Building Britain
The path to sustainable growth for the built environment

ALDERSGATE GROUP
Leaders for a sustainable economy

Contents

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Aldersgate Group

The Aldersgate Group is an alliance of leaders from business, politics and society that drives action for a sustainable economy.

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While members support this publication and provided extensive input, individual recommendations cannot be attributed to any single member and the Aldersgate Group takes full responsibility for the views expressed.

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Foreword

Since the previous Aldersgate Group report on the built environment was published just over three years ago, there has been considerable policy activity designed to accelerate improvements in the environmental performance of all buildings.

But in terms of delivery the UK is still lagging behind on most indicators and undershooting the sector targets for greenhouse gas emissions.

Given this dichotomy we have revisited the same scope to review progress, identify barriers and make recommendations where pace, commitment and innovation are most needed to bridge the widening gap between current and desirable performance.

In 2010 residential buildings represented 28% of our UK greenhouse gas emissions and the commercial and public sector added a further 14%. The importance of improving our building stock is therefore clear. It also leaves the longest legacy, locking future generations into resource use way beyond that of other sectors of the economy, due to both the longevity of the stock and the cost of replacement.

But it appears that the policy landscape is still riddled with contradictions. During the cold year of 2010 the take up of professional cavity wall and loft insulation fell by 30%[1]. Such a big drop is hard to account for by the recession. Could it reflect a perverse reaction to the prospect of the welcome policy of the Green Deal, meaning it seemed better to wait?

Zero carbon homes have been endorsed, but we need strong policies on plug in devices to meet the 6TWh gap inelectricity use which now falls outside the definition for new homes built up to 2030. Some progressive building regulations are being tightened, although not always at the pace required, and which the industry could deliver[2]. But the key issue for building regulations remains the fact that in many places they continue to be lamentably enforced.

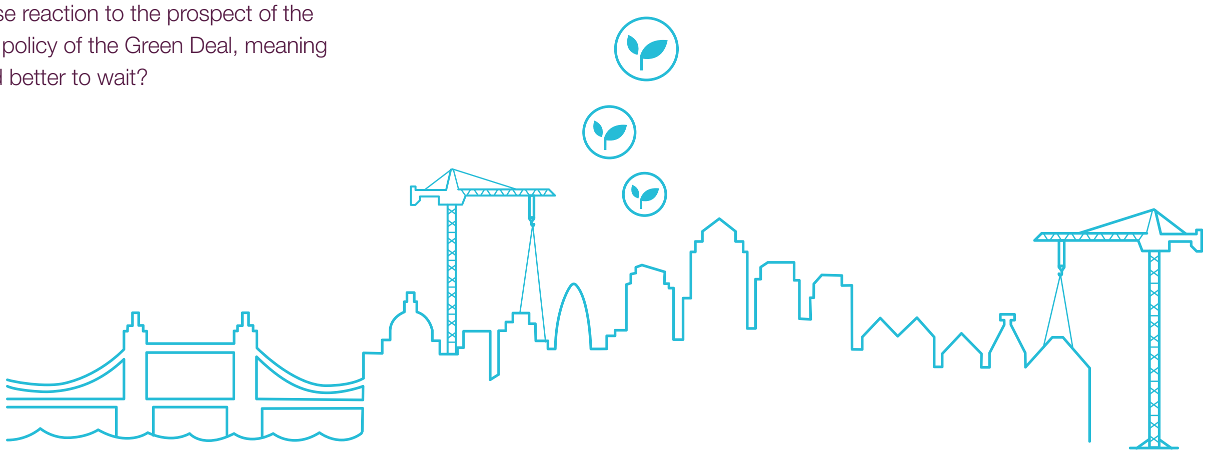
The Government comfortably beat its 10% challenge for energy use reduction on its estate, rapidly adopted a 25% target for 2015 and trumpeted the financial and carbon savings made. Yet only 3,000 buildings are involved compared to the 48,000 previously included in sustainability targets.

The private sector is ready for the challenge and is desperate to see a clearer direction of travel. Most can see the job opportunities in an ambitious implementation of the Green Deal and many other good initiatives.

Improvements are needed in consistency, from policy quality, to measurement, to application, to enforcement.

But in addition, the Government must see this sector and its environmental credentials as far more important to our economic imperatives of growth and cutting the deficit. The assured delivery of spectacularly efficient new buildings and a world beating retrofit programme would make every inhabitant, whether business or consumer, more profitable and richer. It will improve our competitiveness and reduce exposure to climate risk and energy security. It will make resource efficiency the norm and tackle fuel poverty. It will provide employment and economic growth. Does that not make a high performing built environment a top priority across all of Government? If it doesn't I really don't know what will.

Peter Young
Chairman, Aldersgate Group



1 » Committee on Climate Change (June 2011) *Meeting Carbon Budgets – 3rd Progress Report to Parliament*

2 » Communities and Local Government (January 2012) *Consultation on Changes to the Building Regulations in England.*

Introduction and Key Messages

High environmental standards will be essential to drive sustainable growth, jobs and competitiveness.

In line with academic research, IIGCC believes regulations and standards to be the most cost-effective way to change the behaviours of real estate market participants. This said, the full range of fiscal tools has yet to be explored.

Institutional Investors Group on Climate Change[3]

In 2008, the Aldersgate Group published its first report on the sustainability of the UK built environment. It contained a suite of recommendations for improving the focus, proportionality and effectiveness of the regulatory framework pertaining to the environmental performance of new and existing buildings. It also advocated a greater level of engagement between government and industry.

The report was one of our first targeted pieces of work on a specific sector, recognising that – then, as now – buildings represent one of the most cost-effective and significant opportunities for the UK (and indeed the wider global economy) to achieve its carbon reduction imperatives, improve business competitiveness, all the while delivering new jobs and growth. Many of the key messages remain hugely relevant.

Core messages in 2008...	Their relevance now...
A sustainable built environment is good for business and good for competitiveness.	Although the transition towards a low carbon economy and built environment is genuinely challenging, the competitiveness argument has been amplified as the impact of rising energy prices[4] begins to have greater proportionate impact on the bottom line of business and on the health and spending power of citizens as a result of fuel poverty. Even over the next few years, those organisations which do nothing to tackle the efficiency of the buildings they own or occupy will see bottom line costs escalate.
Far greater regulatory and fiscal emphasis needs to be placed on improving the performance of our existing building stock.	Progress has been made in this area with a number of significant and mould-breaking legislative instruments coming into play for existing buildings. The principal challenge now is to ensure timely, rigorous and effective implementation.
Key new market-based instruments designed to improve the performance of existing buildings risk giving rise to perverse environmental and economic outcomes.	New market-based instruments have been introduced since 2008 whilst established ones have evolved. They form a key element of the overall regulatory framework for the built environment and are essential, in the absence of sufficient commodity and carbon price drivers, to incentivise good practice and penalise poor performance in accordance with the "polluter pays principle". Their implementation and management has, however, been erratic and characterised by a lack of effective engagement with industry which has heavily eroded market confidence and created a lack of certainty around future direction.
More robust implementation of existing regulations is needed urgently to achieve compliance and stimulate innovation in the delivery of new buildings.	Compliance rates with key environmental regulations relating to buildings remain too low, yet the case for robust implementation has grown more acute. An increased regulatory focus on existing stock and the fiscal policies which are linked to building energy performance are welcome, but fragile in a policy environment where regulation is seen as an office of last and reluctant resort.
Government is failing to show the leadership expected of it on its own estate.	There has been significant progress in raising the ambition and delivery of "greening" the office estate of central government departments. However the scope of environmental goals for the public sector estate has narrowed since 2008 and there has been a decline in adherence to legislation concerning the display of operational ratings in public buildings. Even now, well established procurement principles relating to environmental ratings appear to be under threat.

3 » Institutional Investors Group on Climate Change (September 2010) *Energy Efficiency and Buildings.*

4 » For example, according to the Committee on Climate Change, the average dual-fuel energy bill for a typical household increased from around £605 in 2004 to £1,060 in 2010, driven mainly by increases in the wholesale price of gas.

Introduction and Key Messages

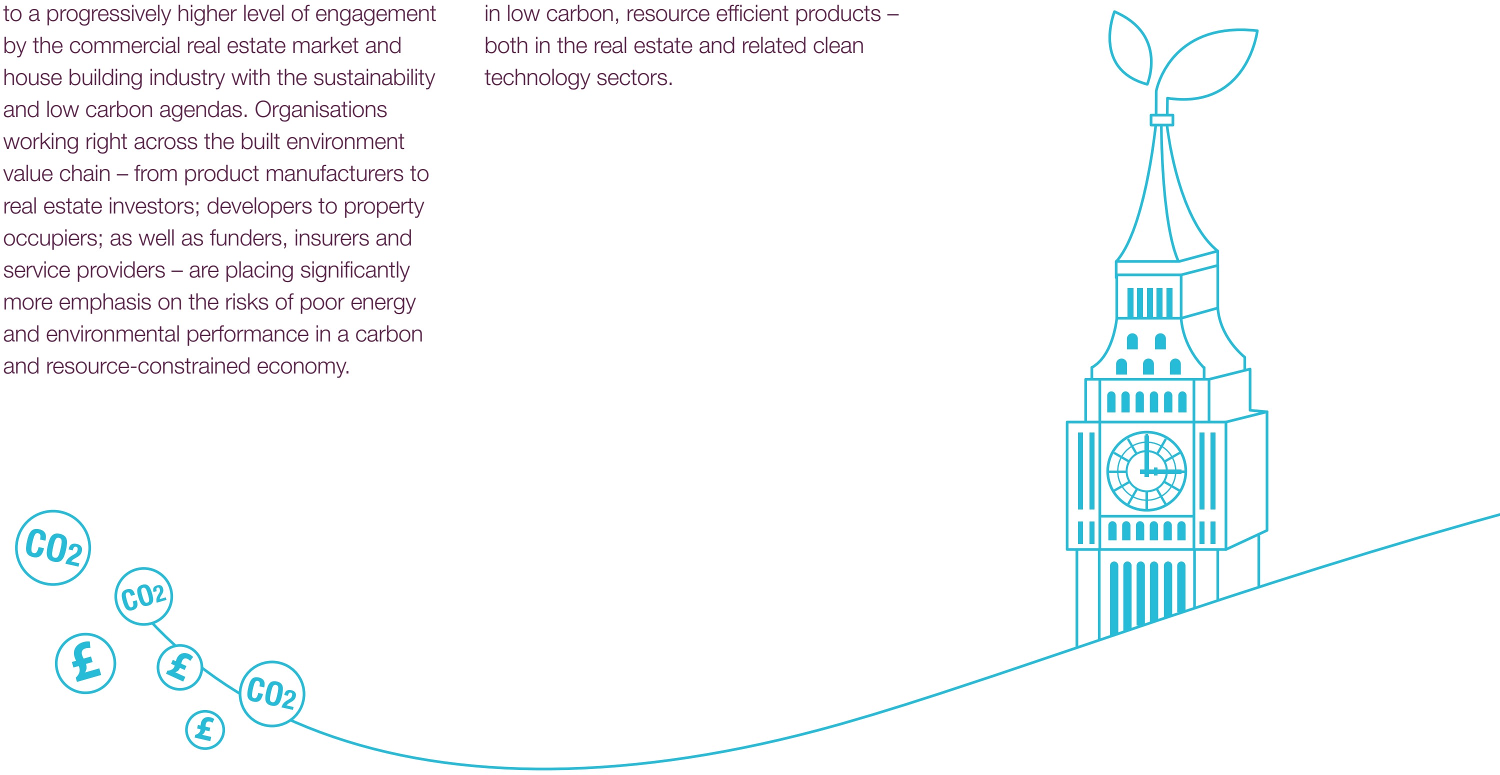
Clearly, much has changed since our 2008 report was published; from unprecedented fracturing of the global, Eurozone and UK economies to a major shift in our domestic politics manifested in a change of national Government. Notably (and in many ways very positively), the regulatory framework – at least insofar as it relates to the energy and carbon performance of buildings – has also evolved significantly and in many cases along the lines of the headline recommendations we made in 2008. We have seen, for example, primary legislation passed which paves the way for minimum energy performance standards for existing buildings and the Government meet its target to reduce carbon emissions by 10% across the central estate within a year of taking office.

