

Annex B – Overview of Appraisal Findings and Recommendations by RSS Chapter

**OVERVIEW OF APPRAISAL FINDINGS AND RECOMMENDATIONS BY
RSS CHAPTER**

This Annex sets out appraisal findings and recommendations relating to each of the chapters revised under Phase 2.

For Chapters 2 and 6, relating to housing issues, each question in the Appraisal Framework is addressed, a commentary on the key issues and implications arising from those chapters is provided, and a symbol/colour is used to indicate the overall assessment, as follows:

++	clear, strongly positive implications
+	overall implications likely to be positive
∅	no effect, neutral, mixed
?	unclear or not known
-	overall implications likely to be negative
--	clear, strongly negative implications
○	not relevant

More general comments are provided for other chapters.

B2 OVERALL APPRAISAL OF POLICIES RELATED TO HOUSING

This table sets out overall appraisal findings relating to policies from:

- Chapter 2, Towards a More Sustainable Region, which sets out policies on climate change, sustainable communities and sustainable design and construction (Draft of 27 September 2007)
- Chapter 6, Communities for the Future, which sets out policies on housing growth (Eleventh Draft, 3 October 2007)

Detailed policy-by-policy appraisal findings are also provided in *Annex C*.

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.1	use natural resources such as water and minerals efficiently, including by incorporating efficiency measures into new land use and developments?				

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	promote the balance of water supply and demand?				<p>The region's water supplies are, in some areas, currently in deficit (ie there is not sufficient to meet demand under all scenarios). A key issue is to ensure that the 365,600 additional housing units do not exacerbate this problem, and that steps are taken to reduce the water consumption of households in the region.</p> <p>A recent Environment Agency study¹ assessed the impact that housing growth scenarios would have for water supply-demand balance, and concluded that CF3 housing growth rates will result in headroom deficits in the Birmingham, Severn and South Staffordshire zones, with the Hereford Conjunctive Use zone and South Staffordshire also being affected during Critical Use periods.</p> <p>It also concluded that the introduction of 25% water efficiency saving in all new homes across the region would reduce the pressures on supplies, cutting deficits and delaying the need for new water resource developments.</p> <p>Water efficiency policies are now in place in the RSS. The Climate Change policy requires that Local Authorities should ensure that new development minimises water demand and encourages the efficient use of water. More importantly, the Sustainable Construction policy requires that new homes meet the Code for Sustainable Homes level 4 (no more than 105 litres/person/day), and that other buildings achieve 25% efficiency savings. The policy also looks to promote water efficiency in existing housing stock (although no specific requirements are set out), and applies the good standards from the West Midlands Checklist for use of rain water collection and grey water recycling schemes (25-50% of domestic water use in operation to come from rainwater collection and/or grey water recycling schemes).</p> <p>However, these efficiency measures will not be enough to prevent headroom deficits in some locations, ie within the Herefordshire Conjunctive Use zone during 'Critical Use periods' between 2020-2021, within the South Staffordshire zone during 'Critical Use periods' between 2011-2022, within the Severn zone between 2014-2016 and 2021-2024, and within the Birmingham zone between 2017-2019 and 2021-2023.</p> <p>To ensure that the proposed level of housebuilding does not cause deficits in the long-term, it may be necessary to introduce a policy requiring 'water neutrality' be introduced to the RSS, whereby developments would only be allowed to go ahead if there was no net increase in water demand. This could be achieved through efficiency standards and rain/grey water use in new stock, and/or by retrofitting existing housing stock to reduce demand from those properties.</p>

¹ West Midlands RSS – The Impact of Housing Growth on Public Water Supplies, Environment Agency 2007

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	reduce the use of primary aggregates?				<p>According to the ODPM's Sustainability Impacts Model, approximately 60 tonnes of aggregate is required for the construction of a house and 45 tonnes for a flat.² Assuming an average requirement of 52.5 tonnes per dwelling, the gross build rates of 21,749 per annum would account for 1.14m tonnes of aggregate per year (compared to 19.2m tonnes of primary aggregate used in the Region in 2001). This level of housing construction would consume 22.8mt between 2006 and 2026. This does not include the aggregate that would be required for construction of other infrastructure, eg roads, schools, healthcare facilities etc.</p> <p>The Sustainable Construction policy contains some provisions to reduce the use of primary aggregates. In particular, the policy encourages Local Authorities, through their LDDs, to promote the preparation of waste management plans to ensure that at least 10% of the total cost of minerals derives from recycled and reused content. It also applies the good standards from the Checklist which aim to:</p> <ul style="list-style-type: none"> • use 25-30% of locally-reclaimed materials for road, pavement etc construction • ensure that 60-80% of Green Guide A rated low environmental impact materials is used in construction <p>It is also noted that the policies on waste un Chapter 8 on 'Quality of the Environment' are also crucial for reducing the use of primary aggregates.</p>
1.2	promote and support the development of high value and low impact new technologies, especially resource-efficient technologies and environmental technology initiatives?				<p>The Sustainable Construction policy requires the use of renewable energy and low carbon technologies in order to reduce the CO2 footprint of new housing stock and deliver zero carbon housing from 2016. It also promotes the use of recycled building materials. As such the policy supports the development of these sorts of technologies.</p>
	promote the development of technologies to address climate change, eg new energy generators using renewable sources, more efficient industrial technology and processes to minimise or mitigate for the impacts of climate change?				
	secure improvements to communication infrastructure?	?	<p>The Sustainable Construction policy requires that at least the good standards from the West Midlands Sustainability Checklist are applied for all categories, which includes promoting virtual communications as an alternative to transport (that infrastructure is in place to allow for broadband, or that satellite broadband is installed).</p>		

² A Sustainability Impact Study of Additional Housing in England, ODPM, December 2005, p69

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.3	promote and ensure high standards of sustainable resource-efficient design, construction and maintenance of buildings, where possible exceeding the requirements of the Building Regulations?	++			<p>The Sustainable Construction policy (SR3) is specifically designed to address this issue. The policy aims to promote sustainable design and construction principles in the development of new housing, with an overall objective of ensuring that LDDs ensure that buildings are 'designed and constructed to their highest possible environmental standards', and covers many of the most important environmental sustainability issues which arise from how houses are constructed and operate during their occupancy, eg energy use, water use, waste. In particular, the policy establishes targets in relation to:</p> <ul style="list-style-type: none"> • Energy efficiency – Code for Sustainable Homes Level 3 by 2010, Level 4 by 2013, and Level 6 (zero carbon) by 2016 • Water efficiency – Code for Sustainable Homes level 4 (no more than 105 litres/person/day) • Renewable energy provision – all developments to have renewable and low-carbon energy infrastructure to meet 10% of demand <p>The policy also requires that all new developments meet the CAFE Building for Life 'good' standard, and that developments greater than 1,000m2 or 10 residential units meet the 'very good' standard and also demonstrate at least the 'good' standards from the West Midlands Sustainability Checklist. These mechanisms establish strict standards for a wide range of issues, and as such, SR3 will have a significant impact in making the design and construction of houses and other buildings more sustainable.</p>
	ensure the adoption of sustainable design and construction practices in all buildings?				

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.4	<p>increase use of public transport, cycling and walking as a proportion of total travel in order to reduce road traffic congestion, pollution and accidents, and improve health through increased physical activity?</p>		+		<p>The development of 365,600 additional houses and the growth in the number of households in the region will almost inevitably increase the amount of travelling done by people in the region, as they access employment, services, retail etc. Chapter 9 on 'Transport and Accessibility' will be crucial in dealing with this issue. However, the policies on housing are also important – in particular, the proportion of journeys made by non-car means can be increased if housing is located in the right areas, and if developments are designed in the right ways. There are a number of issues which therefore arise from the policies related to housing:</p> <ul style="list-style-type: none"> the Sustainable Construction policy sets out a range of requirements, through the West Midlands Sustainability Checklist, which promote alternatives to the car, eg making settlements more pedestrian friendly, maximising access to and improving the availability of public transport, promoting cycling and walking, promoting car clubs, requiring that facilities are provided that are accessible by means other than the car etc. In each case the 'good' standard is required. the Sustainable Communities policy also encourages local authorities to provide the necessary services and infrastructure (eg health, education, cultural etc) locally in expanding settlements and new developments, to provide greenspace for cycling and walking, and to improve accessibility by low-carbon forms of transport. the CF3 housing figures ensure that 69.3% of additional housing is located in the MUAs and the 'settlements of significant development' (which are defined partly because they have, or have the potential to have, good public transport), and that the proportion of housing in these areas will be the same in 2026 as it is currently – just under 66% of all dwellings. Rather than allowing for a dispersal of the population into the region's less accessible rural areas, and requiring that more journeys are made by car, the policy ensures that the balance of development between primarily urban areas and other more rural areas will be almost the same by 2026 as it is today. (It should be noted that the proportion of households in the MUAs will fall, and that the proportion in the areas of significant development will increase). It should be noted that no modelling has been carried out to assess the likely transport patterns that may arise from the proposed housing distribution, so only these basic conclusions can be drawn. CF6 encourages higher density development on sites within and close to strategic town centres, and in locations close to public transport interchanges. In these areas, the application of higher density rates means that more people will be able to use alternatives to the car to access jobs, services etc than if lower density rates were applied. <p>However, the Sustainable Communities policy could be clearer and more strongly focused towards ensuring that new communities maximise the potential for alternatives to the private car. In particular, the policy could state more clearly that local authorities should look to deliver housing in sufficiently large developments so that public transport infrastructure can be delivered alongside that housing (eg through large scale regeneration projects, urban extensions or new settlements, as opposed to smaller infill developments).</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	promote more sustainable transport patterns in areas suffering from congestion?				<p>Detailed information on areas of congestion is not available, and no transport modelling has been done to understand the likely transport patterns which may arise from the housing distribution. However, a broad assessment can be made of the distribution of housing and its likely impact on congestion. Much of the MUAs and many of the towns identified as areas of significant development already suffer from congestion issues and transport constraints, and it is understood that significant investment would be required in some areas if housing growth was to be focused in these areas. Key current and potential future issues include:</p> <ul style="list-style-type: none"> • Worcester, significant congestion issues and constraints within and through the city, including road and rail constraints across the River Severn, capacity issues on M5 Junction 6, need for a Southern Link Road etc³ • Telford, constraints around the town centre, rail connections to Birmingham, need for local distributor junctions with M54⁴ • Shrewsbury, limited number of crossing/access points across the R Severn⁵ • Hereford, constraints along the A49(T) through the city centre⁶ • Rugby, need for Western Relief Rd, increasing congestion on M1/M6/M14 interchange⁷ • Burton on Trent, limited road/rail capacity on A38 corridor between Birmingham and Derby⁸ • Warwick/Leamington Spa, general congestion around Warwick, Leamington, Kenilworth and Whitnash urban area⁹ • Redditch, possible need for Bordesley Bypass and Brockhill Link Road, congestion on A435 corridor¹⁰ <p>While these areas are capable of being served by public transport, these issues around congestion and transport constraints mean that additional development it will be even more important that alternatives to the car are provided alongside housing growth in these locations. It will therefore be extremely important that the Sustainable Communities and Sustainable Construction policies are implemented to a high standard in these locations. In addition, the RSS Transport Working Group carried out some initial analysis of what impact the housing distribution scenarios from the Options stage would have for levels of stress¹¹ on the region's Strategic Road Network, and based on this analysis it can be concluded that the CF3 housing proposals would have the following impacts:</p> <ul style="list-style-type: none"> • Across the region as a whole the M6 Toll Road is likely to remain unstressed. • A5 is unstressed west of the M42 and M54 but east of the M42 the existing network stress increases • A46 from the M6 at Coventry to the M5 at Tewkesbury is predicted to be overstressed at Evesham and is approaching overstress west of Stratford-upon-Avon. • A49 is predicted to be unstressed along its entire route from Shrewsbury through Hereford to Ross-on-Wye. • A50 is predicted to be unstressed east of Stoke and is approaching overstress within the city as far as the junction with the A500. • A500 is predicted to be unstressed with the exception of one section. • M5 is predicted to be overstressed from J1 to J5. • M6 is predicted to be overstressed from J2 to J16 with the exception of the section at its junction with the M6 Toll road. • M40 is predicted to be overstressed between J14 and J15 and approaching overstress between J15 and the M42 • M42 is predicted to be overstressed between J2 and J7 and approaching overstress between J1 and J2. • M50 is predicted to be unstressed between J1 and J4. • The proposals for transport infrastructure under the transport infrastructure policies would make no discernible difference to the stress of the network with the exception of the M6 between J14 and 15 where this section would be reduced from being overstressed to approaching overstress. • In 2026 during the peak periods taking into account the transport infrastructure policies, the network is significantly stressed on the majority routes. In particular the A38 South of Burton, the M42/M5/M6 Birmingham Box (with stress exceeding 300% on a number of links), and the M6 north of Coventry and sections of the M54. <p>It should be noted that further work is being carried out on behalf of the Highways Agency to model likely transport impacts arising from the preferred option, and that this work will be completed by December 2007.</p>
	promote a shift of freight from road to rail?		○		

³ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, S-7; Response of South Worcestershire Authorities (Malvern Hills, Worcester City, Wychavon) to Options Paper, 7 March 2007

⁴ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, S-7

⁵ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, S-7

⁶ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, 3-1

⁷ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, 3-1; Response of Birmingham City Council to Options Paper, 26 February 2007, p5

⁸ Response of East Staffordshire Borough Council to Options Paper, 28 February 2007

⁹ West Midlands RSS Infrastructure Review Report Final Draft, July 2007, Mott MacDonald, 3-1

¹⁰ Response of Worcestershire County Council to Options Paper, 1 March 2007, p31

¹¹ 'Stress' is defined as the ratio between the 'demand' Annual Average Daily Traffic (AADT) and the 'capacity' as given by the Congestion reference Flow (CRF) for that category of road as set out in Traffic Advice Note TA 46/97. Links with 100% or greater stress (ie 'overstressed' links) would have unstable forced flow with stop/start conditions and potentially major congestion. Links with less than 90% stress would have stable flow (ie no congestion problems).

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	Improve the quality of transport infrastructure?		○		
	make best use of existing airport capacity?		○		
1.5	ensure development is primarily in the major urban areas, and makes efficient use of existing physical infrastructure and helps reduce need to travel, especially by private car?	See above			<p>See Q1.4 for a full assessment of whether the policies on housing will:</p> <ul style="list-style-type: none"> • focus development in the more accessible, urban parts of the region • support the development of alternatives to the car • reduce the need to travel etc
	focus development in the major urban areas?				
	reduce the number and length of journeys made by car?				
	reduce the need to travel?				
	promote alternative, more sustainable, modes of transport to the car (including walking and cycling) through location of housing, employment sites, services and facilities, and appropriate infrastructure for sustainable modes of transport?				

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.6	encourage and enable waste minimisation, reuse, recycling and recovery to divert resources away from the waste stream?				<p>The policies on waste under Chapter 8 on 'Quality of the Environment' are obviously crucial in reducing landfilling, and promoting sustainable waste management, but it will also be important to 'decouple' waste generation from the development of additional housing, if the region's waste arisings are to fall.</p> <p>Looking at the 'worst case scenario', the development of 365,600 additional dwellings is likely to have the following impacts on waste arisings:</p> <ul style="list-style-type: none"> assuming that 1.25 tonnes of municipal waste is likely to arise from each new household in the Region (based on assumptions in the ODPM's Sustainability Impacts Model¹²), housing development under the CF3 figures will result in 15.7% more household waste arising being produced every year by 2026 (an additional 440,700 tonnes arising from a net increase of 353,759 households). assuming that 11.25 tonnes of construction and demolition waste would be produced for each dwelling constructed (based on assumptions in the ODPM's Sustainability Impacts Model), the construction of 434,970 houses between 2006-2026 would produce 4.9mt of C&D waste over the 20 year period, or 244,500 tonnes per year. <p>While overall waste arisings seem set to rise, the application of Sustainable Construction policies can slow the growth of both household waste arisings¹³ and C&D waste arisings¹⁴. In particular, the policy requires that at least the good standards from the West Midlands Sustainability Checklist are applied for all categories, which includes:</p> <ul style="list-style-type: none"> on segregation and recycling of waste, the inclusion of on site communal composting facilities, on C&D waste, the implementation of a waste management/minimisation scheme, on locally-reclaimed materials for roads, the use of 25-30% of the total requirement
	reduce waste arisings?				
	ensure that sustainable waste management can be carried out in the Region?	?			
enable communities to take responsibility for their own waste and meet their own needs (self-sufficiency)?					
1.7	encourage local sourcing of food, goods and materials?	+			The Sustainable Construction policy requires that at least the good standards from the West Midlands Sustainability Checklist are applied for all categories, which includes the increase in the use of locally-reclaimed materials for road, pavement etc construction (ie that 25-30% of materials for roads/pavements come from locally-reclaimed materials).
1.8	reward efficient resource use and encouraging development of alternative and renewable resources in order to reduce dependence on fossil fuels?	+			The Sustainable Construction policy contains a number of provisions which will support (if not reward) efficient resource use, and encourage the development of alternative and renewable resources, including requirements on the use of recycled and environmentally low impact materials, on energy and water efficiency, and on the use of renewable energy. These will have a major impact on the extent to which new housing stock is reliant on fossil fuels.

¹² A Sustainability Impact Study of Additional Housing in England, ODPM, December 2005, p79

¹³ According to A Sustainability Impact Study of Additional Housing in England, ODPM, December 2005 (p79), EcoHomes 'excellent' standard (with facilities for recycling and separation of waste) and good 'eco-behaviour' from the occupants (eg maximising their recycling) would reduce typical household waste arisings from 1.25 tonnes to 0.88 tonnes per unit. However, it is not clear what reduction might be achieved by the application of standards under the Sustainable Construction policy.

¹⁴ According to A Sustainability Impact Study of Additional Housing in England, ODPM, December 2005 (p76), EcoHomes 'excellent' standard would reduce C&D waste from 11.25 tonnes to 9 tonnes per unit. However, it is not clear what reduction might be achieved by the application of standards under the Sustainable Construction policy.

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.9	encourage corporate social and environmental responsibility, with regional organisations and agencies leading by example?		○		
	encourage sustainable procurement?		+		The Sustainable Construction policy contains a number of provisions relating to the use of environmentally-sustainable materials and products, eg recycled and low impact materials, renewable and low-carbon energy infrastructure, energy and water efficient technologies etc, and so will support sustainable procurement practices within the region's housebuilding industry.
1.10	encourage a culture of enterprise and innovation, including social enterprise?		○		

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
1.11	<p>achieve a strong, stable and sustainable economy and prosperity for the benefit of all the Region's inhabitants?</p>				<p>Delivering the right housing in the right locations is vital to ensure that the region's economy is strong and delivers benefits for everyone in the region. In particular, the overall strategy for the region is to focus economic activity and employment around the MUAs – a vital part of urban renaissance – and as such it is important that housing is also focused in the MUAs rather than being dispersed more widely around the region.</p> <p>As such, the CF3 housing figures do not seem likely to support the process of urban renaissance, providing as they do for an increase in the proportion of housing outside the MUAs. However, it is also noted that a significant proportion of non-MUA housing is to be located in the areas of significant development, which should be capable of balanced and sustainable growth. However, research carried out for AWM¹⁵ suggests that while the overall levels of housing growth for the region as a whole are close to that required to support economic growth (374,187 would be required under the 'baseline' scenario, which assumes that past recent trends continue, and 389,254 under the 'convergence' scenario, which assumes that by 2026 the region has closed the GVA gap on the rest of the UK), the housing allocations at district level will not meet projected demand and support the economic growth projections from the draft RES. In particular:</p> <ul style="list-style-type: none"> • The 'South' Housing Market Area (which covers Worcestershire, Stratford upon Avon and Warwick) would need a significantly greater growth in its housing stock – 116,623 under the 'baseline' scenario and 120,301 under the 'convergence' scenario, compared to 53,000 under CF3 • The 'West' HMA (which covers Shropshire and Herefordshire) would need a similar allocation of housing to that proposed – 39,064 under the 'baseline' scenario and 40,938 under the 'convergence' scenario, compared to 42,300 under CF3 • The non-MUA parts of the 'North' HMA (ie Staffordshire Moorlands, Stafford and East Staffordshire) would need slightly fewer additional houses than that proposed – 24,254 under the 'baseline' scenario and 25,295 under the 'convergence' scenario, compared to 29,000 under CF3 • The MUA parts of the 'North' HMA (ie Stoke and Newcastle under Lyme) would need a <i>reduction</i> in housing stock – a fall of 2,512 under the 'baseline' scenario and a fall of 1,678 under the 'convergence' scenario, compared to an increase of 17,100 under CF3 • Coventry (in the 'Central' HMA) would need growth in its housing stock of 19,597 under the 'baseline' scenario and 20,014 under the 'convergence' scenario, compared to 33,500 under CF3 • Birmingham/Solihull (in the 'Central' HMA) would need growth in its housing stock of 68,676 under the 'baseline' scenario and 70,258 under the 'convergence' scenario, compared to 58,200 under CF3 • The Black Country (in the 'Central' HMA) would need growth in its housing stock of 41,562 under the 'baseline' scenario and 43,941 under the 'convergence' scenario, compared to 61,200 under CF3 • Telford (in the 'Central' HMA) would need growth in its housing stock of 22,818 under the 'baseline' scenario and 23,159 under the 'convergence' scenario, compared to 26,500 under CF3 • Rugby, Nuneaton and North Warwickshire (in the 'Central' HMA) would need growth in its housing stock of 30,541 under the 'baseline' scenario and 31,883 under the 'convergence' scenario, compared to 24,600 under CF3 • Lichfield and Tamworth (in the 'Central' HMA) would need growth in its housing stock of 8,809 under the 'baseline' scenario and 9,456 under the 'convergence' scenario, compared to 10,900 under CF3 • South Staffordshire and Cannock Chase (in the 'Central' HMA) would need growth in its housing stock of 4,755 under the 'baseline' scenario and 5,687 under the 'convergence' scenario, compared to 9,300 under CF3
	narrow the GVA gap between the best and worst performing parts of the Region?	?			It is unclear whether there is any link between the housing policies and narrowing gaps in GVA within the region.

