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One Planet Living in the suburbs

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BioRegional

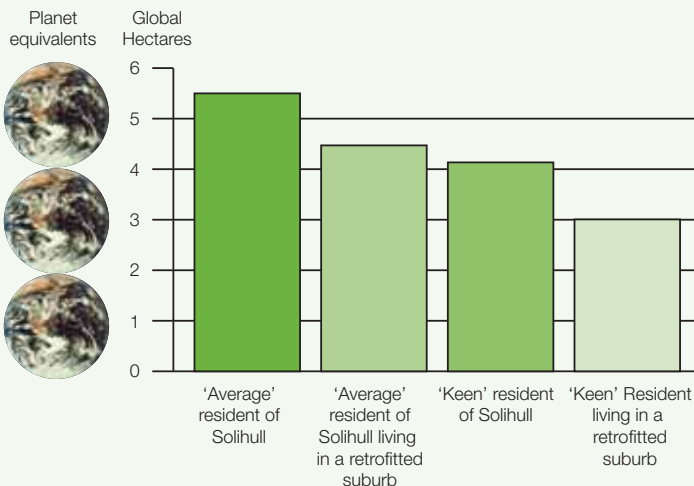


Introduction

If everyone around the world consumed natural resources and generated carbon emissions as we currently do in the UK we would need three planets to support us. Buildings are responsible for almost half of the UK's carbon emissions, with domestic buildings contributing 27%. The UK government has set a target of a 60% cut in emissions by 2050, however it is predicted that two thirds of the dwellings that will be standing in 2050 already exist.¹ So, if we are to reduce our ecological footprint and move towards 'One Planet Living', it is vital that we address the environmental performance of our existing homes. The challenge we face is to 'retrofit' sustainability into our lives in a way that will enhance our sense of community, happiness and well-being, and will reduce our impact on the planet.

One Planet Living is a joint initiative between WWF and BioRegional, launched in 2004. It aims to create a shared and positive vision of the world we want to live in: 'a world in which people everywhere can live healthy, happy lives within their fair share of the Earth's resources'. In other words, One Planet Living aims to demonstrate that people throughout the world can enjoy a high quality of life that is sustainable.

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This report uses these One Planet Living principles to highlight the challenges and opportunities of creating sustainable communities in existing areas. As 86% of the UK population lives in the suburbs, and the ecological impact of these areas is generally large, this report focuses on suburbia, using Solihull in the West Midlands as a primary case study.

The Suburban context

Suburbia poses many interesting challenges and opportunities. Affluent suburban areas are generally perceived as financially and socially stable and the environmental impact of suburban life is, it seems, frequently overlooked both by residents and policy makers. However, features of typical suburban life can be inherently unsustainable and carry a high ecological footprint. These features include: low density housing with high car use, high energy use (detached houses are three times as energy intensive as the average flat) and high dependence on external inputs (e.g. non-local food and products).

Fortunately, however, suburbia also offers significant opportunities for sustainable living. For example, detached houses are easy to retrofit; most houses in affluent areas of suburbia are owner-occupied, so residents benefit directly from measures such as increased energy efficiency; and green space presents opportunities for food growing, composting and enhancement of biodiversity.

The report uses Ecological Footprinting² baseline data to highlight the potential impact of a range of measures under four scenarios:

- **Scenario 1:** 'Average' resident of Solihull
- **Scenario 2:** 'Average' resident of Solihull living in a retrofitted suburb
- **Scenario 3:** 'Keen' resident of Solihull
- **Scenario 4:** 'Keen' resident living in a retrofitted suburb

The graph opposite shows the potential impact of a range of measures on reducing Solihull's ecological footprint. While the available data indicates that it may not currently be possible to reduce suburbia's footprint to a sustainable 'One Planet' level, it is clear that very significant reductions are possible, and further research and footprinting analysis may reveal even greater reductions.

¹ Environmental Change Institute, University of Oxford (2005), 40% House

² EF is an accounting tool that represents the environmental impacts of a process or person's lifestyle in terms of an area of land or sea required to sustainably produce a particular natural resource or to absorb waste from consumption, or absorb the corresponding CO2 emissions generated. Ecological Footprints are measured in "global hectares".

