PLANNING

Permitted Development Rights for Domestic Microgeneration Equipment

Consultation Paper

March 2008

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SCOTTISH GOVERNMENT

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Consultation Paper

March 2008

Directorate for the Built Environment
Planning Modernisation and Co-ordination Division

The Scottish Government

PERMITTED DEVELOPMENT RIGHTS FOR DOMESTIC MICROGENERATION EQUIPMENT CONSULTATION PAPER

Responding to this consultation paper

We are inviting written responses to this consultation paper by 12 May. Please send your response to:

PD-DomesticMicrogen@scotland.gsi.gov.uk

or

Permitted Development Rights for Domestic Microgeneration Equipment
Directorate for the Built Environment
Scottish Government
2H, Victoria Quay
Edinburgh
EH6 6QQ

If you have any queries on the content of the consultation paper or the consultation process, please contact nick.evans@scotland.gsi.gov.uk on 0131 244 7552. Please respond using the form at Annex 5 or indicate the question(s), parts of the consultation paper or draft order to which you are responding as this will aid our analysis of the responses received.

In the Directorate for the Built Environment we are changing our methods of distribution, with electronic publication for all our publications, subject to only a very small list of exceptions which will also be published in hard copy, such as the National Planning Framework. In addition, we are creating an improved e-newsletter system which will provide an effective way of alerting you to new e-publications, including consultations. To register for electronic newsletters about planning, please register your details at www.scotland.gov.uk/Topics/planning as soon as possible.

The Scottish Government also has an email alert system for all consultations (SEconsult: http://www.scotland.gov.uk/consultations/seconsult.aspx). This system allows stakeholder individuals and organisations to register and receive a weekly email containing details of all new consultations. SEconsult complements the new planning e-publications system described above and allows you to register for consultations on specific topic areas across the Government. Please follow the SEconsult link above if you wish to register.

Handling your response

We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the **Respondent Information Form** which forms part of this consultation paper as this will ensure that we treat your response appropriately. If you ask for your response not to be published we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government is subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

Publishing responses

Where respondents have given permission for their response to be made public (see the attached Respondent Information Form), these will be made available to the public in the Scottish Government Library within 6 weeks of the close of the consultation and on the SEconsult web pages within 6 weeks of the close of the consultation. Where agreement to publish has been given, we will check all responses for any potentially defamatory material before logging them in the library or placing them on the website. You can make arrangements to view responses by contacting the Scottish Government Library on 0131 244 4552. Responses can be copied and sent to you, but a charge may be made for this service.

What happens next ?

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us reach a decision on the draft regulations or order. Final regulations and orders will require to be laid in Parliament. Further details on the timing of this process will be available through the Modernising Planning page on the Scottish Government's Planning Homepage at www.scotland.gov.uk/Topics/planning .

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to nick.evans@scotland.gsi.gov.uk (0131 244 7552).

RESPONDENT INFORMATION FORM:
Permitted Development Rights for Domestic Microgeneration Equipment

Please complete the details below and return it with your response. This will help ensure we handle your response appropriately. Thank you for your help.

Name:

Postal Address:

1. Are you responding: (please tick one box)
   (a) as an individual ☐ go to Q2a/b and then Q4
   (b) **on behalf of** a group/organisation ☐ go to Q3 and then Q4

INDIVIDUALS

2a. Do you agree to your response being made available to the public (in Scottish Government library and/or on the Scottish Government website)?

Yes (go to 2b below) ☐
No, not at all ☐ We will treat your response as confidential

2b. Where *confidentiality is not requested*, we will make your response available to the public on the following basis (**please tick <u>one</u>** of the following boxes)

Yes, make my response, name and address all available ☐
Yes, make my response available, but not my name or address ☐
Yes, make my response and name available, but not my address ☐

ON BEHALF OF GROUPS OR ORGANISATIONS:

3 The name and address of your organisation ***will be*** made available to the public (in the Scottish Government library and/or on the Scottish Government website). Are you also content for your **response** to be made available?

Yes ☐
No ☐ We will treat your response as confidential

SHARING RESPONSES/FUTURE ENGAGEMENT

4 We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for the Scottish Government to contact you again in the future in relation to this consultation response?

Yes ☐
No ☐

Equal Opportunities Questionnaire

This Equal Opportunities Questionnaire is requested in order that the Scottish Government can build an accurate picture of the make-up and diversity of the people and groups that our planning policies impact on, and to ensure that the way in which we carry out our consultations is inclusive and not unwittingly discriminatory. If you have responded to this consultation as an individual it would be helpful if you could complete the form. This information is **only** used for this purpose.

If you have a disability that requires us to make a reasonable adjustment to enable you to complete this form, please notify us.

Name	
Consultation to which you are responding	
Gender	Male ☐ Female ☐

Ethnic origin

How would you describe your ethnic or cultural origin?		
White Scottish ☐	White British ☐	White European/Other ☐
Black Scottish ☐	Black British ☐	Black African ☐
Black Caribbean ☐	Black Other ☐	
Asian Scottish ☐	Asian British ☐	
Indian ☐	Pakistani ☐	Chinese/Other Asian ☐
Bangladeshi ☐		
Mixed Racial Origin ☐		Other

Age

Under 25 ☐	25-39 ☐	40 – 54 ☐	55- 65 ☐	65 + ☐

Disability

Do you have a disability as defined by the Disability Discrimination Act 1995 (DDA)?

Yes ☐ No ☐

The definition of a disability under the DDA is “a physical or mental impairment which has a substantial and long term adverse effect on a person’s ability to carry out normal day to day activities.”

THE SCOTTISH GOVERNMENT CONSULTATION PROCESS

Consultation is an essential and important aspect of the Scottish Government's working methods. Given the wide-ranging areas of work of the Scottish Government, there are many types of consultation. However, in general, Scottish Government consultation exercises aim to provide opportunities for all those who wish to express their opinions on a proposed area of work to do so in ways which will inform and enhance that work.

The Scottish Government encourages consultation that is thorough, effective and appropriate to the issue under consideration and the nature of the target audience. Consultation exercises take account of a wide range of factors and no two exercises are likely to be the same.

Typically Scottish Government consultations involve a consultation paper inviting answers to specific questions or more general views about the material presented. Consultation papers are distributed to organisations and individuals with an interest in the issue, electronically or in hard copy and are placed on the Scottish Government's consultations webpage[1] to allow for participation from a wider audience. Consultation exercises may also involve seeking views in a number of different ways, such as through public meetings, focus groups or questionnaire exercises. Copies of all the written responses received to a consultation exercise (except those where the individual or organisation requested confidentiality) are placed in the Scottish Government library at Saughton House, Edinburgh (K Spur, Saughton House, Broomhouse Drive, Edinburgh, EH11 3XD, telephone 0131 244 4565).

All Scottish Government consultation papers and related publications (eg, analysis of response reports) can be accessed at: SEconsult (http://www.scotland.gov.uk/consultations).

The views and suggestions detailed in consultation responses are analysed and used as part of the decision making process, along with a range of other available information and evidence. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

Final decisions on the issues under consideration will also take account of a range of other factors, including other available information and research evidence.

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

[1] http://www.scotland.gov.uk/consultations

CONTENTS

	Paragraph
Introduction and Context	
Introduction	1
Background to Permitted Development	7
Microgeneration Equipment Outwith the Scope of Permitted Development Rights	11
Directions Restricting Permitted Development under Article 4 of the GPDO	12
Planning Policy	13
Building Standards Issues	14
Research on Permitted Development Rights for Microgeneration	17
Strategic Environmental Assessment	19
Issues for Consideration	
PD in Areas Designated for Their Natural and Built Heritage Value	21
General conditions which Rely on Interpretation	28
Solar Water Heating and Photo-Voltaics	29
Wind Turbines	35
Biomass	43
Heat Pumps	45
Combined Heat and Power	49
Hydro-electric	50
PD Rights in combination	51
Conclusion	52

Annex 1 Summary of Proposals
Annex 2 Draft Amendment to the General Permitted Development Order
Annex 3 Partial Regulatory Impact Assessment
Annex 4 Partial Equalities Impact Assessment
Annex 5 Summary of Questions and Response Form

Introduction

1. The Scottish Ministers are committed to promoting a greater uptake of microgeneration, recognising its potential to provide a sustainable source of low carbon energy and in reducing carbon dioxide emissions from buildings. It forms part of a coherent approach to energy policy, recognising that promoting reduced energy consumption and promoting low carbon technologies are key to achieving sustainable economic growth.

2. In order to encourage the installation of more microgeneration equipment on domestic buildings, this consultation paper is seeking views on the extent to which planning control can be reduced for domestic buildings by making microgeneration equipment 'permitted development' and thus removing the need to apply for planning permission. The proposals seek to strike the right balance between controlling adverse impacts on neighbours and amenity generally, and the wider environmental benefits of CO_2 emission reductions.

3. The types of micro renewable equipment are:

- solar water heating,
- solar electricity (photo-voltaics),
- small wind turbines,
- biomass boilers,
- heat pumps (ground, water and air source),
- combined heat and power systems and
- hydro-electric generators.

The local environmental impacts of the technologies vary and can raise challenging issues. Overall the proposals will make it easier and cheaper to install microgeneration equipment on existing buildings. Planning Advice Note (PAN) 45 (Annex) Planning for Micro-renewables provides background information about the technologies and best practice advice.