¹⁵ Study to examine the interface between housing and the economy in the West Midlands region, SQW and Cambridge Econometrics, Draft Final Report 14 August 2007

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	support efficient, competitive, diverse and innovative business, commercial, industrial, retail, tourism and leisure sectors?	○			

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
2.1	reduce overall energy use through increased energy efficiency?	+ ?			<p>The development of 365,600 additional dwellings on its own is certain to increase overall energy use, unless steps are taken to ensure that those dwellings are more energy efficient.</p> <p>The Sustainable Construction policy introduces a range of measures to do this. Most notably, the policy requires that the higher standards for new homes are progressively applied – Code for Sustainable Homes Level 3 by 2010, Level 4 by 2013, and Level 6 (zero carbon) by 2016. These targets are in line with what the Government has proposed in ‘Building a Greener Future’, and will require not only the increased use of renewable energy but also the application of very stringent energy efficiency measures in new housing.</p> <p>However, addressing the energy efficiency of new housing is not on its own enough. While the RSS does not directly deal with issues relating to existing housing stock, if the overall energy use of the region’s housing stock is to fall then measures are required to improve the energy efficiency of existing housing stock. Despite the development of 365,600 new dwellings, by the end of the plan period 83.8% of the region’s households will still be living in houses that were constructed prior to 2006. The Sustainable Construction policy looks for Local Authorities to promote energy efficiency in existing housing stock, but it is recommended that more specific and detailed proposals are developed to ensure that this happens.</p>
	raise energy efficiency to current Building Regulations standards in refurbishments for Decent Homes Standard? (Also see question on EcoHomes standard under issue 5, Housing).	-			
2.2	and increase the proportion of energy generated from renewable and low carbon sources, including by micro-generation, CHP, district heating, and in transportation?	+			<p>The policies within Chapter 2 on ‘Towards a More Sustainable Region’ contain provisions to increase the amount of energy generated from renewables. In particular:</p> <ul style="list-style-type: none"> the Climate Change policy requires that Local Authorities (through their LDDs) should exploit opportunities to mitigate climate change by developing and using renewable energy the Sustainable Communities policy asks local planning authorities to provide environmental infrastructure including larger scale renewable and decentralised energy generation, including CHP and community heating schemes (sub-section G) the Sustainable Construction policy requires that all developments with more than 1,000m² or 10 residential units should incorporate renewable and low-carbon energy to meet 10% of demand, with local authorities free to apply the target (or higher targets) to smaller developments if appropriate.
	promote energy generation from CHP and community heating?	-			
2.3	minimise the Region’s contribution to the causes of climate change by reducing emissions of greenhouse gases from transport, domestic, commercial and industrial sources?	-			<p>The introduction of a new policy on Climate Change in Chapter 2 on ‘Towards a More Sustainable Region’ raises the profile of the issue and clarifies the measures which local authorities will be expected to deliver through their LDDs. It also references the UK’s targets on CO₂ emissions reductions, and places some responsibility for their achievement at regional level on local authorities.</p> <p>However, if this policy is to have genuine impact, it is recommended that it establishes a meaningful and more challenging target for reducing CO₂ emissions which all local authorities should be expected to work towards. As an example, the Climate Change Action Plan for London has established a target of reducing CO₂ emissions by 60% by 2025 (based on 1990 levels), which is broken down by sector (eg domestic, ground based transport etc). The adoption of this sort of target for the West Midlands would inform the</p>

¹⁶ ‘Carbon Dioxide Emissions of West Midlands’ Housing – a Scenario Analysis’, SEI, 2007

¹⁷ ‘Building a Greener Future – policy statement’, CLG, July 2007

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	reduce the Region's contribution to climate change?				<p>development of many other policies within the RSS, eg standards would be set within the Sustainable Construction policy to deliver the target.</p> <p>More importantly is whether climate change issues are mainstreamed through the other housing policies, and most importantly is what impact the policies will have on greenhouse gas emissions.</p> <p>The development of 365,600 additional houses will inevitably result in increased emissions of greenhouse gases (particularly CO₂ and methane) unless that growth and emissions can be 'decoupled'. This is not straightforward – typically, more houses means more domestic energy use, more waste arisings, more transport, more consumption of goods and services etc – all of which usually result in more greenhouse gas emissions.</p> <p>As has already been explained, no detailed information is available on the transport patterns that are likely to arise from the proposed housing growth, so no assessment of CO₂ emissions can be made. Also, while the region's total waste arisings are likely to rise, it is possible that the waste policies in Chapter 8 on the Quality of the Environment will be able to reduce the greenhouse gas impacts of that waste. Therefore, this section focuses on the CO₂ emissions of the region's housing stock.</p> <p>Some work has been carried out to assess the CO₂ emissions that might arise as a result of housing growth. In 2007, a study¹⁶ by the Stockholm Environment Institute calculated how emissions of CO₂ from the Region's housing stock were likely to change as a result of housing growth over the plan period. According to the report, in 2002, the West Midlands' housing stock emitted almost 18m tonnes of CO₂, 3.41 tonnes per head. Using a model called 'REAP', the report stated that, with 20,000 new houses (gross) constructed in the Region every year (1,029 fewer than that proposed by the H3 figures):</p> <ul style="list-style-type: none"> • If by 2015 all houses were being built to Ecohomes 'Excellent' standard (equivalent to the Code for Sustainable Homes Level 4), that by 2026 per capita emissions would fall by 7% (to 3.12 tonnes), but that total emissions would still rise by 1% (to just less than 18m tonnes) • If by 2015, all houses were being built to Ecohomes 'Excellent' standard, 25% of their energy needs were met from renewables, that the demolition/replacement rate of existing (energy inefficient) housing stock was increased by 400%, and Buildings Regulations were enforced more effectively, that by 2026 per capita emissions would fall by 35% (to 2.19 tonnes), and that total emissions would fall by 29% (to 12.6m tonnes) <p>The Sustainable Construction policy will not result in either of these scenarios being replicated (or any of the other scenarios from the SEI) report, as it requires the application of different standards – Code for Sustainable Homes Level 3 by 2010, Level 4 by 2014, and Level 6 (zero carbon) by 2016 – in line with what the Government has proposed in its latest policy statement on sustainable construction, 'Building a Greener Future'.¹⁷ Unfortunately, the proposals from CF3 and the Sustainable Construction policy have not been modelled using REAP, so it is not clear what that would happen with CO₂ emissions under that scenario.</p> <p>However, some simple calculations have been made to assess the likely effects of full implementation of the Sustainable Construction policy on energy efficiency. By ensuring that all 434,970 new houses (replacements for demolished housing and housing on new land) meet all the targets from the date of their introduction, by 2026 the region's housing stock would be emitting 3.2% more CO₂ than it was in 2006, compared to an increase in the size of the region's housing stock of 15.7%. The deployment of renewable energy would further reduce emissions from the housing stock – and all developments above 10 dwellings in size will be required to meet 10% of their energy requirements from renewable energy – as would retrofitting pre-2006 housing stock. However, 3% growth in CO₂ over 20 years is not going to be a sufficient rate of change to meet the Climate Change policy's requirement that a 60% reduction be delivered by 2050. It is therefore vitally important that, alongside the rigorous application of the Sustainable Construction's requirements on energy efficiency, (a) renewable energy provides an increasing proportion of the region's energy requirements and (b) the energy efficiency of pre-2006 housing stock is also addressed as a matter of urgency.</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
2.4	implement a managed response to the unavoidable impacts of climate change, ensuring that the design and planning process takes account of the predicted changes in the Region's climate?		+		<p>In developing new housing, it will be important to ensure that developments are 'climate proofed' – able to operate in different, occasionally more extreme weather conditions, help species and habitats to deal with climate change, do not exacerbate climate change risks etc.</p> <p>There are a number of provisions in different policies which do this, in particular:</p> <ul style="list-style-type: none"> Part D of the Climate Change policy requires that Local Authorities (through their LDDs) should require all new development to promote use of sustainable drainage techniques, and encourage the construction of climate proofed developments to ensure their long-term viability in adapting to climate change Part C of the same policy requires that natural habitats are enhanced and extended, so that opportunities for species migration are not precluded and biodiversity can adapt to climate change, and to help mitigate climate change effects such as heat islands Part E of the Sustainable Communities policy requires that local authorities develop communities in such a way that green infrastructure is in place to mitigate and adapt to climate change The Sustainable Development policy requires that the good standard on preventing heat island effects from the West Midlands Sustainability Checklist is applied. <p>(Flood risk issues are discussed under Q2.5)</p>
	promote sustainable urban drainage systems?				
	promote the adoption of climate change adaptation and climate proofing principles in planning and design?				

