



to the  
draft Plan 203 I  
Birmingham Development Plan  
January 2013

## This submission

This submission has been prepared on behalf of The New Optimists Forum in response to the request for comments to the Draft version of Birmingham City Council's Plan 2031: Birmingham Development Plan.

## Who we are: The New Optimists

The New Optimists Forum brings together scientists from universities across the West Midlands to give their informed perspective on the challenges facing humanity in the 21st century.

It all began in 2010 with our publication of an essay collection by over 80 West Midlands scientists, *The New Optimists: Scientists View Tomorrow's World & What It Means to Us*<sup>1</sup> launched on the first day of the 2010 British Science Festival by the BBC Science Editor David Shukman. With each essay written in response to the simple question I posed to them "What are you optimistic about?" the book uncovered the wealth of scientific knowledge within the region.

We believe scientists have a vitally important, informed contribution to make in 'seeing' how we can build a sustainable future. When those scientists are citizens within the region, it seems only right we should harness their knowledge in the service of the place we all call home.

Humanity is indeed facing huge challenges — climate change, resource depletion, population pressures. These are challenges that all too often appear overwhelmingly difficult. Yet to quote Sir John Lawton in his 2006 Lunar Society Annual Lecture, *doing nothing is not an option*.

Here in Birmingham and its environs we have many scientists whose expertise ranges from stem cells to fuel cells, from nutrition to agricultural and horticultural practice to spatial planning, all able and willing to share their knowledge in helping us meet these challenges.

Hence **The New Optimists Forum**.

Through a series of facilitated events with live social media reporting, local scientists have, over the last year or so, been bending their minds on a scenario planning project on food futures for Birmingham in 2050. It will be completed this spring. This project has gained wide coverage nationally and internationally as well as locally, influential interest and generated several spin-off activities.

You can find out more about the work we do and about our not-for-profit legal structure plus brief biographies of now more than 100 regional scientist contributors at [www.newoptimists.com](http://www.newoptimists.com). You can also find regular updates on our blog: [newoptimists.com/blog](http://newoptimists.com/blog).

The work of the scientists and professional advisors who've contributed to the New Optimists Forum is central to informing our response to this draft *Plan 2031: Birmingham Development Plan*.

**Kate Cooper**

**January 2013**

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<sup>1</sup> RICHARDS, K. (ed) 2010 *The New Optimists: Scientists View Tomorrow's World & What It Means To Us*. Linus Publishing Company, Birmingham.

## 1 Introduction

- 1.1 New Optimist [Professor Andreas Hornung](#) is a chemical engineer and Director of the [European Bioenergy Research Institute](#) (EBRI) at Aston University. EBRI includes a demonstrator bioenergy reactor, using a carbon negative process to generate heat and power, technologies developed by the Professor and his colleagues including other New Optimist engineers, [Professor Tony Bridgewater](#) and BCU's [Dr Lynsey Melville](#).
- 1.2 Professor Hornung and Dr Melville with other academics including [Professor Stefan Bouzarovski](#), a political geographer at the University of Birmingham and [Professor Michael Waterson](#), an energy economist at the University of Warwick, along with professional advisors with expertise in the energy business sector, law and planning, have contributed to recent work by The New Optimists (TNO) on how local waste can be used to generate energy, and how such facilities can be promoted as general infrastructure proposals when considering the location of new residential areas.
- 1.3 We acknowledge that the Plan 2031: Birmingham Development Plan is still in draft format, but welcome the opportunity to submit formal representations and highlight areas relating to infrastructure and new development. We take the view that the development and planning of effective infrastructure is an important part of any strategic land use planning process — whether this is for housing or employment purposes.
- 1.4 Specifically looking at housing need, we note that the Development Plan outlines project population growth of Birmingham as increasing by 150,000 between 2011 and 2031 (p3). Furthermore, by 2031, the plan envisions the City to be as “green” as possible.

The aim of this submission is to encourage and highlight the importance of waste management treatment and energy production at a local level and how and why this should be given considerably more weight at the strategic stage of land use allocations.

## 2 Relevant context

- 2.1 To accommodate the envisaged population, the emerging Development Plan suggests that 80,000 new homes will need to be built between 2011 and 2031. We acknowledge that previous Strategic Housing Land Availability Land Assessments (SHLAA) have identified land suitable for development to accommodate only 43,000 dwellings, predominantly on brownfield sites, and hence additional sites are required. It is further noted that the SHLAA review in 2012 invited further land to come forward but that the envisaged needs of the City will mean that land in greenfield locations is likely also to be required.
- 2.2 We endorse this and support the Council in its general goals within the Options Consultations document. We acknowledge that land within the urban envelope will not on its own address the growing need for housing.
- 2.3 This submission by The New Optimists is not advocating the development of any one site over and above another. All seem to have met the initial criteria for potential development and offer a degree of flexibility in terms of size and potential types of development.
- 2.4 We do consider, however, that encouragement for sustainable development and, in particular, the promotion of appropriate infrastructure is surprisingly understated. Birmingham has aspirations to become a leading *sustainable* global city by developing a low carbon and low waste economy. As such it is considered that effective management of any new housing schemes is vital.
- 2.5 As part of this, new waste management projects and energy systems need to be an integral part of that management.

