

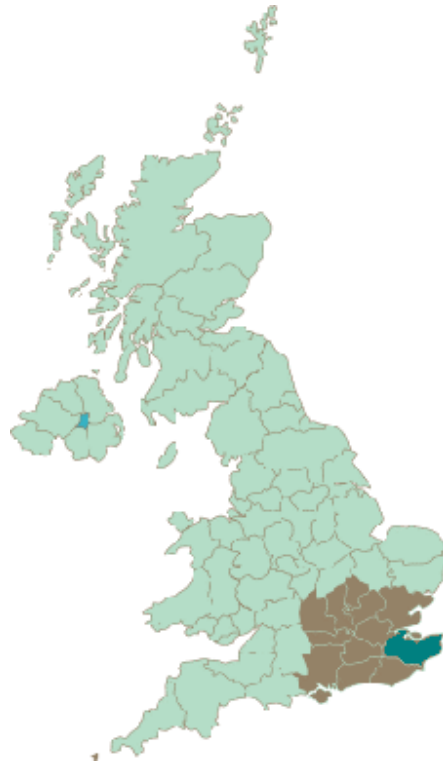
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Appendices A1. to A3.

Geographical location:

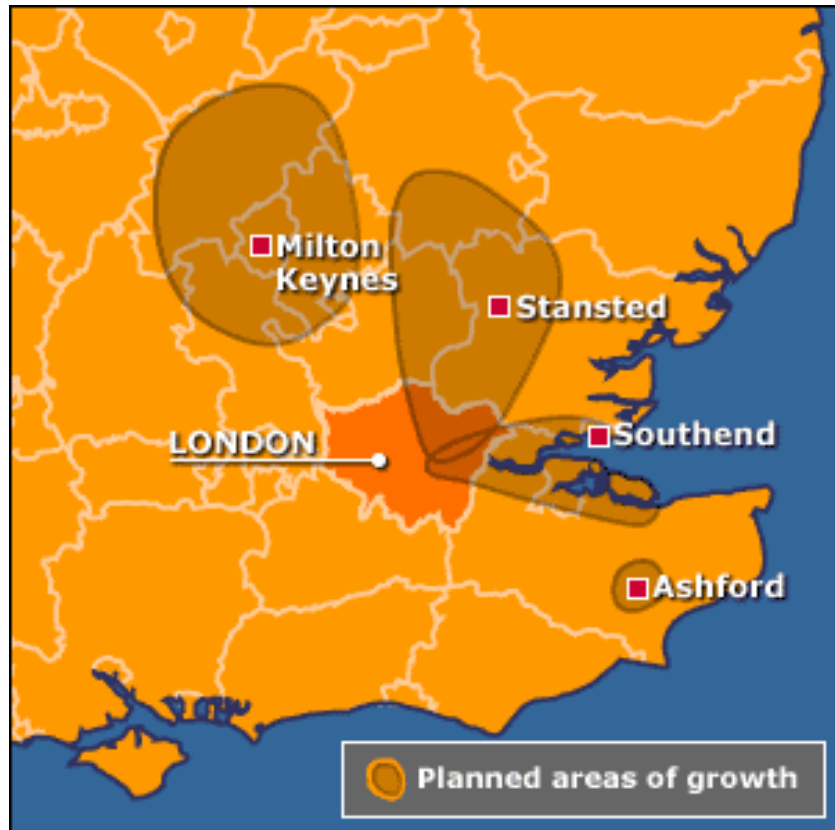
South East England, Kent and Growth Areas



A1. United-Kingdom, South East England and Kent



A2. Kent and Ashford



A3. Growth Areas Locations

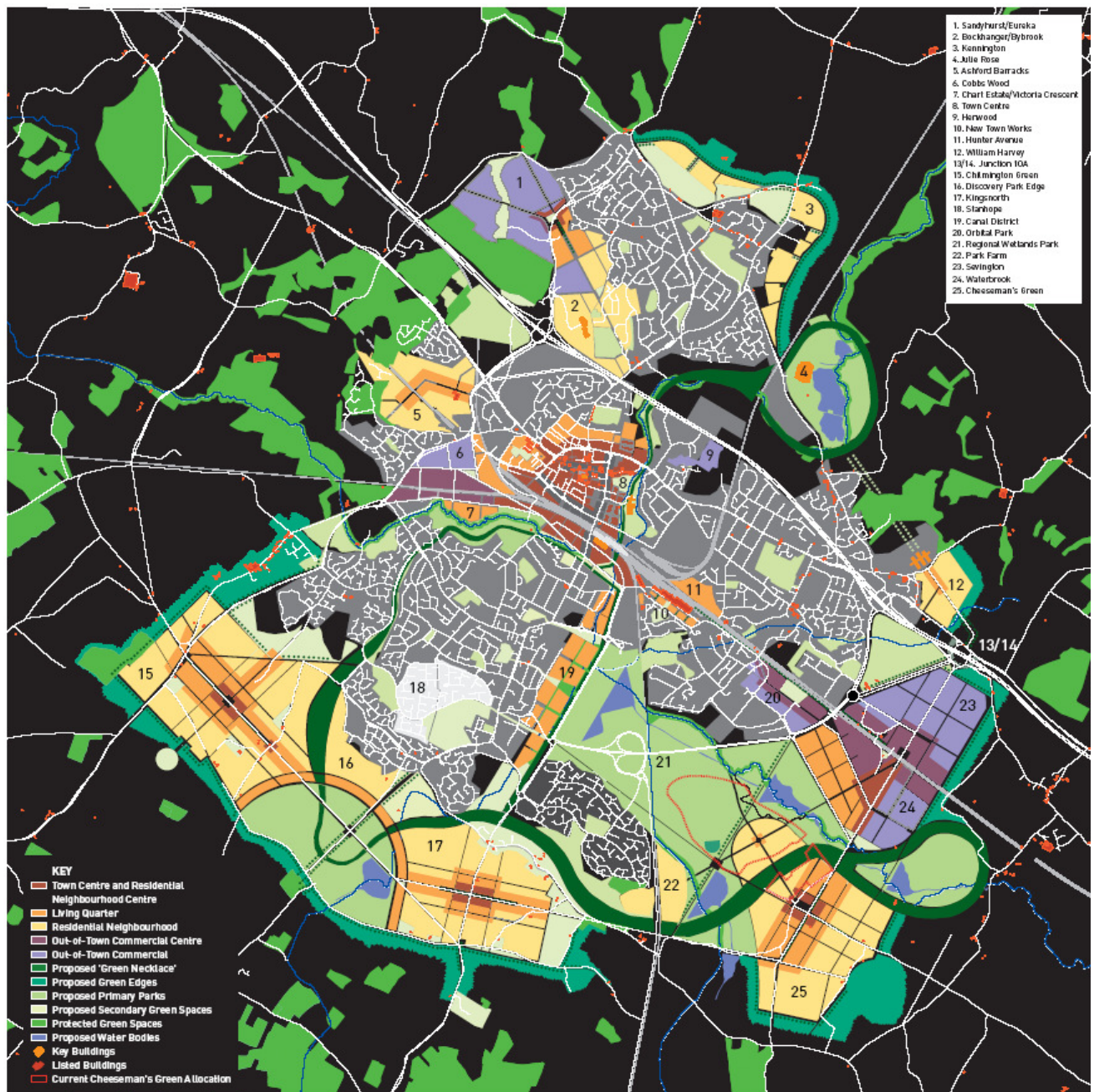
Appendices A4. to A10.