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
2.5	ensure that land use and development takes into account predicted changes in the Region's climate, including flood risk?				<p>According to the Regional Flood Risk Assessment report¹⁸, four districts have a high 'inherent flood risk' (Birmingham, Sandwell, East Staffordshire and Tamworth), and ten districts have a medium inherent flood risk (Walsall, Wolverhampton, Solihull, Oswestry, Lichfield, Stafford, North Warwickshire, Nuneaton and Bedworth, Malvern Hills and Worcester).</p> <p>Under the CF3 housing proposals, the total number of houses in high risk areas will increase. Approximately 21.4% of the region's current housing stock (494,845) is located in high risk districts, 35.2% in medium risk, and 43.4% in low risk. By 2026, 561,245 dwellings will be located in high risk districts, although the overall proportion of houses in high risk districts will fall to 20.9%. Furthermore, four districts with high or medium inherent flood risk will have particularly high levels of housing growth – East Staffordshire (27.8% growth), Oswestry (22.8%), Nuneaton and Bedworth (20.5%), and Worcester (24.8%).</p> <p>Clearly, there are some districts with medium/high flood risk issues where housing development will be focused. However, it is not certain that developing these houses will automatically result in higher flood risks. Depending on <i>where</i> and <i>how</i> these houses are developed (eg outside of flood zones, and with sufficient infrastructure for flood risk management), flood risk issues may not necessarily worsen.</p> <p>Policies are in place to address flood risk, including:</p> <ul style="list-style-type: none"> • The Climate Change policy, which requires that Regional and local authorities, agencies and others include policies and proposals in their plans, strategies and programmes to require all new development to avoid development in flood zones (Part C) • The Sustainable Communities policy, which asks local planning authorities to plan for the soft and hard infrastructure needed for flood risk management (sub-section G). • The Sustainable Construction policy, which requires that sustainable drainage and integrated water management is promoted in all medium and large developments (ie above 10 dwellings or 1,000m²), and applies the good standard from the West Midlands Sustainability Checklist on dealing with and reducing flood risk ('to site and design the development in accordance with the sequential test in PPS25') and flash flooding ('to demonstrate that the site can contain rainfall from 1:250 year event')
	prevent all inappropriate development in areas of flood risk?				

¹⁸ West Midlands Regional Flood Risk Assessment, Faber Maunsell, July 2007

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
3.1	<p>value, protect, enhance and restore the Region's environmental assets, including the natural, built and historic environment and landscape?</p>				<p>The construction of 365,600 additional houses is very likely to have impacts on the region's environmental assets – the natural environment, the historic environment, landscape and townscape etc – depending on where it is located and how it is developed. Impacts will be both direct (eg land take, increased disturbance through noise/recreation/traffic etc, damage to landscapes and townscapes, destruction of archaeology and historic sites) and more indirect (eg changes in air quality, water quality and quantity).</p> <p>Identifying and assessing the significance of impacts is extremely complex. It is not possible to identify/map all of the environmental assets within the region, or to understand their sensitivities. Moreover, the RSS obviously does not identify the parcels of land where new housing will be developed, instead simply allocating housing to districts or towns. It is therefore impossible to identify pathways through which impacts might travel from developments to receptors. However, some general comments can be made about pressures arising from the level of housing development proposed, and about how those pressures are likely to be handled.</p> <p>In terms of direct land-take, some impacts can be assessed:</p> <ul style="list-style-type: none"> • Policy CF5 prioritises the use of brownfield land over greenfield land, and sets a regional target of 70% of housing on PDL for 2006-2016. Policy CF10 supports this policy by requiring that local authorities release land to secure the development of brownfield and conversions. However, even if PDL/brownfield land is prioritised in line with these policies, non-PDL land will be required to deliver the additional housing. • Of the gross 434,970 dwellings which would be built between 2006 and 2026 (365,600 dwellings which would be built on new sites plus 69,370 which will be replacement of demolished stock), 318,346 could be built on PDL identified in the Regional Housing Land Capacity Study 2007 – 73.2%. The PDL percentage could be up to 84.3% in the MUAs and 60.4% in the non-MUAs. • Assuming that dwellings would be completed at densities specified in the Regional Housing Land Capacity Study (which average at approximately 41 dwellings per hectare), 116,614 dwellings will be on other types of land (eg greenfield, land reallocations etc), accounting for 2,842ha of land. 82.3% of this land would be in non-MUA districts. • This land is located in all but five of the region's districts, as follows: Birmingham (150.7ha), Coventry (274.5ha), Solihull (78.9ha), Bridgnorth (27.8ha), North Shropshire (95.9ha), Oswestry (85.9ha), Shrewsbury and Atcham (88.7ha), South Shropshire (143.7ha), Telford and Wrekin (339.9ha), Cannock Chase (22.8ha), East Staffordshire (17.8ha), Lichfield (108.2ha), Newcastle under Lyme (10.9ha), South Staffordshire (30.7ha), Stafford (62.9ha), Staffordshire Moorlands (66.2ha), Tamworth (24.4ha), North Warwickshire (25.8ha), Nuneaton and Bedworth (116.5ha), Rugby (175.6ha), Stratford-on-Avon (94.6ha), Warwick (85.7ha), Bromsgrove (5.4ha, including land for development around Redditch town), Redditch (23.8ha), Malvern Hills (134.6ha, including land for development around Worcester), Wychavon (251.6ha, including land for development around Worcester), Herefordshire (309.4ha). • If the density rates are assumed to be the same as those in the 2006 RSS Housing Monitoring information (which sets out data on sites that have been given planning permission for housing development, and which are generally much lower than those in the Regional Housing Land Capacity Study (although data from a number of important local authorities is not provided, eg Birmingham, Stoke, Worcester)), then the 116,614 dwellings would account for 5,447ha of non-PDL. <p>It should be noted that these calculations do not include land that would be required for other infrastructure (eg roads, secondary schools, hospitals etc).</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	value, enhance and protect the Region's natural environmental assets (eg Green Belt, parks and open spaces, AONBs etc)?				<p>It seems very likely that the some of additional land requirement identified above will come from green belt, in particular:</p> <ul style="list-style-type: none"> In and around Coventry, which is set to see a 27% increase in housing in the district, only has sufficient land in the city for 60% of the additional housing (meaning that 223ha of 'non-urban' land would be required for development), and is almost entirely constrained by greenbelt around Tamworth town, including in Lichfield district (although land requirements cannot be quantified) around the towns in Nuneaton and Bedworth district (which is 46% greenbelt), where there is only sufficient urban land for 70% of the proposed additional housing, leaving a requirement of 93ha of non-urban land to be identified around Redditch town, where 4,000 new houses covering perhaps 100ha are expected to be provided outside the district's boundaries in Bromsgrove, most of which it is understood would be on green belt <p>It seems far less likely that any development will be required in AONBs.</p>
	value, enhance and protect the Region's historic environment assets (eg World Heritage Sites, archaeological remains, historic buildings, parks and gardens, and landscapes, and conservation areas, battlefields and other architectural and historically important features and areas, and their settings)?		?		<p>As explained above, it is not possible to assess whether the district-level housing figures will have specific impacts for historic assets, although clearly the level of development will have direct land-take impacts and increase overall pressures on environmental assets.</p> <p>There are no clear policies which look to promote heritage led regeneration, and no policies which promote the repair or reuse of historic buildings. However, some policies do look to protect the historic environment in general terms, for example:</p> <ul style="list-style-type: none"> the Sustainable Communities policy asks local planning authorities to create attractive, well-designed, adaptable, safe and secure developments, with a sense of place that respond to the distinctive features of the site, integrate with their surrounding context, respect and enhance local character, and maximise the reuse of buildings and brownfield land' (sub-section C), and to plan for a comprehensive green infrastructure network that provides the full range of environmental services, and protects biodiversity, geodiversity, historic assets and landscape character (sub-section E) the Sustainable Construction policy requires that the minimum standards from the West Midlands Sustainability Checklist are applied, which include ensuring that heritage and archaeology is conserved or preserved if present <p>It is recommended that consideration be given to the role that heritage-led regeneration might play, and whether the repair/reuse of historic buildings should be promoted through the RSS.</p>
	promote heritage-led regeneration?				
	promote the repair and reuse of historic buildings?				
	enhance the amenity value of the countryside, meeting the recreational and leisure needs of communities?				<p>As has already been explained, it seems likely that significant amounts of development will be located on non-PDL and potentially on green belt land, which would obviously have implications for the amenity value of the countryside in the locations affected, and impact on recreation and leisure. There are no specific policies to address or mitigate this problem.</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	protect, enhance and manage the character and appearance of the region's landscapes and townscapes, maintaining and strengthening local distinctiveness and sense of place?		?		<p>Given the level of development across the region, there are likely to be negative impacts on the current character and appearance of landscapes and townscapes. In particular, negative landscape impacts are inevitable where development takes place on green belt or in rural locations on the edge of expanding towns. In addition, there may be negative townscape impacts where significant amounts of development take place in and around historic towns eg:</p> <ul style="list-style-type: none"> • Worcester, whose housing stock will increase by 25% • Hereford, whose housing stock will increase by 36% • Shrewsbury, whose housing stock will increase by 19% <p>While impacts are inevitable on landscapes where green belt or previously undeveloped areas are used, it is possible to develop in sensitive urban locations without damaging the town's character – indeed, it is possible to enhance townscapes through development. Policies are in place to promote this, in particular:</p> <ul style="list-style-type: none"> • The Sustainable Communities policy asks local planning authorities to create attractive, well-designed, adaptable, safe and secure developments, with a sense of place that respond to the distinctive features of the site, integrate with their surrounding context, respect and enhance local character, and maximise the reuse of buildings and brownfield land' (sub-section C), and to plan for a comprehensive green infrastructure network that provides the full range of environmental services, and protects biodiversity, geodiversity, historic assets and landscape character (sub-section E) • The Sustainable Construction policy. The policy requires that all developments must now meet the Building for Life 'good' standard, with medium and large-scale developments (ie over 10 units of 1,000m²) meeting the 'very good' standard. This standard requires that developments be well designed, have a sense of place and a distinctive character, and exhibit architectural quality. As such, this standard is best practice in development design. The policy also requires good standards from the West Midlands Sustainability Checklist, covers issues relating to respecting landscape character, conserving and preserving archaeological assets, and promoting access to high quality greenspace.
3.2	<p>value, maintain, restore and re-create regional biodiversity?</p> <p>value, enhance and protect the Region's designated sites, including sites designated for geodiversity?</p>		- ?		<p>As has already been explained, the construction of 365,600 additional houses is very likely to have impacts on the region's environmental assets – including biodiversity and geodiversity – depending on where it is located and how it is developed. Impacts will be both direct (eg land take, increased disturbance through noise/recreation/traffic etc, habitat 'nibbling') and more indirect (eg changes in air quality, water quality and quantity). Well-designed developments can also help to establish new biodiversity assets or restore/improve existing ones.</p> <p>Identifying and assessing the significance of impacts is extremely complex. It is not possible to identify/map all of the</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	value, enhance and protect the Region's priority habitats and species, and promote the delivery of regional biodiversity targets?				<p>environmental assets within the region, or to understand their sensitivities, and so only general conclusions can be drawn.</p> <ul style="list-style-type: none"> See 3.1 above for a review of land-take issues. Clearly the level of development proposed will increase pressures on greenfield sites and green belt, with impacts for biodiversity and geodiversity. See 1.4 above for a review of transport issues. Policies are in place to encourage more local travel by non-car means (in the Sustainable Construction and Sustainable Communities policies), although housing growth outside the MUAs and areas of significant development may result in increased non-local car journeys. Impacts on air quality, water quality and water quantity are currently unclear, but will be considered in detail as part of the HRA, which will provide a detailed assessment of whether the revised RSS will have any significant effects on 'European Sites'. <p>While the housing policies will inevitably increase pressure on biodiversity and geodiversity in some locations, and may well increase pressure across the region generally, there are provisions which look to support biodiversity and geodiversity. In particular:</p> <ul style="list-style-type: none"> The Sustainable Communities policy asks local planning authorities to plan for a comprehensive green infrastructure network that provides the full range of environmental services and protects biodiversity and geodiversity (sub-section E). The Sustainable Construction policy, which requires the 'good' standards from the West Midlands Sustainability Checklist, covers issues relating to determining, maintaining and enhancing existing biodiversity assets, improving the ecological value of sites by linking to habitats, and planting native species of trees and shrubs.
	support development that incorporates improvements to wildlife habitats?	+			See above.
3.3	minimise air, water, soil, light and noise pollution levels, and create good quality air, water and soils?				The development of 365,600 more houses in the region may give rise to additional pollution, eg air pollution from traffic and energy generation, water pollution from sewage, noise and light pollution from buildings, roads etc. Of course, measures can be implemented to address these problems – water efficiency in housing, improved sewage treatment infrastructure, a reduction in traffic in congested areas etc. Issues are explored in more detail below.
	promote more sustainable transport patterns in areas of low air quality?	∅			See 1.4 above for a review of transport issues. Policies are in place to encourage more local travel by non-car means (in the Sustainable Construction and Sustainable Communities policies), although housing growth outside the MUAs and areas of significant development may result in increased non-local car journeys. Technological improvements may also help to ensure that emissions do not increase. Congestion may worsen in some areas of significant development causing localised air pollution and noise problems.
	address air quality impacts arising from specific development activities?	?			The housing policies do not propose any specific development activities, although some may arise as a result of housing growth. Therefore, no air quality impacts can be identified.

