



West Midlands
Regional
Observatory

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Understanding the Regional Index of Sustainable Economic Wellbeing (R-ISEW) as an indicator of sustainable economic growth

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Research Team
West Midlands Regional Observatory
Level 3, Millennium Point
Curzon Street
Birmingham
B4 7XG

Telephone: 0121 202 3250
Email: enquiries@wmro.org
Web: www.wmro.org

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1 Introduction

It is increasingly recognised that genuine and sustainable development comprises more than simply economic growth as measured by changes in GVA. Therefore, the Regional Index of Sustainable Economic Well-being (R-ISEW) was chosen as one of the six headline indicators to measure the performance of the West Midlands Economic Strategy (WMES). The R-ISEW is an attempt to measure the portion of economic activity which delivers genuine increases in our quality of life - in one sense 'quality' economic activity that contributes to sustainable growth and well-being.

The R-ISEW provides a valuable means of measuring the region's success in achieving sustainable economic growth.

The R-ISEW impacts on the work of many areas of the WMES and AWM and its partners and can be influenced in many small ways; to make best use of it as a monitoring tool involves understanding how it works. The R-ISEW will also be valuable in measuring the impact of the Regional Spatial Strategy and the future influence of the 'Strategy for the West Midlands'.

This year's report builds on last year's introductory report and assesses the more recent changes in performance as well as the long term trends.

Two years ago, **nef (the new economics foundation)** produced the first complete set of **Regional Indices of Sustainable Economic Well-Being (R-ISEWs)** for the nine Government Office Regions of England. R-ISEW is a measure of how much a region's economic activity contributes to, and detracts from, well-being, and how sustainable this activity is. It is an adjusted economic indicator which attempts to incorporate costs and benefits not traditionally measured in monetary terms.

This year's results show that over 11 years of reporting the ISEW the trend has been positive with year on year improvement in the West Midlands. However the increases in the last five years in the West Midlands have been at or below one percent. The region has followed the national trend closely over recent years. **In 2007 the R-ISEW for the West Midlands was £11,392 per person, some £5,772 below the GVA figure of £17,160.** The R-ISEW per capita for England for 2007 was £11,324, some £9,139 below GVA per capita for that year.

The total R-ISEW rose by 43% over the 13-year period from 1994, compared with a 46% growth in GVA. Perhaps more meaningful, however, are the increases in per capita R-ISEW and GVA - 35% and 38% respectively. These figures represent mean annual growth rates of 2.4% per year and 2.5% per year respectively. Whilst GVA grew most rapidly between 1996 and 1998, the R-ISEW grew most rapidly between 2000 and 2002 (at about 5% per year - Figure 2). As noted earlier, the last four years have seen little change in the R-ISEW, with the latest per capita figure only 2.4% higher than that in 2003. The R-ISEW for 2006 was particularly low, dropping below 2004 levels.

1.1 Background to the development of the R-ISEW

Last year's report considered the background to the development of the R-ISEW in some detail. As such this report will not expand on how the report was developed other than to explain that, while debate will inevitably remain about the composition and calculation of the R-ISEW and how the methodology to date has evolved, the R-ISEW described here will remain fixed until 2010. This will enable regions to use the information to share successful strategies, coordinate policy and monitor relative progress. Data is available for 1994 through to 2007, with the 2007 R-ISEW report¹ having been released by nef in December 2009.

¹ The 2009 R-ISEW (regional index of sustainable economic well-being) for all the English regions, nef, December 2009

2 Construction of the ISEW

As with GVA the ISEW starts with the **economic benefits** derived from consumer expenditure as its basis. This is adjusted for income distribution. It then makes several other additions to/ subtractions from this base data to respond to the criticisms of GDP/GVA , as follows:

- Adjustments for **social benefits** are added that are not accounted for in personal consumption figures e.g. domestic and voluntary labour.
- **Social costs** are deducted such as expenditures that merely defend our quality of life rather than enhance it.
- Estimates of **environmental costs** are then deducted e.g. pollution and resource depletion.

These costs & benefits are based on calculating financial estimates of 24 different domains and draw on at least 50 different official data sources.²

Table 1: ISEW Adjustments to Consumer Spending

	Benefits	Costs/adjustments
Economic	Personal Consumption	Capital Investment Net International Position Services - Consumer Durables
Social	Unpaid Domestic Labour & Voluntary Work Public Health & Education Expenditure	Family Breakdown Crime Income inequality Commuting Car Accidents Industrial accidents

² For full details of the data sources used in compiling the R-ISEW, see New Economics Foundation (May 2008) "Measuring Regional Progress" Appendix 4
http://www.advantagewm.co.uk/Images/R-ISEW%2020080528_tcm9-9543.pdf

Environmental		Climate Change Loss of farmland Loss of habitats Water & Air pollution Noise Pollution Pollution control Resource Depletion Long-term environmental damage (greenhouse gases)
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3 What does it tell us?