Key Findings

The findings of this report suggest that action is needed at all levels to work towards One Planet Living in the suburbs. As we noted in our previous report, One Planet Living in the Thames Gateway³, while individual action can make a very significant contribution to reducing our ecological footprint, this alone is not sufficient to address the problem. This is because a considerable component of an individual's ecological footprint is attributable to their share of infrastructure and services, which individuals can do little to influence. Government and business therefore have a responsibility to deliver sustainable infrastructure and services, and to provide the framework to 'change the defaults' of our lifestyle choices – making it easy, attractive and affordable for people to choose more sustainable options.

Understanding how to change behaviour and encourage sustainable lifestyle patterns is vitally important. While it is sometimes assumed that raising awareness of the environmental impact of lifestyle choices alone will lead to sustainable behaviour, in reality behaviour change is very complex and more work is needed in this area. It is vital to ensure that incentives favour sustainable behaviour, enabling access to environmentally friendly choices, engaging people in initiatives and exemplifying desired changes within government policies and practices.

It is important to recognise that the problems and potential of existing suburban areas can be very diverse – no blanket national or even city-wide solution can be applied, since local physical and natural conditions vary greatly throughout the UK. However, some general principles can be applied and individuals, communities, local, regional and national government all have an important role to play.

Key Recommendations

A comprehensive and detailed set of recommendations for each of the One Planet Living principles can be found on page four. Here we set out the overarching recommendations for national, regional and local government, communities and individuals.

National government

The government has a key role in making One Planet Living a realistic option for individuals, communities and businesses. It should:

- Adopt Ecological Footprint as a critical indicator for sustainable development and use it to inform policy decisions and develop strategies for One Planet Living. Only by clearly understanding our 'environmental baseline' will we be able to decide the necessary measures to move from 'three planet living' to One Planet Living.
- Introduce a carbon budget that requires year-on-year cuts in carbon emissions from all sectors of the economy.
- Provide a strong policy and regulatory framework to facilitate One Planet Living in the suburbs.
- Provide incentives, grants and support to local authorities, communities and individuals to encourage the take-up of sustainable options: for example, retrofitted renewable energy systems and water efficiency measures.
- Support the Energy Saving Trust's proposal for a cap and trade scheme on domestic energy supply, and introduce appropriate incentives to open a new market for energy service companies.
- Publish a strong Code for Sustainable Existing Homes and require mandatory assessment of all homes.
- Invest in research to provide a greater understanding of the barriers to behaviour change in communities and among individuals.

Regional and local authorities

- Adopt Ecological Footprint as a regional/local indicator for sustainable development and use it to inform decisions and develop strategies for One Planet Living in the region.
- Set targets for Ecological Footprint stabilisation and reduction.
- Work with business to facilitate the development of energy service companies, and link council tax charges to improvements in home energy and environmental performance.
- Work with local communities to understand the barriers to sustainable lifestyles.

Individuals

Individuals can and must play their part. They can do this by adopting 'green' behaviour wherever possible: making use of local facilities on offer and exercising their purchasing power. Individuals can dramatically reduce their footprint by, for example: increased recycling and composting; use of public transport; consumption of local organic food; and purchasing of 'green' products and services. They should also take advantage of government grants and incentives to retrofit their homes, and thereby save money on energy and water bills, as well as reducing their footprint.

Conclusion

While the footprinting scenarios suggest that One Planet Living is difficult to achieve in suburbia, because much of the infrastructure is already in place, it is clear that very significant opportunities exist for large reductions in residents' impacts. For this to be achieved, it will require a combination of 'top down' and 'bottom up' action.

Clear responsibility lies with central government, which must commit to adopting ecological footprint as an indicator of sustainability, and then set the necessary overarching regulatory and enabling framework to deliver One Planet Living. Regional and local authorities must also develop strong policy frameworks to encourage, provide incentives, and where appropriate require greater sustainability in their existing suburbs. Business must also play its part and work with government and consumers to develop new business models, such as energy services companies that will deliver exciting opportunities for greater energy efficiency and decentralised energy generation in the suburbs.

Finally, in order to achieve One Planet Living, we must make it easy, attractive and affordable for individuals and communities to choose more sustainable options. Developing a better understanding of the barriers and motivations to more sustainable lifestyles is key, as is encouraging individuals and communities to take responsibility for their footprint through a combination of local community action, incentives and regulation.

