

Scottish Government Review of Permitted Development Rights

Phase 3 Consultation

Analysis of responses to the consultation exercise

March 2024

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Executive Summary

Permitted development rights (PDR) provide flexibility to carry out certain types of development without an application for planning permission having to be submitted to, and approved by, the relevant planning authority. The Scottish Government is reviewing PDR on a phased basis; this consultation relates to Phase 3 and is primarily focused on PDR for domestic and non-domestic renewables equipment. It also considers PDR associated with the rollout of transmission and distribution infrastructure needed to support the expansion of renewables and to meet increasing demands for electricity and seeks views on potential amendments to PDR for reverse vending machines (RVMs) and temporary target shooting ranges.

The consultation opened on 31 May 2023 and closed on 23 August 2023. In total 467 responses were received, of which 104 were from groups or organisations and 363 from individual members of the public.

Domestic Renewables

Domestic solar energy equipment

Around two thirds (65%) of those who answered the question and gave a clear view agreed with the proposed PDR for solar panels attached to domestic properties in conservation areas, while 35% disagreed. Respondents who supported the proposed PDR tended to see the approach as reasonable and to view concerns with respect to possible impacts on visual amenity or the character of conservation areas as being outweighed by the potential benefits. The most frequent reason for opposing the proposed PDR was concern for the cumulative impact of solar panels on the appearance and character of conservation areas. In particular, the proposed exclusion with respect to solar panels 'on a principal elevation or a side elevation where that side elevation fronts a road' was considered inadequate, since solar panels may still be visible from many other vantage points.

Around three quarters – 74% of those who gave a clear view – agreed with proposals for PDR for solar panels on outbuildings ancillary to, and within the curtilage of, a dwellinghouse while 26% disagreed. Arguments in support of the PDR tended to reflect points raised at the previous question in terms of the reasonableness of the approach, with an additional suggestion that ancillary buildings are well suited to solar PV, with the potential to provide a less obtrusive option than mounting panels on the main building. Reasons that the new PDR should not be introduced included both that current requirements to obtain planning permission should remain and that to make it even easier to generate solar energy, some or all of the proposed restrictions should be removed.

Domestic Air Source Heat Pumps

The majority of those giving a clear view agreed with the proposed amendments to PDR for ASHPs; 59% were of this view while 41% disagreed. Those who supported the proposed amendments saw heat pumps as a key technology for delivery of net zero policy targets, and agreed with the need for expansion of PDR to support wider roll out of ASHPs. Objections to proposed changes were most commonly

related to noise impacts, including potential for cumulative noise associated with multiple installations in close proximity, and there were concerns around the current methodology for the assessment of noise impacts. There were also concerns that proposed limits on the size and positioning of ASHP units could be too restrictive, and that allowing ASHP installation above ground level could have a significant visual impact even where this is limited to rear elevations.

Domestic Ground Source and Water Source Heat Pumps

Three quarters (75%) of respondents who gave a clear view agreed with the proposed amendments to classes 6D and 6E PDR, while 25% disagreed. Those expressing support for proposals agreed that these would provide greater clarity around the scope of PDR for domestic ground source and water source heat pumps, and would bring existing PDR in line with those relating to non-domestic heat pumps. Concerns around the proposed changes included a view that PDR should continue to be restricted in areas of archaeological interest and within the curtilage of historic sites, and that the proposed limitation of PDR to the curtilage of properties could prevent installers from choosing the most appropriate solution.

Free-standing domestic wind turbines

A little more than half (55%) of respondents with a clear view agreed with the proposed amendments to PDR for free-standing domestic wind turbines, while 45% disagreed. A majority of Planning authority and Professional or representative body respondents disagreed. Some respondents noted that they generally agreed or agreed in principle with the proposed approach, which was described as sensible or reasonable and as an effective way to encourage uptake. However, there was also a view that erection of wind turbines should always require planning permission, particularly with respect to concerns over potential for a cumulative impact on neighbours.

Most of those respondents who commented specifically on turbine height supported the proposed 15m height limit. Among respondents who did not agree, some saw 15m as too restrictive, arguing that there may be situations where taller turbines could be acceptable. There was general approval for the proposed simplification of the prior notification and approval process although also a view that it should be removed where there is scope to do so.

With respect to the current list of designated areas where the PDR do not apply, respondents who answered the question were relatively evenly divided – 52% were in agreement while 48% disagreed. Some respondents argued that the PDR should apply in National Parks and National Scenic Areas with reasons including that smaller domestic turbines would be unlikely to have a significant impact, and that the requirement for prior approval should enable landscape or visual impacts to be minimised. However, National Parks and National Scenic Areas were also the most frequent suggestions for additional places that the PDR should not apply.

Domestic wind turbines attached to a dwelling

Respondents who gave a clear view were relatively evenly divided on the proposed new PDR for wall or roof-mounted wind turbines, with 53% in agreement and 47%

disagreeing. Arguments tended to reflect those set out with respect to freestanding turbines. Visual impact, flicker, noise, vibration, risk of malfunction, maintenance requirements and risk of adverse effects on the performance of flues serving fuel burning equipment were all referenced as causes for concern.

There were concerns that the tone of the noise generated by very small turbines can cause problems, and that the noise output information available is more limited than that available for freestanding domestic turbines, making them difficult to assess. Views on the proposed distance of at least 5m to the curtilage boundary included both that it is too low and too high. Respondents taking the first view argued that 5m will not be sufficient to protect neighbours against noise, flicker or vibration issues. However, others thought that 5m may be overly restrictive or could mean that the best location structurally for a turbine is not considered acceptable.

Flues for certain domestic heating systems

Respondents who supported the removal of PDR for flues for biomass heating and wood burning stoves suggested that this would be consistent with national policy aims around climate impacts and air quality, noting that there is no known safe threshold for fine particulate matter. It was also suggested that the current '1 metre bubble' can encourage the inappropriate installation of smaller flues to avoid the need for planning permission, such that proposed changes could lead to improved installations. Objections included a view that requiring planning permission for these flues would not deliver clear benefits, could encourage households to choose (or discourage switching away from) less sustainable options such as oil or LPG, and would disproportionately impact rural areas. It was suggested that planning legislation is not the appropriate means to control emissions from these appliances, and a number of concerns were raised in this regard.

Non-Domestic Renewables

Non-Domestic Solar Panels

The majority of those who gave a clear view (71%) agreed with the proposed amendments to class 6J PDR for solar panels attached to non-domestic buildings, while 29% disagreed. Some respondents expressed support or support in principle for the proposed amendment, including because it will allow generation of more solar energy and will support businesses to decarbonise and reduce their energy costs. Although broadly supporting the principle, some respondents called for additional limitations, most frequently in respect of conservation areas. Among respondents who did not agree with the proposed amendments, several also highlighted concerns with respect to conservation areas.

Enabling solar panels to be attached to non-domestic buildings which are located in conservation areas –subject to conditions that they are not permitted on a principal elevation or side elevation fronting a road or within the curtilage of a listed building – was the amendment that attracted the greatest number of comments. These tended to reflect concerns raised in the context of domestic installations that the visibility of solar panels from other places in a conservation area risks damaging its character.

The reason given most frequently in support of amending current restrictions on solar panels on non-domestic properties and solar canopies in parking areas within 3km of airports and technical sites was that some airports (including Glasgow and Edinburgh) either have, or are planning, installation of their own solar panels. While some respondents specifically noted their approval for reduction of the exclusion zone to 2km or 1km, Private sector energy/renewables respondents in particular proposed that the exclusion zone should be eliminated altogether. An alternative view was that the 3km exclusion zone should be retained, with reasons including the potential for glint and glare to impact on flight crew and air traffic controllers. Reference was made in this regard to statutory requirements on airports regarding safety and safeguarding procedures reliant on there being planning applications for development of concern.

More than three quarters (77%) of respondents with a clear view agreed with the proposed new PDR for solar panels within the curtilage of non-domestic buildings, while 23% disagreed. Some respondents welcomed the proposed new PDR which was described as pragmatic, or as a reasonable compromise that will bring Scotland in line with planning regulations in other parts of the UK. The importance of generating more solar power was also highlighted. Among respondents who disagreed, only a small number opposed the new PDR in principle. However, most of those who agreed and those who disagreed argued for changes to the proposed clauses as set out in the consultation paper.

All of the respondents who commented specifically on the proposed 12m² limit on the area of solar panels argued that is too low, too restrictive or an arbitrary figure. Suggested amendments included that, rather than a fixed area, there could be a sliding scale according to location (for example whether close to houses) or a percentage of the area within a building's curtilage.

The proposed exclusion of National Scenic Areas, National Parks and the curtilage of a listed building was the restriction attracting the highest number of comments, albeit from respondents arguing two very different viewpoints. For some the exclusion of national scenic areas and national parks was welcome, although there were also calls to extend the exclusion to other designations including conservation areas, World Heritage Sites, scheduled monuments, Sites of Special Scientific Interest and National Nature Reserves.

Solar Canopies in Parking Areas

More than three quarters (78%) of those with a clear view agreed with the proposal to extend class 9M PDR to allow these to apply to solar canopies generally, while 22% disagreed. Some respondents saw the proposed changes as reasonable or logical, and it was suggested that other restrictions in class 9M PDR can protect amenity, minimise impacts in terms of landscape, or ensure that canopies are not overly dominant or inappropriately sited. Private sector energy/renewables respondents in particular pointed to potential to export power, either to the grid or to surrounding homes or businesses if opportunities for peer-peer trading allow generators to sell electricity to local consumers. (The previous section on solar

panels on non-domestic buildings covers the issue of restrictions on class 9M PDR within 3km of airports and technical sites.)

Specific objections to the proposed amendments included a concern that the revised PDR could effectively allow development of solar farms in inappropriate locations. There were calls for additional restrictions in relation to the size and dimensions of canopies and the noise generated by ancillary infrastructure, and for exclusion of conservation areas, World Heritage Sites, and the curtilage of listed buildings from the PDR.

Around three quarters (76%) of respondents with a clear view agreed that an extended class 9M PDR should not have a maximum power generating capacity, while 24% disagreed. Some respondents simply noted their agreement with the proposed change or expressed a view that it is not necessary to restrict generating capacity while others suggested that, in practice, generating capacity will be determined by the size of parking structures. However, there were calls for additional restrictions as at the previous question, and also for further consideration of potential health and safety and grid capacity and integrity issues.

Non-domestic air source heat pumps

More than two thirds (69%) of respondents who gave a clear view agreed with the proposed PDR for air source heat pumps on non-domestic buildings, while 31% disagreed. Support for proposals included a view that consistency of regulations across domestic and non-domestic buildings is a logical approach, and reference to perceived inconsistencies and delays in application of current regulations. Objections to proposed changes reflected comments at previous questions on domestic properties around noise emissions and visual impacts, including for conservation areas and other sensitive landscapes.

Non- Domestic Ground Source and Water Source Heat Pumps

Three quarters (75%) of respondents with a clear view agreed with the proposed amendments to PDR for ground and water source heat pumps on non-domestic buildings, while 25% disagreed. Those in favour expressed general support for the proposals as a reasonable approach for ground and water source heat pumps, including specific support for a consistent approach across domestic and non-domestic buildings. Objection to proposals included concern that they do not include consideration of potential noise impacts, and a view that allowing ground and water-source heat pumps under PDR would not be appropriate in areas of archaeological interest.

Thermal Efficiency: Domestic and Non-Domestic Buildings

Replacement Windows - Domestic buildings

Around two thirds (66%) of those who gave a clear view agreed with the proposed PDR for replacement windows of domestic buildings located in conservation areas, while 34% disagreed. A majority of Planning authority respondents disagreed.

In addition to general comments of support, there was reference to the proposed PDR being a reasonable compromise and a proportionate adaptation to address

future climate challenges. It was suggested that the planning system must be streamlined in order to facilitate greater uptake of energy efficiency measures across Scotland's homes and buildings. A view was also expressed that additional PDR should apply but not for replacement windows that are visible from the public realm.

Those disagreeing with the proposed PDR tended to raise concerns about the potential negative impact on the appearance and character of conservation areas. It was reported that the existing restrictions are frequently breached already, and that a nuanced approach will only worsen the situation further and have a negative impact. It was also suggested that any harmful impact would be on arguably the nation's biggest asset – Scotland's outstanding historic environment.

A number of the specific concerns about the proposed PDR related to the consultation paper's suggestion that the installation of new materials could be 'more sympathetic in design terms'. Points included that using traditional materials in historic buildings is a key fundamental to protecting their special character, and that allowing the use of modern materials, such as uPVC, would undermine decades of work to preserve and enhance these areas.

Respondents also raised some concerns about which elevations should (or should not) be covered by any relaxation of restrictions, and there was a call for the wording to be amended to read 'For windows situated on the principal elevation, or an elevation visible from the street or public place'.

Replacement Windows - Non-domestic buildings

The majority of respondents who gave a clear view agreed with the proposal to align non-domestic buildings with domestic buildings, as regards PDR for replacement windows; 65% were of this view while 35% disagreed.

Respondents who agreed with the proposal suggested that it should be limited to buildings where the existing windows are traditional sash and case, or other traditional window types which contribute to the character of the building/area. Some considered that World Heritage Sites should also be excluded.

Those who said they did not agree sometimes noted that they did not support the proposed PDR for domestic buildings and therefore, by extension, did not support its extension to non-domestic buildings. Specific points made about non-domestic properties included that the proposals could lead to unsympathetic alterations to shopfronts and other commercial buildings, to the detriment of the character and appearance of conservation areas.

Electricity Undertakings

Class 40 (Electricity Undertakings)

Most of those offering a clear view agreed that existing PDR should be clarified to include the purposes of 'smart meter communications' and the 'distribution' and 'interconnection' of electricity; 61% indicated this while 39% disagreed. Support for the proposed change included comments agreeing with the need for PDR to clearly reflect evolving technologies and Scotland's changing energy system, and a view

that significant upgrades will be required to Scotland's electricity network to support decarbonisation and delivery of net zero targets. Others objected to statutory undertakers being permitted to carry out any forward development without planning consent and concern around the potential noise impacts of distribution and interconnection development.

Substation Infrastructure

The majority of those with a clear view agreed with the proposed amendments to existing PDR relating to new or replacement substations; 62% were of this view while 38% disagreed. Support for proposed changes reflected comments at earlier questions around the need for change to enable ongoing improvement to the electricity network to support net zero targets. There was also support for proposed restrictions on the size and location of substation development allowed under PDR. Opposition to proposed changes to PDR was linked to the potential noise and visual impact of larger substations on the local area, and to concerns around biodiversity loss, infringement of access rights and public health impacts.

Communications Lines

Most of those with a clear view agreed with allowing the replacement of communications lines in National Scenic Areas and Sites of Special Scientific Interest (SSSI) under PDR; 61% agreed while 39% disagreed. Support for the proposal again referenced the need to enable upgrades to Scotland's electricity system, and it was suggested that changes are consistent with existing PDR enabling statutory undertakers to replace below-ground electric lines. Opposition to the proposed changes included a particular focus on the value of National Scenic Areas or SSSIs as wild areas with considerable biodiversity value, and a perceived need for full planning scrutiny to secure improvements to design and materials of communication lines. Potential issues were also raised around the exclusion of other designated areas from PDR, noting that these often overlap with National Scenic Areas and SSSIs.

Those expressing support for proposals to allow replacement of lines longer than 1,000m noted that the deployment of longer lines will be essential to improve grid connections and modernise Scotland's electricity infrastructure, and suggested that replacement of existing lines is unlikely to have a significant local impact. Potential objections to the proposals included some who questioned the rationale for the 1,000m threshold, suggesting that this is not reflective of electricity network projects and is not consistent with PDR for underground cables. Concerns were also raised around the potential for adverse impacts on particularly sensitive landscapes and sites, including the historic environment.

Site Investigation Works

More than two thirds (68%) of respondents who gave a clear view agreed with the proposal to extend the range of site investigation works that can be carried out under PDR, while 32% disagreed. Those expressing support saw proposals as a means of providing statutory undertakers with greater flexibility to enable necessary site investigation works, and suggested that proposals are consistent with the range of investigation works typically required for sites of electricity undertakings.

Opposition included reference to the potential for unintended impacts if the proposed site investigation works are not subject to sufficient scrutiny, especially in designated areas and other sensitive landscapes.

Nearly three quarters (73%) of those offering a clear view felt that there are designated areas where PDR for certain site investigation works should be restricted, while 27% disagreed. Some argued that additional restrictions on PDR should not be necessary in designated areas if full site restoration is required, and if specific conditions are applied for particularly sensitive sites. Others suggested some restriction on PDR for site investigation works, most commonly in relation to sites of archaeological interest and nature or habitat-related designations.

Fences, Gates, Walls and Other Means of Enclosures

The majority of respondents with a clear view agreed with proposals for specific PDR to enable electricity undertakers to erect, construct, maintain or improve means of enclosure up to 3m in height; 71% indicated this while 29% disagreed. Support for proposals included a view that increasing the permitted height of gates, fences and other enclosures is a reasonable change in the context of public safety requirements around electricity network infrastructure. Objections were most commonly related to potential visual impacts, including concern that proposals would remove any control over the quality and design of enclosures. Other concerns included potential for proposals to lead to increased noise emissions, and to obstruct future transport improvements.

Development on Operational Land

Views were divided on proposals to remove prior notification and approval requirements that apply to certain works under PDR; 49% of those with a clear view agreed and 51% disagreed. Consistent with comments at earlier questions, support for the removal of prior notification and approval was linked to the need to streamline processes to support necessary upgrades to electricity network infrastructure. Other anticipated benefits included reducing the administrative burden on planning authorities. Opposition to the removal of prior notification and approval included a view that these processes can improve outcomes in some circumstances, for example improving the integration of development with residential areas or other sensitive sites.

Other Phase 3 proposals

Reverse Vending Machines (RVMs)

Overall, respondents were relatively evenly divided with 53% of those who gave a clear view disagreeing with the proposed amendments to PDR for RVMs, while 47% agreed. However, most organisations disagreed, including a majority of Planning authorities. General points made by respondents who agreed with the proposals included support for a more circular economy and reducing litter. Potential benefits for small retailers were noted, including by providing a collection point for multiple outlets.

Among respondents who did not support the proposed amendments some argued that, although the PDR would provide a solution for small retailers, the need to balance this with road safety, visual impact and residential amenity requires assessment through the planning process. The absence of any reference to or mitigation of potential noise impacts was also a matter of concern. A different perspective was that the proposals do not go far enough.

Planning authority respondents in particular argued that a clear 1.5m pavement width is not acceptable for safe passage and concerns were raised with respect to contribution to street clutter, safety for pedestrians, and additional hazards for people with impaired mobility or vision. Rather than the 1.5m proposed, some respondents argued that a clear width of at least 2m is required.

With respect to designated areas where class 9H PDR do not apply there were views that National Parks and National Scenic Areas should be excluded, but also that blanket exemptions are not required. There were also calls to exclude other designations including conservation areas and to protect the setting of listed buildings.

Temporary Use of Land: Shooting Ranges

Around three quarters of those commenting on proposed changes to PDR in relation to use of land for target shooting did not respond to any other consultation questions. These were primarily individuals whose sole focus was on this proposed change to PDR, some of whom indicated that they were responding as a member of a shooting club.

Most of those answering the question expressed their opposition to the exclusion of temporary target shooting ranges from PDR, with a number of these drawing on standard text provided by another organisation or individual (campaign-plus responses). Opposition was most commonly linked to a view that the proposal is disproportionate to the impact of this land use, is not evidence-based, and unfairly targets recreational shooting. Respondents suggested that target shooting does not cause the level of disruption suggested by the consultation paper, and noted that other current licensing and regulations help to minimising impacts. There was also reference to the potential adverse impact on target shooting events and clubs, and on stalkers, hunters and pest controllers who use fixed targets.

A minority of those commenting at Question 30 expressed support for the exclusion of temporary target shooting ranges from PDR. Reasons for this view were primarily related to the potential impact of target shooting on the local area and other land users, including specifically around noise disruption and safety concerns.

Assessment of Impacts

Sustainability Appraisal Update

General points on the SA Update included a call for assessment of how a principle of biodiversity enhancement could be applied as a condition for benefiting from a PDR.

Some respondents commented on the assessment of temporary shooting ranges including a suggestion that the assessment is flawed including because it assumes noise disruption and/or loss of amenity without providing any supporting evidence, and fails to consider the benefits of shooting ranges/activities for nature and the environment or the benefits of engaging in sporting activities for individuals and communities.

Other Assessments

Comments on other partial and draft impact assessments included that it is important to protect the collective rights of communities to influence delivery of net zero targets, with a related concern that extending PDR may risk a backlash against the necessary infrastructure if communities have no means of influencing the decision-making process.

1. Introduction

Background

Permitted development rights (PDR) provide flexibility to carry out certain types of development without an application for planning permission having to be submitted to, and approved by, the relevant planning authority.

The Scottish Government is reviewing PDR on a phased basis, and this consultation relates to Phase 3 which, in view of the cost and climate crises, is primarily focused on PDR for domestic and non-domestic renewables equipment. This reflects the important role that such equipment can play in helping to reduce greenhouse gas emissions and energy costs. Phase 3 also considers PDR associated with the rollout of transmission and distribution infrastructure needed to support the expansion of renewables and to meet increasing demands for electricity and seeks views on potential amendments to PDR for reverse vending machines (RVMs) and temporary target shooting ranges.

Because PDR are set out in legislation, introducing new or extended PDR involves the preparation of a statutory instrument, which must be laid in the Scottish Parliament before it can come into force. It is anticipated that a statutory instrument containing changes stemming from this consultation will be laid in the Scottish Parliament later in 2023/24.

The consultation

The consultation opened on 31 May 2023 and closed on 23 August 2023. It asked 33 questions. The consultation paper and supporting documents are available [on the Scottish Government's website](#).

Profile of responses

In total 467 responses were received, of which 104 were from groups or organisations and 363 from individual members of the public. Where consent has been given to publish the response, it may be found [on the Scottish Government's website](#).

Respondents were asked to identify whether they were responding as an individual or on behalf of a group or organisation. Group respondents were allocated to one of ten groups by the analysis team. A breakdown of the number of responses received by respondent type is set out below, and a full list of group respondents appended to this report as Annex 1.

A large proportion of individual respondents answered only Question 30, which sought views on whether class 15 PDR should be amended to exclude the use of land as a temporary shooting range comprising fixed targets associated with firearms.

Table 1 – Respondents by type

Type of respondent	Number
Organisations:	
Planning authority	19
Public body or corporation	7
Professional or representative body	21
Private sector - energy/renewables	11
Private sector - thermal efficiency/heating	2
Private sector - other	8
Third sector - built environment/conservation	6
Third sector - shooting	13
Third sector - community councils/representative groups	5
Third sector - other	12
Organisations	104
Individuals	363
All respondents	467

Analysis and reporting

The report presents a question-by-question analysis of answers to the closed questions and further comments at open questions.

Both the proportion of respondents answering closed questions and the number commenting at open questions varied considerably. There was also variation in the number of respondents answering “don’t know” at specific questions, including some of those who only provided a substantive response at Question 30 and answered “don’t know” at all other questions. Therefore, alongside the full analysis of closed questions, we also provide the percentage answering “yes” and “no” with “don’t know” responses excluded from the question base. Quantitative results referenced in the Executive Summary also exclude “don’t know” responses.

As with any public consultation exercise, it should be noted that those responding generally have a particular interest in the subject area. Therefore, the views they express cannot necessarily be seen as representative of wider public opinion.

2. Domestic Renewables

2.1 Domestic solar energy equipment

The consultation paper outlines current PDR that allow relatively unrestricted installation of solar panels on domestic properties outside conservation areas. Greater flexibility to install solar panels inside conservation areas is now being considered, while still recognising the importance of heritage protection and protecting a location's character. It is therefore proposed that PDR should be extended to allow the installation of solar panels on domestic properties in conservation areas in some – but not all – circumstances.

It is proposed that new PDR should enable solar panels to be attached to dwellinghouses and buildings containing flats which are located in conservation areas – subject to conditions that:

- (i) Solar panels installed under this PDR are not permitted:
 - On a principal elevation or a side elevation where that side elevation fronts a road.
 - If any part of the solar panel, including associated mountings, protrude more than 1 metre from the outer surface of the wall or roof.
 - Within the curtilage of a listed building.
- (ii) Solar panels are to be removed as soon as is practical should they become inoperative, or are no longer in use.

An additional PDR is proposed for the installation of solar panels on outbuildings ancillary to, and within the curtilage of, a dwellinghouse – subject to conditions that:

- (iii) Solar panels installed under this PDR may not protrude more than 200mm from a wall or pitched roof of an outbuilding, or more than 500mm from the surface of a flat roof.
- (iv) The PDR would only apply to outbuildings that are located:
 - Within the rear curtilage or side curtilage not facing a road.
 - Within the rear curtilage in a conservation area.

The intention is that this specific PDR for solar panels attached to domestic outbuildings would provide greater flexibility than is currently offered by class 3A.

Question 1: Do you agree with the proposed PDR for solar panels attached to domestic properties in conservation areas?

Responses to Question 1 by respondent type are set out in Table 2 below.

Table 2

	Yes	No	Don't know	Total
Organisations:				
Planning authority	11	4	1	16
Public body or corporation				
Professional or representative body	9	3		12
Private sector - energy/renewables	4			4
Private sector - thermal efficiency/heating		1		1
Private sector - other	1		1	2
Third sector - built environment/conservation	2	3		5
Third sector - shooting			3	3
Third sector - community councils/representative groups	3			3
Third sector - other	3			3
Total organisations	33	11	5	49
% of organisations	67%	22%	10%	
Individuals	45	31	31	107
% of individuals	42%	29%	29%	
All respondents	78	42	36	156
% of all respondents	50%	27%	23%	
% excluding “don’t know” responses	65%	35%		

Percentages may not sum to 100% due to rounding

Half of respondents who answered the question – 50% – agreed with the proposed PDR for solar panels attached to domestic properties in conservation areas, while 27% disagreed and 23% did not know. Excluding those who answered “don’t know”, 65% agreed and 35% disagreed. Among organisations, 67% agreed.

Please add any comment in support of your answer

Around 85 respondents provided a comment at Question 1.