Extracts of

Greater Ashford Development Framework (GADF)

by Urban Initiative, April 2005

The Working plan



The Working Plan

GREATER ASHFORD DEVELOPMENT FRAMEWORK | 143

A4. The Working MasterPlan, GADF, p143

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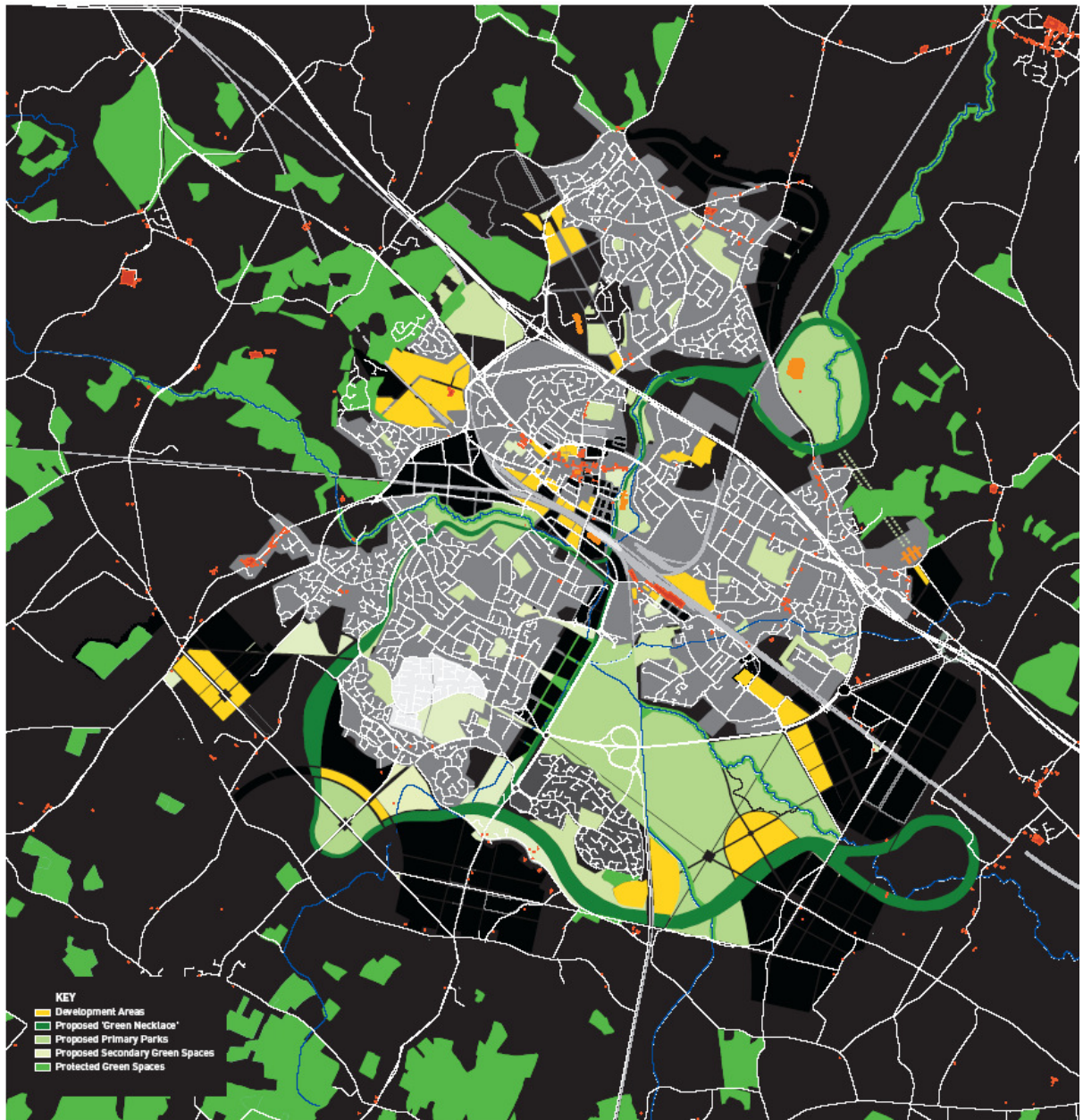


Phase 1: 2001-2011

Phase 1: 2001-2011 Schedule of Units/Jobs

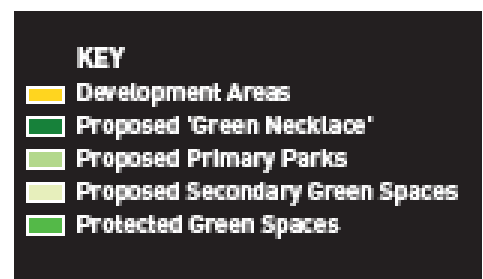
Development Areas	Description	Units	Jobs
Completed Areas			
Park Farm, Singleton, etc	Built housing 2001-05 (estimate)	3,270	2,000
Allocated Areas			
Singleton	Part implemented	595	0
Brisley Farm	Part implemented	75	0
Park Farm Extension	Allocated but not yet implemented	780	0
Cheeseman's Green	Allocated but not yet implemented	700	0
Ashford Barracks	Allocated but not yet implemented	1100	200
Orbital Park/Henwood	Industrial and business relocation	0	600
		3,250	800
Town Centre			
Town Centre	New town centre living	1,000	3,000
Town Centre Periphery			
Chart Estate/ Victoria Crescent	Intensification, mixed-use development	0	0
Cobbs Wood	Intensification, mixed-use development	0	0
New Town Works	New mixed-use, medium density	200	100
Hunter Avenue	New mixed-use, medium density	150	0
		350	100
New Districts			
Canal District (existing area)	Intensification, infill and regeneration	0	0
Canal District (new reduced area)	New mixed-use, medium density	0	0
Waterbrook	Mixed use, medium-density	300	200
Bockhanger Wood	Intensification, infill and regeneration	200	500
		500	700
Urban Neighbourhoods			
Chilmington Green	New mixed-use neighbourhood	500	100
Kingsnorth	New mixed-use neighbourhood	0	0
Cheeseman's Green Extension	New mixed-use neighbourhood	0	0
		500	100
Urban Extensions			
Kennington	Infill along relief roads	0	0
William Harvey Area	Small scale infill	0	200
Discovery Park	Medium density forming edge to Park	200	0
		200	200
Out of Town Estates			
Orbital Park North	Commercial and business intensification	0	100
Sevington	Commercial and business uses	0	0
		0	100
	TOTAL UNITS/JOBS	9,070	7,000

A5. Phase 1 schedule, GADF, p176



Phase 1: 2001-2011 The Development of Areas (Indicated in yellow)

