



A Better Balance

A Roadmap to Biodiversity Net Gain

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Balfour Beatty

Foreword



For decades, decision-makers and commissioning authorities have struggled to square the circle of balancing economic growth with environmental sustainability. In many cases, they have been forced to make uncomfortable trade-offs between the two, either sacrificing the natural environment, or holding back growth in order to protect nature. The time has come to strike a better balance. We must move on from the idea that this must always be a zero-sum game.

Biodiversity Net Gain can help to square the circle. It provides innovative ways for the Government to deliver its twin priorities of boosting the economy and national connectivity. Infrastructure can be improved without compromising on the protection of the natural environment and international biodiversity commitments.

Balfour Beatty not only supports the concept of Net Gain, but is leading the way, developing new standards on how the natural environment can be enriched as a result of construction works. In publishing this paper, we aim to raise the profile of the concept and encourage government and industry to work together to adopt these principles across the board.

Economic growth is not incompatible with our environment, but we do need to take a proactive approach to making sure that both can thrive.

Leo Quinn
Group Chief Executive

About Balfour Beatty

Balfour Beatty is a leading international infrastructure group. With 15,000 employees across the UK, Balfour Beatty finances, develops, delivers and maintains the increasingly complex infrastructure that underpins the UK's daily life: from Crossrail and Heathrow T2b to the M25, M60, M3 and M4/M5; Sellafeld and soon Hinkley C nuclear facilities; to the Olympics Aquatic Centre and Olympic Stadium Transformation.

Balfour Beatty's aim is to enhance the environment in which we operate. We have partnered with a number of other organisations to produce the first set of good practice principles for biodiversity Net Gain in the UK, helping to enrich biodiversity as a result of construction works.

Our expert consultancy services¹ support clients to set and achieve Net Gain efficiently and effectively. We develop corporate strategies, management systems and training programmes on Net Gain. We provide tools to monitor losses and gains in biodiversity throughout a project's lifecycle and road maps showing each stage of the Net Gain process. We work with a variety of customers, from multi-national companies to small family-owned firms, offering a bespoke approach for each individual project.

Our tried-and-tested Biodiversity Net Gain model provides an effective way to manage the consent process of national infrastructure projects, and delivers 'net gains' in biodiversity that in turn deliver the Government's biodiversity commitments. It involves two new aspects: quantifying losses and gains in biodiversity to accurately plan, budget, design and build Net Gain; and delivering Net Gain in collaboration with local wildlife groups. Our model has received wide acclaim as industry leading, including from Natural England, and formed the basis of the UK's first Good Practice Principles on Biodiversity Net Gain. Our aim now is to support clients involved with national infrastructure projects by, at the early project stage, advising on the programme, budget and implementation of Net Gain.

¹ www.balfourbeatty.com/biodiversity

Executive summary

The UK is making a significant investment in infrastructure over the next 20 years, helping to deliver improvements in transport, broadband, energy, flood defenses and housing. From Hinkley and High Speed 2 (HS2), to highways and the Heathrow third runway, the ambition, scale and scope of the infrastructure projects being planned is vast. So too are the environmental challenges facing them, which means that public buy-in and, in some cases, planning consent, may be difficult to achieve. A new approach is needed to resolve these challenges. An approach that delivers the infrastructure the country needs, secures our future economic growth, reconciles competing demands for land use, and enhances the environment for the long term.

Balfour Beatty believes that the principle of delivering a “Net Gain” for biodiversity is that new approach. By considering up front how construction schemes can boost biodiversity, the need to build more infrastructure to support economic growth and provide new houses and places of employment can be balanced with environmental concerns: Net Gain can reconcile what are at the moment two opposing policies. But to make this possible, we must move away from the current ‘development versus nature’ scenario to infrastructure projects that help deliver Government priorities for both national infrastructure² and biodiversity³.

For the construction and infrastructure industry, there are four key incentives to finding a viable way forward on this issue:

1. The industry is reliant on the natural environment for many of the raw materials it uses: the UK construction industry uses more than 400 million tonnes of material every year⁴, making it the nation’s largest consumer of natural resources.
2. Biodiversity loss is a key reason why infrastructure projects are delayed or denied planning permission, because construction can have such a significant impact on the natural environment: building often takes place on land which might currently be providing wildlife habitat; it can lead to water and air pollution; and it creates noise and disruption, which can have an impact on animal feeding and breeding patterns. However, planning early for Net Gain and engaging stakeholders in its delivery is a far more effective and cost-efficient approach.

3. A failure to fully consider these issues before construction, leading to protected species being harmed for example, can result in punitive fines and significant reputational damage to the company.
4. The Net Gain concept provides the opportunity to generate significant benefits for communities living near these schemes, helping to gain local support and leave a genuine legacy in terms of outcomes such as improved air quality and reduced flood risk for example.