Reasons for supporting new PDR

Some respondents saw the need to generate sustainable energy as the main reason that the new PDR should be introduced, with related suggestions that:

- The proposals strike a reasonable balance between climate and heritage considerations or that solar panels in the permitted locations would have limited visual impact.
- The proposed PDR will make it easier for those living in conservation areas – where properties are often ‘hard to treat’ – to install solar panels, improving the energy efficiency of their homes, reducing electricity bills and supporting a just transition to net zero.

- Ensuring a just transition to net-zero is also an imperative for homeowners in rural areas where renewable sources can off-set the higher costs of energy linked to rurality and where farmers and crofters can benefit from the PDR.
- Overall, concerns with respect to potential impacts on visual amenity or the character of conservation areas are outweighed by the benefits.

However, some respondents who expressed support for the proposals went on to add caveats to their approval and others to argue that the PDR should actually go further than currently envisaged.

Reasons for opposing new PDR

The most frequent reason for opposing the proposed PDR was concern for the cumulative impact of solar panels on the appearance and character of conservation areas. The proposed exclusion with respect to solar panels ‘on a principal elevation or a side elevation where that side elevation fronts a road’ was considered inadequate since solar panels may still be visible from many other vantage points, including areas with public access. Respondents also emphasised the duty set out in legislation to preserve or enhance the character and appearance of conservation areas.

At a more personal scale, an Individual respondent queried why neighbours who face the side or rear of a building in a conservation area should be given less consideration than those passing on a road.

Some respondents expressed a view that a requirement for planning permission should be retained. It was also argued that the proposed approach will make it difficult to follow either Planning Advice Note (PAN) 71 on Conservation Area Management or Historic Environment Scotland guidance: ‘Managing Change in the Historic Environment: Micro-renewables’. Specific issues were also raised with respect to the World Heritage Site status of Edinburgh’s Old and New Towns and it was argued that, in addition to concerns for preserving the historic environment, relaxing planning controls with impacts on the visual appearance of conservation areas could be harmful to tourism and therefore to the local economy.

However, while some respondents who disagreed with proposed PDR thought it goes too far, others argued that provisions should be extended further, including that solar panels should be allowed wherever practical or that all restrictions on roof-mounted panels should be removed.

Comments on the proposed limitations

The analysis below considers each of the limitations proposed in the consultation paper in turn, followed by various additional conditions or additional permissions that were suggested.

Solar panels are not permitted on a principal elevation or a side elevation where that side elevation fronts a road

Although this exclusion was welcomed by some it was, as noted above, a major concern for others. General issues were raised regarding what is the ‘principal

elevation' in conservation areas and it was noted that all elevations of a building may be important in a conservation area. Specifically, respondents argued that:

- Some conservation areas are on sloping ground such that many roofs, rear and side elevations are visible from elsewhere.
- Roof areas of side curtilages (or side elevations) can be very visible from the road.
- Elevations and hence solar panels may also be widely visible in coastal towns and in conservation areas where buildings are at lower density.
- Conservation areas may also be viewed from the sea.

Some respondents argued that the PDR should not be implemented for conservation areas or, more specifically, should not apply to World Heritage Sites. Others suggested that the PDR should not apply to any 'principal elevation' (as defined by the planning authority) of any building within a conservation area, or should not apply to side elevations.

Alternative suggestions included that, in conservation areas, PDR should only apply:

- To side and rear elevations where these do not face on to public places, including streets and parks.
- To rear elevations if these do not front a road.
- To solar panels on roofs.
- To elevations, roofs or panels that are not visible from the public realm.

Solar panels are not permitted if any part of the solar panel, including associated mountings, protrude more than 1 metre from the outer surface of the wall or roof

Few respondents commented on this exclusion, but most who did argued that panels should not be allowed to protrude by as much as 1m, including because this is unnecessary would and create visual clutter. Specific suggestions were that:

- There should be separate thresholds of 200mm for a wall or pitched roof and 500mm for a flat roof, as per the proposals for outbuildings.
- A flush/inset design should be specified for conservation areas.

A very different perspective was that the limit on height should be removed in view of pitch requirements – the need for panels to be angled at between 20 - 50° in order to function as efficiently as possible.

Solar panels are not permitted within the curtilage of a listed building

Again, there were few comments with respect to the exclusion of curtilage of listed buildings, although the views expressed were mixed, including both that the restriction is welcome and that it is unnecessary because Listed Building Consent would be required. A very different perspective was that, subject to meeting criteria deemed acceptable by the Scottish Government, listed buildings should be

included under the PDR. The Third sector – other respondent making this point argued that inhabitants of listed buildings are facing the same energy bills as other households and should be allowed to install solar panels without seeking planning permission.

Solar panels are to be removed as soon as is practical should they become inoperative, or are no longer in use

Comments on the stipulation regarding removal of inoperative panels included that this is impractical or that it is not clear how it could be policed.

Concerns were also expressed with respect to the absence of any safeguards to prevent poor or inappropriate roof repairs using the wrong materials after panels are removed, and it was suggested that the text be amended to require that, when panels are removed, any associated works should also be reversed using like for like materials.

Suggestions for clarification, additional restrictions or wider PDR

Other suggestions were that there should be:

- Acknowledgement of the importance of a fabric-first approach to energy efficiency, for example highlighting the importance of improving insulation before other measures.
- Additional specifications with respect to the design of panels (for example materials and colours) to minimise their visual impact within conservation areas.
- A distinction between flatted and non-flatted properties in view of additional issues, including amenity of other residents, associated with installation of solar panels on the walls of tenements and other buildings containing flats.
- A limit on the extent of coverage of an elevation or roof since it was suggested that, as drafted, it would be possible to cover the rear and side roof pitches or elevations with what would look like a new roof or newly clad elevation of a different colour and texture.
- Considerations that would apply on flat roofs, such as a condition that panels are at least 1m from the edge of the roof.
- Additional requirements with respect to roof coverings and insulation materials in order to address potential fire safety concerns.

There were also requests to:

- Reference latest Microgeneration Certification Scheme (MCS) standards for solar installations to ensure that the PDR supports good design, safe installation and is kept up to date with changing technologies.
- Provide guidance on bird proofing or bird proof design to ensure nuisance conditions (noise, bird droppings, insects) are not caused to neighbouring properties.
- Advise against a presumption that associated tree removal required to obtain adequate gain from solar panels is permitted.

- Ensure the PDR regime is simple and easily understandable for the broader public, so regulatory complexity does not deter those who might be willing to deploy renewable energy sources.
- Consider issues relating to the waste stream for solar panels.

With respect to potentially widening the PDR beyond what is currently proposed, suggestions included:

- That since solar installations are best when south facing, further consideration should be given to including PDR on roof elevations to the front of properties where the panels will not be visible from the road, for example flat roofs or roofs with a parapet at the front.
- That solar panels should be permitted on all elevations, including those facing a road and, specifically, that it is not clear why there should be a blanket exclusion on the front face of a property.
- That where no material adverse visual impact arises, PDR should apply in conservation areas and within the curtilage of a listed building.
- That the PDR could be extended to include Category C listed buildings since panels are an addition to the building rather than requiring removal of historic fabric.
- That restrictions on flat roofs seem disproportionately onerous compared to other restrictions.
- That use of solar PV tile replacements should be considered.

There were also references to planning costs for owners of properties in conservation areas, with one suggestion that greater use should be made of prior notification and approval procedures in relation to installation of solar panels on elevations that are excluded, in order to allow panels to be located in the most advantageous places for energy generation and mitigate costs and delays associated with applying for planning permission.

An alternative suggestion was that there should be no PDR for solar panels in conservation areas but that a low-cost Green Energy planning application could be formulated. A Planning authority respondent suggested that there may be a case for further reduction of application fees for developments in conservation areas that would be covered by PDR outside conservation areas.

Question 2: Do you agree with the proposed PDR for the installation of solar panels on outbuildings ancillary to, and within the curtilage of, a dwellinghouse?

Responses to Question 2 by respondent type are set out in Table 3 below.

Table 3

	Yes	No	Don't know	Total
Organisations:				
Planning authority	15	1	2	18
Public body or corporation				
Professional or representative body	8	1	3	12
Private sector - energy/renewables	3	1		4
Private sector - thermal efficiency/heating		1		1
Private sector - other	1		1	2
Third sector - built environment/conservation	3	2		5
Third sector - shooting			3	3
Third sector - community councils/representative groups	3			3
Third sector - other	3			3
Total organisations	36	6	9	51
% of organisations	71%	12%	18%	
Individuals				
Individuals	49	24	33	106
% of individuals	46%	23%	31%	
All respondents				
All respondents	85	30	42	157
% of all respondents	54%	19%	27%	
% excluding "don't know" responses	74%	26%		

Percentages may not sum to 100% due to rounding

A small majority – 54% of those who answered the question – agreed with the proposed PDR for solar panels on outbuildings ancillary to, and within the curtilage of, a dwellinghouse while 19% disagreed and 27% did not know. Excluding those who answered “don’t know”, 74% agreed and 26% disagreed. Organisations were more likely to agree than individual respondents at 71% and 46% respectively.

Please add any comment in support of your answer

Around 70 respondents provided a comment at Question 2, with some referring back to their answer at Question 1.

Reasons for supporting new PDR

General reasons given in support of the new PDR also reflected points made at Question 1, including that this is a reasonable or logical approach, particularly in light of increased energy prices, and will allow more flexible deployment of solar panels. It was suggested that the proposed conditions should limit impact or that positive effects outweigh any negative impacts. Some respondents argued that proposed limitations should be amended or removed.

It was also suggested that ancillary buildings can be well suited to solar PV providing an economically viable but inobtrusive option, and can allow the main

building to benefit without directly hosting the panels. However, it was noted that outbuildings may be in more shaded situations.

Reasons for opposing new PDR

Reflecting responses at Question 1, reasons that the new PDR should not be introduced included both that current requirements to obtain planning permission should remain and that it should be made even easier to generate solar energy, with some or all of the proposed limitations removed.

Comments on the proposed limitations

The analysis below considers each of the limitations proposed in the consultation paper in turn, followed by various additional conditions or additional permissions that were suggested.

Solar panels installed under this PDR may not protrude more than 200mm from a wall or pitched roof of an outbuilding, or more than 500mm from the surface of a flat roof

There was a query as to why panels should not be allowed to protrude by up to 1m, in line with the restriction for the dwelling, and a suggestion that the proposed limits should be increased. Inconsistencies with height limits in PDR for free standing solar were also noted.

Pitch requirements were cited as a specific reason for increasing the proposed limits, since standard sized (2m length) panels at an optimal panel pitch of 20-50° would not be permitted under the proposed PDR.

However, there was also a view that panels protruding by up to 1m could be very harmful and that 200mm from a wall or pitched roof and 500mm from a flat roof is appropriate.

The PDR would only apply:

to outbuildings that are located within the rear curtilage or side curtilage not facing a road

A limitation to rear curtilages or side curtilages not facing a road was seen as reasonable and not likely to have adverse visual impact, although with a caveat in respect of potential glare impacting neighbouring residential amenity. Concerns were also raised with respect to potential for glint and glare to impact train drivers and hence affect the safety of operational railway lines.

Other views covered a number of differing perspectives, including that there should be further relaxation so there are no restrictions on solar panels on outbuildings within either side or front curtilages or that, outside of conservation areas or the curtilage of listed buildings, PDR should cover solar panels for public facing elevations. It was also argued that:

- Outside of conservation areas, the restriction on side curtilages fronting a road is unnecessary, provided that panels are mounted on outbuildings and are not free standing.

- It may be appropriate to exclude the rear curtilage where it fronts a road.
- PDR should only apply where elevations do not face onto public spaces.

There was also a query with respect to what is meant by ‘facing a road’ – for example how far an isolated property would need to be from a road before this restriction would cease to apply.

to outbuildings within the rear curtilage in a conservation area

Although some respondents agreed with limitation to a rear curtilage or saw the proposed restriction as being appropriate to limit potential impacts, there was also a view that the PDR should not apply at all in conservation areas, where planning permission should still be required. Points raised included that:

- Even minor change can have a significant effect on the overall character and appearance of conservation areas, and this can happen incrementally without effective controls.
- A rear curtilage in a conservation area will be difficult to define, some properties may not have a defined curtilage, or that gardens may be separated from the houses.

Proposed amendments were suggested such that:

- PDR should apply only to installations that are not visible from the public realm.
- For an outbuilding positioned to the side of the main house, solar panels facing towards the front curtilage should not benefit from PDR.
- World Heritage Sites should be excluded.

From an alternative perspective, it was suggested that greater flexibility would be welcome with respect to front and side elevations and curtilages that front onto a road, and that prior notification and approval procedures could provide this flexibility in conservation areas.

Suggestions for clarification, additional restrictions or wider PDR

One respondent made a general point on drafting, that it should be made clear that the PDR would only apply to *outbuildings* that are sited within the curtilage and not just *within the curtilage*. There were also suggestions that the PDR should be extended to cover installation of freestanding solar panels or that greater use should be made of prior notification and approval procedures.

It was also noted that, in contrast to the text in relation to dwellinghouses, the additional PDR proposed for outbuildings makes no reference to listed buildings, with related concerns that this could allow installation of solar panels within the curtilage of a listed building. An alternative view was that there is scope to extend PDR to listed buildings on a similar basis as conservation areas, allowing cultural heritage impacts to be considered and safeguarded through the separate requirement to obtain Listed Building Consent.

Other suggestions included that:

- To minimise impact there should be a requirement for solar panels to be black with black frames, or to be frameless.
- PDR should only apply to permanent buildings not temporary structures such as sheds or carports.
- There should be a requirement to restore buildings to their original state after panels are removed.
- As in respect of panels attached to dwellings, there should be consideration of potential fire safety issues and guidance on bird proofing or bird proof design to prevent nuisance to neighbouring properties.

2.2 Domestic Air Source Heat Pumps

The consultation paper outlines current class 6H PDR that permit the installation, alteration or replacement of an air source heat pump (ASHP) on a dwelling or within the curtilage of a dwelling. It is proposed that class 6H should be amended for domestic ASHPs by:

- (i) Providing that one ASHP per dwelling is permitted under the PDR, rather than the current restriction of one per building.
- (ii) Providing that where an ASHP is installed on a building containing flats:
 - The outdoor compressor unit must not exceed 1.5 cubic metres.
 - The external parts of the ASHP (including any housing etc.) must not be within 1 metre of any window of a habitable room, or door, of another flat in the same building.
- (iii) Removing the requirement that an ASHP installation in a conservation area must be at ground level.

Question 3: Do you agree with the proposed amendments to PDR for ASHPs?

Responses to Question 3 by respondent type are set out in Table 4 below.

Table 4

	Yes	No	Don't know	Total
Organisations:				
Planning authority	10	7		17
Public body or corporation	1			1
Professional or representative body	8	5	1	14
Private sector - energy/renewables	3			3
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation	2	3		5
Third sector - shooting			3	3
Third sector - community councils/representative groups	1		2	3
Third sector – other	4		1	5
Total organisations	30	15	8	53
% of organisations	57%	28%	15%	
Individuals				
% of individuals	36%	31%	32%	
All respondents	66	46	40	152
% of all respondents	43%	30%	26%	
% excluding “don’t know” responses	59%	41%		

Percentages may not sum to 100% due to rounding

Respondents were most likely to agree with the proposed amendments to PDR for ASHPs; 43% of those answering the question were of this view. Of the remaining respondents to the question, 30% disagreed with the proposed amendments, and 26% did not know. Excluding those who answered “don’t know”, 59% agreed and 41% disagreed. The balance of opinion was different amongst organisations, with a small majority – 57% of those answering the question – agreeing with proposals, compared with 36% of individual respondents.

Please add any comment in support of your answer

Around 85 respondents provided a comment at Question 3.

Reasons for supporting the proposals

Comments in support of the proposed amendments to PDR for ASHPs included recognition of the potential role of heat pumps as a key technology for delivery of net zero policy targets. Respondents agreed with the need for expansion of PDR to support wider roll out of ASHPs and suggested that restrictive planning rules are limiting heat pump deployment. The importance of effective communication with installers was also highlighted as a means to raise awareness of changes to PDR, and to ensure these can support wider roll out of ASHPs.

However, as discussed below, some of those expressing general support for proposals highlighted concerns and suggested caveats to their approval.

Reasons for opposing the proposals

General concerns raised around proposed changes were most commonly related to noise impacts. Respondents supported the retention of current standards for maximum noise levels, but also noted potential for cumulative noise impacts associated with multiple installations in close proximity. It was suggested that planning authorities have already observed cumulative noise impacts associated with multiple installations, and there was concern that this will worsen given the planned increase in deployment and the proposal to allow multiple installations to a single building. There was also a view that regulation and guidance on noise emissions are inconsistently applied across planning authorities and noise consultants.

Concerns were also raised around the current MCS 020 methodology for the assessment of noise impacts,¹ including that the scheme is based on an assumption that there should be no more than one ASHP per building, such that the proposed amendment to PDR would invalidate the methodology. Specific aspects of MCS 020 methodology highlighted included that it does not:

- Make allowance for varying levels of background noise including low noise environments.
- Consider the characteristics of noise nor noise rating levels (rather than simply the decibel level).
- Consider structure borne vibration.
- Take account of cumulative impacts of multiple ASHPs.

Further, MCS 020 only assesses noise impacts on the nearest habitable room rather than on the householder. There was also concern that the scheme can create confusion for installers. It was suggested that, as a result of these deficiencies, compliance of individual units with MCS 020 does not provide confidence that the installation will not result in noise disturbance. In this context, respondents suggested alternative noise assessment methodologies, such as BS4142 (Methods for rating and assessing industrial and commercial sound). There was also reference to advice on noise impact assessment produced by the Institute of Acoustics and the Chartered Institute of Environmental Health, and to ongoing UK Government research on noise impacts.

Other concerns raised by respondents included reference to potential vibration issues dependent on how ASHPs are installed and isolated from buildings, and to the risk of visual clutter where multiple units are installed in a small area. The importance of long-term maintenance of units was also highlighted, including concerns that inappropriately maintained units could have a significant impact on

¹ MCS 020 – the Planning Standard for Permitted Development Installations of Wind Turbines and Air Source Heat Pumps on Domestic Premises – is available at [the MCS website](#).

visual amenity and lead to increased noise impacts. Respondents saw this as a potential long-term monitoring and enforcement issue for the planning system.

Comments on specific amendments

Comments specifically in relation to each of the proposed changes to current PDR are summarised below.

One ASHP per dwelling is permitted under the PDR, rather than the current restriction of one per building

There was specific support for the proposal to permit one ASHP per dwelling rather than per building, which was seen as being consistent with the aims of the Heat in Buildings Strategy and having potential to encourage wider roll out of heat pumps. This included reference to the proportion of tenement and other flatted properties across Scotland, with these seen as essential in meeting net zero targets.

The issue of cumulative noise impacts was seen as particularly significant in relation to potential for multiple ASHPs to be installed to a single building. This included concerns that cumulative noise impacts can contribute to health issues. Potential cumulative noise impacts were seen as a reason for caution in expanding PDR in relation to installation to flatted properties.

Other comments in relation to this proposed amendment included views that:

- Encouraging a shared low carbon heating system may be preferable to permitting multiple ASHPs.
- Multiple ASHPs may be required for larger properties, especially older properties with poorer energy efficiency, and that PDR should allow for this. This was linked to a view that neighbouring residents are likely to be more concerned with noise impacts rather than the number of units installed.
- The proposed amendment has potential to erode civil rights of communal ownership for tenement properties.

Where an ASHP is installed on a building containing flats the outdoor compressor unit must not exceed 1.5m³ and the external parts must not be within 1m of any window of a habitable room, or door, of another flat

Support for proposed limits on ASHP installations included specific reference to the importance of separation from neighbouring doors and windows in protecting residential amenity. This was seen as a key factor in limiting the noise impacts of ASHPs.

However, there was also concern that the proposed limits on the physical size and positioning of ASHP units are related primarily to aesthetic considerations rather than noise impacts. As such, it was suggested that these conditions will not be sufficient to limit noise impacts, dependent on the character of the installation. In this context, there was a view that limits on the placement of ASHP should not be used to mitigate noise impacts, but that the main focus should be on the level and nature of noise emissions. This approach was seen as having potential benefits in terms of incentivising the industry to develop quieter solutions.

Respondents also specifically questioned the need for the proposed restriction on the physical volume of the outdoor unit. While some did not see the proposed 1.5m³ limit as a significant concern, there was reference to the proposal as an 'arbitrary limitation' and concern that this could be too restrictive as the technology and design of ASHPs continues to develop. This was linked to a view that the risk of adverse impacts associated with ASHP relates to the overall character of the installation, rather than the size of individual components. It was also suggested that the limitation could prevent residents from selecting the most suitable and efficient option for their circumstances, for example if a larger ASHP unit would result in lower noise emissions. Others were of the view that the proposed limit of 1.5m³ is too large, and there was particular concern around the potential for cumulative visual impact in conservation areas. It was also noted that similar size limits are not imposed on other heating technologies such as oil tanks.

Specific concerns were highlighted around the proposed limit on external parts being within 1m of any window of a habitable room of another flat. For example, it was suggested that this may be too restrictive for dense building types and there was a wider view that the proposed conditions may be difficult to meet for flatted properties with limited curtilage. There was also concern that the proposed restriction on positioning of ASHPs could have unintended consequences in inhibiting innovation and limiting future uptake, for example if technological development results in larger ASHP units.

Removing the requirement that an ASHP installation in a conservation area must be at ground level

A number of respondents expressed specific support for the proposed change to PDR in conservation areas. This included reference to the proportion of buildings across Scotland located in conservation areas, and the need for change to support deployment of low carbon heating across these areas to meet net zero targets. Respondents suggested that ASHPs are likely to have an especially important role in off-gas areas and areas with high levels of fuel poverty, which often applies to conservation areas. In this context, the proposal was seen as particularly relevant. It was also noted that permitting installations above ground level is consistent with the incidence of air conditioning units and flues at this level on the rear elevation of buildings within conservation areas.

Opposition to removing the requirement was most commonly linked to concerns regarding the potential impact on the character and appearance of conservation areas. It was suggested that ASHP installation above ground level is likely to have a significant visual impact even where this is limited to rear elevations. This included concern around the potential cumulative visual impact of multiple ASHPs being installed to the rear elevation of flatted properties, given the proposal to permit multiple installations per building. It was also suggested that a lack of PDR in these areas has not been a significant barrier to delivery of net zero policy objectives.

A contrary view was that the proposal could unduly restrict deployment of ASHPs, given their potential role in delivery of climate objectives. This included a view that

the Scottish Government should consider removing the restriction on ASHPs on front and side elevations in conservation areas.

Additions and amendment to proposals

Respondents suggested a range of additions and amendments to the proposals as set out in the consultation paper.

Suggestions in relation to the proposed limit of one ASHP per dwelling included that:

- Proposals should permit more than one ASHP per dwelling, providing the installation is within noise limits.
- A clear distinction between 'dwelling' and 'building' should be made.

In relation to the proposed limits on the size and positioning of external parts for installation to buildings containing flats suggestions included that:

- Conditions should focus on noise impacts as the primary driver of design of ASHP installation, rather than on the size and location of units.
- Installation on buildings containing flats should be restricted to ground floor level locations only.
- Further research is required into the average available wall space and distances between windows before proposed changes are implemented.
- A clear definition of 'habitable room' is required.
- Clarity is required around whether the compressor housing is included in the maximum size threshold.

With respect to criteria for installation in conservation areas suggestions included that:

- Additional conditions should apply to the appearance of ASHP units to minimise impacts in conservation areas, for example colour and branding.
- PDR should limit ASHPs to elevations not visible from public places.
- The Scottish Government should consider removing the restriction on ASHPs on front and side elevations in conservation areas, noting that these may be the only available elevations for some buildings.
- Language should be clearer around scope to allow ASHPs above ground level to ensure consistent application.

Respondents also suggested various additions and amendments to the proposals including that alternative approaches to the assessment of noise in relation to ASHPs, such as BS4142 should be considered. It was proposed that this should make reference to relevant research and guidance, including guidance produced by the Institute of Acoustics, take account of the results of forthcoming UK Government research, and incorporate discussion with relevant bodies such as the Royal Environmental Health Institute of Scotland and heads of Environmental Health across Scottish local authorities. It was argued that the approach to the

assessment of noise should recognise the overall aim of enabling wider deployment of ASHP.

Other suggestions included that:

- If MCS 020 is retained as the basis for noise assessment in relation to ASHPs, the standard should be owned by an independent standards authority.
- PDR restrictions around noise levels and size and positioning of installations should be applied equally across other domestic heating and cooling equipment, for example including oil tanks, heat pumps, external boilers and air conditioning.
- The Scottish Government should seek to ensure coordination with the rest of the UK for PDR in relation to ASHPs, where possible.
- PDR for ASHPs should be extended to include listed buildings, noting that this would be consistent with PDR for solar panels and that the requirement for Listed Building Consent would still apply. PDR could also allow appropriate installations in World Heritage Sites.
- PDR should be restricted where the ASHP unit would encroach onto a footpath or right of way.
- Clarification is required on whether proposals would apply to air-air in addition to air-water heat pumps.

2.3 Domestic Ground Source and Water Source Heat Pumps

Classes 6D and 6E permit the installation, alteration or replacement of a ground source heat pump (class 6D) or a water source heat pump (class 6E) within the curtilage of a dwellinghouse or a building containing a flat. However, there is currently no reference to associated pipes so it is proposed that classes 6D and 6E should be amended to clarify that, in addition to the ground/water source pump itself, the PDR also cover the associated underground pipework and any above-ground connections to the pump. The pipework would need to be wholly within the curtilage of the dwellinghouse or flatted building.

Question 4: Do you agree that classes 6D and 6E should be amended to include reference to the installation etc. of pipework and associated connections required to operate a ground or water source heat pump?

Responses to Question 4 by respondent type are set out in Table 5 below.