These developments have in turn contributed to a progressively higher level of engagement by the commercial real estate market and house building industry with the sustainability and low carbon agendas. Organisations working right across the built environment value chain – from product manufacturers to real estate investors; developers to property occupiers; as well as funders, insurers and service providers – are placing significantly more emphasis on the risks of poor energy and environmental performance in a carbon and resource-constrained economy.

Perhaps more significantly, many are now focusing on the commercial opportunities which the shift towards a low carbon economy presents by developing new business models, innovating with construction materials and techniques, deploying advanced building energy technologies and transforming the way in which property services are delivered to both residential and commercial customers. Arguably, this level of innovation is unprecedented within the sector.

It is concerning then, that there has been a distinct shift in government rhetoric on the costs rather than the opportunities for addressing climate change and environmental stewardship, casting considerable doubt over claims to be the "greenest Government ever". This is leading to significant uncertainty in the market and eroding investor confidence in low carbon, resource efficient products – both in the real estate and related clean technology sectors.

Whilst the nature of the regulatory challenge has shifted markedly, the overriding imperative – to reduce the carbon impact of the UK built environment in the pursuit of greater business competitiveness, economic growth and improved quality of life – remains more relevant and urgent than ever. Indeed, new policies will be required to meet the UK's carbon budgets. Analysis by the Committee on Climate Change shows that economy-wide emissions rose by 3% in 2010, performance on the implementation of climate change policies has been mixed and a step change in the pace of emissions reduction is required[5].



5 » Committee on Climate Change (June 2011) *Meeting Carbon Budgets – 3rd Progress Report to Parliament*

Introduction and Key Messages

The Aldersgate Group believes a renewed focus is required in 2012 and that:

- The economic case for driving improved performance of new and existing buildings in the residential and non-domestic sectors remains compelling and urgent;
- The Coalition Government must up its game in bringing forward effective regulation and fiscal instruments to incentivise resource efficiency and to deter carbon intensive construction, occupation and management – it should not restrict its ability to innovate by sticking to arbitrary regulatory quotas;
- Businesses, including representative industry groups, should support and encourage Government to bring forward and implement better environmental regulations and fiscal policies which incentivise smarter use of property and related resources;
- With a number of progressive regulatory mechanisms already confirmed[6], the emphasis on the clarity and efficacy of regulatory implementation has become a priority; and
- In light of the fall in policy credibility resulting from the sudden cuts to Feed in Tariffs and the removal of financial incentives from the CRC Energy Efficiency Scheme, the Government must reassure investors by conforming to the Aldersgate Group's principles for improving policy certainty[7].

With the creation of the Green Construction Board[8], it seems timely for the Aldersgate Group to bring forward its latest thinking on the role that a well-regulated UK built environment can play in delivering resilience and growth by contributing to a genuinely sustainable economic recovery. Our messages have become all the more urgent as a result of the broader regression of emphasis by Government on the economic benefits of environmental policies.

6 » For example, the Green Deal, minimum energy performance standards for the letting of existing buildings and "zero carbon" new homes from 2016.

7 » These are set out in the Aldersgate Group report Greening the Economy (2011). It recommends that the most effective policies will provide as much certainty as possible by being: (1) Credible (legal, enforceable, fully deliverable and supported by an overarching vision); (2) Consistent (providing confidence that a policy direction will be maintained, implementing progressive, and avoiding retrospective, changes); and (3) Bankable (risk and reward levels are attractive over clear investment timeframes, with no shocks to damage early investors).

8 » The Green Construction Board first met in October 2011. It will drive forward the actions set out in the Low Carbon Construction Action Plan and is co-Chaired by Mark Prisk MP (Minister for Business & Enterprise) and Dan Labbad (Chief Executive of Lend Lease, EMEA).

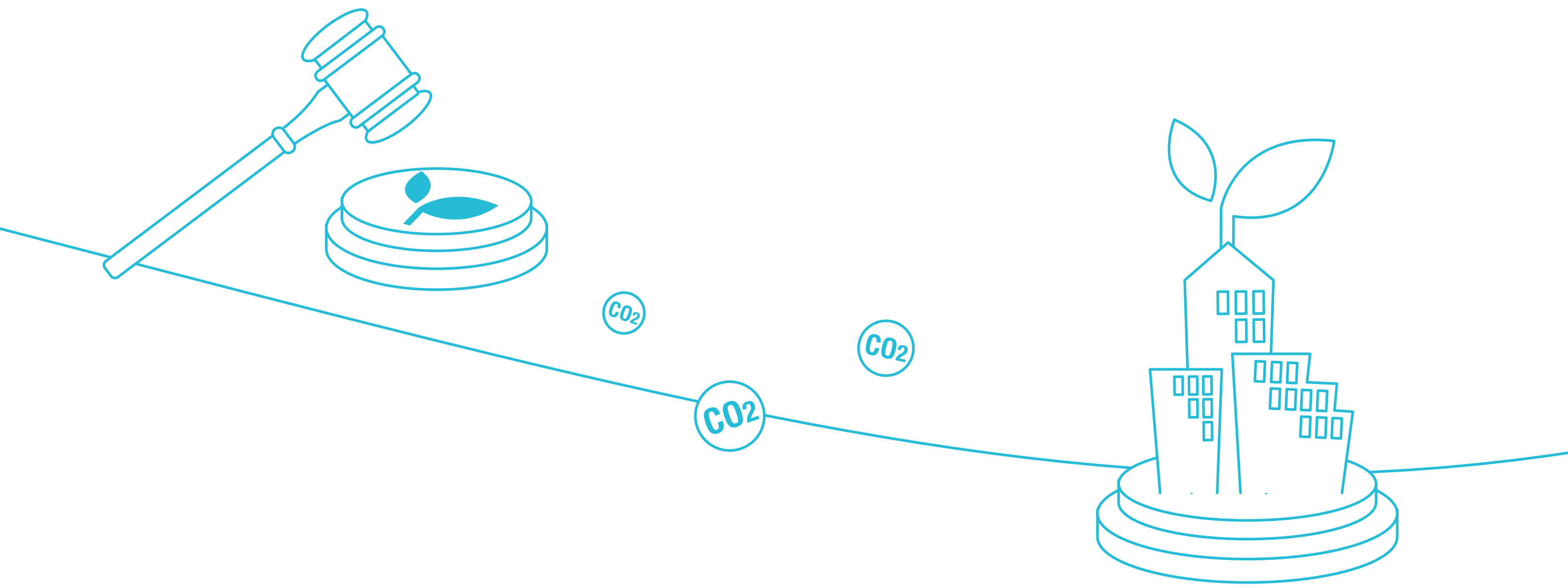
Introduction and Key Messages

This document amplifies and updates the key themes of our 2008 report by addressing issues pertaining to the performance of existing buildings, standards for new developments, regulatory enforcement and government leadership on the civil estate. Each section takes a retrospective look at progress made in the last three years, highlights persistent issues which require corrective intervention (either positive or punitive), and looks ahead to some key challenges and opportunities which both Government and industry should address with a sense of urgency and purpose.

There is currently a huge amount of attention being given by policy makers and industry representatives to many of the issues we cover; a sure sign that the profile of the ‘green agenda’ has risen significantly in the last three years. Our aim is to reinforce relevant messages rather than duplicate ongoing initiatives or get over-involved in the detail of individual policy debates. In doing so, we seek to highlight potential solutions to key systemic barriers and to advocate some guiding principles for a change of pace in the development of the regulatory and fiscal framework for the UK built environment.

In publishing this new report, therefore, our objectives are to:

- Provide a credible cross-sectoral voice on the economic and social imperative for a sustainable built environment, focusing in particular on the role of buildings;
- Shape the agenda and high-level thinking of relevant bodies, especially the Green Construction Board;
- Assess government progress against the Aldersgate Group’s 2008 recommendations, noting successes and failures;
- Raise the profile of persistent barriers and emergent systemic challenges which require corrective intervention by Government and business leaders; and
- Provide a forward view on the key issues which will need to be addressed beyond the near-term focus of policy makers and market actors on carbon.



Tackling Existing Buildings

Accelerating the retrofit of the UK's homes and businesses will create local job opportunities and stimulate the economic recovery.

There are approximately 25 million existing homes to be retrofitted by the end of 2050. There are approximately 21 million minutes between now and the end of 2050.[9]

Low Carbon Construction Innovation & Growth Team, 2010

In 2008 we highlighted the urgency of steering the focus of the regulatory framework towards existing buildings. This was premised on the simple fact that, with building replacement rates of around 1% per annum and taking account of projected grid energy decarbonisation rates, it would be necessary to deal with the carbon impact of existing buildings – at least two thirds of which are likely to still be standing in 2050 – in order to achieve our national emissions reduction target of 80 percent.

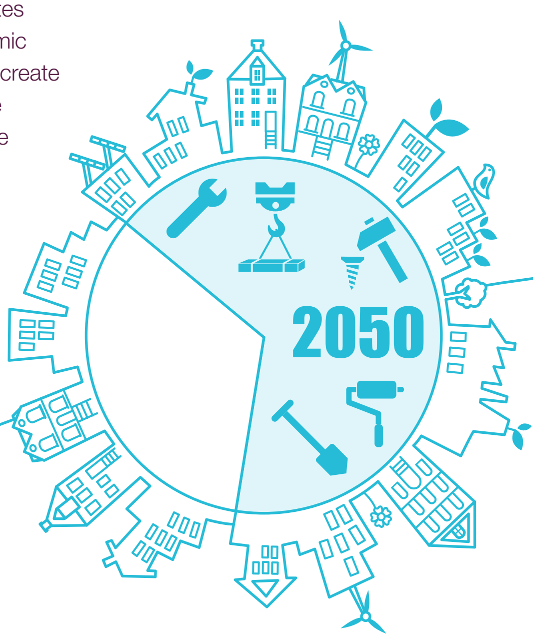
This argument remains entirely valid and in fact has been strengthened by falling rates of construction as a result of the economic downturn. Moreover, the opportunity to create new jobs and growth through a massive building retrofit programme could be one of the most significant stimulants of our economic recovery.