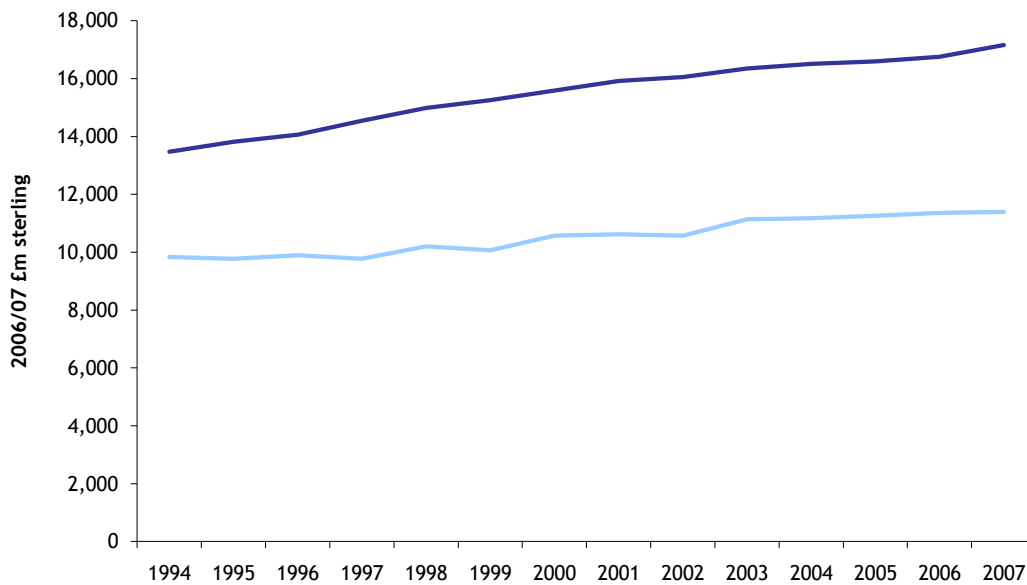
Figure 1 below shows the difference between the R-ISEW and GVA per capita for the period 1994 to 2007. In all regions the overall R-ISEW per capita is lower than GVA, due to the deductions set out above, though the gap varies; Figure 2 shows the 2007 picture for all the English regions.

The West Midlands region continues to sit in the middle rank both in terms of GVA and R-ISEW. However, whereas it is sixth place in terms of GVA it sits at fifth place in terms of R-ISEW. This indicates that in relative terms, the region has a slightly higher level of economic well-being than its GVA would suggest. However, the gap between GVA and R-ISEW has continued to widen in the region since 1994. This can be seen on Figure 3 which shows trends for all regions.

In 1994 the ISEW for England was 57% of GVA. By 2007 this had decreased to 55%. Similarly, the gap between ISEW and GVA per capita widened in the West Midlands over this period, ISEW accounted for 73% of GVA in 1994 compared to only 66% in 2007. In 1994 the region sat at a close third place behind the North West and the South West; by 2007 it had been overtaken by London and the East Midlands and its position was only slightly ahead of other regions. This shows that overall well-being as calculated by the R-ISEW is not increasing as fast as GVA in both absolute and relative terms.

