Communities and Local Government

Permitted development rights for small scale renewable and low carbon energy technologies, and electric vehicle charging infrastructure

Consultation

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November 2009
Department for Communities and Local Government

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November 2009

Product Code: 09 PD06147/C

ISBN: 978-1-4098-1997-4

Consultation Summary

Consultation topic	Permitted development rights for small scale renewable and low carbon energy technologies, and electric vehicle charging infrastructure.
Scope of this consultation	This paper seeks views on proposals for changes to the planning system in relation to permitted development rights for: • domestic wind turbines and air source heat pumps • non-domestic wind turbines, air source heat pumps, ground source heat pumps, water source heat pumps, solar panels, flues for biomass systems and combined heat and power (CHP) systems, structures to house anaerobic digestion systems and biomass boilers; structures to house hydro-turbines • electric vehicle charging infrastructure
Geographical scope	England
Impact assessments	**Annex B** contains the consultation stage impact assessments of the proposals set out in this document.

Basic Information

To	This is a public consultation, and is open to anyone to respond. We would particularly welcome responses from local planning authorities; community groups; the microgeneration industry; those who have installed microgeneration technologies; those who live near existing installations of microgeneration; the electric vehicle industry and users of electric vehicles.
Body/bodies responsible for the consultation	Planning System Improvement Division, Planning Directorate, Communities and Local Government
Duration	12 weeks from publication date. Consultation will end February 9th 2010
Enquiries	Richard Prior, 030 3444 1729 richard.prior@communities.gsi.gov.uk

How to respond	In writing to: Planning System Improvement Division – Branch B Communities and Local Government Zones A1/ A2/A3 Eland House Bressenden Place London SW1E 5DU Or by email to lowcarbonPD@communities.gsi.gov.uk Consultees are encouraged to use the template at **Annex C** for their responses. Using the template you can state whether or not you agree with the Government's proposals and if you have any comments. A Word version of this Annex is downloadable on the Department's website at http://www.communities.gov.uk/publications/planningandbuilding/microgenelectriccars
Additional ways to become involved	The Government intends to hold meetings with interest groups prior to implementing these proposals.
After the consultation	A summary of the consultation replies will be published on the Department's website. A Government response to the consultation exercise will also be published and will announce the Government's decisions relating to the proposals.
Compliance with the Code of Practice on Consultation	This consultation complies with the Code. See Section 7 for further information.

Background

Getting to this stage	The planning white paper: *Planning for a Sustainable Future* (published in May 2007) outlined the Government's intention to explore the scope for extending permitted development rights to domestic and non-domestic microgeneration. Around the same time, the Government published a consultation document entitled *Changes to permitted Development Consultation Paper 1: Permitted Development Rights for Householder Microgeneration* setting out detailed proposals for introducing permitted development rights for a wide range of domestic microgeneration technologies.

Getting to this stage *(continued)*	In April 2008 the Town and Country Planning (General Permitted Development) Order 1995 (the GPDO) was amended to grant permitted development rights to domestic properties for certain forms of microgeneration equipment, including solar panels, ground source heat pumps and water source heat pumps. While the 2007 consultation exercise proposed granting permitted development rights for domestic wind turbines and air source heat pumps, unresolved technical issues meant they were not included in the April 2008 legislation. Further work has been done to address these issues and this consultation proposes how permitted development rights for these domestic technologies would be implemented. In June 2007 the Government commissioned ENTEC Ltd to examine the scope for extending permitted development rights to a wide range of non-domestic renewable energy technologies. The conclusions of this review inform the proposals in this consultation. The research report has been published alongside this consultation and can be found at http://www.communities.gov.uk/publications/planningandbuilding/smallscalereview. A summary of the recommendations can be found at http://www.communities.gov.uk/publications/planningandbuilding/smallscalesummary. In July 2008 the Prime Minister committed the Government to supporting a motoring revolution in the UK with a shift to electric cars. The Prime Minister's first concern was to remove any barriers in the planning system to enable an electric charging network to be set up as quickly as possible. The Government commissioned Will French to review the planning background relating to electric vehicle charging points (EVCP). His research report has also been published with this consultation. It can be found at http://www.communities.gov.uk/publications/planningandbuilding/electricarsreview The proposals in this consultation take forward the Government's strategies on promoting renewable energy and low-carbon technologies. They also complement its proposals in response to the Killian Pretty recommendations for reforming the planning process.
Previous engagement	Discussions with a number of key stakeholders have been conducted both directly by CLG, and indirectly via research undertaken by ENTEC Ltd and Will French.

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Section 1

Introduction

Overview of proposals

1.1 This consultation seeks public comment on proposals to grant permitted development rights in England for specified small scale renewable energy and low carbon technologies and for electric vehicle charging infrastructure.

1.2 Renewable and low carbon energy technologies covered in this consultation paper are:

- installation of technologies on domestic premises:
  - wind turbines and
  - air source heat pumps
- installation of technologies on non-domestic premises:
  - wind turbines
  - air source heat pumps
  - ground source heat pumps
  - water source heat pumps
  - solar panels
  - flues for biomass systems and combined heat and power (CHP) systems
  - on agricultural and forestry land, structures to house anaerobic digestion systems and biomass boilers, as well as structures to house hydro-turbines

The consultation describes these technologies in planning terms and proposes the limits of what may be installed as 'permitted development', i.e. without the need to make an application for planning permission.

1.3 For electric vehicle charging points this consultation proposes minor amendments to existing permitted development legislation and existing advertisement regulations in response to the Government's plans to promote a switch over to electric vehicles.

1.4 Securing renewable energy through small scale microgeneration and electric vehicles are two high national priorities and the technologies they require are evolving very fast. It is vital that they continue to enjoy widespread public support and confidence which means it is important to get their design and operation right. The planning system can play an important role in helping to shape their development in ways that ease their absorption into our existing urban and rural landscapes and guard against undue impacts for example on neighbouring occupiers or the historic environment.

1.5 Many of the technologies that are the subject of this consultation are relatively new and unfamiliar. It remains unclear how they will be experienced as they are rolled out in large numbers in the move to a more low carbon environment. The complexities of the noise impacts of technologies such as small-scale wind turbines are particularly difficult to anticipate. The Government will monitor the effects of the new permitted development rights and review whether they have been set at appropriate levels once sufficient experience is established.

Policy background

1.6 The Government's proposals for a reformed planning system to meet the challenges of globalisation and climate change are set out in its May 2007 white paper *Planning for a Sustainable Future*. The white paper proposed the expansion of permitted development rights to domestic and non-domestic renewable energy producing equipment as a way of significantly contributing to meeting our future energy needs in a sustainable way.

1.7 The 2008 *Killian Pretty Review of the Planning System* endorsed the white paper's proposals. Killian Pretty recommended that the system should be made more proportionate by reducing the need for planning applications for small scale developments that have little impact beyond the host property. The Department for Communities and Local Government (CLG) has accordingly undertaken a series of studies into the potential of extending permitted development rights to developments that have minimal impact.

1.8 Addressing the urgent challenges of climate change and secure energy supplies through greater use of renewable energy and low carbon technologies are urgent priorities. The Government is committed to meeting the EU target of 15 per cent of energy from renewable sources by 2020. The July 2009 *Renewable Energy Strategy* (RES) sets out how the United Kingdom will increase the use of renewable electricity, heat and transport to meet this target. The RES envisages that microgeneration and other small scale technologies can play a significant role in meeting these Government's targets and it highlights the considerable contribution that the planning system can make in terms of achieving these targets.

1.9 The RES refers to Killian Pretty's call for a reduction in the number of small scale renewable energy technologies that require a planning application. It recommends that small scale wind, air source heat pumps and other renewable technologies should be assessed to see whether they should be 'permitted development' in the planning system.

1.10 The benefits of eliminating unnecessary red-tape as a means of promoting the uptake of the new microgeneration technologies were more fully described in the Government's 2006 *Microgeneration Strategy*. Lack of clarity as to whether a planning application for new technologies is required, the different interpretations of the existing rules by local authorities and the costs of making a planning application were discouraging those wishing to install new technologies. This was in turn holding back the growth of the microgeneration industry. The microgeneration strategy called for clear national guidelines to provide the industry with the clarity it needed to develop new products.

1.11 Additionally, as part of its response to the threats of climate change and security of energy supply, the Government has a strategy to promote electric vehicles. In July 2008, the Prime Minister committed the Government to supporting a motoring revolution by driving the shift to low-carbon and electric cars in the UK. The Prime Minister's first requirement as part of that commitment was to remove any barriers in the planning system to enable an electric charging network to be set up as quickly as possible. The Committee on Climate Change also highlights in its October 2009 report to Parliament the need to address any barriers to the delivery of infrastructure to support the roll-out of electric cars.

Permitted development and advertisements excepted from express consent

1.12 Section 57 of the Town and Country Planning Act 1990 provides that planning permission is required for all forms of development. The Act defines 'development' in very wide terms so that it captures all renewable energy technologies sited outdoors. To ensure the planning system does not get bogged down with unnecessary minor applications, sections 58 to 61 of the Act provide that a development order may grant consent for specified forms of development. These developments are said to enjoy 'permitted development rights'. Developments that enjoy permitted development rights can proceed without the need for a planning application to the local planning authority.

1.13 The Town and Country Planning (General Permitted Development) Order 1995 (the GPDO) sets out the permitted development rights that apply nationally across England. Schedule 2 of the GPDO contains detailed descriptions of classes of permitted development, subject to conditions and thresholds. As amended, Schedule 2 to the GPDO now contains 40 Parts.

1.14 This consultation envisages the insertion of a new Part into Schedule 2 to the GPDO to permit the installation of new renewable and low carbon energy technologies on non-domestic premises. The following existing Parts in Schedule 2 would also require amendment if the proposals in this consultation are brought forward:

- Part 2: Minor Operations
- Part 6: Agricultural Buildings and Operations
- Part 7: Forestry Buildings and Operations
- Part 12: Development by Local Authorities and
- Part 40: Installation of Domestic Microgeneration Equipment

1.15 It is also proposed to amend The Town and Country Planning (Control of Advertisements) (England) Regulations 2007 to permit the nameplates of a charging point provider or energy supplier to be displayed on an electric vehicle charging point without obtaining the express consent of the local planning authority.

1.16 The Advertisement Regulations 2007 set out which types of advertisement may be displayed without requiring the local planning authority's consent. The main purpose of the Regulations is to ensure that the display of outdoor advertising contributes positively to the appearance of an attractive and cared-for environment in cities, towns and the countryside. This regime enables local planning authorities to control advertisements in the interests of amenity and public safety. Provided conditions are fulfilled there are nine classes of advertisement which are excluded from the direct control of the planning authority and sixteen classes of advertisement that have 'deemed consent' which means that an application to the planning authority is not required for them.

Background documents

1.17 The proposals in this consultation document have been informed by a number of studies including those undertaken by independent consultants commissioned by CLG and responses to previous consultation exercises.

1.18 In July 2007 the Government commissioned an extensive review of the renewable technologies in the non-domestic sectors: schools, shops, offices, hospitals etc. by ENTEC Ltd. ENTEC's report with recommendations is published alongside this consultation paper and is available at: http://www.communities.gov.uk/publications/planningandbuilding/smallscalesummary

1.19 . The report reviews UK experience of solar, wind, hydro, heat pump, biomass and CHP technologies and from the evidence collected it proposes that Schedule 2 to the GPDO be amended to permit these developments up to limits which are clearly described.

1.20 Before introducing Part 40 of Schedule 2 to the GPDO, the Government consulted on proposals for granting permitted development rights for domestic microgeneration titled: *Changes to Permitted Development: Consultation Paper 1: Permitted Development Rights for Householder Microgeneration*. These were themselves informed by a separate study by ENTEC titled *Permitted Development Rights for Householder Microgeneration*. The consultation revealed the complex problems of safeguarding against excessive noise.

1.21 A CLG commissioned study by Will French available at http://www.communities.gov.uk/publications/planningandbuilding/electricarsreview examines potential planning barriers to the installation of charging infrastructure for electric vehicles. The report concludes that some minor amendments to existing planning legislation would be desirable. Specifically, it recommends that the Government establish the status of off-street charging points as permitted development and to confirm that on-street charging points installed by local authorities are to be regarded permitted development under Part 12 Schedule 2 to the GPDO. It also considers the case for the introduction of a new Class 17 of advertisements that may be displayed with deemed consent.

Glossary of terms

1.22 The technologies proposed in this consultation document are all relatively new. It is not particularly easy to describe them and the issues they give rise to in language that can be understood by the majority of people who have had little experience of them.

1.23 The Government recognises that a broad audience will be interested in the proposals contained in this consultation document. Therefore this consultation tries to avoid the use of technical terms as far as it is possible. **Annex A** provides a glossary of terms to help explain the concepts that are used in the main body of the document.

1.24 The glossary will also be a useful reference for drafting the statutory instrument that amends the GPDO. A question at the end of the glossary invites comments about it.

Section 2

Potential impacts of the new technologies and the proposed regulatory approach

Introduction: assessing the impact of the new technologies

2.1 Changes to existing planning regulations are required to accommodate new and more environmentally sustainable technologies. In drawing up these proposals, the Government has considered the nature of the impacts and any potential harm they might create. This section identifies the possible impacts of each technology and explains how the Government proposes to address them.

2.2 The Government's approach can be described as an 'impact approach' and it reflects the assessment that is undertaken by local planning authorities when determining individual planning applications. Local planning authorities accept that most developments have an impact, and their task is to determine its significance on the basis of relevant regulation, established policies, past experience, and commonly applied standards. They can then determine whether the proposal would result in harm, for instance to neighbours, the character of the building, the character of the area, sensitive areas and highway safety and assess the extent of such harm. On this basis the authority can determine whether or not planning permission should be granted for the development and if so what conditions should be imposed to mitigate any harm that might arise.

Other regulatory regimes

2.3 As well as requiring planning permission, many minor developments are affected by other regulatory regimes. The granting of permitted development rights does not remove a developer's responsibility to comply with any other regulations that may apply. For example, the granting of permitted development rights in the planning system does not negate the need to obtain Building Regulations approval where it is required. In most cases the regulations are enforced by other departments in local authorities or by appointed national or regional bodies, but local planning authorities have responsibility in two important areas: environmental impact assessment and the Habitat Regulations.

Environmental impact assessments

2.4 An additional consideration relevant to wind turbines relates to the need for assessment under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 (the EIA Regulations). Installations for harnessing wind power for energy production require an EIA screening where they involve the installation of two or more turbines or the height of the hub or any other structure exceeds 15m.

The Habitats Regulations

2.5 Regulations 60 to 63 of the Conservation (Natural Habitats,&c.) Regulations 1994, (The Habitats Regulations) require that development that may have a significant effect on a biodiversity site classified under a European Union Directive should not commence until the developer has received the written approval of the local planning authority. If notification has not been provided there would be a breach of planning control. The Habitat Regulations apply to all types of permitted development and provide for no exceptions and the proposals in this consultation will not affect them.

Setting limits that are appropriate to the site and location context

2.6 The impacts of renewable and low carbon energy technologies will vary on a case by case basis according to the type of the development, its location and setting. Development that is appropriate in one place may not be acceptable somewhere else and permitted development rights need to reflect this. This consultation therefore proposes that limits to what would be permitted would vary according to their site and location. For instance, in reflecting the impacts of the various technologies, the consultation proposes different limits for detached and non-detached properties, for residential and industrial areas, for conservation areas and national parks etc. A key question for the Government in this consultation is whether the conditions and thresholds proposed for these forms of permitted development are correct.

2.7 The permitted development rights proposed in this consultation would apply to the whole of England, but local authorities have powers to vary them in their areas, either by relaxing them or making them more restrictive where local circumstances warrant it.

Article 4 Directions

2.8 Article 4 of the GPDO provides for local planning authorities to remove permitted development rights for particular classes of development where they consider more control over that development is required. Circular 9/95 specifies that permitted development rights should only be withdrawn in exceptional circumstances and that such action is rarely justified unless there is a real and specific threat to amenity. Nevertheless, section 189 of the Planning Act 2008 will make it easier for local authorities to make use of article 4 directions because it will limit the circumstances in which compensation can be claimed for the loss of certain permitted development rights withdrawn by an article 4 direction. The Government intends to commence section 189 in April 2010 which will allow the Secretary of State to make the necessary regulations to prescribe the classes of development which will be subject to this provision. We propose that Section 189 should be applied to the technologies referred to in this consultation paper, should they be granted permitted development rights.

Local development orders (LDOs)

2.9 Introduced in the Planning and Compulsory Purchase Act 2004, LDOs permit local planning authorities to grant planning permission for specified types of development without the need to apply for planning permission. LDOs can extend permitted development rights across an entire district for minor developments such as householder developments or they can encourage a certain type of development in a specific area. The Government encourages local planning authorities to use these powers to extend permitted development rights in their areas as a way to promote the take-up of renewable energy technologies.

Noise

Potential impact

2.10 The most challenging impact to address for wind turbines and air source heat pumps has been noise – what should be the maximum acceptable limit for neighbours, how to address cumulative noise impact and whether there should be special provision for sensitive areas. Complexities arise because our perception of noise levels is highly subjective and very dependent on context, particularly background noise levels.

Proposed regulatory approach

2.11 The Government proposes that there would be no special noise restrictions for wind turbines or air source heat pumps on Class B2: General Industrial premises. Part 8 of Schedule 2 to the GPDO confers extensive permitted development rights for industrial premises, including for the installation of plant and machinery whose noise impacts can be greater than for renewable energy technologies installed under the microgeneration certification scheme (MCS). Class B2 of the Town and Country Planning (Use Classes) Order 1987 defines 'general industrial' uses as being the

carrying out of an industrial process that falls outside the definition of a use 'which can be carried out in any residential area without detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust or grit'. This definition is sufficiently robust to permit the installation of wind turbines or air source heat pumps on Class B2 General Industrial premises without the need for special noise limits.

2.12 Elsewhere, it is proposed that the noise limit for permitted development rights for wind turbines and air source heat pumps would be specified in all other areas as:

"The noise level from the installation must not exceed 45dB $L_{AEQ, 5\,min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade)."

2.13 The proposed noise limit, at 45dB $L_{AEQ, 5\,min}$, is higher than that proposed by the Government when it consulted in 2007 on extending permitted development rights to domestic installations of microgeneration. In 2007, the proposed noise limit proposed was 37dB $L_{AEQ, 5\,min}$. The Government has decided to consult again on extending permitted development rights to domestic installations and air source heat pumps because it has revised its proposals for what the limitations, conditions and thresholds for permitted development should be, in particular in relation to the maximum level of noise. The decision to consult on a proposed noise limit of 45dB $L_{AEQ, 5\,min}$ has been informed by:

- the results of the 2007 public consultation
- the need to encourage take up of renewable energy as part of our wider response to climate change
- varying opinions on the effects of various noise levels on neighbouring properties
- representations from the microgeneration industry

The 45dB $L_{AEQ, 5\,min}$ noise limit is now proposed in relation to both domestic and non-domestic installations of wind turbines and air source heat pumps.

2.14 Subject to the outcomes of this consultation, once a noise level for wind turbines and air source heat pumps is prescribed, the Government will review the suitability of the noise level as soon as reasonably practicable after the legislation has been in force for two years and to examine whether there is scope to reduce it. For example, if the proposed 45dB $L_{AEQ, 5\,min}$ limit were to be accepted initially, a future noise limit could be 37dB $L_{AEQ, 5\,min}$.

The microgeneration certification scheme (MCS)

2.15 To support the development of the microgeneration industry and to drive the quality and reliability of installations Government has developed the microgeneration certification scheme in partnership with the industry and other organisations representing consumer interests. The microgeneration certification scheme includes clear standards to support the installation of wind turbines and air source heat pumps. The main purpose of the scheme is to build consumer confidence in microgeneration technologies and to help move the industry to a sustainable position. It includes certification for products and installer companies, and a code of practice based on The Office of Fair Trading Consumer Code. Permitted development rights for wind turbines and air source heat pumps will only be accorded for equipment installed by an installer who has been certificated through the scheme using a certificated product. The installer would therefore be responsible for ensuring that the installation meets permitted development noise standards at the time of installation. For further details, see the microgeneration certification scheme's website at: http://www.microgenerationcertification.org/

2.16 For installations of wind turbines, the microgeneration certification scheme would ensure that the design and specification would comply with the product standards specified in MCS 006 and the method of installation would comply with MIS 3003. For installations of air source heat pumps, the microgeneration certification scheme would ensure that the design and specification would comply with the product standards specified in MCS 007 and that the method of installations would comply with MIS 3005. Should these proposals be adopted, these documents will be updated if necessary to reflect the conditions under which permitted development can occur. See: http://www.microgenerationcertification.org/Product+Manufacturers+and+Installers/Products

and

http://www.microgenerationcertification.org/Product+Manufacturers+and+Installers/Installers

Cumulative noise impact

2.17 To address the risk of cumulative noise impact, the Government proposes that, except for installations on Class B2 industrial premises, only the first installation of a wind turbine or air source heat pump within the curtilage of a building in residential use, or on any other building, would be permitted development. Further installations of either technology would require specific planning permission. Other technologies that are not inherently noisy will not be restricted this way.

Enforcement

2.18 The exercise of permitted development rights will be subject to compliance with a maximum noise level. This will mean the owner of a property must ensure the limits are met both upon installation and thereafter through proper maintenance of the equipment. Local planning authorities have enforcement powers to ensure that installations comply with permitted development noise limits throughout their lifetime.

Statutory nuisance

2.19 Section 79(1) of the Environmental Protection Act 1990 provides that, where it is prejudicial to health or a nuisance, noise emitted from premises or caused by machinery or equipment constitutes a statutory nuisance. Part 3 of the Act sets out the powers of the local authority to deal with the problem. The protections provided by the Act would not be affected by granting permitted development rights to the technologies in this consultation document. **Annex A** contains more information about statutory nuisance.