Signs of progress

We previously highlighted the central problem of low demand for 'sustainable' buildings as a key barrier in both the domestic and commercial markets, resulting from a combination of low levels of awareness, poor measurement and transparency and insufficient financial (and indeed reputational), incentive for owners and occupiers to act differently. Our recommendations in 2008 promoted a balance of improved financial incentives alongside the introduction of regulatory benchmarks for existing buildings, together with greater emphasis on the use of actual energy performance data rather than pushing the market towards a reliance on hypothetical asset ratings.

There is no doubt that the focus from Government (including at the European level) and the market on the performance of existing property has sharpened significantly since then. For example, and despite its limitations, the CRC Energy Efficiency Scheme has compelled over 2,000 public and commercial organisations to understand better their building-level energy consumption and to plan for the aggregated financial impact of their resulting carbon liabilities[10]. We have also witnessed organisations such as the UK Green Building Council (UK-GBC), an Aldersgate Group member, successfully launch and deliver a Sustainability Training and Education Programme (STEP)[11] to an extensive audience of property investors, developers, advisors and stakeholders[12].

Perhaps most notably, the new Energy Act implements one of our stand-out recommendations from 2008 by creating the legislative foundation for a prohibition of lettings from 2018 for those dwellings and non-domestic properties with the poorest energy ratings, prospectively capturing nearly 20% of all buildings in the UK.



9 » HM Government (Autumn 2010) *Low Carbon Construction Innovation & Growth Team. Final Report.*

10 » It is important to note that the CRC league table also includes important behavioural questions on the disclosure of emission reduction targets and on active employee engagement to reduce carbon emissions at work.

11 » http://step.ukgbc.org.

12 » In addition, a number of organisations are actively engaging their employees in energy and resource efficiency discussions, as a complement to technology-based solutions. These include innovative work by the environmental charity Global Action Plan and the TUC's Green Workplaces initiatives.

Tackling Existing Buildings

On the other side of the penalty-incentive coin, the same Act seeks to catalyse a major new retrofit industry centred around Green Deal Finance; a ground-breaking pay-as-you-save mechanism[13]. We also welcome the inclusion of consequential improvements for existing buildings in the current consultation on changes to the Buildings Regulations.

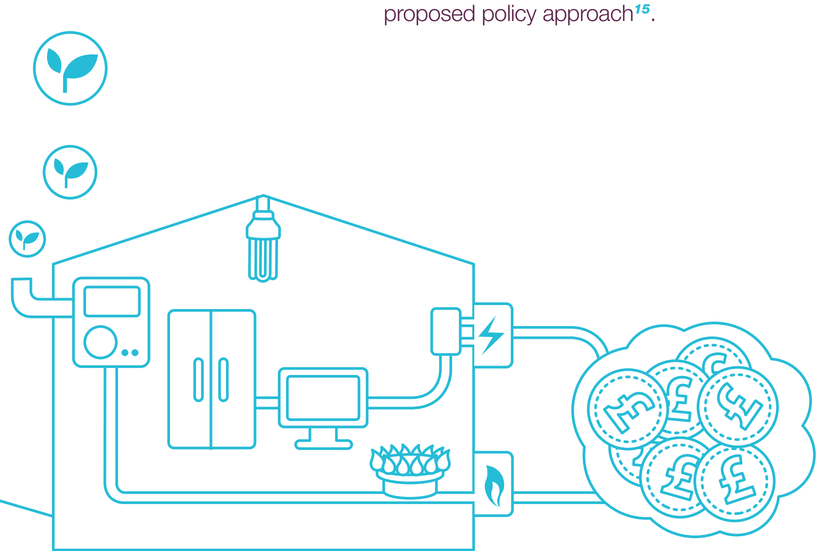
In the commercial sector, a good number of property investors are taking greater account of energy and environmental performance in their acquisitive due diligence and in their asset management strategies. Similarly, some occupiers – especially those with significant operational portfolios – are beginning to model and respond to the financial and business continuity risks of future energy price increases, climate change impacts (on heating and cooling loads, for example), carbon taxation and security of supply concerns. Together, some owners and occupiers are beginning to break new ground by collaborating on environmental performance and management through or alongside their lease agreements. However, whilst an encouraging sign of progress, these approaches remain the exception rather than the rule, despite the fact that in certain cases the projected bottom line impact on some *non*-energy intensive businesses of price increases over the next ten years stands to run to the hundreds of millions of pounds.

The impact of energy price increases on households over the last couple of years has been particularly acute and has become a focal point for media and political debate. Analysis by the Committee on Climate Change demonstrates that the average dual-fuel energy bill for a typical household increased from around £605 in 2004 to £1,060 in 2010 (noting that 80% of the increase was unrelated to low carbon measures). The Committee predicts that average bills will rise by a further £110 by 2020. However, bills will be significantly higher if there is limited success in implementing energy efficiency measures[14].

Current and persistent issues

Despite these individual strides in legislation and the ratcheting of cost and reputational pressures on householders and businesses, there remain overwhelming barriers to energy and resource efficiency gaining real traction throughout both the domestic and commercial sectors.

Weak demand – it would be unrealistic to expect the emergence of a new means of capital financing to be a silver bullet for retrofit solutions. Whilst highly significant, financing instruments such as that proposed for the **Green Deal** are only one part of a much more intricate jigsaw and their delivery will necessarily be demand led. The Committee on Climate Change demonstrates that DECC's impact assessment for the Green Deal notes that loft and cavity wall insulation account for much of the cost effective potential to improve energy efficiency in the residential sector, but projects that implementation of these measures will be very limited under the proposed policy approach[15].



13 » This will enable property owners and occupiers to access capital and accredited installers for energy efficiency improvements. The resulting debt will be legally attached to their property for the duration of the repayment term (and will therefore be unaffected by any change in tenure or ownership) and re-charged via energy suppliers. The repayments must consistently cost less than the value of the energy saving achieved.

14 » Committee on Climate Change (December 2011) *Household Energy Bills – Impacts of meeting carbon budgets.*

15 » Committee on Climate Change (December 2011) *Open Letter: Proposals for the Green Deal / Energy Company Obligation.*

Tackling Existing Buildings

Our key recommendations include[16]:

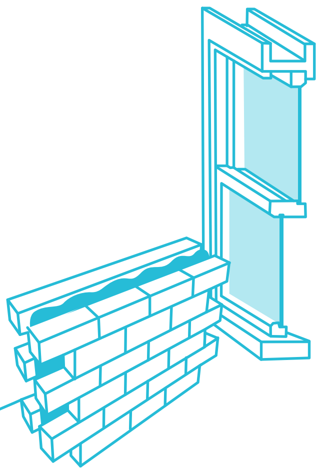
- The Government should seriously consider including full potential for loft and cavity wall insulation in the Energy Company Obligation, as recommended by the Committee on Climate Change[17]. A smoother transition will help to drive the Green Deal market and protect the industry's capacity to deliver.

- While the announcement of £205 million of funding to encourage early adopters to take on the Green Deal in their homes is welcome, this must be complemented by strong, long-term incentives (such as through Stamp Duty) coupled with progressively strengthened regulations on the rental/sale of the worst performing properties.

- The Government and Green Investment Bank (GIB) Advisory Board should provide more clarity over the potential financial support that the GIB could provide to kick start and then refinance Green Deal investments. Subject to State Aid regulations, options could include equity co-investment alongside banks, Green Deal providers, or local authorities; low cost early stage warehousing or liquidity facilities for Green Deal providers; and later – once the first £200m or more of Green Deal investments have been made – the GIB could play a role in the securitisation of these loans (or issuance of bonds backed by these loans) to the debt capital markets.

- Government, Green Deal providers, local authorities and energy suppliers must work together to develop innovative and positive information and marketing campaigns to encourage domestic and business take-up of the Green Deal and related financing opportunities.

- Local authorities and public sector partnerships that are thinking about entering the market as Green Deal providers for their local areas should confirm their intentions expediently so as to provide clarity to the rest of the market on the likely shape of the local operating environment.



Minimum energy performance standards – we welcome the government commitment in the Energy Act 2011 to introduce minimum performance standards to the letting market, including linking provision to the eligibility of Green Deal measures for the property. However, there is an urgent need for clarity on the timing and scope of the required secondary legislation and it is vital that Government consults on the detail of the proposed regulations as soon as possible. In particular:

- As it has with the zero carbon escalator for new buildings, Government must confirm, with sufficient notice and at the earliest possible opportunity, a clear implementation date for minimum performance standards in order to allow reasonable time for the market to prepare[18].

- Considerable voice has been given to the need to implement the regulations by 2016[19] for the domestic Private Rented Sector (PRS), including by the Committee on Climate Change, particularly in respect of addressing the fuel poverty imperative under the Warm Homes & Energy Conservation Act 2000. In consulting on the detail of the regulations, Government should give full and proper consideration to the earliest practicable implementation of minimum standards in the context of the PRS.

16 » For more detailed recommendations, see the consultation responses by Aldersgate Group members Green Alliance and UK-GBC.

17 » Committee on Climate Change (December 2011) *Open Letter: Proposals for the Green Deal / Energy Company Obligation.*

18 » In particular the steady replication of this approach to other sectors would be welcomed, and would create a mindset that this is an expectation of the progressive improvement of all our building stock, including for owner occupiers.

19 » Citizens Advice Bureau, Association for the Conservation of Energy & Friends of the Earth (June 2011) *Briefing: Minimum energy efficiency standard for private rented homes.*

Tackling Existing Buildings

» Any regulatory impact assessment undertaken in the context of minimum energy performance standards (irrespective of sector and tenure) should include consideration of possible unintended consequences, enforcement and supply issues.

» Subject to careful investigation of deliverability and impact, Government should consider future ratcheting of the minimum performance target against a clearly defined escalator timetable, following the precedents established with Part L[20] of the Building Regulations and with landfill tax.

Lack of real performance data – the lack of actual performance data continues to capture significant attention within the property sector and has led to large numbers of organisations (including UK-GBC and Aldersgate Group, as well as developers, property companies, NGOs and corporates), supporting campaigns for the roll-out of **Display Energy Certificates** to commercial buildings (they are currently required only for public buildings in England and Wales above a certain size threshold). This has secured widespread support within Cabinet and led to Government signalling its commitment to their statutory implementation by October 2012 in its draft Carbon Plan published in March 2011. The expectation was that the Energy Act 2011 would provide the primary legislation for such a move, but in the lead up to the Act receiving Royal Assent, the Government reneged on the commitment. Whilst a number of leading property companies are now pushing them out voluntarily in recognition of their benefit, they are doing so on an inconsistent basis.

» The Aldersgate Group supports entirely the principle of mandating operational energy ratings for commercial buildings and encourages Government to revisit this at the next legislative opportunity.