Figure 1

West Midlands R-ISEW and GVA per capita 1994-2007

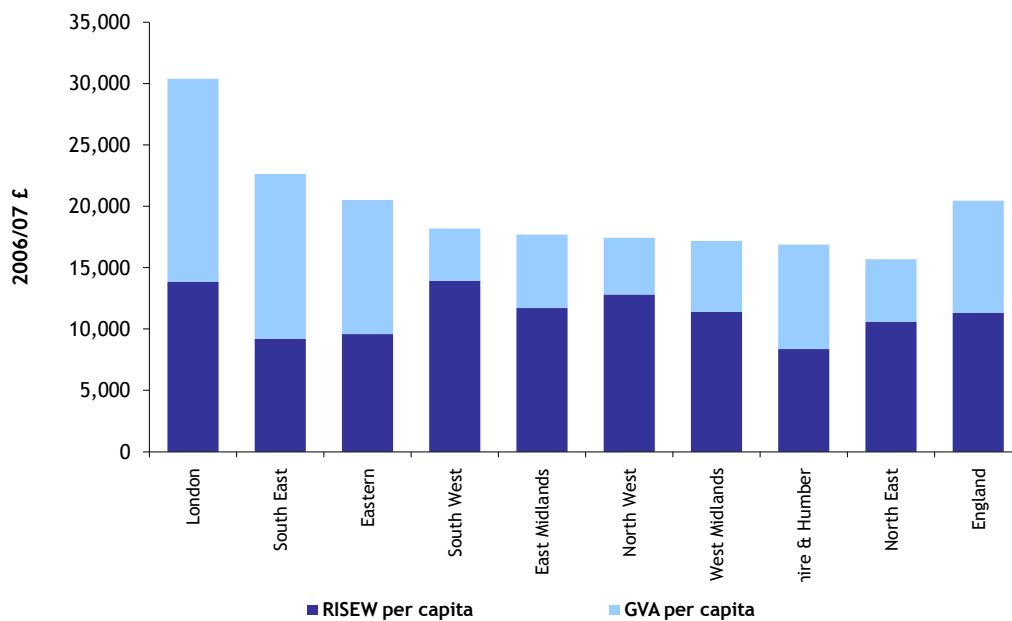


Source: ONS regional accounts, ISEW

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Figure 2

R-ISEW and GVA per capita for all the English regions 2007

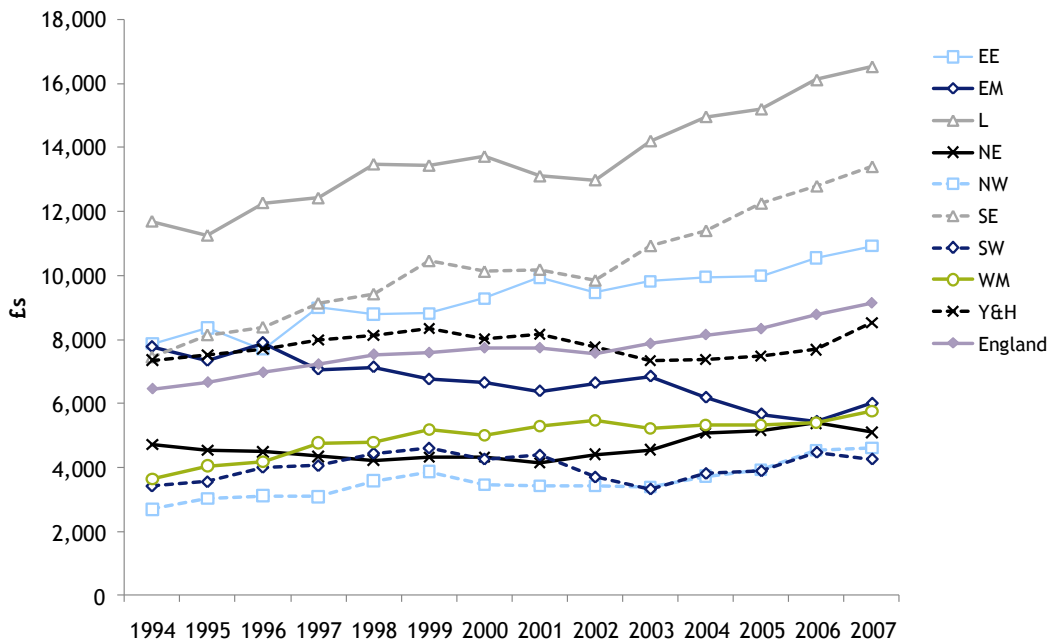


Source: ONS regional accounts, ISEW

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Figure 3

Gap between ISEW and GVA per capita, by region, 1994-2007



Source: ONS regional accounts, ISEW

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To understand regional patterns we need to explore the component patterns. Given the summative methodology of the ISEW, it is *absolute* differences in values across regions for each component that determine their importance in shifting overall R-ISEW, rather than *relative* differences. For example, costs of noise pollution in the West Midlands were nearly twice as high in 2007 as in London. However, neither figure (at £86 and £50 per person respectively) is large compared with, for example, the costs of long-term environmental damage (at £1,853 and £1,060 respectively for the two regions).

However, when using the R-ISEW as a comparison tool to measure the relative progress of the West Midlands against other regions, we need to look at the range of values across regions. Some adjustments, while being large, have very little variation across regions. An example is the adjustment for depletion of non-renewable resources - this accounted for a negative adjustment of between £1,830 per capita in the North East and £2,033 per capita in the South East in 2007 - a range of just £203. By contrast, the adjustment for net international position ranged from a positive per capita adjustment of £1,030 in the North East to a negative adjustment of £3,797 for the South East - a range of £4,827. To some extent this reflects the availability of quality data at a regional level. However, in compiling the R-ISEW 'Measuring Regional Progress' report NEF have indicated that for many components there is no observable reason for differences between regions and that further investigation is necessary.

Increases in GVA have a corresponding effect on the ISEW and, overall, the main drivers of the R-ISEW remain the economic factors. Income-adjusted personal consumption, the cost of household labour & volunteering and public expenditure on health & education account for the greatest value adjustments. However other factors, while less substantial in terms of adjustments, can be influenced by regional policy.

The following sections set out the main components of the R-ISEW for the West Midlands, what they tell us and where there is potential for regional policy to influence the index. The per capita figures for the West Midlands and England are given to indicate the range and value of the adjustments made for each component.

3.1 Economic Factors

The initial basis for the R-ISEW is personal consumption - final household expenditure - as this is an indicator of the value which individuals assign to the goods and services through which welfare is provided. As might be expected there is considerable disparity between the regions. The West Midlands had the second-lowest consumer expenditure of all regions in 2007 (as it did in 1994) at £12,696 per capita, against an all-England average of £14,181.

Table 2: Calculation of Economic Factors

ISEW Factor	West Midlands 2006	West Midlands 2007	WM % change 1994 and 2007	England 2007	England % change 1994 and 2007
Consumer expenditure	£12,529	£12,696	34% ↑	£14,181	36% ↑
Net capital growth	+£287	+ £281*	48% ↑	+ £107	35% ↑
Net international position	-£826	- £860	195% ↓	- £1,006	81% ↓
Adjustment for consumer durables	-£275	-£299	33% ↑	-£337	39% ↑

* addition and subtraction is from the consumer expenditure figure.

The net impact of economic adjustments on England as a whole is a fairly consistent reduction of around 5-9% of the baseline consumer expenditure from 1994 to 2007, though this varies greatly across regions. The impact on England in 2007 was a reduction of 8.7%. In the West Midlands the reduction was 6.9% in 2007, with an overall negative adjustment of £878 per capita, lower than the English average of -£1,236.

This change in position stems largely from the change in the net international position of the region; the West Midlands went from a £4.8 billion surplus in 1994 (+£903 per capita) into a deficit of £4.6 billion (-£860 per capita) in 2007. Across all regions, adjustments for net international position in 2007 range from -£3,797 per capita in the South East to plus £1,030 in the North East. While the data does not allow a precise calculation of the region's international trade position, a sustained improvement in the region's exports and income would help improve the overall R-ISEW.