Table 5

	Yes	No	Don't know	Total
Organisations:				
Planning authority	15	3		18
Public body or corporation				
Professional or representative body	9	2	2	13
Private sector - energy/renewables	3			3
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation	1	2		3
Third sector - shooting			3	3
Third sector - community councils/representative groups	2			2
Third sector - other	5		1	6
Total organisations	36	7	7	50
% of organisations	72%	14%	14%	
Individuals				
% of individuals	43	20	31	94
% of individuals	46%	21%	33%	
All respondents	79	27	38	144
% of all respondents	55%	19%	26%	
% excluding "don't know" responses	75%	25%		

A small majority of respondents agreed with the proposed amendments to classes 6D and 6E PDR; 55% of those answering the question were of this view while 19% disagreed. The remaining 26% did not know. Excluding those who answered "don't know", 75% agreed and 25% disagreed. This balance of opinion varied across respondent types, with 72% of organisations agreeing with proposals compared with 46% of individual respondents.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 4.

Reasons for supporting the proposals

Those expressing support for the proposed change to classes 6D and 6E PDR agreed that the lack of reference to associated pipes and connections could cause confusion around the scope of PDR for domestic ground source and water source heat pumps. It was suggested that proposed changes will provide clarification, and are a logical proposal.

Respondents also noted that proposed amendments would bring existing PDR in line with those relating to non-domestic heat pumps, and there was support for restricting installation to the curtilage of buildings as a means of limiting potential for adverse visual and other impacts. It was also noted that existing consent

requirements would remain, for example in relation to development within the curtilage of scheduled monuments.

Reasons for opposing the proposals

Concerns and issues raised in relation to proposals were most commonly linked to a view that PDR should continue to be restricted in areas of archaeological interest and within the curtilage of historic sites. This included reference to the scale of groundworks associated with pipework and connections for ground source and water source heat pump installation, although it was noted that the size of trench required for these installations is likely to constrain use of PDR within the typical curtilage of residential properties.

It was also suggested that the proposed limitation of pipework to the curtilage of properties could prevent installers from choosing the most appropriate solution for each circumstance. For example, it was noted that there may be a need to extend underground piping to a water body outside the curtilage of the building but within the property boundary. However, concerns were also raised around the potential for proposed changes to allow for installation of underground piping without proper consideration of potential ground pollution issues. This was seen as a particular issue where heat pumps are retrofitted to existing properties, where there may be less awareness of existing remedial works, and on brownfield sites or areas impacted by mining.

Concerns were also raised around the potential noise impacts of the installation of piping and connections. This included reference to the risk of noise being transferred within the building as a result of poorly designed pipework. It was noted that neither the existing PDR, nor the proposed amendment, make reference to potential noise impacts.

Clarity was sought around specific aspects of the proposed change to PDR, including the definition of 'curtilage' (for example whether this is intended to be within the footprint of the building or property boundary) and, specifically, which connections are to be allowed under PDR.

Additions and amendment to proposals

Respondents also suggested additions and amendments to the proposals including that:

- PDR should be restricted in areas of archaeological interest.
- PDR should include a requirement that surfacing is restored following installation in conservation areas and within the curtilage of listed buildings.
- PDR should allow pipework that extends beyond the curtilage of the dwellinghouse or flatted building.
- Installation of pipework and connections within the curtilage of flatted properties should require consent from all property owners.
- Consideration should be given to allowing the installation of ground arrays in the road, as is permitted for other shared network infrastructure.

2.4 Free-standing domestic wind turbines

Class 6G permits the installation of a free-standing wind turbine within the curtilage of a dwelling – in this context a dwellinghouse, a building containing one or more flats or a flat contained within such a building. The class is subject to a number of restrictions, including that the turbine must be situated no less than 100m from the curtilage of another dwelling, and that it cannot be located within a conservation area, the curtilage of a listed building, a World Heritage Site, a Site of Special Scientific Interest or a site of archaeological interest. Current PDR do not include any restriction on turbine height, but are subject to a prior notification and approval process.

It is proposed that class 6G should be amended by:

- (i) Introducing a maximum turbine height of 15m, measured to the tip of the wing blades.
- (ii) Providing that the distance between the lowest part of the turbine blade and the ground must be at least 5m.
- (iii) Replacing the separation 100m distance between the turbine and curtilage boundary with a calculation of the turbine height plus a specified safety factor (e.g. height + 10%).
- (iv) Adding a requirement to comply with the Microgeneration Certification Scheme (MCS) planning standards.
- (v) Simplifying the prior notification and approval process so that a single procedure covers all aspects of design and siting.
- (vi) Providing that the turbine and blades must be painted a uniform neutral colour and not bear any advertising.

Other elements of the current class 6G would be retained, including the requirement for prior notification and approval, to ensure that planning authorities can exercise some degree of control where a particular proposed development could have potentially unacceptable impact on amenity.

Question 5: Do you agree with the proposed amendments to PDR for free-standing domestic wind turbines?

Responses to Question 5 by respondent type are set out in Table 6 below.

Table 6

	Yes	No	Don't know	Total
Organisations:				
Planning authority	6	12		18
Public body or corporation	1			1
Professional or representative body	4	7	1	12
Private sector - energy/renewables	1			1
Private sector - thermal efficiency/heating				
Private sector - other	1		2	3
Third sector - built environment/conservation	1	1	1	3
Third sector - shooting			3	3
Third sector - community councils/representative groups	2			2
Third sector - other	1	1	1	3
Total organisations	17	21	8	46
% of organisations	37%	46%	17%	
Individuals				
Individuals	40	25	30	95
% of individuals	42%	26%	32%	
All respondents	57	46	38	141
% of all respondents	40%	33%	27%	
% excluding "don't know" responses	55%	45%		

Among respondents who answered the question, 40% agreed with the proposed amendments to PDR for free-standing domestic wind turbines, while 33% disagreed and 27% did not know. Excluding those who answered "don't know", 55% agreed and 45% disagreed. A majority of Planning authority and Professional or representative body respondents disagreed.

Please add any comment in support of your answer

Around 70 respondents provided a comment at Question 5.

Some respondents noted that they generally agreed or agreed in principle with the proposed approach, which was described as sensible or reasonable and as an effective way to encourage uptake. However, concerns were raised with respect to impacts on value and amenity of neighbouring properties.

There was also a view that erection of wind turbines should always require planning permission, particularly with respect to concerns over potential for a cumulative impact on neighbours. It was argued that a planning application enables neighbour notification and consideration of neighbours' views. A Planning authority respondent noted their experience that very few planning applications are currently received for domestic wind turbines, arguing that the proposed PDR would be

unlikely to benefit enough home owners to justify the potential harm that they believe could be caused.

Comments on the proposed limitations

Introducing a maximum turbine height of 15m, measured to the tip of the wing blades

Most of those respondents who commented specifically on turbine height supported the proposed 15m height limit including because it provides clarity, because of the potential for impact of turbines in domestic settings, and because of a requirement for taller turbines to go through the planning process to ensure aerodrome safeguarding assessments are carried out.

Among respondents who did not agree with the proposed height limit, some saw 15m as too restrictive, arguing that there may be situations – for example in rural areas or where a large area of land is available – where taller turbines could be acceptable and that it is not appropriate to set a single height. A specific proposal was for a maximum turbine height of 30m to the tip of the wing blades and a maximum swept area of 200m². It was also noted that turbine height will be accounted for by retaining prior notification and approval.

Different reasons for not seeing 15m as an appropriate limit for PDR included:

- The potential impact on neighbouring properties.
- That turbine height is a visual, aesthetic issue and that noise impacts on neighbouring properties are not properly considered.
- The greater importance of electrical output in respect of noise.
- A requirement in planning advice dating from 2014 that the Ministry of Defence (MOD) should be consulted where a proposed turbine would have a maximum blade tip height of, or exceeding, 11m or a rotor diameter of 2m or more.

Providing that the distance between the lowest part of the turbine blade and the ground must be at least 5m

Relatively few respondents commented on the required distance between the turbine blade and the ground, with those who did being divided between welcoming the proposal and arguing that a lower height would still be safe, and potentially safer for maintenance purposes. It was also suggested that by limiting turbines to only one per property, and specifying that no blade should be less than 5m above ground, the amendments may drive installation of larger turbines than are needed.

Replacing the separation 100m distance between the turbine and curtilage boundary with a calculation of the turbine height plus a specified safety factor (e.g. height + 10%)

This was the restriction attracting the greatest number of comments.

Some respondents supported use of the proposed calculation seeing it as sensible or more flexible for more rural settings, and it was suggested that the current 100m separation distance between turbine and curtilage boundary is too restrictive.

However, others argued that the 100m separation distance should remain, with the proposed reduction (potentially to 16.5m) seen as excessive, or as having the potential to allow turbines in large gardens in urban areas/semi urban areas. Potential impacts on amenity were identified including noise, shadow flicker, visual impact, and toxic debris if the turbine blade coating deteriorates. One respondent provided an example with respect to noise that, for a turbine with a sound power level of 85 decibels (dB), reducing the separation distance from 100m to 16.5m would increase the noise for the receiver from 34dB to around 50dB.

It was also suggested that the proposed methodology:

- Is likely to be inconsistent with the requirements of the MCS 020 calculation procedure in its current form.
- May be contrary to the intent of the Fourth National Planning Framework (NPF4) Policy 23 (Health and Safety) with respect to facilitating development that improves health and wellbeing.
- Is too complicated, and may cause time consuming debates (e.g. on curtilage distances).
- Will lead to conflict between neighbours.

A different perspective was that the Scottish Government should introduce greater flexibility than proposed including by:

- Reducing the separation distance to the length of the turbine blade.
- Allowing a turbine to be situated no less than 10m from the curtilage of another dwelling.
- Allowing the turbine to be located within the property boundary rather than within the curtilage, so that the location with the most suitable wind resource can be selected.

A number of other amendments or subjects for further consideration were proposed, including that the Scottish Government should:

- Give greater consideration to potential for impacts such as noise and shadow flicker.
- Consider turbine rotor size as a driver of noise and flicker.
- Increase the 'safety factor' distance.
- Require the separation distance to be at least one and a half times the ground to blade tip height.
- Ensure a reduced separation distance does not result in clustering of turbines.
- Incorporate impact on amenity of neighbouring properties into the calculation or introduce a minimum distance from neighbouring dwellings to reduce impact of noise.

- Carry out a full impact assessment before making any change.

Adding a requirement to comply with the Microgeneration Certification Scheme (MCS) planning standards

Relatively few respondents commented specifically on a requirement to comply with MCS planning standards, and among those who did there was both agreement and disagreement, the latter including because MCS 020 was conceived as a consumer protection measure, and that MCS installers will not necessarily be best suited to installing larger turbines that may be appropriate for rural properties.

Other issues raised with respect to the MCS standard included that:

- As noted above, the proposed calculation of a minimum separation distance is likely to be inconsistent with the requirements of the MCS 020 calculation procedure.
- MCS 020 applies a standard background noise level regardless of the actual noise environment and assumes a level higher than is typical of rural areas, and does not consider cumulative impact noise, tonal characteristics or background levels.
- Residential amenity issues that arise will need to be addressed by other regulatory functions, with the potential to create additional workload for the local authority.
- If subject to MCS 020 planning standards, then PDR should not be restricted to a single turbine.

Concerns were raised with respect to the mechanism for enforcement if an installation does not comply with MCS 020. It was noted that although non-compliance would mean that the turbine was not permitted development and would require a planning application, harm would have to be established in order to undertake planning enforcement action.

Simplifying the prior notification and approval process so that a single procedure covers all aspects of design and siting

Among those who commented, there was general approval for the proposed simplification. There was also a request for more information on what simplifying the process would involve and a suggestion that the process should be 8 weeks long.

Providing that the turbine and blades must be painted a uniform neutral colour and not bear any advertising

Although some of those who commented supported this provision, it was also suggested that a 'neutral colour' is very subjective and would need to be defined clearly. There was also a concern that neutral-coloured turbines could be less visible and hence more harmful to birds.

Other elements of the current class 6G would be retained, including the requirement for prior notification and approval

There was support for retention of a requirement for prior notification and approval because it allows:

- The planning authority to exercise some control where a proposed development could have potentially unacceptable impact on amenity.
- Consideration of impacts on landscape and on wildlife, particularly birds and bats.

However, there was also a view that the prior notification and approval process is complicated and confusing for customers and resource intensive for planning authorities and that it should be removed where there is scope to do so.

Suggestions for clarification, additional restrictions or wider PDR

There was a request to clarify which existing conditions from class 6G would be retained.

In terms of additional limitations there were requests to exclude turbines:

- Within an MOD statutory safeguarding zone.
- Within 20m of watercourses/open fresh water (especially with tree-lined banks/margins), hedges, or lines of trees in order to protect bats.
- In the setting of listed buildings and scheduled monuments, National Parks, National Scenic Areas and statutory protected sites, and consider impacts on heritage assets, including World Heritage Sites and conservation areas.

It was also suggested that there should be:

- A minimum required distance to protect public roads including verges against the collapse of a turbine and consideration of the proximity of turbines to footpaths.
- A limit on turbine area as well as height.
- A review of noise limits which may be too stringent, and a requirement that permitted decibel levels are specified over time intervals, since turbines are noisier in some conditions than others.
- PDR only for the first installation of a wind turbine and then only if there is no existing ASHP, due to the cumulative impact of noise from an ASHP and a wind turbine.
- A requirement for regular repair and maintenance to keep noise to acceptable levels.
- Provision to remove turbines on noise grounds.

Finally, it was suggested that the proposed PDR should consider the introduction of bladeless turbines.

Question 6: Do you agree with the current list of designated areas where the PDR do not apply, noting that the list does not currently include National Parks or National Scenic Areas?

Responses to Question 6 by respondent type are set out in Table 7 below.

Table 7

	Yes	No	Don't know	Total
Organisations:				
Planning authority	10	6	2	18
Public body or corporation	1			1
Professional or representative body	4	4	3	11
Private sector - energy/renewables		1		1
Private sector - thermal efficiency/heating				0
Private sector - other	1	1	1	3
Third sector - built environment/conservation		2		2
Third sector - shooting			3	3
Third sector - community councils/representative groups	1	1		2
Third sector - other	2	1	1	4
Total organisations	19	16	10	45
% of organisations	42%	36%	22%	
Individuals				
	29	29	36	94
% of individuals	31%	31%	38%	
All respondents	48	45	46	139
% of all respondents	35%	32%	33%	
% excluding "don't know" responses	52%	48%		

Respondents who answered the question were relatively evenly divided on this issue – 35% agreed with the current list of designated areas where the PDR do not apply, while 32% disagreed and 33% did not know. Excluding those who answered “don’t know”, 52% agreed and 48% disagreed. A small majority of Planning authority respondents agreed.

Please add any comment in support of your answer

Around 60 respondents provided a comment at Question 6.

The turbine cannot be located within a conservation area, the curtilage of a listed building, a World Heritage Site, a Site of Special Scientific Interest or a site of archaeological interest.

There was agreement with the exclusions currently set out, with some respondents taking a view that PDR should be restricted and that the controls are appropriate.

Reasons for allowing the PDR to apply in National Parks and National Scenic Areas included that:

- The proposed height restriction would provide an appropriate balance between protecting designated areas and generating higher levels of renewable energy and that excluding National Parks could disincentivise small-scale domestic renewables in rural and semi-rural areas.
- Smaller domestic turbines would be unlikely to have a significant impact and the requirement for prior approval should enable landscape or visual impacts to be minimised.
- It would be unreasonable to exclude residents in the many settlements within these areas from exercising PDR, and some who live within National Scenic Areas may not be aware that they do so.
- National Parks and National Scenic Areas may contain smaller, safeguarded designations within them.

It was also suggested that National Park Authorities should be consulted on impacts within the National Parks.

Caveats to agreement with the list of excluded areas included that this is subject to the proposed height restrictions being implemented and that turbines must be carefully sited to avoid impacts on nature. It was also suggested that smaller turbines could be specified in National Parks and National Scenic Areas or that, within these areas, there could be a requirement to place turbines within a specific distance of the property they are serving, to ensure they are visually part of an existing developed area rather than an additional item in the landscape.

Although most responses focused on the status of National Parks and National Scenic Areas, there was also specific support for retaining other excluded areas from the present list, including areas of archaeological interest and listed buildings.

Reasons for disagreeing with the current restrictions included both that there should be more excluded areas, and that there should be fewer.

Among respondents seeking wider restrictions, National Parks and National Scenic Areas were the most frequent suggestions for additional places that the PDR should not apply. Reasons given in support of this view included the need for greater protection for nationally important landscapes and a risk of visual, landscape and natural environment impacts, including disturbance to protected species.

It was also argued that the PDR should not apply to:

- Statutory protected areas.
- Scheduled ancient monuments and their setting.
- Battlefields.
- The setting of listed buildings.
- The Inventory of Gardens and Designed Landscapes.

- Regional Scenic Areas.
- National Nature Reserves.
- Locations within agglomerations adjacent to areas designated as Quiet Areas under the Environmental Noise (Scotland) Regulations 2006.
- Sites within 5km of an aerodrome or technical site.
- Any other site designated for its visual, conservation or biodiversity qualities.

Other respondents sought a reduction on current restrictions, including a suggestion that, rather than blanket exclusion of protected areas, there should be flexibility for PDR to apply where appropriate siting and generator designs are compatible with a local designation. It was noted that new turbine designs (including bladeless and cowled turbines) that are in development and may be available within the next few years could be more appropriate for currently restricted locations.

Specific locations where it was suggested the PDR should apply included:

- Conservation areas.
- Within the curtilage of a listed building property, providing that it is a specified distance away.
- World Heritage Sites where 'invisible' renewables can be hidden by the landscape.

2.5 Domestic wind turbines attached to a dwelling

At present there are no PDR for the installation of a wind turbine mounted on a domestic property. A new class of PDR for the installation, alteration or replacement of wind turbines mounted on the wall or roof of a dwellinghouse is proposed, whereby a turbine installed under the PDR would only be permitted if:

- (i) Mounted on a detached dwellinghouse.
- (ii) It is the only turbine on the same dwellinghouse.
- (iii) It complies with MCS 020 planning standards.
- (iv) No part of the turbine, including blade, would protrude more than 3m above the highest part of the roof.
- (v) No part of the turbine, including blade tips, would be less than 5m from the ground.
- (vi) It is located at least 5m from any curtilage boundary.
- (vii) The swept area of the turbine is no more than 4 square metres.
- (viii) It is a uniform neutral colour with no advertising or other designs.
- (ix) It is not located in a conservation area, National Park, National Scenic Area, Site of Special Scientific Interest, World Heritage Site or within the curtilage of listed building.

- (x) The turbine is removed as soon as is reasonably practical should it no longer be required or cease generating electricity.

The proposed PDR would not extend to wall- or roof-mounted turbines attached to outbuildings or structures that do not form part of the dwellinghouse itself.

Question 7: Do you agree with the proposed new PDR for wall or roof-mounted wind turbines attached to a dwellinghouse?

Responses to Question 7 by respondent type are set out in Table 8 below.

Table 8

	Yes	No	Don't know	Total
Organisations:				
Planning authority	7	9	3	19
Public body or corporation	1			1
Professional or representative body	6	5		11
Private sector - energy/renewables	2			2
Private sector - thermal efficiency/heating				
Private sector - other		1	1	2
Third sector - built environment/conservation	1	1		2
Third sector - shooting			3	3
Third sector - community councils/representative groups	2			2
Third sector - other	1	1	1	3
Total organisations	20	17	8	45
% of organisations	44%	38%	18%	
Individuals				
Individuals	30	27	32	89
% of individuals	34%	30%	36%	
All respondents	50	44	40	134
% of all respondents	37%	33%	30%	
% excluding "don't know" responses	53%	47%		

Respondents who answered the question were relatively evenly divided on this issue – 37% agreed with the proposed new PDR for wall or roof-mounted wind turbines, while 33% disagreed and 30% did not know. Excluding those who answered “don't know”, 53% agreed and 47% disagreed. Planning authority respondents were also divided.

Please add any comment in support of your answer

Around 60 respondents provided a comment at Question 7.

In some instances, reasons given in favour of the new PDR reflected those offered at Question 5, including that the proposals represent a reasonable compromise or provide greater flexibility, although also that appropriate controls are required. It was also noted that in urban situations with shared buildings, planning permission will still be expected. The potential for a range of new turbine designs that may be more appropriate on domestic buildings was also referenced.

Some respondents who disagreed with the proposed new PDR also referred back to arguments set out at Question 5. It was suggested that a requirement for planning permission should be retained to allow the planning authority to exercise control, and to assess individual and cumulative impacts and provide enforcement action if necessary. The importance of local democratic decision making and providing neighbours with the opportunity to object were also referenced. Individual and cumulative visual impact and flicker, noise, vibration, risk of malfunction and maintenance requirements were all cited as causes for concern with respect to local amenity.

Other reasons for disagreeing with PDR for turbines on dwelling houses included that:

- The number of restrictions being proposed suggests that PDR is not appropriate.
- Turbines could have adverse effects on the performance of flues serving fuel burning equipment.
- Turbulence reduces performance and turbine life and that turbines mounted on buildings are not efficient.

In relation to the last point, it was noted that this is not a recommended technology in relation to Home Energy Scotland grants and loans. Rather than introducing PDR for wall or roof-mounted turbines it was argued that the planning application process should require justification of the effectiveness of the system.

In contrast, some respondents argued that achieving net zero will require renewables to be accepted everywhere and that turbines should be available to those who do not have scope to deploy other renewables.

Comments on the proposed limitations

Mounted on a detached dwellinghouse

There were few comments on the restriction to a detached dwellinghouse which, it was noted, would exclude many properties as well as flats, and there was a suggestion that PDR could be extended to terraced or semi-detached dwellings.

It is the only turbine on the same dwellinghouse

Again, there were few comments, although it was suggested that it is not clear why multiple turbines should require planning permission or that the restriction on size could allow more turbines to be installed.

It complies with MCS 020 planning standards

Some respondents noted that comments made at Question 5 also apply with respect to roof or wall mounted turbines. Other references to MCS 020 included concerns that noise issues in relation to small turbines may cause problems, even if the standard is complied with. It was reported that the tone of the noise generated by very small turbines can cause problems, and that the noise output information available is more limited than that available for freestanding domestic turbines, making them difficult to assess.

Other points with respect to MCS 020 included that guidance is not clear whether noise limits should be enforced for the building with the turbine attached, or the nearest residential property. The respondent making this point emphasised that limits should be enforced for all buildings, including the one to which the turbine is attached, noting that there would otherwise be a risk that a building owner could install a turbine that adversely impacts a tenant, without there being any protection for the tenant.

It was also argued that structure-borne noise is not controlled by MCS 020 and that an update to address this issue would be required before the PDR could be enacted.

One respondent disagreed with the requirement to comply with MCS 020 on the basis that the Scottish/UK market is unlikely to be large enough for manufacturers of innovative designs to obtain MCS certification just to sell in this country. Instead, it was argued that there should be specific decibel limits.

No part of the turbine, including the blade, would protrude more than 3m above the highest part of the roof

Again, few comments specifically addressed the proposed 3m above the highest part of the roof, although it was argued that this could have a significant cumulative impact on the visual amenity of residential areas if repeated.

A requirement that the MOD should be consulted where a proposed turbine would have a maximum blade tip height of, or exceeding, 11m or a rotor diameter of 2m or more was noted, and it was suggested that these limits should apply to any PDR outside MOD statutory safeguarding zones.

There was also a suggestion that the limit might be related to how high the roof is.

No part of the turbine, including blade tips, would be less than 5m from the ground

It was suggested that this restriction could exclude some single-storey dwellings, where the lowest part of the blade could easily be less than 5m from the ground, potentially disadvantaging rural dwellings that could otherwise be suited to this kind of installation.

It is located at least 5m from any curtilage boundary

Comments on the proposed distance to the curtilage boundary included both that it is too low and too high.

Respondents taking the first view argued that:

- It could allow turbines on many suburban properties with potential residential amenity and character concerns.
- It will not be sufficient to protect neighbours against noise, flicker or vibration issues, particularly where properties are close together.
- It may not be sufficient to protect neighbours if a turbine collapses.

It was also suggested that, in quiet areas, small turbines 5m away may still be noisier than the existing background noise.

A different perspective was that 5m may be overly restrictive or could mean that the best location structurally for a turbine – likely to be above a chimney on the end of the house – is not considered acceptable.

With respect to the text as drafted, it was suggested that 'located at least 5m from any curtilage boundary' could be difficult to define.

The swept area of the turbine is no more than 4 square metres

There was a view that this is more complicated than necessary, and a suggestion that a maximum radius/diameter might be more appropriate.

It was also argued that 4m² is arbitrary, may be inappropriate for new turbine designs and should be reconsidered.

It is a uniform neutral colour with no advertising or other designs

Comments on turbine colours reflected those at Question 5 with respect to the ambiguity of a 'neutral colour' and concerns for wildlife.

It is not located in a conservation area, National Park, National Scenic Area, Site of Special Scientific Interest, World Heritage Site or within the curtilage of listed building

Some respondents welcomed the proposed restrictions including with respect inclusion of National Parks and National Scenic Areas. It was also suggested that restricted areas should be the same as for free standing turbines.

Respondents also requested:

- Clarification that listed buildings themselves and not just buildings within their curtilage are excluded.
- Addition of battlefields, the Inventory of Gardens and Designed Landscapes, National Nature Reserves and Regional Scenic Areas.
- Consideration of the setting of heritage assets, including World Heritage Sites scheduled monuments, listed buildings, and conservation areas.

In relation to the last point, it was argued that it is important to distinguish between curtilage and setting, since impacts on the setting will typically be much wider than the curtilage.

Other respondents considered the proposed restrictions too wide or unfair, including because turbines currently in development may be suitable within currently protected areas. It was also argued that there is inconsistency with respect to listed buildings since PDR would allow for the attachment of a turbine to a listed building (subject to obtaining Listed Building Consent) but not installation of a turbine within the curtilage of a listed building.

The turbine is removed as soon as is reasonably practical should it no longer be required or cease generating electricity

This requirement was seen as impossible to monitor and impractical to enforce. It was noted, for example, that turbine blades could be turning but not generating electricity. There were queries with respect to who would remove turbines that fall into disrepair if the owner does not.

The proposed PDR would not extend to wall- or roof-mounted turbines attached to outbuildings or structures that do not form part of the dwellinghouse itself.

Several respondents questioned or disagreed with the exclusion of outbuildings, particularly as the intention is to allow solar panels on outbuildings. It was suggested that, as with respect to solar panels, outbuildings may be more suited to installation of renewable technology than the main dwellinghouse, and that the PDR could be extended to outbuildings or structures with the same restrictions on turbine size and distances from the curtilage.