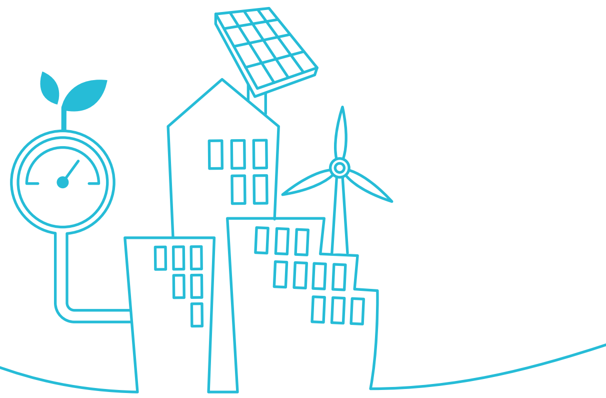
We also recognise that Display Energy Certificates in their current format have some significant limitations, in that they contain insufficient normalisation metrics to account for the impact of building type and use intensity on the energy consumption profile. They are also being prepared voluntarily for different energy use boundaries – whole building level, landlord services only and tenant demises only – which will further dilute transparency and comparability within the market.

» In preparing plans for the roll out of operational ratings to commercial buildings, Government should work closely with industry to define the scope and the basis for ensuring comparable application to different building uses.

» Similarly, we recognise the role of asset ratings (i.e. Energy Performance Certificates) but are concerned by the inadequacies of the current system of assessment and the very low levels of compliance in relation to property transactions.

In addition, more thought needs to be given to the market benefits of energy performance data being readily accessible and aggregated, to minimise costs to business and improve evidence for policy making.

Displaying Energy Certificate



20 » For explanation of Part L of the Building Regulations, see page 15.

Tackling Existing Buildings

Smarter, aggregated approach to financial incentives and regulatory standards – recent years have witnessed a proliferation in the number of legislative instruments, fiscal levers and penalties which have been applied to the real estate sector in order to regulate its energy efficiency and carbon performance. However, the extent to which these levers are achieving their objectives in aggregate is not understood. The view on whether this combination of legislation is correctly targeted, duplicative or consistent is similarly vague. In addition, there are prospective examples of wider fiscal policy standing to have a diluting effect on incentives to improve energy performance. For example, as a value differential relating to the energy performance of property begins to emerge (as many valuers and investors expect in the UK), the rating liability on those properties will increase accordingly. Similarly, rating exemptions on certain types of low and zero carbon technology are only temporary.

» Government (especially HM Treasury and HM Revenue & Customs) should actively support industry efforts, notably through the Green Property Alliance, to investigate the efficacy of the range of regulations, fiscal levers and penalties which apply to buildings' energy and carbon performance. The aim should be to raise and maintain ambition whilst optimising cost effective carbon reduction outcomes, provide clarity to the industry, minimise administrative burdens and optimise revenue to the Exchequer that can be reinvested in low carbon infrastructure in the built environment.

» Within this context, we continue to support the rationalisation of the CRC Energy Efficiency Scheme with the Climate Change Levy and mandatory greenhouse gas emissions reporting.

Looking ahead

The Aldersgate Group believes that there are three key issues and trends on which Government and industry should work collaboratively to ensure readiness and effective targeting of the policy and fiscal environment.

1. Compatibility with Europe – in terms of regulatory certainty and cohesion, a key challenge for the UK over the next few years will be to ensure appropriate compatibility between advanced regulatory provisions domestically with those coming down the track from Europe.

For example, early versions of the Energy Efficiency Directive regarding smart metering are incompatible with the provisions in the CRC that have encouraged the roll-out of energy sub-metering in buildings by a number of property owners to ensure accurate and efficient data. In instances where the UK has demonstrated a strong leadership position, it is vital that European legislation does not lead to the risk of abortive action for UK businesses that have acted in good faith to implement measures in response to domestic legislation.

We support the need for a strong Energy Efficiency Directive as a essential mechanism to help deliver the proposed 30% emissions reduction across Europe, and this must now be enacted using the principles of best value regulation[21]. Care will be needed to ensure that, as far as appropriate, the EC drafting and the UK transposition reinforces the same messages for energy efficiency as have already been established in the UK.

21 » See Aldersgate Group (2011) *Dealing with Deficits: Best value regulation to reduce our environmental and financial debts.*

Tackling Existing Buildings

Issues requiring special attention include:

- Taking sensible account of the complexities of energy supply arrangements and relationships in the context of rented property (especially non-domestic) and working with energy suppliers to ensure consistent and easy access to data to minimise burdens of compliance;
- Ensuring that requirements for the installation of smart energy metering at the sub-building level are not overly prescriptive in the context of the positive action already taken, and being taken, by UK businesses;
- Emphasising through mandate the role of property occupiers in delivering building energy audits.

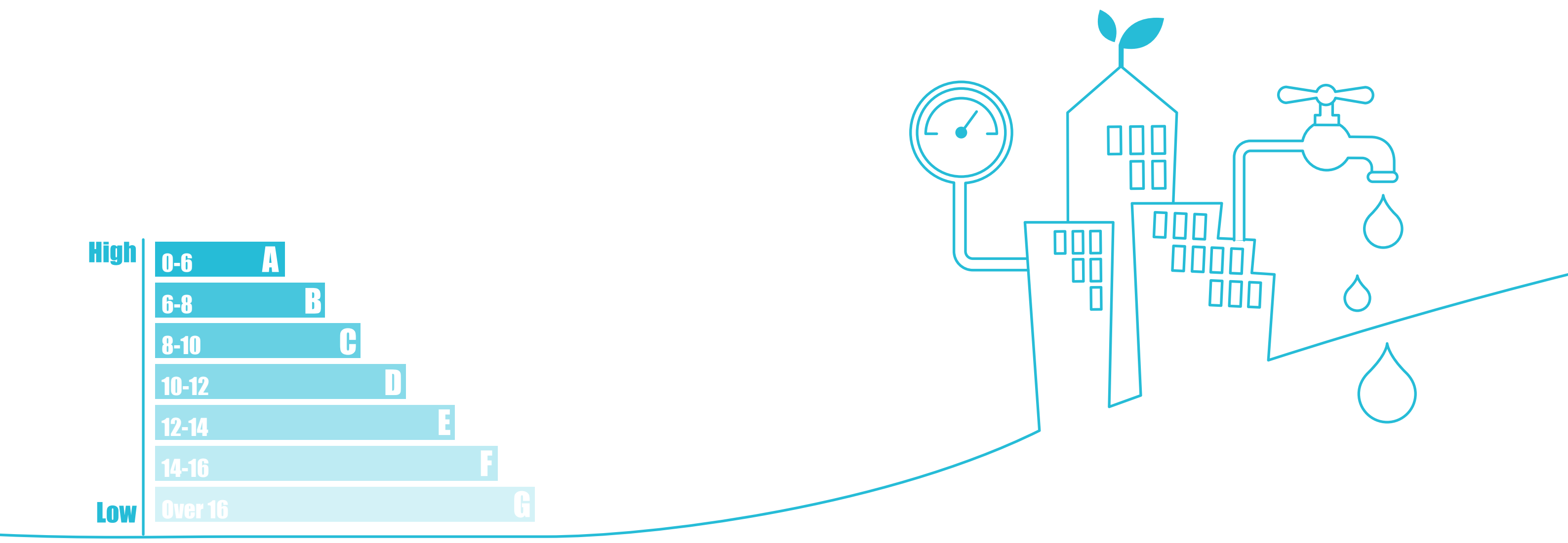
In addition, we urge Government to play a strong collaborative role in pushing for harmony and clear connectivity between forthcoming European Directives such as those pertaining to Eco-labelling and improved Energy Performance Certificates.

2. Water performance and resilience – energy and carbon have received significant regulatory attention in recent years, while waste has a long-standing target of progressively ratcheted environmental taxation. Water efficiency and stewardship, on the other hand, has received little consideration beyond the familiar focus on flood risk and pollution prevention, with emerging attention on resilience.

- We reaffirm our previous recommendation on of the need to explore the efficacy of developing asset and operational ratings for water performance, perhaps aligned directly to the energy performance rating systems (notwithstanding their limitations as noted above).

3. Learning from success and failure – the next few years will undoubtedly see a significant upsurge in the deployment of retrofitting solutions to domestic and commercial buildings across the UK, especially if the Government can act effectively on the recommendations set out in this report. It is with equal confidence that we can anticipate some outstanding successes (both commercially and technically) and also some major failures. Clearly, it is important to learn from both so that progress towards our carbon reduction and economic recovery goals can be sharpened over time.

- A key function of the Green Construction Board should be to monitor and review the outcome and impacts of the Government's Low Carbon Construction Plan and to disseminate widely the lessons learnt from key programmes and market transformation initiatives.



Water Efficiency Rating
(Litres per Minute)

Enforcement of Standards

Environmental regulation depends on consistent policy and effective enforcement, ensuring competitive advantage to the proactive actors in the industry.

We are also keen to build on industry's commitment to move to an approach based on real world carbon savings, rather than modelled reductions in emissions. This is a bold step forward, and will strengthen focus on innovation delivering new and better technologies and construction methods. We will work with industry to ensure both that this commitment becomes a reality, and that effective assurance is put in place to guarantee the zero carbon standard and that real world carbon savings are achieved. The end result will be better homes and better protection for the environment.[22]

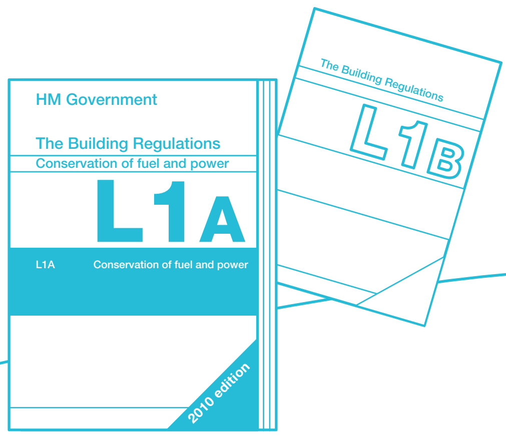
The Rt Hon Grant Shapps MP, Minister for Housing and Local Government

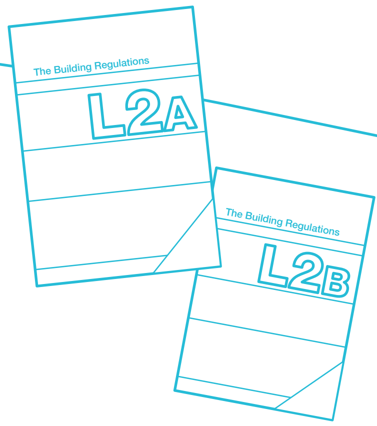
In 2008 we focused on the need to ensure effective enforcement of regulatory standards for new construction, particularly Part L of the Building Regulations[23]. Our previous report recognised that there was a significant disconnect between the ambition of government policy on zero carbon buildings and the reported low levels of compliance with the energy efficiency regulations of the time. We concluded that there needed to be increased post-completion performance testing of buildings; for local authorities to publish records of performance with respect to enforcement of Part L; and a requirement for developers to disclose their own data on post-completion performance. It was also recommended that public sector building contracts were awarded on the basis of verifiable past performance.