In spite of significant progress in tackling environmental issues in the past decade, much of the focus has been on carbon, waste and water. Biodiversity has remained the Cinderella of the sustainability agenda. And yet the UK has committed to reverse biodiversity loss by 2020. While it has set out in a strategy⁵ the approach it will take to achieving this, it is not currently on track to do so: more than one in 10 of the UK’s wildlife species is threatened with extinction⁶ and many of the indicators the Government uses to assess the state of nature in the UK are static or showing a decline⁷.

So why have we been so slow to address these issues? Firstly, biodiversity is a vast concept, hard to define simply and which many find intangible. It has a language of its own, which is far from being ‘Plain English’, including terms such as ‘ecosystem services’ and ‘natural capital’, which makes it hard to relate to and understand. It is often perceived as being something which just slows schemes down and costs money, a tool used by those opposed to developments. And, perhaps most significantly, it concerns long-term challenges, which are difficult to measure compared to other issues on the sustainability agenda, such as carbon and waste.

This is not an issue which is likely to go away. Public authorities in England such as local authorities, government departments and agencies and utility companies now have a legal duty to “have regard for” biodiversity⁸. Indeed, with commissioning authorities such as Highways England and Network Rail Infrastructure Projects already having committed to ‘no net loss’ and ‘net gain/positive’ outcomes for biodiversity in their infrastructure projects, and countries such as Germany, France, the US and Australia already following Net Gain principles, it is a concept which, we believe, will continue to gain traction.

Indeed, the construction industry is forging ahead on this agenda. Supported by Balfour Beatty, the Construction Industry Research and Information Association (CIRIA), the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA)⁹, have recently published good practice principles to support the sector with Net Gain. The Government must keep pace. It must step up to the plate, articulate a clear, bold vision on Net Gain and establish a robust framework to operate within. It must co-ordinate policy across the relevant Government departments, making clear how

infrastructure projects support and underpin strategies to conserve and enhance nature, essentially linking the Government’s National Infrastructure Delivery Plan (NIDP) with its biodiversity policies. And it must ensure that a metric is agreed which ensures that losses and gains are being correctly measured, and the benefits of Net Gain for the environment, society and our economy can be capitalised on.

It is imperative that we take action on this now so we can square the circle of how to deliver the infrastructure the country urgently needs, in a way which leaves an environmental legacy to be proud of.



² HMG, National Infrastructure Delivery Plan 2016 to 2021, March 2016

³ Defra, Biodiversity 2020: A strategy for England’s wildlife and ecosystem services, August 2011

⁴ <http://www.ukgbc.org/resources/key-topics/circular-economy/materials>

⁵ Defra, Biodiversity 2020: A strategy for England’s wildlife and ecosystem services, August 2011

⁶ Defra, Biodiversity services, August 2011

⁷ Defra, UK Biodiversity Indicators 2017, August 2017

⁸ HMG, Natural Environment and Rural Communities (NERC) Act, March 2006

⁹ Biodiversity Net Gain: Good practice principles for development. CIEEM, CIRIA, IEMA. 2016

Recommendations



1. Biodiversity Net Gain should be made an obligatory part of the UK's planning policies, for example the National Planning Policy Framework (NPPF) in England.
2. To achieve a level playing field and to ensure the best environmental outcomes, the metric must be updated, building on the Good Practice Principles published by CIRIA/ IEMA/ CIEEM.
3. Guidance must be produced on appropriate use of the metric in combination with qualitative assessments, recognising that nature cannot be reduced to a single number. This will help stop "green wash" and those looking to use harmful offset practices.
4. The Government should set a firm date by which it will begin to assign Net Gain targets to infrastructure development ensuring it is properly planned, designed, budgeted and implemented.
5. Local planning authorities should be offered support to incorporate Net Gain within their Local Plans and (working with nature conservation groups) produce strategies on the biodiversity priorities for their area.
6. There must be joint working by local planning authorities and local statutory advisors on nature conservation to ensure regional planning for Net Gain, going beyond a project's boundaries, tying together all projects within a locality and ensuring that they deliver the best outcomes.
7. Defra should build better links with Natural Capital accounting approaches, to facilitate an understanding of the wider benefits of Net Gain.
8. Steps should be taken to increase public awareness of the impact of biodiversity loss on society and the economy.
9. We must develop a constructive forum of learning involving academia, Government, industry and the NGO community, to build on and improve Net Gain practice and to share knowledge among specialists and build their technical capacity.

The economic case

The Government's National Infrastructure and Construction Pipeline¹⁰ up to 2020/21 outlines a major infrastructure programme of over 600 infrastructure projects worth over £425 billion. This feeds into the Government's wider National Infrastructure Delivery Plan (NIDP) 2016 – 2021, a document which brings together all of the government's infrastructure priorities.