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	protect and enhance the quality of watercourses in the Region?	-			<p>Wastewater treatment infrastructure is under stress in some parts of the region. An Environment Agency study¹⁹ concluded that of the 69 sewage treatment works covered by the review, 25 are high risk of breaching either discharge quality or quantity standards, 25 are medium risk, and 14 are low risk. The urban areas (such as Birmingham and the Black Country) are at the top-end of catchments, and have many STWs which would not be able to expand their capacity without there being a risk of breaching standards.</p> <p>Further work will be carried out to understand how STWs capacity issues relate to specific settlements. In addition, the HRA will provide more information on water quality issues across the region.</p>
	reduce the quantity of contaminated land in the Region?	+			<p>Large amounts of PDL, including contaminated land will be used to deliver the housing growth. Of the 365,600 additional houses, 248,976 can be constructed on PDL. Policy CF4 requires that local authorities develop phasing policies which require the use of brownfield land, and only allow the use of greenfield sites in specific circumstances. Policy CF5 prioritises the use of brownfield land over greenfield land, and establishes a regional target of 70% of all housing to be built on PDL. Policy CF10 supports this policy by requiring that local authorities release land to secure the development of brownfield and conversions. Overall, it is very likely that the quantity of contaminated land in the Region will fall.</p>
	prevent noise and light pollution?	-			<p>In broad terms, it is highly likely that the development of new housing in areas where housing has not previously been present will cause new light and noise pollution in those areas. Furthermore, additional housing in already built-up areas may increase noise pollution, eg from increased traffic levels.</p> <p>Clearly, the proposals will bring new development to the region's urban areas – 253,500 additional houses will be located in the MUAs and the towns identified as Settlements of Significant Development. It is possible that this new development will result in more noise pollution (eg from increased traffic levels, from noise nuisance in high density developments (unless they are well designed)). In addition, levels of housing being proposed for the Settlements of Significant Development are probably not deliverable within the existing urban limits of these towns, and seem likely to require extensions to the current urban areas into new areas where noise and light pollution may not previously have been present.</p> <p>Furthermore, while the proposals aim to limit the amount of housing outside the MUAs and Settlements of Significant Development (ie in the less 'tranquil' areas of the region where noise and light pollution is already likely to be present), they will still result in the construction of 112,900 additional houses in these largely rural and more 'tranquil' areas (albeit in the smaller towns and villages), which is likely to reduce tranquillity in these parts of the region.</p> <p>There are policies, however, which will help to mitigate these issues. In particular, the Sustainable Construction policy applies 'good' standards from the West Midlands Sustainability Checklist relating to noise and light pollution.</p>
3.4	encourage land use and development that optimises the use of previously developed land and buildings?	+			<p>Large amounts of PDL will be used to deliver the housing growth. Regionally, 73.2% of the gross number of dwellings will be constructed will be on PDL.</p> <p>Policies are in place to make sure that the use of PDL is optimised:</p> <ul style="list-style-type: none"> • Policy CF4 requires that local authorities develop phasing policies which require the use of brownfield land, and only allow the use of greenfield sites in specific circumstances. • Policy CF5 prioritises the use of brownfield land over greenfield land, and establishes a regional target of 70% of all housing to be built on PDL. • Policy CF10 requires that local authorities release land to secure the development of brownfield and conversions

¹⁹ The Impact of Housing Growth on Water Quality and Waste Water Infrastructure, Environment Agency, 2007

RSDF	Appraisal Questions	Effects			Commentary	
	Will the option/proposal...	Short	Med	Long		
3.5	encourage land use and development that creates and sustains well-designed, high quality built environments that incorporate green space, encourage biodiversity, and promote local distinctiveness and sense of place?				<p>There are many provisions in both the Sustainable Communities and Sustainable Construction policies which look to promote high quality design, outlined below. In particular,</p> <ul style="list-style-type: none"> The Sustainable Communities policy asks local planning authorities to create attractive, well-designed, adaptable, safe and secure developments, with a sense of place that respond to the distinctive features of the site, integrate with their surrounding context, respect and enhance local character, and maximise the reuse of buildings and brownfield land' (sub-section C), and to plan for a comprehensive green infrastructure network that provides the full range of environmental services, and protects biodiversity, geodiversity, historic assets and landscape character (sub-section E) The Sustainable Construction policy, which requires minimum standards from the West Midlands Sustainability Checklist, covers issues relating to respecting landscape character, conserving and preserving archaeological assets, and promoting access to high quality greenspace <p>However, most importantly, all developments must now meet the Building for Life 'good' standard, with medium and large-scale developments (ie over 10 units of 1,000m²) meeting the 'very good' standard. This standard establishes 20 standards to ensure that the development:</p> <ul style="list-style-type: none"> has character, a sense of place and architectural quality, with a good layout, and exploiting existing buildings, landscape or topography is pedestrian/cycle friendly, not dominated by highways, well integrated with existing roads and paths, and feels safe is well designed, with high quality construction and technology, and with spaces and layout that are adaptable, convertible or extendable has a tenure and accommodation mix that reflects the needs of local community, with access to public transport and community facilities <p>As such, this standard is best practice in development design..</p>	
	require good urban design to create attractive, high quality environments where people will choose to live, work and invest?					+
	increase access to good quality green space (eg increase the number of people in towns and cities with accessible greenspace within 300m of their homes)?					+
protect existing and encourage the development of new biodiversity assets in developments?	+	<p>Policies which look to support biodiversity include:</p> <ul style="list-style-type: none"> The Sustainable Communities policy asks local planning authorities to plan for a comprehensive green infrastructure network that provides the full range of environmental services and protects biodiversity and geodiversity (sub-section E). The Sustainable Construction policy, which requires the 'good' standards from the West Midlands Sustainability Checklist, covers issues relating to determining, maintaining and enhancing existing biodiversity assets, improving the ecological value of sites by linking to habitats, and planting native species of trees and shrubs. 				