We continue to believe that levels of 'true' compliance with current regulations for new buildings – the real energy performance achieved by completed buildings as opposed to the proportion which receive Building Regulation approval as a matter of administrative course – are much lower than they should be. Moreover, as a result of a major increase in regulatory emphasis on the energy performance of existing buildings, the importance of regulatory enforcement in the pursuit of carbon reduction goals now has broader significance across the whole of the built environment.

Our original rationale for bringing the matter of enforcement to the fore in 2008 remains absolutely right, and has in fact been further amplified by two key trends:

- the growing tendency to link fiscal policy to the environmental performance of property and the resulting need for fairness in the levying of financial rewards and penalties; and
- the growing body of evidence which demonstrates the (often very significant) gap between designed performance standards and those realised in use.





22 » The Rt Hon Grant Shapps MP (17th May 2011) *Written Statement on Buildings and the Environment.*

23 » Part L is the section of Building Regulations which relates to energy efficiency and the conservation of fuel and power. It therefore covers areas such as insulation, air permeability and air conditioning, boiler and lighting efficiency and hot water storage. Following a consultation, Part L was reissued in October 2010 and calls for a 25% reduction in carbon emissions relative to 2006 levels.

Enforcement of Standards

Indeed, the Aldersgate Group holds the view that Government, its relevant executive agencies and local authorities must pay much greater attention to regulatory compliance across the spectrum of new and existing buildings.

Signs of progress

Signs of material progress on compliance over the last few years have been relatively weak, but there have been notable developments.

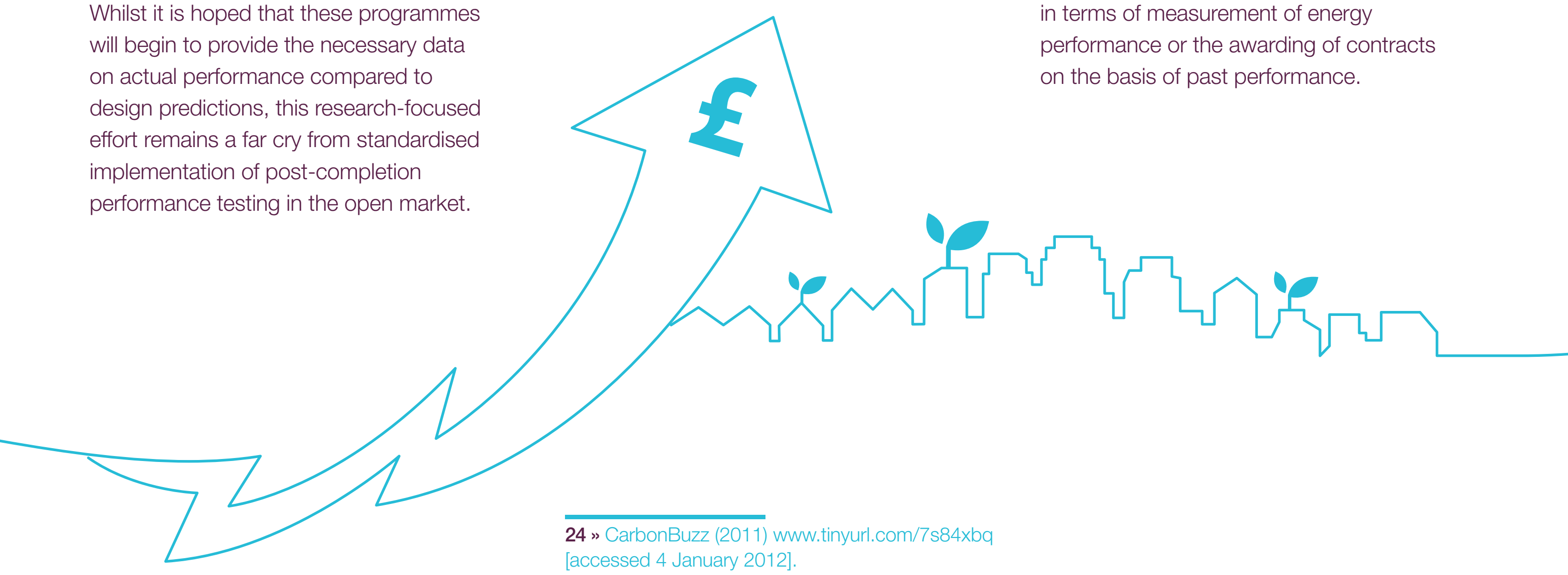
There has, for example, been some progress with respect to the recommendation in our 2008 report for more post-completion testing. The Government has recently funded a series of initiatives involving comprehensive performance measurement including the Low Carbon Building Programme, the Building Performance Evaluation programme and the Retrofit for the Future programme. Whilst it is hoped that these programmes will begin to provide the necessary data on actual performance compared to design predictions, this research-focused effort remains a far cry from standardised implementation of post-completion performance testing in the open market.

That said, some parts of the construction industry have also begun to publish anonymous performance data, such as the data given in the web-based CarbonBuzz project[24]. However, difficulties remain in persuading clients and developers to publish data in isolation as to do so could jeopardise their commercial interests.

The 2010 revision to Part L has begun to address some of the known factors that can affect as-built energy performance. For example, previously unaccounted for heat losses via unfilled party wall cavities as identified by Leeds Metropolitan University[25] are now taken into account in the updated version of the energy calculation tool for dwellings (SAP 2009).

Shortly before going to print, the Government issued an extensive consultation on proposed changes to the Building Regulations[26]. This recognises explicitly the need for strengthened enforcement procedures and the proposals appear to be a step in the right direction. In particular, it will be incumbent on industry to take performance control very seriously and to work closely with government to ensure that effective working systems are in place in time for the implementation of regulations in 2013.

The new Government Construction Strategy[27] outlines policy and objectives with respect to the public procurement of construction and infrastructure projects. The new strategy focuses on areas such as value for money, standardisation of procurement processes, benchmarking and whole life costs. Whilst the strategy notes the need for alignment with low carbon policy objectives, there are no specific requirements in terms of measurement of energy performance or the awarding of contracts on the basis of past performance.



24 » CarbonBuzz (2011) www.tinyurl.com/7s84xbq [accessed 4 January 2012].

25 » Wingfield, J., Bell, M., Miles-Shenton D., South, T. & Lowe, R. (2008) *Lessons from Stamford Brook – Understanding the Gap between Designed and Real Performance*, Partners in Innovation Project CI 39/3/663, Leeds Metropolitan University, Leeds www.tinyurl.com/8yfyyo2 [accessed 4 January 2012].

26 » Communities and Local Government (January 2012) *Consultation on Changes to the Building Regulations in England.*

27 » Cabinet Office (2011) *Government Construction Strategy,* London, The Stationery Office.

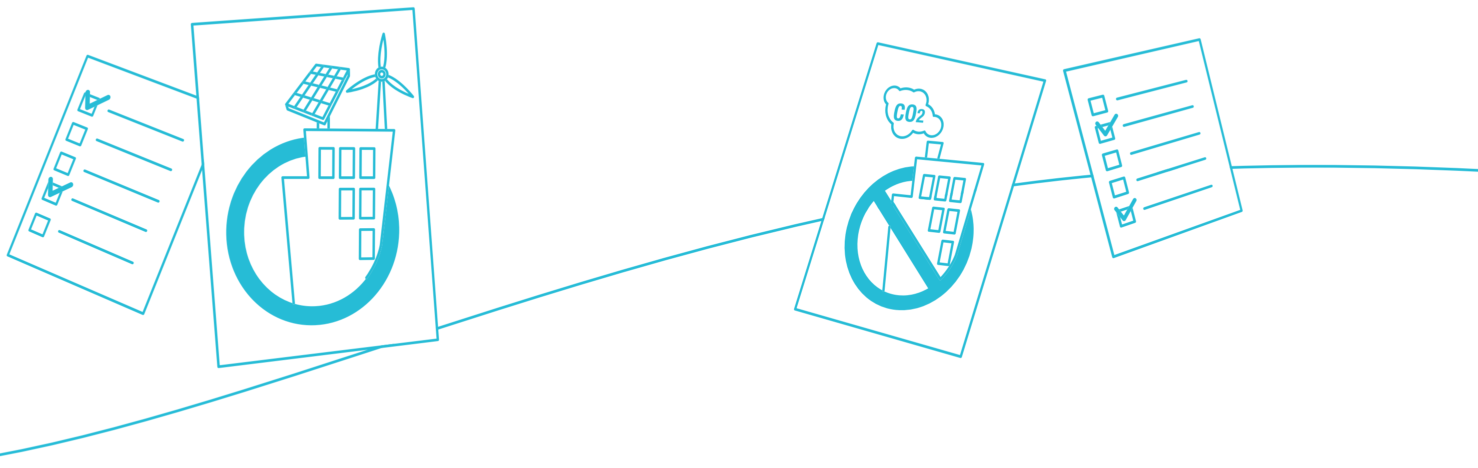
Enforcement of Standards

In its response to the Innovation & Growth Team (IGT) Low Carbon Construction Plan[28], the Government has indicated that for future procurement of public buildings there will be more emphasis on post-occupancy evaluations for both new builds and refurbishments, an announcement which is welcomed by the Aldersgate Group. There does, therefore, appear to be some acknowledgement within Government, reinforced by the IGT report, that non-compliance without redress continues to be a serious threat to the UK's decarbonisation goals.

Current and persistent issues

Non compliance with Part L in homes – the issue was again highlighted by the recent National Audit Office[29] and House of Commons Public Accounts Committee reports[30] on the effectiveness of programmes to reduce household energy consumption. These reports noted the continued lack of reliable information on compliance levels and the need for rigorous measurement of performance. A study commissioned by the Energy Efficiency Partnership for Homes[31] found significant errors in SAP energy assessments from a sample of 82 calculations for dwellings built to Part L 2006 which showed that 20% of the assessments failed to demonstrate compliance. Measurements carried out by the BRE on the thermal performance of dwellings which had been given cavity wall insulation[32] indicated that, on average, the measured improvement in thermal resistance was 38% less than calculated. Extensive data from recently published reports on field trials[33, 34, 35] have shown underperformance of either building fabric or heating systems relative to design assumptions.

» The Aldersgate Group reiterates its call for much improved post-completion performance testing as a standardised feature of the Building Regulations compliance process.



28 » HM Government (2011) *Low Carbon Construction Action Plan: Government Response to the Low Carbon Construction Innovation & Growth Team Report,* London, The Stationery Office.

29 » NAO (2008) Programmes to Reduce Household Energy Consumption, National Audit Office, A Report by the Comptroller and Auditor General, HC 1164 Session 2007–2008, 11 November 2008, London, The stationery office.

30 » Public Accounts Committee (2009) *Programmes to Reduce Household Energy Consumption,* House of Commons Public Accounts Committee, Fifth Report of Session 2008–09, London, The stationery office.