A6. Phase 1 Development Areas, GAGF, p177

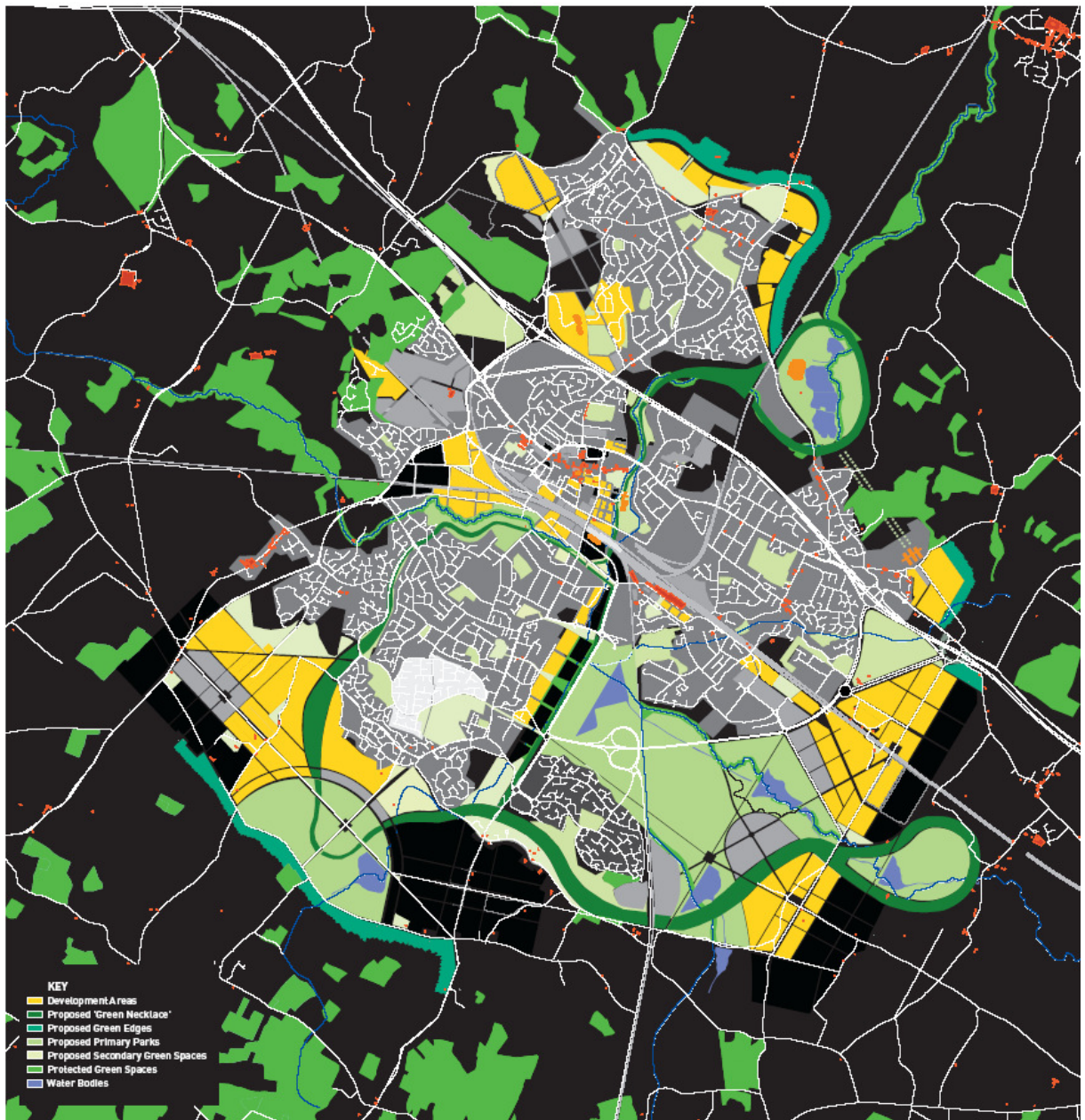


Phase 2: 2011-2021

Phase 2: 2011-2021 Schedule of Units/Jobs

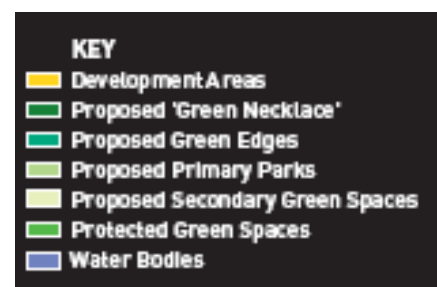
Development Areas	Description	Units	Jobs
Completed Areas			
Park Farm, Singleton, etc	Built housing 2001-05 (estimate)	Complete	Complete
Allocated Areas			
Singleton	Part implemented	Complete	0
Brisley Farm	Part implemented	Complete	0
Park Farm Extension	Allocated but not yet implemented	Complete	0
Cheeseman's Green	Allocated but not yet implemented	400	0
Ashford Barracks	Allocated but not yet implemented	200	Complete
Orbital Park/Henwood	Industrial and business relocation	0	Complete
		600	Complete
Town Centre			
Town Centre	New town centre living	1,400	5,000
Town Centre Periphery			
Chart Estate/ Victoria Crescent	Intensification, mixed-use development	300	200
Cobbs Wood	Intensification, mixed-use development	100	100
New Town Works	New mixed-use, medium density	300	100
Hunter Avenue	New mixed-use, medium density	Complete	0
		700	400
New Districts			
Canal District (existing area)	Intensification, infill and regeneration	500	250
Canal District (new reduced area)	New mixed-use, medium density	0	0
Waterbrook	Mixed use, medium-density	1,160	475
Bockhanger Wood	Intensification, infill and regeneration	600	1,600
		2,260	2,325
Urban Neighbourhoods			
Chilmington Green	New mixed-use neighbourhood	2,900	500
Kingsnorth	New mixed-use neighbourhood	0	0
Cheeseman's Green Extension	New mixed-use neighbourhood	2,150	800
		5,050	1,300
Urban Extensions			
Kennington	Infill along relief roads	450	0
William Harvey Area	Small scale infill	250	0
Discovery Park	Medium density forming edge to Park	550	125
		1,250	125
Out of Town Estates			
Orbital Park North	Commercial and business intensification	0	100
Sevington	Commercial and business uses	0	1,250
		0	1,350
TOTAL UNITS/JOBS		11,260	10,500
RUNNING TOTAL UNITS/JOBS		20,330	17,500

A7. Phase 2 schedule, GADF, p190



Phase 2: 2011-2021 The Development of Areas (Indicated in yellow)