4. At the moment the installation of microgeneration equipment such as solar panels, heat pumps or wind turbines almost always requires householders to apply for planning permission and for this to be specifically granted by the planning authority. The cost and time required are a disincentive. If however the equipment were to be defined as 'permitted development' by amending secondary legislation, permission would be granted as a right provided it met strict criteria. Permission from the owners of a building, including all those who have a shared interest in the building, will also normally be required. Homeowners should however always consider how to save energy, for example by improving insulation or turning down thermostats, before seeking to generate their own energy.

5. Microgeneration technologies continue to develop, improving the efficiency and potentially reducing the cost of the equipment. The benefit of the equipment can be affected by factors such as general location, detailed siting and the energy efficiency of the building. Those considering installation of the equipment should always bear these issues in mind. These issues are unaffected by whether there are permitted development rights. Further technological developments and research results mean that the PD rights have to be kept under review. Further consideration is also being given to microgeneration equipment for non-domestic buildings and this will be the subject of subsequent consultation.

6. Comments are sought on any part of the consultation paper itself including the contents of the Draft Order.

Background to Permitted Development

7. A permitted development (PD) is one where planning permission is granted as a right and there is no need to apply to the planning authority. A wide range of relatively minor developments are already PD under secondary legislation (The Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (GPDO)). The GPDO sets detailed criteria and conditions for each type of development, and proposals which satisfy them are PD. They are very carefully specified to ensure that negative impacts are avoided or reduced as far as possible. Microgeneration equipment could be afforded permitted development rights by amending the GPDO. In deciding what should be PD the core question is: "what types and scales of equipment do not need to be examined by a planning authority because they will have an acceptably small impact or none at all?"

8. Some permitted development rights are drawn in broad terms and consequently there are uncertainties regarding the extent to which some renewable technologies are already permitted development for some types of buildings and/or locations. For example, whether solar panels installed on a roof are PD under current arrangements depends not only on their size, but on whether the planning authority is of the view that they would not materially affect the external appearance of the building. This is a matter of judgement and creates uncertainty. These proposal are intended to clarify the situation.

9. It is likely that equipment fixed to the outside of buildings or installed near them will have some effect on local amenity, particularly wind turbines which have visual, noise, vibration, shadow throw and light flicker (either directly or by reflection) impacts. Solar panels would generally have less impact. The current PD rights for domestic buildings draw a distinction between 'buildings containing flats' and 'dwellinghouses' because of the different potential of development to affect other residents. These proposals only seek to draw such a distinction for solar panels, where their installation on the façade of a block of flats, especially tenements, could have significant visual effects. The proposal to apply a distance criteria for wind turbines will however have the effect of distinguishing between dwelling houses and flats. These issues are discussed further below.

10. Any proposed installation of microgeneration equipment on a listed building would require an application for listed building consent under the Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997. With this control in place it is not proposed to make special provision for listed buildings in these proposals, other than situations where the installation of the equipment could affect the setting of a listed building.

Microgeneration Equipment Outwith the Scope of Permitted Development Rights

11. The installation of microgeneration equipment will require an application for planning permission in the normal way if it is not classed as permitted development. The terms of the PD rights carry no implication for the way individual applications have to be determined, which will continue to be based on the principle that every case has to be determined on its merits. PD rights have to cover general situations and hence are set at a precautionary level, but the consideration of the specific circumstances of a case by a planning authority can take account of local circumstances. Part of that consideration will involve giving those most likely to be affected by the proposal an opportunity to have their views taken into account before the planning authority determines the application. It also gives the planning authority the opportunity to impose specific conditions to control adverse effects, without which they would have to refuse the application.

Directions Restricting Permitted Development under Article 4 of the GPDO

12. Permitted development rights normally apply to all areas but planning authorities have powers under the GPDO (known as Article 4 Directions) which enable them to require planning applications for proposals which would otherwise be PD. The Orders usually have to be confirmed by the Scottish Ministers. They are most frequently used to increase the level of control in conservation areas. The proposals in this paper have been designed to limit the need for such Directions but it has to be recognised that they might be necessary, perhaps in some conservation areas and some parts of National Parks and National Scenic Areas. An Order could be specific to a particular technology. Generally however the small scale of domestic microgeneration equipment is thought unlikely to have an impact on the particular interests that landscape and natural heritage designations are intended to protect. For conservation areas, National Planning Policy Guideline (NPPG) 18: Planning and the Historic Environment, sets out the matters which should be included in an authority's statement of reasons for making a Direction. If PD rights are withdrawn through an Article 4 Direction, planning fees are not required, thus retaining cost parity with the PD rights.

Planning Policy

13. Scottish Planning Policy (SPP)6 - Renewable Energy states that the Government is positively considering extending PD rights so that more microgeneration equipment can be installed on existing buildings without the need to obtain planning permission. In principle the SPP supports microgeneration proposals on existing buildings which satisfactorily address broad criteria, including appropriate environmental and amenity safeguards and the requirements of the Building Regulations.

Building Standards Issues

14. Changes to PD will not affect the separate Building Standards requirements which are concerned in this instance with maintaining the safety and environmental performance of the building. Recent research for Scottish Building Standards (SBS) "Building Integration of Low and Zero Carbon Technology Systems" identified a number of risks associated with the installation of particular equipment. These include risks to the structural integrity of the building, to the integrity of the building fabric, to its energy performance, and risks to the health and safety of people in or around the building. The research was undertaken by the Building Research Establishment Ltd (BRE). SBS will be using it to prepare guidance on low and zero carbon technologies and the compliance of installations with the building regulations. The BRE report can be seen at
http://www.sbsa.gov.uk/pdfs/building_integ_LZCT.pdf

15. Whilst the majority of building-integrated installations must comply with building regulations, it is intended that there will be a review of the need for a building warrant in the case of certain installations.

16. The granting of PD rights must in no way lead building owners to believe that they do not need to comply with the building regulations and, in certain cases, the need to apply for a building warrant.

Research on Permitted Development Rights for Microgenerations

17. Research commissioned by the Scottish Executive recommended extending PD rights to microgeneration. It recognised that there are issues to be addressed regarding siting, design and noise for example and advised on the criteria to apply. This consultation paper draws on the findings of that research but varies from them where indicated by more recent research and information. The research recommended that PD be granted

for non-residential buildings but many such buildings, notably shops and offices, are not specifically identified as classes of PD in the current GPDO and more detailed work to cover the great variety of such buildings is needed before proposals can be developed. The results of further research are awaited. The research can be seen at: http://www.scotland.gov.uk/Publications/2007/03/29102736/0
(section 7.8 concerns microgeneration)

18. We have also had regard to research carried out for the English and Welsh administrations. Domestic Installation of Micro-generation Equipment: Final report from a review of the related Permitted Development Regulations (2007) Department for Communities and Local Government, London. The report can be seen at: http://www.communities.gov.uk/documents/planningandbuilding/pdf/320327b

Strategic Environmental Assessment

19. A strategic environmental assessment has been undertaken during the preparation of these proposals and it informed the contents of this paper. The Environmental Report can be seen at www.scotland.gov.uk/Topics/Planning/Modernising and comments may be made by 12 May 2008

20. Following the publication of the final Amendment to the GPDO, the Scottish Government will publish a statement under Section 18 of the Environmental Assessment (Scotland) Act 2005 describing amongst other things how the environmental report has been taken into account and the results of consultation.

Issues for Consideration

PD in Areas Designated for Their Natural and Built Heritage Value

21. Many areas are designated for their natural and built heritage qualities, for example Sites of Special Scientific Interest and Conservation Areas. Generally speaking, these are areas where development is very carefully controlled and therefore the granting of PD rights has to be carefully considered.

22. The PD proposals in this paper only concern existing houses and very specific limits are set on the location and scale of the equipment. For example, wind turbine blades of 1.1 metres in length. The question arises, bearing this in mind, whether PD for domestic microgeneration, equipment should be further constrained in areas designated for their landscape or recreational value. This is particularly the case for wind turbines which, due to their operational requirements, have to be located above roofs or on stand-alone masts. The national designations in this context are National Parks and National Scenic Areas; regional and local landscape designations include Areas of Great Landscape Value, regional parks and country parks, and also green belts, though in some cases not all parts of them will be of the highest landscape quality. There is clearly a balance to be struck between the wider environmental benefits of reducing our carbon footprint and of generating energy where it will be consumed, and on the other hand changing the appearance of existing domestic buildings and their grounds in the landscape. Cumulative impact will be a further consideration.

23. In areas designated to protect species and habitats, the PD proposals are only relevant where there are existing houses in, and in some cases adjacent to, the areas in question. For European sites (Special Protection Areas and Special Areas of Conservation), the existing protection provided by Article 3 of the GPDO (under regulations 60 - 63 of the

Conservation (Natural Habitats &c) Regulations 1994) will continue and therefore the PD proposals will not have the effect of granting planning permission if a significant effect on the interests of such a site is likely. Similarly, operations potentially affecting a Site of Special Scientific Interest require an application for consent to be made to Scottish Natural Heritage under the Nature Conservation (Scotland) Act 2004. Elsewhere, including National Nature Reserves and local designations, the questions arise of whether domestic scale microgeneration equipment for existing domestic property will compromise the overall integrity of the area; and if there are adverse effects whether they are clearly outweighed by social or economic benefits of national importance?

24. The PD proposals will not override other provisions which are designed to protect the environment. For example, bats and other European Protected Species are protected under the Conservation (Natural Habitats, &c.) Regulations 1994, as amended, and the Controlled Activities Regulations (see below) regarding the water environment.

25. Given the small scale of microgeneration equipment compared to the scale of the protected landscapes and the other controls in place, and that the proposed PD rights only relate to existing property, it may be thought unlikely to have a significant impact on these designated areas even when cumulative effects are taken into account. We are therefore consulting on whether or not there are grounds for further restrictions on PD in these areas.