Suggestions for clarification, additional restrictions or wider PDR

As noted above, there were concerns with respect to the noise that may be generated by roof- or wall-mounted turbines, and a view that this has not been adequately addressed. It was suggested that there should be additional noise restrictions including a maximum decibel reading at the curtilage, but also that wind strength and direction will determine noise impact to nearest neighbours.

Other suggested controls included:

- A stipulation that there will be no shadow flicker or shadow throw in neighbouring properties and provision for assessing this.
- Requirements with respect to repair and maintenance.
- Consideration of potential structural impacts on properties, with one view that all roof mounted turbines should be subject to Building Control.
- As for free standing turbines, that prior notification and approval should be required to ensure consideration of potential impacts on bats and birds, and to ensure that the MOD are consulted.

There was also a concern with respect to impacts on local authority resources in that the proposed PDR may result in complaints about noise or flicker, requiring

Environmental Health investigation under nuisance regulations regardless of the status of the turbine under the planning process. Further, it was suggested that structural issues for older buildings caused by vibration and lack of ongoing maintenance may impact Building Standards.

With respect to additional areas that should be excluded from the PDR, suggestions included:

- Sites within 5km of an aerodrome or technical site.
- Sites falling within any MOD statutory safeguarding zone.

2.6 Flues for certain domestic heating systems

The Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (GPDO) contains specific PDR for the installation, alteration or replacement of domestic flues for biomass heating systems (class 6C) and combined heat and power (CHP) systems (class 6F), which includes CHP fuelled by biomass sources. The term domestic in this context refers to existing dwellinghouses (terraced/semi-detached and detached) and existing buildings containing one or more flats. These PDR are subject to various limitations as set out in the consultation paper.

While classes 6C and 6F PDR are specific to particular types of flue, the majority of domestic flues are permitted under general PDR, which allow improvements, additions or alterations to the exterior of dwellinghouses (class 2B) and buildings containing flats (class 4A) within a '1 metre bubble'. Again, there are limitations.

However, the Cleaner Air for Scotland 2 (CAFS2) strategy has an action point for the Scottish Government to 'consider with local government what changes are needed to the current PDR for flues for woodburning stoves and biomass boilers'. This relates to the PDR for flues for biomass heating systems (class 6C) and householder PDR in class 2B and class 4A that may grant permission for flues for wood burning stoves.

The consultation paper and draft business and regulatory impact assessment noted a number of issues with trying to control dispersal of pollutants/ nuisance and air quality matters through PDR, including: no effect retrospectively on existing flues; not all flues would necessarily constitute 'development' requiring planning permission; the need for a policy framework for considering and determining planning applications; and the resource implications for dealing with the potential increase in planning applications and enforcement implications.

Nevertheless, in the context of concerns about the adequate dispersal of pollutants and the impact of cumulative emissions on air quality, views were sought on the removal of PDR for flues for wood burning stoves and biomass boilers. Specifically, feedback was requested on:

- (i) Removing class 6C PDR (flues for biomass heating systems).
- (ii) Amending class 2B and class 4A PDR for dwellings to exclude flues for biomass heating systems and wood burning stoves.

- (iii) Whether PDR for alteration and replacement of flues should be retained, even if the installation element of the PDR is removed.

Question 8: Do you have any comments on the potential removal of PDR for flues for wood burning stoves (including wood burners and log burners), biomass boilers and biomass heating systems?

Around 55 respondents provided a comment at Question 8.

Reasons for supporting proposals

Support for the removal of PDR for flues for biomass heating and wood burning stoves included a view that this would be consistent with national policy aims around climate impacts and air quality. These respondents recognised concerns around the adequate dispersal of air pollutants and the cumulative impact of emissions from biomass and wood burning, and noted that there is no known safe threshold for fine particulate matter. It was suggested that the removal of PDR for these flues could support improvement in national and local air quality.

It was also suggested that the change could lead to improved installation of suitable flues. This was linked to a view that the '1 metre bubble' for class 2B and 4A PDR can encourage the inappropriate installation of smaller flues to avoid the need for planning permission. It was also suggested that the '1 metre bubble' is not relevant to the mitigation of air quality issues associated with biomass heating systems and wood burning stoves.

In this context, respondents cited specific examples of poorly designed installation of flues as a result of unrestricted and unmonitored development, with this seen as a particular issue in affluent urban areas. There was concern that this kind of development can have an adverse impact on neighbouring properties and the health and amenity of the local area. It was suggested that the removal of PDR for these kinds of development would help to prevent installations in inappropriate locations.

There was also specific support for the assertion in the consultation paper that fine particulate matter emissions from biomass heating and wood burning stoves are an issue outside Air Quality Management Areas (AQMA). Indeed, it was noted that many AQMA are designated on the basis of nitrogen dioxide emissions primarily linked to transport rather than biomass heating.

A small number of respondents wished to see all new flues for biomass heating and wood burning stoves require planning permission. This included a suggestion that this change should be part of wider steps to discourage biomass heating, and eventually to eliminate all use of these appliances.

General concerns and issues raised

Respondents also highlighted a range of concerns around the potential for PDR to be removed for flues for biomass heating and wood burning stoves. This included a view that requiring planning permission for these flues would not deliver clear

benefits. Some respondents suggested that biomass heating and wood burning stoves can offer significant benefits, including as a means to reduce heating load on the gas and electricity networks, and as part of a low carbon heating system. This included reference to improvements in appliances leading to a significant reduction in emissions of fine particulate matter. It was suggested that the planning system should encourage the replacement of older systems, rather than creating additional barriers to the installation of cleaner appliances. There was also concern that requiring planning permission for biomass heating could encourage households to choose less sustainable options such as oil or LPG, with potential to undermine any positive impact on emissions.

Removal of PDR was also seen as disproportionately impacting rural areas. Respondents noted that biomass forms an established part of heating systems across many rural areas and may still be the best option for some households, for example in rural off gas areas and/or those with a weak electricity network. It was also suggested that the potential cumulative air quality impacts from domestic biomass heating and wood burning stoves is of less concern in rural areas. Respondents also noted that domestic biomass heating and wood burning stoves are also subject to ongoing checks that help to minimise air quality impacts, for example annual safety checks and requirements on the types of fuel used.

In addition to these comments on the role and impact of biomass heating and wood burning stoves, there was a view that planning legislation is not the appropriate means to control emissions from these appliances. It was noted that planning permission is primarily concerned with visual amenity, and respondents highlighted the complexity of technical issues involved in assessing the potential impact of particulate matter and fume dispersal. It was also noted that planning authorities lack baseline air quality evidence against which to assess these impacts, and that factors beyond the scope of PDR – such as appliance specification and quality of fuel – can have a significant impact on emissions.

Some respondents referred to existing legislation and regulation that was seen as being more suited to addressing the air quality concerns identified in the consultation paper. This included specific reference to: public health legislation; the Environment Protection Act; powers to implement Smoke Control Zones; more effective enforcement of existing regulation (including proposals to make persistent offence a civil offence); regulation of appliances to promote the cleanest options; regulation of solid fuels (including reference to the UK Government's regulation of domestic fuels); regulation of installation, for example through a Competent Person Scheme; ensuring the proper maintenance of servicing of appliances and flues; and consumer education, including potential use of biomass heating in historic buildings.

Concerns were also raised around impacts for planning authorities if the removal of PDR results in an increase in planning applications for biomass heating and wood burning stoves. This was highlighted both in terms of increasing workload for case officers, including concerns that this would require officers to engage with technical information around the design of heating systems, and increased demand on planning enforcement officers. It was also noted that there is little planning policy,

guidance or advice to support the assessment of these applications, and that consideration of cumulative impacts would be particularly resource intensive, potentially requiring a register of appliances.

Additions and amendments to proposals

Reflecting some of the issues and concerns noted above, respondents suggested additions or amendments to the proposed removal of PDR including that:

- PDR should still apply for individual properties or clusters of rural properties that are a specified distance from the nearest neighbouring property.
- PDR should be retained for certain standards of biomass systems, with specific criteria added to make clear which systems are not permitted.
- Planning permission should be required for all new flues for biomass heating systems and wood burning stoves.
- References to wood burning stoves should be expanded to include all multi fuel appliances.
- The '1 metre bubble' should be retained.
- Schemes such as the Home Energy Scotland Grant and Loan should be amended to ensure consistent messaging around biomass heating.

Question 9: Noting that current PDR cover the installation, alteration or replacement of flues, should any removal of these PDR be limited to installation of new flues, or also prevent existing flues being altered or replaced under PDR?

Around 90 respondents answered Question 9. A number of these respondents simply stated their support or opposition to preventing alteration or replacement of existing flues under PDR, including those who opposed any removal of PDR. Some also indicated that they did not have a clear view on the matter. The specific considerations highlighted in support of or opposition to removal of PDR for alteration or replacement are summarised below.

Support for preventing alteration or replacement of flues

Support for removal of PDR for the alteration or replacement of flues was most commonly linked to concerns around the potential for these works to have an adverse impact on visual amenity and air quality. Respondents repeated concerns noted at Question 8 around air quality issues associated with fine particulate matter, and suggested that flues can be integral to the efficient operation of biomass heating and wood burning stoves. There was also reference to potential for alteration or replacement of flues to have a visual impact.

Opposition to preventing alteration or replacement of flues

Most of those who commented highlighted concerns around the potential for removal of PDR for the alteration or replacement of flues for biomass heating and wood burning stoves. This included suggestions that alteration or replacement can be essential to the continued operation of flues, for example following storm damage and to ensure that flues continue to work efficiently to minimise pollutants.

There was concern that such a change would prevent individuals from continuing to maintain and operate their heating system, and could act as a barrier to the installation of more efficient appliances.

Respondents also highlighted concerns that 'retrospectively' removing PDR for existing flues would unfairly penalise households who used existing PDR for the installation. It was noted that schemes such as the Renewable Heat Incentive have incentivised homeowners to install biomass heating systems.

Other concerns related to potential for preventing alteration and replacement to have unintended consequences for visual amenity and heritage, for example if this prevented the repair of a damaged chimney in a conservation area. Some also felt that it is difficult to envisage circumstances where a planning authority would refuse permission to repair or replace an existing flue. In this context, there was a view that requiring planning permission for these works would be disproportionate, especially in rural areas. It was also noted that such a change would not be consistent with other PDR, which typically allow for replacement of existing domestic features.

Some respondents repeated concerns noted at Question 8 around the impact of removing PDR on the planning system. This included the additional administrative burden on planning authorities and the technical assessment required if alteration and replacement of flues are made subject to planning permission. It was also suggested that requiring planning permission on the basis of the type of boiler to which a flue is connected will cause confusion.

Some of those who supported the principle of removing PDR for the alteration and replacement of existing flues acknowledged that such a change could be very difficult to manage in practice. This included concerns around potential delays in circumstances where prompt action may be required, for example if alteration or replacement of a flue is required for continued operation of the heating system.

Specific suggestions from respondents

On the basis of the concerns and issues noted above, respondents made a number of specific proposals around PDR for alteration and replacement of flues including that:

- Replacement of a flue should require planning permission, but alteration should be permitted under PDR.
- The alteration or replacement of flues should be subject to other regulation to address potential air quality concerns, such as public health legislation and regulation of wood burning and multi fuel stoves.
- PDR should not apply where the replacement flue is of a greater height or diameter, and/or uses a different means of fixing to the building.
- PDR should only allow alteration or replacement of flues where this would improve the standard of particulate filtration, and/or the replacement flue meets minimum standards.

3. Non-Domestic Renewables

3.1 Non-Domestic Solar Panels

Class 6J of the GPDO allows the installation, alteration or replacement of solar panels (or solar thermal equipment) on any non-domestic building. Panels installed under these PDR must be mounted on the building itself and there are specific restrictions regarding the placement of the panels depending on whether they are mounted on a pitched or a flat roof or on external walls.

The PDR do not apply if installed on buildings in certain designated areas, namely: sites of archaeological interest; National Scenic Areas; historic gardens and designed landscapes; conservation areas, National Parks and within the curtilage of a listed building. Class 6J is also restricted within 3km of an aerodrome or technical site associated with civilian and military air traffic services.

There is also a restriction on total energy output of equipment installed on a building, which is limited to 50 kW in relation to electricity generation, or 45 kW thermal if used to produce heat.

It is proposed that class 6J PDR should be amended by:

- (i) Removing the output restrictions of 50Kw and 45Kw respectively.
- (ii) Removing the requirement for wall mounted panels to be not less than 200mm from the edge of the wall, allowing installations to extend to the edge and to 'wrap around' corners.
- (iii) Retaining the 200mm limit on protrusion from wall or pitched roof and allowing 500mm protrusion from surface of flat roof.
- (iv) Enabling solar panels to be attached to non-domestic buildings which are located in conservation areas – subject to conditions that they are not permitted on a principal elevation or side elevation fronting a road or within the curtilage of a listed building.
- (v) Stipulating that solar panels must be removed as soon as is practical should they become inoperative, or are no longer in use.

Views are also sought on:

- (vi) Removing or reducing the current 3km exclusion zone around airports and aviation or defence installations to 2km.
- (vii) Retaining the 3km distance but allowing limited installation of solar panels within that area in certain circumstances.

Additionally, a new PDR is proposed for free-standing solar panels within the curtilage of non-domestic buildings, subject to conditions and limitations that:

- (viii) The surface area of the panels may not exceed 12 square metres.
- (ix) The installation must be wholly within the curtilage of the non-domestic building the solar panels provide power or heat to.

- (x) No more than one installation within any particular curtilage.
- (xi) The PDR does not apply in national scenic areas, National Parks or within the curtilage of a listed building.
- (xii) If the building is located in a conservation area, the PDR only permits installations in the rear curtilage.
- (xiii) Equipment is to be removed if inoperable or no longer in use.

Question 10: Do you agree with the proposed amendments to class 6J PDR for solar panels attached to non-domestic buildings?

Responses to Question 10 by respondent type are set out in Table 9 below.

Table 9

	Yes	No	Don't know	Total
Organisations:				
Planning authority	13	3	1	17
Public body or corporation	1			1
Professional or representative body	8	3	2	13
Private sector - energy/renewables	5	1		6
Private sector - thermal efficiency/heating		1		1
Private sector - other	2		1	3
Third sector - built environment/conservation	4	1		5
Third sector - shooting			2	2
Third sector - community councils/representative groups	1	1		2
Third sector - other	1		1	2
Total organisations	35	10	7	52
% of organisations	67%	19%	13%	
Individuals				
Individuals	33	18	30	81
% of individuals	41%	22%	37%	
All respondents	68	28	37	133
% of all respondents	51%	21%	28%	
% excluding "don't know" responses	71%	29%		

Percentages may not sum to 100% due to rounding

A very small majority – 51% of those who answered the question – agreed with the proposed amendments while 21% disagreed and 28% did not know. Excluding those who answered “don’t know”, 71% agreed and 29% disagreed. Among organisations 67% agreed.

Please add any comment in support of your answer

Around 65 respondents provided a comment at Question 10

Reasons the PDR should be amended

Some respondents expressed support or support in principle for the proposed amendment to class 6J PDR, including because it will allow generation of more solar energy and will support businesses to decarbonise and reduce their energy costs. It was also suggested that the proposed changes are reasonable and that remaining limitations will be sufficient to minimise landscape impacts. Other benefits identified included aligning PDR for domestic and non-domestic buildings and aligning Scotland with other parts of the UK.

Although broadly supporting the principle underlying the amendments, some respondents argued that the Scottish Government should go further than proposed while others added caveats, clarifications or additional limitations they would like to see, most frequently in respect of conservation areas.

Reasons the PDR should not be amended

Among respondents who did not agree with the proposed amendments, several also highlighted issues in relation to conservation areas. Other reasons for disagreeing with the proposed changes included a view that regulations and planning permission should always be required or, at the opposite end of the spectrum, that there should be no restrictions on businesses that want to install solar power.

Concerns were also expressed regarding the waste stream arising from solar panels at the end of their lifespan.

Comments on proposed limitations

The analysis below considers each of the five limitations proposed in the consultation paper in turn, followed by various additional conditions or additional permissions that were suggested.

Removing the output restrictions of 50Kw and 45Kw respectively

This was supported by those respondents who commented specifically, including because current restrictions may not reflect the energy requirements of the business occupying a particular building.

One suggestion was that, other than on listed buildings, PDR should enable all rooftop solar installations up to 3MW.

Removing the requirement for wall mounted panels to be not less than 200mm from the edge of the wall, allowing installations to extend to the edge and to 'wrap around' corners

Retaining the 200mm limit on protrusion from wall or pitched roof and allowing 500mm protrusion from surface of flat roof

Few respondents commented on the second and third provisions, although there was a view that panels should no longer need to be hidden. There was also a query

regarding depth, and why a '1m bubble' should not be adopted.² Other suggestions included that:

- The limit on protrusion from a pitched roof should be increased to 500mm as this would both afford additional opportunities without significant impact, and give consistency between pitched roofs and flat roofs.
- Panels should not be allowed to overhang the public road or a public footpath/cycle path.

It was also argued that permitting panels to wrap around corners could have implications in conservation areas.

Enabling solar panels to be attached to non-domestic buildings which are located in conservation areas – subject to conditions that they are not permitted on a principal elevation or side elevation fronting a road or within the curtilage of a listed building

This was the amendment that attracted the greatest number of comments, often reflecting concerns raised at Questions 1 and 2 with respect to the visibility of solar panels from other places in a conservation area, and that a blanket approach to the elevations that are of significance could have unintended consequences that damage the character of the area. An alternative view was that extending PDR to non-domestic buildings in conservation areas should not adversely impact their character.

Specific suggestions included that to protect the character of conservation areas the PDR should not apply:

- At all in a conservation area.
- To rear elevations fronting a road.
- To sloping roofs fronting a road.
- To side or rear elevations fronting public or green space.
- To side elevations, whether or not fronting a road, particularly for wall mounted panels.
- To any elevation visible from the street or a public place or in any location visible from the public realm.

Other comments included that:

- Guidance should state a presumption against development unless conservation issues are addressed and a good reason for any changes is demonstrated.

² As noted in section 2.6 with respect to flues for domestic heating systems, PDR which allow improvements, additions or alterations to the exterior of dwellings (class 2B) and buildings containing flats (class 4A) do so within a '1 metre bubble'.

- Article 4 Directions might be required with respect to higher elevations that are not considered to be the front elevation but may nevertheless be prominent.

Stipulating that solar panels must be removed as soon as is practical should they become inoperative, or are no longer in use.

Limited comments on the final condition included that this is either not practical or cannot be enforced. It was also noted that there are currently no safeguards with respect to restoring roofs after panels are removed, and a suggestion that this raises a possibility that the PDR could effectively allow a change of roof covering in a conservation area.

Suggestions for clarification, additional restrictions or wider PDR

Proposals for clarifications or additional restrictions included:

- Clarifying that the PDR does not cover attaching panels to a listed building.
- Specifying that the PDR does not apply to World Heritage Sites and restricting wall mounting in National Parks and National Scenic Areas.
- Defining ‘site of archaeological interest’ more precisely as the lack of a statutory definition could cause legal uncertainty.
- Addressing fire safety concerns associated with the mass roll-out of solar PV.
- Restricting deployment close to the operational railway line where glint and glare could distract or dazzle train drivers, creating concerns for safety.
- Retaining the 3km exclusion zone round airports or consulting with the Civil Aviation Authority (CAA) and the MOD.
- Requiring ancillary equipment to adhere to noise limits as for ASHPs and free-standing turbines.
- Providing guidance for bird proofing or bird proof design to avoid causing nuisance to neighbouring properties.
- Requiring installations to be above 2.5m.

Suggestions for extension of the proposed PDR included:

- Extending the PDR to all rooftop solar on non-domestic buildings other than on listed buildings.
- Including unlisted non-domestic buildings in the curtilage of a listed building.
- Relaxing roof mounting criteria in National Parks and National Scenic Areas to reflect those for domestic properties.

Two other issues identified as having potential to act as barriers to deployment of solar panels were grid capacity and the status of businesses renting premises. With respect to the former, one Professional or representative body respondent provided examples of businesses that have delayed investment in solar panels or involvement in projects due to lack of grid capacity or delays in upgrading grid connections. They also highlighted the situation of businesses that do not own their

buildings and hence lack control over the installation of renewable energy infrastructure on roofs. In this case it was suggested that landlords should be encouraged and incentivised to facilitate solar panel installation.

Question 11: Do you have any comments on the potential to amend the current restrictions that apply to solar panels on non-domestic properties (class 6J) and solar canopies in parking areas (class 9M) within 3km of airports and technical sites associated with civilian and military air traffic services?

Around 45 respondents provided a comment at Question 11 although some to note that they would defer to industry experts or airport operators.

Reasons PDR should be amended

The reason given most frequently in support of amending the 3km exclusion zone around airports and aviation or defence installations was that some airports (including Glasgow and Edinburgh) either have, or are planning, installation of their own solar panels. Other arguments included that:

- Solar panels are designed to absorb irradiation and have a lower reflectance than either architectural glass or water which are often found around airports.
- The UK Government's National Policy Statement for Renewable Energy Infrastructure³ reports that 'there is no evidence that glint and glare from solar farms results in significant impairment on aircraft safety'.
- The NPF 4 removed language around 'glint and glare,' in light of evidence that solar panels do not interfere with communications equipment or infringe on airspace.
- Scotland is the only part of the UK that has constraints on non-domestic solar due to aviation interests.

While some respondents specifically noted their approval for reduction of the exclusion zone to 2km or 1km, Private sector - energy/renewables respondents in particular proposed that the exclusion zone should be eliminated altogether. Arguments in favour of removing the exclusion zone included the potential for generation of renewable energy by solar canopies over airport car parks. It was also suggested that:

- PDR regulations are sufficient to determine the suitability of solar installations.
- If a local risk to aviation was demonstrated, Councils could seek to restrict PDR by way of an Article 4 Direction.

³ The document is available on [the UK Government website](#). The paragraph cited is 3.10.150.

Reasons PDR should not be amended

Some respondents simply stated a view that the PDR should not be amended while others cited visual impact or safety, including the impact of glint and glare impact on flight crew and air traffic controllers as reasons that the 3km exclusion zone should be retained.

Private sector - other respondents who opposed the potential changes noted their own obligations under International Civil Aviation Organisation (ICAO) and CAA regulations to ensure the safety of aircraft manoeuvring on the ground, taking off, landing or flying in the vicinity of the airport. They highlighted safeguarding advice in relation to solar developments set out in guidance on renewable energy developments created by the Combined Aerodrome Safeguarding Team⁴. This guidance operates in the context of applications for planning permission for development in the vicinity of airports and other safeguarded sites. They also referred to their own obligation to consider all the potential hazards posed by solar photovoltaic developments on or in the vicinity of an aerodrome. Early consultation by developers was seen as essential to ensure safe operation of airports.

It was reported that the guidance sets out requirements for developers to provide airport operators with safety survey information relating to potential for creation of:

- Glint and glare impacting flight crew or control tower staff.
- Wildlife safety hazards (such as nesting birds attracted to solar panels).
- Interference with airport communication, navigation and surveillance systems.

The guidance also suggests developers should consider and provide information to operators on other issues including, thermal plume, turbulence and access routes for fire and rescue vehicles.

Caveats and concerns

Some respondents who expressed support in principle for amending PDR added caveats that this was provided that:

- Aircraft safety is considered.
- No specific objection is raised by a local airport operator or defence facility.
- The CAA and MOD do not object to the changes.
- National Scenic Areas and National Parks remain excluded.

Concerns were also raised that local authorities may lack expertise on solar glare in the context of aviation safety, and that it would be preferable to proceed in consultation with airports, the CAA and MOD.

In terms of other criteria that might be set out in the PDR, suggestions included:

- A requirement for bird proof design around a canopy to ensure no nuisance (noise, bird droppings, insects) is caused to neighbouring properties.

⁴ The guidance is available on [the CAA website](#).

- A requirement for ancillary infrastructure, such as inverters and transformers to adhere to noise limits as for ASHPs and free-standing turbines.
- Specification of a timescale for removing panels that are no longer in use.

Question 12: Do you agree with the proposed new PDR for solar panels within the curtilage of non-domestic buildings?

Responses to Question 12 by respondent type are set out in Table 10 below.

Table 10

	Yes	No	Don't know	Total
Organisations:				
Planning authority	14	3	1	18
Public body or corporation	1			1
Professional or representative body	9	2	1	12
Private sector - energy/renewables	5			5
Private sector - thermal efficiency/heating			1	1
Private sector - other	2		1	3
Third sector - built environment/conservation	3		1	4
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	2		1	3
Total organisations	38	5	8	51
% of organisations	75%	10%	16%	
Individuals				
Individuals	33	16	31	80
% of individuals	41%	20%	39%	
All respondents	71	21	39	131
% of all respondents	54%	16%	30%	
% excluding "don't know" responses	77%	23%		

Percentages may not sum to 100% due to rounding

A small majority – 54% of those who answered the question – agreed with the proposed new PDR, while 16% disagreed and 30% did not know. Excluding those who answered “don’t know”, 77% agreed and 23% disagreed. Among organisations, 75% agreed.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 12.

Some respondents welcomed the proposed new PDR which was described as pragmatic, or as a reasonable compromise that will bring Scotland in line with planning regulations other parts of the UK. The importance of generating more

solar power was also highlighted. Among respondents who disagreed, only a small number opposed the new PDR in principle.

However, most of those who agreed and those who disagreed argued for changes to the proposed clauses as set out in the consultation paper, broadly taking one of two positions:

- That one or more of the proposed limitations should be broadened or tightened, and/or that additional conditions should be added.
- That proposed limitations should be made less restrictive or removed altogether and/or that the development permissible under the PDR should be extended.

Approximately equal numbers of respondents took each position: slightly more respondents proposed an additional limitation, although some of those seeking loosening of restrictions argued for multiple amendments.

Comments on proposed limitations

The surface area of the panels may not exceed 12 square metres

All of the respondents who commented specifically on the proposed 12m² limit on the area of solar panels argued that is too low, too restrictive or an arbitrary figure.

Points raised in favour of a more generous figure included that 12m²:

- Only equates to around 2.5kW of generation capacity and does not reflect the likely higher energy demand of non-domestic properties.
- May represent a significant barrier to development or mean development costs are not justified for the energy generation return from such a small area.
- Is a very small areas for crofters and farmers, particularly in view of the separate PDR for installation of agricultural buildings of up to 1000m².