A8. Phase 2 Development Areas, GAGF, p191

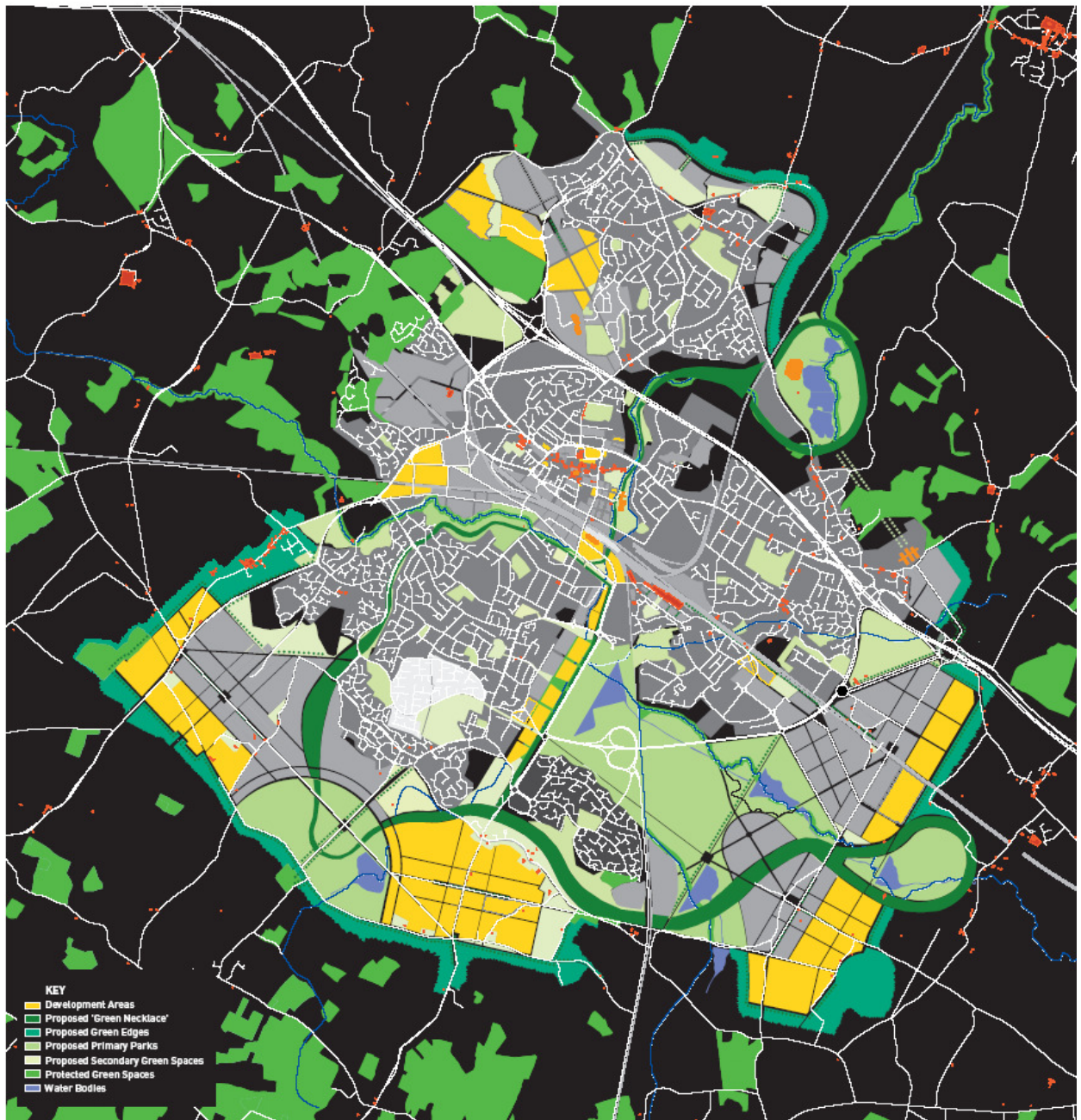


Phase 3: 2021-2031

Phase 3: 2021-2031 Schedule of Units/Jobs

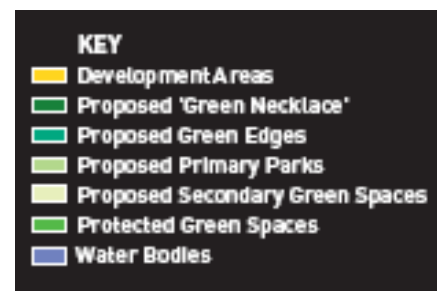
Development Areas	Description	Units	Jobs
Completed Areas			
Park Farm, Singleton, etc	Built housing 2001-05 (estimate)	Complete	Complete
Allocated Areas			
Singleton	Part implemented	Complete	0
Brisley Farm	Part implemented	Complete	0
Park Farm Extension	Allocated but not yet implemented	Complete	0
Cheeseman's Green	Allocated but not yet implemented	Complete	0
Ashford Barracks	Allocated but not yet implemented	Complete	Complete
Orbital Park/Henwood	Industrial and business relocation	0	Complete
		Complete	Complete
Town Centre			
Town Centre	New town centre living	750	4,000
Town Centre Periphery			
Chart Estate/ Victoria Crescent	Intensification, mixed-use development	200	100
Cobbs Wood	Intensification, mixed-use development	350	200
New Town Works	New mixed-use, medium density	Complete	Complete
Hunter Avenue	New mixed-use, medium density	Complete	0
		550	300
New Districts			
Canal District (existing area)	Intensification, infill and regeneration	Complete	Complete
Canal District (new reduced area)	New mixed-use, medium density	1,300	500
Waterbrook	Mixed use, medium-density	Complete	550
Bockhanger Wood/Eureka	Intensification, infill and regeneration	200	2,650
		1,500	3,700
Urban Neighbourhoods			
Chilmington Green	New mixed-use neighbourhood	2,600	400
Kingsnorth	New mixed-use neighbourhood	3,500	325
Cheeseman's Green Extension	New mixed-use neighbourhood	2,350	200
		8,450	925
Urban Extensions			
Kennington	Infill along relief roads	Complete	0
William Harvey Area	Small scale infill	Complete	0
Discovery Park	Medium density forming edge to Park	Complete	Complete
		Complete	Complete
Out of Town Estates			
Orbital Park North	Commercial and business intensification	0	Complete
Sevington	Commercial and business uses	0	1,250
		0	1,250
TOTAL UNITS/JOBS		11,250	10,500
RUNNING TOTAL UNITS/JOBS		31,580	28,000

A9. Phase 3 schedule, GADF, p200



Phase 3: 2021-2031 The Development of Areas (Indicated in yellow)