Detailed Recommendations

Zero carbon: reducing carbon dioxide emissions by optimising building energy demand and supplying from zero or low carbon and renewable resources

National government

- Part L Building Regulations extended to require improvements in existing homes – i.e. through ‘consequential improvements’
- Ensure that a robust Code for Sustainable Existing Homes (CSEH) is developed and over time extend the energy performance certificate to an assessment of all homes against the Code on sale/purchase/change of occupancy
- Enable the introduction of incentives linked to energy performance certificates/CSEH, including green mortgages, stamp duty and council tax charges
- Require a percentage of renewable energy generation and improvements in energy efficiency from existing communities through the new Planning Policy Statement on climate change
- Facilitate the development of energy services through a supplier cap and trade system
- Require smart metering
- Legislate against inefficient appliances that can be left on standby
- Reduce VAT on energy saving technologies and equipment, and increase labelling of appliances and fittings. Increase fiscal grants for microgeneration and renewable energy community schemes
- Require/facilitate the installation of microgeneration technologies through the planning system
- Regulate to ensure premiums paid by green energy tariff customers ensure investment in additional renewables capacity beyond regulatory requirements
- Improve landlord incentives such as the green landlord scheme

Local authority

- Give council tax rebates for increased energy efficiency and enhanced environmental performance of homes
- Introduce requirements for renewables in existing communities
- Use Section 106 for well planned suburb densification where appropriate

Individual

- Purchase energy saving devices, increased insulation, double glazing, energy efficient appliances etc
- Some solar gain potential through addition of south facing conservatory where possible
- Whole house energy monitoring
- Sustainable behaviour, e.g. turning off lights when leaving rooms
- Invest in microgeneration such as solar thermal



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Zero waste: achieving a substantial reduction of waste flows to landfill by reducing waste arising; and valuing all materials as potential resources, through reuse, reprocessing or generating energy from waste

National government

- Engage with superstore chains to reduce packaging
- Set targets for packaging minimisation and increase percentages of recyclate used in packaging and products
- Incentives for local authorities to increase the scope of recycling services

Local authority

- Support for local reclamation yards, real nappies, furniture reuse networks, etc
- All recyclable material collected and centrally recycled
- Track the take-up of recycling services, to monitor participation and engage with defaulters
- Provide fiscal incentives: cash discounts, prize draws, council tax rebates
- Trial financial disincentives such as ‘pay as you throw’
- Promote and subsidise home composting facilities

Individual

- Avoid overly packaged goods
- Participate in waste minimisation schemes such as real nappies
- Use recycled and reclaimed materials and products where possible
- Participate in local recycling schemes and set up compost in garden or outside space



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Sustainable transport:

reducing the need to travel and providing sustainable alternatives to private car use

National government

- Provide incentives for employers to allow home working, including reinstatement of tax exemption for employer-provided equipment through the Home Computing Initiative
- Increase car tax for high emission vehicles
- Reduce vehicle fuel tax on biofuels
- Increase the target for sustainable biofuels to at least 10% by 2015

Local authority

- Attract businesses or 'starter unit' providers around existing transport nodes through reduced business rates and other fiscal incentives
- Consider providing local collection points or subsidised secure delivery containers to enable home deliveries of local produce
- Create home-zone areas (included in Local Transport Plans)
- Create local centres with independent local shops and service providers
- Provide initial funding of alternatives to private car ownership, such as car clubs
- Provide fiscal incentives for residents who reduce or give up the use of their car
- Provide flexible systems that allow suburban travellers to use a range of transport options
- Provide secure bicycle storage and/or cheap bicycle hire at suburban stations
- Increase density around transport nodes
- Provide support for 'walking buses' for all local primary schools
- Provide oil recycling initiatives for biodiesel

Individual

- Support local facilities
- Work from home where possible
- Use internet ordering and home delivery services
- Cycle or walk where possible
- Use public transport
- Join a car club
- If car ownership is deemed unavoidable, use alternative fuels and fuel efficient vehicles



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Local and sustainable materials:

maximising the use of local, reclaimed, recycled and low environmental impact materials

National government

- Label materials to reveal the estimated embodied energy of their production
- Introduce higher tax rates for high embodied energy products and 'unsustainable' materials
- Develop local procurement policies where appropriate for all government bodies
- Require regional and local government to source increasing percentages of credibly certified timber from well managed forests
- Require DIY and other retailers to source increasing percentages of credibly certified timber from well managed forests

Local authority

- Introduce a training programme for tradespeople in using local sustainable materials and 'green' products
- Join the WWF-UK Forest & Trade Network
- Make use of the government's Central Point of Expertise on Timber (CPET) for procurement policies
- Produce a green directory that highlights sources of local sustainable and reclaimed materials
- Support the establishment of reclamation yards