Vibration

Potential impact

2.20 Vibration associated with any moving plant can annoy people and cause structural damage to buildings. Building mounted systems can potentially transmit some vibration energy through their support structure to the building. Good design of the mounting system can minimise this effect and limit the transmission of the vibration to the structure.

Proposed regulatory approach

2.21 To manage the risk of vibration causing disturbance to neighbouring residences, the Government proposes that permitted development rights for building mounted wind turbines on domestic premises will only be granted for detached dwellinghouses (i.e. in single occupation and not sharing a wall with a neighbouring property) and for freestanding outbuildings in the curtilage of residential properties (e.g. a freestanding outbuilding in the curtilage of a block of flats).

Microgeneration certification scheme (MCS)

2.22 Installation of renewable energy technologies through the microgeneration certification scheme will help to ensure that any vibration from new installations does not cause unreasonable disturbance to nearby occupiers.

Statutory nuisance

2.23 Local authorities will continue to have powers to take action on vibration under the Environmental Protection Act 1990. The protections provided by the Environmental Protection Act 1990 would not be affected by granting permitted development rights to the technologies proposed in this consultation document. **Annex A** contains more information about statutory nuisance and planning.

Interference with radar and aircraft communications

Potential impact

2.24 The Ministry of Defence, Civil Aviation Authority, and National Air Traffic Service have concerns about the impacts of wind turbines installed too close to radar systems. The height of a wind turbine is a very important factor in relation to potential effects on radar and aircraft communications. There is also concern about glare from solar panels on the approach and take-off zones abutting main runways.

Proposed regulatory approach

2.25 The Government is giving this issue careful consideration and the final position on height and other limitations and conditions will be informed by the consultation process, and particularly responses from experts in the field. A web-based electronic checking tool is being developed that will identify locations that need to be protected, and these locations will be safeguarded. Proposals to install wind turbines in areas identified through the electronic tool as "safeguarded" would not be permitted development, and would therefore remain subject to planning permission.

Microgeneration certification scheme (MCS)

2.26 Under the MCS, installer companies will be required to check the web-based electronic tool to determine whether the proposed wind turbine would be sited within a safeguarded area. Only wind turbines proposed to be sited outside of safeguarded areas would benefit from permitted development rights.

Visual impact

Potential impact

2.27 The technologies on which we are consulting may have a visual impact that can be a concern in particular circumstances. These may include:

- scale
- poor siting or location
- poor design
- overshadowing
- inappropriate materials.

2.28 Signs attached to electric vehicle charging points can affect the appearance of the place where they displayed and are subject to the Control of the Advertisements Regulations.

Proposed regulatory approach

2.29 On Class B2 industrial premises it is proposed that permitted development for microgeneration technologies would be subject to the same restrictions applying to other classes of development prescribed under Part 8 of Schedule 2 to the GPDO.

2.30 Elsewhere, undue visual impacts of the technologies for which it is proposed to grant permitted development can be guarded against by setting limits to the size, siting and location of the new technologies. The limits proposed are set out in subsequent sections of this consultation document.

2.31 More restrictive limits are proposed for sensitive areas where the Government considers they would be warranted:

- wind turbines, air source heat pumps and solar panels within World Heritage Sites would not be granted permitted development rights if they are visible from a highway adjoining the site. The same protection would be accorded to conservation areas, although there may be many such areas where they would be acceptable and could contribute to a low carbon footprint. The Government will be interested in views on how far this might be the case
- the Government does not propose to extend these restrictions to developments in other article 1(5) areas (i.e. national parks, AONBs and the Broads). The density of wind turbines is likely to be comparatively low in these areas such that, in the Government's view, their installation would not unduly harm their visual character
- stand-alone solar panels in all sensitive areas defined as article 1(5) land will require a planning application

Listed buildings and scheduled monuments

2.32 Listed buildings are already fully protected from unauthorised alteration via the requirement to obtain listed building consent. Any additional restrictions are only required for installations of equipment within the curtilage of listed buildings. Where they are not otherwise subject to listed building consent, wind turbines attached to a building situated within the curtilage of a listed building would require planning permission. Permitted development rights for the technologies in this consultation will not be accorded to scheduled monuments. Development affecting scheduled monuments will continue to require scheduled monument consent and planning permission.

Flicker

Potential impact

2.33 Concern has been expressed that the shadow flicker associated with wind turbines can cause seizures in epilepsy sufferers, although no known seizures have been reported.

2.34 It is also possible for turbines placed close to doors or windows to cause an annoying shadow or reflection flicker for certain periods of time.

Proposed regulatory approach

2.35 It is proposed that wind turbine blades should be made from non-reflective materials. The potential for shadow flicker to affect neighbouring occupiers is likely to be small and can be safeguarded by ensuring acceptable separation distances from the boundary on which a wind turbine is installed.

2.36 Microgeneration certification scheme wind turbine installer procedures will be implemented to address shadow flicker in a site and product specific manner.

Impacts on wildlife, biodiversity and geological conservation

Potential impact

2.37 Wind turbines raise some possible ecological concerns. It is possible that birds and bats may be killed or injured by flying into turbines, particularly where sited near migration routes and bats that fly too close to wind turbines may be dying from internal bleeding. There is also some concern that small wind turbines may interrupt commuting routes, cause a loss of foraging habitat (for example bats may avoid wind turbines), and that emission of ultrasound by wind turbines could impact on bats.

2.38 There is also potential for water source heat pumps and ground source heat pumps to impact on ecology. This could arise from refrigerant leaking from coils into a water body, or from damage to the water table through the digging of boreholes. There is also some potential to damage to trees and tree roots during installation.

Proposed regulatory approach

2.39 The Government believes that the existing legislative framework is sufficient to ensure these areas remain adequately protected, but this needs to be monitored. Where there is a risk to protected species the Government recommends that the advice of Natural England is sought.

Archaeologically sensitive areas

Potential impact

2.40 Installation of ground source heat pumps generally involves land excavation which could harm important archaeological sites.

Proposed regulatory approach

2.41 Where there is a risk to a site, the Government recommends an installer to discuss plans with the local authority.

Emissions

Potential impact

2.42 Biomass as a fuel produces emissions which may be a planning concern.

Proposed regulatory approach

2.43 Biomass systems must already comply with European and national emissions regulations, particularly orders made under section 21 of the Clean Air Act 1993 which authorises certain fireplaces capable of smokeless operation for use in smoke control areas. Only boilers burning authorised ('smokeless') fuel can be used in smoke control areas, but fuels which have not been authorised can only be used in a smoke control area in a fireplace capable of 'smokeless operation'. These measures should be sufficient to permit, installations with a capacity of below 45kW without a planning application.

Traffic impacts

Potential impact

2.44 Regular deliveries of fuels and other materials needed to supply large-scale biomass and waste management systems may have traffic impacts on local road networks.

Proposed regulatory approach

2.45 Conditions to ensure that permitted developments are of an appropriate scale.

Public safety

Potential impact

2.46 Public safety is a matter for planning concern. For example, developments should not block sightlines at major road junctions, wind turbines must not sited in a way where they could be a danger, and vehicle charging points should be installed so that their cables are not likely to trip up pedestrians.

Proposed regulatory approach

2.47 Restrictions on siting where the there could be a danger or a nuisance to the public.

Advertisements

Potential impact

2.48 The advertisement control system helps everyone involved in the display of outdoor advertising to contribute positively to the appearance of an attractive and cared-for environment. The signs controlled by the system include the nameplates of electricity suppliers and charging point providers displayed on an electric vehicle charging point. Some planning authorities consider that express advertisement consent is required for them, while elsewhere it has been accepted that the unilluminated display of a modest sized nameplate of a supplier/provider can be displayed without an application to the authority.

Proposed regulatory approach

2.49 The Government proposes that two non-illuminated nameplates, each with a maximum size of 70cm^2, displayed on an electric vehicle charging point should be granted deemed advertisement consent.

Section 3

Permitted development proposals: Installations on domestic premises

Introduction

3.1 This section sets out the Government's detailed proposals for new permitted development rights for domestic premises. It reflects the responses to the 2007 consultation on domestic microgeneration, and, bearing in mind the impacts described in the previous section, it proposes the limits to the developments that should be permitted without the need for a planning application.

3.2 Each technology is described briefly and a table proposes the thresholds beyond which a planning application would be required. The thresholds thus represent the maximum limits to what would be permitted development in each case. The final column of each table explains what areas the suggested thresholds are designed to protect.

3.3 The proposed permitted development thresholds should not be interpreted as suggesting that they are in any sense the 'upper limits' of what would be acceptable in individual circumstances. Government policies for renewable energy make it clear that local planning authorities should consider proposals that would extend beyond the proposed permitted development thresholds positively. The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.

Wind turbines

Technology

3.4 Wind turbines have either horizontal or vertical flow axial blades and may be building-mounted or stand alone.

3.5 There are a number of issues relating to wind turbine developments that need to be considered including noise, vibration, potential interference with radar and aircraft communications, visual impact and effects on biodiversity.

Permitted development proposals

3.6 The Government proposes to amend the GPDO to allow the following types of wind turbines to be permitted development:

Table 1: A wind turbine mounted on a detached dwellinghouse*, subject to the following

Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme	Permitted only if installed and certified through microgeneration certification scheme.	To ensure that the installation meets industry standards.
Location	Not permitted if sited within a NATS/MoD/ CAA safeguarded area.	To safeguard against interfering with air traffic control.
Maximum height	No part should protrude more than 3 metres above the highest part of the roof of the dwellinghouse. Overall height (including building, hub and blade) should not exceed 15 metres.	To manage visual amenity.
Swept area of blade	Maximum of 3.8 square metres. (The equivalent of a blade diameter of 2.2 metres. See **Annex A** for explanation of calculation).	To manage visual amenity.
Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\,min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
Number of turbines	The first installation only of a wind turbine within the curtilage would be permitted, and only if there is no existing air source heat pump within the curtilage of that property. Subsequent wind turbines or air source heat pumps at the same property would require planning permission.	To manage the risk of cumulative noise impact.
Materials	Only non-reflective materials to be used on rotating blades.	To avoid the nuisance of flicker.
Areas where there would be further protection	In World Heritage Sites and Conservation Areas, not permitted if the wind turbine would be visible from any highway which bounds the curtilage of the property.	To manage impact upon the character and appearance of the area.

Table 1: A wind turbine mounted on a detached dwellinghouse*, subject to the following *(continued)*		
Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent an accumulation of unused equipment.
*Refer to **Annex A** for definition of 'dwellinghouse'.		

Table 2: A wind turbine mounted on a freestanding outbuilding within the curtilage of domestic premises, subject to the following		
Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme	Permitted only if installed and certified through microgeneration certification scheme.	To ensure that the installation meets industry standards.
Location	Not permitted if sited within a NATS/MoD/ CAA safeguarded area.	To safeguard against interfering with air traffic control.
Maximum height	No part should protrude more than 3 metres above the highest part of the outbuilding's roof. Maximum overall height (including building, hub and blade) should not exceed 15 metres.	To manage visual amenity.
Swept area of blade	Maximum of 3.8 square metres. (The equivalent of a blade diameter of 2.2 metres. See **Annex A** for explanation of calculation).	To manage visual amenity.
Distance from boundary	No part of the blade to be within 5 metres of the boundary of the curtilage of the property.	To manage visual amenity.

T**able 2:** A wind turbine mounted on a freestanding outbuilding within the curtilage of domestic premises, subject to the following *(continued)*		
Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\ min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
Number of turbines	The first installation only of a wind turbine within the curtilage of the property would be permitted, and only if there is no existing air source heat pump within the curtilage of that property. Subsequent wind turbines or air source heat pumps at the same property would require planning permission.	To manage the risk of cumulative noise impact.
Materials	Only non-reflective materials to be used on rotating blades.	To avoid the nuisance of flicker.
Areas where there would be further protection	In World Heritage Sites and Conservation Areas, planning permission would be required if the wind turbine would be visible from any highway which bounds the curtilage of the property.	To manage impact upon the character and appearance of the area.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Table 3: A stand alone wind turbine within the curtilage of domestic premises, subject to the following		
Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme	Permitted only if installed and certified through microgeneration certification scheme.	To ensure that the installation meets industry standards.
Location	Not permitted if sited within a NATS/MoD/ CAA safeguarded area.	To safeguard against interfering with air traffic control.
Maximum height	Maximum overall height (including hub and blade) of 11.1 metres.	To manage visual amenity.
Swept area of blade	Maximum of 3.8 square metres. (The equivalent of a blade diameter of 2.2 metres. See Annex A for explanation of calculation).	To manage visual amenity.
Setback from boundary	a set-back from the curtilage of the boundary equal in distance to the total height of the installation + 10%	To ensure public safety and to manage visual amenity.
Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\ min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
Number of turbines	The first installation only within the curtilage of a property would be permitted and only if there is no existing air source heat pump within the curtilage of the property. Subsequent wind turbines or air source heat pumps at the same property would require planning permission.	To manage the risk of cumulative noise impact.
Materials	Only non-reflective materials to be used on rotating blades.	To avoid the nuisance of flicker.
Areas where there would be further protection	In World Heritage Sites and Conservation Areas planning permission would be required if the wind turbine would be visible from any highway which bounds the curtilage of the property.	To manage impact upon the character and appearance of the area.

Table 3: A stand alone wind turbine within the curtilage of domestic premises, subject to the following *(continued)*

Limitation / condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Question

Q.1 Do you agree with the proposals for wind turbines on domestic premises, as set out in Tables 1, 2 & 3?

Air source heat pumps

Technology

3.7 Air source heat pumps work on the principle of transferring heat from the air to the building. The pump requires only one unit of electrical energy to create ideally 3 or 4 units of heat energy. Air source heat pumps can also work in reverse, transferring colder air to an inside environment.

3.8 The potential issues of concern for air source heat pumps are noise, vibration and visual impact.

Permitted development proposals

3.9 The Government proposes to amend the GPDO to allow air source heat pumps on domestic premises to be permitted development as follows:

Table 4: An air source heat pump on a domestic premises, subject to the following		
Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme	Permitted only if installed and certified through microgeneration certification scheme.	To ensure that the installation meets industry standards.
Volume	Maximum of 1 cubic metre.	To manage visual amenity.
Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\ min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
Number of air source heat pumps	The first installation only of an air source heat pump on a building would be permitted and only if there is no existing wind turbine within the curtilage of the property. Subsequent wind turbines or air source heat pumps at the same property would require planning permission.	To manage the risk of cumulative noise impact.
Siting on building	Not permitted if visible from and sited on an elevation which fronts a highway.	To manage visual amenity.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Question

Q.2 Do you agree with the proposals for air source heat pumps on domestic premises, as set out in Table 4?

Section 4

Permitted development proposals: Installations on non-domestic premises

Introduction

4.1 This section sets out the Government's detailed proposals for new permitted development rights for non-domestic premises. For the purposes of these proposals, non-domestic premises are only those where there are no residential uses within the premises. Therefore properties in mixed residential and non-residential use would not benefit from the permitted development rights proposed in this section.

4.2 Renewable energy technologies installed in non-domestic settings may allow for a potentially larger scale of equipment than that which may be installed on domestic properties. They can respond to higher demand for energy from non-domestic uses at those properties and have the potential for feed-in tariffs to enable small scale low carbon electricity generators to feed-in excess electricity to the grid.

4.3 The Government proposes to amend Schedule 2 to the GPDO to include a new Part that would set out permitted development rights for renewable and low carbon energy technologies on non-domestic premises.

Wind turbines

Technology

4.4 Wind turbine technology for installations on non-domestic premises is generally the same as that described above for domestic turbines, although equipment would generally be of a larger scale.

4.5 The potential issues of concern for this technology are noise, vibration, potential interference with radar and aircraft communications, visual intrusion and effects on wildlife such as birds and bats.

Permitted development proposals

4.6 The Government proposes that a class of the new Part would permit:

Table 5: A wind turbine mounted on a detached non-domestic building, subject to the following

Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme		Permitted only if installed and certified through the microgeneration certification scheme.	To ensure that the installation meets industry standards.
Location		Not permitted if sited within a NATS/MoD/ CAA safeguarded area.	To safeguard against interfering with air traffic control.
Materials		Only non-reflective materials to be used on rotating blades.	To avoid the nuisance of flicker.
Listed buildings and scheduled monuments		Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning		Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.
Class B2: General Industrial premises	Maximum height	The height of the hub not to exceed 15 metres above ground level, height of the blades not to exceed 18 metres above ground level.	To remain below the EIA screening threshold.
	Distance from boundary	No part of the blade to be within 5 metres of any boundary of the curtilage of the premises.	To manage visual amenity.
	Number of turbines	Maximum of two turbines within the curtilage of the property.	To remain below the EIA screening threshold.

Table 5: A wind turbine mounted on a detached non-domestic building, subject to the following *(continued)*

Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Elsewhere	Maximum height	The blade should protrude no more than 3 metres above the highest part of the roof. The height of the hub not to exceed 15 metres above ground level, height of the blades not to exceed18 metres above ground level.	To remain below the EIA screening threshold and to manage visual amenity.
	Swept area of blade	Maximum of 4.9 square metres. (The equivalent of a blade diameter of 2.5 metres).	To manage visual amenity.
	Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\,min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
	Distance from boundary	No part of the blade to be within 5 metres of any boundary of the curtilage of the premises.	To manage visual amenity.
	Number of turbines	The first installation only of a wind turbine on a building would be permitted and only if there are no existing installations of air source heat pumps on that building. Subsequent installations of wind turbines or air source heat pumps would require planning permission.	To manage the risk of cumulative noise impact.
	Areas where there would be further protection	In World Heritage Sites and Conservation Areas planning permission would be required if the wind turbine would be visible from any highway which bounds the curtilage of the property.	To manage the character and appearance of the area.

Table 6: A stand alone wind turbine on non-domestic premises, subject to the following			
Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme		Permitted only if installed and certified through the microgeneration certification scheme.	To ensure that the installation meets industry standards.
Location		Not permitted if sited within a NATS/ MoD/CAA safeguarded area.	To safeguard against interfering with air traffic control.
Maximum height		The height of the hub not to exceed 15 metres above ground level, height of the blades not to exceed 18 metres above ground level.	To remain below the EIA screening threshold.
Distance from boundary		The set-back from the nearest highway boundary to be equal in distance to the overall height of the installation + 10%.	To ensure public safety.
Distance of blade from ground		Minimum of 5 metres.	To ensure public safety.
Materials		Only non-reflective materials to be used on rotating blades.	To avoid the nuisance of flicker.
Listed buildings and scheduled monuments		Not permitted within the curtilage of a listed. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning		Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.
Class B2: general Industrial premises	Number of turbines	Maximum of two within the curtilage of the property.	To remain below the EIA screening threshold.

Table 6: A stand alone wind turbine on a non-domestic premises, subject to the following *(continued)*

Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Elsewhere	Swept area of blade	Maximum of 28 square metres. (The equivalent of a blade diameter of 6m).	To manage visual amenity.
	Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5\ min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
	Number of turbines	The first installation only of a wind turbine within the curtilage of the property would be permitted and only if there are no existing installations of air source heat pumps within the curtilage of the property. Subsequent installations of wind turbines or air source heat pumps would require planning permission.	To manage the risk of cumulative noise impact.
	Areas where there would be further protection	Not permitted if sited within a World Heritage Site or Conservation Area.	To manage the character and appearance of the area.

Question

Q.3 Do you agree with the proposals for wind turbines on non-domestic premises, as set out in Tables 5 and 6?

Air source heat pumps

Technology

4.7 As for domestic air source heat pumps, thermal energy from outside a building is transferred efficiently to a colder inside environment. Air source heat pumps can also work in reverse, transferring colder air to an inside environment.

4.8 The potential issues of concern for air source heat pumps are noise, vibration and visual impact. The Government's proposals for air source heat pumps in non-domestic settings, reflect those for domestic installations, but with additional restrictions on size and the minimum distance they can be setback from a boundary.

Permitted development proposals

4.9 The Government proposes that a class of the new Part would permit:

Table 7: An air source heat pump on non-domestic premises, subject to the following

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Microgeneration certification scheme	Permitted only if installed and certified through the microgeneration certification scheme.	To ensure that the installation meets industry standards.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.

Table 7: An air source heat pump on non-domestic premises, subject to the following *(continued)*

Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Class B2: General Industrial premises		None (other than above).	
Elsewhere	Volume	Maximum of 2 cubic metres	To manage visual amenity.
	Noise limit	The noise level from the installation must not exceed 45dB $L_{AEQ, 5 min}$ at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade).	To manage the risk of disturbance to neighbouring residential uses.
	Number of installations	The first installation only of an air source heat pump on a building would be permitted and only if there were no existing wind turbine installations. Subsequent installations of air source heat pumps or wind turbines would require planning permission.	To manage the risk of cumulative noise impact.
	Areas where there would be further protection	In World Heritage Sites and Conservation Areas planning permission would be required if visible from any highway which bounds the curtilage of the property.	To manage impact upon the character or appearance of the area.

Question

Q.4 Do you agree with the proposals for air source heat pumps on non-domestic premises, as set out in Table 7?

Ground source heat pumps

Technology

4.10 Ground source heat pumps transfer thermal energy from the ground to a colder internal environment. The Government proposals for non-domestic installations take account of the potentially greater area available for excavation and greater energy needs of non-domestic users.

Permitted development proposals

4.11 The Government proposes that a class of the new Part would permit:

Table 8: A ground source heat pump on non-domestic premises, subject to the following

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Area of excavation	Not to exceed 0.5 hectares.	To protect against risks of disturbance to ecology and groundwater drainage.
Remedial works	Land should be made good following installation.	To protect visual amenity.

Question

Q.5 Do you agree with the proposal for ground source heat pumps on non-domestic premises, as set out in Table 8?

Water source heat pumps

Technology

4.12 Water source heat pumps transfer thermal energy from a source of water to a colder internal environment. As with the other types of heat pump, the Government proposals allow for the potentially greater scale of non-domestic use.

