of an Efw incinerator compatible with aspirations for the planned future development of Newhaven?

Assumptions regarding the proposals

- 4.2 In all of the analysis we have undertaken, we have assumed that the likely location of the proposed Efw facility will be at the north end of the North Quay site (bounded by the River Ouse, the AONB to the north, the railway, and the swing bridge to the south). This is consistent with the assumptions made in the DTZ Piedad report.
- 4.3 The work we have done has not made any reference to the specific nature of the plant, other than the fact that it is an Efw incinerator. We expect the Newhaven plant to be approximately in the middle of the range of sizes of existing plants, with a capacity of around 200,000 tonnes per annum. The salient features of the plant which will contribute to its economic impact include:
- Its physical size and impact on the Newhaven skyline (including a chimney stack which is likely to be from 70 to 100m tall¹)
 - The quantity of waste brought in

Impacts on housing and local amenity

- 4.4 The studies of house price impacts elsewhere suggest that there is a negative relationship between house prices and distance from an Efw incinerator. In the case of the North Andover study, there is evidence that it is the incinerator that causes this impact.
- 4.5 It would not be unreasonable to assume that this effect seen elsewhere would occur in Newhaven.
- 4.6 The housing stock in Newhaven is of a lower average value to that in its neighbouring boroughs and if this impact occurred it would further depress these prices and widen the gap between house prices in Newhaven and the comparator areas discussed in chapter 2.

¹ East Sussex and Brighton & Hove Waste Local Plan Second Deposit Draft

- 4.7 Newhaven has plans to significantly expand its housing stock. The analysis presented suggests that this new housing may be made less attractive by the presence of an EfW incinerator in Newhaven.

Impacts on industry mix and economic growth

- 4.8 We have established that a relationship exists between the mix of industry in an area and the presence of EfW facilities. However, it is not clear from the analysis whether this relationship is causal.
- 4.9 The industry mix analysis shows that areas around EfW sites have a lower than average level of banking, finance and insurance companies and a lower than average level of distribution companies (primarily retail), hotels and restaurants.
- 4.10 Newhaven's economy is dominated by the manufacturing sector, although the importance of this is declining slowly and Newhaven has seen growth in the retail, hotels and restaurants sector.
- 4.11 The relationship between industry mix and the presence of EfW sites is contrary to the trend in industrial structure in Newhaven. Newhaven would have to buck the trend for reduced levels of retail, hotels and restaurants in areas around EfW sites if it is to continue developments in this area.

5. THE DTZ PIEDA STUDY: A CRITICAL APPRAISAL

The DTZ Piedad Consulting report

- 5.1 DTZ Piedad were commissioned by East Sussex County Council and Brighton & Hove City Council to undertake a study into the economic impact of an Energy from Waste and Materials Recovery Plant in Newhaven. DTZ Piedad reported in March 2002.
- 5.2 The study was based on:
- A literature review
 - A telephone survey of other local authorities with EfW plants in their area
 - A review of local economic data and planning documents
 - Local interviews
- 5.3 The study concluded that:
- 'The evidence from elsewhere is that incinerators do not have a substantive impact on property prices in the long term.'¹*, and that,
- 'There is no substantive evidence from elsewhere that an EfW plant makes it more difficult to attract inward investment'²*
- 5.4 These findings are different from our own. This chapter explains why we reached different conclusions from DTZ Piedad.

Explanation of the differences in findings

- 5.5 The essential difference between the DTZ Piedad report and **cebr**'s findings is due to two factors. First, the DTZ Piedad study did not take account of the two existing studies into the house price impacts of EfW and landfill sites which we have drawn upon, and second, DTZ Piedad adopted a different approach to data collection.
- 5.6 The DTZ Piedad study relies on taking a view of economic development impacts based on a range of opinions. This approach is a valuable way of assessing local business opinion, but relies on judgements of how people say their behaviour will be changed by the presence of an EfW incinerator facility.

¹ Reference (2) page 32, paragraph 5.16

² Reference (2) page 31, paragraph 5.11

- 5.7 There is much in the DTZ Pieda report to suggest that EfW plants do have economic impacts. We do not question their evidence; rather we interpret it in a different way and seek quantitative evidence to assess the significance of effects.
- 5.8 The DTZ Pieda study takes a qualitative approach based on interviews. However, the plural of anecdote is not data and DTZ Pieda do not attempt a quantitative assessment of impacts on house prices or other economic variables. **cebr's** approach, by contrast, investigates the measurable economic impacts of EfW plants elsewhere from existing data.

Studies unavailable to DTZ Pieda

- 5.9 DTZ Pieda take the absence of literature on house price impacts to mean that there are no impacts. However, there are many studies which investigate the effect on house prices of facilities which make areas less attractive. These are primarily targeted at landfill which displays a range of property price impacts across many different studies. To our knowledge, the only study which examines the house price impacts of EfW incinerators is the North Andover study which was not considered by DTZ Pieda.
- 5.10 Secondly, the DEFRA study we have drawn on was not available to DTZ Pieda as it was published in February 2003.