A10. Phase 3 Development Areas. GAGF. p201



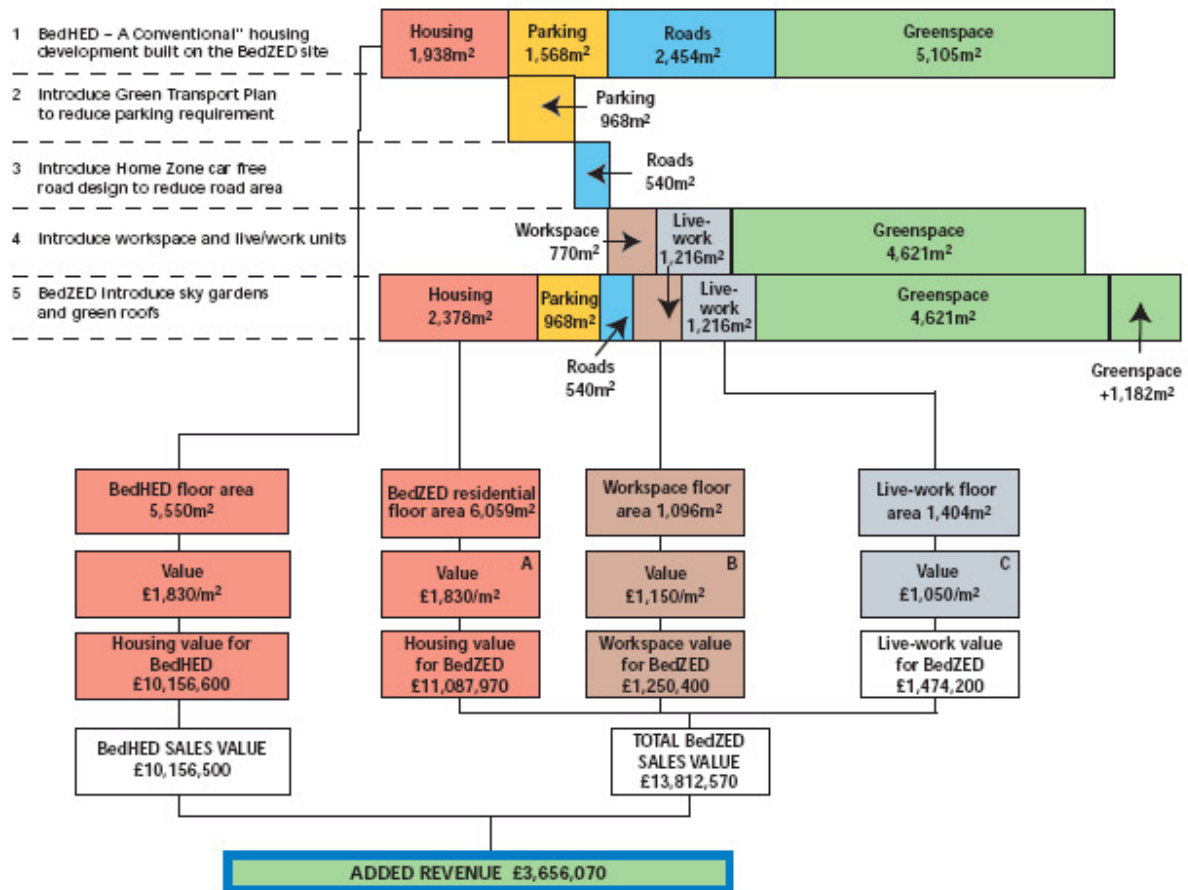
Appendices A11. to A16.

Extracts of

***Beddington Zero (Fossil) Energy Development,
Toolkit for Carbon Neutral Development – Part II,***

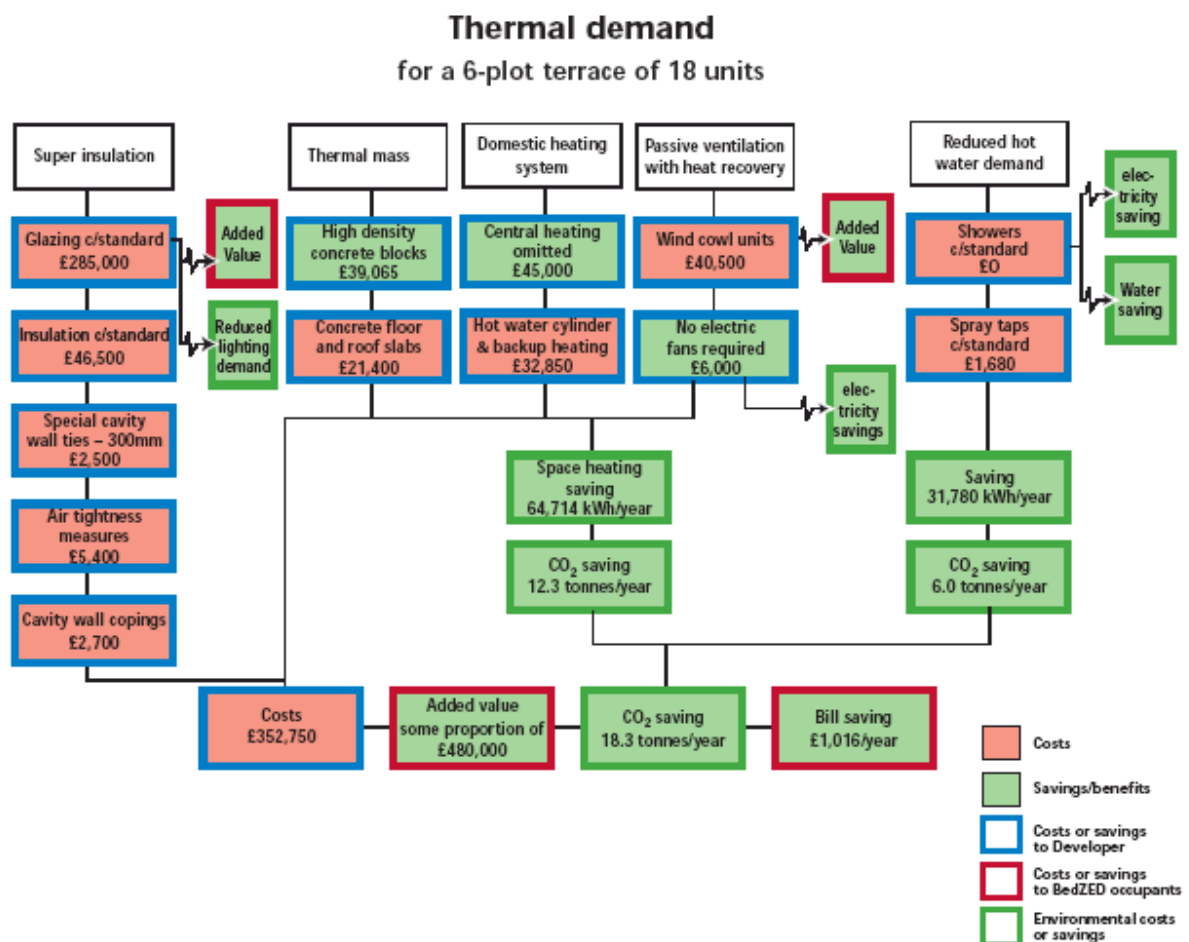
by Nicole Lazarus, Bioregional Development Group,
Funded by dti, Partners in Innovation