Permitted development proposals

4.13 The Government proposes that a class of the new Part would permit:

Table 9: A water source heat pump on non-domestic premises, subject to the following		
Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Area of pipe work	Not to exceed 0.5 hectares.	To protect against risks of disturbance to ecology and groundwater drainage.

Question

Q.6 Do you agree with the proposal for water source heat pumps on non-domestic premises, as set out in Table 9?

Solar panels

Technology

4.14 There are two types of solar renewable technologies: solar thermal which generates hot water and solar photo voltaics (solar PV) which generate electricty. All the proposals below relate both to solar thermal and solar photovoltaic installations.

4.15 Solar thermal systems use the sun's warmth to heat up water and transmit it through a system of tubes. Solar voltaic systems convert solar energy to electricity. Up to 30 per cent more energy can be achieved if the installations are able to track the movement of the sun.

4.16 The potential issues of concern for this technology relate to visual intrusion.

Permitted development proposals

4.17 The Government proposes that a class of the new Part would permit:

Table 10: Solar Panels mounted on pitched roofs of non-domestic buildings, subject to the following

Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Listed buildings and scheduled monuments		Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Class B2: General Industrial premises		As for other developments on B2 premises.	
Elsewhere	Size	Panels should not extend beyond the limits of the roof.	To manage visual amenity.
	Projection above roof plane	No more than 200 millimetres.	To manage visual amenity.
	Areas where there would be further protection	In World Heritage Sites and Conservation Areas planning permission would be required if visible from any highway which bounds the curtilage of the property.	To manage impact upon the character and appearance of the area.
	Listed buildings and scheduled monuments	Not permitted if sited within the curtilage of a listed building or scheduled monument.	To protect buildings and sites of special architectural or historic interest.
Decommissioning		Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Table 11: Solar Panels attached to flat roofs or the walls of non-domestic buildings, subject to the following conditions and thresholds			
Limitation/ Condition		**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Listed buildings and scheduled monuments		Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Class B2: General Industrial premises		As for other developments on B2 premises.	
Elsewhere	Height of installation	No higher than 1 metre (this would provide for panels to be raised at an angle for attracting sunlight and moveable panels).	To manage visual amenity.
	Distance from the edge of the building	Not less than 1 metre from the edge of the building.	To manage visual amenity.
	Number of panels	No limit subject to the above conditions.	
	Areas where there would be further protection.	In World Heritage Sites and Conservation Areas planning permission would be required if visible from any highway which bounds the curtilage of the property. Panels not to be affixed to walls within a designated town centre.	To manage impact upon the character or appearance of the area. To manage visual impact.
	Listed buildings and scheduled monuments	Not permitted if sited within the curtilage of a listed building or scheduled monument.	To protect buildings and sites of special architectural or historic interest.
Decommissioning		Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Table 12: A stand alone installation of solar panels on non-domestic premises, subject to the following			
Limitation/ Condition		Threshold (beyond which any potential impacts would need to be considered through a planning application)	Justification for proposed threshold
Listed buildings and scheduled monuments		Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Class B2: General Industrial premises		As for other developments on B2 premises.	
Elsewhere	Height of unit	No higher than 4 metres above ground level.	To manage visual amenity.
	Distance from boundary	Minimum of 10 metres.	To manage visual amenity.
	Size of array	Dimension of surface array not to exceed 3 metres x 3 metres.	To manage visual amenity.
	Number of solar panels	Only the first stand alone installation would be permitted.	To manage visual amenity.
	Areas where there would be further protection.	In World Heritage Sites and Conservation Areas, National Parks, Areas of Outstanding Natural Beauty or the Broads not permitted if visible from any highway which bounds the curtilage of the property.	To manage impact upon the character and appearance of the area.
	Listed buildings and scheduled monuments	Not permitted if sited within the curtilage of a listed building or scheduled monument.	To protect buildings and sites of special architectural or historic interest.
Decommissioning		Should be removed as soon as reasonably practicable if no longer needed for microgeneration.	To prevent the accumulation of unused equipment.

Question

Q.7 Do you agree with the Government's proposals for solar panels on non-domestic premises, as set out in Tables 10, 11 and 12?

Flues for biomass systems and combined heat and power (CHP) systems

Technology

4.18 Combined heat and power systems generate heat and power (usually electricity) and biomass systems produce heat from biological material such as wood. Both systems are considered to be carbon neutral as the amount of carbon dioxide absorbed during the growth of the material in question is equal to that emitted during combustion.

4.19 CHP and biomass systems installed in existing buildings do not generally require planning permission. The proposed new permitted development rights in this consultation relate to the installation or replacement of a flue for microgeneration installations i.e. biomass boilers of 45 kW thermal or smaller. The main planning issues in relation to CHP and biomass systems are the impact of cumulative biomass boiler installations on air quality, and visual impact.

Permitted development proposals

4.20 The Government proposes that a class of the new Part would permit:

Table 13: Flues for biomass systems and combined heat and power (CHP) systems on non-domestic premises, subject to the following

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Capacity of the system	45kW thermal or less (i.e. conforming to the definition of microgeneration).	To protect air quality.
The height of a new or replacement flue	Maximum of 1m above the ridge line (or high point of a flat roof), or to the height of an existing flue which is to be replaced (whichever is higher).	To manage visual amenity.
Number of flues	One biomass or CHP system flue per premises.	To protect air quality.
Areas where there would be further protection.	In World Heritage Sites and Conservation Areas planning permission would be required if visible from any highway which bounds the curtilage of the property.	To manage impact upon the character or appearance of the area.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.

Question

Q.8 Do you agree with the proposal for flues for biomass systems and combined heat and power (CHP) systems on non-domestic premises, as set out in Table 13?

Section 5

Permitted development proposals: Amendments to existing Parts 6 (Agricultural buildings and operations) and 7 (Forestry buildings and operations)

Introduction

5.1 In addition to the permitted development rights proposed in the previous two sections, the Government proposes that the following developments shall also be permitted on agricultural and forestry land.

Structures to house biomass boilers anaerobic digestion systems and associated waste and fuel stores.

Technology

5.2 Biomass can be converted to other usable forms of energy as a low-carbon energy source. Conversion technologies can release energy directly in the form of heat or electricity, or they can convert it to another form such as liquid fuel or gas. Agriculture and forestry processes produce various sources of biomass fuel including material from forestry harvesting and timber processing, agricultural residues, energy crops, and waste streams.

5.3 Anaerobic digestion systems produce fuel (methane) from the breakdown of biodegradable material using micro-organisms. They are normally installed on agricultural sites and are usually integrated into a waste management system for agricultural waste. As such, arguably, in rural locations these developments might already be permitted, subject to conditions (in particular a prior notification to the local planning authority) under the existing Part 6 of Schedule 2 to the GPDO.

5.4 The major planning issues in relation to biomass and anaerobic digestion systems relate to air quality, visual impact and the traffic impacts that could arise from sourcing the materials for use in the systems.

Permitted development proposals

5.5 The Government proposes to clarify that Part 6 Class A and Part 7 Class A of Schedule 2 to the GPDO should explicitly permit:

Table 14: The erection of structures to house biomass boilers, anaerobic digestion systems and associated waste and fuel stores, subject to the following

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Source of fuel or waste	Only fuel or waste generated on the farm/ forestry holding is disposed of.	To ensure the scale of operations is commensurate with agricultural or forestry uses
Prior notification (28 days)		As for other developments in Part 6 and 7 of the GPDO.
Other conditions	As for Parts 6 and 7 of the GPDO.	

Question

Q.9 Do you agree with the proposal for structures to house biomass boilers, anaerobic digestion systems and associated waste and fuel stores on agricultural and forestry premises as set out in Table 14?

Structures to house hydro-turbines

Technology

5.6 Hydropower systems produce electricity by converting energy in water to kinetic energy which turns a turbine to generate electricity. In most cases hydroelectric generators require structures to be placed in the watercourse. A weir, for example, may be used to raise the water level to divert the water through a turbine. The possible environmental implications of such structures mean it would not be appropriate to accord them permitted development rights. The main opportunity for the present consultation excerise relates to the buildings required to house turbines if they are constructed on agricultural or forest land.

5.7 The main issue to be considered with hydro electricity schemes is the visual impact of the structure.

Permitted development proposals

5.8 The Government proposes to clarify that Part 6 Class A and Part 7 Class A of Schedule 2 to the GPDO should explicitly permit:

Table 15: The erection of a structure to house hydro-turbines, subject to the following:

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Prior Notification (28 days)		As for other developments in Parts 6 and 7 of the GPDO.
Other conditions	As for Parts 6 and 7 of the GPDO.	

Q.10 Do you agree with the proposal for structures to house hydro-turbines on agricultural and forestry premises, as set out in Table 15?

Section 6

Proposals relating to electric vehicle charging infrastructure

Technology

6.1 Electric vehicle charging infrastructure is developing fast in England and overseas. Few regulatory planning issues have arisen with regard to their installation so far but it is still too soon to understand what the wider implications of the new technologies will be.

6.2 Charging points themselves are no more than electric power outlets. The main concerns for the Government at this stage are to clarify the status of:

- the infrastructure on which charging points are being mounted in off-street external car parking areas and
- the on-street charging infrastructure that is being installed in increasing numbers in London and other English cities

Government proposals

6.3 Part 2 of Schedule 2 to the GPDO permits a number of classes of minor operations such as the provision of fences and gates. The Government proposes to introduce a new class to Part 2 to permit the installation of infrastructure for charging points within both public and private car parking areas.

Table 16: An electrical outlet mounted on an external wall for recharging electric vehicles off-street, subject to the following		
Limitation/ condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Maximum volume	0.5 cubic metre.	To manage visual amenity.
Siting	Not on or set into a wall that faces onto and abuts a highway.	To protect against danger to the public of trailing wires.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for use as a charging point for electric vehicles.	To prevent the accumulation of unused equipment.

Table 17: An upstand for mounting an electric vehicle charging point, and feeder pillar within an outdoor off-street car parking area, subject to the following		
Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Maximum Height	1.6 metres above the surface of the car park.	To manage visual amenity.
Siting	Not within 2 metres of the boundary of a site that fronts the public highway.	To manage visual amenity.
Number of installations	1 per parking space.	To manage visual amenity.
Listed buildings and scheduled monuments	Not permitted within the curtilage of a listed building. Not permitted within a site designated as a scheduled monument.	To protect buildings of special architectural or historic interest and nationally important archaeological sites.
Decommissioning	Should be removed as soon as reasonably practicable if no longer needed for use as a charging point for electric vehicles.	To prevent the accumulation of unused equipment.

6.4 Part 12 of Schedule 2 to the GPDO permits a wide range of minor development by local authorities. The Government proposes to clarify the status of on-street charging infrastructure by amending Part 12 Class A(b) to read:

Table 18:

… 'lamp standards, information kiosks, passenger shelters, public shelters and seats, telephone boxes, fire alarms, public drinking fountains, horse troughs, refuse bins or baskets, barriers for the control of people waiting to enter public service vehicles, **electric vehicle charging points and any associated charging infrastructure** and similar structures or works …'

6.5 Under a new class of the Town and Country Planning (Control of Advertisements) (England) Regulations 2007, the Government proposes to grant deemed consent to the display of the nameplate of the charging point provider and/or the energy supplier on an electric vehicle charging point.

Table 19: Class 17 of the Control of Advertisement Regulations: the nameplate of an electric vehicle charging point provider or energy supplier on an external charging point, subject to the following

Limitation/ Condition	**Threshold** (beyond which any potential impacts would need to be considered through a planning application)	**Justification** for proposed threshold
Size	Maximum of 70 square centimetres each.	To manage visual amenity.
Number	Maximum of two.	To manage visual amenity.
Positioning	If two nameplates are attached, they must be on opposite faces of the charging point, or facing in opposite directions if the charging point is cylindrical.	To manage visual amenity.
Illumination of nameplates	Not permitted.	To manage visual amenity.

Question

Q.11 Do you agree with the permitted development and advertisement deemed consent proposals for electric vehicle charging infrastructure, as set out in Tables 16,17,18 & 19?

Section 7

About the consultation

This consultation document and consultation process have been planned to adhere to the Code of Practice on Consultation issued by the Department for Business Innovation and Skills and is in line with the seven consultation criteria, which are:

1. formal consultation should take place at a stage when there is scope to influence the policy outcome

2. consultations should normally last for at least 12 weeks with consideration given to longer timescales where feasible and sensible

3. consultation documents should be clear about the consultation process, what is being proposed, the scope to influence and the expected costs and benefits of the proposals

4. consultation exercises should be designed to be accessible to, and clearly targeted at, those people the exercise is intended to reach

5. keeping the burden of consultation to a minimum is essential if consultations are to be effective and if consultees' buy-in to the process is to be obtained

6. consultation responses should be analysed carefully and clear feedback should be provided to participants following the consultation

7. officials running consultations should seek guidance in how to run an effective consultation exercise and share what they have learned from the experience

Representative groups are asked to give a summary of the people and organisations the; represent, and where relevant who else they have consulted in reaching their conclusions when they respond.

Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 (DPA) and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the department.

The Department for Communities and Local Government will process your personal data in accordance with DPA and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

Individual responses will not be acknowledged unless specifically requested.

Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

Are you satisfied that this consultation has followed these criteria? If not or you have any other observations about how we can improve the process please contact:

CLG Consultation Co-ordinator
Zone 6/H10
Eland House
London SW1E 5DU

or by e-mail to: consultationcoordinator@communities.gsi.gov.uk

Annexes

ANNEX A: Glossary of terms

The main purpose of this glossary is to define and explain more fully the terms used in the document. But the glossary will also inform the drafting process for the Statutory Instrument that will amend the GPDO. We would therefore like to hear views about the definitions and explanations provided below.

- **Article 1(5) land**
  Areas designated by Article 1(5) of the GPDO for special protection. These areas include National Parks and the Broads, Areas of Outstanding Natural Beauty, Conservation Areas and World Heritage Sites.
- **At 1m from the facade.....at the window to a habitable room of any neighbouring residential property**
  Noise levels decrease as the distance between the source and receiver increase. Therefore it is important to specify the exact location at which the noise limit is to be applied. For these proposals, the exact location is 1 metre from the window of the habitable room in the façade of any neighbouring residential property. This location was chosen in order to protect habitable rooms of neighbouring residential properties from noise.
- **Car parking area**
  Any off-street external area lawfully used to park a car.
- **Curtilage**
  For the purposes of this consultation only, the curtilage of a property is land that is the land associated with and used in connection with the main use of the property.
- **Decibel (dB)**
  A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 Pa, the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is only perceptible under controlled conditions.
- **dB(A)**
  Decibels that incorporate a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness.
- **Designated town centre**
  A town centre designated in a local development plan. May include metropolitan centres, town centres, small suburban centres, and local shopping parades.

- **Detached building**
  A building that does not share a party wall with a neighbouring property.
- **Domestic premises**
  For the purposes of this consultation a building solely used as a place to live in (as defined in Class C3 of the Use Classes Order 1987) and land associated with and used in connection with it.
- **Dwellinghouse**
  For the purposes of this consultation a house standing on its own land in single occupation. A dwellinghouse can be detached, semi-detached or terraced. A dwellinghouse does not include flats, or buildings which have been converted from a purpose-built dwellinghouse into flats.
- **Electric vehicle**
  A vehicle used for the purpose of carrying people and/or goods which derive some or all of their motive power from electricity provided by the national grid or distributed microgeneration source.
- **Electric vehicle charging infrastructure**
  An electricity source and the supporting devices used to recharge an electric vehicle using electricity from the national grid or distributed microgeneration source. Often referred to as charging points.
- **Electric vehicle charging point**
  The electrical outlet that is the source of power for recharging electric vehicles.
- **Habitable Room**
  For purposes of noise measurement, habitable rooms are all rooms in a residential property which are designed to be used as living rooms, bedrooms or kitchens.
- **$L_{AEQ,T}$**
  The equivalent continuous sound level -the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{AEQ,\ 5\ min}$ – refers to the equivalent continuous sound level over a 5 minute period.
- **Microgeneration certification scheme (MCS)**
  MCS is a certification scheme which evaluates microgeneration products and installers against strict criteria using European and ISO technical standards for micro wind turbines, heat pumps including ground and air source heat pumps. MCS is operated by the Department of Energy and Climate Change.
- **Non-domestic premises**
  For the purposes of this consultation these comprise a building occupied for purposes other than as a dwellinghouse (as defined in Class C3 of the Use Classes Order 1987) and any land associated with and used in connection it. They exclude all premises falling within Classes C1, C2 and C2A of Class C3 of the Use Classes Order (1987).

- **Permitted development**
  Minor development which, by virtue of The Town and Country Planning (General Permitted Development) Order 1995 (the GPDO) as amended, does not require an application for planning permission to the local planning authority. Developments that are defined within Parts 1 to 40 of Schedule 2 to the GPDO are said to enjoy permitted development rights (PDRs).
- **Predicted 1m from the facade.....at the window to a habitable room of any neighbouring residential property**
  Noise levels decrease as the distance between the source and receiver increase. Therefore it is important to specify the exact location at which noise predictions are to be made. In this case, the exact location is 1 metre from the window of the habitable room of any neighbouring property in residential use.
- **Residential use**
  For purposes of noise measurement only, a residential use includes all Class C uses within the Town and Country Planning (Use Classes) Order 1987 as amended.
- **Statutory nuisance and planning**
  Case law has established that the fact that the use of land is lawful does not necessarily mean it cannot constitute a public nuisance and that the grant of planning permission is not a licence to commit nuisance. This means that Part 3 of the Environmental Protection Act 1990 which relates to statutory nuisance apply even in circumstances where a planning permission is granted through the GPDO. Enforcement action under the statutory nuisance regime could therefore require the abatement of the nuisance (e.g. a reduction in the noise levels generated) regardless of whether the PD limits and conditions are or have been met.
- **Swept area**
  The swept area is calculated as follows: pi (π) x radius^2. Radius is half the total blade diameter.
- **Under free-field conditions**
  Means that the noise level predicted will not consider any surface that may reflect the noise from the source except the ground. This includes the facade or window that the prediction uses as a point of reference. In reality, a free-field prediction of a noise from a source 1m from a facade will be 2.5dB – 3dB lower than a non free-field measurement at the same position from the same source.

Questions

Q.12 Do you agree with the definitions used for the purposes of this document?

Q.13 Do other concepts or technologies need specific definitions?

Annex B: Consultation stage impact assessments

Summary: Intervention & Options		
Department /Agency: **Communities and Local Government**	**Title:** **Permitted development rights for installations of wind turbines and air source heat pumps on domestic premises**	
Stage: Consultation	**Version:** 1	**Date:** November 2009
Related Publications: Consultation paper *Domestic Installation of Microgeneration: Final report of a review of the permitted development regulations* (Entec, 2007)		

Available to view or download at:
http://www.communities.gov.uk/publications/planningandbuilding/domesticinstallation

Contact for enquiries: Richard Prior **Telephone:** 0303 444 1729

What is the problem under consideration? Why is government intervention necessary?

As part of its climate change strategy, the Government is committed to increasing the generation of renewable energy from microgeneration technologies. The planning application process can be a disincentive to the uptake of microgeneration technologies and thus renewable energy generation, as submitting a planning application for the equipment imposes time and financial costs on the applicant. The Government introduced permitted development rights for most types of domestic microgeneration in April 2008, but unresolved issues meant that it was not possible to introduce these rights for domestic installations of wind turbines and air source heat pumps at that time. Having now progressed the policy position on these technologies, the Government is consulting on introducing permitted development rights for wind turbines and air source heat pumps.

What are the policy objectives and the intended effects?

The objectives are:

- to further encourage the uptake of microgeneration technologies (wind turbines and air source heat pumps) on domestic buildings/land by granting them permitted development rights (thereby removing the need for a planning application)
- to contribute to the Government's renewable energy targets

What policy options have been considered? Please justify any preferred option.

- **Option 1:** Do nothing: do not introduce permitted development rights for the installation of wind turbines and air source heat pumps on domestic premises.
- **Option 2:** Grant permitted development rights for the installation of wind turbines and air source heat pumps on domestic premises.

Option 2 is the preferred option because it removes a disincentive to take up of renewable energy.

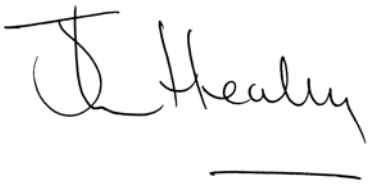
When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

The policy will be reviewed two years after implementation.

Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible minister:



Date: November 2009

Summary: Analysis & Evidence

Policy Option: 2	Description: **Grant permitted development rights for the installation of wind turbines and air source heat pumps on domestic premises**

COSTS

ANNUAL COSTS		Description and scale of **key monetised costs** by 'main affected groups' Annual costs (average per year) Costs to local authorities of increased noise complaints: £190,000-£540,000	
One-off (Transition)	**Yrs**		
£			
Average Annual Cost (excluding one-off)			
£190,000–£540,000		**Total Cost** (PV)	**£1.6m–£4.4m**

Other **key non-monetised costs** by 'main affected groups'.
Costs to householder of purchasing and installing technology have not been monetised at this stage and will be included in any final stage impact assessment. Impacts on third parties of noise and vibration. Adverse visual impacts resulting from poor siting of equipment. Embodied energy costs of microgeneration units.

BENEFITS

ANNUAL BENEFITS		Description and scale of **key monetised benefits** by 'main affected groups' Annual benefits (average per year) Planning application fee savings to householders: £78,000–£100,000 Admin saving to householders: £378,000–£500,000 Carbon savings to society: £3,000–£8,000 Electricity damage savings to society: £1,000–£7,000	
One-off	**Yrs**		
£			
Average Annual Benefit (excluding one-off)			
£500,000–£650,000		**Total Benefit** (PV)	**£3.8m–£5.4m**

Other **key non-monetised benefits** by 'main affected groups'.
Fuel savings for applicants have not been monetised at this stage and will be included in any final stage impact assessment. Secondary benefits as increased demand leads to increased investment in microgeneration technology; reduction in demand for non-renewable energy.