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
3.6	encourage local stewardship of local environments, for example by promoting best practice in agricultural management or enabling communities to improve their neighbourhoods?		○		
3.7	<p>promote environmental justice, recognising that deprived areas and disadvantaged communities and more likely to be affected by environmental damage and degradation?</p> <p>specifically improve environmental quality in deprived communities?</p>		+		<p>The housing policies (particularly H1 and H2) look to support housing renewal in areas where there are problems or market failure and a need for economic regeneration, eg North Staffordshire, west and north Birmingham, east Sandwell. By ensuring that the quality of housing stock and the overall quality of life in these communities is improved, the housing policies will help to improve environmental quality in these areas.</p>
4.1	<p>enable communities to influence the decisions that affect their neighbourhoods and quality of life?</p> <p>promote the use of community-based planning tools?</p>		+		<p>The Sustainable Construction policy requires that at least the good standards from the West Midlands Sustainability Checklist are applied for all categories, which includes:</p> <ul style="list-style-type: none"> on public involvement in design, that local community stakeholders have been asked to choose their preferred option from a range of schemes and that this option has been put forward on ongoing public involvement, that this is actively marketed to potential occupiers/owners
4.2	<p>ensure easy and equitable access to services, facilities and opportunities, including jobs and learning, regardless of culture, ethnicity, faith, gender, sexuality, age, disability or location?</p> <p>ensure that existing services and opportunities are retained and, where possible, developed?</p>		+		<p>To ensure that good access is provided to services, facilities and opportunities, the policies on housing can:</p> <ul style="list-style-type: none"> direct housing to areas where these amenities are already in place, and are readily accessible to other settlements direct housing to areas so that local amenities can be retained ensure that housing is located in areas with good transport links ensure that new amenities are provided alongside housing in mixed developments <p>As has already been discussed, the housing policies will result in a reduction in the proportion of dwellings in the MUAs over the plan period, which may make some amenities less accessible to more people. However, the policies will also increase the proportion of dwellings in areas of significant development, which already act as sub-regional service centres and have good public transport/walking/cycling infrastructure. In addition, the remaining housing development is to be directed towards other settlements with services, including prioritising villages which still have a range of</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	promote compact, mixed-use developments with good accessibility to local facilities and services that reduce the need to travel?				<p>services. Therefore, on balance, the housing policies seem likely to improve levels of access to services etc. In addition, the housing policies seek to ensure that housing is focused around transport hubs and that alternatives to the car are provided. For example, policy CF6 requires that high density developments should be located near town centres and close to public transport interchanges. The Sustainable Communities policy requires local authorities to improve accessibility to employment and services, particularly for the least affluent, by prioritising the most low carbon forms of transport and reducing the need to travel (sub-section F).</p> <p>Finally, there are policies in place to ensure that mixed communities are developed. In particular, the Sustainable Communities policy seems to promote the development of mixed use communities with good accessibility to services, specifically by asking local authorities to provide for new employment generating activities (sub-section B) and to provide the necessary services and social infrastructure (eg health, education, spiritual, sport and recreation, cultural) to meet the needs of the population (sub-section D). Furthermore, the Sustainable Construction policy requires that at least the 'good' standards from the West Midlands Sustainability Checklist are applied on the provision of facilities (eg post box, childrens' play area, primary school etc) accessible by means other than the car. Finally, all developments must now meet the Building for Life 'good' standard, with medium and large-scale developments (ie over 10 units of 1,000m²) meeting the 'very good' standard. This standard requires that developments have community facilities, such as schools, parks, play areas, shops, pubs etc.</p> <p>Overall, the housing policies seem likely to strengthen access to services, facilities and opportunities for most people within the region.</p>

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
4.3	address poverty and disadvantage, taking into account the particular difficulties of those facing multiple disadvantage?				<p>The housing policies can directly address poverty and disadvantage by helping to address problems of housing affordability, which particularly affect people in poverty.</p> <p>According to recent research by Kate Barker²⁰, commissioned by the Chancellor of the Exchequer and the Deputy Prime Minister, increasing the supply of land for housing can have an impact on house prices and help to address problems of affordability. A key question is, therefore, whether the construction of 365,600 additional dwellings will have a beneficial impact on house prices and housing affordability in the West Midlands. The report concludes that housebuilding rates may need to increase to meet growth in demand. The report calculates that an additional 70,000 market homes and 17,000 state-subsidised homes across England (ie an increase of 50% on current build rates) could reduce the house price growth rate from its current 30 year average level of 2.4% to 1.8%, and that an additional 120,000 market homes and 21,000 state-subsidised homes (ie almost a doubling of current build rates) could further reduce that rate to 1.1%, in line with the EU average.</p> <p>The CF3 figures propose raising the average annual net build rate from 16,306 (averaged between 2001 and 2006²¹) to 19,000 by 2016, an increase of 18.2% in the number of additional dwellings being completed every year. This is clearly significantly less than the figures suggested by the Barker Review as likely to have an impact on house price growth, and there does not seem to be any evidence to suggest that increasing the supply of new housing by 18% on current build rates will have any significant impact on house prices and affordability.</p> <p>However, some parts of the region will experience a far greater increase in build rates, in particular:</p> <ul style="list-style-type: none"> • the Black Country (94.6% increase in build rates over the first 10 years of the plan, in an area where house prices are 6.8 times greater than the average annual income for the district, with an annual house price increase estimated at 4.4%) • Coventry and Solihull (73.5% increase in build rates, where house prices are 7.3 times greater than annual average income, and house prices are increasing by 4.2% and 11.7% in the respective districts) • Telford and Wrekin (148.5% increase in build rates, where house prices are 6.1 times greater than annual average income, with an annual house price increase estimated at 7.9%) • Herefordshire (49.3% increase in build rates, where house prices are 9.2 times greater than annual average income, and an annual houses price increase of 7.2%) <p>In these areas, the increase in housebuilding is likely to have some impact to reduce the rate of house price increase. However, there are also areas where housebuilding rates will fall, in particular:</p> <ul style="list-style-type: none"> • Birmingham (12.7% decrease in build rates, where house prices are 7.9 times greater than annual average income, with an annual house price increase estimated at 5.1%) • Stoke on Trent (22.4% decrease in build rates, where house prices are 6.1 times greater than annual average income, with an annual house price increase estimated at 3.6%) • Warwickshire (9.2% decrease in build rates, where house prices are 7 times greater than annual average income, and annual house prices are increasing by between 2-10% in different districts within the county) • Worcestershire (7.6% decrease in build rates, where house prices are 7.6 times greater than annual average income, and annual house prices are increasing by between 6-15% in different districts within the county) <p>Clearly, the rate of house price increase appears likely to rise in these areas.</p> <p>While levels housing growth may not deal with house price issues in all areas, the provision of social and intermediate housing can help to address the affordable housing problems in the region. Policy CF7 aims to support the development of these types of housing, alongside market housing. Specifically, the policy requires that local authorities contribute to the achievement of targets for these types of affordable housing, which have been set for each of the four housing market areas and for the region as a whole (6,000 per year). These targets are based on information from local authorities and the Housing Corporation about realistic likely delivery of affordable housing. However, this level of affordable housing provision is unlikely to meet demand. Research has been carried out by Cambridge University²² on housing need and affordability issues in the region, which suggests that the region actually requires 5,140 social housing units and 3,000 intermediate housing units.</p> <p>Given that the projected housing growth seems unlikely to have much impact on the region's housing market, the role of social and intermediate housing is of considerable importance to addressing the acute affordability problems which affect parts of the West Midlands. Therefore, it is recommended that further consideration is given to whether higher targets for affordable housing – broken down by social and intermediate sectors – should be included in policy CF7.</p>

²⁰ 'Delivering Stability: securing out future housing needs', Review of Housing Supply, Kate Barker, March 2004 http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm

²¹ West Midlands RSS Annual Monitoring Report 2006

²² Household Projection-Based Estimate of Housing Demand and Need in the West Midlands 2006-2026, Cambridge Centre for Housing and Planning Research, July 2007

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	ensure the provision of employment land in, or accessible to, the most deprived communities in the Region?		○		
4.4	improve health and reduce health inequalities by encouraging and enabling healthy active lifestyles and protecting health, as well as providing equitable access to health services?		+		<p>The housing policies can affect health in a number of ways:</p> <ul style="list-style-type: none"> By improving the quality of the stock with the construction of modern, well-designed housing. The proposals will result in the demolition of 69,370 dwellings, 3% of the current stock, and by 2026 16.2% of the region's housing stock will have been built post-2006. By encouraging people to be active. The Sustainable Communities aims to support healthy and active lifestyles by requiring that local authorities develop communities with necessary services and infrastructure (including sport and recreation) to meet the population's needs (sub-section D), with greenspace for walking, cycling, recreation, health and wellbeing (sub-section E), and by giving priority to the most low carbon forms of transport such as walking and cycling (rather than the car) (sub-section F). The Sustainable Construction policy includes provisions relating to outdoor recreation, health and community interaction, and access to high quality public green space for all. However, it is not clear whether the region will have sufficient sporting infrastructure (eg swimming pools, playing fields etc) to meet the needs of existing and new communities. By providing healthcare facilities. The Sustainable Communities aims to support healthy and active lifestyles by requiring that local authorities develop communities with necessary services and infrastructure (including health) to meet the population's needs (sub-section D). However, it is not clear whether the region will have sufficient healthcare facilities (eg hospitals) to meet the needs of existing and new communities. By improving the quality of the environment. It is not possible to know what the region's environmental quality will be like in 2026. The additional housing, households and population may mean that the environment is noisier, more polluted, less safe and more stressful than before. Or, if located in the right places and designed in the right ways, the development of new housing may significantly improve the quality of the environment.
	diminish inequalities in mortality, health and wellbeing across the Region?				
	ensure that infrastructure for healthcare is provided to meet projected future demand and need?				
	promote healthy lifestyles and opportunities for exercise (eg through environmental infrastructure and design)?				
	promote opportunities to participate in sport?				
4.5	provide decent and affordable housing for all, of the right quantity, type, tenure and affordability for local needs, in clean, safe and pleasant local environments?		-		See Q4.3 above for a review of housing affordability issues.
	deliver genuine 'pathways of housing choice' ²³				
	increase the supply of affordable housing?				
	reduce the percentage of unfit/non-decent homes?				
			?		It is not clear whether the housing proposals will have any effect on the levels of unfit/non-decent housing within the region's stock.