26. Due to the scale of the equipment vis-a-vis the scale of domestic buildings, uncontrolled installation of the equipment has more potential to have an adverse impact where it is installed on property in areas designated for their built heritage value; conservation areas, places where it would affect the setting of a listed building and in World Heritage Sites. The greatest impact would arise where they were on the main façade of the building facing a highway where they would be visible to the public. Due to their characteristics, even small wind turbines would be highly visible against the scale of the buildings and likely to affect the character of the area. For wind turbines it is therefore proposed that PD rights are not granted in World Heritage Sites and Conservation Areas so that each case can be assessed through a planning application. Listed buildings themselves are protected under separate legislation and it is therefore unnecessary to specifically exclude them from the PD proposals.

27. The planning system is however responsible for controlling the effects of development on the setting of listed buildings. Of the microgeneration equipment considered in this paper, and bearing in mind that there will be no PD in Conservation Areas, wind turbines are the technology most likely to be sited so as to affect the setting of a listed building. The general distance criteria for wind turbines suggested below would safeguard the setting of nearby listed buildings, but not the listed building within whose curtilage the turbine was sited. It is therefore proposed not to grant PD rights for wind turbines within the curtilage of listed buildings.

> **Question 1 – Are there sufficient grounds to further constrain the PD proposals for domestic microgeneration equipment, especially wind turbines, in areas designated for their landscape quality?** Please provide justification or evidence for your answer.
>
> **Question 2 – Are there sufficient grounds to further constrain the PD proposals for domestic microgeneration equipment in areas designated for the protection of flora and fauna?** Please provide justification or evidence for your answer.

Question 3 – Should PD rights for microgeneration equipment, except wind turbines, be granted in areas designated for their built heritage value providing that the principle elevation fronting a highway is unaffected?.

Question 4 – Are the separate controls for listed buildings sufficient to control the installation of microgeneration equipment? If not, what specific provisions are necessary?

Question 5 – Will the setting of listed buildings be adequately protected by not granting PD rights to wind turbines and solar arrays within their curtilage?

General conditions which rely on interpretation

28. We have considered whether all PD rights for microgeneration equipment should be subject to a condition on safeguarding visual impact and amenity generally. For example, 'the equipment shall be sited to minimise its impact on the amenity of the area'. The SE research said that changes to PD rights should simplify matters as far as possible to reduce the uncertainties associated with interpretation of criteria and terminology. In the case of microgeneration equipment it recommended that there should be a general condition that the development must comply with a design code. This would make the question of whether a proposal was or was not PD a matter of judgement, initially for the householder, then the installer and the planning authority and potentially for neighbours. We have therefore sought to set PD rights which avoid or minimise visual impacts and effects on amenity. This approach would also have the benefit of allowing guidance, including web based systems, to be clearer, thus reducing the need for developers to check with planning authorities. We do not therefore propose to use general conditions to safeguard potential adverse impacts.

Question 6 – Do you think that general conditions on amenity and other impacts could be applied to the PD rights for microgeneration equipment?

Solar Water Heating and Photo-Voltaics

29. There are 2 types of solar panel. Solar water heating panels use the sun's rays to heat water for washing etc or for space heating. Photo-voltaic panels use the sun's rays to generate electricity. Both systems share many characteristics that could have potential impacts and therefore the same approach is proposed for both. The panels come in a variety of sizes, frequently in the range 1 – 2 metres by 0.5 – 1.0 metres and about 120 mm thick, though they can be larger and several can be mounted together. They can have matt surfaces though shiny surfaces are usual, making them highly reflective. They can be mounted on roofs, walls or as free-standing arrays. They can also be moveable to track the sun but we propose to follow the research recommendation and grant PD rights only to fixed arrays. The issues for PD are primarily about the impact of the panels on amenity and the wider visual environment where cumulative impacts may arise.

Question 7 – Do you agree that the same PD rights should apply to solar water heating and photo-voltaic panels? If not, please say why.

30. The Scottish Executive research recommended that limits should be set in terms of protrusion (150 mm) above the plane of the roof or wall but no limit on surface coverage, subject to compliance with design guidance. With no limit on coverage it would be possible to completely cover a roof with what would look like a new roof of a different colour and texture. This could substantially alter the character of the whole building and the integrity of the design, with an adverse impact on visual amenity. Making it subject to compliance with a design guide would not provide clear PD rights and could make installations open to dispute and possibly enforcement action. The research for the other administrations recommended

60% coverage. In setting the PD limits the issues are projection above the plane and highest point of the roof, position, coverage and cumulative impact. Re-roofing a house in a way which materially affects its appearance would require planning permission and it seems equitable that complete coverage of solar panels should also, with PD limited to a proportion of the area such that the overall integrity of the roof shape and its reflective qualities are retained.

> **Question 8 – Do you consider that the proposed PD limits for solar panels on domestic buildings of 150 mm above the plane of a pitched roof or a wall, not higher than the highest point of a pitched roof and covering up to 60% of the roof or wall area are appropriate?** If not, what should the limits be and why?

31. The installation of solar panels on the walls of tenements and other buildings containing flats raises additional issues compared to installations on houses. A multitude of different installations on the same façade would be likely to affect the amenity of other residents and destroy the unity of the design. There would be no neighbour notification and other residents in the same building would not be able to object.

> **Question 9 – Do you agree that there should be no PD for solar panels on the walls of buildings containing flats?**

32. Different considerations apply on flat roofs where the panels could generally be expected to have less visual impact but where they need to be angled towards the sun, not laid flat, if they are to work most efficiently. The research recommended that further work be undertaken but nevertheless proposed a 'pragmatic' PD limit of 3m above the plane of the flat roof, or up to the threshold of visibility from the nearest public way. The 3 metre limit is considerable, and could be the equivalent of installing a pitched roof, with consequences for neighbours and affecting amenity generally. The visibility criteria is imprecise and could lead to enforcement problems. Having considered the issues, we propose instead measurable criteria based on minimising the potential visual impacts commensurate with the efficient operation of the panels.

33. As a basis for consultation, it is suggested that PD for solar panels on flat roofs should be subject to them being at least 1 metre from the edge of the roof, allowing them to be angled to the sun provided they don't exceed 1 metre in height so as to minimise visual impacts on neighbouring property, and the same 60% coverage as for pitched roofs.

> **Question 10 – For flat roofs do you agree or do you have alternatives to the suggestion that PD rights for panels should be set so that they are no closer than 1 metre to the edge of the roof, with the highest point of the panel not more than 1 metre above the plane of the roof and covering up to 60% of its area?** If not, please suggest alternative provisions**.**

34. Solar panels can also be installed as free-standing features in gardens or elsewhere within the property boundary. The SE research recommended that these items were adequately covered in their general recommendations on residential PD and specific provisions were not needed under the microgeneration heading. In advance of those provisions it is proposed to consult on the same basis as the other administrations. That is, PD rights provided they are no higher than 4 metres, at least 5 metres from the boundary, with an overall area of 9 sq metres. and not within the curtilage of a listed building. The existing PD rights for extending dwellinghouses or adding buildings or oil tanks within the curtilage says that within 20 metres of a road they cannot be nearer to the road than the house itself. For some houses however the most efficient location for free-standing panels will be at the front of the house. We therefore do not propose to apply this rule to solar

panels fixed to walls nor for panels installed within the curtilage of a dwellinghouse, where the proposal is to rely on the 5 metres distance

Question 11 – For free-standing arrays, should PD rights be set at less than 4 metres in height, at least 5 metres from the property boundary and with a maximum area of 9 sq metres?

Wind turbines

35. Small domestic scale wind turbines of about 2 metres in diameter can either be fixed on a pole attached to the building or on a free-standing mast. They differ in character from most existing domestic permitted developments, for example, satellite dishes or garden fences, because of their moving mechanical parts and potential for these to deteriorate over time due to wear and tear. There are concerns that they can generate a degree of noise, vibration and light flicker. Their impacts depend on their siting, the number of people in the area, the surrounding buildings/environments and ambient noise levels.

36. The research recommended that one way to deal with these impacts was by setting technical thresholds for noise when measured in nearby buildings, and that these would also protect amenity externally. The research for the other administrations recommended technical thresholds internally and externally and a universal condition requiring a turbine to 'minimise its effects on appearance and amenity'. This combination of complex thresholds and qualitative judgement would not however align with the principle of keeping PD rights straightforward so that it can be easily understood, including by the public. It is considered that this approach to PD would be unworkable in practice, as it would depend on noise measurements being taken. A specific difficulty would be its inability to control the cumulative effect of several turbines on noise levels in residential areas because PD would grant every house the right to a turbine. The noise from one turbine might be acceptable but not in combination with others. Vibrations can also travel through the structure of a building and be felt by neighbours.

37. The research also considered a simple distance criterion between the turbine and surrounding property, but thought that defining it in a reasonable way would result in complexity and therefore didn't suggest what it should be. In the longer term an alternative approach based on accreditation schemes for the equipment and installers may provide a basis for PD but it is too early to offer this option in this consultation paper.