Key Assumptions/Sensitivities/Risks The estimates of costs and benefits are sensitive to the assumptions made around growth in uptake over time. The assessment of the impacts has not taken into account other policies which will affect uptake of these technologies and therefore provides a conservative estimate of the impacts.

Price Base Year 2009	**Time Period Years** 10	**Net Benefit Range** (NPV) **£1m–£2.2m**	**NET BENEFIT** (NPV Best estimate) **£1.6m**

What is the geographic coverage of the policy/option?			England	
On what date will the policy be implemented?			2010	
Which organisation(s) will enforce the policy?			Local authorities	
What is the total annual cost of enforcement for these organisations?			£ see evidence base	
Does enforcement comply with Hampton principles?			N/A	
Will implementation go beyond minimum EU requirements?			N/A	
What is the value of the proposed offsetting measure per year?			£0	
What is the value of changes in greenhouse gas emissions?			£3,000–£8,000	
Will the proposal have a significant impact on competition?			N/A	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	N/A	N/A	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) (Increase – Decrease)

Increase of £0 Decrease of £0.6m–£0.9m **Net Impact £0.6m–£0.9m**

Key:	**Annual costs and benefits: Constant Prices**	**(Net) Present Value**

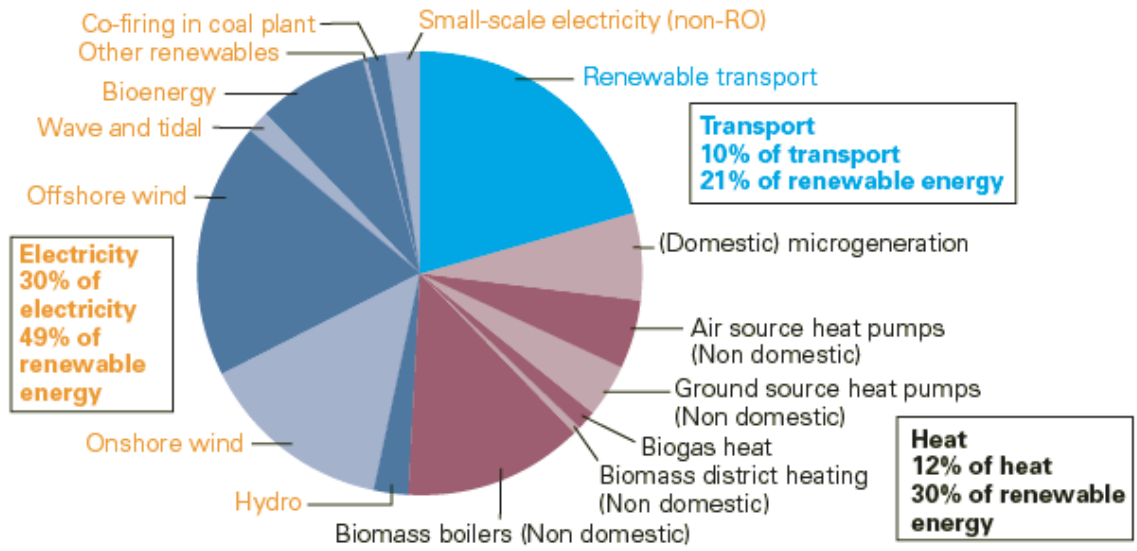
Evidence Base (for summary sheets)

Background

The Government's 2006 Microgeneration Strategy[1] and recent Renewable Energy Strategy[2] intend that microgeneration (the small-scale production of heat and/or electricity from low carbon sources) should become a realistic alternative or supplementary energy generation source for the householder, the community and for small businesses.

The chart below from the UK Renewable Energy Strategy gives an illustrative breakdown of the final shares of different types of renewable technology in 2020 and shows that domestic microgeneration will play an important part in meeting the Government's goal of delivering 15 per cent of energy from renewable sources by 2020.

Illustrative mix of technologies in lead scenario, 2020 (TWh)



Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT internal analysis

[1] http://www.dti.gov.uk/energy/sources/sustainable/microgeneration/strategy/page27594.html

[2] http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx

The planning system and microgeneration

The planning application process can be a disincentive to the uptake of microgeneration technologies – the requirement to obtain planning permission from the local authority before installing microgeneration technologies can be a disincentive to some people. The work and cost involved in applying for planning permission can sometimes seem disproportionate to the scale and impact of what is being proposed. The current planning application fee for householder development is £150. However, the cost is more significant once the costs of producing scaled drawings, the time and effort in filling in the application form, and the potential 8 week waiting period for a decision, are factored in.

In the 2007 Planning White Paper *Planning for a Sustainable Future*[3], the Government outlined its intention to explore the feasibility of introducing permitted development rights for both domestic and non-domestic installations of microgeneration equipment. Permitted development rights remove the requirement to obtain planning permission from the local planning authority, and are normally granted to minor developments subject to conditions designed to protect amenity.

Following public consultation, in April 2008 the Government introduced permitted development rights for most forms of domestic microgeneration, including solar panels. Although included in the consultation, domestic wind turbines and air source heat pumps were not granted permitted development rights at this time due to unresolved technical and practical issues, particularly in relation to noise.

This impact assessment relates to new proposals for granting permitted development rights to installations of wind turbines and air source heat pumps on domestic premises. The reason for consulting again is that the Government's policy position on these technologies has evolved further, and the permitted development parameters (limitations and conditions) that we are now proposing differ from those set in the April 2007 consultation[4] on householder microgeneration.

In particular, the noise level we are now proposing is higher than that previously consulted on. The Government proposed that the noise level from wind turbines and air source heat pumps installed on domestic premises must not exceed 45dB $L_{Aeq, 5\,min}$, at 1 metre from the window of a habitable room in the façade of any neighbouring residential property (but ignoring the effect of that façade). In the April 2007 consultation, the proposed noise limit was 37dB $L_{Aeq, 5\,min}$. The decision to consult on a proposed noise limit of 45dB $L_{Aeq, 5\,min}$ has been informed by:

- the results of the 2007 public consultation
- the need to encourage take up of renewable energy as part of our wider response to climate change

[3] http://www.communities.gov.uk/publications/planningandbuilding/planningsustainablefuture

[4] http://www.communities.gov.uk/archived/publications/planningandbuilding/changespermitted

- varying opinions on the effects of various noise levels on neighbouring properties
- representations from the microgeneration industry

Subject to the outcomes of this consultation, once a noise level for domestic wind turbines and air source heat pumps is prescribed, the Government will review the suitability of the noise level as soon as reasonably practicable after two years of the legislation coming into force to examine whether there is scope to reduce it. For example, if the proposed 45dB $L_{Aeq, 5 min}$ limit were to be accepted initially, a future noise limit could be 37dB $L_{Aeq, 5 min}$.

The Government is concurrently, as part of the same consultation, proposing new permitted development rights for the installation of renewable and low carbon technologies on non-domestic premises. These proposals are the subject of a separate impact assessment.

Rationale for intervention

The Government's recent Renewable Energy Strategy sets out the importance of driving up the use of renewable energy, both to address the priority of climate change and to help guarantee the country's security of energy supply. It recognises that the planning application process may be a disincentive to the uptake of small-scale renewable energy.

Through removing the cost and burden of submitting a planning application, extending permitted development rights to domestic installations of wind turbines and air source heat pumps will incentivise consumer uptake. The increased demand for microgeneration and the increased sales that this would bring should encourage the industry to invest more in research and development leading to improved technology. Economies of scale should also lead to reductions in price, in turn stimulating further demand.

The proposals represent a deregulatory initiative and are in line with the government objective of reducing the regulatory burden on households and industry.

Options

Two options are considered in this impact assessment:

- **Option 1 – 'Do nothing' scenario**
  Do not introduce permitted development rights for installations of wind turbines and air source heat pumps on domestic premises.
- **Option 2 – Grant permitted development rights**
  Grant permitted development rights for the installation of wind turbines and air source heat pumps on domestic premises.

Consultation

The proposals have been informed by the need to encourage take up of renewable energy as part of our wider response to climate change, the responses to the 2007 consultation on householder microgeneration, and representations from the microgeneration industry. Our proposals been developed in consultation with other Government departments, in particular the Department for Energy and Climate Change and the Department for the Environment, Food and Rural Affairs.

Sectors and groups affected

The sectors most likely to be affected by the proposal are:

- households wishing to purchase and install wind turbines and air source heat pumps (particularly those encouraged to do so through reduced planning costs)
- manufacturers and installers of wind turbines and air source heat pumps (who will benefit from greater demand as disincentives to take-up are removed)
- retailers of wind turbines and air source heat pumps (who will experience greater demand for microgeneration technologies as disincentives to take-up are removed)

There may also be secondary effects to:

- planning services/staff at local authorities who will have increased certainty as to what is acceptable without the need for an application for planning permission
- third parties who live in the vicinity of new installations may be affected by visual or noise implications of the new technology
- society more widely will benefit from reduced carbon emissions and electricity damage, as well as increased energy security
- non-renewable energy suppliers who may experience reduced demand for their energy as further disincentives to the take-up of renewables are removed

Cost-Benefit Analysis

Option 1 – 'Do nothing' scenario

There will be no additional costs or benefits from not reforming permitted development for microgeneration. The planning application process would continue to be a disincentive to the take-up of wind turbines and air source heat pumps in domestic settings. Householders would continue to pay planning fees and the administrative costs of making a planning application, and these costs would also deter greater uptake and prevent the carbon and electricity damage savings associated with Option 2 coming about.

Option 2 – Grant permitted development rights

Outline of benefits

In making the assessment of costs and benefits it is important to distinguish between planning applications that would have happened under the "do nothing" scenario, and those cases where this policy change, that is, the introduction of new permitted development rights, would lead to greater uptake.

- Fee savings and administrative cost savings related to making a planning application – these savings apply to all planning applications that would have happened under the "do nothing" scenario. These savings have been **monetised**.
- Carbon savings are assumed to stem from the additional microgeneration units installed due to the removal of the disincentive to uptake. These savings have been **monetised**.
- There will be savings for society from reduced electricity damage costs. Damage costs reflect the external costs that arise from the impact on the environment and human health from electricity generation. These will be reduced due to the increased generation of electricity by wind turbines. These savings have been **monetised**.
- Fuel savings for householders from additional microgeneration units installed due to the removal of the disincentive to uptake. These savings have not been included in the overall costs and benefits at this stage, though the analysis will be revisited in the final stage impact assessment.
- Firms involved in the manufacture, installation or retailing of wind turbines and air source heat pumps will benefit from increased sales and revenues as demand for microgeneration units increases. In turn, this should provide incentives for firms to invest in the development of new technologies for domestic use which will be of benefit to society more widely. As production increases in response to demand, economies of scale will allow cheaper production with reduced embodied energy costs. These benefits are **not monetised**.
- Society will also benefit from greater energy security. Small scale renewable energy production can contribute positively towards renewable energy targets, increasing the overall stock of UK energy supply. These benefits are **not monetised**.

Outline of costs

- Consumers have to face the upfront costs of installation and operation of the units. As mentioned above, the costs and benefits to the consumer of using this technology (i.e. fuel savings and technology costs) are not included in the overall costs and benefits given in this impact assessment. The costs of installation will be further refined in the final stage impact assessment.

- There may be costs to third parties living in the vicinity of new microgeneration equipment as a result of impacts of the installations. These may be noise and vibration impacts, or visual amenity impacts. The permitted development right limitations and conditions that are proposed for wind turbines and air source heat pumps are designed to minimise the impacts that they may have on neighbouring properties and the wider environment. In general the impacts on third parties are **not monetised**.
- Increased noise and vibration may lead to an increased number of complaints to local authority environmental health departments who will have to devote resources to resolving these complaints. These costs have been **monetised**.
- There may also be an increased number of enquiries relating to whether new installations are acceptable and meet the conditions laid out in the permitted development rights. Given that the permitted development rights limitations and conditions that are proposed have been designed to minimise the impacts that they may have on neighbouring properties and the wider environment, it is considered that local authorities should be able to meet the enforcement requirements through their existing enforcement teams and therefore costs are **not monetised** in this impact assessment.
- Householders wishing to install units may want to apply for certificates of lawful development to confirm that any installation is acceptable. The extent to which this might happen is unknown. These applications are less expensive than making a full planning application, but would reduce the estimated benefits to firms wishing to install microgeneration units. These costs have **not** been **monetised**.
- There are costs associated with the embodied energy in the extra microgeneration units produced, that is, the energy required to manufacture these units. There is no available data on the embodied energy costs of different microgeneration units and therefore these costs are **not monetised**.
- If more households get some or all of their energy requirements from microgeneration technologies, there will be a reduced demand for energy from other sources. This imposes costs on more conventional energy providers in terms of lost business. However as a proportion of the total conventional energy market, these reductions in demand will be small.

Monetised benefits and costs

Uptake of microgeneration technology

Existing uptake

In order to estimate the number of planning applications per year that will no longer be required as a result of domestic wind turbines and air source heat pumps becoming 'permitted development', a survey of the number of applications submitted by technology type over a two year period was conducted across a sample of 12 local authorities across England. The results were adjusted to reflect the number of applications that might be expected annually.

The number of applications in the sample was then divided by the number of total planning applications in each authority[5] to calculate the proportion of all applications for each technology type. The average proportion of permissions for each technology type across the sample was then multiplied by the total number of planning applications in England to give an estimate of the baseline number of planning applications which will be affected by the change in policy. Due to the small sample size, there is some uncertainty around these estimates.

Not every new microgeneration unit will meet the requirements to constitute 'permitted development' after the legislative change. However, it is reasonable to assume that the majority of units will meet the requirements, as consumers will have an incentive to choose microgeneration units that are permitted development in order to save planning costs. In addition, the proportion of microgeneration units that meet the requirements over time should increase as manufacturers adapt to meet the permitted development parameters. For our high scenario, the proportion of microgeneration units that meet requirements to constitute permitted development has been chosen to increase from 75 per cent to 100 per cent over the assessment period. For the low scenario, the proportion has been chosen to increase from 50 per cent to 75 per cent.

In the first year following the coming into force of the legislation, the number of applications that would be removed from the planning system as a result of new permitted development rights would be approximately 420 under the low scenario and 620 under the high scenario.

Table 1 shows the estimated number of applications for each type of technology that would be affected between 2010 and 2019 under both low and high scenarios.

[5] The number of planning applications per English planning authority is collated and published by CLG. See http://www.communities.gov.uk/planningandbuilding/planningbuilding/planningstatistics/developmentcontrolstatistics

Table 1: Estimated number of applications that would have been made in the absence of permitted development rights under low and high scenarios 2010-2019

	Scenario	Wind turbines	Air source heat pumps
Option 2	Low	4700	500
	High	6600	700

New uptake

It is also assumed that by removing a disincentive to the installation of these renewable technologies, uptake of these technologies for domestic uses is greater than it would have been under the do nothing scenario.

The planning application process is of course not the only disincentive to greater uptake of renewable technologies. A report by the Energy Savings Trust (EST) for DTI[6] which was based on a survey of 395 stakeholders indicated that the most important barrier to uptake was the high cost of technology (identified by 61 per cent of respondents). Asked to identify the next major barrier to uptake, 43 per cent then identified legislation and regulation constraints.

It is not thought that the planning system provides the sole legislative/regulatory disincentive. The assumptions for growth in uptake are based on the judgement of consultants. Two growth scenarios are envisaged: the low scenario assumes an increase in uptake of 2 per cent per annum whilst the high scenario projects an increase of 5 per cent per annum as a result of the extension of permitted development rights to this type of development.

Consultees are asked to comment on whether these assumptions seem reasonable and the extent to which the planning system currently acts as a disincentive to uptake.

Table 2 shows the expected number of additional microgeneration units that will be installed as the introduction of new permitted development rights encourages increased uptake under the low growth scenario and the high growth scenario. The proposal leads to approximately 1000 extra units under the 2 per cent growth scenario, and an extra 2650 units under the 5 per cent growth scenario.

[6] Potential for Microgeneration Study and Analysis, http://www.berr.gov.uk/files/file27558.pdf

Table 2: Estimated additional units installed due to growth in uptake of the different micro-generation technologies between 2010 and 2019			
	Growth in uptake	**Wind turbines**	**Air source heat pumps**
Option 2	2%	900	90
	5%	2400	250

Future uptake not due to permitted development policy proposal

As well as the proposed new permitted development rights in the planning system, there are likely to be other policy initiatives in the near future which will encourage the uptake of microgeneration technologies. Under the 'do nothing' option, increased installation of microgeneration units as a result of the removal of other disincentives to uptake would potentially place a substantial burden on the planning system as numbers of planning applications for microgeneration units increased.

Feed in tariffs (FITs)

The 2008 Energy Act contains powers for the introduction of FITs in Great Britain to incentivise renewable electricity installations up to a maximum capacity of 5 MW. FITs are a per unit subsidy payment for small-scale renewable electricity generation, and their introduction will create a subsidy network for small-scale low carbon technologies. The Department of Energy and Climate Change have recently consulted on the introduction of FITs including the proposed tariff levels and tariff structure.

Renewable heat incentive

The Department of Energy and Climate Change plans to consult on the Renewable Heat Incentive (RHI) towards the end of 2009, and published research alongside the Renewable Energy Strategy[7] which estimated the potential uptake of renewable heating technologies if subsidies were used to address the cost difference between using existing technologies and using renewable technologies. The modelling of uptake also took into account different assumptions about the growth of supply capacity. The research results suggest that a step change in the use of microgeneration technology might be possible if the RHI policy were implemented. The uptake figures given in the report (and shown for air source heat pumps in Table 3 below) are of a different order of magnitude to those used in the analysis in this impact assessment. If there were a shift in renewable heat uptake of this size, the proposed changes to the planning system under Option 2 would lead to many more planning applications being taken out of the planning system, and the benefits of making the change would be considerably larger.

[7] NERA/AEA (2009), The UK Supply Curve for Renewable Heat, http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx

Table 3: Estimated growth in renewable heat units [by 2020] for domestic use under RHI	
Technology	**Units**
Air Source Heat Pumps	221,000

The figures in Table 3 for projected installations have not, however, been used to inform our analysis of the costs and benefits at this stage for the following reasons:

- DECC has recently consulted on FITs and will consult on the RHI towards the end of 2009. The research relating to the RHI is being further refined before that consultation and there may be further changes to the figures quoted above. Given the uncertainty around the figures at this stage, this impact assessment focuses on the immediate costs and benefits that the proposed new permitted development rights in the planning system will bring, while acknowledging that the other policy proposals relating to the uptake of microgeneration technology have the potential to magnify those costs and benefits substantially. This issue will be reconsidered as part of the analysis for the final impact assessment.
- It is not clear how to use the figures appropriately. The projected number of installations is broken down into domestic and non-domestic uses but does not take into account whether units would meet the criteria for permitted development rights. Making assumptions based on the very large numbers of units potentially involved could lead to a significant overestimate of the benefits of the change. This issue will also be considered further for any final stage impact assessment.

Savings from reduced cost of planning applications

Making a planning application incurs the following costs:

- direct cost: the planning application fee
- indirect costs: transaction costs such as professional fees, production of scaled drawings etc

If the requirement to seek planning permission were removed these costs would no longer be incurred. The saving per application would be as follows:

- planning fee is £150
- administrative cost is £725[8]

This produces a total saving of £875 per installation.

[8] Based on the PwC Administrative Burdens Measurement Project. The transaction cost of a minor application was calculated as £1450. It was assumed that a householder consent would cost half of this, or £725.

Table 4 below sets out estimates of the average annual savings for householders from the reduced number of planning applications they need to make. These projections are based on the estimated savings in terms of application fees and administrative costs. The low end estimate is based on the number of planning applications saved under the assumption that in 2010, 50 per cent of wind turbines and air source heat pumps installed comply with the limitations of the GPDO. The high end estimate is based on the number of planning applications saved when that assumption is raised to 75 per cent.

Table 4: Estimated annual savings from the reduced number of planning applications

Savings		**Low**	**High**
Average annual saving*	Fee savings	£78,000	£100,000
	Admin savings	£378,000	£500,000
TOTAL ANNUAL SAVINGS		£456,000	£600,000

*Note that the annual saving grows over time due to the assumed switch to installation of units which meet requirements to be installed under permitted development rights.

Savings from reduced carbon emissions

Microgeneration provides a more environmentally sustainable form of energy production than non-renewable sources. It has been possible to calculate the potential carbon savings from the increases in take-up of wind turbines and air source heat pumps. A number of assumptions have been made in the calculation:

- The increase in take-up was estimated according to the methodology described above.
- Potential savings in gas and electricity were then calculated on the basis of typical electricity and gas consumption provided by Entec[9] of 22,000kWh per household. This has been broken down into electricity and gas consumption using an average breakdown of fuel use.

  Electricity consumption: 4,500 kWh

  Gas consumption range: 16,000 kWh

- Different technologies will lead to different energy savings. Table 5 shows the estimated saving associated with the different technologies based on the professional experience of the consultants. Note that air source heat pumps use grid electricity in their operation but would be able to meet all of a household's heating and hot water requirements.

[9] Entec for CLG (2007) Domestic Installation of Microgeneration Final Report.

Table 5: Percentage energy savings associated with the different microgeneration technologies		
Energy	**Wind turbines**	**Air source heat pumps**
Electricity	40%	–30%
Gas	0%	100%

- the savings in average energy use were calculated for each technology and an emissions factor applied to estimate the reduction in carbon in tonnes.
- these reductions in carbon emissions can be converted into monetary savings using DECC advice on carbon valuation[10]

Table 6 shows the average annual carbon savings for the proposal based on the assumptions above when compared with Option 1 ('do nothing'). The low scenario in this case takes the estimated number of extra units installed given the low growth assumption of 2 per cent, annually and the high scenario assumes growth in extra units installed of 5 per cent annually.