31 » Trinick, J., Elliott, E., Green, M., Shepherd, J. & Orme M. (2009) *EEPH / CLG Research into Compliance with Part L of the Building Regulations for New Homes – Phase 2 Main Report,* Energy Efficiency Partnership for Homes, London.

32 » Doran, S. & Carr, B. (2008) *Thermal Transmittance of Walls of Dwellings before and after Application of Cavity Wall Insulation,* BRE Client report number 222077, BRE Scotland, East Kilbride

33 » Bell, M., Wingfield, J., Miles-Shenton, D. and Seavers, J. (2010) *Low Carbon Housing: Lessons from Elm Tree Mews,* Joseph Rowntree Foundation, York [ISBN: 978-1-85935-766-8]

34 » EST (2010) Getting Warmer: *A Field Trial of Heat Pumps,* The Energy Savings Trust, London

35 » Orr, G., Lelyveld, T. & Burton, S. (2009) *Final Report: In-situ Monitoring of Efficiencies of Condensing Boilers and Use of Secondary Heating,* Gastec at CRE, Cheltenham

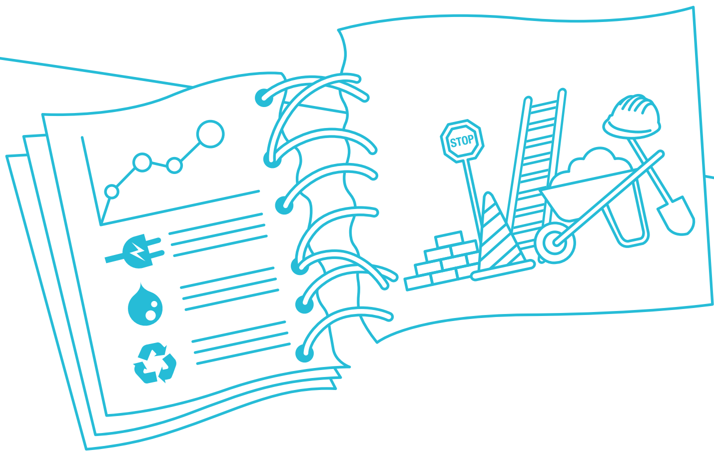
Enforcement of Standards

The performance gap – On the non-domestic side, reports on the measured performance of projects funded under the Low Carbon Buildings Programme[36] show that energy use and carbon emissions can be up to three times higher than expected from the design intent, suggesting that, for typical new builds and refurbishments, there has been little improvement in the in-use energy performance compared to design expectation since the PROBE studies of the 1990s[37]. Further research conducted for the Carbon Trust puts the relative gap between design and in-use performance as high as 500%[38]. Despite this compelling, if incomplete, evidence base, the general view held by many in the construction industry is that the case for underperformance with respect to the requirements of Part L is not proven.

The Zero Carbon Hub report on closing the gap between designed and built performance[39] summarises much of the existing evidence base for thermal underperformance in housing, and identifies potential solutions based around several key principles such as clear performance parameters, design confidence factors, process accreditation, post-completion testing and auditing. The report also describes the examples of compulsory pressure testing for air tightness and the Robust Details Scheme for sound insulation, where sample testing and inspection processes have been shown to be extremely effective tools for improving compliance with regulatory targets. Improvements have been measured in performance for both air leakage and acoustic insulation across the construction industry.

The role of building control – a retrospective review of the implementation of Part L 2006[40] concluded that the lack of correlation between design targets and as built construction distorted figures for compliance with Part L. The report also found that building control officers were reluctant to pursue legal prosecutions with respect to Part L infringements due to the perceived lack of clarity in the regulations, a fact reinforced by a Freedom of Information request submitted to local authorities across England & Wales by Drivers Jonas Deloitte, an Aldersgate Group member. This showed extremely limited legal prosecutions being pursued against developers with respect to Part L (resulting in eleven convictions nationwide over a seven-year period).

Informal enforcement by the use of pre-contravention interventions (PCIs) is the preferred method of tackling infringement,



36 » Bunn, R. (2010) *Full Reports on Canolfan Rheidol, West Suffolk House and North Wales Police,* Carbon Trust, London.

37 » Bordass. W., Cohen, R. & Standeven, N. (1999) *PROBE Strategic Review 1999 – Final Report 2: Technical Review,* Usable Buildings Trust www.tinyurl.com/73tblsh [accessed 4 January 2012).

38 » Carbon Trust (2011) *Closing the Gap – Lessons learned on realising the potential of low carbon building design.* www.tinyurl.com/7xw6hmw.

39 » Zero Carbon Hub (2010) *Carbon Compliance for Tomorrows New Homes: A Review of the Modelling Tool and Assumptions – Topic 4 – Closing the Gap between Designed and Built Performance,* Zero Carbon Hub, London.

40 » Bell, M., Smith, M.B. & Palmer, J. (2010) *Review of the Implementation of Part L 2006,* BD2702, Department for Communities and Local Government, London [ISBN: 978-1-4098-2361-2].

Enforcement of Standards

and surveys by the LABC in four different regions of the UK showed that Part L ranked second in the number of recorded PCIs[41]. This data shows that building control officers are actively enforcing the requirements of Part L. However, this does not demonstrate actual compliance levels. Published data on recorded defects relative to Part L are not readily available, but statistics on general defects from NHBC data given in the Callcutt Review[42] suggest that general quality control issues in construction remain. The challenge is to develop an approach to building control that helps to deliver buildings that both comply with regulations and perform as expected.

» The Aldersgate Group urges the Environmental Audit Committee to undertake renewed scrutiny of the Building Control system following Government's response[43] to its earlier report on "Greener Homes for the Future?" and in the context of the recently proposed changes to the Building Regulations[44].

Energy Performance Certificates (EPCs) and transactions – aside from construction standards, we predicted in our previous built environment report that levels of compliance with the UK regulations pertaining to the requirement for EPCs in support of property transactions would also be low. This was based on early guidance issued to local authorities by Government on taking a lenient approach to enforcement. Compliance levels have indeed been poor. In 2009, levels of non-compliance in the commercial sector were above 80 percent, and by mid 2010 were still above 50 percent[45]. This poor compliance record does little to cement confidence in the property market on the value of EPCs in support of investment and occupational transactions (irrespective of the limitations of asset ratings given the issues outlined in the section on Tackling Existing Buildings of this report).

Looking ahead

Clearly, there remains a major challenge for Government, its executive agencies and the industry as a whole to improve its compliance record with respect to energy performance standards of new buildings. The advent of regulatory standards and instruments for existing buildings serves only to heighten the relevance of compliance with the overall energy and carbon performance of the built environment.

To that end, the Aldersgate Group believes that the following priorities need to be addressed as the regulatory standards applied to buildings become more stringent.

Future reviews of Building Regulations – the 2013 review of Building Regulations is the last real opportunity to put in place a robust and effective enforcement regime in readiness for the implementation of zero carbon regulatory standards from 2016.

41 » LABC (2009) *PCI Survey 2009.*

42 » Callcutt, J. (2007) *The Callcutt Review of House Building Delivery,* Department for Communities and Local Government, London [ISBN: 978-1-85112-87-7].

43 » CLG (2009) "Government Response to the Environmental Audit Committee's report on Greener Homes for the Future? An environmental analysis of the Government's house-building plans" www.tinyurl.com/85c5hbq.

44 » Communities and Local Government (January 2012) *Consultation on Changes to the Building Regulations in England.*

45 » National Energy Services (2010) www.tinyurl.com/6su6dyx

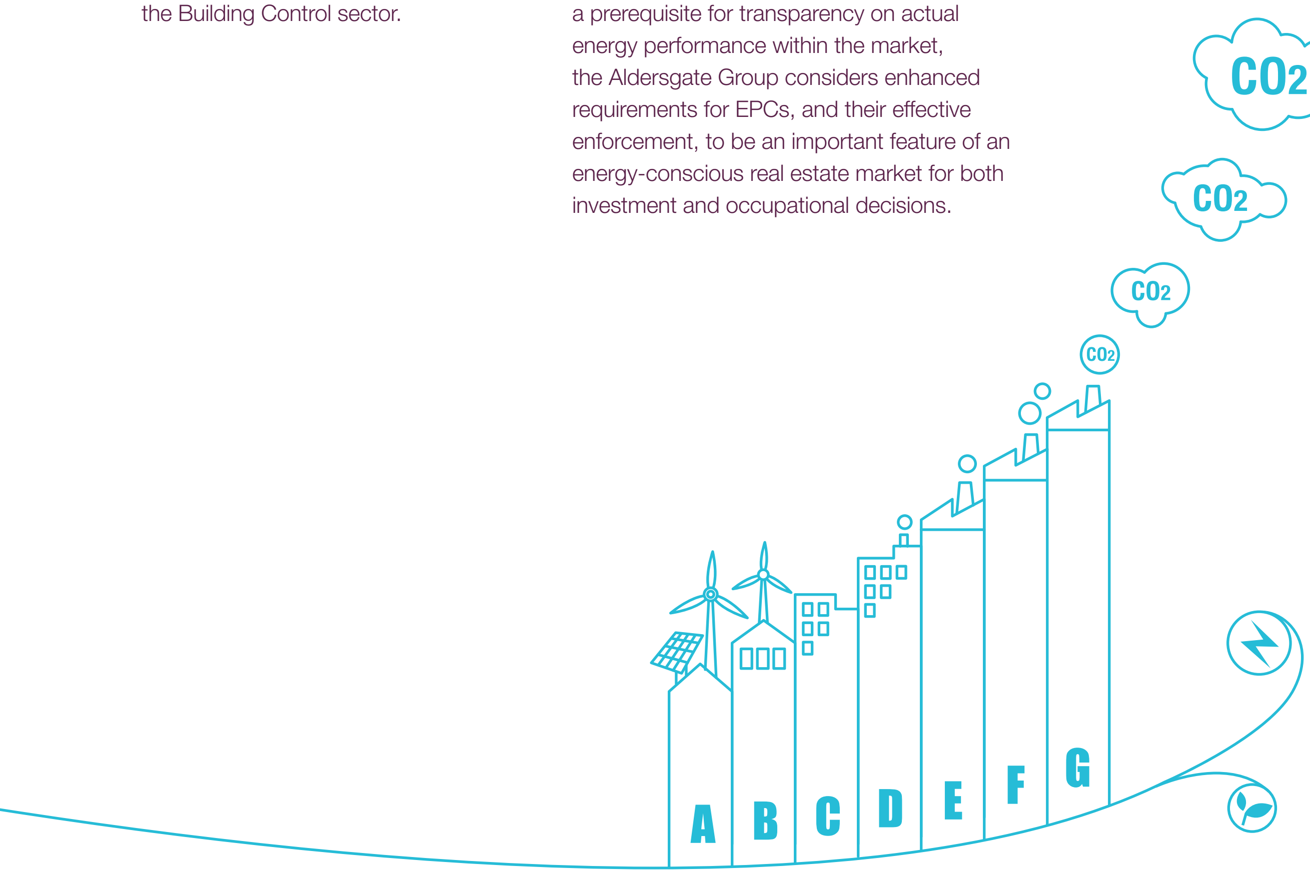
Enforcement of Standards

» We are pleased that Government has attached considerable emphasis to the issue of compliance and enforcement in its consultation on Building Regulation changes and we urge greater emphasis on the transparency of outcomes of the Building Control system against which real performance can be tracked[46].