38. We are mindful of the need to proceed with caution lest serious and irreversible adverse effects be imposed on residential areas. There is a need to gather more information about the effects of small scale wind turbines, including the nature of the noise and visual impacts. Experience and evidence will provide a basis for reconsidering the PD rights. Technical solutions may also emerge. In addition, while the performance of the equipment is a matter for those householders choosing to install it and is not a planning issue, a cautious approach is leant support by some recent research which indicates that the performance of micro-turbines is highly sensitive to a range of factors and in some locations, particularly parts of urban areas they perform poorly. (Micro-wind Turbines in Urban Environments – An assessment. Building Research Establishment Trust. 2007)

39. In the light of this and as a basis for seeking comments, we are suggesting that PD for building mounted or free-standing turbines applies to houses which are well separated from neighbours who might be adversely affected and limited to one turbine perhouse, including the curtilage. A simple distance criteria of at least 100 metres to the nearest residential property is put forward BUT we are very keen to hear of suggestions for an alternative distance, greater or lesser, and supporting evidence. It is appreciated that a distance

criterion will mean that for most built-up areas and for flats a planning application will be required.

40. For free-standing turbines the SE research recommended a maximum rotor diameter of 3.5 metres and a maximum hub height of 10 metres. In view of the cautious approach we have set out above we are proposing to limit the rotor size to the same 2.2 metres as for building mounted turbines. For safety reasons it is proposed, as recommended by the research, that a mast should be sited so that in the event of it structural failure, it would not reach to the property boundary.

Question 12 – Do you agree with the principle of applying a distance criteria for wind turbines to deal with the potentially adverse impacts?

Question 13 – If you agree with question 11 do you think it should be set at 100metres to the nearest domestic building or can you suggest and give evidence for another figure?

41. Criteria on the height, size and location of turbines are proposed to limit their impact on visual amenity and neighbours, including the risk of them blowing down or causing structural damage. The criteria have been set so that they can still apply if the distance criteria is reduced or replaced with an approach based on accreditation.

Question 14 – Do you agree with the following limits on the scale of building mounted wind turbines? (each turbine blade up to 1.1 metres in length, up to 3 metres above the highest part of the roof and one per building)

Question 15 – Do you agree with the following limits on the scale of free-standing turbines? (each blade up to 1.1 metres in length and a maximum height including tower of 11.1 metres to the tip of the turbine blade, located at least 12 m from the boundary of the property and one per curtilage.)

42. For free standing turbines the masts may also have a visual impact. Planning Advice Note 45 (Annex) says that the colour should be appropriate to the setting and designed to minimise visual impact and reflection of light. It advises that the colour should minimise contrast with the predominant background e.g. if the main background is vegetation, a green/brown mast may be suitable. Clearly, the predominant background depends on the siting of the turbine and a specific 'one colour fits all' criteria for PD rights cannot be specified. While we have explained above why a general condition to deal with potential impacts is not thought to be necessary for the microgeneration equipment itself, a mast up to 10 metres high could have more of a visual impact than the turbine itself. One possibility would be to make PD subject to a condition such as 'provided the colour of the mast minimises its visual impact'. While this would be open to interpretation, it would provide a measure of control and a basis for enforcement. We are therefore seeking comments.

Question 16 – Should the visual impact of free-standing turbine masts be controlled by a condition on the PD rights such as 'provided the colour of the mast minimises its visual impact' or can you suggest an alternative formula?

Biomass

43. Biomass stoves and boilers burn wood, usually in the form of pellets or chips. They are deemed to be carbon neutral because the carbon emitted during burning is the same as that absorbed during growth. There are concerns that the very fine particles they emit may make it more difficult to achieve air quality objectives in urban areas. Research is underway to

provide advice on the potential cumulative impacts of such emissions in urban smoke control areas compared to rural sites. If necessary the results can be taken into account in the final Order.

44. The planning issues concern flues and the storage/delivery of the wood. The SE research recommended that these items were adequately covered in their general recommendations on residential PD and specific provisions were not needed under the microgeneration heading. In advance of those provisions it is proposed that there are PD rights for the flues but the wood stores are treated under the existing PD provisions. The boilers and stoves would be internal and therefore not a matter for planning permission and hence for PD.

Question 17 – Do you agree that flues for biomass stoves should be permitted development up to 1 metre above the highest point of the roof but not on the principal elevation in conservation areas.

Question 18 – Do you agree that wood stores should be treated in the same way as any other residential alterations or ancillary development, so that depending on circumstances they may be PD.

Heat Pumps

45. Heat pumps collect low level heat from outside a building (from the ground, water or the air) and release it at a higher temperature inside the building. Ground and water source heat pumps require a closed loop of pipe in a large trench (typically 1 – 2 metres deep and many metres long) or submerged in water, or alternatively a vertical borehole where the pipe may be open and the water returned to the environment locally. For ground and water source heat pumps the equipment could be installed within the house so planning permission would only be needed for any trench or borehole, but air source equipment would normally be installed outside.

46. Ground source heat pumps which need trenches or boreholes could potentially affect archaeological sites. For those which are Scheduled Ancient Monuments the separate requirement to get Consent will remain and planning authorities will continue to have the option of using Article 4 Directions to control PD rights for them and for other areas provided there was sufficient justification. Advice on this is given in PAN 42 Archaeology. It is also the case that the size of garden required to dig a large trench within the curtilage of a dwelling house or flat will act as a constraint on the exercise of PD rights. In view of these factors it is not proposed to restrict PD rights generally for archaeological reasons.

47. Water source heat pumps could require a separate authorisation under the Controlled Activities Regulations to control effects on the water environment. Further information can be found at http://www.sepa.org.uk/wfd/index.htm

48. Air source heat pumps draw their air from just outside the building, are similar in appearance to large air conditioning units and are potentially a source of noise because of their fan(s) and compressor. Like wind turbines, there is a risk of cumulative impacts and changing performance over time, so there is the same need for a precautionary approach and the gathering of evidence to allow reconsideration. It is therefore proposed to consult on the basis of a 100 metre distance to the nearest residential building BUT to seek suggestions for alternative distances and the evidence to justify them. A distance criteria would have the effect of not granting PD rights to flats.

Question 19 – Do you agree with the proposal that ground and water source heat pumps, including the collectors and associated trenches or boreholes should be permitted development?

Question 20 – Do you agree that air source heat pumps should be permitted development with the proviso that they should not be located within 100 metres of a separate house or flat?

Question 21 – If you think the distance criteria should be different, please say what you suggest and give the evidence to justify it.

Combined Heat and Power

49. A combined heat and power device simultaneously generates electricity and heat for water and space heating. By recovering the heat from the power generation process the devices are highly efficient and in a domestic situation avoid the electrical losses over transmission lines. Units are available as replacements for domestic boilers. Being internal, they are not expected to give rise to planning issues unless they are biomass units, in which case the considerations described above would apply.

Question 22 – Do you agree that there are no PD issues for domestic combined heat and power devices except for flues, in which case the PD limit should be 1 metre above the highest point of the roof, and additionally in conservation areas or world heritage sites not on the principal elevation and visible from a road?

Hydro-electricity

50. Hydro schemes generate electricity by using water to turn a turbine connected to a generator. There are likely to be few opportunities for such schemes in domestic circumstances and the planning issues are likely to be specific to the land and property in question. A building to house the turbine might be needed and associated engineering and pipe work, some of which might already be PD. The Scottish Executive research recommended PD for projects of up to 50kW capacity if they used an 'existing engineered channel' but the justification for this and the implications are unclear. The research for the other administrations suggested that there was little scope to provide additional PD rights that would encourage the take up of hydro schemes. In the light of this uncertainty we are proceeding cautiously and consulting on the basis that hydro-electricity schemes should not be PD, BUT we are inviting views on the circumstances in which consideration should be given to making it PD.

Question 23 – Do you agree that there should be no additional PD rights for domestic scale hydro-electric generating schemes? If 'no' please see the next question:

Question 24 – If you have answered 'no' to the previous question please say in what circumstances and within what criteria you think that domestic scale hydro schemes should be permitted development?

PD Rights in combination – possible cumulative effects

51. The PD proposals above have been set on the basis of each individual technology. The question arises as to whether there should be an overall limit to the installation of microgeneration equipment under PD Rights. The purpose would be to control any cumulative impacts. The SE research recommended a limit of 50kW (or 45kW thermal) within the curtilage of a single house.

> **Question 25 – Do you think that an overall limit should be set for the combined microgeneration capacity which is permitted development, and if so what should it be? Please justify your answer.**

Conclusion

52. Comments on the proposals for extending permitted development rights to domestic microgeneration equipment are invited. You may use the form at Annex 5. Comments need not be restricted to the specific questions above. Following consideration of the responses a final amendment Order will be prepared and laid in Parliament. It is intended that the amendment Order will be supported by guidance.

ANNEX 1 SUMMARY OF PROPOSALS

Type of Microgeneration Technology	Normal Domestic Buildings	Buildings in Conservation Areas and World Heritage Sites
Solar panels on buildings (photo-voltaic and hot water)	Permitted for pitched roofs and walls covering up to 60% of the area and protruding less than 150 mm above roof/wall plane. No PD for the walls of buildings containing flats. Permitted for flat roofs if equipment less than 1 m high, covering less than 60% of the roof area and set back 1 m from the edge of the roof.	Permitted as on left plus not on principal elevation facing onto or visible from a road.
Solar panels free-standing (photo-voltaic and hot water)	Permitted if less than 4 metres in height, at least 5 metres to any boundary and area of array a maximum of $9m^2$. Not permitted within curtilage of listed buildings.	Permitted as on left plus not if it would face onto or be visible from a road.
Wind turbines on building	Permitted if more than 100 m from neighbouring house or flat, plus - not more than 3m above the top of roof (including the blade) and length of each blade not exceeding 1.1m. 1 per dwelling/curtilage.	Not Permitted.
Wind turbines (free-standing)	Permitted if more than 100 m from neighbouring house or flat plus - height less than 11.1m (including the blade) and length of each blade not exceeding 1.1m and at least 12m from a boundary. Not permitted within curtilage of listed buildings. 1 per curtilage/dwelling.	Not permitted as on left, plus not in front of the principal elevation and if facing onto or visible from a road.
Biomass boiler/stove	Permitted – if flue height does not exceed 1m above top of roof.	Permitted as on left plus not on the principal elevation and visible from a road.
Ground source heat pumps	Permitted.	Permitted.
Air source heat pumps	Permitted if more than 100m from neighbouring house or flat.	Permitted as on left.
Water source heat pumps	Permitted.	Permitted.
Combined heat and power	Permitted – if flue height does not exceed 1m above top of roof.	Permitted as on left plus not on the principal elevation and visible from a road.
Hydro electric	Not permitted.	Not permitted.