Suggested amendments included:

- Rather than a fixed area, a sliding scale according to location (for example whether close to houses) or a percentage of the area within a building's curtilage.
- Defining industrial areas that would be considered permitted development.
- Raising the figure to 1000m² on farms and crofts.

The installation must be wholly within the curtilage of the non-domestic building the solar panels provide power or heat to

One respondent disagreed with the requirement for the installation to be located within the curtilage of a non-domestic building rather than within the property boundary. It was argued that PDR should provide flexibility to install solar panels in the most efficient or logical location.

No more than one installation within any particular curtilage

Again, those who commented saw this condition as too restrictive. In particular, it was suggested that it is not clear why PDR should be restricted to a single, larger array if there are other benefits in splitting the same area into two smaller arrays.

The PDR does not apply in National Scenic Areas, National Parks or within the curtilage of a listed building

This was the clause that attracted the highest number of comments, albeit from respondents arguing two very different viewpoints.

For some the exclusion of National Scenic Areas and National Parks was welcome with one respondent reasoning that defined curtilages are not always present in rural areas, leading to a risk of the proliferation of installations in sensitive locations. Others argued that the exclusion should also be extended to conservation areas or to:

- World Heritage Sites.
- Scheduled Monuments.
- Battlefields.
- The Inventory of Gardens and Designed Landscapes.
- Sites of Special Scientific Interest (SSSI).
- National Nature Reserves.

With respect to heritage assets, it was argued that it is important to distinguish between curtilage and setting, and that restrictions on development within the curtilage of a heritage asset can only partially mitigate against potential effects on its wider setting.

A different perspective was that National Scenic Areas, National Parks and the curtilage of listed buildings should not be excluded from the PDR, as some installations could be appropriate in these areas. Arguments in favour of this position included that:

- Solar installations do not have a permanent impact and can be managed in the design stage to have a minimum impact on historical sites or archaeological remains.
- Small scale installations within the curtilage of a listed building would have no more adverse impact on the character of the building than a car park or a café.
- It is inconsistent that (subject to complying with the size and location specifications and obtaining Listed Building Consent) solar panels can be attached to non-domestic listed buildings but there is no PDR for the installation of solar panels within the curtilage of non-domestic listed buildings.

A specific suggestion was that the PDR should be extended to the curtilage of Category C listed buildings.

If the building is located in a conservation area, the PDR only permits installations in the rear curtilage

Some respondents referred back to points made at Questions 1 and 2 with respect to concerns regarding the potential for solar panels to be visible from public spaces within conservation areas, with suggestions that that the PDR should apply to the rear curtilage in a conservation area 'unless the rear elevation faces a public or green space' or that any location visible from the public realm in a conservation area should be excluded.

There were also views that:

- Installations in the rear curtilage of non-domestic buildings in conservation areas would be acceptable as the impact on character and appearance of conservation areas would be minor.
- Many rural and agricultural buildings do not have 'front' and 'rear' curtilages that reflect public visibility of solar installations.
- Allowing PDR for innovative designs and layouts that are compatible with conservation areas would create a market for innovative solar designers.

Equipment is to be removed if inoperable or no longer in use

Respondents commenting on this clause highlighted issues regarding enforceability for inoperative panels including that, in practice, it will be impossible to police.

It was also argued that:

- Visual impact does not depend on whether solar panels are operative or otherwise.
- Even if electrical generation capacity is impaired, it may still have a useful function as a canopy.
- In contrast, farmers are not required to remove derelict farm buildings.

Suggestions for additional restrictions or wider PDR

Respondents also proposed both additional restrictions they would like to see put in place and additional aspects to which they would like PDR to be extended:

In terms of further conditions on where the PDR should apply suggestions included restrictions:

- In all cases, for non-public elevations facing a road, given the potential for glare from the panels.
- Within 3km of an aerodrome to ensure safeguarding processes are followed.
- In close proximity to the operational railway line where glint and glare could distract or dazzle train drivers, creating concerns for safety.
- In areas used for parking or vehicle servicing, to ensure these facilities are retained.

Additional requirements were also suggested with respect to:

- Application of the same tests as applied to buildings which neighbour domestic households as for domestic installations.
- Noise limits for ancillary infrastructure.
- A specification that all installations should be above 2.5m.
- Load management rules for days when renewable generation could overwhelm national grid.
- A prior notification and approval process to improve mitigation of potential impacts on the historic environment.

In terms of possible extension of the PDR there were suggestions that:

- PDR should be granted in the case of certain, non-intrusive ground fixings such as ballasted systems, as these would propose less risk of disturbing buried archaeological artifacts or areas of interest.
- Agrivoltaics should be included or otherwise afforded the same planning consenting as for glasshouses and polytunnels.

3.2 Solar Canopies in Parking Areas

On 31 March 2023, PDR for solar canopies in qualifying parking areas were introduced in a new Class 9M of the GPDO. The purpose of such canopies was primarily to power EV chargers. The legislation does not rule out the use of any excess power generated for other purposes, but the primary purpose of the solar canopies must be to power EV chargers.

It is now proposed that:

- (i) The restriction that solar canopies installed under Class 9M must primarily be for the powering of EV chargers should be removed.
- (ii) No new maximum output capacity for electricity generation would be introduced to Class 9M.

Please note that PDR relating to solar panels on domestic and non-domestic buildings are covered at earlier questions and that answers to Question 11 (relating to potential amendment to current restrictions that apply to solar panels within 3km of airports) would also apply to solar canopies in parking areas.

Question 13: Do you agree with the proposal to extend the Class 9M PDR to allow these to apply to solar canopies generally, rather than only those for which the primary use is charging of electric vehicles?

Responses to Question 13 by respondent type are set out in Table 11 below.

Table 11

	Yes	No	Don't know	Total
Organisations:				
Planning authority	15	1	1	17
Public body or corporation				
Professional or representative body	5	1	3	9
Private sector - energy/renewables	6			6
Private sector - thermal efficiency/heating			1	1
Private sector - other	3		1	4
Third sector - built environment/conservation	1	1		2
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1		1	2
Total organisations	33	3	9	45
% of organisations	73%	7%	20%	
Individuals	31	15	30	76
% of individuals	41%	20%	39%	
All respondents	64	18	39	121
% of all respondents	53%	15%	32%	
% excluding "don't know" responses	78%	22%		

A small majority – 53% of those who answered the question – agreed with the proposal to extend class 9M PDR to allow these to apply to solar canopies generally, while 15% disagreed and 32% did not know. Excluding those who answered “don’t know”, 78% agreed and 22% disagreed. Among organisations, 73% agreed.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 13.

Reasons to extend primary use

Some respondents saw the proposed changes as reasonable or logical, and it was suggested that other restrictions in class 9M PDR can protect amenity, minimise impacts in terms of landscape, or ensure that canopies are not overly dominant or inappropriately sited. It was also suggested that the current criteria are too restrictive or that all solar generation should be encouraged.

Private sector - energy/renewables respondents in particular pointed to potential to export power, either to the grid or to surrounding homes or businesses if opportunities for peer-peer trading allow generators to sell electricity to local consumers.

There were also suggestions that the Scottish Government should go further, for example to extend PDR to include associated infrastructure such as battery storage or to allow solar thermal to heat water.

It was noted that the proposed change could lead to much wider application of the PDR with some respondents seeing this as positive, resulting in more parking areas installing solar canopies ahead of requirements for EV charging in car parks or regardless of the presence of EV chargers.

Reasons not to extend primary use

Among Individual respondents who did not support the proposed amendments there were widely differing reasons – with a very small number arguing that there should be no restrictions at all, and a greater number that there is no need for change to the current arrangements. With respect to the latter position, it was suggested that there should be a requirement for planning permission and hence democratic oversight.

Specific objections to the proposed amendments included:

- That the revised PDR could effectively allow development of solar farms in inappropriate locations.
- A risk of cumulative damage to Scotland's historic environment.

On the latter point it was argued that although a local authority can introduce Article 4 Directions, in practice these create additional resource pressures and are not likely to be used.

Caveats and concerns

Both respondents who agreed in principle and some who expressed more serious concerns highlighted conditions they would wish to see imposed if class 9M is amended, including with respect to:

- Limits on the size and dimensions of canopies.
- Limits on noise generated by ancillary infrastructure, with a suggestion that the noise limits for ASHP and free-standing turbines should be adhered to.
- Exclusion of statutory protected areas, World Heritage Sites, conservation areas, locations visible from the public realm in a conservation area and the curtilage of listed buildings.

Concerns were also raised with respect to potential for:

- Glint and glare.
- Loss of parking spaces or removal of shade such as existing trees in car parks to maximise energy generation.

Additionally, there were suggestions that planning guidance should:

- Specify that no part of the canopy or its supports should encroach onto pathways or footways on public land, resulting in pinch points or loss of pedestrian space.
- Include more information on fire performance.

Question 14: Do you agree that any extension of Class 9M PDR to be for the purposes of producing electric power generally, should not have a maximum power generation capacity?

Responses to Question 14 by respondent type are set out in Table 12 below.

Table 12

	Yes	No	Don't know	Total
Organisations:				
Planning authority	13	2	2	17
Public body or corporation				
Professional or representative body	5	1	3	9
Private sector - energy/renewables	5			5
Private sector - thermal efficiency/heating			1	1
Private sector - other	2		1	3
Third sector - built environment/conservation				
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1		1	2
Total organisations	28	3	10	41
% of organisations	68%	7%	24%	
Individuals				
	30	15	31	76
% of individuals	39%	20%	41%	
All respondents				
	58	18	41	117
% of all respondents	50%	15%	35%	
% excluding "don't know" responses	76%	24%		

Half of respondents – 50% of those answering the question – agreed that an extended class 9M PDR should not have a maximum power generating capacity, while 15% disagreed and 35% did not know. Excluding those who answered “don’t know”, 76% agreed and 24% disagreed. Among organisations, 68% agreed and only 7% disagreed, with Planning authorities and Representative bodies the only groups where any respondents disagreed.

Please add any comment in support of your answer

Around 35 respondents provided a comment at Question 14 although most were very brief.

Reasons there should be no maximum capacity

Some respondents simply noted their agreement with the proposed change or expressed a view that it is not necessary to restrict generating capacity. Others noted that, in practice, generating capacity will be determined by the size of parking structures.

Reasons that a maximum capacity should be retained

Reflecting objections raised at Question 13, some Individual respondents argued that a requirement to obtain planning permission should be retained. There was also concern that the amended PDR could be used to develop solar farms, and it was suggested that a limit should be based on the maximum requirement for onsite EV charging, plus requirements for onsite lighting and small shop or café.

Caveats and concerns

Also as at Question 13, respondents who agreed in principle and some who disagreed with the proposed amendment highlighted issues they would wish to see addressed with respect to:

- Maintaining limits on the size and dimensions of canopies.
- Excluding conservation areas and the curtilage of listed buildings.
- Addressing noise generated by ancillary infrastructure.

Other points raised more specifically with respect to removing the limit on power generation related to:

- Potential health and safety issues.
- Grid capacity and integrity.

On grid capacity it was argued that, although removing power generation constraints is welcome, grid constraints are already causing some businesses to delay installation of solar PV panels and that, without appropriate upgrading, potential benefits from exporting additional solar electricity to the grid will be lost.

3.3 Non-domestic air source heat pumps

There are currently no specific PDR for ASHPs associated with non-domestic buildings. However, the Heat in Buildings Strategy commits the Scottish Government to 'develop and introduce strengthened regulation for non-domestic buildings, to ensure they reduce demand for heat where feasible and install a zero emissions heating supply' and ASHPs are likely to play an important role in this.

It is proposed that a new class of PDR applying to all non-domestic buildings would allow the installation, alteration or replacement of an ASHP on the building or within its curtilage. The PDR would only apply:

- (i) In the case of ASHPs attached to buildings – if it is attached to a rear or side elevation (or a rear elevation in a conservation area).
- (ii) In the case of ASHPs within the curtilage of buildings – if it is within the rear curtilage and not within 5m of a curtilage boundary.
- (iii) If it is not located within a World Heritage Site or within the curtilage of a listed building.

Although no size limits on ASHPs installed under this new PDR are proposed it is proposed that, if installed on a building which also contains residential accommodation, then the outdoor compressor unit must not exceed 1.5 cubic metres and the external parts of the ASHP (including any housing etc.) must not be within 1m of any window of a habitable room, or door of a flat in the same building. Additionally, the ASHP would need to be removed as soon as is reasonably practical where it is no longer needed or no longer capable of providing heating or hot water.

Question 15: Do you agree with the proposed PDR for air source heat pumps on non-domestic buildings?

Responses to Question 15 by respondent type are set out in Table 13 below.

Table 13

	Yes	No	Don't know	Total
Organisations:				
Planning authority	12	6		18
Public body or corporation	1			1
Professional or representative body	9	2	2	13
Private sector - energy/renewables	1			1
Private sector - thermal efficiency/heating				
Private sector - other	2		1	3
Third sector - built environment/conservation	2	1		3
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	2		1	3
Total organisations	31	9	6	46
% of organisations	67%	20%	13%	
Individuals				
	25	16	33	74
% of individuals	34%	22%	45%	
All respondents	56	25	39	120
% of all respondents	47%	21%	33%	
% excluding "don't know" responses	69%	31%		

Percentages may not sum to 100% due to rounding

Nearly half of respondents agreed with the proposed PDR for air source heat pumps on non-domestic buildings; 47% of those answering the question indicated this, while 21% disagreed. The remaining 33% did not know. Excluding those who answered “don’t know”, 69% agreed and 31% disagreed. Among organisations 67% agreed.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 15.

A number of these respondents referred to issues raised at Question 3 with reference to installation of ASHPs for domestic properties, for example highlighting concerns around visual and noise impacts, especially in conservation areas and designated areas.

Reasons for supporting the proposals

Comments expressing support for proposals included a view that consistency of regulations across domestic and non-domestic buildings is a logical approach. This included reference to perceived inconsistencies across planning authorities in enforcement of current regulations for non-domestic ASHP, and delays caused by the additional administrative burden on authorities. There was also reference to the importance of decarbonising heat in non-domestic buildings for net zero policy aims, and a view that proposals can further support this process.

Responses also included support for specific aspects of the proposed PDR for non-domestic ASHPs. For example, respondents highlighted proposals to prevent installation of ASHPs on front elevations under PDR, restricting PDR in World Heritage Sites, and limiting installation to the curtilage of non-domestic buildings.

Concerns and opposition

Concerns raised by respondents were most commonly related to the potential noise impacts associated ASHP on non-domestic buildings, with some reiterating key concerns raised at Question 3 in relation to domestic properties. For example, respondents noted potential for cumulative noise impacts associated with multiple installations in close proximity (including on the same property), and issues with the current MCS 020 methodology for assessment of noise impacts. It was also suggested that proposed limits on the size and placement of external units will not be effective in mitigating noise impacts where buildings also include residential properties. Indeed, some suggested that noise impacts may be a particular concern for installation to non-domestic buildings, with reference to potential for multiple larger units to have a significant noise impact on neighbouring residential properties.

Respondents also reiterated concerns around potential visual impacts, including for conservation areas and other sensitive landscapes. This was highlighted as a particular concern if PDR does not specify any limit on the size or number of ASHP units for non-domestic buildings.

Other general issues and concerns in relation to PDR for non-domestic ASHPs included:

- A requirement for clarification around how proposed PDR for non-domestic ASHPs will relate to other regulations and planning requirements, for example around air conditioning compressor units, and whether these requirements could be challenged if PDR is granted only for ASHP installation.
- Concern around the potential impact of ASHPs installed to ground floor non-domestic buildings with residential properties above.
- A suggestion that requirement for use of acoustic enclosures for larger ASHP units may be appropriate.

Comments on proposed limitations

In the case of ASHPs attached to buildings – if it is attached to a rear or side elevation (or a rear elevation in a conservation area).

The proposed restriction of ASHPs to the rear and side elevation of buildings was seen as too restrictive, with some noting that installation to a rear or side elevation may not be feasible dependent on the building layout. It was also suggested that limiting installation to rear elevations in conservation areas is insufficient to mitigate against potential visual impacts, given the diversity of building design and layout in these areas. This included concerns around the potential impact of installations above ground floor level.

In the case of ASHPs within the curtilage of buildings – if it is within the rear curtilage and not within 5m of a curtilage boundary.

Respondents questioned the requirement that ASHPs must not be within 5m of a curtilage boundary, and suggested that this is too restrictive for businesses that may lack the external space to meet the requirement. There was also concern that the phrasing of this requirement could permit a wall-mounted ASHP within a short distance of a neighbouring property.

If it is not located within a World Heritage Site or within the curtilage of a listed building

The limit on PDR within the curtilage of a listed building was also questioned, and it was noted that these buildings are often used as event or business spaces where ASHPs would be desirable. It was suggested that PDR could be permitted in these locations, with appropriate conditions, without adversely impacting listed buildings.

Limits on size and positioning if installed on a building which also contains residential accommodation

There was concern that proposed limits on the size and positioning of external units may not be sufficient to limit noise impacts, especially for neighbouring residential properties. There was also concern around the potential for proliferation of heat pumps in highly visible locations, and it was noted that there is no limit proposed on the number of ASHPs installed to a single non-domestic building.

Size restrictions were also seen as potentially inhibiting innovation, for example if technological development results in larger ASHP units.

Suggestions for additional restrictions or wider PDR

Respondents suggested a wide range of additions and amendments to the proposed PDR for non-domestic ASHPs.

In relation to limiting installations to rear and side building elevation, respondents suggested that:

- Heat pumps should be limited to ground level.
- PDR should not apply in conservation areas, or should specify that installations in conservation areas should be in a location not visible from a public place.
- ASHPs should be permitted on a front elevation where installation to the side or rear elevation is not technically feasible.
- Reference to 'attached' should be expanded to permit ASHP outdoor units that are ground mounted but adjacent to the building.

In relation to limiting installations to the rear curtilage but not within 5m of boundary, it was suggested that this requirement should be removed or that there should be flexibility, for example relating to size, location and noise rating of the ASHP.

With respect to limiting PDR in World Heritage Site and within the curtilage of a listed building, respondents suggested:

- PDR should also be restricted in other designated areas such as Site of Special Scientific Interest, National Scenic Areas, National Parks, battlefields, the Inventory of Gardens and Designed Landscapes and National Nature Reserves.
- PDR should apply within the curtilage of a listed building, with appropriate conditions.

In relation to limits on the size and positioning of external units, respondents suggested:

- The location of units should also take account of noise impacts.
- Limits on distance from windows and doors on the same building should be extended to include distance from doors and windows on any neighbouring properties.
- The minimum permitted distance from any neighbouring residential properties should be increased where multiple ASHPs are installed to a non-domestic building.
- PDR should allow for rooftop ASHP installations for non-domestic buildings.

Other additions and amendments suggested by respondents included that the Scottish Government should reconsider the approach to assessment and mitigation of noise impacts, consistent with suggested amendments to PDR for domestic

ASHPs. This included suggestions that an alternative approach to noise assessment should take account of different levels of background noise and cumulative impacts, and set appropriate noise limits. It was also suggested that the Scottish Government should consider the findings of UK Government and other research on noise from ASHPs.

It was also argued that:

- PDR should specify limits on the number of ASHPs permitted on a single building.
- PDR should not apply within the curtilage of a building that also contains residential accommodation.
- Where an ASHP is to be installed within a statutory safeguarding zone, prior notification and approval should apply to ensure that MOD are consulted.
- PDR should be restricted where the ASHP unit would encroach onto a footpath or right of way.

3.4 Non-Domestic Ground Source and Water Source Heat Pumps

Class 6I PDR permit the installation, alteration or replacement of underground pipes within the curtilage of a non-domestic building required in connection with a ground source heat pump or a water source heat pump or both. There are a number of restrictions, including that the total heat output of all microgeneration installed within the curtilage of a non-domestic building would exceed 45 kilowatts thermal.

It is proposed that class 6I is amended to:

- (i) Clarify that in addition to the underground pipes, the PDR also cover the ground/water source pump and any above-ground connections to the pump.
- (ii) Remove the reference to maximum heat output.

Question 16: Do you agree with our proposed amendments to class 6I PDR for ground and water source heat pumps on non-domestic buildings?

Responses to Question 16 by respondent type are set out in Table 14 below.

Table 14

	Yes	No	Don't know	Total
Organisations:				
Planning authority	14	3		17
Public body or corporation				
Professional or representative body	8	2	2	12
Private sector - energy/renewables	2			2
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation				
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1		1	2
Total organisations	28	5	6	39
% of organisations	72%	13%	15%	
Individuals				
Individuals	28	14	32	74
% of individuals	38%	19%	43%	
All respondents	56	19	38	113
% of all respondents	50%	17%	34%	
% excluding "don't know" responses	75%	25%		

Percentages may not sum to 100% due to rounding

Half of respondents – 50% of those who answered the question – agreed with the proposed amendments to class 6l PDR for ground and water source heat pumps on non-domestic buildings, while 17% disagreed. Excluding those who answered “don’t know”, 75% agreed and 25% disagreed. The remaining 34% did not know. The balance of opinion was different amongst organisations, where 72% of those answering the question agreed with proposals.

Please add any comment in support of your answer

Around 40 respondents provided a comment at Question 16.

Reasons for supporting the proposals

A number of respondents expressed general support for the proposals as a reasonable approach to PDR for ground and water source heat pumps, including specific support for a consistent approach across domestic and non-domestic buildings. Proposals were also seen as important in contributing towards delivery of net zero targets.

Respondents indicated specific agreement with proposals to extend PDR to include the pump and above-ground connections, suggesting that this would provide much

needed clarification. It was suggested that there is limited potential for adverse visual and other impacts if installations are within the curtilage of buildings.

There was also specific support for the proposed removal of the reference to maximum heat output. Respondents agreed that the requirement is no longer relevant with some also noting difficulties around accurate monitoring of maximum heat output to enable enforcement.

Concerns and opposition

There was specific concern that proposals do not include consideration of potential noise impacts associated with ground or water source heat pumps. Reference to potential noise impacts included specific issues for structurally connected flatted and other residential properties and neighbouring residential properties.

Some respondents sought clarification that current restrictions on PDR within designated areas would continue to apply, including a view that allowing ground and water-source heat pumps under PDR would not be appropriate in areas of archaeological interest. There was also concern around installation in areas of potentially contaminated land without sufficient risk assessment, and an associated view that there is currently a lack of understanding around contaminated land in relation to PDR. However, it was also suggested that ground and water-source heat pumps are suitable for use within the curtilage of World Heritage Sites, listed buildings and the Inventory of Gardens and Designed landscapes.

Some respondents wished to ensure that any restrictions and conditions on PDR are minimised to encourage installation of heat pumps across all suitable building types and locations, and to take account of potential future developments in technology.

Additions and amendment to proposals

Respondents suggested a small number of additions and amendments to proposals, including that PDR should:

- Be restricted in areas of archaeological interest, for example requiring archaeological oversight and reinstatement of surfaces.
- Include suitable noise controls.
- Specify a maximum time period for restoration of surfacing, and include a requirement that this incorporates appropriate controls on any contaminated soils.
- Require engagement with the local authority Contaminated Land Officer to identify any history of land contamination, and where risks are higher to agree the scope of risk assessment.
- Include conditions to protect the integrity of sites.

For installation of ground or water source heat pumps in areas impacted by mining or on brownfield sites or other locations with potential for contamination, it was argued that planning requirements outlined in PAN33 should apply.

4. Thermal Efficiency: Domestic and Non-Domestic Buildings

4.1 Replacement Windows

With respect to domestic buildings, existing PDR allow for the alteration or improvement of dwellinghouses (class 2B) and buildings containing flats (class 4A), outwith conservation areas, as long as the works do not extend beyond the so-called '1 metre bubble'. These provisions cover the replacement of windows, with no constraints on the design of the new windows installed. Classes 2B and 4A do not apply in conservation areas or, class 4A within the curtilage of a listed building. Replacing the windows of domestic buildings which are located in a conservation area will generally require an application for planning permission – unless the replacements are exact replicas of what is being replaced and the external appearance of the building is not materially affected.

For non-domestic buildings, replacement windows are permitted by general PDR classes 9A, 9C and 9D which provide for the alteration of specified types of non-domestic building. Not all types of building are covered, and the PDR do not apply within sites of archaeological interest, National Scenic Areas, historic gardens or designed landscapes, historic battlefields, conservation areas, National Parks and World Heritage Sites.

For domestic properties (houses and flats), it is proposed that new PDR should cover replacement of windows of buildings within conservation areas – subject to conditions or limitations specifying that:

- (i) The PDR does not apply in World Heritage Sites.
- (ii) For windows situated on the front elevation of the building, or side elevation fronting a road, the PDR would only apply if the replacement window matches the existing window with respect to:
 - Its opening mechanism.
 - The dimensions and colour of its frame and astragals.
 - The number, orientation and colour of panes.

For non-domestic properties, it is proposed that PDR relating to the replacement of windows should be aligned with domestic properties so it is possible to replace the windows of all non-domestic buildings without a planning application, unless the building is located within a conservation area. Should new PDR be taken forward for the replacement of windows in houses and flats within conservation areas, subject to conditions, a similar approach to non-domestic buildings in conservation areas is proposed.

Listed Building Consent would continue to be required to replace the windows of any listed building.

Question 17: Do you agree with the proposed PDR for replacement windows of domestic buildings located in conservation areas?

Responses to Question 17 by respondent type are set out in Table 15 below.

Table 15

	Yes	No	Don't know	Total
Organisations:				
Planning authority	5	11	1	17
Public body or corporation	1			1
Professional or representative body	6	4	1	11
Private sector - energy/renewables	1			1
Private sector - thermal efficiency/heating				
Private sector - other			2	2
Third sector - built environment/conservation	3	2		5
Third sector - shooting			2	2
Third sector - community councils/representative groups	3		0	3
Third sector - other	2		1	3
Total organisations	21	17	7	45
% of organisations	47%	38%	16%	
Individuals				
Individuals	43	16	29	88
% of individuals	49%	18%	33%	
All respondents	64	33	36	133
% of all respondents	48%	25%	27%	
% excluding "don't know" responses	66%	34%		

Percentages may not sum to 100% due to rounding

The largest proportion of respondents – 48% of those answering the question – agreed with the proposed PDR for replacement windows of domestic buildings located in conservation areas. Of the remaining respondents, 25% did not agree, and 27% did not know. Excluding those who answered “don’t know”, 66% agreed and 34% disagreed. A majority of Planning authority respondents disagreed.