### 3 Waste and energy generation

- 3.1 The management of waste and the potential to generate energy should be seen as important elements of infrastructure in any urban environment and also part of the strategic approach to housing provision. Indeed, effective and sustainable waste management needs to be an integral element of the allocation and development of any future new housing sites.
- 3.2 The New Optimists Forum, comprising academics and professional advisors, together with EBRI at Aston University, have been considering the potential to site bioenergy reactors across the city. Once in place and operational, these could have the potential to generate a significant proportion of the energy supply for the City, and could specifically target new housing sites.
- 3.3 The energy to fuel the proposed reactors would comprise domestic waste, much of it currently sent to landfill. Development of such a project offers the opportunity to effectively address the 300,000 tonnes of household waste generated every year in Birmingham.
- 3.4 Whilst it is accepted that the City's waste treatment strategy is currently subject to review by the Scrutiny Committee, it is considered that the emerging Development Plan should proactively take the matter into account and adopt a comprehensive approach to sustainable development, as opposed to the 'silo' mentality of dealing development, land use, infrastructure and energy sources as separate entities. They should be seen as a whole and properly planned for.
- 3.5 The matters being considered by TNO offer opportunities not just for science and technology research, and for scenarios currently being developed with the help of the Warwick Business School and the Said Business School Oxford, but also research on the social 'technologies' required by such changes in built and social infrastructures. These opportunities contribute greatly to operational projects to be delivered at local scale, and which reflect the localism approach encouraged by the Government and encompassed in the Localism Act 2011.<sup>2</sup>
- 3.6 Bioenergy reactors make the best use of household waste. Moreover, they encourage occupants to separate waste into different bins and disposal systems. Data presented by DEFRA and others has shown that the volume of municipal waste being disposed at the current rate is unsustainable with less than 15% reported (Barr 2004) to be used for recycling (for a useful summary of the research in this area, see Tudor et al, 2011<sup>3</sup>). A far greater part of the waste currently going to landfill has the potential to be used in bioenergy reactors instead of being put through pollutant emitting processes such as the Tyseley incinerator.

### 4 Relevant policy background and City initiatives

- 4.1 Given the National Planning Policy Framework (March 2012)<sup>4</sup> there is a clear need for every local planning authority to have sustainability as a key focus throughout the preparation of respective Development Plans. This is set out clearly in paragraphs 150 to 157. Indeed, at paragraph 162, LPAs are advised to work with other authorities and ensure that infrastructure is properly planned for.
- 4.2 Furthermore, one of the core principles of the NPPF is the need to move to a low carbon future, encouraging the use of alternative and renewable energy resources.
- 4.3 While the NPPF repeats much of the historic policy with regard to development in the Green Belt as set out previously in PPG2,<sup>5</sup> it does accept at paragraph 91 that wider environmental benefits associated with increased production of energy from renewable sources can be seen

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<sup>2</sup> Localism Act 2011: <http://www.legislation.gov.uk/ukpga/2011/20/contents>

<sup>3</sup> [Challenges facing the sustainable consumption and waste management agendas: perspectives on UK households](#) in *Local Environment*, Volume 16, Issue 1, 2011.

<sup>4</sup> <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>5</sup> <https://www.planningportal.gov.uk/planning/planningpolicyandlegislation/previousenglishpolicy/ppgpps/ppg2>

as very special circumstances. It is expected that any major development in the Sutton Coldfield area would be lifted from the Green Belt, but this reference endorses the importance of renewable energy facilities and the weight the Government puts on them.

- 4.4 Further specific policy for waste management is to be covered in the National Waste Management Plan for England which is set to be published in 2013. However, as a precursor to this, a 2011 Government review of waste policy in England<sup>6</sup> outlined the need for better waste management, diverting waste from landfill to value and minimise its environmental impact. This is not a new approach and reflects long-standing European guidance and regulations.
- 4.5 In Birmingham's case, this has been endorsed through several adopted policy documents, including *Places for the Future SPD*, the draft for consultation published in February 2012.<sup>7</sup>
- 4.6 The objectives set out in *Places for the Future* reflect the fundamental need for more extensive provision of development, services and infrastructure to serve the existing and anticipated population of the conurbation. We acknowledge that the Council has already accepted that it needs to focus on how to supply adequate housing provision in an environmentally appropriate and effective way.
- 4.7 The aim is to 'achieve levels of municipal waste reduction, year on year, which are better than the national average for England'. (Refresh of the Municipal Waste Management 2012.<sup>8</sup>)
- 4.8 We note that research (Skoyles et al, 2005<sup>9</sup>) has demonstrated that over the previous decade there has been increased interest in the concept of building homes that use environmentally sustainable waste management and energy resources. This has particularly been reflected in municipal waste policies.
- 4.9 At a European, national and local government level it is clear that these issues have become more important and, while challenging for policy-makers, it has been found that the most successful schemes have waste management concepts integrated into design principles (Skoyles et al, 2005). There are simple yet effective methods of sustainable waste disposal and energy generation processes which could — and we suggest should be encouraged through strategic policies.
- 4.10 The establishment of the Leader of the Council's 'Green Commission' in 2012 has brought sustainability issues to the fore. It illustrates that they are a priority for the Council. We consider, however, that while 'initiatives' can be applauded, it is actions that are important. The encouragement of the principles supporting a 'green' City should be clearly included within the strategy of the emerging Development Plan in terms of strategic housing allocations.
- 4.11 While the proposals to place development in the Green Belt are considered unavoidable, the limited land availability within the urban area will need to be used effectively. Developments of a higher density will have to be constructed in these urban areas if building within the Green Belt is to be kept to a minimum.
- 4.12 Making the best of urban sites reflects the ethos of the Council to date, as illustrated in *The Refresh of the Municipal Waste Strategy* (footnote 7) which sets out several key recommendations relevant to new waste technologies that could be implemented into future housing developments and schemes.