Differences in interpretation

- 5.11 The evidence deployed by DTZ Pieda from interviews, previous studies and surveys shows a range of attitudes to EfW facilities and similar facilities. Where a majority of respondents have no concerns, the DTZ report concludes that there are no (or insignificant) economic impacts. This is the case, for example, when presenting the results of the Burnley S and Parfitt J (2000) study (Public Attitudes to Waste and Waste Management, The Open University) and their own study for UK NIREX Limited.

House prices

- 5.12 The methodology adopted by DTZ Pieda is focussed on changes in decisions to buy houses. In paragraph 5.16 of their report, DTZ Pieda cite evidence of housing take-up as a measure of the potential impact on the housing market. This is a measure of volume not value. There is a shortage of housing the South East, so it is no surprise that housing take-up occurs, however, this could occur even if a place becomes less attractive and property values decrease.
- 5.13 DTZ Pieda have misinterpreted a key piece of evidence relating to house price impacts of EfW facilities. Paragraph 2.5 of the DTZ Pieda report states:

“The researchers did identify some research on the impact of incineration plants on property values in North America. This showed that during the proposal, planning and construction phases for an incinerator there is a short term impact on property values in the immediate vicinity. Much of this is a result of the uncertainty while deliberations continue. Once the facility is operational, research shows that property prices recover.”

- 5.14 Although not referenced in the DTZ Pieda report, we assume that this is a reference to a discussion of the North Andover study. This analysis is a misinterpretation of the North Andover study. Property prices in North Andover did decline during the proposal, planning and construction phases, but declined further on the commencement of operations. The recovery of property prices after four years of operations was only partial and property prices remained significantly lower than they would otherwise have been in the long term.
- 5.15 Paragraph 2.6 of the DTZ Pieda report concludes based on this that:
“The implication is that an incineration plant does not have a significant impact on property prices in the long run.”
- 5.16 We disagree with this conclusion which is based on the National Society of Clean Air and Environmental Protection’s incorrect interpretation of the North Andover study.
- 5.17 The desirability of an area will be affected by many worries and influences on decisions discounted by the DTZ Pieda report. In our view, the DTZ Pieda report overlooks these marginal impacts which have the potential to tip the balance in individual decisions and have a significant effect on local house prices.
- 5.18 DTZ Pieda present the findings of the Onyx Environmental Trust National Survey on Waste, Oxford Brookes University School of Business (1999) as evidence that people are not worried by the presence of local incinerators. Even though around half of respondents did not know of the incinerator, around half were worried in some measure. This study found that 25 per cent of local people are worried about the effects of the incinerator and a further 23 percent said that they were ‘not very worried’. In our view if a quarter of the market is worried about the incinerator this could have a significant effect on local house prices.
- 5.19 In paragraph 2.28 of their report, DTZ Pieda acknowledge that a lack of evidence of impacts on house prices ‘reflect the fact that in many cases an incinerator has already existed in the area for many years’. We have faced the same problem in our own work. Where DTZ have interpreted this as a lack of evidence over time, we have attempted to use comparator areas to determine whether an effect exists. This is a key reason for the difference between our findings and DTZ Pieda.

Industry and business

- 5.20 DTZ look at impacts on industry and business through take up rates. However, take up could remain the same while price dropped and it is therefore necessary to look at value in order to establish the overall impact.
- 5.21 In paragraph 5.11, DTZ Piedad state that:
- 'There is no substantive evidence from elsewhere that an EfW plant makes it more difficult to attract inward investment. ... The agent for a business park located close to an EfW plant in North London reported that two food manufacturers had decide against relocating to the business park because of its proximity to the incinerator. However, the agent believed that that ... the presence of the incinerator was not a detriment to the majority of business activities.'*
- 5.22 The evidence that food manufacturers do not wish to locate close to incinerators is an example of a reduction in the attractiveness of the location as a place to do business, and this reduced attractiveness lowers the value of commercial land.
- 5.23 Newhaven is not only attempting to attract manufacturing businesses, but also service industries which are potentially more image conscious.
- 5.24 In paragraph 5.12 of their report DTZ Piedad state that 'The main uses on the business park are expected to be light industry, warehousing and back office functions. These are not particularly image conscious uses so the developer is not concerned unduly about the effect of an EfW plant on take-up'. It is precisely the future impact on image conscious firms that may cause changes in industrial structure close to EfW incinerators.
- 5.25 DTZ Piedad investigate the impact of EfW sites on relocation decisions. However, the potentially high cost of relocating means that this is not a good measure of changes to the attractiveness of a location.
- 5.26 Also, although existing businesses do not relocate, this does not imply that there is no effect on them. They may, as in Cumbria (DTZ Piedad report paragraph 2.12), find difficulty recruiting particular types of employee, especially ones who are prepared to travel or relocate.
- 5.27 We agree that if other occupiers of North Quay remain the same, there is very little possibility of an EfW plant blighting the regeneration or development of North Quay (Page 30 of the DTZ Piedad report). However, there is significant potential to blight economic development in other areas of Newhaven such as Denton Island.