Please add any comment in support of your answer

Around 65 respondents provided a comment at Question 17.

Reasons for supporting the proposed PDR

In addition to general comments of support, there was reference to the proposed PDR being a reasonable compromise and a proportionate adaptation to address future climate challenges. It was suggested that the planning system must be

streamlined in order to facilitate greater uptake of energy efficiency measures across Scotland's homes and buildings. Related comments included that:

- The former recommendation of keeping single glazing in windows did not help good insulation and efficient heating.
- Many pre-1919 buildings in conservation areas have major deficiencies in energy efficiency, and the reduction of heat loss through windows by use of double glazing at a more affordable price is an opportunity that cannot be missed.
- With clear and sensible guidelines and framework, the proposed PDR should not pose a concern to wider heritage protection frameworks and should help speed up the process of window works for homeowners considerably.

In terms of other possible positive impacts, there was reference to:

- Unauthorised windows that have been installed in the past potentially being upgraded to a new uPVC window with appropriate opening method and proportions.
- The changes could reduce the number of people exposed to internal noise levels above the threshold at which adverse impacts are observed.

However, although agreeing with the proposed PDR, there was also a view that the public should be encouraged to retain or reuse existing windows, or replace windows with the appropriate original materials, wherever possible.

A view was also expressed that additional PDR should apply but not for replacement windows that are visible from public realm.

Suggestions relating to the detail of the PDR itself included that:

- To exclude World Heritage Sites is overly restrictive and the same criteria should apply as in a conservation area.
- Conditions should include materials and type of glazing.
- The PDR should cover all elevations of buildings.
- Where the current window is an obviously inappropriate past replacement, any new replacement should not be permitted to copy the existing wrong opening method or proportions.

It was also suggested that rewording the condition relating to 'the number, orientation and colour of panes' to reference 'pattern', rather than 'orientation' may be simpler for customers to interpret.

A prior notification procedure for windows on listed buildings and in conservation areas was also proposed. It was suggested they could be accepted as PD if they match or are of similar character to the style of the original windows in the building.

Queries raised, or points of clarification sought included:

- Whether there would be a need to define colour of the frame?

- What is meant by the colour of the pane, as this would be glass?
- Whether it would be possible to add that installing timber windows would not need planning permission subject to other conditions, including opening mechanism and style of window.
- Whether any replacement windows would be subject to a Building Warrant and therefore required to adhere to the technical standards for safety and energy efficiency.

It was also suggested that the use of the word ‘original’ might be an issue, including where later additions provide an important historical context towards the history of the building. The associated proposal was that the focus should be on ensuring that glazing patterns and opening mechanisms are retained and returned where they contribute to the character of the building or area.

Reasons for opposing the proposed PDR

Those disagreeing with the proposed PDR tended to raise concerns, some of which were detailed, about the potential negative impact on the appearance and character of conservation areas. It was suggested that windows are defining elements in the majority of conservation areas; for example it was reported that windows make a substantial contribution to the character, authenticity and physical integrity of the City of Edinburgh’s historic buildings and to the special character and appearance of its 50 conservation areas. A view was also expressed that windows visible from public spaces should not be PDR.

Concerns included that the existing restrictions are frequently breached already, and that a nuanced approach will only worsen the situation further and have a negative impact. In terms of the proposed PDR, the concern was that it would be cumulative, potentially considerable, and could lead to significant, potentially irreversible harm. It was also suggested that any harmful impact would be on arguably the nation’s biggest asset – Scotland’s outstanding historic environment. It was considered that such proposals are against the values and principles governing conservation and enhancement of the historic environment, set out in NPF4.

Whilst it was noted that local authorities can introduce Article 4 Directions, it was argued that such action would unlikely be adopted due to significant resource challenges experienced by local authorities.

Materials and design

A number of the specific concerns about the proposed PDR related to the consultation paper’s suggestion that the installation of new materials could be ‘more sympathetic in design terms’. Points included that using traditional materials in historic buildings is a key fundamental to protecting their special character, and that allowing the use of modern materials, such as uPVC, would undermine decades of work to preserve and enhance these areas. An associated point was that the proposed PDR would also reduce opportunities for enhancement in terms of removing unsympathetic windows and re-instating windows of sympathetic design and materials.

Other design and material-related concerns included that:

- There is the risk that in accommodating a different material this change encourages much wider use of uPVC and also removes any impetus to seek to repair or upgrade existing long life traditional timber windows.
- Property owners will be led by advice from window manufacturers and suppliers that are motivated to sell their product rather than observe planning restrictions.
- Even if the opening mechanism, dimensions and colour of frames and astragals and the number, orientation and colour of panes are met, some modern materials are still clearly noticeable.
- It is questionable whether modern materials can replicate accurately the frame dimensions and astragal details of historic timber windows.
- Many people will not be aware of different types of glass (including historic glass) and the differences in their appearance, so consultation with the local authority conservation officer as part of a planning application would be required.

There were also references to advantages of the current approach, including that the current requirement to apply for planning permission means the planning authority is able to retain control over replacement windows and negotiate an appropriate replacement design on a case-by-case basis.

However, it was also suggested that there is a clear disconnect between planners and the public that has made it challenging to have meaningful discussions. Further comments included that excessive bureaucracy and lack of communication damages the public's understanding and appreciation of their surroundings and, by extension, is harmful to the built environment.

Environmental considerations

Other comments addressed the thermal efficiency issue, and included that:

- The thermal performance of uPVC and new windows should not be assumed to be superior to that of well-maintained timber windows with secondary glazing.
- Wooden window frames, if correctly specified and maintained, can be both more thermally efficient and have a significantly longer lifespan than modern materials, such as uPVC. It was reported that historic (already 90 years+ old) timber windows will, with appropriate maintenance, still have a longer lifespan ahead of them than any proposed short-life replacement.
- Both thermal and noise reduction improvements can be made to windows in historic properties without replacing them. For example, historic sash and case windows can be repaired and secondary glazing installed without the need for planning consent and thermal efficiency can be further enhanced by the addition of draught strips, shutters, blinds and curtains.

It was noted that Historic Environment Scotland (HES) guidance, such as the [Short Guide: Fabric Improvements for Energy Efficiency](#), sets out ways to improve thermal efficiency in historic buildings without the need to replace historic windows.

In relation to reuse rather than replacement, it was noted that NPF4 recognises 'conserving and recycling assets' as an overarching spatial principle, and it was suggested that the whole life cost of material such as uPVC needs to be taken into account before it is encouraged further. It was noted that the consultation paper does not mention the environmental costs associated with manufacturing and disposing of plastic windows. It was argued that refurbishing timber windows would reduce or remove the inbuilt energy and sustainability issues arising from the use of some modern materials, and 2013 research comparing life cycle assessment and whole life costs of timber and uPVC windows was reported to have found that there is inherently less embodied carbon contained within good timber sash and case windows due to their ability to be maintained and repaired⁵. It was also reported that HES is presently undertaking a fresh research project to compare life cycle assessment and whole life cost of a traditional timber casement window and a modern replacement uPVC window.

Application and enforcement

Other points and concerns raised by those who did not agree with the proposed PDR addressed the practical application of the PDR and enforcement. They included that:

- Ambiguity in the conditions could easily be misinterpreted by those not engaged with the planning system, even if the property owners have the best intentions.
- The reliance on non-specific/detailed window criteria measurements could lead to an upsurge in enforcement enquiries and debate about the extent to which windows match or are similar. It would add additional burden from a planning enforcement perspective, for example, how would the planning service know what was installed previously once the windows have been replaced?

Question 18: Do you have any comments on the conditions that we propose the PDR for replacement windows would be subject to?

Please add any comment in support of your answer

Around 60 respondents provided a comment at Question 18, albeit a number referred back to their views at the previous question.

General comments on the proposed conditions overall

There were some general comments in support for the conditions proposed (primarily from respondents who had agreed with the proposed PDR at Question 17). Supporting comments included that the conditions proposed in the PDR for

⁵Available at [the Heriot-Watt University Research Gateway](#).

replacement windows are appropriate, as they strike the balance between maintaining character and improving thermal efficiency.

However, there were also concerns that the proposed conditions would be difficult for Planning authorities to enforce, leading to the prospect of abuse of the PDR. As at the previous question, the connection was sometimes made to the 'existing window' and unauthorised replacement windows that do not reflect the character of an historic property having been installed. The associated concern was that the proposed PDR would effectively regularise this situation, with suggestions that any relaxation could cover making such windows match the style of the original windows, or that the existing window should be lawful for PDR to apply.

The PDR does not apply in World Heritage Sites

Relatively few respondents commented on the proposed PDR not applying to World Heritage Sites. Those who did raise the issue held mixed views, including that it should apply to neither World Heritage Sites nor conservation areas, or that not applying the PDR to World Heritage Sites will effectively widen the protection gap between World Heritage Sites and the rest of Scotland's conservation areas.

The complexity of the relationship between World Heritage Sites and properties in or neighbouring those sites was also noted. It was reported, for example, that the Frontiers of the Roman Empire World Heritage Site (Antonine Wall) runs through urban areas, many of which are also conservation areas. It was suggested that the proposed PDR would lead to properties within the World Heritage Site boundary requiring planning permission, despite the fact that there is no prospect of an impact on that World Heritage Site from window replacement.

For windows situated on the front elevation of the building, or side elevation fronting a road

Respondents also raised some concerns about which elevations should (or should not) be covered by any relaxation of restrictions, and there was a call for the wording to be amended to read 'For windows situated on the principal elevation, or an elevation visible from the street or public place'. In addition to a general observation that the proposed restrictions do not go far enough in respect of rear or side elevations, suggestions included that the requirements (relating to opening mechanism, dimensions of the frame etc) should apply to:

- Every elevation of a domestic property.
- Any elevation or windows visible from the street or a public place in a conservation area.

There was also reference to historic centres having lanes and piers which differ from a suburban layout so the approach in relation to 'front' or 'rear' elevations do not apply, and a call clarification on the definition of a side 'facing' road, as 'facing' is not the same as 'visible from' a road.

It was also suggested that including flats in this PDR could lead to an inconsistency across elevations and cumulative impact upon the character and appearance of a conservation area.

Opening mechanism, dimensions and colour of its frame and astragals, number, orientation and colour of panes

There was a general query about what is meant by 'matching' existing windows and "like for like" replacements, and there was a call for this to be defined.

Comments on the opening mechanism included that the condition seems overly restrictive and unnecessary if there is no change to the external appearance of the window. However, there was also a view that sash and case windows that have a tilt function in addition to sliding alter the character and appearance of an area when open and should not be permitted under PDR.

Other concerns raised included that:

- Requiring a match in terms of frame dimensions could have pitfalls. For example, a modern uPVC window is very unlikely to be able to match a timber window in terms of width of frame and will inevitably be thicker.
- The use of 'plant on' or replica glazing bars can also diminish character, particularly where the building is viewed at close range.
- Colours can often be changed to the benefit of the character of many conservation areas and uniform colour need only be required when stated in the Character Appraisal of that conservation area.
- Dimensions of traditional windows and replacement new windows will rarely 'match' in all aspects and may be open to interpretation. For example, 'dimension' does not distinguish between 'contemporary' and 'traditional' frame profiles.

A Public body respondent suggested replacing the 'matching' requirements as drafted with: design (including number and orientation of panes); colour and finish; opening method; dimensions; sections of components; and the placing of the new unit within the wall.

Material

As at Question 17, the lack of reference to the material from which the replacement window is made was a concern for some, with further comments including that the appearance of the new windows will not preserve or enhance the conservation area if windows which were originally timber are not timber.

The associated suggestions included that the PDR should state that any replacement window should match the existing window with respect to material.

Other suggestions included that:

- It would be better for the PDR to be changed to allow existing timber window frames to be retained and upgraded and converted to accept insulated glass and sealed units.
- PDR could allow previous replacement frames of a different material and/or opening method to be replaced with a reinstatement of the original specification of window frame but with double glazed units, with planning

permission still required for all other changes to the frame material and non-original frame material reinstatements.

- Before permitting change of materials, there needs to be some form of assessment of the value of the existing windows.

However, an alternative perspective was that the proposed relaxation on the choice of materials is especially welcomed.

Additional conditions or suggested actions

Other comments or suggestions relating to the coverage of a window-related PDR included that it should:

- Be extended to Category C listed buildings. It was reported that a large number of Scotland's listed buildings do not have original windows, and indeed in many cases, windows are one of the main causes of a lack of thermal efficiency.
- Include a requirement that replacement windows must be of a certain performance level.
- Recognise that certain new build properties might have a Planning condition requiring a certain acoustic performance standard for the window and associated room ventilation system in order to be effective against an existing external environmental noise source (such as road traffic noise). In such circumstances, any PDR for the replacement of such windows should also have a requirement for these to meet the equivalent acoustic performance as the windows they replace.

In terms of the operation of any PDR, there was support for a prior approval/prior notification process as a way of mitigating negative effects on the historic environment but acknowledging that this would likely reduce the potential positive effects of the proposals on planning service resource. There was also agreement that best practice guidance can contribute to the mitigation of effects, in conjunction with other measures.

Question 19: Do you agree with the proposal to align non-domestic buildings with domestic buildings, as regards PDR for replacement windows?

Are there any types of non-domestic building that should be excluded?

Responses to Question 19 by respondent type are set out in Table 16 below.

Table 16

	Yes	No	Don't know	Total
Organisations				
Planning authority	10	7	1	18
Public body or corporation				
Professional or representative body	5	2	1	8
Private sector - energy/renewables	1			1
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation	3	1		4
Third sector - shooting			2	2
Third sector - community councils/representative groups	1		2	3
Third sector - other	1		1	2
Total organisations	22	10	8	40
% of organisations	55%	25%	20%	
Individuals	28	17	39	84
% of individuals	33%	20%	46%	
All respondents	50	27	47	124
% of all respondents	40%	22%	38%	
% excluding "don't know" responses	65%	35%		

Percentages may not sum to 100% due to rounding.

The largest proportion of respondents – 40% of those answering the question – agreed with the proposal to align non-domestic buildings with domestic buildings, as regards PDR for replacement windows. However, 38% of those answering the question did not know, and 22% disagreed. Excluding those who answered “don’t know”, 65% agreed and 35% disagreed.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 19.

Respondents who agreed with the proposal were most likely to comment that the approach to domestic and non-domestic properties should align, albeit they sometimes renewed calls for changes to the domestic PDR. There were also references to agreeing with the same PDR applying to both domestic and non-domestic properties, but not agreeing that it should apply to conservation areas.

A number of suggestions were made concerning the framing of the non-domestic PDR, including that if extended to conservation areas, it should be limited to buildings where the existing windows are traditional sash and case, or other traditional window types which contribute to the character of the building/area. The associated concern was that a number of difficulties could arise if it applies to

modern, non-domestic buildings such as portal framed buildings. Other comments or suggestions included that:

- As with domestic properties, some non-domestic properties, such as hotels or hospitals, might have a Planning condition requiring a certain acoustic performance standard for the window to be effective against external noise, such as from road traffic. Conversely, some non-domestic properties may require windows to be effective in preventing noise escape from the building and adversely affecting neighbouring residential properties. Any PDR should have a requirement to meet the equivalent acoustic performances.
- The list of places where PDR is restricted should be extended to cover all buildings in Sites of Special Scientific Interest or Scheduled Monuments, the Inventory of Gardens and Designed Landscapes, National Scenic Areas, National Parks, Battlefields, and National Nature Reserves.
- World Heritage Sites should also be excluded.

Those who said they did not agree sometimes noted that they did not support the proposed PDR for domestic buildings and therefore, by extension, did not support its extension to non-domestic buildings. Specific points made about non-domestic properties included that the proposals could lead to unsympathetic alterations to shopfronts and other commercial buildings, to the detriment of the character and appearance of conservation areas.

4.2 External cladding

The '1 metre bubble' provisions for domestic alterations (classes 2B and 4A) would currently cover the installation of external cladding in many cases. These PDR do not apply in conservation areas but, in view of the potentially substantial impact that the installation of external cladding could have on a building's visual appearance and the character of an area, it is considered that such works should continue to require a planning application if located within a conservation area.

Although the consultation paper did not ask a question with respect to cladding, one respondent suggested that it is not clear why external cladding should be treated differently to solar PV panels and heat pumps, and why cladding on side and rear elevations should not be permissible.

5. Electricity Undertakings

5.1 Class 40 (Electricity Undertakings)

Class 40 (Electricity Undertakings) of the GPDO provides PDR for certain development undertaken by statutory undertakers for the generation, transmission or supply of electricity. Statutory undertakers include licence holders within the meaning of section 6(1) of the Electricity Act 1989. These cover generation licence holders, transmission licence holders, distribution licence holders, supply licence holders, interconnector licence holders and smart meter communication licence holders.

Class 40 PDR cover a range of development needed for the upgrading and expansion of electricity networks, including electric lines, substations, communications lines, site investigation works and certain development on operational land. These PDR have not been substantively amended for some time and there may be opportunities to update them to reflect our changing energy system.

It is proposed that class 40 should be amended to clarify that the PDR can be used by statutory undertakers for purposes of 'smart meter communications' and the 'distribution' and 'interconnection' of electricity alongside its 'generation, transmission, or supply.'

Question 20: Do you agree that class 40 PDR should be amended to clarify that they can be applied by statutory undertakers for the purposes of 'smart meter communications' and the 'distribution' and 'interconnection' of electricity as well as its 'generation', 'transmission' and 'supply'?

Responses to Question 20 by respondent type are set out in Table 17 below.

Table 17

	Yes	No	Don't know	Total
Organisations:				
Planning authority	16	1	1	18
Public body or corporation	1			1
Professional or representative body	4	2	3	9
Private sector - energy/renewables	5			5
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation				
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1			1
Total organisations	30	3	7	40
% of organisations	75%	8%	18%	
Individuals				
Individuals	16	27	37	80
% of individuals	20%	34%	46%	
All respondents	46	30	44	120
% of all respondents	38%	25%	37%	
% excluding "don't know" responses	61%	39%		

Percentages may not sum to 100% due to rounding.

Respondents were most likely to think that existing class 40 PDR should be amended to clarify that they can be applied by statutory undertakers for the purposes of 'smart meter communications' and the 'distribution' and 'interconnection' of electricity; 38% of those answering the question were of this view while 25% did not think the existing PDR should be amended and 37% did not know. Excluding those answering "don't know", 61% agreed and 39% disagreed.

The balance of opinion was different amongst organisations, with three quarters – 75% of those answering the question – thinking the existing PDR should be amended. This compares with 20% of individual respondents.

Please add any comment in support of your answer

Around 40 respondents provided a comment at Question 20.

Reasons for amending the PDR

This included respondents simply stating their support for proposals, although a range of specific arguments and issues were raised in support of amending current PDR. These included comments supporting commentary in the consultation paper around the need for PDR to reflect evolving technologies and Scotland's changing

energy system. In this context, there was specific support for ensuring PDR align with the Electricity Act 1989.

References to ensuring PDR reflects evolving technologies were linked to a view that significant upgrades will be required to Scotland's electricity network to support renewable energy generation and increasing electricity demand associated with decarbonisation and delivery of net zero targets. These respondents saw a need to expedite processes around electricity network upgrades, including new connections needed for the export of renewable electricity. Amendment to PDR to allow for distribution and interconnection was seen as an essential step in streamlining the planning process for these works.

It was also suggested that existing PDR and other planning regulations have restricted private investment in net zero capital projects in Scotland, including around upgrading of sub-stations and network infrastructure. Expanding PDR was supported as a means of encouraging more investment. The value of ensuring parity with planning regulations elsewhere in the UK was also highlighted in the context of supporting continued development of renewables in Scotland. It was suggested that the Scottish Government should take the time to review the results of the UK Government call for evidence before making any further changes to PDR.

Concerns and opposition

A range of concerns and reasons for opposition to proposals were also raised by respondents. This included objection to statutory undertakers being permitted to carry out any forward development without planning consent. However, most of those raising concerns referred to specific issues to be considered.

For example, there was concern around the potential noise impacts of distribution and interconnection development. Respondents noted the potential level and nature of noise associated with transformers, generators, and battery storage facilities (and associated air conditioning); it was suggested that this is sufficient to require full planning assessment.

Several individual members of the public raised concerns around effective oversight of development across the electricity network. These concerns were linked to a view that local communities, statutory consultees and relevant agencies must be given the opportunity to review proposals where there is potential for negative impacts on the local environment and communities.

Suggested additions or amendments

Reflecting the issues and concerns noted above, several amendments were suggested including that:

- Since electricity storage is important, especially for renewable energy generation, the PDR should include reference to storage alongside distribution and interconnection.
- PDR should be expanded to include a wider range of agencies, including suggestions that this should include all licence holders as currently defined

under section 6 of the Electricity Act 1989, and renewables operators not currently classified as statutory undertakers.

5.2 Substation Infrastructure

Class 40(1)(a) allows electricity undertakers to install or replace substation infrastructure reasonably necessary in connection with an electric line. This substation infrastructure includes feeder pillars, service pillars, transforming stations, switching stations and chambers. These PDR do not apply to substation infrastructure housed in a chamber with a capacity greater than 29 cubic metres.

It is proposed that class 40 should be amended by:

- (i) Increasing the maximum size threshold from 29 to 45 cubic metres
- (ii) Providing that a new/replacement substation installed under class 40:
 - May not exceed a 3m height limit.
 - May not be within 5m of a dwelling if it exceeds 29 cubic metres capacity.

Question 21: Do you agree with the proposed amendments to the provisions of class 40 PDR which relate to new or replacement substations?

Responses to Question 21 by respondent type are set out in Table 18 below.

Table 18

	Yes	No	Don't know	Total
Organisations:				
Planning authority	15	3	1	19
Public body or corporation	1			1
Professional or representative body	4	5	3	12
Private sector - energy/renewables	4			4
Private sector - thermal efficiency/heating				
Private sector - other	2		1	3
Third sector - built environment/conservation	1			1
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1		2	3
Total organisations	30	8	9	47
% of organisations	64%	17%	19%	
Individuals				
Individuals	17	21	39	77
% of individuals	22%	27%	51%	
All respondents				
All respondents	47	29	48	124
% of all respondents	38%	23%	39%	
% excluding "don't know" responses	62%	38%		

Respondents were most likely to agree with the proposed amendments to existing class 40 PDR relating to new or replacement substations, 38% of those answering the question of this view. Of the remaining respondents to the question, 23% disagreed with proposals, and 39% did not know. Excluding those who answered “don’t know”, 62% agreed and 38% disagreed. The balance of opinion was different amongst organisations, where 64% agreed with the proposals, compared to 22% of individual respondents.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 21.

Support for proposed changes

Consistent with responses at Question 20, support for proposed changes to PDR for substations included reference to the need for change to facilitate ongoing improvements to the electricity network to support net zero targets and the anticipated increase in electricity demand. Upgrades to substation infrastructure were identified as an essential part of this work.

There was also support for proposed restrictions on the size and location of substation development allowed under PDR. These were seen as important in limiting any adverse impacts associated with proposed changes, while ensuring PDR reflect the changing design standards across the electricity network. However, there were also suggestions that proposed restrictions may not be sufficient to allow for anticipated future development in technologies, and it was proposed that the size and height thresholds should be reconsidered.

Concerns and issues raised

Other concerns and issues raised around proposed changes to PDR were linked to the potential for larger substations to have a significant adverse impact on the local area. This was most commonly related to potential noise impacts associated with larger developments. It was noted that PDR relates primarily to internally housed substations which typically generate less noise, but there remained concern around the potential for ground-borne noise. It was also noted that PDR could permit replacement of existing infrastructure with louder alternatives.

Respondents also referred to the specific characteristics of noise generated by substations, and it was suggested that this can have a particularly significant impact in residential areas with low levels of background noise. This was linked to concerns around the potential for substations to be in relatively close proximity to residential properties, and questions were raised around whether the proposed 5m limit for residential properties would be sufficient to mitigate noise impacts. Clarification was sought on the basis for the proposed 5m threshold.

Other potential adverse impacts highlighted in relation to substation development included visual impacts on the local area, biodiversity loss, infringement of access rights and public health impacts. Concerns around potential visual impacts included a suggestion that proposed restrictions on building height would still allow for

significant adverse visual impacts on the historic environment. It was also suggested that the requirement for scheduled monument consent will not be sufficient to mitigate impacts on the historic environment, and that this consent is only likely to apply in a limited number of cases.

On the basis of the above concerns around the potential impact of larger substations, some respondents were of the view that this kind of development should require full planning consent. This was linked to comments around the importance of local communities and relevant agencies in having the opportunity to consider proposals and identify potential negative impacts. There was also reference to examples of the planning process resulting in more appropriate and sensitive design of substations to minimise local impact, especially in designated areas.

Suggested additions or amendments

Other respondents raising concerns around the proposed change to PDR suggested additions or amendments to proposals including a view that further analysis is required prior to any amendment, to assess the likely number of new substations that may be developed under revised PDR. Other suggestions included:

- Limits on PDR for substations in protected areas – either removal of PDR for these areas or requiring design of substations to be sympathetic to the local area. This included specific reference to National Parks, designated nature sites, conservation areas, World Heritage Sites, and the setting of listed buildings and scheduled monuments.
- A threshold linked to noise levels at the nearest residential property as an alternative to the proposed 5m limit from residential properties.
- A lower height threshold of 3m for a flat roof and 4m for a pitched roof, consistent with PDR for standard householder extensions.
- Retaining the prior notification and approval process to enable control over the siting and visual appearance of substations, especially where siting has potential to detract from the local area.

It was also argued that PDR should not allow for substation development where this would obstruct or significantly divert a core path, right of way or well-used public access route – or that Stopping Up or Diversion Orders should be required.

5.3 Communications Lines

Class 40(1)(b) allows statutory undertakers to install or replace any telecommunications line which connects any part of an electric line to any electrical plant or building. It also covers any supports needed for communications lines. These PDR do not apply in a National Scenic Area or a Site of Special Scientific Interest. Restrictions also apply to electronic communications lines greater than 1,000m in length or supported on a structure greater than 15m in height.