²³ 'Pathways of Housing Choice' means providing a variety of housing opportunities for people in terms of type, tenure and location over the length of their housing career, so that people can exercise different choices within a locality rather than having to make choices between localities when they want to adjust their housing situation

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	encourage housing development which makes more efficient use of land (between 30 and 50 dwellings per hectare net)?		?		<p>Policy CF6 allows local authorities to establish housing density targets, and recommends higher density developments on sites within and close to strategic centres and close to public transport interchanges. However, it does not specifically encourage higher density developments in general. As such, it is unclear what densities are likely to be achieved.</p> <p>It is recommended that the policy encourage higher-density development in general. Clearly higher density development will have some positive implications for the region as a whole – reducing pressure on land in districts where these resources are scarce, reducing the likelihood of development in flood risk areas, in greenbelt, close to environmental and heritage assets etc. In addition, at local levels, higher density developments can be important in urban renaissance, can encourage the provision and use of public transport, and the retention and development of social and community facilities close to where they are needed (as the supporting text suggests). High density developments can also be designed to overcome the potential environmental problems that may arise, eg reducing pressure on waste water treatment infrastructure through water efficiency, mitigating urban heat island effects through the provision of good quality greenspaces, designing space for biodiversity etc. Finally, high density developments do not have to be comprised solely of flats – family housing can be provided at higher densities than has historically been the case without compromising on the number or size of habitable rooms or bed spaces. Further information on good practice issues associated with high density development is available in CABE's 2005 report 'Better Neighbourhoods: Making higher densities work'.</p>
	seek greater intensity of development at places with good public transport accessibility (such as city, town, district and local centres or around major nodes along good quality public transport corridors)		+		As already explained, CF6 encourages higher density development on sites within and close to strategic town centres, and in locations close to public transport interchanges.
	promote the renovation and reuse of existing building stock, rather than the construction of new houses, where appropriate?		+		Policy CF5 is entitled 'The reuse of land and buildings for housing', but only discusses the use of brownfield and greenfield sites. It does not discuss the renovation/reuse of buildings. However, the Sustainable Communities policy asks local planning authorities to maximise the reuse of buildings (sub-section C).
	ensure the adoption of sustainable design and construction practices in housing?		+		The Sustainable Construction policy will drive up the environmental performance of the region's new housing stock. The policy requires that developments greater than 5,000m ² or 10 residential units should demonstrate at least the good standards from the West Midlands Sustainability Checklist. In addition, the policy establishes other targets in relation to the energy and water performance for new houses, for renewable energy provision, and the use of recycled materials.
4.6	reduce crime, fear of crime and antisocial behaviour?		+		<p>The Sustainable Communities policy asks local planning authorities to create attractive, well-designed, adaptable, safe and secure developments.</p> <p>More specifically, the Sustainable Construction policy requires that at least the good standards from the West Midlands Sustainability Checklist are applied on security of developments, which is that there is evidence of a Secured by Design strategy.</p>
	promote the reduction of crime rates?				
	encourage the adoption of principles to 'design out' crime in housing and employment sites?				

RSDF	Appraisal Questions	Effects			Commentary		
	Will the option/proposal...	Short	Med	Long			
4.7	improve opportunities to participate in the diverse cultural, sport and recreational opportunities the West Midlands can offer locally and in the wider region?		+		<p>The Sustainable Communities policy establishes provisions to ensure that opportunities to participate in cultural, sporting etc activities are provided in new developments, asking local planning authorities to provide the necessary services and infrastructure (eg health, education, spiritual, sport, recreational and cultural) to meet the needs of the population (sub-section D), and to provide greenspace which provides for with greenspace for walking, cycling, recreation etc (sub-section E).</p> <p>In addition, the Sustainable Construction policy includes provisions relating to outdoor recreation, and access to high quality public green space for all.</p>		
	ensure that facilities and locations for cultural activities are protected and provided?						
	protect and create high quality or valued recreational spaces and avoid erosion of recreational function?						
4.8	encourage physical development with a better balance of jobs, housing, services and facilities within each part of the Region in order to meet local needs locally and encourage stable and sustainable communities?		-		<p>This is a complex question and could be answered in many ways. For the purposes of this appraisal, the question will be taken in a strategic sense as meaning: will the housing policies deliver the Spatial Strategy set out in the RSS²⁴? In terms of the overall objective of urban renaissance, the housing policies will not result in an increased concentration of housing in the MUAs. In 2006, 53.4% of dwellings were located in the Major Urban Areas, meaning that for every 100 households in the MUAs there are 87 households in 'other areas' (a ratio of 1 : 0.87). However, under the CF3 figures, a minimum of 169,100 additional dwellings will be provided in the MUAs, against 196,500 in the non-MUAs, so that in 2026 only 52.4% of dwellings will be within the MUAs (a ratio of 1 : 0.91). In other words, the process of Urban Renaissance will be weakened by the proposed housing figures. It is also noted that the figures for non-MUA districts are not 'maxima' figures, but simply 'targets', and so there is no policy basis to stop development levels from exceeding the Reference Point figures and further weakening the process of urban renaissance.</p> <p>Furthermore, comparing the provision of housing against data on housing need, housing is not provided in the right districts to meet new housing needs where it arises. Much of the housing proposed for the areas of significant development will be to meet demand arising in the MUAs. (See below for more detail). This suggests that the housing policies will not reverse the pattern of people leaving the conurbations, but will instead exacerbate that problem. In this strategic sense, the housing policies will not lead to a balanced of development in each part of the region, with local needs being met locally, and is probably unlikely to lead to the development of stable and sustainable communities.</p>		
	focus retail and office development in town centres?					○	
	link housing development and employment opportunities?					?	There is no detailed information on where the greatest employment opportunities are thought to be, and so no assessment can be made.

²⁴ According to Chapter 3 of the current RSS, 'The Spatial Strategy can be broadly summarised as enabling all parts of the Region to sustainably meet their own needs, in a mutually supportive way' (p14)

RSDf	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	reverse the pattern of people migrating from metropolitan areas to rural parts of the Region?	--			<p>This housing policies aim to provide the right mix of housing in the right places, with an overall objective of promoting urban renaissance by slowing down and ultimately reversing the out-migration of people, jobs, economic activity etc from the conurbations. However, the CF3 housing figures do not seem likely to support this objective.</p> <p>At a regional level, when compared to Government figures on the formation of new households, the CF3 housing is not provided in the right districts to meet new housing needs where it arises. When the Government's net housing demand figures are broken down into 'locally-generated needs' and 'need from migration':</p> <ul style="list-style-type: none"> • There is an undersupply in the MUAs of 63,744 and an oversupply in the non-MUAs of 79,287, ie the housing figures do not meet projected demand from new households that form in the MUAs, and instead allow for a significant amount of out-migration from the urban areas • Taking the MUAs and the Settlements of Significant Development together, these areas have an undersupply of 33,924(estimated figures), while the remaining non-MUA areas have an oversupply of 49,464 dwellings • Districts with particularly acute shortfalls in supply to meet locally-generated need (and which are therefore likely to see out-migration) include Birmingham (66,349), Solihull (6,101) and Tamworth (4,158). • Districts with an oversupply of housing (and which are therefore likely to see in-migration) include Coventry (12,563), Telford and Wrekin (12,844), Herefordshire (11,241), East Staffordshire (7,151), Rugby (6,290), Stafford (5,524), and Warwick (4,496) • Estimated figures suggest that all of the Settlements of Significant Development have an oversupply against locally-generated need, eg Telford (13,076), Burton (7,648) and Rugby (6,603), and are therefore likely to see in-migration <p>This suggests that the CF3 figures will not reverse the pattern of people leaving the conurbations, but will instead exacerbate that problem.</p>
4.9	<p>ensure that the Region's workforce is equipped with the skills to access high quality employment opportunities suited to the changing needs of the Regional economy, whilst recognising the value and contribution of unpaid work?</p> <p>reduce inequalities in employment rates across the Region?</p> <p>provide employment land near to the potential workforce?</p>	○			
4.10	promote investment in future prosperity, including ongoing investment and engagement in learning and skills development?	○			

RSDF	Appraisal Questions	Effects			Commentary
	Will the option/proposal...	Short	Med	Long	
	ensure an appropriate supply of employment sites within the region to support sustainable economic development?	-			84.2% of the additional dwellings – 301,088 – could be constructed on land identified in the 2007 Regional Housing Land Capacity Study for housing. This means that 58,812 houses will need to be on 1,254ha of other land – greenfield sites, employment land etc. As such, it seems clear that there will be increased pressure to use employment land sites for housing, which may threaten the supply of land for employment sites.
	encourage investment to develop deprived areas and focusing resources in areas of greatest need?	O			
	ensure that education and skills infrastructure meets projected future demand and need?				
	reduce inequalities in education and skills across the Region?				

OVERALL APPRAISAL OF POLICIES RELATED TO EMPLOYMENT LAND

Defining requirements for the provision of employment land will help to promote investment in future economic development by supporting an appropriate supply of sites. Taking account of the needs of businesses and inward investors will help to support the business, commercial and industrial sectors and support regional economic growth. However, it has not been possible to estimate the number of jobs that are likely to be provided based only on figures for hectareage.

Policy PA1 and other employment policies emphasise the need to balance new housing and population change with employment growth. This should help to promote accessibility to jobs and reduce the distances which people need to travel to work. However, the employment land allocations do not bear a strong correlation to housing growth figures at district level, with some districts showing an apparent shortage and some a relatively high allocation and therefore the policy aspiration is not clearly borne out by the figures. There may therefore be a case for reallocating employment land to ensure there is a stronger correlation to housing growth, particularly for areas which would also be justified on the basis of employment need.

Policy PA1 explicitly requires local authorities to ensure that areas of need and economically vulnerable areas are addressed in the development of employment land policies. Providing for employment land in the MUAs and giving priority to Regeneration Zones will ensure provision in some of the most deprived areas in the region. However, when comparing employment land against recent numbers of unemployed, it is notable that the metropolitan area has an apparently low provision, as does South Staffordshire, Staffordshire Moorlands, Bromsgrove and Wyre Forest. These areas are all also underrepresented when comparing in the context of the amount of new housing provision. It would appear that in order to address wealth inequalities all of these areas should have higher employment land provision, given that there is not a strong case that low employment land provision is justified because it is appropriate for the expected housing growth.

It is unclear what the effect is likely to be on transport and the associated effects on congestion and air quality. Some of the policies note the need for good public transport accessibility and others do not. Creation of new employment sites will generate traffic and much of this could be by road unless clearer emphasis is placed on avoiding exacerbating the road transport problems in the region, particularly on the road network. The section would be improved by greater consistency in the approach to dealing with transport issues in relation to employment land, and a stronger emphasis on promoting sustainable transport.

The policies seek to focus employment development in the MUAs and therefore discourage migration out of the metropolitan areas to the extent that this is a factor in people's choice of place to live. However, only 47% of employment land provision is in the MUAs, whereas the MUAs represented an estimated 52% of the population in 2004. Employment land figures in MUAs are to be seen as minima, which may give additional encouragement to

focusing employment land development within the MUAs although there should be a higher baseline if possible.

A number of environmental objectives are dependent on the specific locations chosen for development and the quality of the development. The sustainable design and construction policy should promote a high quality of development which addresses these impacts, but their likelihood and significance and their control is dependent on the process for identification of sites within local Development Plan Documents. The policies promote maximum use of recycled land, however some areas are predicted to be under pressure to find land for housing over the period of the RSS, and there may be insufficient previously developed land available to accommodate employment development, therefore loss of greenfield land is possible. However, there is little information about current or future employment land capacity at district or regional level and therefore the likelihood and significance of any effects in conjunction with housing development is unknown. However, the RSS notes that Coventry is unlikely to have sufficient employment land to meet requirements and therefore greenfield development may be required.