ANNEX 2

SCOTTISH STATUTORY INSTRUMENTS

2008 No.

TOWN AND COUNTRY PLANNING

The Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2008

Made - - - -	*2008*
Laid before the Scottish Parliament	*2008*
Coming into force - -	*2008*

The Scottish Ministers make the following Order, in exercise of the powers conferred on them by sections 30, 31 and 275 of the Town and Country Planning (Scotland) Act 1997([2]) and of all other powers enabling them to do so.

Citation and commencement

1. This Order may be cited as the Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2008 and shall come into force on [ ].

Amendment of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992

2.—(1) The Town and Country Planning (General Permitted Development) (Scotland) Order 1992([3]) is amended as follows.

(2) In Schedule 1 after Part 1 (Development within the curtilage of a dwellinghouse) add–

"PART 1A

INSTALLATION OF DOMESTIC MICROGENERATION EQUIPMENT

Class 6A-

(1) The installation, alteration or replacement of solar PV or solar hot water equipment on-

(a) a dwellinghouse or a building containing a flat; or

(b) a building situated within the curtilage of a dwellinghouse, or a building containing a flat

([2]) 1997 c.8. The functions of the Secretary of State were transferred to the Scottish Ministers by virtue of section 53 of the Scotland Act 1978 (c.46).

([3]) S.I. 1992/224 as amended by S.I. 1992/1078; S.I. 1994/3294; S.I. 1998/1226; S.I. 2001/266 and S.I. 2007/209.

(2) Development is not permitted by this class, in the case of solar PV or solar hot water equipment installed on an existing wall or pitched roof of a dwellinghouse, if:

(a) any part of the solar PV or solar hot water equipment would protrude more than 150mm beyond the external surface of the wall or the plane of the roof; or

(b) any part of the solar PV or solar hot water equipment would project higher than the highest point of the roof (excluding any chimney);or

(c) the solar PV or solar hot water equipment would cover more than 60 % of the external surface of the wall or roof.

(3) Development is not permitted by this class, in the case of a building containing a flat, if–

(a) the solar PV or solar hot water equipment would be installed on any part of the external walls of the building;

(b) in the case of solar PV or solar hot water equipment installed on a pitched roof, if the solar PV or solar hot water equipment would:

(i) protrude more than 150mm beyond the plane of the roof; or

(ii) project higher than the highest point of the roof (excluding any chimney); or

(iii) cover more than 60% of the external surface of the roof.

(4) Development is not permitted by this class, in the case of solar PV or solar hot water equipment installed on a flat roof of a dwellinghouse or building containing a flat, if the solar PV or solar hot water equipment would:

(a) be situated within 1 metre from the edge of the roof; or

(b) protrude more than 1 metre above the plane of the roof; or

(c) cover more than 60% of the external surface of the roof.

(5) Development is not permitted by this class, in the case of land within a conservation area or which is a World Heritage Site, if the solar PV or solar hot water equipment would be installed on a wall or roof slope–

(a) forming the principal elevation of the dwellinghouse or the building containing the flat; and

(b) which faces onto or is visible from a road.

(6) Development is permitted by this class, subject to the following condition-

(a) solar PV or solar hot water equipment no longer needed for domestic microgeneration shall be removed as soon as reasonably practicable.

Class 6B

(1) The installation, alteration or replacement of a free-standing solar within the curtilage of a dwellinghouse or within the curtilage of a building containing a flat.

(2) Development is not permitted by this class if it would result in the presence within the curtilage of more than one free-standing solar.

(3) Development is not permitted by this class if the surface area of the solar panels forming part of the free-standing solar would exceed 9 square metres.

(4) Development is not permitted by this class if any part of the free-standing solar–

(a) would be installed on a building;

(b) would exceed 4 metres in height; or

(c) would be situated within 5 metres of the boundary of the curtilage.

(5) Development is not permitted by this class in the case of land within a conservation area or which is a World Heritage Site, if the free-standing solar would face onto or be visible from a road.

(6) Development is not permitted by this class if the free standing solar would be installed within the curtilage of a listed building.

(7) Development is permitted by this class, subject to the following condition-

(a) free-standing solar equipment no longer needed for domestic microgeneration shall be removed as soon as reasonably practicable.

Class 6C

(1) The installation, alteration or replacement of a wind turbine on a dwellinghouse.

(2) Development is not permitted by this class if–

(a) it would result in the presence within the curtilage of the dwellinghouse of more than one wind turbine;

(b) the length of any blade of the wind turbine would exceed 1.1 metres when measured from its tip to the axis of the turbine;

(c) the highest part of the wind turbine (including any blade) would protrude more than 3 metres above the highest part of the roof (excluding the chimney);

(d) any part of the wind turbine would be within 100 metres of a neighbouring dwellinghouse or building containing a flat;

(e) the development would be in a conservation area or a World Heritage Site.

(3) Development is permitted by this class, subject to the following condition-

(a) wind turbine equipment no longer needed for domestic microgeneration shall be removed as soon as reasonably practicable.

Class 6D

(1) The installation, alteration or replacement of a free-standing wind turbine within the curtilage of a dwellinghouse.

(2) Development is not permitted by this class if–

(a) it would result in the presence within the curtilage of more than one wind turbine;

(b) the free-standing wind turbine would be installed on a building;

(c) the free-standing wind turbine (including any blade) would exceed 11.1 metres in height;

(d) the length of any blade of the free-standing wind turbine would exceed 1.1 metres when measured from its tip to the axis of the turbine;

(e) any part of the free-standing wind turbine would be within 12 metres of the boundary of the curtilage;

(f) any part of the free-standing wind turbine would be within 100 metres of a neighbouring dwellinghouse or building containing a flat.

(3) Development is not permitted by this class, in the case of land within a conservation area or which is a World Heritage Site, if the free-standing wind turbine would–

(a) be installed in front of the principal elevation of the dwellinghouse; and

(b) faces onto or is visible from a road.

(4) Development is not permitted by this class if the free standing wind turbine would be installed within the curtilage of a listed building.

(5) Development is permitted by this class, subject to the following condition-

(a) free standing wind turbine equipment no longer needed for domestic microgeneration shall be removed as soon as reasonably practicable.

Class 6E

(1) The installation, alteration or replacement of a flue, forming part of a biomass heating system, on a dwellinghouse or building containing a flat.

(2) Development is not permitted by this class if–

(a) the height of the flue would protrude more than one metre above the highest part of the roof (excluding any chimney);

(b) in the case of land within a conservation area or which is a World Heritage Site, the flue would be installed on the principal elevation of the dwellinghouse, or building containing a flat, and would be visible from a road.

Class 6F

The installation, alteration or replacement of a ground source heat pump within the curtilage of a dwellinghouse or building containing a flat.

Class 6G

(1) The installation, alteration or replacement of an air source heat pump on, or within the curtilage of a dwellinghouse.

(2) Development is not permitted by this class if any part of the air source heat pump would be within 100 metres of a neighbouring dwellinghouse or building containing a flat.

Class 6H

The installation, alteration or replacement of a water source heat pump within the curtilage of a dwellinghouse or building containing a flat.

Class 6I

(1) The installation, alteration or replacement of a flue, forming part of a combined heat and power system, on a dwellinghouse or building containing a flat.

(2) Development is not permitted by this class if–

(a) the height of the flue would protrude more than one metre above the highest part of the roof (excluding any chimney);

(b) in the case of land within a conservation area or which is a World Heritage Site, the flue would be installed on the principal elevation of the dwellinghouse, or building containing a flat, and would be visible from a road.

Interpretation of Part 1A

For the purposes of Part 1A–

"microgeneration" has the same meaning as in section 82(6) of the Energy Act 2004([4]) and "domestic microgeneration" means the production of electricity or heat for domestic consumption using microgeneration equipment;

"solar PV" means solar photovoltaics;

"free-standing solar" means solar PV or solar hot water equipment which is not installed on a building; and

"free-standing wind turbine" means a wind turbine which is not installed on a building.".

([4])

A member of the Scottish Executive

St Andrew's House,
Edinburgh

2008

EXPLANATORY NOTE

(This note is not part of the Order)

This Order amends Schedule 1 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992. Schedule 1 confers permitted development rights in respect of certain development. Where such rights apply, no specific application for planning permission is needed and extends Permitted Development rights to individual microgeneration technologies.

Article 2(2) inserts a new Part 1A of Schedule 1 into the 1992 Order. It provides permitted development rights for the installation of specified types of microgeneration equipment on or within the curtilage of dwellinghouses or flats, subject to certain criteria. These types of microgeneration equipment include: solar hot water and photo-voltaics panels; wind turbines; biomass stoves; ground source heat pumps; water source heat pumps; air source heat pumps and combined heat and power devices.