Net capital growth has a relatively small, but positive impact on the R-ISEW. The net effect of this adjustment can vary substantially, depending on the balance between capital investment and workforce growth in a given GOR. For England as a whole, its greatest annual contribution was of £389 per capita in 2002. Since then it has declined steadily, to £107 per capita in 2007, though this is still above the low point of only £62 per capita in 1997.

In contrast to its low temporal variability, however, this component has significant regional variability. The North East is the only GOR to have been consistently in deficit during the period 1994 to 2007, with this deficit taking off £275 from its per capita R-ISEW in 2007, and £485 per capita in 2004. Meanwhile, several GORs have consistently turned out a positive figure for net capital growth - namely the East Midlands, the North West, and the West Midlands - areas traditionally recognised as the industrial hub of England.

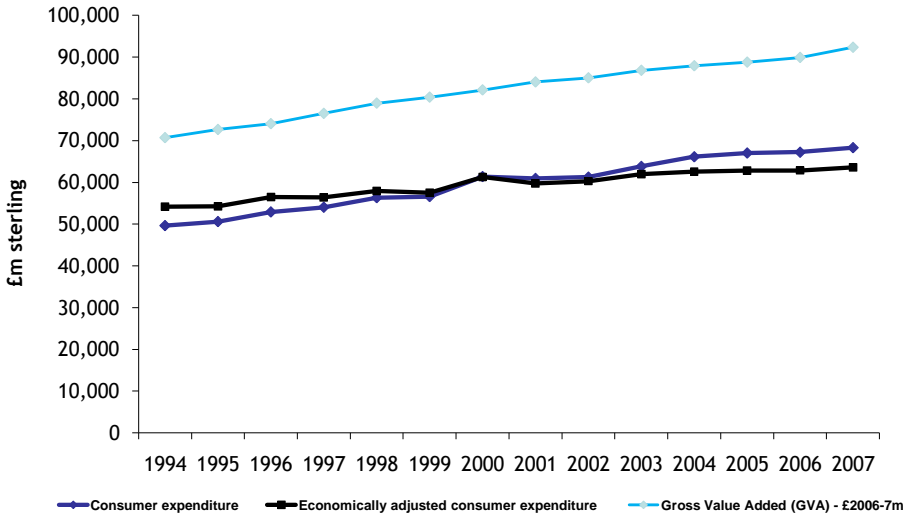
In the West Midlands the contribution of net capital growth to the R-ISEW has varied year by year but has risen from £190 in 2004 to £299 in 2007.

The adjustment for services provided by consumer durables is driven by consumer expenditure; there is little regional variation in this adjustment.

Figure 4 below shows the effect of economic adjustments to consumer spending for the West Midlands.

Figure 4

West Midlands Economically Adjusted Index 1994-2007



Source: ONS regional accounts, ISEW

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3.2 Social Factors

The R-ISEW incorporates several adjustments to account for social aspects of the economy which are vital to sustainability, but which would normally be excluded from conventional economic accounts. Two of these adjustments are positive ones. The first accounts for the services to the economy provided by unpaid labour from households and volunteers; the second accounts for public expenditures on health and education. There is little variation across regions; however these are both large value adjustments. The West Midlands has one of the higher adjustments per capita for the value of domestic labour and volunteering, while the adjustment for public spending matches that for England as a whole.

Table 3: Calculation of Social Factors

ISEW Factor	West Midlands 2006	West Midlands 2007	WM % change 1994 and 2007	England 2007	England % change 1994 and 2007
Services from domestic labour and volunteering	+£3,734	+£3,663*	21% ↓	+£3,587	20% ↓
Public expenditure on health and education	+£2,830	+£2,951	85% ↑	+£2,885	78% ↑
Costs of income inequality	-£1,011	-£1,402	39% ↑	-£1,787	41% ↑

* addition and subtraction is from the consumer expenditure figure in Table 2

Across all regions, the overall impact of incorporating positive social benefits (the value of domestic labour and the value of public expenditures on health and education) on top of the economically adjusted expenditure measure is to increase the value of the R-ISEW. Only in London, the South East and East of England do these first social adjustments fail to mitigate the large negative economic adjustments in these regions, so the index at this point still lags behind GVA. In 2007 these components represented a positive adjustment of £5,212 to the West Midlands R-ISEW.

The adjustment for income inequality, which is to some extent tied to consumer expenditure, varies substantially across regions. The adjustment for the West Midlands is relatively low in 2007 at £1,402, with only Yorkshire & Humber and the North East having lower adjustments in 2007. However this does not mitigate the low consumer expenditure forming the base for the index. It is unclear how this element can be directly influenced by regional policy, though increasing household income will have some effect on inequality.

The next stage in constructing the R-ISEW is to make deductions for some social costs: crime, divorce, commuting and accidents on the road and in the workplace. Individually these elements are not large; however, combined, they account for a deduction of £1343 for the West Midlands in 2007.