Positive Economic Impacts

- 5.28 DTZ Piedad posit three potential economic impacts from the provision of an EfW incinerator at Newhaven.
- Provision of useful by-products (such as heat and power)

- Development of local road infrastructure
 - Job creation
 - Synergies with other businesses and new market opportunities
- 5.29 The creation of heat is unlikely to be of benefit to local businesses. It is very expensive to convert existing buildings to be able to use heat created by EfW plants and this is so far not done anywhere in the UK. The SELCHP EfW incinerator envisaged doing this, but has not done so. The provision of electricity would be a useful by-product but would be of marginal benefit to Newhaven.
- 5.30 The provision of improved infrastructure would no doubt be of benefit to Newhaven, but this benefit could equally be gained by spending this money on infrastructure elsewhere in Newhaven. Furthermore, the development of local infrastructure is not guaranteed by the scheme and could occur through other means.
- 5.31 The incinerator would generate a small number of jobs, as would any money spent on facilities and infrastructure. This does not mean that this is the best use of resources. The number of jobs created is relatively small.
- 5.32 There is a possibility that if the EfW incinerator would be collocated with a Materials Recycling Facility (MRF) it could provide opportunities for new products and businesses based on the supply of recycled materials. However, these potential benefits spring from the MRF and not the incinerator itself.

Conclusions

- 5.33 The measures used by DTZ Pieda to investigate impacts on business are insufficient to measure the nature and scale of impacts on business.
- 5.34 Existing firms may find that the location is less attractive than previously but find it too expensive to relocate. New firms may not even consider sites close to an incinerator if they are image conscious.
- 5.35 Our own work suggests that EfW facilities do affect the structure of industry close to them. This is partly borne out by the fact that some image conscious business (e.g. food manufacturing) would not locate near to incinerators. Image conscious service sector firms may share the reservations of these food manufacturing firms.

6. ALTERNATIVE WASTE STRATEGY

- 6.1 Alan Potter of Golder Associates has prepared an alternative waste strategy. This strategy does not require an EfW incinerator and requires one less materials recycling facility or transfer station. However, in their place, it requires an additional 3 to 6 composting sites and 5 to 7 MBT plants.
- 6.2 Our analysis in the previous Chapters of this report shows that there is strong evidence that EfW incinerators give rise to negative economic impacts. These impacts would be avoided under the alternative strategy.
- 6.3 We have found no studies which evaluate the economic impacts of MBT plants although plants have been in operation in continental Europe for a number of years. Even if MBT plants were to give rise to negative economic impacts, there are good reasons for assuming that these impacts would be less than those of an incinerator. MBT plants are smaller in scale, do not give rise to emissions from burning such as dioxins which are a major source of concern and are substantially less intrusive than incinerators.
- 6.4 Providing a greater number of smaller facilities, instead of one large one, distributes facilities more evenly throughout the plan area and disperses any negative economic impacts away from Newhaven which is already relatively deprived.
- 6.5 Open composting sites can be of any size and could be located at a range of sites throughout the plan area. It is therefore unlikely that these sites would have a noticeable economic impact. They may in fact enhance agricultural economic activity if conducted on farms and the compost is used as a soil conditioner or substitute for fertilizer.
- 6.6 The alternative waste strategy could give rise to positive economic impacts such as the provision of useful by-products and opportunities for new products and businesses. MBT plants can produce Refuse Derived Fuel (RDF) which can displace virgin fuel and the proposed Materials Recycling Facilities could provide the potential for new businesses/industries to become established using the materials from the MRFs. 'Resource parks' might also be created as suggested in the Regional Waste Strategy particularly if Plan policies promote their development.

7. OVERALL CONCLUSIONS

- 7.1 Newhaven is a relatively deprived area with low income residents. Jobs in Newhaven are skewed towards lower paid and manufacturing jobs.
- 7.2 Studies point towards a negative impact of EfW incinerators on residential property prices. In other words, these facilities have a negative impact on attractiveness as a place to live.
- 7.3 If the studies are correct, and reflect an underlying causal relationship, the impact of an EfW incinerator on Newhaven would be detrimental to the development plans and attempts to regenerate Newhaven.
- 7.4 An alternative waste strategy has been proposed which would not require an EfW incinerator. This strategy would distribute facilities more evenly throughout the plan area thus relieving the burden on the relatively deprived area of Newhaven.

8. REFERENCES

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centre for economics and business research ltd

Unit 1, 4 Bath Street, London EC1V 9DX
t: 020 7324 2850. f: 020 7324 2855
e: cebr@cebr.com. w: www.cebr.com