» Government should consider linking enhanced financial penalties for non-compliance with Part L with budgeting for improved enforcement capacity and enabling support services for the delivery of energy and carbon standards within the Building Control sector.

Energy Performance of Buildings Directive (EPBD) regime – even though current levels of compliance within the property transaction sector are poor in relation to energy performance certification, the requirements for this are soon to be enhanced through the recast of the EU Energy Performance of Buildings Directive so that an EPC is provided whenever a property is marketed (whereas now the EPC needs to be in place no later than the exchange of contract which often leaves no opportunity in practice to influence investment decisions). Notwithstanding our recommendations in respect of operational energy ratings as a prerequisite for transparency on actual energy performance within the market, the Aldersgate Group considers enhanced requirements for EPCs, and their effective enforcement, to be an important feature of an energy-conscious real estate market for both investment and occupational decisions.

Minimum energy performance standards for existing buildings – it will be important that the ongoing lessons of monitoring and refining the Building Control regime, together with approaches to compliance under the recast EPBD regime, are taken forward and applied to the effective implementation of minimum energy performance standards set out in the Energy Act 2011.



46 » The AG will respond to the consultation with a considered view on the detailed proposals in due course.

Getting the Definitions Right

Clarity about what definitions mean in practice is vital for progress and short-term investment.

> *The overall status [of the Zero Carbon Homes Programme Delivery Timeline] has been downgraded from Amber to Amber Red for a number of reasons, but particularly because the 'National Compliance Methodology' (i.e. SAP) remains at Red and outstanding work on the Carbon Compliance Standard has not progressed. There is also significant concern that the Code for Sustainable Homes (the 'Code') has not been revised to reflect the zero carbon definition for 2016, which continues to distract industry as a whole.*
>
> **Zero Carbon Hub, September 2011**[47]

Defining "sustainability" and "sustainable development" in the context of the built environment has been a matter of contention for some time. The debate over the definition of sustainable development has arguably escalated in recent months with the tumult over the first draft of the National Planning Policy Framework (NPPF).

Few would argue that 'green' terminology is frequently applied disingenuously by many in the commercial sector who recognise its political currency but either fail to understand the true meaning or simply wish to mask business as usual under a different guise. Importantly, and sometimes alarmingly, government policy makers fall into the same trap by framing inappropriate policy announcements and legislative proposals as 'sustainable' simply because a positive effect is anticipated in terms of jobs and economic growth.

In 2008, we highlighted two key issues relating to the importance of definitions in the context of environmental regulations pertinent to the built environment. The first related to the proliferation of measurement standards for environmental performance, including those under the CRC Energy Efficiency Scheme and the Defra best practice guidelines for greenhouse gas emissions reporting; we recommended greater consistency. The second pertained to the definition for zero carbon buildings under future Building Regulations. We made a number of precise recommendations concerning the parameters of the zero carbon standard and the need for demonstration projects to provide beacons of practical achievement to guide wider industry practice.

As more environmentally-focused regulations and legislative provisions for buildings have been brought forward, both in the UK and at the European level, the need for very carefully considered definitions of key terms has become all the more apparent.

47 » www.tinyurl.com/822pnz6

Getting the Definitions Right

Signs of progress

Reflecting on the two definition-related matters we have raised previously, progress over the last three years has been chequered. In the case of measuring performance, there have been some notable efforts by the Green Property Alliance (GPA)[48], the European Public Real Estate Association (EPRA) and the United Nations Environment Programme Finance Initiative (UNEP FI)[49] to challenge the proliferation of measurement and benchmarking standards and, in the case of the GPA, to put forward a proposed framework of common metrics for the industry to adopt.

Progress towards a final workable definition for zero carbon homes and buildings has been frustratingly slow, despite the commendable efforts of organisations such as the Zero Carbon Hub. Nearly five years since the original announcement of the zero carbon policy, and with less than five years remaining before the regulated standard takes effect in the case of dwellings, the definition remains to be finalised. That is not to say that there haven't been some notable steps forward: confirming the Fabric Energy Efficiency Standards for different dwelling types and the further measures needed to achieve carbon compliance is an important step. Along the way though, there have been significant compromises and the scope of the standard has been scaled back by omitting unregulated energy use (relating to plug-in equipment such as appliances). This leaves a gap which the current progress on extending the EU Energy Using Products Directive controls looks unlikely to close in the near future.

More recently, Government has scaled back the proposed uplift in Part L standards for 2013 due to cost concerns and their impact on the house building market. The Aldersgate Group will comment on the right level of ambition through the consultation process, noting that the current proposals would lead to a significant backloading of improved carbon standards for the new build sector from the originally anticipated trajectory.

A framework of allowable solutions to deal with residual emissions not covered through carbon compliance is now emerging and appears to have promise as the last piece in the zero carbon definition jigsaw, at least insofar as it relates to new homes. Confirming the applicability of the definition to non-domestic buildings (which in regulatory terms won't take effect until three years later in 2019), remains some way off.

Current and persistent issues

Inconsistent performance measurement – Despite the efforts of the GPA, UNEP FI and others, the number of initiatives and benchmarking syndicates which are premised on the measurement of in-use property performance has continued to increase significantly, which does little to aid transparency and comparability across the market. Furthermore, Government has not moved to align the energy and carbon accounting bases of the CRC Energy Efficiency Scheme and the Defra best practice guidelines for GHG reporting.

» We encourage proprietary measurement / rating systems, as well as benchmarking syndicates operating in the UK and internationally, to do more to align their reporting metrics.

» In bringing forward its consultation for mandatory GHG reporting, the principle of which the Aldersgate Group has championed for some time, the Government should take the opportunity to ensure appropriate alignment of energy and carbon accounting standards with other regulatory mechanisms.

48 » Green Property Alliance (2010), *Establishing the Ground Rules for Property: industry-wide sustainability metrics.*

49 » UNEP Finance Initiative (2011) *An Investors' Perspective on Environmental Metrics for Property.*

Getting the Definitions Right

Finalising zero carbon homes and buildings – moving towards a final workable definition for zero carbon homes and buildings should remain a policy priority for the Department of Communities and Local Government.

» We urge Government to follow the advice of the Zero Carbon Hub in relation to allowable solutions and to make rapid progress towards a final zero carbon standard for dwellings.

» We also encourage Government and the industry to reinvigorate efforts to test the applicability of the definition to non-domestic buildings and to move towards an agreed standard as expediently as possible.

Presumption in favour of sustainable development – we welcome the principle of a simplified planning framework, providing that simplification does not compromise the effectiveness of the planning system to ensure land use change and development in a truly sustainable way. But successful legal challenges against Government in respect of its efforts to bring forward wholesale changes with insufficient consultation or impact assessment[50], reinforce the need for the application of Aldersgate Group principles to the advancement of environmental policy and better regulation[51]. Of particular future concern to us is the lack of clarity within the published draft of the National Planning Policy Framework (NPPF) on the definition of sustainable development, which currently includes no reference to the fundamental notion of environmental limits – a cornerstone of the UK Sustainable Development Strategy. We are therefore pleased that the Government has indicated its willingness to reconsider its approach.

» In bringing forward a revised draft of the NPPF, we strongly advise Government to place significantly greater emphasis on the environmental limits of development activity as a central feature of the definition of 'sustainable development'.

» In this respect, the positive role (across a wide range of issues) of green infrastructure and natural systems within the urban environment should be emphasised and promoted.

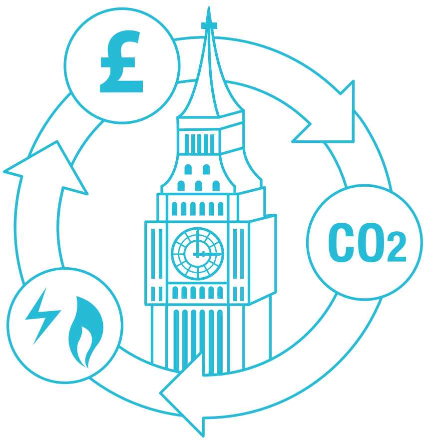
Simplification of standards – In preparation for the introduction of the NPPF, with its requirement for Local Planning Authorities to test their plans for economic viability, the Local Government Group and the House Builders' Federation have set up the Local Housing Delivery Steering Group, chaired by Sir John Harman, to make recommendations around how to conduct such viability tests. A key issue for this group is to ensure that plans do not impose unaffordable policy costs on new house building and that the numbers of new homes allocated in Local Plans are deliverable in existing economic circumstances.

50 » Cala Homes (South) Ltd v Secretary of State for Communities and Local Government [2010] EWHC 2866 (Admin) on 10 November 2010.

51 » Aldersgate Group (2011) *Dealing with Deficits. Best value regulation to reduce our environmental and financial debts.*

Getting the Definitions Right

As part of this work, the Steering Group is examining the scope for simplifying the landscape of non-statutory standards for new homes, which are commonly applied in local plan policies. Examples are "Secure by Design", "Lifetime Homes", and the Code for Sustainable Homes. While we recognise that these are non-regulatory standards, mostly owned by non-governmental bodies, the Aldersgate Group would expect to see the principles of good regulation applied to this work. A simplification of what has become a complex landscape of discretionary standards, some of which overlap, duplicate, or even contradict others, would be most welcome if it enables Local Planning Authorities to set standards which deliver social and environmental benefits which are at the same time more affordable. On the other hand, a "dumbing down" of standards to avoid cost, without due weight given to the wider benefits that they secure would be a retrograde step in the steady improvement in the quality of new homes that we have seen over the last 20 years. The Aldersgate Group will follow the progress of this work with interest.



Looking ahead

The shift to whole-life carbon – there is increasing appreciation of the lifecycle carbon impact of buildings and a number of progressive developers and property occupiers (especially food retailers) are beginning to deliver net carbon positive buildings (as certified, for example, by Planet Positive and others). This is a welcome innovation because, against current standards of operational energy efficiency, the embodied carbon of a typical office building (for example), is around 50% of its total lifecycle impact assuming a 60-year life. Dealing with whole-life carbon also provides the opportunity to drive efficiency throughout a supply chain, leading ultimately to lower energy and carbon costs in the material fabrication, construction and end-of-life processes.

» The Aldersgate Group urges Government, in accordance with the recommendations of the Low Carbon Construction Innovation & Growth Team, to develop a workable and transparent accounting standard for the embodied carbon of building projects and to integrate these into Green Book appraisals.

» We support the call for the inclusion of embodied carbon reduction as an eligible measure within the scope of Allowable Solutions for the delivery of zero carbon buildings.