Table 4: Calculation of further Social Factors

ISEW Factor	West Midlands 2006	West Midlands 2007	WM % change 1994 and 2007	England 2007	England % change 1994 and 2007
Costs of crime	-£223	- £202*	10% ↓	- £202	5% ↓
Costs of divorce	-£143	- £149	9% ↑	- £149	8% ↓
Costs of commuting and car accidents	-£819	-£830	5% ↓	-£871	1% ↓
Costs of industrial accidents	-£187	-£162	3% ↓	-£162	8% ↓

* addition and subtraction is from the consumer expenditure figure in Table 2

Continued dependence on a ‘car culture’ nationwide means the associated social costs from commuting have until recently tended to rise nationally. Between 1994 and 2007 the costs of commuting in England rose by 16%; the West Midlands rise was only slightly less than this at 12%. Road safety measures appear to have had a positive impact with the costs associated with car accidents having fallen across the country. Only London (47%) had a greater reduction in its costs per person associated with car accidents than the West Midlands (36%) between 1994 and 2007.

Regional measures to reduce private car use are likely to have a strong impact on this value and it is the main ‘social’ factor where regional policy may have a significant impact.

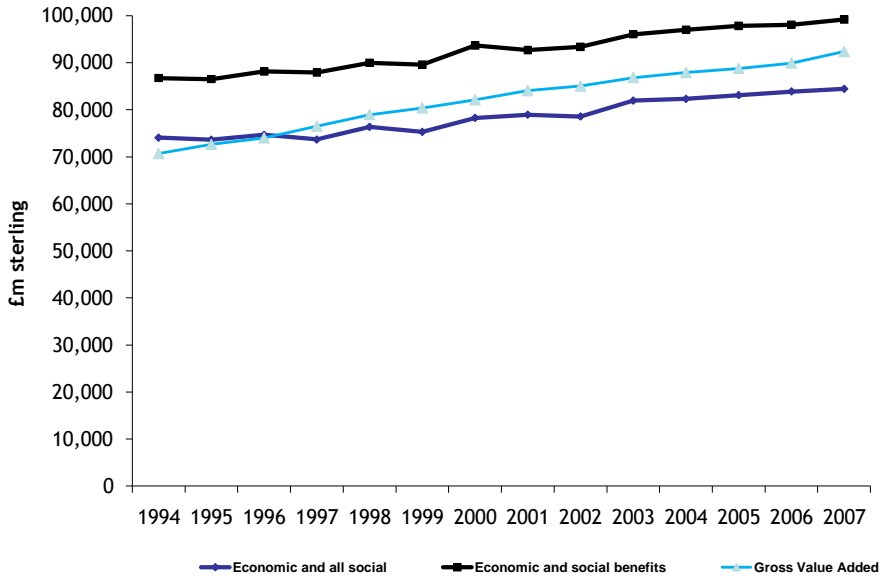
Crime is another component of the R-ISEW where local and regional action can also have a real impact. Its total contribution to the R-ISEW is, however, relatively small. The cost of crime for the West Midlands lies in the middle of the range; however the region has seen a 10% fall in the cost of crime between 1994 and 2007 compared to England where the cost of crime has fallen by 5% over this period.

Between 1994 and 2007, all regions with the exception of the West Midlands saw cost of divorce fall as fewer marriages dissolved. The West Midlands saw an increase in costs from divorce of 9%; however its per capita costs of divorce are the same as the England average at £149 per person. This figure only accounts for marriage breakdown rather than relationship breakdown; the slowdown in divorce may be partly accounted for by falling rates of marriage.

The cost of industrial accidents, though small, varies between regions. This is a recent addition to the R-ISEW and NEF found no clear reason for this regional disparity in the costs, based on Health and Safety Executive data, and they recommend further investigation. A falling value for this factor may reflect changes in industrial structure and practices.

After making both economic and social adjustments the index remains higher than consumer expenditure alone. However in all regions it remains below GVA, despite all the positive adjustments made, and despite not yet taking any account of environmental adjustments. Figure 5 below shows the effect of both economic and social factors on the R-ISEW compared with GVA alone.

Figure 5
West Midlands Index 1994-2007 adjusted for economic factors, social benefits and social benefits plus costs



Source: ONS regional accounts, ISEW

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3.3 Environmental Factors

Environmental costs are a key determinant of the relative performance of the regions. Several different kinds of environmental costs are included in the R-ISEW, even though some of these may be in the process of becoming less important to the economy. These costs include the costs associated with ‘local’ environmental pollutants (air, water and noise pollution), the implicit costs in losses of agricultural land and natural habitats, the accumulated long-term costs associated with climate change, and the depletion of finite (non-renewable) resources, in particular of fossil energy resources.

Table 5: Calculation of Environmental Factors

ISEW Factor	West Midlands 2006	West Midlands 2007	WM % change 1994 and 2007	England 2007	England % change 1994 and 2007
Water pollution (per person)	-£9	-£9*	14% ↓	-£6	26% ↓
Air pollution (per person)	-£356	-£349	72% ↓	-£377	71% ↓
Noise pollution (per person)	-£85	-£86	19% ↑	-£80	15% ↑
Pollution abatement	-£80	-£86	15% ↓	-£75	9% ↓

* addition and subtraction is from the consumer expenditure figure in Table 2

Taken together, the national trend over time in the category of local pollution is a declining one and the pattern for the West Midlands matches this national pattern. The impact on the R-ISEW of these environmental measures is a reduction of £530 in the West Midlands in 2007. This compares to an England average reduction of £538 per capita.