Planning Gain

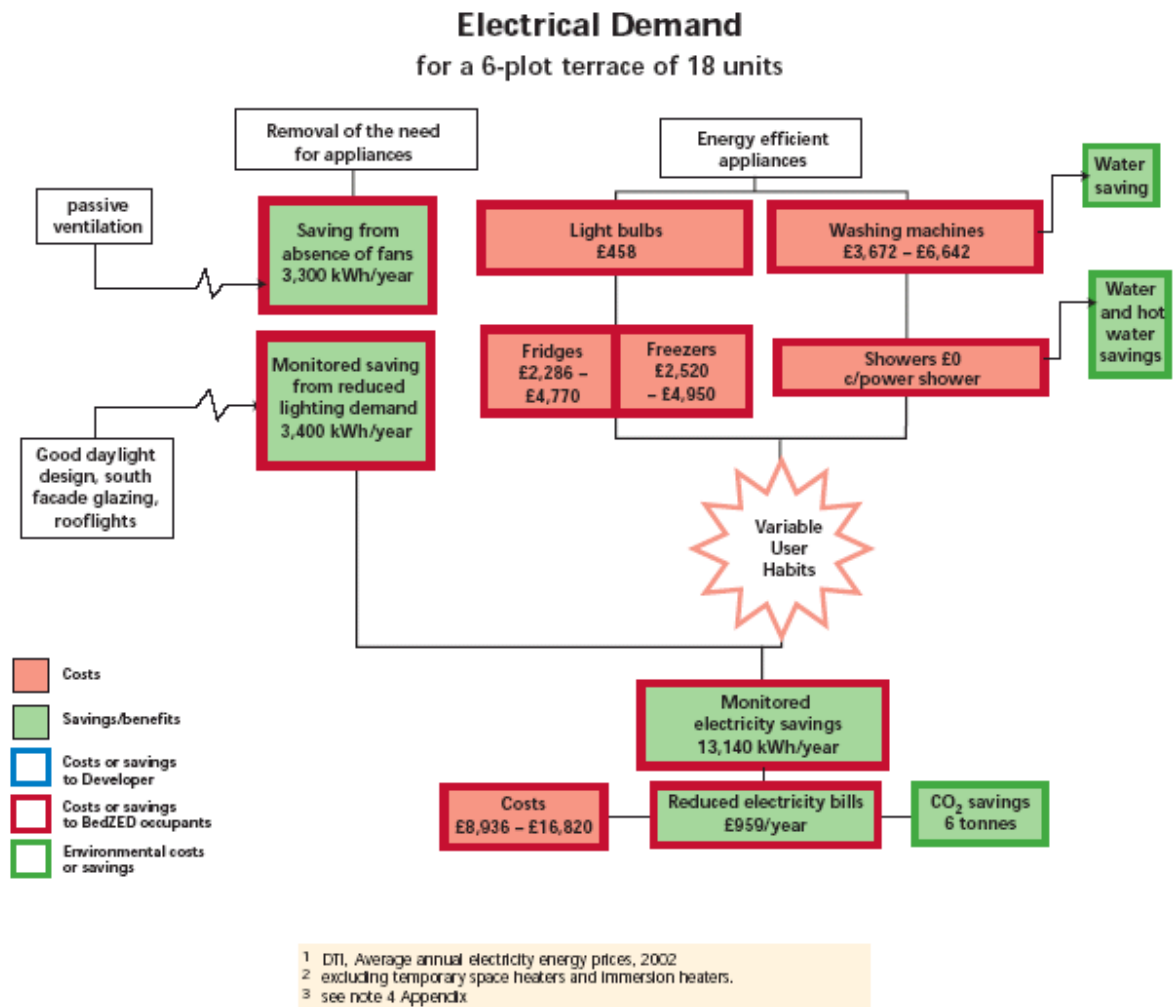


A www.landreg.gov.uk
 B Sales values achieved, Peabody Marketing 2001
 C Estimation based on sales values achieved to date, advised by Peabody Marketing 2002
 1 based on conventional build costs of £950/m² for residential, £850/m² for live/work and £750/m² for workspace