Table 6: Estimated annual carbon savings		
Savings	**Option 2**	
	Low	**High**
Average annual saving	£3,000	£8,000

The figures above underestimate potential greenhouse gas savings as an assessment period of 10 years has been used – however the lifespan of most microgeneration equipment will be much longer. The Energy Savings Trust estimates the lifespan of wind turbines for domestic uses and air source heat pumps as approximately 20 years. This assessment does not take into account the cost of embodied energy due to there being insufficient evidence on the embodied costs of different microgeneration technologies.

Savings due to improved air quality

Electricity damage costs reflect the external costs that arise from the impact on the environment and human health from electricity generation. These are not reflected in the price of electricity. Switching to cleaner sources of electricity generation will result in reduced external costs to society as traditional fossil fuel systems exhibit the highest external costs in electricity generation. The estimated damage costs were applied to the difference in estimated electricity consumption per applicant (with and without the use of microgeneration technologies). This cost saving per applicant was then applied to the estimated uptake in microgeneration technology types. The following assumption was used:

[10] See http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/valuation/valuation.aspx

- Damage costs of 0.006 – 0.017 £/kWh were provided by consultants and based on external costs of energy from AEA Technology and adjusted to reflect the UK fuel mix. These estimates exclude the carbon element within the damage costs, so as not to double count the effects as carbon savings have been calculated already.

Table 7 shows the estimated savings from reduced electricity damage costs under a low and high scenario. The low scenario in this case takes the estimated number of extra units installed given the low growth assumption of 2 per cent, and the electricity damage assuming low-end damage costs, while the high scenario takes the estimated number of extra units installed given the high growth assumption of 5 per cent, and the electricity damage assuming high-end damage costs.

Table 7: Estimated annual electricity damage savings

Savings	**Option 2**	
	Low	**High**
Average annual savings	£1,000	£7,000

Costs relating to noise and vibration impacts

Costs to local authorities:

Local authorities may receive increased numbers of complaints about noise which may place increased demands on local authority environmental health departments.

There is uncertainty as to the extent of potential noise problems which may result from introducing permitted development rights for domestic wind turbines and air source heat pumps. Moreover, the views of the industry and noise experts differ greatly. Evidence which allows us to assess the possible impact of the proposals on the numbers of noise complaints is limited. Noise specialists have estimated the likely level of complaints when wind turbines are installed at the proposed noise limits and these estimates have been used in calculating costs for this impact assessment (see assumptions below). Microgeneration industry sources suggest that the proportion of all noise complaints relating to existing installations is very low (around 0.2% of over 200,000 domestic noise complaints). However, it should be noted that existing installations of wind turbines will have been through the process of obtaining planning permission and therefore any potential noise impact should have been assessed as part of that process.

The following assumptions have been made in calculating the estimated costs of increased numbers of noise complaints:

- Estimates of the likelihood of complaints from the installation of wind turbines in domestic settings, made for the Department of the Environment, Food and Rural Affairs (DEFRA) by noise specialists, assume that there is a positive likelihood of complaints when the source noise exceeds background noise levels by 10dB or more, with the likelihood of complaints increasing as the difference between the source noise and the background noise level increases[11]. Their work suggests that a 10dB difference between a source noise of 45dB $L_{Aeq, 5\ min}$ and background noise could occur in up to 97 per cent of cases. Whether this in fact occurs will depend on a number of variables, such as the position on the turbine on the dwelling i.e. the front façade (noisier) of rear façade (quieter) and time of day. This work also suggests that a maximum source noise level of 37dB could produce a similar situation in up to 82 per cent of cases. The costs in the summary sheet refer only to the scenario in which a 45dB $L_{Aeq, 5\ min}$ limit is maintained for 10 years (scenario A). If a noise limit of 45dB $L_{Aeq, 5\ min}$ is set initially and then, upon review, reduced to 37dB $L_{Aeq, 5\ min}$, the costs of this scenario are presented here for comparison (scenario B).
- The low estimates of costs have been calculated assuming the low growth assumptions and the lower probability of complaints, while the high estimates of costs have been calculated using the high growth assumptions and the higher probability of complaints.
- The cost of an extra complaint will depend on the action taken by the environmental health department. Table 8 sets out the costs and the percentage of complaints that these costs will apply to. The costs of investigation of a complaint and serving a noise abatement notice are based on an average salary of an environmental health officer of around £35,000[12], with a 20 per cent increase for superannuation and ERNIC costs. This gives an hourly cost of around £27, which has been increased to £38 as night visits may necessitate contractors completing site visits.

[11] The National Noise Incidence Survey (2000) provides evidence on background noise levels across England. British Standard 4142 states that there is a positive indication that complaints are likely when the specific noise level exceeds the background noise level by 10dB.

[12] Idea Local Government Careers website http://www.lgcareers.com/career-descriptions/protecting-your-community/environmental-health-officer/

Table 8: Estimated costs of noise complaints for environmental health departments		
Action taken	**% of complaints**	**Cost of each complaint to environmental health department**
Investigation	100%	£380
Serve noise abatement notice	10 – 15%[13]	£760
Prosecution	1%	£10,000

Consultation responses are sought as to whether these estimated costs are of the right order. During the consultation period, CLG will engage with local authority environmental health departments to further refine these estimates.

Using the assumptions outlined above, it is estimated that, during the first year following the legislation coming into force, there could be between 240 and 650 extra complaints from both wind turbines and air source heat pumps. There are approximately 360 local planning authorities across England. If an assumption is made that the number of units installed is spread evenly across local authorities, this would suggest each local authority would be dealing with between one and two extra complaints in 2010. However the assumption that units would be installed across all local authorities is likely to be unrealistic, as there are spatial differences in wind speeds which will affect the viability of installing wind turbines in certain locations.

Table 9 shows the monetised costs incurred by local authorities environmental health departments based on the estimated number of complaints. The costs of Scenario A, when the noise limit of 45dB $L_{Aeq, 5\,min}$ is maintained over the 10 year period, have been included in the summary sheets and taken into account in calculating the net present value of costs and benefits. Results for Scenario B are shown for comparison and have not been included in the summary of total costs and benefits.

Table 9: Average annual cost of complaints under low and high take up		
	Average annual cost of extra noise complaints	
	Scenario A	**Scenario B**
Low	£190,000	£63,000
High	£540,000	£470,000

[13] Assumption on number of complaints leading to a noise abatement notice based on University of Salford research for BERR: www.berr.gov.uk/files/file40570.pdf

Costs of noise to third parties:

Third parties living close to new installations may find that there is increased noise or vibration. It has been not possible to monetise the economic cost faced by third parties relating to noise, as guidance produced by the Interdepartmental Group on Costs and Benefits only applies to noise over the 45dB $L_{Aeq, 5\,min}$ limit is being proposed for permitted development rights for wind turbines and air source heat pumps.

A key risk is that residents in a particular locality might be affected by the cumulative impact of a number of new wind turbines or air source heat pumps sited close together within a small area. This might lead to a noise level above 45dB $L_{Aeq, 5\,min}$. This risk is thought to be minimal for the following reasons:

- The proposed permitted development rights would apply only to the first wind turbine or air source heat pump installed, if there were no existing installations of either technology. If a householder wished to install another unit (either wind turbine or air source heat pump), then planning permission would be needed. The planning application process would allow the consideration of all impacts of the installation of additional units including noise on those living nearby.
- When the estimated number of installations which will occur under permitted development rights is averaged across approximately 360 planning authorities, this estimate gives just under four extra units per authority that would be installed as 'permitted development'. This suggests that there is a very low probability that installations will be situated so close to each other as to have a cumulative effect on residents in a particular locality.
- Local authorities are able to use Article 4 directions to withdraw permitted development rights in their area. If the prospective cumulative impact of noise in an area is of such concern, Article 4 directions may be used to require that planning permission is sought from the local planning authority for particular classes of permitted development. This would allow for the planning application process to assess all potential impacts.

Costs relating to installation and operation of microgeneration technologies

The Energy Savings Trust website provides some indication of the costs of installation and operation of wind turbines and air source heat pumps[14]. Table 10 sets these out.

Table 10: Indicative costs of installing and operating of wind turbines and air source heat pumps

Technology	Cost of installation	Running costs	Power provided
Wind turbines	£1,500 + for a roof mounted turbine £11,000 – £19,000 for a stand alone turbine	£0 day to day though some maintenance costs over lifetime of machinery	1 – 2kW 2.5kW – 6kW
Air source heat pumps	£5,000 – £9,000	£790 per annum	5kW

These costs have not been included in the total costs and benefits in this consultation stage impact assessment. Further work will be done to include the analysis of the costs of using this technology in a final stage impact assessment alongside the benefits to consumers of fuel savings and attempt to identify the proportion of wind turbines under permitted development which are likely to be roof mounted and the proportion which will be stand alone. The costs of installing these technologies are not insignificant and may not be offset by fuel savings over the ten year period which this assessment considers.

Costs relating to visual impacts on landscape

With the likely increase in installations of wind turbines and air source heat pumps; there is likely to be a visual impact on the landscape. It is proposed to minimise this risk through appropriate limitations and conditions for permitted development.

Other costs to local authorities

The proposed permitted development rights would allow installations of these renewable energy technologies to be installed without the need to obtain planning permission from the local planning authority – this will have the effect of reducing workloads for planning departments. Planning authorities should only face further costs if there are complaints from third parties which lead to enforcement activity. In the generality of cases, we would not expect such complaints given that the proposed permitted development right limitations and conditions are designed to minimise the impacts that they may have on neighbouring properties and the wider environment. But there may be some level of complaints in respect of wind turbines and air source heat pumps due to noise impacts. Such complaints would normally be investigated by the environmental health departments and these have been taken in account elsewhere. Planning officers may become involved in enforcement activity, although we think that the greater clarity provided by setting out

[14] Energy Savings Trust http://www.energysavingtrust.org.uk/Generate-your-own-energy/Wind-turbines, http://www.energysavingtrust.org.uk/Generate-your-own-energy/Air-source-heat-pumps

limits and conditions for permitted development should reduce the need for enforcement activity generally. On balance, it is considered that local authorities should be able to meet their planning enforcement requirements through their existing enforcement teams.

Implementation

If these proposals are adopted, permitted development rights would be granted through an amendment to the Town and Country Planning (General Permitted Development) Order 1995 (the GPDO).

Monitoring

It will be necessary to have data on the purchase and installation of microgeneration units which are covered by permitted development rights in order to monitor whether the expected benefits of the policy are delivered. Further consideration will need to be given to the best way to evaluate the success or otherwise of the policy, given that any increase in uptake may be due to other policy changes in future years.

Similarly, in order to monitor the impact of the policy on local authority environmental health departments, it will be necessary to consider any increase in domestic noise complaints. The extent to which any increase is due to the effects of this policy would probably best be examined through a case study analysis.

Specific impact tests

Competition assessment

An assessment of the potential competition effects of the options has been undertaken. The main conclusions that can be drawn at this stage are that:

- Household electricity and gas are supplied mainly by large energy supply companies. The options discussed in this impact assessment are likely to have relatively negligible affects on their operations. If take-up of domestic microgeneration were to rapidly increase, however, this may potentially result in increasing activity in this sector from such companies (indeed, a number of major energy supply companies are already active in the microgeneration industry). Furthermore, increased take-up of microgeneration may provide price competition with the more conventional fossil fuels.
- Fewer restrictions to planning regulation are likely to make microgeneration products more competitive and may stimulate greater demand for their products. This is turn may allow these companies to benefit from economies of scale in their production techniques with greater mechanisation and worker productivity. The result may be a reduction in costs to microgeneration products which in turn may stimulate further demand. This will be especially relevant for microgeneration technologies under 12.5kW (or those that are 'small' and ready for the domestic market).

- It is possible that more short term research and development and efforts will be focused on smaller scale renewable technologies rather than creating efficient and affordable larger scale technologies. This may affect the achievement of renewable energy targets depending on the level of take-up of smaller scale microgeneration technologies.
- Fewer planning restrictions may reduce barriers to market entry for new businesses. Smaller microgeneration manufacturers may face a more favourable environment compared to the current situation. However, existing firms which are already more efficient in their production methods may be able to create barriers to entry through competitive pricing (thereby reducing the profitability of entry).

In relation to effects on competitiveness with countries outside the UK, the following conclusions have been drawn:

- UK based companies are likely to benefit from fewer restrictions. All other factors being equal, increased demand may help these companies reduce their production costs through economies of scale. A reduction in their price might make them more competitive in the international market, with potential knock on effects of increasing demand and further reductions in price. This may also mean more available funds for innovation and R&D.

Small firms' impact test

There will be positive impacts for small firms involved in the manufacturing or installation of microgeneration units. In addition, small firms involved in the supply chains of these firms could benefit.

On the other hand, some categories of small firm involved in assisting with householder planning permissions may be negatively affected by this proposal:

- surveyors/consultants who may provide advice to local planning authorities and households;
- architects/drafting firms to prepare scale drawings for planning permission

Householder applications for micro wind turbines currently make up less than 1%[15] of householder applications. The overall impact on these industries should therefore be small.

Legal aid

None of the options has a legal aid impact.

[15] Based on the survey and development control statistics.

Sustainable development

There is real potential for the increased use of microgeneration to contribute greatly to meeting our future energy needs in a sustainable way.

Other environment

Increased take-up of householder microgeneration will have some effect on landscape and visual amenity as described in the cost-benefit analysis. This should be limited due to the proposed conditions attached to the permitted development rights, particularly in relation to conservation areas and World Heritage Sites.

Carbon assessment

Microgeneration provides a more environmentally sustainable form of energy production than non-renewable sources. A greater use of this technology would lead to lower emissions of carbon dioxide.

Health impact assessment

The proposals as set out with accompanying conditions are designed to minimise any adverse health impacts.

Race equality assessment

As required by the Race Relations (Amendment) Act 2000 we have also examined whether any of the options would affect any groups or communities (e.g. black and ethnic minority groups) differentially. We believe that they would not.

Disability equality

None of the options has a disability equality impact.

Gender equality

None of the options has a gender equality impact.

Human rights

The Convention rights most relevant to the proposals contained in the consultation document are Article 8 of the Convention (right to respect for private and family life) and Article 1 of the First Protocol to the Convention (protection of property).

It is not anticipated that there are any issues raised by the proposals that would result in non compliance with the Human Rights Act 1998. It is considered that the proposals are proportionate and strike a balance between the rights of those who wish to exercise the permitted development rights to be granted and those who may be affected by their implementation.

Legislation to extend rights to install microgeneration equipment on property in domestic and non-domestic use will be brought forward following public consultation and any changes will be made in accordance with existing legislative procedures in the Town and Country Planning Act 1990. In the Government's view, these arrangements are compatible with the Human Rights Act 1998.

Rural proofing

Microgeneration equipment installations could have a potential aesthetic impact in rural areas. However, the density of installations that would come about because of the domestic permitted development rights proposed in the consultation document are likely to be comparatively low, and not unduly harm the visual character of rural areas.

Enforcement, sanctions and monitoring

It is anticipated that the current regime of enforcement, sanctions and monitoring of development will be maintained and not need alteration in the light of the proposals.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	Results in Evidence Base?	Results annexed?
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	Yes	No
Sustainable Development	Yes	No
Carbon Assessment	Yes	No
Other Environment	Yes	No
Health Impact Assessment	Yes	No
Race Equality	Yes	No
Disability Equality	Yes	No
Gender Equality	Yes	No
Human Rights	Yes	No
Rural Proofing	Yes	No

Annexes

Calculation of administration burdens baseline

Assumptions made:

- the estimated range in the number of planning applications in 2010 that will become permitted development as a result of these proposals used to calculate the reduction in admin burdens: **420 – 630**
- it is assumed that **78 per cent** of these planning (householder) applications are completed by businesses on behalf of householders[16]
- the estimates of burdens from an exercise on Administrative Burdens carried out by Pricewaterhousecoopers (PwC) are then used to calculate total admin burden savings. These are £725 for planning transaction costs and £547 for the provision of ownership certificate burden[17]
- administrative burden savings range: **£0.4m – £0.6m**
- no adjustment has been made to the savings to adjust them to 2005 prices. This is because the £725 and £547 estimates are taken from the PwC Administrative Burdens exercise and have not been inflated to 2009 prices

[16] Householder Development Consents Review: Survey of Applicants and Neighbours http://www.communities.gov.uk/documents/planningandbuilding/pdf/151327.pdf

[17] The burden for ownership certificates has not been included in the main impact assessment due to uncertainty over its calculation. However it is appropriate to include in the assessment of the impact on the administrative burden baseline as it was included in the original assessment of administrative burdens.

Summary: Intervention & Options		
Department /Agency: Communities and Local Government	**Title:** Permitted development rights for installation of a range of renewable energy and low carbon technologies on non-domestic premises	
Stage: Consultation	**Version:** 1	**Date:** November 2009
Related Publications: Consultation paper		

Available to view or download at:

Contact for enquiries: Richard Prior **Telephone:** 0303 444 1729

What is the problem under consideration? Why is government intervention necessary?

As part of its climate change strategy, the Government is committed to increasing the generation of renewable energy from renewable energy and low carbon technologies. The planning system can present a barrier to the uptake of these technologies and thus renewable energy generation, as submitting a planning application for the installation of the equipment imposes time and financial costs on the applicant. The Government introduced permitted development rights for most types of domestic microgeneration in April 2008 (with the exception of wind turbines and air source heat pumps). The Government is now consulting on introducing permitted development rights for the remaining domestic technologies (the subject of a separate impact assessment) and installations of renewable energy and low carbon technologies on non-domestic premises (the subject of this impact assessment).

What are the policy objectives and the intended effects?

The objectives are:

- to encourage the uptake of renewable energy and low carbon technologies on non-domestic premises (wind turbines, air source heat pumps, ground source heat pumps, water source heat pumps, solar panels, biomass combined heat and power systems, hydro systems, anaerobic digestion systems) by granting them permitted development rights (thereby removing the need for a planning application)
- to contribute to the Government's renewable energy targets

What policy options have been considered? Please justify any preferred option.

- **Option 1:** Do nothing: do not introduce permitted development rights for the installation of wind turbines and air source heat pumps on domestic premises.
- **Option 2:** Grant permitted development rights for the installation of a range of renewable and low carbon technologies on non-domestic premises.

Option 2 is the preferred option because it removes a disincentive to take up of renewable energy.

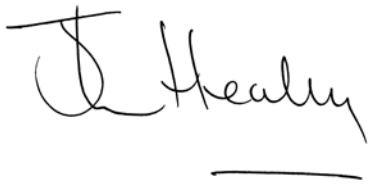
When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

The policy will be reviewed two years after implementation.

Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible minister:



Date: November 2009

Summary: Analysis & Evidence

Policy Option: 2	Description: **Grant permitted development rights for the installation of a range of renewable and low carbon technologies on non-domestic premises**

COSTS

ANNUAL COSTS		Description and scale of **key monetised costs** by 'main affected groups' Annual costs (average) Costs to local authorities of increased noise complaints due to installation of wind turbines and air source heat pumps: £50,000-£130,000 Air pollution damage costs: £9,800-£39,500	
One-off (Transition)	**Yrs**		
£0			
Average Annual Cost (excluding one-off)			
£0.06m–£0.17m	10	**Total Cost** (PV)	**£0.5m–£1.4m**

Other **key non-monetised costs** by 'main affected groups'.
Costs to the non-domestic sector of purchasing and installing technology have not been monetised at this stage and will be considered in any final stage impact assessment. Adverse visual impacts resulting from poor siting of equipment. Embodied energy costs of microgeneration units.

BENEFITS

ANNUAL BENEFITS		Description and scale of **key monetised benefits** by 'main affected groups' Annual benefits (average) Planning application fee savings to firms: £250,000–£350,000 Admin saving to firms: £660,000–£920,000 Carbon savings to society: £22,000–£2,100,000 Electricity damage savings to society: £10,000–£740,000	
One-off	**Yrs**		
£			
Average Annual Benefit (excluding one-off)			
£0.9m–£4.1m	10	**Total Benefit** (PV)	**£7.6m–£32.7m**

Other **key non-monetised benefits** by 'main affected groups'.
Secondary benefits to society from increased investment in microgeneration technology. Fuel savings for firms installing microgeneration units. Reduction in demand for non-renewable energy.

Key Assumptions/Sensitivities/Risks The estimate of costs and benefits are sensitive to the assumptions made around growth in uptake over time. The assessment of the impacts has not taken into account other policies which will affect uptake of these technologies and therefore provides a conservative estimate of the impacts.