Although noise pollution costs are on the rise nationally, the others are falling, and this category is dominated by the trends in air pollution. In 1994 the cost of air pollution in the West Midlands was £6.4 billion (£1,228 per capita). Costs have declined significantly over the last decade as a result of EU and UK legislation on sulphur and nitrogen oxides, and increasingly stringent local air quality regulations. In 2007 the per capita cost was under £350 in the region. This reduction is the second highest of the English regions and greater than for England as a whole.

While the region's air quality is less influenced than some by power production, it retains a high level of manufacturing industry and a high level of road transport. The West Midlands has the highest cost of water pollution of all regions and is one of four regions to see a slight rise in costs since 2000.

Pollution abatement costs to industry are passed on to the consumer in higher prices, and are thus a 'benefit' in consumer expenditure data. They are, however, clearly defensive costs which cannot be said to positively contribute to welfare, and are therefore deducted here.

The second-biggest component of the R-ISEW, aside from consumer expenditure, is long-term environmental damage from climate change. The methodology used by *nef* is aimed at addressing the question of long-term ecological debt from a financial perspective. In summary, a simplistic model is assumed under which the full cost of each tonne of carbon produced becomes due in 2050 - treating the current accumulated debt as though it could be paid off over time through an annuitized endowment fund. This allows calculation of the amount required to offset damage in 2050, and therefore what annual payments into an 'endowment fund' would be required to ensure that sufficient funds are available then. Regular payments into this 'fund' will be sufficient to pay off the debt provided that we start making the payments today. Should we fail to pay the premiums this year, however, the time available to achieve the required sum at payout will shorten, and next year's required payments will therefore be higher.

The major sources of greenhouse gas emissions - power generation, road transport and (to a lesser extent) industry - affect regional costs in this category. Power-producing regions such as Yorkshire and the Humber and the East Midlands see very high costs (especially where coal is the main fuel). This may explain the West Midlands' low adjustment of £1,853 per capita in 2007 (compared with £1,060 for London, for example, or £5,079 for Yorkshire & the Humber). Given the way this factor is calculated, it is therefore regional policy actions which influence production of greenhouse gases which will have most impact on the index.

Table 6: Calculation of further Environmental Factors

ISEW Factor	West Midlands 2006	West Midlands 2007	WM % change 1994 and 2007	England 2007	England % change 1994 and 2007
Long-term costs of climate change	-£1,796	-£1,853*	48% ↑	-£2,384	42% ↑
Resource depletion	-£1,894	-£1,860	19% ↑	-£1,942	26% ↑
Loss of farmlands and natural habitats	-£49	-£50	2% ↓	-£59	5% ↓

* addition and subtraction is from the consumer expenditure figure in Table 2.

Resource depletion is a large contributor to the overall index. The costs of resource depletion across England increased from £75 billion in 1994 to £99 billion in 2007, representing approximately 10% of GVA in each year.

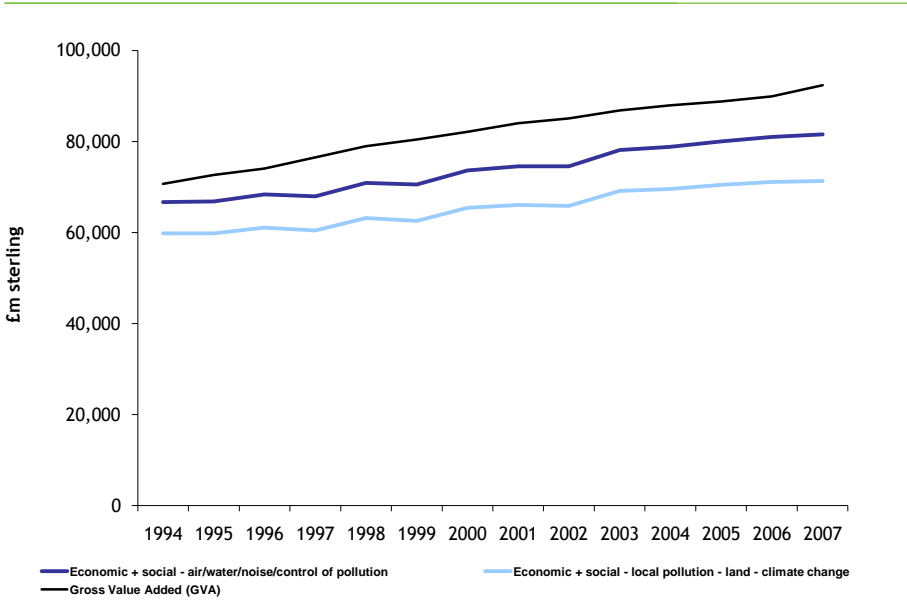
There is relatively little variation across regions, though the reasons for the cost vary from region to region. The highest cost associated with resource depletion in 2007 was in the South East at £2,033 per capita with the lowest in the North East at £1,830 per capita. Contributing factors to this part of the index include the growth in low-cost flights and regional airport use which have increased energy use. The proportion of resource depletion accounted for by industrial energy use has declined between 1994 and 2007, driven largely by changes in the North West and the West Midlands, as heavy manufacturing relocates to low labour-cost sites in Eastern Europe and the Far East. The West Midlands saw a drop of over 10% in industrial energy use between 1994 and 2007.

However, reductions in industrial energy use are more than offset by a much steeper rise in energy use by private sector services, the growing use of transport fuel and energy use in the domestic sector. While there is little regional variation in the value of this factor to the R-ISEW, it is an area where regional low-carbon policy can have an influence.