Providing land for employment will have an uncertain effect on greenhouse gas emissions. The provision of employment land aims to support the RES in achieving economic growth which will tend to increase greenhouse gas emissions from the commercial and industrial sector, and probably also from the transport sector. However, new businesses will also replace older declining industries and are likely to be more carbon efficient. The overall balance is unknown.

OVERALL APPRAISAL OF POLICIES RELATED TO CENTRES

Development of centres will help to promote economic growth and investment in future prosperity, although this will be focused in the urban areas and other areas are unlikely to benefit significantly. The centres are spread across parts of the region that perform well economically and those that do not. Therefore the policies are unlikely directly to help narrow the gap in GVA or employment rates across the region. However, areas of significant deprivation are all covered by strategic centres.

The identification of strategic centres broadly corresponds to levels of housing development, with higher tier centres identified for higher levels of housing growth, thereby helping to ensure more balanced development of housing and economic opportunity. Overall, the approach helps to ensure the provision of employment near to the potential workforce.

Concentrating office and retail development in existing strategic centres will help to promote the use of public transport to access developments by providing employment and shopping facilities in proximity to the main areas of population and in more accessible locations. This may help to promote easy and more equitable access to those services, facilities and opportunities which are relevant to the scale envisaged by the policy, and will promote minimisation of greenhouse gas emissions. The supporting text also notes the need for public transport investment and improvement related to future regeneration activities, and the implementation of traffic management in accordance with Chapter 9 on Transport. The policies do not explicitly promote mixed use developments, although by restricting out-of-centre office developments this limits the possibility of large single use developments.

The MUAs will take the largest amount of office development, thereby making a contribution to reducing incentives for people to leave the metropolitan areas. However, people's choice of place to live is complex and based on many factors, and the location of office development is unlikely to make a major contribution to reversing migration patterns.

Focusing development in the strategic centres will help to protect natural assets, biodiversity and landscape by discouraging greenfield development. It is likely to help optimise the use of previously developed land and encourage remediation of contaminated land, as it is more likely that this will arise in the more urbanised areas.

OVERALL APPRAISAL OF POLICIES RELATED TO TRANSPORT

There is a strong emphasis in the transport chapter on improving accessibility and mobility while at the same time promoting sustainable transport. It aims to achieve this through both 'push' and 'pull' methods: reducing the need to travel through the location of developments and services to support this, and encouraging measures to reduce the demand for road travel; and by improvements to public transport services and infrastructure, increasing cycling and walking and promoting alternatives to road freight. Improvements to the Primary Route Network are also planned for, to improve regional competitiveness and accessibility and which supports the Spatial Strategy, but road building should only be undertaken after all other solutions have been examined.

This will support the objective of a strong, stable and sustainable economy and prosperity, addressing congestion and helping to improve the flow of goods and people on the region's transport networks. Addressing congestion and improving accessibility, particularly in the towns and cities, will help to improve urban environments, support economic vitality and reduce pressure on infrastructure and other built assets in the urban areas including historic assets.

The chapter emphasises the importance of the contribution of more sustainable transport patterns to air quality, greenhouse gas emissions and climate change. This will help to increase energy efficiency by increasing the proportion of people travelling by more energy-efficient modes.

However, it is not clear to what extent the encouragement of more sustainable transport patterns will offset the growth in demand from growth in both the economy and in housing. Policy T12 recognises the need for measures to improve transport services and infrastructure in the areas of significant development. T12 already identifies a number of schemes for MUAs and non-MUAs, but has been amended to list new measures for the growth areas for non-MUAs. These contain both road improvements and sustainable transport measures. It is not possible from the information given to know to what extent these will promote travel by alternatives to the car and therefore what effect T12 is likely to have on sustainable development objectives. However, it is probable that without these measures congestion will increase and undermine the Spatial Strategy. Furthermore, initial research²⁵ suggests that congestion on many parts of the strategic road network will increase and the schemes identified in T12 will make no discernible difference to the stress of the network.

The success of demand management schemes such as strategic park and ride, car parking standards and congestion charging depends on the attractiveness of public transport alternatives and its use may depend to a large extent on the existence and scope of any accompanying infrastructure investment. The RSS should promote a dual approach, although it is not clear that it currently does this.

²⁵ *West Midlands Regional Network Report Impact of RSS Phase Two Housing Proposals for the Highways Agency*, RSS Transport Working Group, April 2007

Strategic park and ride may encourage people to live outside the metropolitan areas and commute longer distances to work, thereby undermining efforts to create sustainable communities and urban renaissance. It is also likely to encourage even longer distance commuting, e.g. to London or Manchester, which does not support objectives for sustainable transport or sustainable communities.

The plans for West Midlands airports are in line with the Air Transport White Paper which is designed to make best use of existing capacity. The Air Transport White Paper also endorses the important role of regional airports in supporting regional economic development as do a number of other regional policy documents including the RSS itself. However, the policy recognises the potential for both positive and negative impacts on the regional economy and includes measures to address these, including ensuring job opportunities are available to areas of employment need. The airports policy gives strong support to ensuring that development to support airport expansion meets a number of other sustainable development objectives, including aiming to be resource and energy efficient, carbon neutral and to adopt sustainable design and construction standards. The demand for air travel will increase significantly and surface travel will also increase as a result. The airport policy seeks to increase public transport access to BIA although car access will also increase and is likely to require road improvement and expansion. Surface developments to support airports are likely to have impacts on light pollution, noise, biodiversity, green belt, landscape and historic assets. These must be mitigated or compensated for, but some will nevertheless be locally significant.

OVERALL APPRAISAL OF POLICIES RELATED TO WASTE

The waste section takes account of the waste hierarchy and requires sub-regional net self-sufficiency which will help to promote sustainable waste management practices. The policies encourage greater resource efficiency through restricting landfill and promoting increased recycling and recovery of resources. They also contribute to encouraging communities to take responsibility for their own waste and meeting their own needs. The policies on construction and demolition waste will particularly promote resource efficiency. Increased C&D waste recycling will encourage the more efficient use of minerals and soils, encourage remediation of contamination and will help to reduce the expected growth in primary aggregate use and any associated pressure on natural assets from their extraction. It will indirectly help to support more sustainable construction of buildings, particularly by requiring recycling on-site or within urban areas.

The figures for the tonnages required for new facilities to recycle and reprocess municipal solid waste suggest that the region as a whole is likely to meet national targets for recovery, but they appear to suggest that some Waste Planning Authorities may not. However, the figures are minima for diversion and therefore authorities should be able to achieve higher levels if necessary to meet national targets. The supporting text also underlines the importance of meeting national targets for recycling and recovery. However, the region is unlikely to achieve the national 2010 target for diversion of commercial and industrial waste from landfill. The supporting text clarifies that waste minimisation is included as an objective in promoting the waste hierarchy, although the figures in policy W2 anticipate a growth in both municipal and commercial and industrial waste arisings and therefore will not reduce waste arisings. Stronger emphasis should be placed on the importance of waste minimisation and on diversion of commercial and industrial waste from landfill.

Increased recycling in line with the waste hierarchy is likely to require more waste transport, although the overall balance of impacts on waste transport is unknown. A number of measures will help to minimise the need for waste transport. Requiring each Waste Planning Authority to ensure enough facilities to deal with waste arising within its own area and to give priority to identifying facilities for recycling construction and demolition waste, will help to minimise waste transport distances and transport emissions wherever possible. By requiring good accessibility to the source of the waste or end users, the policy will also help to reduce the need for waste transport. Promoting the provision of facilities of a regional or sub-regional nature in the MUAs as well as other settlements of a significant size will encourage use of existing transport infrastructure, and may help to reduce the need for waste transport by being in proximity to a potential source of arisings. However, the overall effect on waste transport is dependent on the locations of facilities and catchment areas for the waste to be treated, and is therefore unknown, particularly where facilities are of a regional or sub-regional nature. A number of the locations identified for facilities of a regional or sub-regional significance are near to parts of the strategic road network that are predicted by initial

research²⁶ to be overstressed in the future, and a number contain areas of low air quality. Alternatives to road transport should be promoted wherever possible.

The likely environmental impacts of waste development across the region as a whole is dependent to a large extent on the types of facilities which are developed, their locations and site-specific circumstances. The overall effect on energy efficiency, greenhouse gas emissions and other air emissions depends in part on the amount of waste transport required, but also on treatment methods and the location of sites which are not dealt with by the RSS. Policies generally support the minimisation of greenhouse gas emissions. Recovery is likely to include energy recovery, thereby reducing dependence on fossil fuels. Reducing the landfill of biodegradable waste will help to reduce the potential future growth in methane emissions, a potent greenhouse gas. Likely levels of renewable energy generation are unknown and dependent on residual treatment technologies, although reduction of landfill of biodegradable waste will reduce the potential for energy generation from landfill gas which qualifies as renewable energy.

The overall balance of effects on greenhouse gas emissions and other emissions to air is not known, although emissions from facilities themselves and from associated transport are likely to add to diffuse air pollution. The policies include commitments to protect the environment, biodiversity and designated sites, but would be improved by including a requirement for local authorities to aim to minimise greenhouse gas emissions from waste management activities, including from transport.

The policies support the safeguarding and use of existing waste development and use of previously developed land and will encourage the remediation of contaminated land. This may help to reduce possible pressure on environmental assets by discouraging the use of greenfield sites, as will reducing the landfill of waste. However, permitting waste development on open land in some circumstances may result in loss of land in the countryside to waste development.

Promoting increased recycling and recovery will also help to encourage innovation by requiring new methods of waste management and will promote the development and use of environmental technologies. The increased investment in the waste management industry will enable it to make a greater contribution to the regional economy. The waste sector is expected to grow in size and to develop more innovative technologies, thereby strengthening and diversifying the sector and increasing its contribution to the economy. However, the costs of waste management are likely to rise and will need to be paid for by householders. The overall balance on the economy and individual prosperity is unknown. The potential economic benefits could be increased and transport impacts reduced by including a commitment to support local or regional processing of recyclate and markets for recycled materials. The section includes policy to promote more sustainable waste management practices by businesses, although this is in relation to waste from areas of low population and therefore may only apply to businesses in rural areas.

²⁶ *West Midlands Regional Network Report Impact of RSS Phase Two Housing Proposals for the Highways Agency*, RSS Transport Working Group, April 2007