A regulatory impact assessment has been prepared in relation to this Order and can be obtained free of charge from the Scottish Government Planning Directorate, Area 2H, Victoria Quay, Edinburgh, EH6 6QQ.

ANNEX 3 PARTIAL REGULATORY IMPACT ASSESSMENT

1 Title Of The Proposal

1.1 This is a Partial Regulatory Impact Assessment (RIA) of the proposals to amend the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (the GPDO) to give permitted development rights to categories of microgeneration equipment for domestic properties.

1.2 This partial RIA assesses the likely impacts of the proposals in the consultation paper. The proposals for the GPDO and this assessment may be revised following the consultation.

2 Purpose and Intended Effect

Objective

2.1 The amendments to the GPDO are required to enable more microgeneration equipment to be installed on existing buildings without the need to obtain planning permission. They seek to promote the up-take of domestic microgeneration on existing buildings in order to provide a sustainable source of low carbon energy and to reduce carbon dioxide emissions from buildings.

2.2 It is intended that the proposals will have the following effects:

- the elimination of time and monetary costs to householders of obtaining planning permission (a perceived barrier to take-up);
- potential energy savings to householders;
- wider direct and indirect effects including an anticipated reduction in the work of planning authorities in determining planning applications;
- stimulation of the market demand for renewable technologies;
- increased uptake of renewable sources of power relative to non-renewable sources leading to knock on effects on carbon savings; and
- contribution towards the national target for renewable energy.

Background

2.3 Microgeneration is the production of heat (less than 45 kilowatt capacity) and / or electricity (less than 50 kilowatt capacity) from zero or low carbon source technologies. Some microgeneration technologies produce energy using renewable resources such as solar, wind or biomass (e.g. wood) and some, like combined heat and power (CHP), may use fossil fuels but are much more efficient than conventional systems.

2.4 There is little available data on the current use of domestic microgeneration in Scotland or even in the UK. An independent report commissioned by the former Department of Trade and Industry (DTI) in 2005[5] identified that there were approximately 82,000 microgeneration installations of all types across the UK. There is no equivalent data for the proportion currently installed in Scotland. To establish a baseline information can be obtained from sources of grant funding for microgeneration equipment.

[5] Potential for Microgeneration, Study and Alanysis – Final Report. November 2005. Energy Savings Trust, Econnect and Element Energy.

2.5 In Scotland, two routes are available for householders to apply for grants for microgeneration. Both are managed by the Energy Savings Trust (EST) however double funding for projects is not allowed.

2.6 The Low Carbon Buildings Programme is funded by the Department for Business Enterprise and Regulatory Reform (BERR) at a UK level. Phase 1 was launched in April 2006 for a period of 3 years. Data available for household grant applications for Scotland since its launch almost 2 years ago is shown below[6].

Technology	Total Applications
Biomass Room Heater / Stove	2
Ground Source Heat Pump	7
Solar Photovoltaic	27
Solar Thermal Hot Water	17
Wind Turbine	143
Wood Fuelled Boiler System	2
Total for all technologies	**198**

Figures are shown for live or successfully completed grants only. Grants that have been offered but subsequently withdrawn or expired are not included.

2.7 The Scottish Community and Householder Renewables Initiative (SCHRI) is funded by the Scottish Government. Data from the SCHRI shows the following distribution of grants for microgeneration since January 2003.

Technology	Number of Grants
Biomass	139
Ground Source Heat Pump	756
Solar Photovoltaic	2
Solar Thermal Hot Water	1050
Wind Turbine	139
Air Source Heat Pump	54
Hydro	9
Solar Hot Water / Wind	2
Lerwick District Heating	98
Total for all technologies	**2249**

2.8 Assuming that all applications for grant funding have led to the installation of microgeneration technology, on the basis that if not implemented grants would be withdrawn or expire, there are at the very least approximately 2450 schemes in place in Scotland. The rates of grant distribution are approximately 100 per year for the LCBP and 450 per year for the SCHRI. On the basis that projects cannot be double funded and assuming these rates continue, a minimum of approximately 550 schemes are implemented across Scotland each year at present. However, some caution must be applied in that it is not confirmed whether these grants were for microgeneration installations on existing households or as part of new build developments.

6 http://www.lowcarbonbuildings.org.uk/lowcbp/statistics/statisticsView.action;jsessionid=0a0a071a30d83c62c684a2424e459e2ea19267597276.e34PaxuMah4Rci0La3qPa3mNb41ynknvrkLOlQzNp65In0

Rationale for Government Intervention

2.9 To tackle energy issues : The Scottish Government have set a target of generating 50% of Scotland's electricity from renewable energy by 2020. Support is given to the full range of renewable technologies to achieve this, including microgeneration, to tackle the major issues of climate change, secure and diverse energy supplies and energy poverty.

2.10 To benefit businesses and consumers : Support for microgeneration will also enable the development of a viable renewables industry in Scotland through greater demand, improvements to the effectiveness of technologies and ultimately economies of scale leading to reduction in prices for consumers. Microgeneration could become a realistic alternative or supplement to conventional energy sources.

2.11 To create certainty in planning : At present there is a lack of clarity about the need for planning permission for some technologies leading to different interpretations of the GPDO and an inconsistent approach across Scotland. Where a planning application is required, the current fee for this in Scotland is £145. This increases significantly however when associated costs, such as professional fees and time for negotiations, are factored in. The resource requirement and uncertainties may therefore be a deterrent to the use of microgeneration technologies, which the amendments to the order would remove.

2.12 Generally : The proposals represent a deregulatory initiative which reduce the regulatory burden on households.

2.13 Retaining the status quo : With no changes made to the GPDO, the generating capacity of renewable energy will be restricted and the cost effectiveness of microgeneration equipment will suffer.

3 Consultation

Within Government

3.1 The proposals have been the subject of discussion and internal consultation with Historic Scotland, Scottish Building Standards Agency, Energy and Telecommunications and Landscapes and Habitats. Discussions have also been held with colleagues in England.

Public Consultation

3.2 There has been no previous full public consultation exercise on the proposals in Scotland. The Consultation Draft of Scottish Planning Policy (SPP) 6 highlighted that a general review of the GPDO was underway and that consideration was being given to how permitted development rights for microrenewables may be used. A research project considering this issues involved stakeholder consultation to inform recommendations.

4 Options

4.1 Three options have been considered, including the 'do-nothing' scenario. The remaining options vary in relation to the level of control exercised via planning

4.2 Consideration of the options below does not take account of external events which may affect the take up of microgeneration technologies, such as changes in non-renewable fuel prices.

Option 1 : Do Nothing – Status Quo.

4.3 At present the extent to which householders have rights to install microgeneration technologies without planning permission is unclear. Guidance in the Annex to Planning Advice Note (PAN) 45, Planning for Micro-Renewables indicates that most micro-wind turbines are likely to require planning permission, whilst in some cases solar collectors may not. The lack of clarity would continue with this option resulting in inconsistent application across the country and uncertainty for stakeholders. Maintaining the status quo would not achieve the objective identified in section 2.1 above clearly or consistently. It would not require changes to implement.

Option 2 : Absolute Permitted Development Rights for all Microgeneration Equipment

4.4 This would enable anyone wishing to install any type of microgeration equipment on their dwelling to do so without the need to apply for planning permission. It would remove all financial and time costs relating to the application process and some associated professional fees. It would also result in a myriad of impacts on the built and natural environment and to residential amenity. This option would achieve the objective identified in section 2.1 but would do so at the expense of generally accepted planning principles relating to protection of the environment in the wider public interest. It would require changes to the GPDO to implement the proposals.

Option 3 : Permitted Development Rights Limited by Impact Criteria

4.5 The GPDO would set individual criteria for the right to install different types of microgeneration technologies on domestic dwellings. The criteria would take account of the likely impacts associated with the particular technology, for example in relation to size, positions and proximity to other houses. This represents a precautionary approach with greater restrictions for some technologies for specific areas, for example those designated for their historic value, in order to control impacts on the environment and residential amenity. This option would achieve the objective in section 2.1 whilst mitigating risks associated with likely impacts. It may not generate the same level of up-take as option 2 but in doing so it will prevent the risk of creating a backlash against microgeneration. It would require changes to the GPDO to implement the proposals.

5 Costs and Benefits

Sectors and Groups Affected

5.1 Planning authorities: Amendments to the GPDO will impact upon planning authorities who have responsibility for its implementation. Benefits will be felt in that it will be possible to interpret the Order with greater clarity and certainty and there will be fewer applications for them to consider.

5.2 Householders: The proposals are also likely to benefit householders wishing to install microgeneration technologies in that there will be certainty whether planning permission will be required. Where it is not needed there will be benefits of reduced costs in terms of time, there will be no fee applicable and associated professional fees may also be reduced.

5.3 Microgeneration technology manufacturers, retailers and the associated chains for research and design and components: These sectors will are likely to benefit from a greater demand.

5.4 Neighbours: A range of impacts may affect the occupants of households surrounding those which install microgeneration technologies depending on the type installed.

5.5 Environmental health authorities: The authorities responsible for enforcement of issues relating to nuisance, for example noise, may be affected indirectly if a greater number of complaints are received from neighbouring households.

5.6 Non-renewable energy suppliers: Power generation companies and their supply chain are likely to be affected by a reduced demand.

Estimates of Microgeneration Uptake

5.7 Before estimates of costs and benefits of amendments to the GPDO can be attributed figures for the likely uptake of the relevant microgeneration technologies for Scotland are required. As referred to in section 2.4 above there is little information available on existing uptake of microgeneration in Scotland. This is mirrored in information available for the potential future uptake. The figures below are therefore very general estimates and should be treated accordingly.