A11. Diagram explaining BedZED's Planning Gain mechanism, p9

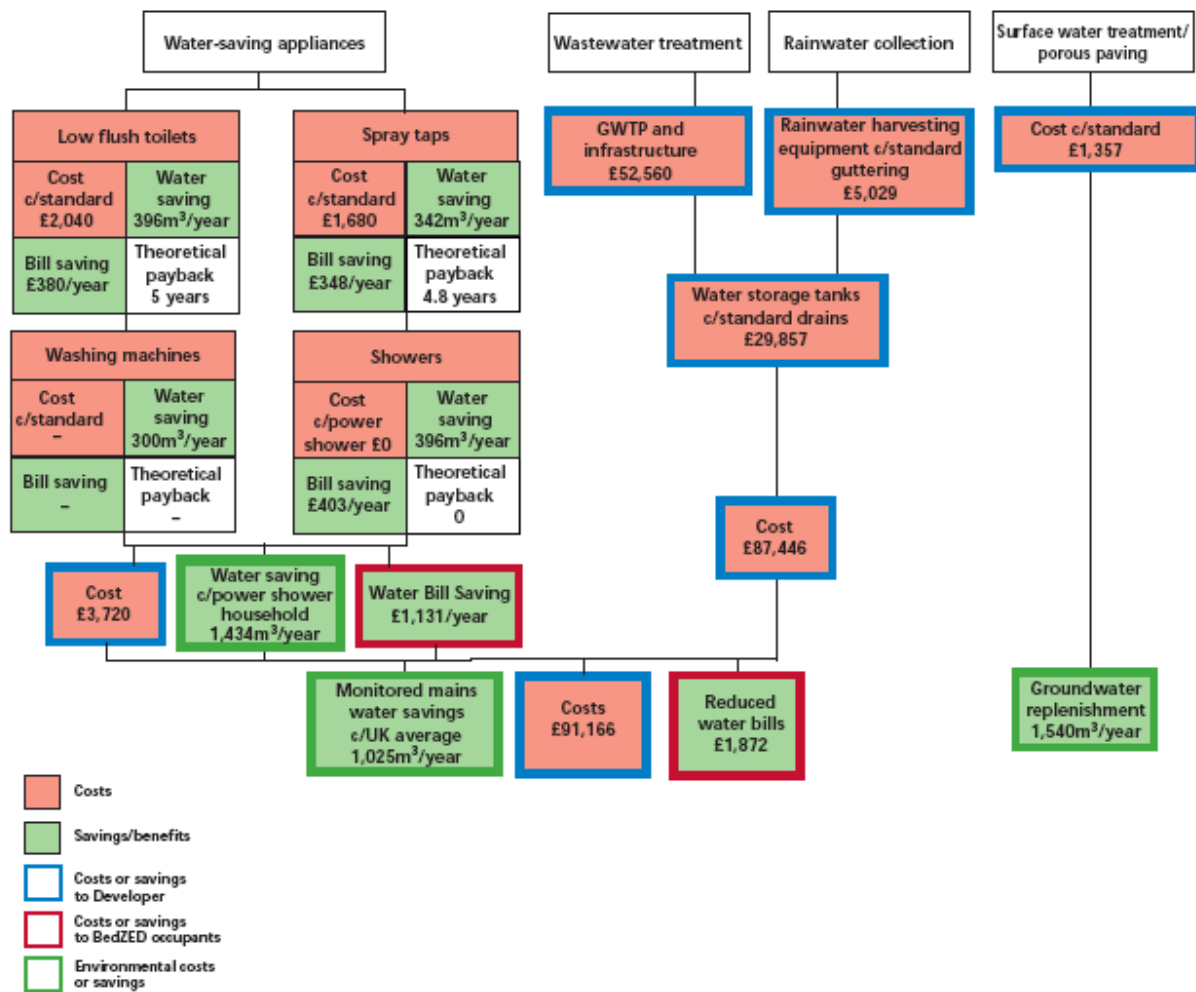


A12. Diagram explaining BedZED's Thermal demand reduction, p17

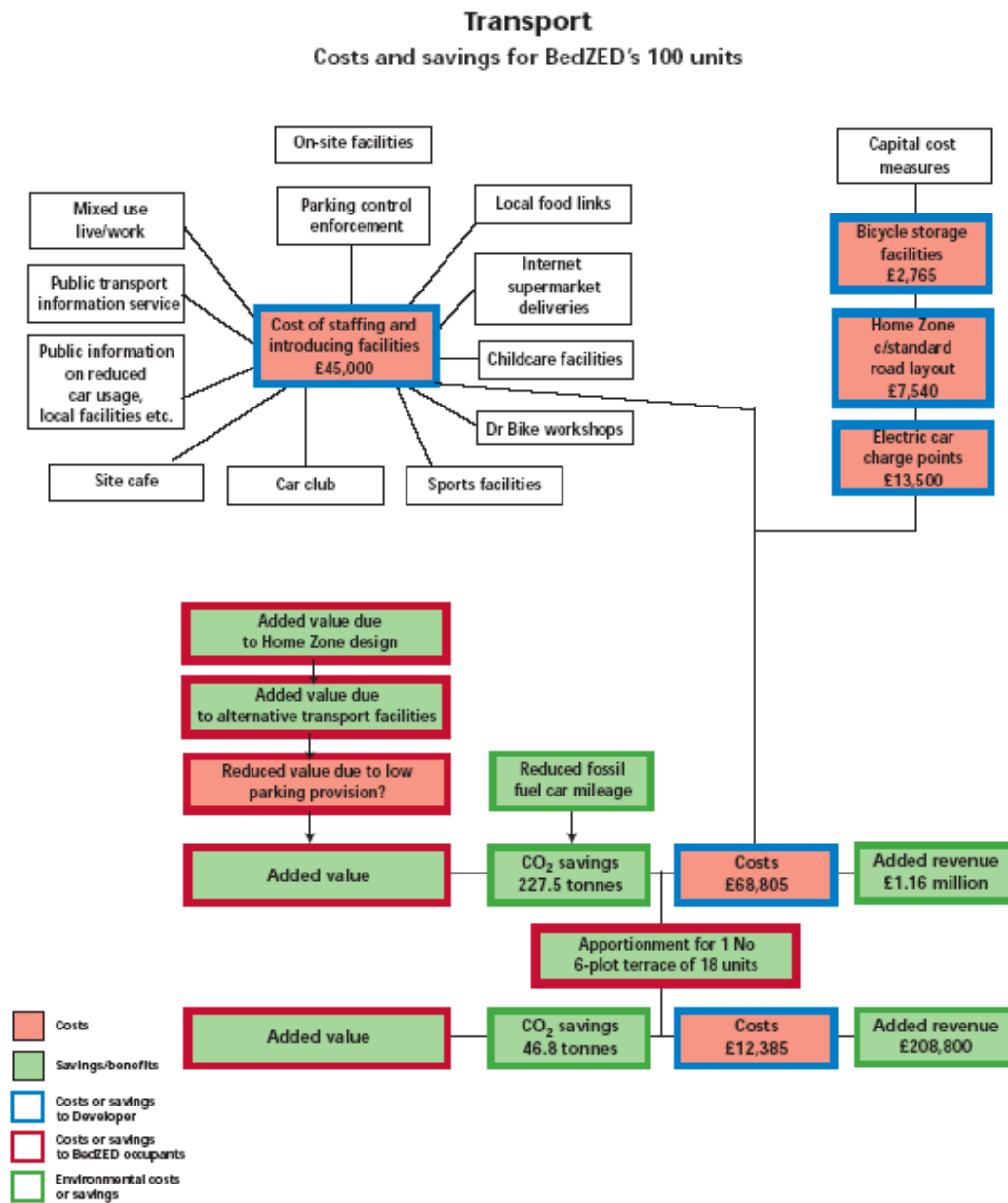


A13. Diagram explaining BedZED's Electrical demand reduction, p21

Water Demand for a 6-plot terrace of 18 units



A14. Diagram explaining BedZED's Water demand reduction, p29



A15. Diagram explaining BedZED's Transport policy, p36



A16. Diagram explaining BedZED's Renewable Energy Supply. p41

Appendices A17.1 to A18

Extracts of

***Cost and benefits of sustainable solution to
Community Planning and Development,
A study for the Countryside Agency,***

by Sumeet Manchanda, Bioregional Consulting Ltd.
January 2005

Sustainability Principles and Aims	Strategies	Headline findings*
Low Carbon Reduce carbon emissions caused by fossil fuel use in heating, cooling and providing power to buildings	Reducing and optimising energy demand	This strategy leads to lifetime savings: <ul style="list-style-type: none"> Achieving thermal efficiency through insulation can be a good investment with payback periods as low as 2-3 years in some contexts Each 20W energy efficient light bulb saves £50 over its lifetime Condensing boilers can save occupants £10/yr from day one
	Meeting optimised demand from zero/low carbon and renewable resources	<ul style="list-style-type: none"> Initial capital costs are high, and some technologies are more capital-intensive than others <ul style="list-style-type: none"> Solar water heating costs from £1,600 / dwelling Micro-wind turbines start from £900 / dwelling Photovoltaic panels cost from £2,000 / dwelling
	Providing shared energy infrastructure at community/ neighbourhood level	<ul style="list-style-type: none"> Community Heating, providing high environmental savings, can be provided at approximately £1,000 per dwelling Shared energy infrastructure of very high environmental specifications (Zero Carbon) can be provided at £13,500/ dwelling
Low Waste Reduce waste to landfill to the minimum to reduce energy used in waste transport and reduce green house gases (GHG) arising from landfill sites.	Reducing waste; then reclaiming, recycling and recovering	<ul style="list-style-type: none"> Providing facilities for effective household waste separation at source costs between £20 and £70 Converting waste to energy through anaerobic digestion is only viable at community scale and can cost £5,000-£10,000/ dwelling Methane capture from landfills can lead to substantial revenues at city level
Sustainable Transport Make travel sustainable, reducing carbon emissions due to travel	Reducing the need to travel	<ul style="list-style-type: none"> Providing facilities for live-work, office and retail space within a residential development need not cost much and can lead to developer profits
	Providing sustainable alternatives to private car use.	<ul style="list-style-type: none"> Designing in alternatives such as 'home zones', cycle parking and electric charging points can lead to high developer profits through planning gain Car clubs can offer significant cost benefits to consumers, with the potential to save up to £1,500 per year
Local and Sustainable Materials Materials chosen for	Materials of low environmental impact: More local, less processed, more 'natural' and	<ul style="list-style-type: none"> In virtually all building components, environment-friendly materials can be specified and provided at costs equal to other materials

* Box shading denotes extent of literature found

Adequate literature available	Some literature available	Little literature available
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A17.1. Summary table of the available data on sustainable solution findings, p2