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<sup>6</sup> See <http://www.defra.gov.uk/publications/files/pb13540-waste-policy-review110614.pdf> and <http://www.defra.gov.uk/publications/files/pb13542-action-plan.pdf>

<sup>7</sup> [http://consult.birmingham.gov.uk/portal/sustainability/places\\_for\\_the\\_future?tab=files](http://consult.birmingham.gov.uk/portal/sustainability/places_for_the_future?tab=files). A copy of our response to this is here: [http://newoptimists.com/wp-content/blogs.dir/22/files/2011/07/NewOptimists\\_Response\\_Places4TheFuture\\_SPDDoc.pdf](http://newoptimists.com/wp-content/blogs.dir/22/files/2011/07/NewOptimists_Response_Places4TheFuture_SPDDoc.pdf)

<sup>8</sup> [Refresh of the Municipal Waste Management 2012](#)

<sup>9</sup> Skoyles, R., Buckley, H., and Askins, K (2005). [Governing Sustainable Waste Management: Designing sustainable waste management into the housing sector](#). Durham University, Department of Geography.

These include:

- ◆ *R01: Revision of the current strategy visions to recognise that Birmingham has agreed to reduce its overall carbon emissions target by 60% by 2026.*
- ◆ *R04: Define a specific re-use target as committed to in existing Strategy Target 3, to demonstrate the City Council's regard to the Waste Hierarchy.*
- ◆ *R06: Revise Strategy Target 6 to reflect the principle that nothing shall be sent to landfill wherever economically and environmentally practicable that can be re-used, recycled or disposed of more effectively elsewhere.*
- ◆ *R07: Amend Strategy Target 7 to capture the City Council's undertaking to gain best value for recyclable materials wherever economically and environmentally practicable, i.e. 'To continue to develop recycling infrastructure to secure sustainable markets for all collected recyclable materials and gain best value for them wherever economically and environmentally practicable for the duration of this strategy.' This is in line with existing Strategy objectives.*
- ◆ *R09: Demonstrate that all future re-use, recycling, energy recovery and disposal contracting options are considered and appraised (including for CO2 reduction as well as other factors such as cost) to ensure the city has flexible and suitable provision that meets its long-term future needs.*
- ◆ *R15: That the Cabinet Member for Transport, Environment and Regeneration 'commits to ensuring heat recovery from the Tyseley Energy from Waste plant and reports back on joint working group progress in 2012'.*

4.13 We wish to reiterate and emphasise the importance of implementing these waste management policies at a local level to effectively enable new technologies, including those developed at Aston University, to be implemented. The projects proposed by EBRI include a series of bioenergy reactors in a "thermal ring" within the conurbation, effectively supplying a significant proportion of the city's power requirements. Some of these reactors could be developed as part of a phased or staged residential development.

## 5 Conclusion

- 5.1 In summary, the New Optimists Forum supports the emerging Birmingham Development Plan to address appropriate future housing needs across the City. However, we do not consider that the current proposals acknowledge the importance and potential of small-scale local energy infrastructure as part of existing dwellings and new housing development.
- 5.2 Implementing such an infrastructure at a smaller scale than formerly needs to be taken into consideration if the City is to achieve its goals as being one of the world's leading 'green cities'. The EBRI technologies have been implemented successfully elsewhere across Europe; these technologies supporting waste to energy have already reached a stage where they are an acceptable element of necessary infrastructure. These technologies, and the social 'technologies' to enable and support them are constantly developing and improving — as illustrated by the acclaimed work taking place through EBRI at Aston University.
- 5.3 We believe that the Council should seize the opportunity to become involved in this innovative project and vision by encouraging and supporting waste to energy opportunities as part of any strategic proposals for new housing sites.
- 5.4 Specifically, we consider that this matter should be incorporated within the text of the emerging Birmingham Development Plan: 2031.