5.8 The 2005 report for the DTI provides estimates for the uptake of different technologies for the UK, which could occur without intervention or support by Government. The figures also take no account of the increased awareness resulting from announcements related to climate change or energy policy or from marketing by technology retailers. Anecdotal evidence suggests that increased public awareness is leading to an increase in uptake which is greater than originally anticipated in the report. All estimates calculated should therefore be considered as the lower range of their potential. The 2005 report estimates for the UK for those categories of development which at present may require planning permission are given at Figure 1.

Figure 1. Potential microgeneration uptake for the UK

Units installed	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	2,402	1,025	334	2,260	51,071	57,092
2020	30, 751	48,599	519	100,838	51,071	201,027
2030	95,112	620,830	1,773	537,900	54,974	1,310,589
2050	160,542	944,917	9,910	1,000,000	59,017	2,174,386

5.9 2001 Census figures show that the proportion of Scottish households relative to the UK is approximately 9%. Applying this to the figures above gives a general estimate of the equivalent potential uptake for Scotland.

Figure 2. Potential microgeneration uptake for Scotland						
Units installed	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	216	92	30	203	4,596	5,138
2020	2,768	4,374	47	9,075	4,596	20,860
2030	8,560	55,875	160	48,411	4,948	117,953
2050	14,449	85,043	892	90,000	5,312	195,695

5.10 The 2005 Report figures do not distinguish between installations on existing buildings, for which a planning application would be required, or on new buildings where the microgeneration technology would be part of the application as a whole. Whilst in other areas of the UK the proportion of new build housing to that of the existing may be significant[7], new build activity only represents approximately 1% of the total housing stock in any one year[8]. No adjustments to the figures are therefore made in this regard.

5.11 As implied in section 4.3 above some microgeneration technologies may already be considered to be permissible under the existing GPDO. To account for this adjustments are made as indicated in Figure 3. PV and solar are similar in their characteristics and at present may be considered permitted development where their installation will not result in visual impacts. Wind turbines and micro-hydro will currently require planning permission because of the nature of their likely impacts. There is some uncertainty around the need for planning permission for GSHP but it is assumed this is much less relative to PV and solar on the assumption that bore holes or trenches would be engineering operations that would require a consent. The adjustments needed are therefore taken into account in Figure 4.

Figure 3. Estimates of the percentage share of technologies which may currently be interpreted as permitted development				
Photo-voltaics	Wind	Micro-hydro	GSHP	Solar
50%	0%	0%	10%	50%

Figure 4. Potential microgeneration uptake for Scotland, including assumptions for those technologies which may at present be considered permitted development (Option 2)						
Units installed	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	108	92	30	183	2,298	2,711
2020	1,384	4,374	47	8,167	2,298	16,270
2030	4,280	55,875	160	43,570	2,474	106,359
2050	7,224	85,043	892	81,000	2,656	176,815

[7] The RIA for the England and Wales consultation paper indicates this is 10%.
[8] http://www.communitiesscotland.gov.uk/stellent/groups/public/documents/webpages/cs_017789.hcsp

5.12 Whilst the figures above would indicate the potential uptake of microgeneration technologies if permitted development rights were absolute (Option 2), adjustments are required for when criteria are applied to different technologies which take account of possible impacts (Option 3) as are proposed in this consultation paper.

5.13 Under option 3, GSHP, with their associated pipe work and engineering works, would generally be considered permitted development. It is not proposed to permit micro-hydro without planning permission due to possible environmental impacts. Wind turbines are more likely to be allowed in lower density areas, such as rural or urban fringe locations. Photo-voltaic and solar technologies restrictions relate more to their relationship with the building than to general types of location. Estimates are shown in Figure 5 and the resulting impact on numbers in Figure 6. These assumptions however, do not take account for specific location circumstances which may restrict the type of technology that could generate energy efficiently.

Figure 5. Estimates of the percentage share of technology uptake which may be permissible when criteria applied to permitted development rights

Photo-voltaics	Wind	Micro-hydro	GSHP	Solar
85%	30%	0%	100%	85%

Figure 6. Potential microgeneration uptake for Scotland, including assumptions for those technologies which may at present be considered permitted development and assumptions relating to limitation criteria (Option 3).

Units installed	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	92	28	0	183	1,953	2,256
2020	1,176	1,312	0	8,167	1,953	12,608
2030	3,638	16,763	0	43,570	2,103	66,074
2050	6,141	25,513	0	81,000	2,257	114,911

Benefits

5.14 It is anticipated that amendments to the GPDO will bring a range of benefits as identified throughout previous sections. These generally relate to four broad areas, the first two of which are more readily quantifiable using the estimates above.

- The removal of the need to apply for planning permission will result in savings for householders both for the application and some associated fees. It should also reduce the length of time taken for technologies to be installed.
- A reduction in the number of planning applications to authorities will result in savings in staff time and lower costs.
- A growth in demand for microgeneration technologies would increase production and manufacturing and lead to technological improvement through research and development.
- A more competitive market should contribute to reaching a range of targets including reduced energy bills for consumers, a more diverse energy mix and ultimately to a reduction in carbon emissions.

Householders

5.15 The current cost of submitting a householder planning application in Scotland is £145. The indirect costs, for example professional fees, is approximately £725[9]. This results in a saving of £870 per installation. By applying the saving per installation to the number of cases that would otherwise have required planning permission in options 2 and 3 to 2030, cumulative savings can be estimated.

Figure 7. Householder savings (£) – Option 2						
	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	94,000	80,000	26,000	160,000	2,000,000	2,360,000
2020	1,200,000	3,800,000	41,000	7,100,000	2,000,000	14,141,000
2030	3,700,,000	49,000,000	140,000	38,000,000	2,200,000	93,040,000

Figure 8. Householder savings (£) – Option 3						
	Photo-voltaics	Wind	Micro-hydro	GSHP	Solar	Total
2010	80,000	24,000	0	160,000	1,700,000	1,964,000
2020	1,000,000	1,100,000	0	7,100,000	1,700,000	10,900,000
2030	3,200,000	15,000,000	0	38,000,000	1,800,000	58,000,000

5.16 Option 2 offers savings of at least £14 million by 2020 and option 3 savings of at least £10 million. Whilst there is a significant difference between the 2 options, risks associated with a possible backlash against technologies in relation to their impacts in option 2 could then have a major impact on the realisation of the potential savings by 2030 but which would be more likely to be achieved under option 3.

5.17 These savings do not take into account the value which householders place on the time saved in not having to apply for planning permission in regard to completing the necessary forms and procedures and being subject to the uncertainty of a process of which they have little detailed knowledge.

Planning Authorities

5.18 The estimates for the total units installed in Figures 4 and 6, repeated below, equate to the number of planning applications that authorities would not have to determine under each of the options. Staff resources could therefore be more appropriately assigned.

5.19 Option 2 would generate the greatest uptake in the short-term and therefore would generate the greatest savings of resources. However, these would need to be off-set against costs incurred, for example by environmental health authorities where complaints are made in regard to impact on neighbours.

[9] Based on the Price Waterhouse Coopers 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.

Year	Option 2	Option 3
2010	2,711	2,256
2020	16,270	12,608
2030	106,359	66,074
2050	176,815	114,911

Technologies

5.20 The economics associated with early stages of technological development indicate that costs are higher in initial phases. Once demand is generated and barriers to uptake removed it would be expected that technologies would be refined so that they became more efficient in terms of production costs and their output. The resultant benefits would be to consumers and the industry as a whole. Quantifying benefits in this regard are extremely complicated given the variety of assumptions which relate to different rates for different scales of technology, commercial energy costs, level of government intervention, grid technology (see 2005 Report for DTI).

5.21 Option 2 would generate the greatest uptake in a short time period therefore allowing economies and efficiencies to be realised sooner. However, this could be jeopardised by the risks associated with a backlash.

Targets

5.22 Where microgeneration technologies are installed householders will require less energy from the grid and may even be able to export extra capacity. This is turn should reduce fuel bills for consumers. In the longer term this has potential to reduce the number of households affected by fuel poverty.

5.23 The use of microgeneration technologies may represent relatively small amounts of energy for individual householders but over the longer term will cumulatively contribute towards a security of energy supply and creation of a variety of sources that are economically viable.

5.24 The ultimate benefit from each of these actions would mean that the use of fossil fuels to generate energy is replaced by low and zero carbon emitting options. This would play a part in meeting targets for the reduction of carbon emissions.

5.25 The risks highlighted previously associated with absolute permitted development rights would introduce vulnerability to the achievement of the above targets, the majority of which have broader, aspirational aims.

Costs

5.26 It is anticipated that amendments to the GPDO could have a variety of costs, as identified throughout previous sections.

Planning Authorities

5.27 The £145 fee payable to authorities to process these types of application would no longer be received. The more precautionary approach in option 3 therefore results in less revenue being lost. The options would therefore result in the loss of revenues identified below, though fees are set to cover processing costs nationally and so national staff costs should reflect the workload.

Year	Option 2	Option 3
2010	390,000	330,000
2020	2,400,000	1,800,000
2030	15,000,000	10,000,000
2050	26,000,000	17,000,000

Environmental Impacts

5.28 The current situation of applying for planning permission enables the planning merits of an application to be considered, for example the impact on the natural and built environment such as landscapes and listed buildings. Where this would be removed in full, as in option 2, a range of impacts will be possible without control of any kind. Option 3 however, accounts for the likely impacts of particular technologies within the limitation criteria. Anything that fell outwith the criteria would then be subject to a planning assessment.