At the same time, the Government has a number of international commitments to improve biodiversity which seem to be at odds with increasing investment in infrastructure, including its target to halt biodiversity loss by 2020. The question is how to resolve the tension between the two priorities and ensure that both can be delivered.

The aim of the massive investment in infrastructure is to ensure that communities across the country are able to benefit not only from the infrastructure itself, but from the increase in growth and productivity which follows from infrastructure development. And yet some of these schemes will face significant delay, while others may never be built at all following objections raised in the course of the planning process due to the significant environmental impact of construction. This tension between development and the environment can result in long, onerous consent processes and costly mitigation measures. With infrastructure projects increasing in scope and size, this issue is only likely to escalate.

We urgently need smarter approaches to infrastructure projects, and to implement them early. Balfour Beatty believes, that by considering from the outset not only how to avoid damage to the biodiversity around the scheme area, but to enhance it for the long-term, would not only see schemes being built that make meaningful contributions towards local biodiversity plans, but most importantly would assist in the delivery of Government's strategies on biodiversity and its NIDP.

Meanwhile, from an industry perspective, construction uses a substantial quantity of raw materials, from stone, sand and gravel, to timber and water. It therefore has a significant self-interest in ensuring the protection of the diminishing natural resources it relies on, enabling this key sector to continue to drive economic growth.

There is also the need to meet the expectations of stakeholders and to leave a positive legacy from the schemes the industry is involved in. Increasingly, local stakeholders, and civil society in general, are demanding that environmental sustainability, including protection of biodiversity, be integrated into infrastructure projects. Research in this area¹¹ has overwhelmingly indicated that places with high quality "green infrastructure" – such as public parks, green spaces, green roofs and trees – have a positive impact on physical and mental wellbeing, have better air quality, are less likely to flood, and attract more investment. Yet these social and economic benefits are not consistently measured and factored into planning decisions. Instead decisions are made without understanding the true costs and benefits of infrastructure development.

It is incumbent on Government, local authorities, industry and NGOs to work together to plan, design, construct, and maintain infrastructure in a way that properly manages any potentially negative impacts on the local environment, while enhancing positive impacts associated with improving the quality of our natural environment.

Nature should be viewed as an opportunity rather than just a risk or a hindrance. Protecting and enhancing spaces around and on sites can help gain buy-in of local stakeholders, from local authorities, public and conservation groups, as well as bringing benefits to the eventual users.

¹⁰ HMG, National Infrastructure Pipeline 2016, March 2016

¹¹ For example, Department of Health, White Paper: Healthy Lives, Healthy People, our strategy for public health in England, 2010

The 'how'

Balfour Beatty believes that the case for Net Gain is a strong one. The aim should be to reach a point where Net Gain is systematically considered at the inception of new schemes and delivered on the ground following good practice. But to achieve the multiple benefits Net Gain offers, all parties need to rigorously follow the right steps and ensure that they are communicating effectively with each other. For Net Gain to work, it will require a collaborative approach over the long-term.

For contractors, we believe there are six steps to follow to secure Net Gain benefits on each scheme. If these are adhered to, they will result in positive impacts for all parties concerned. These six steps are:

1. Develop a clear and full understanding of all biodiversity affected by each scheme and by other schemes within the same landscape.
2. Follow the Mitigation Hierarchy¹².
3. Connect with stakeholders early for their input and ideas on how the project can achieve Net Gain for the features affected, in a way that supports local priorities for biodiversity.
4. Think creatively about habitat enhancements throughout and around the site, including hedgerows, woodland meadows, ponds, and species rich grasslands, in a way that boosts biodiversity and delivers multiple benefits.
5. Ensure that the enhancements are being properly measured in terms of the biodiversity improvement they will lead to. This means using the most accurate methodology determined by Defra; and taking into account a range of inputs, from geographical information, architectural plans, habitat surveys and local and regional strategies for biodiversity.
6. Establish robust mechanisms for maintaining Net Gain over the long-term, with adequate funding and in collaboration with stakeholders.