It is proposed that class 40(1)(b) should be amended to allow replacement of communications lines in National Scenic Areas or Sites of Special Scientific Interest where the PDR does not currently apply. This would be subject to a condition ensuring that the height, design or position of the replacement communications line reflects that of the existing communications line. The installation of new communications lines in these areas would not be covered by PDR.

Whether to extend these PDR to allow statutory undertakers to install or replace communications lines which are longer than 1,000m is also being considered and views on what (if any) alternative threshold might be appropriate are also sought.

Question 22: Do you agree with the proposal to allow the replacement of communications lines in National Scenic Areas and Sites of Special Scientific Interest under class 40 PDR provided that the design, height or position of the replacement line matches the original?

Responses to Question 22 by respondent type are set out in Table 19 below.

Table 19

	Yes	No	Don't know	Total
Organisations:				
Planning authority	16	1	1	18
Public body or corporation	1			1
Professional or representative body	5	2	3	10
Private sector - energy/renewables	4			4
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation	1			1
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other		1	1	2
Total organisations	30	4	8	42
% of organisations	71%	10%	19%	
Individuals				
Individuals	16	26	33	75
% of individuals	21%	35%	44%	
All respondents	46	30	41	117
% of all respondents	39%	26%	35%	
% excluding "don't know" responses	61%	39%		

Respondents were most likely to agree with the proposal to allow the replacement of communications lines in National Scenic Areas and Sites of Special Scientific Interest under PDR; 39% of those answering the question were of this view. Of the remaining respondents to the question, 26% disagreed with the proposal, and 35%

did not know. Excluding those who answered “don’t know”, 61% agreed and 39% disagreed.

Among organisations, 71% of those answering the question agreed compared with 21% of individual respondents.

Please add any comment in support of your answer

Around 40 respondents provided a comment at Question 22

Support for the proposed amendment

Support for the proposed amendment included comments referencing the potential role of PDR in streamlining the planning process around works necessary to upgrade Scotland’s electricity system. It was also noted that the proposal is consistent with existing PDR enabling statutory undertakers to replace below-ground electric lines.

Respondents also supported the stipulation that PDR would only allow a direct replacement that matches the design, height and position of the original communication line. This was seen as important in preventing any significant additional impact on National Scenic Areas and SSSIs. It was also noted that planning permission would still be required for associated access requirements, and there was reference to other consent processes associated with these designated areas, such as the requirement for SSSI consent from NatureScot. Some suggested that these provisions would be important in minimising potential environmental impacts.

Concerns and opposition

Concerns and opposition to the proposed changes included a particular focus on the value of National Scenic Areas or SSSIs as wild areas with considerable biodiversity value. Some wished to see the full planning process retained for all replacement or extension to electricity infrastructure in designated areas. This was linked to a view that full planning scrutiny (including engagement with installers) should be retained to secure improvements to design and materials of communication lines, for example to reduce visual impacts. There were also objections linked to a view that all communications lines should be installed underground in these areas.

A distinction was also made between National Scenic Areas and SSSIs. For example, it was suggested that conditions to limit visual impacts would offer sufficient protection in National Scenic Areas as these are a landscape designation. This was contrasted with the importance of SSSIs for biodiversity and nature recovery in Scotland and it was suggested that the significant biodiversity, historical, cultural and archaeological considerations in these areas warrant full planning scrutiny.

Potential issues were also raised around the exclusion of other designated areas from PDR. For example, it was suggested that National Scenic Areas and SSSIs

often overlap with other designations, such as Special Areas of Conservation and Special Protection Areas. There was concern that this could cause confusion for installers and other stakeholders around the relevant approval process where multiple area designations apply.

Suggested additions or amendments

Reflecting the issues and concerns noted above, several amendments were suggested including that:

- The proposed exclusion of new communications lines from PDR should also apply across other designated areas that share the special landscape qualities of National Scenic Areas and SSSIs – for example National Parks, National Nature Reserves, wild land areas, Scheduled Monuments, the Inventory of Gardens and Designed Landscapes, and battlefields.
- Prior notification should be removed from PDR for replacement of communication lines in these areas, linked to concern that this adds confusion for stakeholders.
- The revised PDR should encourage installers to consider options for improvement to existing lines as part of replacement works. This included calls for a requirement that replacement of lines should be considered in terms of their design and materials to better protect sensitive landscapes and wild lands, and scope to add or upgrade monitoring systems as part of replacement works.

Question 23: Do you have any thoughts on the potential to provide for the installation or replacement of communications lines of a greater length than 1,000m under class 40? If so, do you have a view on an appropriate alternative threshold?

Around 25 respondents provided a comment at Question 23

Support for the proposals

Some respondents expressed support for proposals to allow replacement of lines longer than 1,000m, noting that the deployment of longer lines will be essential to improve grid connections and modernise Scotland's electricity infrastructure. There was also a view that installation of new lines of more than 1,000m in length is likely to require greater scrutiny around potential visual impact, but that replacement of existing lines is unlikely to have a significant impact. In this context, there was support for the 1,000m limit being retained for installation of new communications lines.

It was also suggested that the length of communications line is not a key factor in the potential impact of this kind of development. For example, there was a view that the sensitivity of the landscape is more relevant, and that longer lines will not necessarily have a greater landscape impact than shorter lines.

Concerns and issues raised

There were questions around the rationale for the 1,000m threshold, with some respondents suggesting that this is not reflective of electricity network projects. This reflected a view that a consistent approach should be taken to installation of electricity and communication lines, and it was noted that a limit does not apply to the length of underground cables covered by PDR. There was concern that retaining the 1,000m limit for communication lines could cause issues where a new communication line is to be installed alongside an underground cable of more than 1,000m.

Concerns were also raised around the potential impact of proposed changes to PDR on particularly sensitive landscapes and sites. For example, it was noted that the impact assessments provided alongside the consultation paper identified a potential for extended lines to have a significant impact on the historic environment. It was also suggested that visual impacts associated with longer communication lines are likely to be localised around specific designated sites such as listed buildings or scheduled monuments.

Suggested additions or amendments

In terms of amendments to the proposals, suggestions included that:

- An upper threshold should not apply to the length of communication lines under PDR, provided this is a like-for-like replacement.
- Prior notification and approval should be explored for sites such as listed buildings or scheduled monuments.

5.4 Site Investigation Works

Class 40(1)(c) allows statutory undertakers to sink boreholes to ascertain the nature of the subsoil, and to install plant or machinery reasonably necessary in connection with such boreholes. These works are subject to a condition at class 40(3)(c) that on the completion of the development or at the end of a period of six months from the beginning of that development (whichever is sooner) any such plant or machinery shall be removed, and the land shall be restored as soon as reasonably practicable. The land must be restored to its condition before the installation took place, or to such condition as may have been agreed in writing between the planning authority and the developer.

It is proposed that class 40 should be amended to extend the type of site investigation works that statutory undertakers can carry out. This would involve broadening the scope of works to include additional intrusive survey and site investigation works and associated temporary plant, including: rotary boreholes, peat-probing, excavation of trial pits and gas and water ground monitoring.

Any additional site investigation works permitted would be subject to the condition at class 40(3)(c) that any plant or machinery shall be removed, and the land shall be restored as soon as reasonably practicable upon completion of the development (or within six months from the beginning of the development). Views are also sought on whether potential adverse effects linked to site investigation works

should be mitigated through restrictions on certain works in designated areas, or through limitations on the scale of trial pits to be excavated.

Question 24: Do you agree with the proposal to extend the range of site investigation works that can be carried out under class 40?

Responses to Question 24 by respondent type are set out in Table 20 below.

Table 20

	Yes	No	Don't know	Total
Organisations:				
Planning authority	16	2	1	19
Public body or corporation	1			1
Professional or representative body	3	1	5	9
Private sector - energy/renewables	4			4
Private sector - thermal efficiency/heating				
Private sector - other	1		2	3
Third sector - built environment/conservation	1	1		2
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1	1		2
Total organisations	29	5	10	44
% of organisations	66%	11%	23%	
Individuals				
Individuals	21	19	35	75
% of individuals	28%	25%	47%	
All respondents	50	24	45	119
% of all respondents	42%	20%	38%	
% excluding "don't know" responses	68%	32%		

Respondents were most likely to agree with the proposal to extend the range of site investigation works that can be carried out under PDR; 42% of those answering the question were of this view. Of the remaining respondents to the question, 20% did not think the existing PDR should be amended, and 38% did not know. Excluding those who answered "don't know", 68% agreed and 32% disagreed. The balance of opinion was different among organisations, where 67% of those answering the question agreed with the proposals, compares with 28% of individual respondents.

Please add any comment in support of your answer

Around 45 respondents provided a comment at Question 24

Reasons for supporting the proposals

Several respondents simply stated that have no objection to the proposed expansion of PDR. However, respondents also took the opportunity to set out specific reasoning in support of proposals. This included reference to proposals as a means of providing statutory undertakers with greater flexibility to enable necessary site investigation works, noting that these are essential to avoid delays to the deployment of electricity infrastructure and to ensure that final works are adequately provided for in terms of time, resources and materials. Extending the scope of PDR was also seen as consistent with changes in the range of investigation works typically required for the deployment of electricity infrastructure.

Other comments in support of proposals included a view that the site investigation works and associated temporary plant detailed in the consultation paper are similar to works already allowed under PDR in terms of their likely impact. Some supported the proposed change on the basis that any works would be subject to conditions requiring the timely removal of plant and machinery, and the subsequent restoration of land. It was suggested that this should be sufficient to mitigate against potential adverse impacts. Respondents also noted that site investigation works will be subject to other controls and regulations, for example around pollution.

Concerns and objections

A range of concerns and potential issues were also raised in relation to proposed changes to PDR. This included reference to the potential for unintended climate and nature impacts if the proposed site investigation works are not subject to sufficient scrutiny, especially in designated areas, non-designated archaeological sites, and other sensitive landscapes. These concerns included a suggestion that full restoration of land may not be possible in all cases. There was also specific reference to the potential impact of site investigations on potentially contaminated land, and disruption to food production where site investigations are on agricultural land. It was noted that 6 months is a lengthy period where investigation works may disrupt existing land uses.

Opposition to the proposed extension of PDR included a view that all site investigation works should be subject to full planning permission. It was suggested that all proposals for site investigations should be subject to scrutiny by relevant agencies and the public, and that landowners should have the right to refuse access to their land.

Suggested additions or amendments

Reflecting the views noted above, respondents proposed a number of additions or amendments to proposals including that there should be additional restrictions on PDR for site investigation works in specific designated areas including SSSIs, sites of archaeological interest, conservation areas, the Inventory of Gardens and Designed Landscapes and peatland. There were also calls for any site investigation works under PDR to be subject to Environmental Impact Assessment, appropriate archaeological assessment (including where there may be undesignated archaeological sites), and other relevant studies such as in relation to habitat impacts.

Other suggestions included that:

- The reference to ‘rotary boreholes’ should be replaced with ‘exploratory holes’ (consistent with the British Standard) or simply ‘boreholes’ to ensure PDR does not restrict use of other approaches that may be less intrusive and more appropriate to the local context.
- PDR should not apply, or should be conditional upon temporary Stopping Up or Diversion Orders, where site investigation works would obstruct, interrupt or significantly divert a core path, right of way or other public access route.
- The range of works under class 40 PDR should be expanded to reduce uncertainty and streamline development processes for renewable generation and electricity network infrastructure, for example by permitting the temporary installation of meteorological masts for onshore renewable energy projects.

Question 25: Do you consider that there are any designated areas where PDR for certain site investigation works should be restricted? Should there be any limitations on the scale of certain intrusive site investigation works permitted, for example, the size of trial pits?

Responses to Question 25 by respondent type are set out in Table 21 below.

Table 21

	Yes	No	Don't know	Total
Organisations:				
Planning authority	14	3	1	18
Public body or corporation	1			1
Professional or representative body	6		3	9
Private sector - energy/renewables		2		2
Private sector - thermal efficiency/heating				
Private sector - other	1		2	3
Third sector - built environment/conservation	1			1
Third sector - shooting			2	2
Third sector - community councils/representative groups	1	1		2
Third sector - other	2			2
Total organisations	26	6	8	40
% of organisations	65%	15%	20%	
Individuals				
	20	11	44	75
% of individuals	27%	15%	59%	
All respondents				
	46	17	52	115
% of all respondents	40%	15%	45%	
% excluding “don’t know” responses	73%	27%		

Percentages may not sum to 100% due to rounding

Overall, respondents were most likely to not to know whether there are designated areas where PDR for certain site investigation works should be restricted, with 45% of those answering the question of this view. Of the remaining respondents 40% agreed and 15% disagreed. Excluding those who answered “don’t know”, 73% agreed and 27% disagreed.

The balance of opinion was different amongst organisations, with most – 65% of those answering the question – in agreement that PDR for certain site investigation should be restricted in some designated areas. This compares with 27% of individual respondents.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 25.

Restricting PDR in designated areas

Some respondents argued that additional restrictions on PDR should not be necessary in relation to designated areas. This was because these PDR are subject to a condition that the land is restored after site investigations have taken place and, also, because many designated areas are subject to separate consenting regimes. For example, scheduled monument consent from Historic Environment Scotland is required for works which would directly affect a scheduled monument. However, most of those providing comment suggested that some level of restriction on PDR for site investigation works would be required in designated areas.

This was most commonly in relation to sites of archaeological interest and nature or habitat-related designations. Support for restricting PDR in relation to sites of archaeological interest included comments noting that this would be consistent with other consultation proposals, and national policy aims for the historic environment. However, there was some concern that such a reference may be difficult to enforce without a clear definition, for example to include non-designated archaeological sites.

Reference to nature and habitat-related designations included proposals to limit PDR in National Parks and National Scenic Areas, although it was suggested that a ‘blanket’ restriction across these areas may not be necessary if there are restrictions for specific designated and sensitive sites. It was also noted that sites of particular nature or habitat value are already subject to protections under other legislation, such as through Habitat Regulations. Nevertheless, restrictions on PDR for site investigation works were proposed in relation to the following designated areas:

- SSSIs.
- Special Areas of Conservation.
- Special Protection Areas.
- Special Landscape Areas.

- Class I and II peatlands.
- Areas of woodland.
- World Heritage Sites.
- European Sites.
- Conservation areas.
- Scheduled monuments.
- Within the curtilage of listed buildings.
- The Inventory of Gardens and Designed Landscapes.
- Historic battlefields.

Respondents also suggested restrictions specifically to mitigate the noise impacts of site investigation works, including limiting PDR within a specified distance of neighbouring properties. This was highlighted as a particular issue for intrusive site investigations where these encounter unexpected rock seams, and in locations with nearby public buildings and residential housing.

Limiting the scale of works

In relation to potential for limits on the scale of intrusive site investigation works, several respondents suggested that this may not be appropriate. This included comments noting that the scale of works such as trial pits is likely to be determined by technical and safe working factors, and a view that that over-arching limitations on PDR should not compromise these considerations. Other points around potential limitation of the scale of works included that: this could undermine the aim of removing barriers to necessary development; that the impact of works will vary dependent on the specific site such that a standard size limit may not be feasible; and that the protection of sensitive sites is more important than a fixed limit on the scale of works.

A number of respondents did support a limit on the scale of site investigation works allowed under PDR. This included particular reference to limiting the surface area and depth of works, and a suggestion that such limitation could be important in preventing unauthorised quarrying or peat extraction. It was also suggested that any excavations should be required to be covered when not in use, with exit ramps to prevent species from becoming trapped.

5.5 Fences, Gates, Walls and Other Means of Enclosures

Class 7 of the GPDO relates to the erection, construction, maintenance, improvement or alteration of a gate, fence, wall or other means of enclosure without the need to apply for planning permission. These PDR are not specific to particular parties and are applicable to anyone: this includes, but is not limited to, electricity undertakers.

Class 7 PDR do not apply where the height of the enclosure, after carrying out the development, would exceed 1m above ground level when constructed within 20m of a road or for the construction or erection of any enclosure which would exceed 2m in height. However, The Electricity Safety, Quality and Continuity Regulations 2002 place a number of requirements on the delivery of electricity network infrastructure to ensure public safety, including a specification that any part of an electricity substation, which is open to the air and contains live equipment, which is not encased, is enclosed behind a fence or wall not less than 2.4m in height.

It is therefore proposed that a specific PDR should be introduced enabling statutory undertakers to erect, construct, maintain, improve or alter a gate, fence, wall or other means of enclosure linked to electricity undertakings. These would be linked to class 40 and so not available to other parties. Rather than the height restrictions that apply to class 7, these provisions would instead, would be subject to a general height limit of 3m.

Question 26: Do you agree with the proposed introduction of specific PDR enabling electricity undertakers to erect, construct, maintain or improve gates, fences, walls or other means of enclosure up to 3m in height?

Responses to Question 26 by respondent type are set out in Table 22 below.

Table 22

	Yes	No	Don't know	Total
Organisations:				
Planning authority	16		2	18
Public body or corporation	1			1
Professional or representative body	6	3	1	10
Private sector - energy/renewables	4			4
Private sector - thermal efficiency/heating				
Private sector - other	1		2	3
Third sector - built environment/conservation	1			1
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other		1		1
Total organisations	31	4	7	42
% of organisations	74%	10%	17%	
Individuals				
Individuals	21	17	35	73
% of individuals	29%	23%	48%	
All respondents	52	21	42	115
% of all respondents	45%	18%	37%	
% excluding "don't know" responses	71%	29%		

Percentages may not sum to 100% due to rounding

Respondents were most likely to agree with proposals for specific PDR to enable electricity undertakers to erect, construct, maintain or improve means of enclosure up to 3m in height; 45% of those answering the question were of this view. Of the remaining respondents to the question, 18% disagreed with proposals, and 37% did not know. Excluding those who answered “don’t know”, 71% agreed and 29% disagreed. Amongst organisations, 74% were in agreement with proposals including a clear majority of Planning authority respondents, and all Private sector - energy/renewables respondents.

Please add any comment in support of your answer

Around 45 respondents provided a comment at Question 26.

Reasons for supporting the proposals

Comments in support of proposals included a view that increasing the permitted height of gates, fences and other enclosures is a reasonable change in the context of public safety requirements around electricity network infrastructure. It was noted that these safety requirements would mean that planning authorities are likely to support any planning application for required enclosures, and hence it is appropriate for these to be allowed under PDR.

Support for proposals also included specific reference to the limitation preventing the erection of enclosures that would obstruction to the view of road users. It was also noted that the proposed increase in permitted height to 3m would be consistent with proposals at Question 21 in relation to electricity substations, and would allow for installation of acoustic fencing to improve the amenity around electricity network infrastructure.

Concerns and objections

Concerns around increasing the permitted height of enclosures under PDR were most commonly related to potential visual impacts, with an associated view that the proposals would remove any control over the quality and design of enclosures. This lack of control was seen as a particular issue in the context of an expected increase in the number of electricity substations. Other concerns included potential for proposals to allow for the erection of acoustically reflective walls around substations, potentially increasing noise levels in residential areas, and to obstruct future transport improvements such as footways and cycle paths.

Respondents also raised several questions and points for clarity around proposals, including the basis of the proposed 3m height limit where legislation only requires a height of 2.4m. There were also calls for a clearer formulation of the permitted distance between enclosures and electricity infrastructure, and for clarification around the general limitation on development that obstructs the view of road users (for example that this includes cyclists and pedestrians, and that gates should not obstruct sightlines when open).

Additions and amendment to proposals

On the basis of these concerns, a number of respondents were of the view that such development should be subject to full planning permission, including scrutiny by relevant agencies and the public. However, respondents also suggested a range of additions and amendments to proposals, to address the above concerns.

A range of alternative height limits were suggested. These included a reduction in the proposed limit to 2.4m, or further increasing the limit to 3.5m to reflect the average height of steel palisade security fencing. Additional flexibility was also suggested to allow for enclosures of up to 5m for nationally critical infrastructure, where heightened security measures are mandated by the National Protective Security Authority. More generally, it was suggested that the Scottish Government should ensure that the proposed 3m height limit continues to be consistent with guidance and advice relating to the security of public infrastructure.

Other suggested amendments to proposals included that:

- PDR should be restricted for protected areas including SSSIs, conservation areas, World Heritage Sites, National Parks, National Scenic Areas, National Nature Reserves, wild land areas, sites of archaeological interest, the curtilage of listed buildings, and the Inventory of Gardens and Designed Landscapes. Alternatively, use of prior notification and approval was suggested to mitigate potential impacts in these areas.
- PDR should be restricted where enclosures would encroach onto footpaths, and/or for enclosures within a specified distance of a residential property.
- PDR should be limited to palisade fencing to avoid the risk of elevated noise levels.
- PDR should be extended beyond statutory undertakers to include all significant generators connected to the national networks.

5.6 Development on Operational Land

Class 40(1)(d-f) allows electricity undertakers to carry out certain developments on operational land, permitting a range of development including the extension or alteration of buildings and the erection of new buildings for the protection of plant or machinery. Limitations and conditions include a requirement that prior notification is given to the relevant planning authority, who may then require that prior approval is obtained on the details of the siting, design and external appearance of new buildings erected on operational land for the protection or plant or machinery.

It is proposed that the requirement for prior notification and approval from planning authorities on the siting, design and external appearance of new buildings for housing plant/machinery permitted on operational land for electricity undertakings should be removed.

Question 27: Do you agree with the proposed removal of prior notification and approval requirements that apply to certain works under class 40 PDR? Please add any comment in support of your answer

Responses to Question 27 by respondent type are set out in Table 23 below.

Table 23

	Yes	No	Don't know	Total
Organisations:				
Planning authority	12	5	2	19
Public body or corporation	1			1
Professional or representative body	3	4	2	9
Private sector - energy/renewables	3			3
Private sector - thermal efficiency/heating				
Private sector - other			2	2
Third sector - built environment/conservation		1		1
Third sector - shooting			2	2
Third sector - community councils/representative groups	2			2
Third sector - other	1	1		2
Total organisations	22	11	8	41
% of organisations	54%	27%	20%	
Individuals				
Individuals	13	25	36	74
% of individuals	18%	34%	49%	
All respondents				
All respondents	35	36	44	115
% of all respondents	30%	31%	38%	
% excluding "don't know" responses	49%	51%		

Percentages may not sum to 100% due to rounding

Views were divided on proposals to remove prior notification and approval requirements that apply to certain works under PDR; 30% of those answering the question agreed and 31% disagreed. The remaining 38% of respondents to the question did not know. Excluding those who answered "don't know", 49% agreed and 51% disagreed. The balance of opinion was different among organisations, where a small majority – 54% of those answering the question – were in agreement, compared with 18% of individual respondents.

Please add any comment in support of your answer

Around 50 respondents provided a comment at Question 27

Reasons for supporting the proposals

Consistent with comments around other proposed changes to PDR in relation to electricity undertakings, support for the removal of prior notification and approval was linked to potential to streamline processes to support necessary upgrades to electricity network infrastructure.

Respondents also made reference to anticipated benefits specific to the removal of prior notification and approval, including a reduction in the administrative burden on planning authorities associated with these processes. This was linked to a view that prior approval for development on existing operational land does not improve planning outcomes, and that these operational sites are typically of reduced sensitivity. On this basis, it was suggested that prior notification and approval should be removed from all classes of development.

Concerns and objections

Several respondents used Question 27 as an opportunity to state their opposition to the removal of prior notification and approval. However, a number of specific concerns and issues were also raised in response to the specific proposals.

These were linked to a view that these prior notification and approval can improve outcomes in some circumstances. Respondents highlighted the potential impact of development on operational land on neighbouring areas, especially where development is adjacent to residential areas or other sensitive sites. It was also suggested that proposals could allow for a substantial increase in the scale of development on operational land, including for example where this land is currently undeveloped. These respondents raised concerns around the scale of permitted development (up to 15m in height) and the potential noise impacts of development with reference to examples of noise complaints linked to substations being extended under PDR.

It was suggested that the prior notification and approval process allows for these and other issues to be addressed, improving the integration of development with the surrounding environment. There was a view that the potential loss of this benefit would outweigh the positive impacts of any streamlining of development, and it was suggested that further assessment of the issue is required.

Additions and amendment to proposals

Respondents suggested a limited range of amendments to proposals, most commonly that prior notification and approval is retained for designated areas. This included reference to National Parks, National Scenic Areas, sites of archaeological interest, conservation areas, SSSIs and Special Protection Areas. Restrictions on PDR were suggested for development close to neighbouring properties and the road network or, alternatively, that PDR is conditional on provision being made for screening planting. It was also suggested that, if prior notification and approval is removed, the maximum permitted height of development on operational land should be reduced to 5m, and limits placed on the distance of development from the site boundary.

Question 28: Please provide any further views you may have on the proposals in this section on the PDR associated with electricity undertakings.

Around 35 respondents answered Question 28. This included respondents taking the opportunity to reiterate views on proposed changes to PDR discussed at previous questions. For example, comments included reference to the benefits of proposals in streamlining the process of upgrading electricity network infrastructure, and to the important role of other relevant controls and regulations that would still apply to development under PDR, for example Habitat Regulations.

Respondents also repeated a number of the concerns and issues highlighted in relation to earlier questions, such as proposed restrictions on PDR in designated areas, and concerns that proposals would limit opportunities to address planning issues linked to electricity undertakings such as noise impacts, and complex land contamination issues. There was also wider discussion of issues around balancing the need to enable necessary upgrades to electricity networks with the need to mitigate potential adverse impacts.

Several specific issues and proposals were also set out by respondents including that PDR in relation to electricity undertakings should be extended to allow for:

- The temporary formation, alteration or maintenance of private ways necessary to maintain and refurbish existing overhead lines and their associated 'wayleave corridor' – with the condition that these are reinstated to their prior condition.
- The removal of overhead lines.
- Erecting a replacement fence line marginally outside existing fence lines, subject to a limitation on the distance between the original and replacement fencing.
- Other works required in association with electric lines being installed under class 40 (1) (a) PDR, such as temporary access provisions and temporary construction compounds.

Other suggestions included that:

- PDR should be extended beyond statutory undertakers, for example to include any agency undertaking grid works associated with an accepted grid offer.
- Electricity works under class 40 should be exempt from Article 4 Directions.
- Prior notification and approval should be removed for all development under class 40 (3) (d) and (2) (e) (1).
- Overhead Lines Regulations 2013 should be reviewed to ensure a consistent approach to facilitating roll out of necessary electricity infrastructure.