Price Base Year 2009	**Time Period Years** 10	**Net Benefit Range** (NPV) **£7m–£31m**	**NET BENEFIT** (NPV Best estimate) **£19m**

What is the geographic coverage of the policy/option?			England	
On what date will the policy be implemented?			2010	
Which organisation(s) will enforce the policy?			Local authorities	
What is the total annual cost of enforcement for these organisations?			£ see evidence base	
Does enforcement comply with Hampton principles?			N/A	
Will implementation go beyond minimum EU requirements?			N/A	
What is the value of the proposed offsetting measure per year?			£0	
What is the value of changes in greenhouse gas emissions?			£22,000–£2.1m	
Will the proposal have a significant impact on competition?			N/A	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	N/A	N/A	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) See annex B for calculation (Increase – Decrease)

Increase of £0 Decrease of £0.7m–£1.1m **Net Impact £0.7m–£1.1m**

Key:	**Annual costs and benefits: Constant Prices**	**(Net) Present Value**

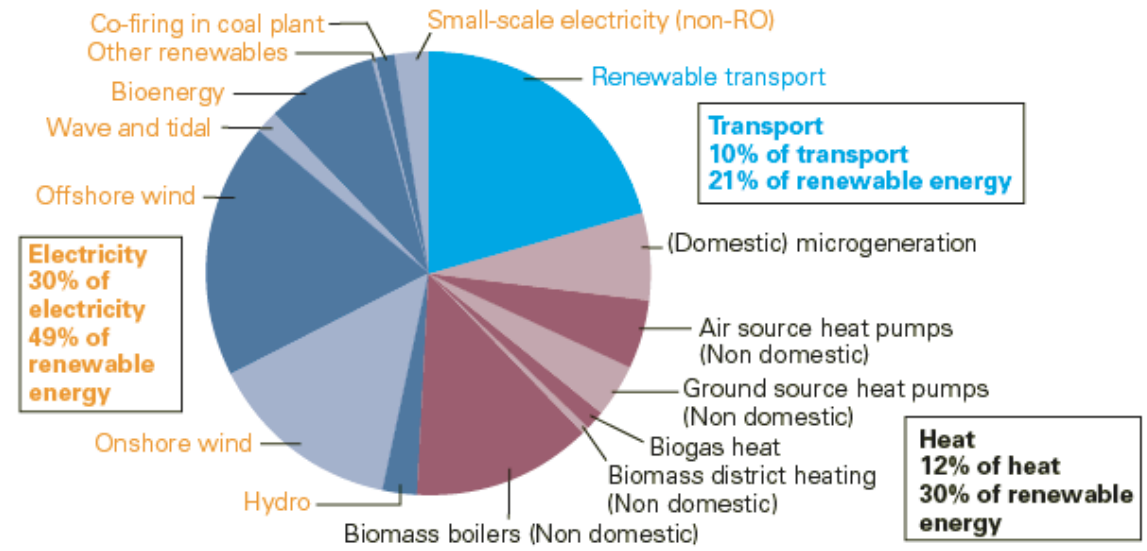
Evidence Base (for summary sheets)

Background

The Government's 2006 Microgeneration Strategy[18] and recent Renewable Energy Strategy[19] intend that microgeneration (the small-scale production of heat and/or electricity from low carbon sources) should become a realistic alternative or supplementary energy generation source for the householder, the community and for businesses.

The chart below from the UK Renewable Energy Strategy gives an illustrative breakdown of the final shares of different types of renewable technology in 2020 and shows that non-domestic microgeneration will play an important part in meeting the Government's goal of delivering 15 per cent of energy from renewable sources by 2020.

Illustrative mix of technologies in lead scenario, 2020 (TWh)



Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT internal analysis

[18] http://www.dti.gov.uk/energy/sources/sustainable/microgeneration/strategy/page27594.html

[19] http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx

The planning system and microgeneration

The planning system can present a barrier to the uptake of microgeneration technologies – the requirement to obtain planning permission from the local authority before installing microgeneration technologies can be a disincentive to some people. The work and cost involved in applying for planning permission can sometimes seem disproportionate to the scale and impact of what is being proposed. The current fee for applying for planning permission for non-domestic development varies depending on the scale of the proposal. However, the cost is more significant once the costs of producing scaled drawings, the time and effort in filling in the application form, and the potential 8 week waiting period for a decision, are factored in.

In the 2007 Planning White Paper *Planning for a Sustainable Future*[20], the Government outlined its intention to explore the feasibility of introducing permitted development rights for both domestic and non-domestic installations of microgeneration equipment. Permitted development rights remove the requirement to obtain planning permission form the local planning authority, and are normally granted to minor developments, subject to conditions designed to protect amenity.

Domestic technologies

Following public consultation, in April 2008 the Government introduced permitted development rights for most forms of domestic microgeneration, including solar panels. Although included in the consultation, domestic wind turbines and air source heat pumps were not granted permitted development rights at this time due to unresolved technical and practical issues, particularly in relation to noise. As part of this consultation exercise, the Government is again consulting on permitted development rights for domestic wind turbines and air source heat pumps. These proposals are the subject of a separate impact assessment.

Non domestic technologies

In July 2007 CLG commissioned Entec Ltd to review the scope for extending permitted development rights to renewable energy and low carbon technologies on non-domestic premises. Entec presented their final report in February 2008, followed by a technical report, which CLG commissioned separately, on impacts. This impact assessment is based on Entec's report in that the methodology used is the same. However, CLG has introduced some changes to the assumptions made which have resulted in some differences in the overall analysis. The differences between the assumptions made for this assessment and Entec's original assumptions are outlined in Annex A.

[20] http://www.communities.gov.uk/publications/planningandbuilding/planningsustainablefuture

Rationale for intervention

The Government's recent Renewable Energy Strategy sets out the importance of driving up the use of renewable energy, both to address the priority of climate change and to help guarantee the country's security of energy supply. It recognises that the planning system may act as a barrier to the uptake of small-scale renewable energy.

Through removing the cost and burden of submitting a planning application, extending permitted development rights to renewable energy and low carbon technologies on non-domestic premises will help to incentivise consumer take up. The increased demand for microgeneration and the increased sales that this would bring should encourage the industry to invest more in research and development leading to improved technology. Economies of scale should also lead to reductions in price, in turn stimulating further demand.

The proposals represent a deregulatory initiative and are in line with the Government objective of reducing the regulatory burden on households and industry.

Options

Two options are considered in this impact assessment:

- **Option 1 – 'Do nothing' scenario**
  Do not introduce permitted development rights for the installation of renewable energy and low carbon technologies on non-domestic premises.
- **Option 2 – Grant permitted development rights**
  Grant permitted development rights for the installation of a range of renewable and low carbon technologies on non-domestic premises (wind turbines, air source heat pumps, ground source heat pumps, water source heat pumps, solar panels, biomass combined heat and power systems, hydro systems, anaerobic digestion systems).

Cost and benefit analysis

Option 1 – 'Do nothing' scenario

Maintaining the status quo would not lead to additional costs or benefits. The barriers presented by the planning system to the take-up of renewable and low carbon technologies by non-domestic consumers would remain in place, with firms continuing to face the costs associated with obtaining planning permission if they wanted to install a microgeneration unit. The barrier would lead to lower growth in the uptake of small scale renewable energy and thus lower carbon savings for society. The installation of new microgeneration units would continue to be considered through the planning application process, which would involve an assessment of the impacts of proposals on third parties. This might lead to fewer complaints about noise or visual impact than under Option 2.

Option 2 – Grant permitted development rights

Sectors and groups affected

- non-domestic parties wishing to install microgeneration units who would previously have had to make a planning application; and particularly those who choose to do so because the planning barrier to installation has been removed
- manufacturers, installers and retailers of microgeneration equipment, all of whom will benefit from greater demand for their products as barriers to take-up are removed
- third parties living in the vicinity of new microgeneration installations
- wider society affected by reduction in carbon emissions
- planning services/staff at local authorities who will have increased certainty as to what is acceptable without the need for an application for planning permission
- non-renewable energy suppliers who may experience reduced demand for their energy as barriers to the take-up of renewables are removed

Outline of benefits

In making the assessment of costs and benefits it is important to distinguish between planning applications that would have happened under the 'do nothing' scenario, and those cases where this policy change, that is, the introduction of new permitted development rights, would lead to greater take-up.

- Fee savings and administrative cost savings related to making a planning application – these savings apply to all planning applications that would have happened under the 'do nothing' scenario. These savings have been **monetised**.
- Carbon savings from the additional microgeneration units installed due to the removal of the barrier to uptake. These savings have been **monetised**.
- Fuel savings for firms from additional microgeneration units installed due to the removal of the barrier to take up. These savings have not been monetised at this stage though the analysis will be revisited in the final stage impact assessment.
- Firms involved in the manufacture, installation or retailing of microgeneration units will benefit from increased sales as demand for microgeneration units increases and revenues. In turn this should provide incentives for firms to invest in the development of new technologies which will benefit society more widely. As production increases in response to demand, economies of scale will allow cheaper production with reduced embodied energy costs. These savings are **not monetised**.
- Society will also benefit from greater energy security. Small scale renewable energy production can contribute positively towards renewable energy targets, increasing the overall stock of UK energy supply. These benefits have **not** been **monetised**.

Outline of costs

- Consumers also have to face the upfront costs of installation and operation of the units. As with the fuel savings for the consumer, the costs to the consumer of using this technology have not been monetised in this impact assessment. The costs of installation will be addressed in the final stage impact assessment.
- There may be costs to third parties living in the vicinity of new microgeneration equipment as a result of the impacts of the installations. These impacts may be related to noise and vibration, visual amenity or air pollution. The proposals for permitted development rights include limitations and conditions that are designed to reduce the impacts that these technologies may have on neighbouring properties and the wider environment. Only the damage costs of emissions resulting from the installation of additional biomass units are **monetised** in this impact assessment. The other costs are **not monetised** in this impact assessment though the impact of complaints resulting from noise and vibration has been considered.
- Increased noise and vibration from wind turbines and air source heat pumps may lead to an increased number of complaints to local authority environmental health departments who will have to investigate these complaints. An estimate of the number of extra complaints that might be expected has been made and the costs of complaints have been **monetised**. Installations of wind turbines and air source heat pumps on Class B2 General Industrial premises[21] are assumed not to lead to extra complaints due to the high level of background noise that already exists on such land. However installations on property or buildings used for shops, offices or institutions are assumed to have an impact.
- There may also be an increased number of enquiries relating to whether new installations are acceptable and meet the conditions laid out in permitted development rights. Given that the limitations and conditions proposed for the exercise of permitted development rights have been designed to reduce the impacts that they may have on neighbouring properties and the wider environment, it is considered that local authorities should be able to meet any enforcement requirements stemming from those enquiries through their existing enforcement teams. These costs have **not** been **monetised**.
- Firms wishing to install units may want to apply for certificates of lawful development to confirm that any installation is acceptable. The extent to which firms may want to do this is unknown. These applications are less expensive than making a full planning application, but would reduce the estimated benefits to firms wishing to install microgeneration units. These costs have **not** been **monetised**.

[21] Class B2: General Industrial: Use class as per the Town and Country Planning (Use Classes) Order 1987 (as amended)

- There are costs associated with the energy required to manufacture the extra microgeneration units produced to meet an increased demand. There is no available data on the energy costs of manufacturing different microgeneration units. These costs have **not** been **monetised**.
- If more firms get some or all of their energy requirements from microgeneration technologies there will be a reduced demand for energy from other sources. This imposes costs on more conventional energy providers in terms of lost business. However as a proportion of the total conventional energy market, these reductions in demand will be small. These costs have **not** been **monetised**.

Monetised benefits and costs

Uptake of microgeneration technology

Existing uptake

In order to estimate the number of planning applications per year that will no longer be required as a result of these technologies becoming permitted development, a survey of the number of applications submitted by technology type was conducted by Entec for a sample of 20 local authorities across England and Wales. For the purposes of this impact assessment, the results for the 17 local authorities in England have been used to estimate the number of planning permissions that will be affected by the policy change.

The number of applications in the sample was then divided by the number of total planning applications in each authority[22] to calculate the proportion of all applications for each technology type. The average proportion of permissions for each technology type across the sample was then multiplied by the total number of planning applications in England to give an estimate of the baseline number of planning applications which will be affected by the change in policy. Entec did not provide information about anaerobic digestion systems or hydro installations and therefore costs and benefits relating to these types of installations have not been quantified.

An adjustment has then been made to estimate the number of planning applications that will be saved over the 10 year assessment period:

- Not every new microgeneration unit will meet the requirements to constitute permitted development after the legislative change. However, it is reasonable to assume that the majority of units will meet the requirements, as consumers will have an incentive to choose microgeneration units that are permitted development in order to save planning costs. In addition, the proportion of microgeneration units that meet the requirements over time should increase as manufacturers adapt to meet the permitted development parameters. For our high scenario, the proportion of microgeneration units that meet requirements

[22] The number of non householder applications per English planning authority is collated and published by CLG. See http://www.communities.gov.uk/planningandbuilding/planningbuilding/planningstatistics/developmentcontrolstatistics

to qualify as permitted development has been assumed to increase from 75 per cent to 100 per cent over the assessment period. For the low scenario, the proportion has been assumed to increase from 50 per cent to 75 per cent.

Given these assumptions, in the first year following the legislation coming into force, there would be a reduction in the number of planning applications made to local authorities as a result of the new permitted development rights of approximately 400 under the low scenario and 500 under the high scenario.

Table 1 shows the estimated number of reductions in applications for each type of technology that would be affected between 2010 and 2019 under both low and high scenarios.

Table 1: Total number of applications that would have been made in the absence of permitted development rights under low and high scenarios 2010-2019

		Solar thermal	Solar PV	Wind turbines	Heat pumps*	Micro CHP	Biomass
Option 2	Low	680	290	3110	190	30	230
	High	950	410	4350	270	40	320

*Entec assumed that 25 per cent of heat pump applications were related to ground source heat pumps and 75% to air source heat pumps.

Future uptake due to permitted development policy proposal

It is also assumed that by removing a barrier to the installation of these renewable technologies, uptake of these microgeneration technologies for non-domestic uses is greater than it would have been under the do nothing scenario.

The planning system is of course not the only barrier to greater uptake of renewable technologies. A report by the Energy Savings Trust (EST) for DTI[23] which was based on a survey of 395 stakeholders indicated that the most important barrier to take up was the high cost of technology (identified by 61 per cent of respondents). Asked to identify the next major barrier to take up, 43 per cent then identified legislation and regulation constraints.

It is not thought that the planning system provides the sole legislative/regulatory barrier. The assumptions for growth in uptake are based on the judgement of consultants. Two growth scenarios are envisaged: the low scenario assumes an increase in uptake of 2 per cent per annum whilst the high scenario projects an increase of 5 per cent per annum as a result of the extension of permitted development rights to this type of development.

Consultees are asked to comment on whether these assumptions seem reasonable and the extent to which the planning system currently acts as a disincentive to uptake.

[23] Potential for Microgeneration Study and Analysis, http://www.berr.gov.uk/files/file27558.pdf

Table 2 shows the expected number of additional microgeneration units that will be installed as the introduction of new permitted development rights encourages increased uptake under both the low growth scenario and the high growth scenario. Option 2 leads to an extra 800 units under the 2 per cent growth scenario, and an extra 2300 units under the 5 per cent growth scenario over the ten years to 2019.

Table 2: Estimated total growth in the uptake of the different microgeneration technologies between 2010-2019

	Growth in take up	Solar thermal	Solar PV	Wind turbines	Heat pumps	Micro CHP	Biomass
Option 2	2%	126	54	581	36	5	43
	5%	347	149	1594	99	13	117

Future uptake not due to permitted development policy proposal

As well as the proposed new permitted development rights in the planning system, there are likely to be other policy initiatives in the near future which will encourage the uptake of microgeneration technologies. Under the 'do nothing' option, increased installation of microgeneration units as a result of the removal of other barriers to uptake would potentially place a substantial burden on the planning system by increasing the number of planning applications.

Feed in tariffs (FITs)

The 2008 Energy Act contains powers for the introduction of FITs in Great Britain to incentivise renewable electricity installations up to a maximum capacity of 5 MW. FITs are a per unit subsidy payment for small-scale renewable electricity generation, and their introduction will create a subsidy network for small-scale low carbon technologies. The Department of Energy and Climate Change have recently consulted on the introduction of FITs including the proposed tariff levels and tariff structure.

Renewable heat incentive

The Department of Energy and Climate Change (DECC) plans to consult on the Renewable Heat Incentive (RHI) towards the end of 2009, and published research alongside the Renewable Energy Strategy[24] which estimated the potential uptake of renewable heating technologies if subsidies were used to address the cost associated with using renewable technologies rather than traditional technologies. The modelling of uptake also took into account different assumptions about the growth of supply capacity. The research results suggest a possible step change in the use of microgeneration technology if the RHI policy were implemented. The take up figures given in the report (and shown in Table 3 below) are of a different order of magnitude to those used in the analysis in this impact assessment. If there was a shift in renewable heat uptake of this size, the proposed changes to the planning system under Option 2 would lead to many more planning applications being taken out of the planning system, and much greater associated impacts.

[24] NERA/AEA (2009), The UK Supply Curve for Renewable Heat, http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx

Table 3: Estimated growth in renewable heat units by 2020 for non domestic use under RHI	
Technology	**Units**
Air Source Heat Pumps	23000
Ground Source Heat Pumps	34000
Biomass	3000

The figures in Table 3 have not, however, been used to inform our analysis at this stage for the following reasons:

- DECC has recently consulted on FITs and will consult on the RHI towards the end of 2009. The research relating to the RHI is being further refined before that consultation and there may be further changes to the figures quoted above. Given the uncertainty around the figures at this stage, this impact assessment focuses on the immediate costs and benefits that the proposed new permitted development rights in the planning system will bring, while acknowledging that the other policy proposals relating to the uptake of microgeneration technology have the potential to magnify those costs and benefits substantially. This issue will be reconsidered as part of the analysis for the final impact assessment.
- It is not clear how to use the figures appropriately. The projected number of installations is broken down into domestic and non-domestic uses but does not take into account whether units would meet the criteria for permitted development rights. Making assumptions based on the very large numbers of units potentially involved could lead to a significant overestimate of the benefits and costs of the change. This issue will also be considered further for any final stage impact assessment.

Savings from reduced cost of planning applications

Making a planning application incurs the following costs:

- direct cost: the planning application fee
- indirect costs: transaction costs such as professional fees, production of scaled drawings etc

If the requirement to seek planning permission were removed these costs would no longer be incurred. The saving per non domestic application would be as follows:

- the planning fee for a minor application varies depending on site size. Fees for applications relating to plant and machinery are £335 per 0.1 hectare. An average planning fee of £550 for minor applications has been calculated previously by CLG and this has been used for the estimates of benefits made here

- the administrative cost of putting in a planning application is assumed to be £1,450[25]

Table 4 sets out estimates of the average annual savings for firms from the reduced number of planning applications they need to make. These projections are based on the estimated savings in terms of application fees and administrative costs.

Table 4: Estimated annual savings from the reduced number of planning applications

Savings		**Option 2**	
		Low	**High**
Average annual saving*	Fee savings	£250,000	£350,000
	Admin savings	£660,000	£920,000
TOTAL ANNUAL SAVINGS		£910,000	£1,270,000

*Note that the annual saving grows over time due to the assumed switch to installation of units which meet requirements to be installed under permitted development rights

Savings from reduced carbon emissions

Microgeneration provides a more environmentally sustainable form of energy production than non-renewable sources. It has been possible to calculate the potential carbon savings from the increases in take-up of microgeneration units. A number of assumptions have been made in the calculation:

- The increase in take-up due to the policy change was estimated using the assumptions described above leading to between 2 per cent and 5 per cent annual growth.
- Potential savings in gas and electricity were then calculated on the basis of a range of typical electricity and gas consumption provided by Entec. Energy consumption is likely to vary substantially according to the type of non-domestic use. Low scenario energy consumption has been estimated based on uses such as warehousing, while the high scenario energy consumption has been based on non-domestic uses such as hospitals and schools. The variation in typical energy consumption leads to a very wide range in the estimate of carbon savings.

  Electricity consumption range: 40,000 – 650,000 kWh

  Gas consumption range: 78,000 – 4,000,000 kWh
- Different technologies will lead to different energy savings. Table 5 shows the estimated saving associated with the different technologies based on the professional experience of the consultants. A negative value reflects the fact that a particular technology uses electricity or gas to operate.

[25] Based on the PwC Administrative Burdens Measurement Project. The transaction cost of a minor application was calculated as £1450.

Table 5: Percentage energy savings associated with different microgeneration technology

Energy	Solar thermal	Solar PV	Wind turbines	Heat pumps	Micro CHP	Biomass
Electricity	0%	40%	40%	-30%	20%	0%
Gas	60%	0%	0%	100%	-15%	70%

- the savings in energy use were calculated for each technology and an emissions factor applied to estimate the reduction in carbon
- these reductions in carbon emissions can be converted into monetary savings using DECC advice on carbon valuation[26]

Table 6 shows the average annual carbon savings associated with Option 2 based on the assumptions outlined above. The low scenario in this case uses the estimated number of extra units installed given the low growth assumption of 2 per cent, and the carbon savings assuming low-end energy consumption, whilst the high scenario reflects the high growth assumptions and assumes high-end energy consumption. It is the range in electricity consumption that leads to the big difference in the two estimates.

Table 6: Estimated annual carbon savings

Savings	Option 2	
	Low	High
Average annual saving	£22,000	£2,110,000

The figures above may underestimate potential greenhouse gas savings as an assessment period of 10 years has been used – however the lifespan of most microgeneration equipment will be much longer. This assessment does not take into account the embodied energy cost due to there being insufficient evidence on the embodied costs of different microgeneration technologies.

Savings due to improved air quality

Electricity damage costs reflect the external costs that arise from the impact on the environment and human health from electricity generation. These are not reflected in the price of electricity. Switching to cleaner sources of electricity generation will result in reduced external costs to society as traditional fossil fuel systems exhibit the highest external costs in electricity generation. The estimated damage costs were applied to the difference in estimated electricity consumption per applicant (with and without the use of microgeneration technologies). This cost saving per applicant was then applied to the estimated uptake in microgeneration technology types. The following assumption was used:

[26] See http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/valuation/valuation.aspx

- Damage costs of 0.006 – 0.017 £/kWh were provided by Entec and based on external costs of energy from AEA Technology, adjusted to reflect the UK fuel mix. These estimates exclude the carbon element within the damage costs, so as not to double count the effects as carbon savings have been calculated already.

Table 7 shows the estimated savings from reduced electricity damage costs under a low and high scenario. The low scenario in this case takes the estimated number of extra units installed given the low growth assumption of 2 per cent, and the electricity damage assuming low-end damage costs, while the high scenario takes the estimated number of extra units installed given the high growth assumption of 5 per cent, and the electricity damage assuming high-end damage costs.

Table 7: Estimated annual benefits from improved air quality

Savings	**Option 2**	
	Low	**High**
Average annual saving	£10,000	£740,000

Costs relating to noise and vibration impacts

Costs to local authorities

Local authorities may receive increased numbers of complaints about excessive noise which will place increased demands on local authority environmental health departments.