To provide a broader framework however, and really establish Net Gain as something that should be routinely used, a number of other steps need to be implemented, both by Government and by industry itself. With something that is both as important and as complex as biodiversity, there can be no half measures. If it is to be done, it should be done properly, planned for, measured and assessed. We believe that this will require the following:

1. **A robust metric.**
The importance of a robust metric in measuring Net Gain cannot be overstated. The 'biodiversity unit' metric issued by Defra for its biodiversity offsetting pilot must be updated, to ensure that there is confidence in use of the metric to measure Net Gain, and that the metric is used consistently so there is a level playing field. At the moment, some have changed the metric parameters to address its shortcomings. But these individual 'fixes' create confusion as to whether the original or a 'fixed' metric should be used, and this disparity has the consequence of undermining genuine efforts to achieve Net Gain. There is already much learning on how Defra's metric can be applied robustly to avoid false claims of Net Gain. There is also a clear message on using metrics in the Good Practice Principles published by CIRIA/IEMA/CIEEM. This existing information should be built on.
2. **Upskilling of commissioners.**
Government agencies, local authorities and others commissioning infrastructure schemes often lack the full technical capacity to take advantage of the "win-win" option Net Gain offers. This is something which must be addressed for the multiple benefits of Net Gain to be realised, with better training and greater use of the expertise which exists within the industry.
3. **Better measurement of the benefits of Net Gain.**
We must find better ways to measure - and financially value - the wider benefits of Net Gain. These include, for example preventing floods, recreational benefits, or improving air quality. At the moment, there are measurements included in the Natural Capital work being undertaken by Government, however these remain quite academic and are still being tested. We must make progress on this to operationalize and mainstream this work.

4. Landscape-scale planning for Net Gain.

There must be regional planning for Net Gain. Large infrastructure schemes can cross several local authority boundaries and many occur within the same landscape. We must begin to look beyond an individual project's boundaries and design and implement Net Gain for a landscape, tying together all projects within a locality and ensuring that they deliver the best outcomes.

5. Strengthening the UK's planning policies.

The NERC¹³ Act means that public bodies such as Government Agencies and Local Authorities, have a duty to have regard for biodiversity. Wording in the NPPF is that development should result in net gains for biodiversity. In order to strengthen this, Biodiversity Net Gain should be made an obligatory part of the UK's various planning policies.

6. Collaboration with local nature conservation experts.

Industry should develop its relationships and collaborate with those working in local nature conservation. Measures to enhance biodiversity are more likely to succeed if local experts are involved in shaping the solutions. Making decisions centrally, or presenting them to local stakeholders as a *fait accompli* does not work in terms either of achieving genuine environmental benefit, or local stakeholder buy-in. Collaboration is also vital for Net Gain to work over the long-term.

7. Better industry understanding of Net Gain.

Industry must improve its skills in conservation planning. Net Gain is not about minimising damage to wildlife or about the typical "shopping list" of species protected by law such as bats, great crested newts and dormice. We must get better at truly understanding all biodiversity affected by individual schemes, and by the combination of schemes within a landscape, as well as the linked social impacts of people's use of nature.

8. Development of an effective forum for collaboration.

We must also develop a constructive forum of learning between industry, academia, Government and the NGO community on Net Gain so that we can move forward as a collective community. This is particularly important for newly emerging concepts such as "banking", that offer practical solutions and new ways to deliver Net Gain.

9. A review of EIAs.

An Environmental Impact Assessment (EIA) is required for certain developments. The process enables planners to take into account the environmental implications of a development before a planning decision is reached. However, while EIAs may protect against the worst of the damage, they are not as robust as they could be and should be revisited with a view to strengthening them.

10. Careful use of offsetting.

Government and industry must ensure that, if offsetting is required to deliver Net Gain (after strictly following the Mitigation Hierarchy i.e. only if it cannot be otherwise avoided), it follows good practice, is rigorously monitored, is funded for the long-term and delivers meaningful long-term benefits on the ground.



¹² The Mitigation Hierarchy is a tool which aims to help manage biodiversity risk. It includes a hierarchy of steps: Avoidance, Minimisation, Rehabilitation, Restoration and Offset. BBOP & UNEP (2010) Mitigation Hierarchy. Business and Biodiversity Offsets Programme & United Nations Environment Programme, Washington DC, USA

¹³ HMG, Natural Environment and Rural Communities (NERC) Act, March 2006

Conclusion

To deliver the Government's ambitious infrastructure pipeline and resolve the perceived tension between construction and the environment calls for a rethinking of our approach. Both Government and industry must step up the plate to address this issue.

Biodiversity Net Gain is a concept which will, we believe, gain increasing traction in the next few years. Construction and infrastructure companies should, as a matter of course and from the outset, engage stakeholders to plan how to improve the area around the schemes they are working on. By considering biodiversity Net Gain as early as possible and ensuring that Net Gain measures are incorporated in the design, programme and budget, projects can generate long-term benefits for nature and wider benefits for society and economy, costs can be kept down and local stakeholders are more likely to buy-in to schemes.

It will require careful planning and collaboration between industry, Government, academia, landowners and managers and NGOs. But the UK is home to some of the world's leading contractors, designers, and academics. If we work together, we can make it work in a way that delivers benefits for all sides and leaves a legacy we can be proud of.





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