» Ultimately, we would like to see embodied carbon integrated into building rating systems required by law in support of property transactions and Building Regulations approval for new completions (e.g. as an extension of the Energy Performance Certificate).

Defining 'lettings' for minimum energy performance standards – as noted in the Tackling Existing Buildings section of this report, the advent of minimum performance standards is welcome, but the application of the legislative provision could have hugely different implications depending on the legal definition to be applied to a 'letting' and this needs to be clarified quickly. At the moment, the legislation could apply to both new and existing leases, irrespective of whether or not there is a break in occupation.

» We recommend that the full scope of the legislation should initially only take effect in the event of a pause in occupation (whether or not that be related to a change in occupier), with a second tier of non-intrusive Green Deal measures being required in the case of renewals, assignments and sub-lettings where occupation of the property is continuous.

Leadership on the Public Sector Estate

One of the most direct ways that Government can stimulate demand for more sustainable goods and services is by exemplary action as the UK's biggest purchaser.

> *The Government Estate is a great national asset. We need to use it better… The rewards are obvious, both in terms of saving public money through energy efficiency and contributing towards a sustainable, low carbon economy for the future.*[52]
>
> **Francis Maude, Minister for the Cabinet Office and Paymaster General**

The public sector must show leadership in its procurement and operation of buildings, enhancing its role in stimulating the market for low carbon technologies. This is vital as 40% of the construction industry's workload is in the public sector, with central government the largest single client of the industry[53].

Signs of progress

The Coalition Government has made significant progress in raising its ambition and delivery of "greening" the office estate of central government departments. The Prime Minister announced this priority days after the election, by committing to reduce carbon emissions by 10% within 12 months. The Government exceeded this target by 3.8%, reducing energy bills by £13 million and realising the fastest rate of carbon reductions ever achieved: between 1999 and 2010, carbon emissions were reduced by an average of 1.7% per year on the government estate[54].

The programme demonstrates what can be accomplished in a relatively short period of time and ensures that other organisations can learn from the experience. A report on the "10% Challenge" highlights the importance of top-level leadership, clear governance structures, accurate and timely data, adopting a flexible approach, effective communication, sufficient funding, staff engagement and monitoring and evaluating outcomes[55].

In addition, the most high profile public construction project since the publication of our 2008 report – the Olympic Park – has been widely praised for its sustainability credentials. The Olympic Delivery Authority (ODA) aimed to go beyond construction industry norms from the outset and redefine best practice in sustainable development. The project set ambitious sustainability targets that were measurable, achievable and replicable. The IGT report finds that this provides "a case study not just in the planning and delivery of Major Projects, but also in putting environmental impact at the core of a project"[56].

Current and persistent issues

The Greening Government commitments have been extended to 2015 with targets to reduce the environmental impact for greenhouse gas (GHG) emissions, transport (domestic flying), waste, water and procurement. Maintaining momentum and ministerial engagement will be a significant challenge, particularly with less money available[57] and the need for more expensive investment in new technologies after the exhaustion of much of the low hanging fruit (such as through voltage optimisation and behaviour change initiatives).

52 » HM Government (May 2011) *The State of the Estate in 2010.*

53 » HM Government (June 2011) *Low Carbon Construction Action Plan.*

54 » National Audit Office (July 2011) *Briefing for the House of Commons Environmental Audit Committee.*

55 » HM Government (2011) *10% Challenge: Carbon Reduction on the Government Office Estate.*

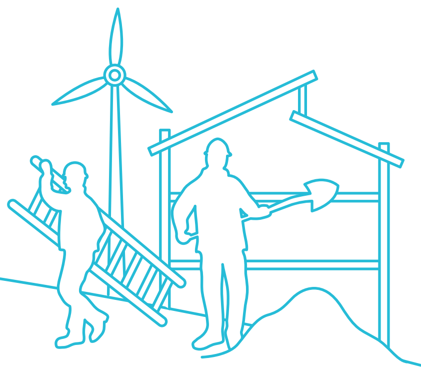
56 » HM Government (Autumn 2010) Low Carbon Construction: Innovation & Growth Team.

57 » For example, the Public Sector Low Carbon Programme Team in DECC had a budget of £276,000 in 2010 but ceased operations in April 2011. However, the equivalent of three full time members of the department will continue working on public sector energy efficiency issues until the end of March 2012 according to the National Audit Office.

Leadership on the Public Sector Estate

It is also evident that the Greening Government commitments have a relatively narrow scope. The targets apply to some 3,000 office buildings, ranging from central London departmental headquarters to benefits offices, local tax offices and courts. This compares to 48,000 buildings that previous government targets (Sustainable Operations on the Government Estate) applied to. The Government must ensure that there is a robust strategy in place to reduce the environmental impact from those public sector buildings that are excluded, the majority of which are part of the military estate[58,59].

With respect to the procurement of energy efficient buildings, 65% of administrative buildings added to the civil estate were procured from within the top quartile range of energy performance in 2010. This compares with 44% in 2009[60], but again falls well short of the 100% target.



The Aldersgate Group's 2008 report also noted the extremely poor implementation and assessment of the Government's 'Common Minimum Standards' for all new government construction projects to achieve a BREEAM (or equivalent) 'Excellent' rating and all refurbishment projects to achieve at least 'very good' rating. For schools, it is estimated that there is a 0.7% uplift in capital costs for a BREEAM 'Excellent' rating, which could yield a potential 25% saving in operational energy costs alone[61]. To ensure significant lifecycle cost savings and cement UK leadership, it is vital that minimum standards are not weakened and there is increased transparency to assess the Government's performance in meeting these standards.

The IGT report made a number of recommendations to Government in its role as a client of the industry. These ranged from publishing a forward pipeline of future construction work, trialling innovative forms of procurement and introducing innovative processes such as Building Information Modelling, through to issues around the specification of construction works and post-occupancy evaluation. The government response to the IGT report recognises the importance of these issues but there is less clarity in terms of how they will be addressed in a timely and effective way[62]. It is welcome that the Green Construction Board is considering further actions in relation to stimulating innovation in procurement and will report by the end of 2012.

Looking ahead

One of the most significant issues moving forward is to ensure greater accountability to meet the Greening Government and wider sustainable procurement targets. As demonstrated by the Environmental Audit Committee, success will depend on the effectiveness of the ministerial steering group and the introduction of more robust, and permanent, processes and tools within departments for policy design and operational management.

The Environmental Audit Committee can only be expected to aid government accountability to Parliament rather than to take on the full range of scrutiny that was provided by the now defunct Sustainable Development Commission. It is therefore welcome that the Committee has decided to examine the arrangements for validating and auditing the reliability of the data for the Greening Government commitments, as well as the usefulness of the data made available, the level of ambition in the new targets and the adequacy of performance in individual departments[63]. The National Audit Office, for example, finds that there is scope for a more ambitious carbon reduction target in 2015 due to potential financial savings (both directly and through the CRC Energy Efficiency Scheme)[64].

58 » National Audit Office (July 2011) *Briefing for the House of Commons Environmental Audit Committee.*

59 » The Government should also review opportunities to actively engage its own staff in energy savings initiatives, for example, through reviving the Office of Government Commerce/Cabinet office joint sustainability forum with the civil service unions.

60 » HM Government (May 2011) *The State of the Estate in 2010.*

61 » Target Zero (February 2010) *Guidance on the Design and Construction of Sustainable, Low Carbon School Buildings.*

62 » HM Government (June 2011) *Low Carbon Construction Action Plan.*

63 » Environmental Audit Committee (May 2011) *Embedding Sustainable Development: The Government's Response.*

64 » National Audit Office (July 2011) *Briefing for the House of Commons Environmental Audit Committee.*

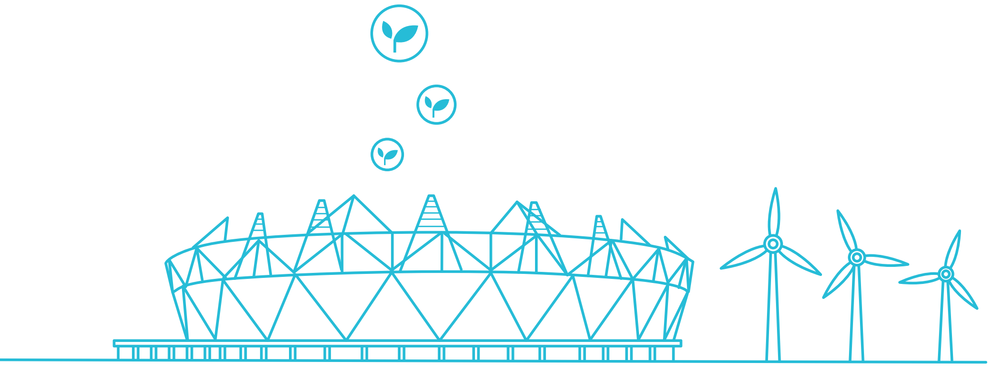
Leadership on the Public Sector Estate

Full transparency is of the utmost importance. While the introduction of automatic meter reading devices and the publication of up-to-date energy usage has helped to improve performance, there has been less success in terms of Display Energy Certificates (DECs). These are required in all public sector buildings and offices larger than 1,000 m^2, which are frequently visited by the public. The Cabinet Office finds that 31% of central government buildings that had previously held DECs had not lodged current DEC data in the central register, which "is clearly not acceptable and departments have been reminded of their obligation to display current certificates"[65].

More widely, it is essential that the lessons are learnt from the successes (and failures) of the Olympics project and applied to public sector construction projects across the board[66]. An Aldersgate Group roundtable with Defra and the ODA found that meeting the sustainability criteria for the Olympics generally led to costs savings overall – there was generally no price premium and yet sustainability was made a key priority alongside cost and delivery. In a similar fashion, sustainability criteria should be integrated into the planning, tendering and procurement processes of construction projects of all scales – ensuring that an ambitious and inspiring vision is communicated from the outset. For example, such a vision has been lacking from the Government's approach to Enterprise Zones, which could otherwise become the business parks of the future, delivering enhanced competitive advantage to the companies attracted there.

The Aldersgate Group calls on Government, and the wider public sector to:

- Learn from the operational, financial and reputational benefits realised by recent successes on the central government estate and the Olympics, by placing sustainability and resource efficiency at the heart of the public sector estate strategy;
- Renew the commitment to transparency in respect of the operational performance of the civil estate, and in the application of the Common Minimum Standards to capital projects;
- Make significantly greater progress with the application of innovative financing and leasing models in the procurement of new premises and the management of existing assets, and by acting as a champion of those models to the wider industry;
- To that end, develop a fast-track programme of Green Deal projects on the civil estate to demonstrate the art of the possible with the application of the Golden Rule[67] to existing non-domestic buildings; and
- Invite the commercial sector to partner more closely with public bodies in delivering the energy and resource efficiency goals for the public estate.



65 » HM Government (May 2011) *The State of the Estate in 2010.*

66 » For example, the UK GBC, in its capacity of sustainability dissemination partner for the ODA, is running a series of events on "London 2012, Lessons Learnt", in the first half of 2012.

67 » See p9 for definition.

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