There is uncertainty as to the extent of potential noise problems which may result from introducing permitted development rights for wind turbines and air source heat pumps. Moreover, the views of the industry and noise experts differ greatly. Evidence which allows us to assess the possible impact of the proposals on the numbers of noise complaints is limited. Noise specialists have estimated the likely level of complaints when wind turbines are installed at the proposed noise limits and these estimates have been used in calculating costs for this impact assessment (see assumptions below). Microgeneration industry sources suggest that the proportion of all noise complaints relating to existing installations is very low (around 0.2 per cent of over 200,000 domestic noise complaints). However, it should be noted that existing installations of wind turbines will have been through the process of getting planning permission and therefore any potential noise impact should have been assessed as part of that process.

The following assumptions have been made in calculating the estimated costs of increased numbers of noise complaints:

- Estimates of the likelihood of complaints from the installation of wind turbines in domestic settings, made for the Department of the Environment, Food and Rural Affairs (DEFRA) by noise specialists, assume that there is a positive likelihood of complaints when the source noise exceeds background noise levels by 10dB or more, with the likelihood of complaints increasing as the difference between the

source noise and the background noise level increases[27]. Their work suggests that a 10dB difference between a source noise of 45dB $L_{Aeq, 5\,min}$ and background noise could occur in up to 97 per cent of cases. Whether this in fact occurs will depend on a number of variables, such as the position on the turbine on the dwelling i.e. the front façade (noisier) of rear façade (quieter) and time of day. This work also suggests that a maximum source noise level of 37dB $L_{Aeq, 5\,min}$ could produce a similar situation in up to 82 per cent of cases. The costs in the summary sheet refer only to the scenario in which a 45dB $L_{Aeq, 5\,min}$ limit is maintained for 10 years (scenario A). If a noise limit of 45dB $L_{Aeq, 5\,min}$ is set initially and then, upon review reduced to 37dB $L_{Aeq, 5\,min}$, the costs would be reduced, as shown in Table 9 on Scenario B.

- The low estimates of costs have been calculated assuming the low growth assumptions and the lower probability of complaints, while the high estimates of costs have been calculated using the high growth assumptions and the higher probability of complaints.
- The cost of an extra complaint will depend on the action taken by the environmental health department. Table 8 sets out the costs and the percentage of complaints that these costs will apply to. The costs of investigation of a complaint and serving a noise abatement notice are based on an average salary of an environmental health officer of around £35,000[28], with a 20 per cent increase for superannuation and ERNIC costs. This gives an hourly cost of around £27, which has been increased to £38 as night visits may necessitate contractors completing site visits.

Table 8: Estimated costs of noise complaints for environmental health departments

Action taken	% of complaints	Cost of each complaint to environmental health department
Investigation	100%	£380
Serve noise abatement notice	10 – 15%[29]	£760
Prosecution	1%	£10,000

Consultation responses are sought as to whether these estimated costs are of the right order. During the consultation period, CLG will engage with local authority environmental health departments to further refine these estimates.

[27] The National Noise Incidence Survey (2000) provides evidence on background noise levels across England. British Standard 4142 states that there is a positive indication that complaints are likely when the specific noise level exceeds the background noise level by 10dB.

[28] http://www.lgcareers.com/career-descriptions/protecting-your-community/environmental-health-officer/

[29] Assumption on number of complaints leading to a noise abatement notice based on University of Salford research for BERR: www.berr.gov.uk/files/file40570.pdf

Using the assumptions outlined above, in the first year following the legislation coming into force it is estimated that there would be between 60 and 160 extra complaints from both wind turbines and air source heat pumps on non-domestic premises. There are approximately 360 local planning authorities across England. If an assumption is made that the number of units installed is spread evenly across local authorities, this would suggest each local authority would be dealing with less than one extra complaint in 2010 although the assumption that units would be installed across all local authorities is likely to be unrealistic, as there are spatial differences in wind speeds which will affect the viability of installing wind turbines in certain locations.

Table 9 shows the monetised costs incurred by local authorities environmental health departments based on the estimated number of complaints. The costs of Scenario A, when the noise limit of 45dB $L_{Aeq, 5\,min}$ is maintained over the 10 year period, have been included in the summary sheets and taken into account in calculating the net present value of costs and benefits. Results for Scenario B are shown for comparison and have not been included in the summary of total costs and benefits.

Table 9: Average annual cost of complaints under low and high take up

	Average annual cost of extra noise complaints	
	Scenario A	**Scenario B**
Low	£50,000	£15,000
High	£130,000	£115,000

Costs to third parties

Third parties living close to new installations may find that there is increased noise or vibration from small wind turbines or air source heat pumps. It is assumed that these extra noise impacts will only apply when these types of microgeneration units are installed on premises not used for general industry (Class B2 of the UCO), for example, premises used for shops, offices or institutions. This is because Class B2 general industrial premises are assumed to usually be situated further from residential areas and to have a high level of background noise already. The impact of installing microgeneration units on these sites is assumed to be negligible in terms of extra impact on third parties.

It has been not possible to monetise the economic cost faced by third parties relating to noise, as guidance from the Interdepartmental Group on Costs and Benefits only applies to noise over the 45dB $L_{Aeq, 5\,min}$ limit is being proposed for permitted development rights for wind turbines and air source heat pumps.

A key risk is that residents living in a particular locality near non-domestic premises might be affected by the cumulative impact of a number of new wind turbines or air source heat pumps sited on non-domestic properties in a small area. This might lead to a noise level above 45dB $L_{Aeq, 5\,min}$. This risk is thought to be minimal for three reasons:

- The proposed permitted development rights would place limits on the number of units that may be installed within the boundaries of non-domestic premises (with the exception of Class B2: General Industrial premises). Only the first wind turbine or air source heat pump installed would be permitted development, if there were no existing installations of either technology. If a firm wished to install another unit (either a wind turbine or air source heat pump), then they would first need to obtain planning permission for this. The planning application process would allow the consideration of all impacts of the installation of additional units including noise on those living nearby.
- Under high growth assumptions an estimated 320 new units would be installed without planning permission on non-industrial sites in 2019. (Shops, offices and institutions uses account for 40 per cent of commercial property in England[30]) When this number of installations is averaged across approximately 360 planning authorities, this gives just under 1 extra unit per authority which be installed as permitted development. This suggests that there is a very low probability that installations will be situated so close to each other as to have a cumulative effect on residents in a particular locality.
- Local authorities are able to use Article 4 directions to withdraw permitted development rights in their area. If the prospective cumulative impact of noise in an area is of such concern, Article 4 directions may be used to require that planning permission is sought from the local planning authority for particular classes of permitted development. This would allow for the planning application process to consider all potential impacts.

Costs relating to emissions from biomass technology

Biomass installations emit nitrogen oxides and particulate matter. The damage costs associated with these emissions have been calculated using damage costs provided by the Department for the Environment, Food and Rural Affairs. The assumptions made in the calculation of the costs are as follows:

- the costs are calculated for the extra biomass units installed as a result of the change in planning policy under both low and high growth scenarios
- the emissions are calculated assuming 45kw/h output running at 100 per cent capacity for 24 hours a day, 365 days a year. Units with a 45kw/h output are the largest units that will be allowed under the permitted development regulations, so assuming output at this level for all the extra units, these calculations may overestimate the costs

[30] CLG statistics for Commercial and Industrial Property

- the damage costs are uplifted by 2 per cent each year following Department of Health advice
- although biomass units have an expected lifetime of 20 years, estimates of damage costs have been made for the 10 year period 2010 to 2019. This will underestimate the costs over the lifetime of the units

Table 10: Average annual cost of emissions from biomass technology under low and high growth assumptions (over a 10 year period)

Costs	**Option 2**	
	Low	**High**
Average annual cost	£9,800	£39,500

Discussion of other non-monetised costs

Costs relating to installation and operation of microgeneration technologies

The costs to consumers of installing and operating the microgeneration technologies covered by the policy proposal have not been included in the total costs and benefits in this consultation stage impact assessment. Further work will be done to incorporate analysis of the costs of using this technology in a final stage impact assessment alongside the benefits to consumers of fuel savings. The costs of installing these technologies are not insignificant and may not be offset by fuel savings over the ten year period which this assessment considers.

Visual amenity impacts

With the likely increase in installations of renewable energy and low carbon technologies, there are likely to be increased visual amenity impacts as a result of the installations. It is proposed to minimise this risk through appropriate limitations to permitted development and/or conditions.

Other costs to local authorities

The proposed permitted development rights would allow installations of these renewable energy technologies to be installed without the need to obtain planning permission from the local planning authority – this will have the effect of reducing workloads for planning departments. Planning authorities should only face further costs if there are complaints from third parties which lead to enforcement activity. In the generality of cases, we would not expect such complaints given that the proposed permitted development right limitations and conditions are designed to minimise the impacts that they may have on neighbouring properties and the wider environment. However, there may be some level of complaints in respect of wind turbines and air source heat pumps due to noise impacts. Such complaints would normally be investigated by the environmental health departments and these have been taken in account elsewhere. Planning officers may become involved in enforcement activity, although we think that the greater clarity provided by setting out

limits and conditions for permitted development should reduce the need for enforcement activity generally. On balance, it is considered that local authorities should be able to meet their planning enforcement requirements through their existing enforcement teams.

Implementation

If these proposals are adopted, permitted development rights would be granted through an amendment to the Town and Country Planning (General Permitted Development) Order 1995 (the GPDO).

Monitoring

It will be necessary to have data on the purchase and installation of microgeneration units which are covered by permitted development rights in order to monitor whether the expected benefits of the policy are delivered. Further consideration will need to be given to the best way to evaluate the success or otherwise of the policy, given that any increase in uptake may be due to other policy changes in future years.

Similarly, in order to monitor the impact of the policy on local authority environmental health departments, it will be necessary to consider any increase in domestic noise complaints. The extent to which any increase is due to the effects of this policy would probably best be examined through a case study analysis.

Specific impact tests

Competition assessment

An assessment of the potential competition effects of the options has been undertaken. The main conclusions that can be drawn at this stage are that:

- Non domestic energy electricity and gas are supplied mainly by large energy supply companies. The options discussed in this Impact Assessment are likely to have relatively negligible affects on their operations. If take-up of non domestic microgeneration were to rapidly increase, however, this may potentially result in increasing activity in this sector from such companies (indeed, a number of major energy supply companies are already active in the microgeneration industry). Furthermore, increased take-up of microgeneration may provide price competition with the more conventional fossil fuels.
- Fewer restrictions to planning regulation are likely to make microgeneration products more competitive and may stimulate greater demand for their products. This is turn may allow these companies to benefit from economies of scale in their production techniques with greater mechanisation and worker productivity. The result may be a reduction in costs to microgeneration products which in turn may stimulate further demand.

- It is possible that more short term research and development and efforts will be focused on smaller scale renewable technologies rather than creating efficient and affordable larger scale technologies. This may affect the achievement of renewable energy targets depending on the level of take-up of smaller scale microgeneration technologies.
- Fewer planning restrictions may reduce barriers to market entry for new businesses. Smaller microgeneration manufacturers may face a more favourable environment compared to the current situation. However, existing firms which are already more efficient in their production methods may be able to create barriers to entry through competitive pricing (thereby reducing the profitability of entry).

In relation to effects on competitiveness with countries outside the UK, the following conclusions have been drawn:

- UK based companies are likely to benefit from fewer restrictions. All other factors being equal, increased demand may help these companies reduce their production costs through economies of scale. A reduction in their price might make them more competitive in the international market, with potential knock on effects of increasing demand and further reductions in price. This may also mean more available funds for innovation and R&D.

Small firms impact test

There should be positive impacts for small firms involved in the manufacturing or installation of microgeneration units. In addition, small firms involved in the supply chains of these firms could benefit.

On the other hand, some categories of small firm involved in assisting with non householders' planning permissions may be negatively affected by this proposal:

- surveyors/consultants who may provide advice to local planning authorities and households
- architects/drafting firms to prepare scale drawings for planning permission

Non householder applications for microgeneration installation currently make up less than 1 per cent[31] of non householder applications. The overall impact on these industries should therefore be small.

Legal aid

None of the options has a legal aid impact.

[31] Based on the survey and development control statistics.

Sustainable development
There is real potential for the increased use of microgeneration to contribute greatly to meeting our future energy needs in a sustainable way.

Other environment
Increased take-up of non householder microgeneration will have some effect on landscape and visual amenity.

Carbon assessment
Microgeneration provides a more environmentally sustainable form of energy production than non-renewable sources. A greater use of this technology would lead to lower emissions of carbon dioxide.

Health impact assessment
The proposals as set out with accompanying conditions are designed to minimise any adverse health impacts.

Race equality assessment
As required by the Race Relations (Amendment) Act 2000 we have also examined whether any of the options would affect any groups or communities (e.g. black and ethnic minority groups) differentially. We believe that they would not.

Disability equality
None of the options has a disability equality impact.

Gender equality
None of the options has a gender equality impact.

Human rights
The Convention rights most relevant to the proposals contained in the consultation document are Article 8 of the Convention (right to respect for private and family life) and Article 1 of the First Protocol to the Convention (protection of property).

It is not anticipated that there are any issues raised by the proposals that would result in non compliance with the Human Rights Act 1998. It is consider that the proposals are proportionate and strike a balance between the rights of those who wish to exercise the permitted development rights to be granted and those who may be affected by their implementation.

Legislation to extend rights to install microgeneration equipment on property in domestic and non-domestic use will be brought forward following public consultation and any changes will be made in accordance with existing legislative procedures in the Town and Country Planning Act 1990. In the Government's view, these arrangements are compatible with the Human Rights Act 1998.

Rural proofing

Microgeneration equipment installations could have a potential aesthetic impact in rural areas. However, the density of installations that would come about because of the permitted development rights being proposed in this consultation document are likely to be comparatively low, and not unduly harm the visual character of rural areas.

Enforcement, sanctions and monitoring

It is anticipated that the current regime of enforcement, sanctions and monitoring of development will be maintained and not need alteration in the light of the proposals.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	Results in Evidence Base?	Results annexed?
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	Yes	No
Sustainable Development	Yes	No
Carbon Assessment	Yes	No
Other Environment	Yes	No
Health Impact Assessment	Yes	No
Race Equality	Yes	No
Disability Equality	Yes	No
Gender Equality	Yes	No
Human Rights	Yes	No
Rural Proofing	Yes	No

Annexes

Annex A

The methodology used for this impact assessment differs from that used by Entec in the following ways:

(1) Percentage of applications that would become permitted development

Entec made the assumption that two-thirds of planning applications would be taken out of the planning system. This has been refined to assume there will be an increase in this proportion over time. For a low scenario, the proportion is estimate to rise from 50 per cent to 75 per cent, for the high scenario, from 75 per cent to 100 per cent over the same ten year period.

(2) Carbon savings

Entec used a constant price to estimate carbon savings. This has been changed to a variable price which reflects latest DECC guidance on carbon appraisal and the fact that emissions in the electricity sector are traded while those in the gas sector are not.

(3) Period

The period assessed has been revised to cover a ten year period from the year in which the measure is expected to be implemented, 2010.

Annex B

Calculation of administration burdens savings

Assumptions made:

- the estimated range in the number of planning applications in 2010 that will become permitted development as a result of these proposals used to calculate the reduction in admin burdens: **360 – 540**
- the estimates of burdens from an exercise on Administrative Burdens by Pricewaterhousecoopers (PwC) are then used to calculate total admin burden savings. These are £1450 for planning transaction costs and £547 for the provision of ownership certificate burden[32]
- administrative burden savings range: **£0.7m – £1.1m**
- no adjustment has been made to the estimates to adjust them to 2005 prices. This is because the £1450 and £547 estimates are taken from the PwC Administrative Burdens exercise and have not been inflated to 2009 prices

[32] The burden for ownership certificates has not been included in the main impact assessment due to uncertainty over its calculation. However it is appropriate to include in the assessment of the impact on the administrative burden baseline as it was included in the original assessment of administrative burdens.

Summary: Intervention & Options

Department /Agency: **Communities and Local Government**	**Title:** **Permitted development rights and advertisement regulations proposal relating to electric vehicle charging infrastructure**	
Stage: Consultation	**Version:** 1	**Date:** November 2009
Related Publications: Department for Transport (July 2009) *Low Carbon Transport: A Greener Future*; Will French (January 2009) *Review of permitted development for charging points for electric cars*		

Available to view or download at:

Contact for enquiries: Tom Bristow **Telephone:** 0303 444 41714

What is the problem under consideration? Why is government intervention necessary?

The current status of electric vehicle charging points in planning legislation which regulates development and advertising is unclear. This legal uncertainty may be a disincentive to the installation of electric vehicle charging points, and therefore result in slow progress towards Government objectives of reducing greenhouse gas emissions from transport, specifically in relation to achieving the carbon reduction targets set out in the Climate Change Act 2008. Government intervention is necessary in order to ensure that the planning system facilitates the establishment of electric vehicle charging points, as a strong network of charging points needed to support the anticipated significant increase in electric vehicle use.

What are the policy objectives and the intended effects?

The policy objectives are:

- to ensure the planning regime facilitates the installation of electric vehicle charging points by clarifying existing permitted development rights for local authorities and introducing permitted development rights for the installation of charging infrastructure
- to contribute towards the reduction of carbon emissions from transport

What policy options have been considered? Please justify any preferred option.
Option 1: Do nothing.

Option 2: Grant permitted development rights for electric vehicle charging infrastructure and deemed advertisement consent for the display of nameplates. More specifically:

- clarify that local authorities may install electric vehicle charging points as permitted development (i.e. development for which planning permission from the local planning authority is not required)
- allow for the installation of electric vehicle charging points as permitted development in off-street public and private car parking areas
- allow for the display of two nameplates of energy supplier and charging point provider on an electric vehicle charging point

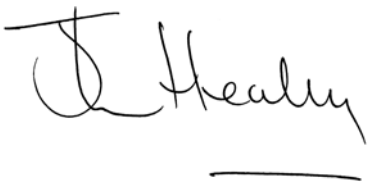
Option 2 is the favoured option as it will create a more enabling regime for the installation of electric vehicle charging infrastructure.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?
The policy will be reviewed two years after implementation.

Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible minister:



Date: November 2009

Summary: Analysis & Evidence

Policy Option: 2	Description: **Grant permitted development rights for electric vehicle charging infrastructure and deemed advertisement consent for the display of nameplates**

COSTS

ANNUAL COSTS		Description and scale of **key monetised costs** by 'main affected groups'	
One-off (Transition)	**Yrs**		
£			
Average Annual Cost (excluding one-off)			
£		**Total Cost** (PV)	**£**

Other **key non-monetised costs** by 'main affected groups'.
Any loss in planning application fee revenue for planning authorities is effectively cost neutral, as the local authority will no longer need to cover the cost of processing the application. Potential increase in applications for certificates of lawful development by those seeking to install points (though this would require less expense than submission of a planning application, which would be required if Option 2 were not to go ahead). Potential costs incurred by local authorities, energy operators, property owners looking to provide electric vehicle charging points by needing to familiarise themselves with new planning rules (though these are expected to be minimal).

BENEFITS

ANNUAL BENEFITS		Description and scale of **key monetised benefits** by 'main affected groups' Annual benefits (average): Fee savings and administrative savings for businesses wishing to install electric vehicle charging points: £330,000–£2,200,000	
One-off	**Yrs**		
£			
Average Annual Benefit (excluding one-off)			
£0.3m–£2.2m		**Total Benefit** (PV)	**£2.5m–£16.5m**

Other **key non-monetised benefits** by 'main affected groups'.
Option 2 will provide certainty to local authorities seeking to install on-street electric vehicle charging points and, by virtue of the publicity it creates, may publicise and encourage the wider installation of electric vehicle charging points. Option 2 aims to encourage electric vehicle take-up, reduce transport emissions, and therefore improve the immediate environment (i.e. air quality) and broader environment (in terms of carbon emissions) – although no quantification of this wider environmental benefit has been undertaken.

Key Assumptions/Sensitivities/Risks The net benefit has been calculated based on a mid-range estimate of likely growth in electric vehicle use and associated growth in the installation of charging points. If growth in use differs substantially from the projected trajectory the estimated savings could be either over or under-estimated. As electric vehicles and associated charging points are an emerging and developing technology, many of the assumptions behind the estimates of costs and benefits are also subject to a wide margin of error.

Price Base Year 2009	**Time Period Years** 10	**Net Benefit Range** (NPV) **£2.5m–£16.5m**	**NET BENEFIT** (NPV Best estimate) **£9.5m**

What is the geographic coverage of the policy/option?				England
On what date will the policy be implemented?				2010
Which organisation(s) will enforce the policy?				Local authorities
What is the total annual cost of enforcement for these organisations?				£ unquantifiable
Does enforcement comply with Hampton principles?				No
Will implementation go beyond minimum EU requirements?				No
What is the value of the proposed offsetting measure per year?				N/A
What is the value of changes in greenhouse gas emissions?				N/A
Will the proposal have a significant impact on competition?				No
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	No	No	No	No

Impact on Admin Burdens Baseline (2005 Prices) (Increase – Decrease)

Increase of £ Decrease of £ **Net Impact £**

Key:	**Annual costs and benefits: Constant Prices**	**(Net) Present Value**

Evidence Base (for summary sheets)

Background

Government agenda

Carbon dioxide emissions from UK transport account for 21 per cent of total UK emissions[33], and a reduction in emissions from transport is therefore crucial in achieving wider Governmental climate-change mitigation goals[34]. De-carbonising transport is highly important in achieving carbon reduction targets set out in the Climate Change Act 2008 – i.e. an 80 per cent reduction in UK greenhouse gas emissions on 1990 levels. Electric and plug-in hybrid vehicles potentially offer significant environmental benefits compared with existing internal combustion engine vehicles, and greatly improved fuel efficiency.