The loss of farmland and habitat represents a very small adjustment across all regions. The way this component is calculated may overlook urban habitat restoration projects such as the Black Country Urban Forest. In fact the index does not include any element accounting for the quality and ‘liveability’ of the urban environment which could impact on the score for urbanized regions. Work is ongoing with DEFRA to try and better understand how this variable could be better represented in future iterations of the index.

Figure 6 below shows the effect on the R-ISEW of the environmental adjustments; it can be seen that the gap between GVA and R-ISEW has widened since 1994.

Figure 6
West Midlands Index 1994-2007 after social and economic adjustments, adjusted for local pollution, land loss and climate change



Source: ONS regional accounts, ISEW

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3.4 Overall R-ISEW performance

Figure 7 below shows the combined performance of the region in the form of a spider diagram. The central darker line represents the England average performance for 2007. Where the West Midlands is inside this line it performances below the national average, where it is outside it shows areas where regional performance exceeds the national. This provides a simple view on the relative strengths and weaknesses of the region.

Generally the West Midlands has an R-ISEW more or less equal to the English average - £11,406 per capita. It is important to note, however, that this has only been the case since around 2001 - prior to that its R-ISEW was the third highest in the country. Indeed, the region's R-ISEW has been perhaps the most stable in the country, having only increased by 16% between 1994 and 2007, whilst others have risen more dramatically (e.g., the East Midlands and London), or risen and fallen (e.g., the South East).

Consumer expenditure plays an important part in the explanation of why the West Midlands lost its earlier comparative advantage. Whilst it grew at 3.1% per annum per capita across England overall between 1994 and 2002, it only grew by 2.6% per annum in the West Midlands during that period. Meanwhile, income inequality grew at a faster rate than in the rest of the country.

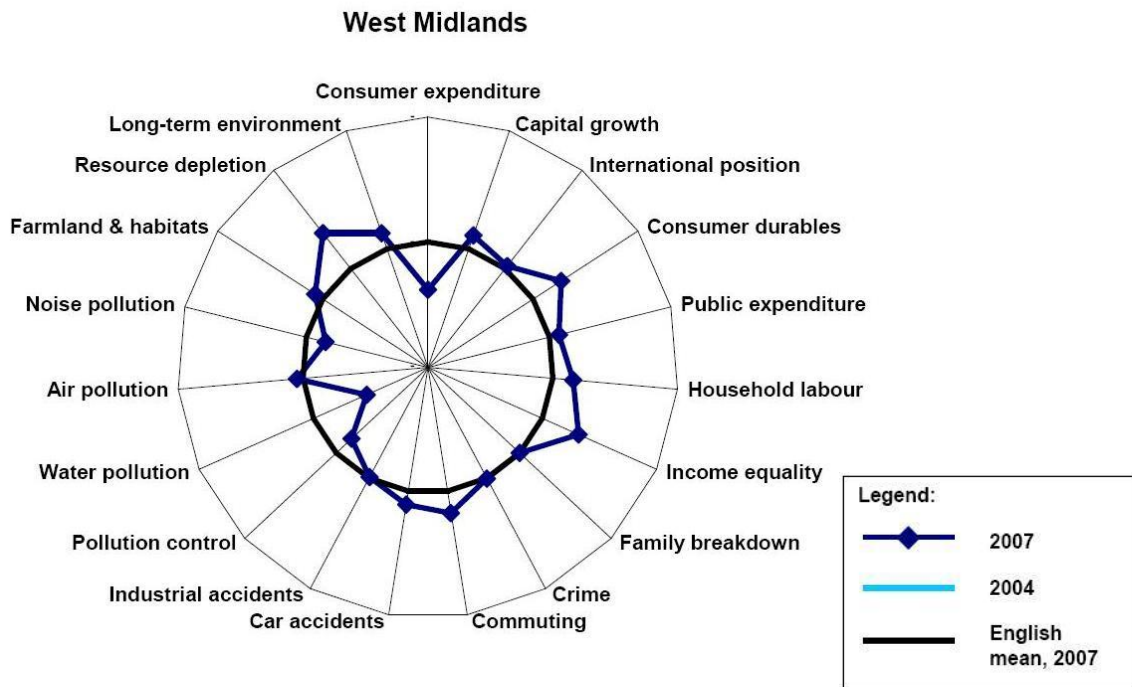
The most important factor in the region's decline, however, has been its steadily worsening net international position - from a surplus of £903 per capita in 1994 (second highest in England), to a deficit of £860 per capita in 2007 (third lowest). This decline has been driven predominantly by a shift from a balance of goods surplus to a balance of goods deficit.

Over the last five years the region has departed from the English pattern by actually reducing the costs of income inequality (by £58 per capita between 2002 and 2007) whilst it has increased in most regions, by only suffering a marginal decline in net capital growth (£70 per capita versus £282 per capita) and by holding the costs of resource depletion constant whilst they rise in other regions

Aside from resource depletion and income inequality, the region also performed relatively well in 2007 in terms of the costs of commuting, and the component on consumer durables. Aside from consumer expenditure, the region performs relatively badly on water pollution.

Figure 7

Overall R-ISEW performance for West Midlands, 2007



Source: new economics foundation, 2009

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4 Links with regional policy issues

Last year's larger report demonstrated some of the links between the R-ISEW and policy issues. These were primarily regional challenges but also included some more global challenges.