5.29 These impacts are likely to be to the detriment of neighbouring residents in terms of noise and amenity as well as to the wider environmental in terms of the cumulative impact of a variety of technologies within a small area. As a consequence, these would result in complaints to regulatory bodies such as environmental health authorities.

Commercial Energy Providers

5.30 An increase in locally produced energy will result in less energy being taken from the grid which is provided by commercial scale companies. They would therefore experience a reduction in demand and therefore loss of revenues. Option 3 would mean that this is limited in the short term.

6 Small / Micro Firms Impact Test

6.1 The microgeneration industry is characterised by small scale firms. No specific information is available, or research undertaken, on the impact of these proposals specifically on small businesses. However, the removal of barriers would promote technologies and benefit those companies looking to develop and refine products. Taking a precautionary approach, as in option 3, would enable impacts to be monitored and considered in product refinement to prevent adverse impacts undermining the acceptability of technologies and the industry.

6.2 As well as manufacturers and retailers the planning system is supported by a range of professional sectors, including private planning consultancies, architects and surveyors. Option 2 would result in a slower rate of growth for these firms and whilst this would occur for option 3, it would be to a lesser extent.

7 Legal Aid Impact Test

7.1 This test is not considered relevant to the amendments to the GPDO.

8 'Test Run' of Business Forms

8.1 The amendments to the GPDO do not contain business forms.

9 Competition Assessment

9.1 Key areas for the consideration of competition impacts are:

- Competition between large scale commercial energy providers which are present dominate the market and the introduction of smaller scale microgeneration technology manufacturers and retailers which will enable households to generate their own energy.
- Competition between energy providers could lead to changes in energy prices as conventional fossil fuel sources reduce and prices for energy from microgeneration becomes more competitive.

10 Enforcement, Sanctions and Monitoring

10.1 Planning authorities will continue to provide the authoritative interpretation of any amendments made to the GPDO. Where this is challenged in the courts precedents will be set which assist this interpretation. Planning authorities will also remain responsible for enforcement either where a planning application has not been made that is required or where a consent has been implemented incorrectly.

10.2 Option 2 of the proposals may result in impacts to neighbouring residences which may require monitoring and enforcement by environmental health authorities.

ANNEX 4 PARTIAL EQUALITIES IMPACT ASSESSMENT

What is the purpose of the proposed policy (or changes to be made to the policy)?

The extension of permitted development rights to microgeneration equipment so that more can be installed on domestic buildings without the need to apply for and be granted planning permission, and therefore in contributing to reductions in green house gas emissions. This will be achieved by amending the General Permitted Development Order (GPDO).

Who is affected by the policy or who is intended to benefit from the proposed policy and how?

The draft amendment Order will principally affect householders and planning authorities, but also neighbours, the general public and employees of microgeneration equipment companies. The main benefit will be to householders who will not have to pay a fee to apply for planning permission nor pay the costs of preparing the drawings and completing the application form (estimated at £870). The population as a whole should benefit from any mitigating of the effects of climate change which a reduction in CO_2 emissions will bring about.

How have you or will you put the policy into practice, and who is or will be delivering it?

These permitted development rights are for householders or other developers to exercise. Scottish Ministers and Planning Authorities will have advisory roles. Architects and planning consultants may also have a role, but as the final Order will be accompanied by written guidance it is expected that householders will be able to understand its provisions.

How does the policy fit into our wider or related policy initiatives?

The draft Order fits into the Government's strategic aims, in particular:

- Greener Scotland – increasing the amount of energy from renewable and low carbon sources is important for securing long term supplies, reducing CO2 emissions and delivering growth which is sustainable.

What we already know about the diverse needs and/or experiences of your target audience

AGE

Evidence: We are not aware of any evidence that age is a factor in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order. Regarding the likelihood of people objecting to planning applications, research contained in *Planning and Community Involvement* indicated that generally the people likely to volunteer their views on a planning application come from a narrow age profile dominated by the middle aged and the elderly. The proposals are designed to avoid or minimise the adverse effects which might lead to objections.

Planning and Community Involvement in Scotland.
http://www.scotland.gov.uk/Publications/2004/07/19666/40347

RACE

Evidence: We are not aware of any evidence that race is a factor in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order.

http://www.scotland.gov.uk/Publications/2004/07/19666/40347- Research highlighting the age, gender and race demographic of those involved in the planning system.

GENDER

Evidence: We are not aware of any evidence that gender is a factor in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order.

Research contained in *Planning and Community Involvement* showed that women were slightly more likely than men to become involved in the planning process, but significantly more likely to oppose a planning application, though this was did not specifically concern microrenewables.

Results from the Scottish Household Survey set out in *Getting Involved in Planning: Summary of Evidence* showed that broadly men and women were equally interested in the planning of their area, and equally considered it was important that people should be involved in the planning of their area.

DISABILITY

Evidence: We are not aware of any evidence that disability is a factor in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order.

RELIGION & BELIEF

Evidence: We are not aware of any evidence that religion or belief is a factor in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order.

LGBT

Evidence: We are not aware of any evidence that LGBT are factors in seeking planning permission for the installation of microgeneration equipment under the current provisions or that therefore it will be a relevant factor in any increase in installations under the provisions proposed in the draft order.

Do we need more information to help us understand the diverse needs and/or experience of our target audience?

We recognise that there is scope to increase our knowledge as to whether and if so how granting permitted development rights for domestic microgeneration equipment will affect particular sections of society. To assist in this, we have included a specific question in annex 5, the summary of questions and response form seeking views on whether there are particular impacts on societal groups that we should be aware of.

ANNEX 5 SUMMARY OF QUESTIONS AND RESPONSE FORM

Question	Yes	No	Comments
1 – Are there sufficient grounds to further constrain the PD proposals for domestic microgeneration equipment, especially wind turbines, in areas designated for their landscape quality? Please provide justification or evidence for your answer.			
2 – Are there sufficient grounds to further constrain the PD proposals for domestic microgeneration equipment in areas designated for the protection of flora and fauna? Please provide justification or evidence for your answer.			
3 – Should PD rights for microgeneration equipment, except wind turbines, be granted in areas designated for their built heritage value providing that the principle elevation fronting a highway is unaffected?			
4 – Are the separate controls for listed buildings sufficient to control the installation of microgeneration equipment? If not, what specific provisions are necessary?			
5 – Will the setting of listed buildings be adequately protected by not granting PD rights to wind turbines and solar arrays within their curtilage?			
6 – Do you think that general conditions on amenity and other impacts could be applied to the PD rights for microgeneration equipment?			
7 – Do you agree that the same PD rights should apply to solar water heating and photo-voltaic panels? If not, please say why.			
8 – Do you consider that the proposed PD limits for solar panels on domestic buildings of 150 mm above the plane of a pitched roof or a wall, not higher than the highest point of a pitched roof and covering up to 60% of the roof or wall area are appropriate? If not, what should the limits be and why?			
9 – Do you agree that there should be no PD for solar panels on the walls of buildings containing flats?			
10 – For flat roofs do you agree or do you have alternatives to the suggestion that PD rights for panels should be set so that they are no closer than 1 metre to the edge of the roof, with the highest point of the panel not more than 1 metre above the plane of the roof and covering up to 60% of its area? If not, please suggest alternative provisions.			

11 – For free-standing arrays, should PD rights be set at less than 4 metres in height, at least 5 metres from the property boundary and with a maximum area of 9 sq metres?			
12 – Do you agree with the principle of applying a distance criteria for wind turbines to deal with the potentially adverse impacts?			
13 – If you agree with question 11 do you think it should be set at 100metres to the nearest domestic building or can you suggest and give evidence for another figure?			
14 – Do you agree with the following limits on the scale of building mounted wind turbines? (each turbine blade up to 1.1 metres in length, up to 3 metres above the highest part of the roof and one per building)			
15 – Do you agree with the following limits on the scale of free-standing turbines? (each blade up to 1.1 metres in length and a maximum height including tower of 11.1 metres to the tip of the turbine blade, located at least 12 m from the boundary of the property and one per curtilage.)			
16 – Should the visual impact of free-standing turbine masts be controlled by a condition on the PD rights such as 'provided the colour of the mast minimises its visual impact' or can you suggest an alternative formula?			
17 – Do you agree that flues for biomass stoves should be permitted development up to 1 metre above the highest point of the roof but not on the principal elevation in conservation areas.			
18 – Do you agree that wood stores should be treated in the same way as any other residential alterations or ancillary development, so that depending on circumstances they may be PD.			
19 – Do you agree with the proposal that ground and water source heat pumps, including the collectors and associated trenches or boreholes should be permitted development?			
20 – Do you agree that air source heat pumps should be permitted development with the proviso that they should not be located within 100 metres of a separate house or flat?			

21 – If you think the distance criteria should be different, please say what you suggest and give the evidence to justify it.			
22 – Do you agree that there are no PD issues for domestic combined heat and power devices except for flues, in which case the PD limit should be 1 metre above the highest point of the roof, and additionally in conservation areas or world heritage sites not on the principal elevation and visible from a road?			
23 – Do you agree that there should be no additional PD rights for domestic scale hydro-electric generating schemes? If 'no' please see the next question:			
24 – If you have answered 'no' to the previous question please say in what circumstances and within what criteria you think that domestic scale hydro schemes should be permitted development?			
25 – Do you think that an overall limit should be set for the combined microgeneration capacity which is permitted development, and if so what should it be? Please justify your answer.			
26 – Are the proposals for PD likely to have particular impacts on societal groups?			

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