Sustainability Principles and Aims	Strategies	Headline findings*
buildings and infrastructure to give high performance in use with minimised impact in manufacture and delivery	renewable materials used	
	High levels of reclaimed and recycled materials used	<ul style="list-style-type: none"> In virtually all cases, reclaimed materials can be provided at lesser cost than other materials Many reclaimed materials are now off-the-shelf products, leading to ease in procurement
	Designing for deconstruction	<ul style="list-style-type: none"> This is a new strategy being studied the construction industry, data on costs and benefits may be available soon The strategy could contribute greatly to waste minimisation
Local and Sustainable Food Reduce emissions due to food transport, food manufacture; reduce environmental pollution due to chemicals used in food production	Consumption of local, seasonal and organic produce; reduced amount of animal protein and packaging	<p>Facilitating local farmers' markets and local food box schemes generates substantial benefits</p> <ul style="list-style-type: none"> In 2001, consumers at farmers' markets put between £50 - £70 million directly into the pockets of farmers Every £1 spent in a local organic box scheme generates £2.50 for the local economy, compared with just £1.40 for each £1 spent in the supermarkets Feedback from retailers adjacent to farmers' markets has indicated that takings have increased by up to 30%
Sustainable Water Use Reduce energy used in water supply and waste water management; reduce flooding risks	Reduce water demand through efficient appliances	<ul style="list-style-type: none"> Water efficient appliances can be fitted for £160 per dwelling The appliances will generate annual savings of between £50 - £70, resulting in a payback period of approximately 3 years
	Manage rain and waste water sustainably	<ul style="list-style-type: none"> Capital costs are substantial but can lead to lifetime savings if combined with water efficient appliances
	Flood risk analysis and landscape design to reduce flood risk	<ul style="list-style-type: none"> Clear environmental benefits but economic cost benefit data not available Costs will vary depending upon the strategies, design and materials used
Natural Habitats and Wildlife Biodiversity and ecosystem conservation and enhancement	Existing biodiversity conserved and enhanced	<ul style="list-style-type: none"> The benefits of the earth's productive capacity are considerable – at a global scale, it has been valued at approximately US\$33 trillion, more than global gross national product!
Culture and Heritage Engender a sense of community through enhancing or reviving	Cultural heritage acknowledged and interpreted; Sense of place and identity engendered to contribute towards future	<ul style="list-style-type: none"> The strategy contributes substantially to local culture, tourism and economic development: the opening of a new gallery in Walsall led to increased sales of £4,000 / day for the local Boots store

Sustainability Principles and Aims	Strategies	Headline findings*
valuable aspects of local culture and heritage	heritage	
Equity and Fair Trade Promote social equity, inclusion, local economic development and fair trade	Promote local economic development	<ul style="list-style-type: none"> Community development has the potential to provide great benefits to local economies. Effective strategies for Greenwich and the Thames Gateway has resulted in 2450 local jobs and contracts worth £12 million for local businesses The government has budgeted to the tune of £7,000 per capita in the London Thames Gateway regeneration area for local skills development
	Encourage inclusive services and facilities	<ul style="list-style-type: none"> 'Time banks' and other innovative inclusive programmes can lead to effective services for the poor Social enterprises can provide economic benefits to local communities as well. Every £1 received by a social enterprise generates £2.08 for the local economy
Health and Happiness Reduce costs arising from poor health and lack of wellbeing.	Design a healthy and secure environment	<p>Substantial data showing benefits in health, educational benefits and crime reductions</p> <ul style="list-style-type: none"> Patient recovery times improve by 20%-30% Increased educational attainment of between 5%-26% Crime rates reduce approximately by 50%
	Consider impacts to surrounding community	<ul style="list-style-type: none"> It does not cost much to reduce construction impact on surrounding community – taking advantage of the Considerate Contractors' Scheme costs between £100 - £600 depending on the size of the project

A17.2. Summary table of the available data on sustainable solution findings, p3-4

Costs Benefits Summary

Some of the clearest available data on costs and benefits is presented in extract form in the table below:

Source	Strategy	Costs per dwelling	Benefits
DTI (2004b)	Providing insulation to 'Best Practice' Standards	£1,200	£8.47/ yr
	Providing insulation to 'Advanced' Standards	£4,360	£20.59/ yr
Woking Borough Council (2004)	Achieving solar gain through passive solar design	£0 (need not cost more, though expensive designs can be made and technologies used)	8% - 10% energy savings
DTI (2004b) and BSRIA B&Q Case Study (2004)	Achieving air-tightness in buildings, combined with passive stack ventilation	£330	Up to 35% space heating savings
	Achieving air-tightness in buildings, combined with mechanical ventilation with heat recovery	£1880	
EST (2003)	Providing energy efficient light bulbs	£40 (assuming 10 light bulbs in a dwelling)	£500 lifetime savings
DTI (2004b)	Energy efficient appliances (condensing boilers; A-rated fridge freezers and washing machines)	£0 (some brands may cost more)	£24/ yr
ESD (2003) Anchor Housing Case Study	Providing solar water heaters	£2,700	£147/ yr (when compared with electric heating)
			£68/ yr (when compared with gas heating)
Woking Borough Council (2004) Case Study: Woking	Community level Combined Heat and Power (CHP) system supplied via Energy Services Company (ESCO)	£0	At Woking, the ESCO supplied sustainable energy at 9% less costs than conventional energy supplier
NRWF (2004)	Waste reduction programme for a 250,000 dwelling area	£9,000,000	Monthly savings in waste disposal costs to Local Authority of £300,000 - £130,000
Lazarus (2003b), DTI (2004b) and LCC (2004)	Cycle parking facilities	£28 (non-weatherproof storage)	£700/ yr (cycle use compared to public transport) £1,000/ yr (compared with car use)
		£130 (weatherproof storage)	

Source	Strategy	Costs per dwelling	Benefits
Smart Moves (2004) and Carplus (2004)	Car clubs	£180/yr in membership fee	£1,000 - £1,500/ yr
Lazarus (2003b), BedZED case study	Developer implemented 'Green Transport Plan' for 100 dwelling development, incorporating: <ul style="list-style-type: none"> Bicycle storage Home Zone design Electric car charging points 	£23,805 for the entire development	£1,160,000 in increased revenues through planning gain
Lazarus (2003b), BedZED case study	Using reclaimed timber and steel	£0	13.88% savings on reclaimed timber 4% savings on reclaimed steel
Lazarus (2003b), BedZED case study	Using recycled aggregate and sand	£0	28% savings on recycled aggregate 15% savings on recycled sand
FARMA (2005)	Providing for Farmers' Markets and helping local economy by cutting out middlemen	£15 - 40 membership costs	Average takings of £21,500 per market day at farmers' markets
NEF (2001)	Local food box schemes	-	Every £1 spent on local box schemes generates £2.50 for local economy
Environment Agency (2005)	Providing water efficient appliances	£0	£55/yr
Woking Borough Council (2004)	Rainwater harvesting	£2,100	Provides 38% of household water demand ¹
	Grey water recycling	£1,900	Provides 37% of household water demand ¹
NEF (2001)	Encouraging local social enterprises	-	Every £1 received by local social enterprise generates £2.08 for local economy
CABE (2002) West Yorkshire Housing Estate case study	Using 'secure by design' principles	£440/ dwelling	Reduced burglary losses of £835 / dwelling
DTI (2004b)	Joining the Considerate Constructors Scheme	£100 - £600 plus VAT	Leads to reduced nuisance for surrounding community

A18. Some data on cost and benefits of sustainable solutions, p5-6