Individual

- Make maximum use of locally sourced, certified, reclaimed and recycled materials

Local and sustainable food: reducing emissions due to food transport and food manufacture and reducing environmental pollution due to chemicals used in food production

National government

- Fund and promote local food systems, for example through grants for Community Supported Agriculture (CSA) systems⁴
- Introduce food labelling that stipulates the embodied energy of food products
- Set national composting targets

Local authority

- Promote and support local food production networks
- Provide and promote local allotments and food-growing facilities

Individual

- Reduce the amount of animal protein in diet
- Grow food in garden or local allotment
- Buy local, seasonal and organic produce (home grown and local vegetable box or farmers market)
- Reduce levels of food wastage, and increase composting in gardens

Sustainable water: reducing energy used in water supply and waste water management; reducing flooding risks and conserving water resources

National government

- Develop a 'Code for Sustainable Existing Homes' with mandatory assessment of all homes on sale, rental or change of occupancy, with fiscal incentives to upgrade the water and energy efficiency of homes
- Reform building and water fitting regulations to ensure all newly installed water using appliances are highly water efficient.
- Introduce mandatory water metering
- Introduce tougher leakage targets, to reflect environmental impacts and public concern
- Reduce VAT on water saving devices
- Label food to show how much water is used in its production

Local authority

- Subsidise water saving devices such as water butts
- Limit the number of gardens paved over; require Sustainable Urban Drainage systems

Individual

- Purchase water efficient appliances and fittings
- Harvest rain and grey water
- Design garden landscape to minimise flood risks – i.e. maintenance of porous surfaces

⁴ CSA is a partnership between farmers and consumers where the responsibilities and rewards of farming are shared. CSA members often commit in advance to buying their food directly from the CSA farm. CSA farms are directly accountable to their consumer members and strive to provide fresh, high-quality food, typically using organic farming methods.



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Natural habitats and wildlife: conservation of existing biodiversity, regeneration of degraded land and increased access to nature by residents

National government

- Ensure the Code for Sustainable Homes includes ecological assessment credits
- Reduce VAT on native plant species

Local authority

- Introduce local biodiversity strategies and action plans
- Provide discounted or free professional advice

Individual

- Plant native species in gardens
- Increase biodiversity through planting

Culture and heritage: engendering a sense of community through enhancing or reviving valuable aspects of local culture and heritage

National government

- Introduce policies to ensure the historic character of suburbia is protected, especially during densification/new housing provision

Local authority

- Run an awareness campaign towards creating a new culture of sustainability
- Introduce policies to ensure the historic character of suburbia is protected, especially during densification/new housing provision

Individual

- Participate in local groups working to enhance local culture and heritage
- Support local cultural events and local products

Equity and fair trade: promoting social equity, inclusion, local economic development and fair trade

National government

- Work with social housing providers to develop a strategy for integrating affordable housing in suburbia
- Introduce procurement policies for the purchase of fair trade goods by all government bodies

Local authority

- Promote a mix of accommodation, employment and facilities
- Enhance local employment opportunities through local training programmes and support for local businesses
- Introduce an access strategy for buildings, transport systems and open areas, incorporating guidance on disabled access
- Develop a community intranet and website
- Support local fair trade networks

Individual

- Participate in community groups to help obtain fair trade status
- Purchase fair trade goods



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Health and happiness: fostering strategies to promote health and well-being, both in the present and into the future

National government

- Support research to better understand personal and community health and well-being
- Increase the power of local communities to organise events and use vacant public land

Local authority

- Provide safe public open space and facilities for exercise and recreation for all age groups
- Increase access to affordable, healthy fresh food
- Conduct community or borough-wide happiness surveys

Individual

- Maintain a healthy diet and lifestyle, including regular exercise and consumption of fresh fruit and vegetables
- Participate in community groups, events and initiatives



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One Planet Living aims to create a world in which people everywhere can lead happy, healthy lives within their fair share of the Earth's resources. To find out more please visit: www.oneplanetliving.org

a joint initiative:

BioRegional



BioRegional

BioRegional is a visionary environmental organisation, dedicated to developing practical solutions for sustainable living.

BioRegional Consulting Ltd. (BCL) is a wholly owned trading subsidiary of the charity. It was set up to provide facilitation and technical support to development and construction industry partners with the aim of mainstreaming sustainable solutions. www.bioregional.com

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The mission of WWF is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable resources is sustainable
- promoting the reduction of pollution and wasteful consumption

www.wwf.org.uk/oneplanetliving



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