We haven't repeated the process this year as the nature of the policy environment hasn't changed significantly. This chapter summarises the links from last year's report.

The WMES sets out a series of challenges that are facing the region and its policy makers. It reiterates the need for economic growth that supports improvements in well-being and quality of life and also stresses the need for economic growth to be sustainable within environmental limits.

The WMES looks at two 'levels' of challenge. The first are the challenges which can be considered to be global. These are challenges that face all regions and are not unique to the region. The second set of challenges are those that are more specific to the region and are not necessarily shared by the other English regions.

Clearly the R-ISEW also looks at policy areas that fall into the remit of the RSS and we have also looked at the linkages that can be seen between the R-ISEW and the RSS.

4.1 Global Challenges

- Climate Change & Energy security
- Continued globalisation
- Demographic change
- The march of technology

In respect of the R-ISEW, policies around 'the march of technology' have a slightly more abstract connection to the R-ISEW. Theoretically technology advances will impact on the R-ISEW but this is likely to be across a number of the components rather than having direct influence on specific components.

4.2 Regional Challenges

- Skills, Enterprise & Innovation
- Transport
- Economic Inclusion

4.3 The Regional Spatial Strategy

The RSS has a strong, direct linkage to the R-ISEW particularly on the environment components. RSS policies on housing, waste, water, transport; biodiversity and, more generally, planning guidance mean that most of the environmental components are influenced in some way by the RSS.

Currently the environmental components of the R-ISEW are negatives - meaning that they reduce the R-ISEW. Consequently good regional performance against these components limits the reductions. Currently most of the environmental impacts are similar from region to region with the exception of the climate change component. This currently penalises the regions that are power producers as it allocates emissions at the source rather than through consumption. Consequently, as the West Midlands is a net importer of energy, this component is better than the England average. However this means that it is difficult for the West Midlands to have a large influence on this component as the most effective policy interventions will be those that influence energy production.

5 Summarising the regional picture

In this table we have listed the components in order of their **positive** (or least negative) impact on the West Midlands R-ISEW.

We have then taken a fairly simplistic view of the potential for regional policies to have an impact on the particular component. We have categorised the potential influence as either high, medium or low impact.

Many of the components would be most significantly affected by national policy but there is scope for regional influence.

Table 7: Potential regional impact on the R-ISEW

R-ISEW Component	Impact on the West Midlands performance (£)	Level of potential influence by regional policy
Services from domestic labour and volunteering	+ £3,663	Low
Public expenditure on health and education	+ £2,951	Low
Net capital growth	+ £281	Medium
Water pollution (per person)	- £9	High
Loss of farmlands and natural habitats	- £14	High
Pollution abatement	- £86	Medium
Noise pollution (per person)	- £86	Medium
Costs of family breakdown	- £149	Low
Costs of industrial accidents	- £162	Low

Costs of crime	- £202	High
Adjustment for consumer durables	- £299	Low
Air pollution (per person)	- £349	Medium
Costs of commuting and car accidents	- £830	Medium
Net international position	- £860	Medium
Costs of income inequality	- £1,402	Medium
Long-term costs of climate change	- £1,853	Medium
Resource depletion	- £1,860	Medium

5.1 Which policy levers will have the greatest impact?

The previous table (Table 7) addresses the potential for regional level policy making to influence the individual components of the R-ISEW. Looking at this from a reverse perspective we will now consider which regional policy levers could have the greatest effect on improving the region's R-ISEW.

Due to the way the R-ISEW is developed we can't take the analysis to the level of saying "a 5% reduction in CO₂ emissions will give an x% increase to the R-ISEW". However we can assess the policy areas most likely to make a significant impact.

The primary focus for this would be the components that have a negative effect on the R-ISEW - those that are a subtraction from the total.

The region has scope to have an effect on the three components that have the greatest negative impact on the R-ISEW. These components are:

- Long-term costs of climate change;
- Resource depletion;
- Costs of income inequality.

There are some very obvious links between the three components and the West Midlands Economic Strategy. Clear linkages between the drive for a low carbon economy exist with the first two components. The West Midlands Economic Strategy states that:

“More effective management and use of our infrastructure. Including both transport and ICT, as well as more efficient use of resources including our natural environment, water and energy, is therefore key to ensuring that the region remains a competitive place to visit, live, work and do business.”

Existing policies within the WMES and the Regional Spatial Strategy have the aim of promoting the development of renewable energy sources. This has a direct impact on the resource depletion component which is essentially the estimated cost of replacing fossil energy use with renewable energy. Positive moves to increase the development and the use of renewables will impact on this component.

Income equality is a component that is challenging to tackle with regional policy interventions but the national Public Service Agreement (PSA) 17 is set out to *“Tackle poverty and promote greater independence and well-being in later life.”* The interventions required to make an impact on this help to drive up the incomes of some of those people living on low incomes thus helping reduce the inequalities.

Also the driver within the WMES to tackle the 20% of the region’s output gap that comes from worklessness will also help increase the incomes at the lower end of the scale and reduce the inequalities.

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West Midlands Regional Observatory

Level 3
Millennium Point
Curzon Street
Birmingham B4 7XG

Telephone: 0121 202 3250
Fax: 0121 202 3240
email: enquiries@wmro.org

www.wmro.org