In July 2008 the Prime Minister committed the Government to promoting low-carbon transport, and indicated that an early priority would be given to the removal of any barriers in the planning system so as to enable an electric charging network to be set up as quickly as possible. A strong network of charging points is crucial to supporting increased usage of electric vehicles – the economic viability, and hence growth, of electric vehicles as a transport option is increased with a strong charging network.

Government and low carbon initiatives

The installation of electric vehicle charging points and promotion of electric cars are both benefiting from specific Government support. The Department for Transport's (DfT) low carbon transport strategy envisions making low carbon travel a genuine, viable, and attractive option for both businesses and public alike[35]. Government has allocated over £40m to help make the UK one of the leading places for the development, demonstration, manufacture, and use of ultra-low carbon vehicles, including electric and plug-in hybrid cars.

DfT has also committed £20m direct funding, alongside up to £10m from the Low Carbon Strategic Investment Fund, to the Plugged in Places Infrastructure Framework. Plugged in Places will provide seed funding to consortia of local authorities and private businesses The Energy Technologies Institute (ETI) has also announced an £11m programme which aims to better understand the impacts of electric vehicle use on the electricity grid and develop tools to help with installation of electric vehicle charging infrastructure. At the launch of the ETI initiative, London mayor Boris Johnson spoke of his aim for the installation of 25,000 charging points across London.

[33] http://www.dft.gov.uk/pgr/sustainable/carbonreduction/low-carbon.pdf

[34] http://www.berr.gov.uk/files/file41443.pdf

[35] http://www.dft.gov.uk/pgr/sustainable/carbonreduction/low-carbon.pdf

Electric vehicles and charging points – current situation

Electric vehicle charging points are being installed in increasing numbers. Currently there are over 200 electric vehicle charging point locations in the UK (importantly, each location may contain more than one charging point)[36] and recently urban networks of charging points have begun developing outside London[37].

Wide scale take-up of electric vehicles will require a comprehensive network of electric vehicle charging points to reassure drivers that they will be able to recharge their vehicles whenever and wherever they need to. It is difficult to predict the future take-up of electric vehicles and charging points given the variables involved (e.g. oil prices, Government policies, technology shifts) but a growth in electric vehicle usage, and the growth of an electric vehicle charging point network, go hand-in-hand.

Planning

The planning system is already undergoing a modernisation. The Killian Pretty Review (published November 2008) recommended that the Government should take steps to substantially reduce the number of minor non-domestic developments requiring planning permission, resulting in savings for business and the freeing up of local authority resources for more strategic issues[38]. Clarification of the planning regulations regarding electric vehicle charging infrastructure accords with this process.

Current planning legislation

Development

Electric vehicle charging infrastructure is not dealt with explicitly in the regulatory planning framework. A strict interpretation of the Town and Country Planning (General Permitted Development) Order 1995 (the GPDO), which sets out types of minor development that do not require a specific planning application, could mean that a planning application for outdoor charging points is required.

Advertising

The advertisement control system helps everyone involved in the display of outdoor advertising to contribute positively to the appearance of an attractive and cared for environment. The Town and Country Planning (Control of Advertisements) Regulation 2007 governs the display of advertisements in England and it covers a very wide range of specified advertisements and signs including notices and traffic signs. They contain no specific provision for advertising of signage on electric vehicles charging infrastructure.

[36] http://www.ev-network.org.uk/

[37] http://www.silobreaker.com/brighton-becomes-electric-car-second-city-5_2262631193998524480

[38] http://www.communities.gov.uk/planningandbuilding/planning/planningpolicyimplementation/reformplanningsystem/killianprettyreview/

Rationale for intervention

Government intervention is necessary to clarify the status of electric vehicle charging infrastructure in planning and advertising legislation and to ensure that planning does not act as a disincentive to the installation of charging points. A network of charging points is a pre-requisite for significantly increased electric vehicle use, which in turn will contribute towards reducing carbon emissions from transport. Publicly accessible and visible infrastructure will be important in the early years to support the market for electric vehicles and central and local government need to act to ensure that a minimum level of publicly accessible charging facilities is installed.

Policy objectives

The policy objectives are:

- to ensure the planning regime facilitates the installation of electric vehicle charging points by clarifying existing permitted development rights for local authorities and introducing permitted development rights for the installation of charging infrastructure
- to contribute towards the reduction of carbon emissions from transport

Policy options

Option 1: Do nothing.

Option 2: Grant permitted development rights for electric vehicle charging infrastructure and deemed advertisement consent for the display of nameplates. More specifically:

- clarify that local authorities may install electric vehicle charging points as permitted development (i.e. development for which planning permission from the local planning authority is not required)
- allow for the installation of electric vehicle charging points as permitted development in off-street public and private car parking areas
- allow for the display of two nameplates of an energy supplier or charging point provider on an electric vehicle charging point

Option 2 is the favoured option as it will create a more enabling regime for the installation of electric vehicle charging infrastructure.

Cost benefit analysis

Parties affected by the proposals

- energy operators seeking to install electric vehicle charging points
- commercial property owners looking to provide electric vehicle charging facilities
- local authorities (proposals will clarify both what local authorities can do directly themselves, and where electric vehicle charging points stand in planning terms for persons wishing to install them)
- the public (in terms of the provision of electric vehicle charging points, the viability of electric vehicles as a mode of transport, and ultimately the reduction in greenhouse gas emissions from transport over the longer term)
- petrol distributors who may lose business due to increased uptake of electric vehicles

Qualitative assessment of costs and benefits

The following tables lay out the impacts of the proposals associated with each option and identify costs and benefits which have been monetised in the next section. None of the costs and benefits under the "do nothing" option have been monetised. Instead it acts as a baseline against which to measure the impacts of the proposed changes.

Option 1: Do nothing:

Benefits	Costs
Local authorities and developers would not need to familiarise themselves with new regulations.	Current imprecision of the planning system in relation to electric vehicle charging points would persist.
	Those seeking to install electric vehicle charging points would continue to face paying a planning application fee, associated administrative work, and delay while waiting for the planning application to be determined.
	The planning system would not be seen to be working towards the Government's aim of de-carbonising transport.

Option 2: Grant permitted development rights for electric vehicle charging infrastructure and deemed advertisement consent for the display of nameplates:

Benefits	Costs
Those wishing to install electric vehicle charging points will make savings on planning fees and the administrative costs of making a planning application (commercial £170) and associated administration (approx £1,450). These savings have been monetised. There are time savings for businesses and the uncertainty of the planning decision process is removed.	New planning rules require familiarisation on behalf of applicants and LPAs, though in relation to these policy options, familiarisation costs are likely to be minimal.
Certainty to local authorities that they have permitted development rights to install electric vehicle charging infrastructure. The benefits of clarifying this have not been monetised.	Businesses may feel the need to apply for certificates of lawful development.
Granting new permitted development rights to install charging infrastructure points in off-street public and private car parking areas would encourage take-up by removing a disincentive to installation. The secondary effect this may have would be to encourage local authorities, householders and firms to consider installation of electric vehicle charging points. These benefits have not been monetised.	Local authorities will receive less in planning fees. It is assumed that the planning fee covers the cost of processing a planning application and therefore the cost to the local authority equals the benefit they derive from the freeing up of resources.
By removing current uncertainty in the planning system, clarification would reduce extent of investigation required in relation to determining whether a development is lawful.	Cumulative visual impact of nameplates may be of concern in sensitive areas, although the risk of this is likely to be minimum given the small size of the proposed nameplates (70cm^2).
Proposal will contribute to providing a network of charging points which in turn will encourage electric vehicle take up. This suggests the proposal will contribute to a fall in carbon emissions from transport which will benefit society. These have not been monetised here, as it is not possible to quantify the proportion of potential savings that might be due to the proposed change to the planning system.	

Benefits	Costs
Increase commercial viability by rights to display nameplates of electric vehicle charging point provider or energy supplier.	
Businesses wishing to install electric vehicle charging points with nameplates will not need to pay a fee for advertisement consent (typically £335 for this type of installation)[39]. This benefit has been monetised.	

Many of the costs and benefits of the proposals have not been monetised due to uncertainty around the scale of the impacts or lack of other evidence. Only two effects of the proposals – savings from those who would not have to undertake administrative work and pay the associated fee for both specific planning and advertising consent – are quantifiable, but both rely on predicting the future use of electric vehicles and installation of associated charging points. With regards to scope, it is the projected increase in charging point numbers installed on-street by local authorities and also those installed within public and private off-street car parking areas which we are concerned with herein, as only these will be affected by proposals and therefore subject to costs and benefits.

Quantitative assessment of costs and benefits

All costs and benefits have been calculated over a 10 year period.

Planning fee and administrative cost savings

In order to calculate the savings for businesses from reduced planning application fees and associated administrative costs, it is necessary to assume a level of demand for the installation of charging points over the assessment period. It is difficult to base future predictions of electric vehicle charging point installation on existing trends given that take-up of electric vehicles will probably accelerate as the technology develops and becomes increasingly mainstream.

Basing future installation of electric vehicle charging points on existing trends is likely to be too conservative. However, basing monetised costs and benefits on predicted or aspirational electric vehicle take-up is equally problematic as these predictions rely on policies that are currently being formulated coming into effect, and being effective. It is not yet known how many publicly accessible charging points are needed to support electric vehicle uptake. The Greater London Authority, for example, suggest that one electric vehicle charging point is required for every four electric cars, although this assumes that motorists can recharge their vehicles at home.

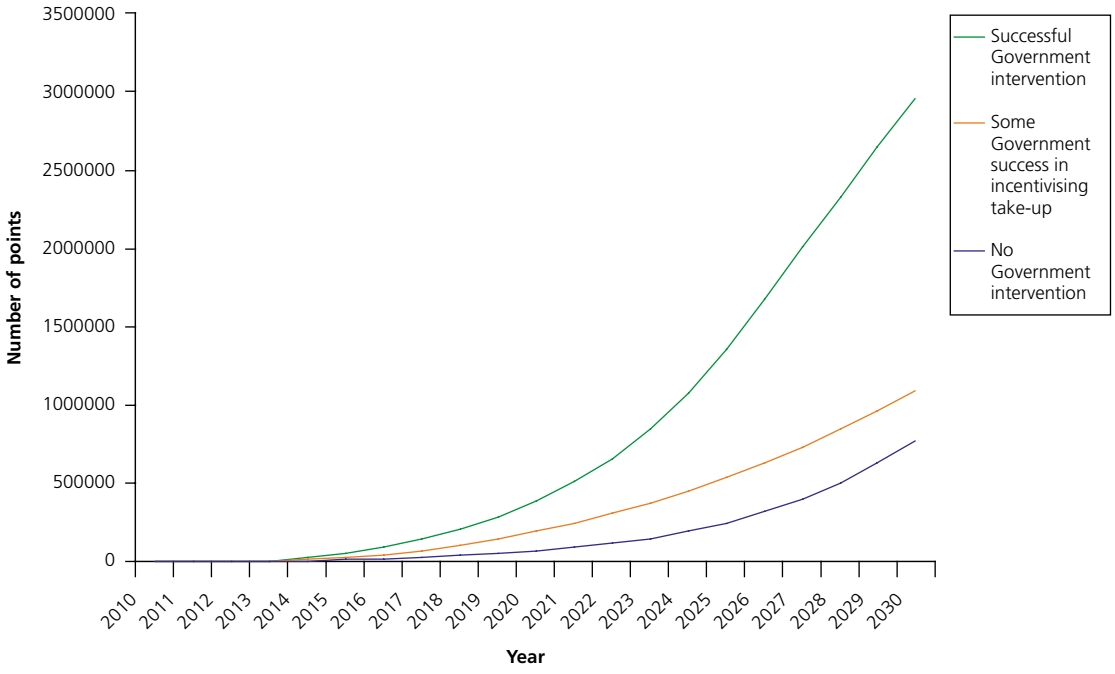
[39] http://www.planning-applications.co.uk/Town%20and%20country%20planning%20regulations.pdf

A report undertaken for the Department of Transport by Arup-Cenex[40] suggested three trajectories for electric vehicle uptake:

- a low take-up trajectory uninfluenced by Government policy to incentivise take-up
- a conservative trajectory where Government policy has a limited incentivisation role
- a high take-up scenario in which Government policy is highly successful

The graph below plots these three trajectories for number of points, assuming the GLA ratio of one charging point to every four cars is fixed (how points relate to savings will be considered subsequently):

Hypothetical electric vehicle charging point installation trajectories



The costs and benefits of these proposals are based on the conservative central trajectory which gives a scenario where Government has some success in incentivising take up. The impact of the proposals has been subject to a sensitivity analysis which shows the costs and benefits under the other trajectory assumptions.

Number of planning applications affected

Basing assumptions of future take-up on the central trajectory, there are a number of factors that mean that there is not a direct ratio between number of electric vehicle charging point installations and planning applications lodged. The wide range of some of these variables results from electric vehicle charging point installation being an emerging, and therefore as yet relatively unstudied phenomenon:

[40] http://www.berr.gov.uk/files/file48653.pdf

- A proportion of installations will be undertaken by local authorities. It is understood that some local authorities have interpreted the existing permitted development rights in Part 12 of the GDPO as being applicable to electric vehicle charging points, and therefore have not pursued planning applications for these installations. Although provision of on-street vehicle parking points (and therefore provision by the local authority) is set to increase, it is anticipated that a high proportion of installations will be undertaken by business. There are, however, scarce figures for the existing ratio of points installed by local authorities to points installed by business by which to gauge future trends. Nonetheless, as there are a far greater number of points installed in car parks than on-street, it seems sensible to suggest that a high proportion of electric vehicle charging point installation undertaken by a local authority might be 10 per cent, whereas a low proportion would be perhaps 2 per cent.
- Some new installations of electric vehicles will not fall inside the prescribed limits of the permitted development proposals and will still require planning permission. It is assumed that the proportion exceeding the permitted development and advertising consent thresholds will be between 10 per cent and 25 per cent.
- Only a proportion of installations will constitute development – many would be installed within existing internal car parks and therefore result in neither material change to the external appearance of the building nor change of use. It is assumed that the proportion that will constitute development will be between 10 per cent and 30 per cent.
- A number of charging points may be bundled up in a single planning application. It is assumed that between three and five points are bundled in a single planning application.

Grouping the variables which lead to high savings, and those which lead to low savings, generates a spread of number of planning applications (as opposed to charging points), from which costs and benefits can be monetised. Sensitivity analysis detailed below shows how these figures and the costs and benefits stemming from them vary according to the trajectory chosen.

Table 1: Total number of applications taken out of the planning system under different assumptions assuming a mid-range trajectory for take up of electric vehicles

	Numbers of planning applications saved (2010–2019)
Level of savings	
Low	2,000
High	13,300

As a stand-alone permission, advertisement consent for the electric vehicle charging point nameplate would typically cost an applicant £335. If, however, an application for planning permission is lodged containing a request for advertisement consent, only the planning application fee is payable (again for this type of minor non-domestic development £170), as opposed to fees for both planning and advertisement consent. The aim of proposals is to harmonise planning and advertisement regimes. Therefore if preferred Option 2 is taken forward the majority of installations would require neither specific planning permission nor advertisement consent.

The fee for specific planning consent is £170. The administrative cost of preparing a planning application is £1450[41]. For every planning permission these proposals remove from the system, applicants would therefore save **£1620**.

Table 2 gives the average annual benefits under assumptions which lead to high savings and those which lead to low savings. These are the undiscounted benefits and have been calculated using a simple average of the total benefits over a ten year period.

Table 2: Average annual benefits under different assumptions assuming a mid-range trajectory for take up of electric vehicles

	Average annual benefits
Level of savings	
Low	£330,000
High	£2,200,000

Sensitivity Analysis

The sensitivity analysis is designed to show the impacts on the benefits of the proposals if different assumptions are made about the future take up of electric vehicles. The sensitivity analysis uses the high-end and low-end trajectories provided by the Department for Transport under the same assumptions that have been used to translate number of electric vehicle charging points that will be needed into the number of planning applications actually saved.

Table 3: Total number of planning applications taken out of the system under different assumptions assuming low and high trajectories for take up of electric vehicles

	Numbers of planning applications saved (2010–2019)	
Level of savings	**Low take up**	**High take up**
Low	700	3,900
High	4,500	25,400

[41] Estimated by PwC as part of the administrative burdens exercise.

Table 4: Average annual benefits under different assumptions assuming low and high trajectories for take up of electric vehicles

	Average annual benefits	
Level of savings	**Low take up**	**High take up**
Low	£110,000	£630,000
High	£740,000	£4,100,000

Further sensitivity analysis and testing of the assumptions listed above will be carried out for the final stage impact assessment.

Monitoring

As electric vehicle charging points are an emerging and developing technology, monitoring of these proposals is important to ensure that planning regulation reacts effectively to change. We are therefore working with DfT to ensure the effectiveness of these proposals is monitored as part of DfT's monitoring arrangements for incentivising electric vehicle take up. We currently envisage the first round of such monitoring being two years after implementation.

Specific Impact Tests

Competition assessment

Although these proposals seek to deregulate the planning system to make it much easier for the installation of electric vehicle charging points and as a result companies specialising in these products will be indirectly favoured by proposals, it is not considered that the proposals would unduly advantage or disadvantage any such companies over any other. Proposals could improve the economic competitiveness of the UK as a whole by promoting development in electric vehicle charging infrastructure technology, ensuring no regulatory impediments exist to Britain becoming exemplary in its transport de-carbonisation endeavours, and improving the environmental quality of inner cities (thereby making them more attractive places for business to locate).

Small firms impact test

As proposals are deregulatory across the board, firms of all size will be affected equally.

Legal aid

We foresee no legal aid implications from this proposal.

Sustainable development

The proposals would contribute towards sustainable development by helping reduce carbon emissions from vehicles, whilst ensuring such a reduction is not achieved by impinging on social inclusion or economic buoyancy (restricting use of non-electric vehicle use by whatever means entails consequences in these areas which are avoided by the use of electric vehicles in place of non-electric vehicles).

Carbon assessment

Proposals would help reduce carbon emissions, though no attempt to quantify the degree to which this would be the case.

Other environment

As electric vehicles produce no emissions at the point of use, surrounding air quality (especially particulate levels) would be reduced with greater electric vehicle take up in place of non-electric vehicles.

Health impacts

If successful in incentivising electric vehicle car usage which is less polluting than non-electric vehicles, these proposals are likely to have a positive effect on public health.

Race, disability, gender equality

We foresee no equalities implications from these proposals as they are deregulatory across the board.

Human rights

We foresee no equalities implications from these proposals.

Rural proofing

Owing to the current operational range of electric vehicles typically being smaller than non electric vehicles, installation of electric vehicle charging points has been focused around urban areas (where the concentration of electric vehicles is also greatest). Currently, therefore, electric vehicles tend to be less useful to rural communities than they are to urban communities. Nonetheless, proposals to change planning regulation of development and advertisement will be universal, and will therefore not disadvantage rural areas.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	Results in Evidence Base?	Results annexed?
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	Yes	No
Sustainable Development	Yes	No
Carbon Assessment	Yes	No
Other Environment	Yes	No
Health Impact Assessment	Yes	No
Race Equality	Yes	No
Disability Equality	Yes	No
Gender Equality	Yes	No
Human Rights	Yes	No
Rural Proofing	Yes	No

ANNEX C

Summary of consultation questions/consultation response template

Consultation: Permitted development rights for small scale renewable and low carbon energy technologies, and electric vehicle charging infrastructure

	CONSULTATION QUESTIONS	Y	N	Comment
Domestic proposals				
Q.1	Do you agree with the proposals for wind turbines on domestic premises, as set out in Tables 1, 2 & 3?			
Q.2	Do you agree with the proposals for air source heat pumps on domestic premises, as set out in Table 4?			
Non-domestic proposals				
Q.3	Do you agree with the proposals for wind turbines on non-domestic premises, as set out in Tables 5 and 6?			
Q.4	Do you agree with the proposals for air source heat pumps on non-domestic premises, as set out in Table 7?			
Q.5	Do you agree with the proposal for ground source heat pumps on non-domestic premises, as set out in Table 8?			
Q.6	Do you agree with the proposal for water source heat pumps on non-domestic premises, as set out in Table 9?			
Q.7	Do you agree with the Government's proposals for solar panels on non-domestic premises, as set out in Tables 10, 11 and 12?			

	CONSULTATION QUESTIONS	Y	N	Comment
Q.8	Do you agree with the proposal for flues for biomass systems and combined heat and power (CHP) systems on non-domestic premises, as set out in Table 13?			
Agricultural and forestry proposals				
Q.9	Do you agree with the proposal for structures to house , biomass boilers, anaerobic digestion systems and associated waste and fuel stores on agricultural and forestry premises as set out in Table 14?			
Q.10	Do you agree with the proposal for structures to house hydro-turbines on agricultural and forestry premises, as set out in Table 15?			
Electric vehicle charging infrastructure proposals				
Q.11	Do you agree with the permitted development and advertisement deemed consent proposals for electric vehicle charging infrastructure as set out in Tables 16,17,18 & 19?			
Glossary of terms – Annex A				
Q.12	Do you agree with the definitions used for the purposes of this document?			
Q.13	Do other concepts or technologies need specific definitions?			

	CONSULTATION QUESTIONS	Y	N	Comment
Consultation stage impact assessments – Annex B				
Q.14	Do you think that the impact assessments provide an accurate assessment of the likely costs and benefits of the preferred policy options?			
Q.15	In particular do you agree with our estimates of the possible costs to local authorities in relation to investigating noise complaints?			
Q.16	In the impact assessments, we assume that the process of obtaining planning permission acts as a disincentive to the take up of renewable technology and that by removing this disincentive take up would increase by between 2% and 5% annually. Do you think that these assumptions are reasonable?			

ISBN 978-1-4098-1997-4

ISBN: 978-1-4098-1997-4