6. Other Phase 3 proposals

6.1 Reverse Vending Machines

Under the provisions of the Deposit and Return Scheme (DRS) for Scotland Regulations 2020, certain items of glass, metal and plastic packaging will be subject to a deposit payable at point of sale and refundable when the packaging is returned to any participating return point. RVMs will play an important role in the operation of the deposit return scheme.⁶

The Town and Country planning (General Permitted Development) (Reverse Vending Machine) (Scotland) Amendment Order 2020 (the 2020 Order) introduced PDR for the installation, alteration or replacement of RVMs in the wall of, or within the curtilage of, a shop (class 9H). However, there are a number of restrictions on the location and size of an RVM installed under class 9H including that it would face onto and be within 5m of a road. There is also a requirement that consent under section 59 of the Roads (Scotland) Act 1984 must be obtained to ensure that safety and accessibility issues are considered and addressed in the absence of a planning application. This requirement would be retained if PDR were to be amended.

Although current PDR allow the installation of units on shop frontages and for larger, free-standing units in retail curtilages including carparks, it is acknowledged that these options may not be appropriate for smaller retailers that have limited internal floorspace or lack dedicated off-street parking. For this reason, RVMs on or adjacent to the street may be a more efficient and effective solution.

It is therefore proposed that the PDR should be amended to permit the installation of RVMs located on the road (the definition of which includes the pavement) subject to conditions and limitations specifying that:

- (i) Any RVM installed under the PDR must:
 - Be at least 400m from any other on-street RVM.
 - Not exceed 2.5m width or depth, or exceed 2m in height (including any canopy or housing).
 - Not result in a clear pavement width of less than 1.5m.
 - Be oriented to ensure returns can be readily accepted from those using a footpath/pavement.
- (ii) The PDR does not apply unless consent under section 59 of the Roads (Scotland) Act 1984 has first been obtained.

⁶ On 7 June 2023, the Minister for Green Skills, Circular Economy and Biodiversity announced that Scotland's DRS will be delayed until at least October 2025. More details are available at [the Scottish Government website](#).

- (iii) No advertising other than that related to the DRS (or to recycling in general) is permitted.

It is also proposed that the current restriction that a reverse vending machine cannot be installed facing onto and within 5m of a road should be removed as this may restrict the installation of wall mounted RVMs within shop frontages.

Question 29: Do you agree with the proposed amendments to PDR for reverse vending machines?

Responses to Question 29 by respondent type are set out in Table 24 below.

Table 24

	Yes	No	Don't know	Total
Organisations:				
Planning authority	6	12		18
Public body or corporation				
Professional or representative body	5	6		11
Private sector - energy/renewables				
Private sector - thermal efficiency/heating				
Private sector - other	1		1	2
Third sector - built environment/conservation		2	1	3
Third sector - shooting		1	1	2
Third sector - community councils/representative groups	1	1		2
Third sector - other		2		2
Total organisations	13	24	3	40
% of organisations	33%	60%	8%	
Individuals	24	18	32	74
% of individuals	32%	24%	43%	
All respondents	37	42	35	114
% of all respondents	32%	37%	31%	
% excluding "don't know" responses	47%	53%		

Percentages may not sum to 100% due to rounding

Overall, respondents were relatively evenly divided with 37% of those who answered the question disagreeing with the proposed amendments to PDR for RVMs, while 32% agreed and 31% did not know. Excluding those who answered "don't know", 47% agreed and 53% disagreed. However, among organisations 60% disagreed, including a majority of Planning authorities.

Please add any comment in support of your answer

Around 60 respondents provided a comment at Question 29.

Some respondents made points relating to the DRS scheme *per se*, rather than the details of the proposed PDR. The delay to the scheme was also noted, with one respondent suggesting that this means that there is no need to introduce PDR before potential impacts have been fully assessed.

General points made by respondents who agreed with the proposals included support for a more circular economy and reducing litter. It was noted that the proposals bring potential benefits for small retailers including by providing a collection point for multiple outlets. It was suggested that the absence of RVMs in convenient locations may encourage consumers to visit larger shops and supermarkets, to the detriment of high street businesses. Other benefits identified included reducing the need for car travel in order to return bottles and supporting 20-minute neighbourhoods.

Among respondents who did not support the proposed amendments some argued that, although the PDR would provide a solution for small retailers, the need to balance this with road safety, visual impact and residential amenity requires assessment through the planning process. Others suggested that, like cash machines, RVMs could be incorporated into shop fronts, or that vacant shops could be used. There was support PDR for RVMs in locations such as car parks or retail parks, but not on the public road. The absence of any reference to or mitigation of potential noise impacts was also a matter of concern.

A different perspective was that the proposals do not go far enough. The Professional or representative body respondent expressing this view also suggested that the consultation paper does not make clear that the 2020 Order was only for supermarkets, creating a market advantage over community stores. While welcoming provision for on-street installation of RVMs they argued that the proposed amendments should go further.

Comments on the proposed limitations

The analysis below considers each of the limitations proposed in the consultation paper in turn, followed by various additional conditions or additional permissions that were suggested. Some respondents raised issues relating to other conditions of the existing PDR with which they disagreed.

Any RVM installed under the PDR must:

be at least 400m from any other on-street RVM

Comments included queries with respect to:

- How the restriction would work in practice - for example whether, if machines were installed by different operators in close succession, the second would be unauthorised?
- The reasoning behind the 400m limit and whether 100m might be appropriate?

There were also suggestions that the 400m limit may disadvantage traders who are within 400m of an RVM but significantly further from it than other stores, and that

400m is a long distance for those with mobility issues. A reduced distance was seen as a means of fostering a lively high street.

An alternative proposal was that placement of RVMs should be based on community need and capacity for retailers to manage them, rather than imposing an arbitrary separation distance. However, concerns were also raised that, if the RVM industry is deregulated, the amenity of an area could be adversely affected if many providers exploit the PDR.

not exceed 2.5m width or depth, or exceed 2m in height (including any canopy or housing)

With respect to the size of RVMs it was suggested that the scale proposed would not be appropriate in rural locations. It was also noted that the 2m height limit would be greater than that for many on street bins. While it was agreed that proposed restrictions on size can help to mitigate potential impacts on the historic environment there was concern that residual negative effects could be significant.

not result in a clear pavement width of less than 1.5m

Planning authority respondents in particular argued that a clear 1.5m pavement width is not acceptable for safe passage. Specific concerns were raised with respect to:

- Contribution to street clutter.
- Safety for pedestrians, if people using the RVM obstruct the route leading to pedestrians having to step out onto the public road.
- Additional hazards for people with impaired mobility or vision.

There were queries with respect to how 'clear pavement' would be measured and what the implications would be if, for example, adjacent pavement was periodically occupied for outside food service, had markings for periodic occupation such as bin collection, or included busy areas such as bus stops.

Issues were also raised with respect to underground infrastructure access points such as fire hydrants or manhole covers and whether the bodies responsible for these have been consulted.

Rather than the 1.5m proposed, some respondents argued that a clear width of at least 2m is required. It was noted that this width allows two wheelchair users to pass, and is in line with recommendations in Roads for All: Good Practice Guide for Roads⁷.

the PDR does not apply unless consent under section 59 of the Roads (Scotland) Act 1984 has first been obtained

Points raised included that the existing 5m rule should be retained and that the risk of broken glass means RVMs should not be installed on roads.

⁷ Available from [Transport Scotland's website](#).

It was also suggested that:

- A continued requirement to obtain approval under a separate legislative regime may be confusing for applicants and put an additional burden on the planning authority to cross check whether a section 59 consent is in place.
- The Roads Authority should be consulted on any proposal within 5m of the public road to ensure that the needs of road users and the ability to empty/service the machine are taken into account.

no advertising other than that related to the DRS (or to recycling in general) is permitted

As with respect to size, there was agreement that restrictions on advertising on RVMs can mitigate concerns for the historic environment to some extent, but it was argued that residual negative effects could be significant.

Suggestions for clarification, additional restrictions or wider PDR

A number of respondents commented on restrictions under the 2020 Order or sought clarification as to whether, unless otherwise specified, the existing provisions would still apply.

Some respondents saw the absence of any specific mitigation of potential noise impacts as a matter of significant concern. The 2020 Order states that class 6H PDR would not apply if an RVM were to be situated within 15m of the curtilage of a building used for residential purposes, and maintaining this distance was seen as important to reduce the potential for nuisance from noise, odour or insect issues. However, there were still concerns that, depending on factors such as the sound power of the machine and whether there was a direct line of sight to the receiver location, adverse noise impacts would still be possible at 15m. It was suggested that noise disturbance would be of particular concern if RVMs incorporate crushing/compacting mechanisms or if they accept glass, with a suggestion that noise impacts could be reduced by a condition controlling operating hours. It was noted that there is presently no clear guidance with respect to permitted hours of operations.

While most of those who referenced the required 15m distance to of the curtilage of a building used for residential purposes expected it to be retained, one argued that it could automatically rule out RVMs at over 50% of convenience stores, particularly those with flats above.

With respect to designated areas where class 9H PDR do not apply (namely sites of archaeological interest, National Scenic Areas, historic gardens or designed landscapes, historic battlefields, conservation areas, National Parks, or World Heritage Sites) comments included both that the list is correct and that the respondent's approval of the proposed amendments is subject to these areas continuing to be excluded. It was also suggested:

- Both that National Parks and National Scenic Areas should be excluded, but also that there do not need to be blanket exemptions for National Parks and National Scenic Areas.

- That conservation areas must be restricted.
- That the curtilage of a listed building should be added, as a free-standing structure would not be covered by a Listed Building Consent.
- That the setting of listed buildings, scheduled monuments, conservation areas and World Heritage Sites should also be excluded from PDR.

Other comments on the content of the 2020 Order related to the 80m² footprint and the provision for part of the machine to protrude up to 2m beyond the outer surface of a wall in which the RVM is installed. There was a concern that this could severely impact pavement areas adjacent to the machines for disabled people who may not easily detect them.

With respect to points specifically in relation to the proposed amendments, comments included that rather than using PDR, it might be better to retain a requirement for planning permission, with a strong presumption in favour of approval if certain requirements are met. There was also a suggestion that the planning process needs to be simplified, and fees reduced. Time and expense in relation to the additional road adoption process were also highlighted.

Other issues raised included that:

- There should be a stipulation that machines are used only for recycling.
- Stored plastics may represent a fire risk which should be considered.
- Conditions around parking for collections from RVMs also need to be considered and pavement parking avoided.
- Location of RVMs in car parks should be encouraged as a place where they would have less impact than on pavements.
- Correct working and regular emptying of machines must be ensured and there should be scope to remove RVMs if local people report problems with machines causing obstruction or not being emptied.

Finally, it was noted that the 2019 Sustainability Appraisal did not consider RVMs, and it was argued that research based on existing waste collection facilities should be used to inform the design and location of these facilities.

6.2 Temporary Use of Land: Shooting Ranges

Class 15 of the GPDO allows temporary changes of use – including temporary structures associated with that use – to take place on land for up to 28 days without needing to apply for planning permission. The terms of class 15 are flexible: they apply to any activity, except use of land for a caravan site, and they do not apply to land within the curtilage of a building. The 28 days is a cumulative total in any calendar year.

Concerns have been raised that these provisions might be used to establish temporary firing ranges comprising the provision of fixed targets associated with the use of firearms, causing potential disruption and amenity impacts that such uses can have, particularly in respect of noise. The consultation notes, however, that the

use of firearms is subject to separate licensing and checks by Police Scotland to ensure public safety.

Views are sought on whether class 15 should be amended to exclude the use of land as a temporary shooting range comprising fixed targets associated with firearms. The consultation paper makes clear that some temporary shooting activities do not constitute 'development' under the Town and Country Planning (Scotland) Act 1997 and so do not require planning permission – whether they are granted through PDR or following a planning application. Any amendment to class 15 would therefore have no effect on such activities. Nor would an amendment to class 15 have any effect on shooting activities or established clubs that seek to operate for more than 28 days a year – since any such development would be beyond the scope of class 15 PDR already.

The consultation also highlights that certain shooting activities are already exempt from authorisation under the Firearms Act 1968 and the Air Weapons and Licensing (Scotland) Act 2015. It points out that if class 15 were amended to exclude shooting ranges, those activities would (where they involve development) require a planning application but would be exempt from firearms authorisation. The consultation queried whether such a situation would be proportionate and whether there would be any land use planning justification for doing so.

In light of these nuances, the consultation seeks respondents' views in general terms rather than setting out a specific proposal, in order to gather evidence about the extent to which this is a significant issue, the potential impacts of excluding target shooting from class 15 and whether doing so would be appropriate and/or give rise to unintended consequences.

Question 30: Do you have any comments on the potential exclusion of the use of land as a target shooting range from class 15 PDR? If such a change were taken forward, do you have views on the potential justification for exempting the activities discussed above?

Around 355 respondents provided a comment at Question 30.

Most of these respondents (around three quarters) did not respond to any other consultation questions. These were primarily individuals, whose sole focus was on PDR in relation to use of land for target shooting, and some of whom indicated that they were responding as a member of a shooting club. However, a number of third sector shooting and other organisation respondents also focused exclusively on this question.

A number of those commenting at Question 30 (around 1 in 7) drew on standard text provided by another organisation or individual (campaign-plus responses).⁸ These respondents were all opposed to the exclusion of use of land as a temporary shooting range from class 15 PDR.

⁸ Analysis identified three different forms of standard text that was being used.

Reasons for opposing the proposed change

Most of those commenting at Question 30 expressed their opposition to the exclusion of temporary target shooting ranges from PDR and highlighted a range of issues and concerns in relation to the proposal.

Opposition to the exclusion of target shooting from PDR was most commonly linked to a view that the proposal is disproportionate to the impact of this land use. Respondents suggested that target shooting does not cause the level of disruption suggested by the consultation paper, and referenced aspects of current licensing and restrictions such as firearms licensing and the 28-day limit on temporary land use as minimising impact. There was also reference to other recent legislation and regulation that was seen as unfairly focused on shooting.

More than half of those who answered Question 30 were of the view that excluding temporary target shooting ranges from PDR would unfairly single out recreational shooting. The proposed change was described as discriminatory and biased against shooting sports, and campaign-plus respondents referenced the potential for the proposed exclusion to have a 'catastrophic' adverse impact on target shooting events and shooting clubs across Scotland.

Linked to concerns that removal of PDR is disproportionate to the impact of temporary shooting ranges, a substantial number of respondents suggested that proposals are not evidence-based, and that the consultation document does not provide sufficient justification for the change. This included a view that proposals have been prompted by issues around a specific shooting range and, as such, are not evidence-based or proportionate to the wider impact of temporary shooting ranges.

Other reasons for objecting to the proposals included a view that the noise justification for proposals is flawed. For example, it was suggested that clay pigeon shooting is noisier than smallbore or air rifles, but would still be permitted under proposed changes to PDR. There was also concern that the consultation paper does not recognise that most target rifle shooting uses sound-moderators, and is typically in relatively remote locations with little noise impact on neighbouring properties.

Respondents also suggested that other land uses permitted under class 15 PDR have a similar or greater impact than target shooting. This included reference to a range of other leisure and sports activities permitted under PDR that were seen as having a significant impact on their local area in terms of noise and wider disruption. These respondents suggested that PDR for target shooting should not be considered in isolation from other permitted activities.

Potential impacts of the proposed change

As noted above, respondents who were opposed to the exclusion of temporary target shooting ranges from PDR also referred to the potential adverse impact on target shooting events (both informal and competitive) and clubs. Respondents noted that clubs rely on the income and additional memberships that shooting events generate, and suggested that clubs would be unable to afford to make

planning applications without this income. In this context, there was reference to the range of benefits generated by shooting and shooting clubs across Scotland including support for local economies, providing employment opportunities, development of shooting athletes, and supporting the wider shooting community. It was suggested that target shooting is the only affordable way for some people to take part in their hobby, such that proposed changes could have a significant mental health impact.

There was also concern about the potential impact of changes on stalkers, hunters and pest controllers who use fixed targets for practice. It was noted that any rifle shooter with an open licence to shoot live quarry can set up a fixed targets for practice/zeroing without safety checks or planning permission; it was suggested that this has been the case for many years without issue. There was also concern that the proposed change would mean that planning permission would be required just to enable shooters to check the safety of their rifles, and that this could ultimately have an impact on the humane control of animals.

Other concerns and issues

Opposition to the exclusion of temporary target shooting ranges from PDR was also linked to a number of other concerns and issues highlighted by respondents. These included that:

- Any issues around target shooting should be dealt with through firearms licensing rather than through planning legislation. In this context, there was a view that current firearms regulations are sufficient to manage the impact of target shooting, and that additional legislation is not required.
- Firearms licensing is already under review by the UK Government, for example in relation to miniature rifles, and suggested that some of the issues raised by the consultation paper may not be relevant following completion of the review.
- The proposed change would place an additional administrative burden on planning authorities, and add to delays in the planning system.

In relation to the consultation itself, some felt that the phrasing of Question 30 was confusing. There was also concern that target shooting has been included at the end of a consultation that otherwise has no relation to shooting.

Reasons for supporting the proposed changes

A minority of those commenting at Question 30 expressed support for the exclusion of temporary target shooting ranges from PDR. Reasons cited in support of this view were primarily related to the potential impact of target shooting on the local area and other land users. This included specific concerns around noise disruption in the local area with respondents citing examples of temporary target ranges in relatively close proximity to residential properties and other land users.

There were also concerns around safety risks to other land users, including examples of temporary shooting ranges in close proximity to footpaths and cycle ways. In this context, it was suggested that the consultation document is not

accurate in relation to safety checks by Police, and that long-range target shooting can take place without statutory safety inspections and without prior public notice. The lack of prior public notice was seen as a particular issue where ranges are in close proximity to access routes.

Respondents also highlighted concerns that permanent ranges have been permitted under class 15 PDR, and there was reference to examples of permanent development associated with shooting such as game farms and habitat preparation.

7. Assessment of Impacts

7.1 Sustainability Appraisal Update

The Sustainability Appraisal (SA) Update provided in Annex A builds on the findings of the 2019 SA, setting out the findings of further iterative appraisal of the proposals for domestic and non-domestic micro-renewables, as well as updated proposals for thermal efficiency measures (window replacements) and solar canopies. It also assesses proposals related to PDR for development types not considered in the 2019 SA, namely: electricity undertakings (including substations), shooting ranges and RVMs.

Question 31: What are your views on the findings of the Update to the 2019 Sustainability Appraisal Report at Annex A?

Around 30 respondents answered Question 31 although some of the points raised related to issues considered by other impact assessments and are considered at Question 32.

General points on the SA Update included a call for assessment of how a principle of biodiversity enhancement could be applied as a condition for benefiting from a PDR. It was suggested that the SA does not make clear how the proposed changes to PDR have taken into account both the climate and nature crises as required by NPF4 Policy 1 (which requires all development proposals to give significant weight to the global climate and nature crises) or if permitted development will be required to contribute to the enhancement of biodiversity as required by NPF4 Policy 3 (Biodiversity).

Other general points included views that:

- Terms such as ‘negligible’ or ‘minor positive’ require definition.
- In many instances where significant adverse effects on cultural heritage are acknowledged the response is limited to noting that these would be reversible.
- Where environmental effects are predicted to be significantly negative or cannot be predicted, the suitability of the development type for a PDR should be reconsidered.
- It is not helpful for material relating environmental impacts, gathered as part of the Strategic Environmental Assessment process, to be diluted among wider social and economic impacts.

It was also suggested that, that while increasing PDR is flagged as potentially reducing the number of applications handled by planning authorities, the continued need for Listed Building Consent means that permission may be refused on heritage grounds, making the planning system appear somewhat contradictory.

Comments on specific elements of the SA Update were relatively limited, although two Public body respondents observed that their views on the detail of the SA had informed their answers to earlier questions, with one noting that they had also provided a separate response to the SA Update.

With respect to thermal efficiency of domestic buildings there were questions regarding:

- The breadth of the assessment in terms of the sustainability of proposed changes to replacement windows and increased use of non-timber and potentially less sustainable materials.
- Removal of the planning application as a test of the need to remove repairable windows or sustainable options before agreeing to remove and replace the existing window.

There was also a call for the Scottish Government to produce information in respect of how to undertake alterations to improve poor building energy efficiency following a fabric first approach.

Some respondents commented on the assessment of temporary shooting ranges including a suggestion that the assessment is flawed because it:

- Assumes noise disruption and/or loss of amenity without providing any supporting evidence.
- Does not explain how a specific impact related to land-based targets does not apply to other forms of shooting.
- Fails to consider the benefits of shooting ranges/activities for nature and the environment or the benefits of engaging in sporting activities for individuals and communities.

7.2 Other Assessments

The consultation paper notes that a number of other assessments have also been undertaken, with initial and draft assessments set out in Annexes B-F. Draft assessments and screening assessments undertaken include:

- (i) A Business and Regulatory Impact Assessment (BRIA) that considers the costs and benefits, particularly with regard to business, of the proposed changes.
- (ii) An Equality Impact Assessment (EqIA) that considers the impact of the draft proposals on various equalities groups defined by protected characteristics such as age, sex, religious or other belief, race or sexual orientation.
- (iii) A Children's Rights and Wellbeing Impact Assessment (CRWIA) that considers the impact of the proposed changes on children: the initial conclusion following a screening of proposals is that a full assessment is not required.
- (iv) An Island Communities Impact Assessment (ICIA) that considers the impact of proposed changes on Scotland's islands: the initial conclusion following a screening of proposals is that a full assessment is not required.

- (v) A Fairer Scotland Duty Assessment that considers how inequalities of outcome caused by socio-economic disadvantage can be reduced when making strategic decisions: the initial conclusion following a screening of proposals is that a full assessment is not required.

Question 32: Do you have any comments on the partial and draft impact assessments undertaken for Phase 3?

Around 25 respondents provided a comment at Question 32.

General comments included agreement with assessment process but also a view that these assessments are too complex and inaccessible to allow the layman to respond.

It was also suggested that, as a general principle, it is important for proposals to be equitable and nuanced, avoiding a blanket approach with unintended consequences. The importance of protecting the collective rights of communities to influence delivery of net zero targets was highlighted, with a concern that extending PDR may risk a community backlash against the infrastructure needed to deliver net zero because people have no means of influencing the decision-making process.

BRIA

Several respondents argued that the BRIA fails to address the impact of amending the PDR for temporary shooting ranges. Points raised included that business impacts could include:

- Economic impacts for shooting ranges and associated businesses, including firearms and ammunition dealers.
- Wider loss of income in rural communities if deprived of income from visiting shooters.

Points with respect to regulatory impacts included that:

- Wider PDR and a resulting reduction in applications would lead to a reduction in planning fee income for planning authorities, and the resulting impacts on planning services should be assessed.
- The impact on planning authorities of requiring use of Article 4 Directions to counteract negative impacts on the character of conservation areas is underestimated.

EqIA

It was argued that not extending proposals for PDR for replacement windows to improve energy efficiency to World Heritage Sites could exacerbate existing inequalities, as World Heritage Sites can include areas of significant economic deprivation and home owners on low incomes, as well as affordable housing providers supplying homes for low-income households. It was argued that keeping the requirement to apply for planning permission for replacement windows in these

areas and to use traditional materials, puts property owners at a financial disadvantage and, since women, children, people with disabilities and minority ethnic people are disproportionately represented within the affordable housing sector, barriers to improving their housing standards will exacerbate inequalities. It was also suggested that the same argument should apply with respect to the CRWIA and the Fairer Scotland Duty.

Other points made with respect to people with protected characteristics included:

- The assessment in relation to RVMs does not mention mothers with buggies.
- Loss of local shooting ranges could prevent those on lower incomes or without private transport, including younger, older or disabled people, from participating in shooting activities.

Fairer Scotland Duty Assessment: the initial conclusion following a screening of proposals is that a full assessment is not required

Reflecting the point made above with respect to proposals being equitable, some respondents argued that a Fairer Scotland Duty Assessment should consider potential injustices felt within communities if PDR are seen as damaging their local environment and quality of life without the opportunity to comment on or object to a planning application. A related point was that there should be a mechanism to allow people other than the applicant to appeal against development which is deemed to be permitted development.

Question 33: Do you have any suggestions for additional sources of information on the potential impacts of the proposals that could help inform our final assessments?

Around 30 respondents provided a comment at Question 33, including a view that proposals to streamline the planning system have had obvious input from industry but have received little publicity inviting public comment. With reference to specific proposals in the present consultation, the most frequent suggestion was that the Scottish Government should consult shooting associations or their membership to inform assessments relating to Temporary Shooting Ranges.

Respondents also suggested a number of sources of information on individual topics, all of which are available to the policy team at the Scottish Government. Briefly, these included:

- A guide to sustainable development methodology.
- Consumer research regarding barriers to heat pump installation.
- Guides relating to energy efficiency, including for traditional buildings.

It was also suggested that residents of conservation areas could provide information on the barriers to going green and reducing their energy costs.

Finally, it was proposed that the effects of the current proposals should be assessed in the context of rural fuel poverty to provide a better understanding of their potential impact on rural populations.

Annex 1: Organisations responding to the consultation

Planning authority (n = 19)

Aberdeen City Council
Argyll and Bute Council
City of Edinburgh Council (Planning Authority)
Dundee City Council
East Dunbartonshire Council
East Lothian Council
Falkirk Council
Fife Council
Loch Lomond & Trossachs National Park
Moray Council
North Lanarkshire Council - Pollution
North Lanarkshire Council Planning
Orkney Islands Council
Perth and Kinross Council
Scottish Borders Council
Stirling Council
The City of Edinburgh Council, Environmental Health
West Dunbartonshire Council
West Lothian Council

Public body or corporation (n = 7)

Crown Estate Scotland
Historic Environment Scotland
Ministry of Defence – Defence Infrastructure Organisation
Mobility and Access Committee for Scotland
NatureScot
Scottish Futures Trust
Zero Waste Scotland

Professional or representative body (n = 21)

AHSS - Dumfries and Galloway Group
Association of Local Government Archaeology Officers (ALGAO)
BFCMA
Built Environment Forum Scotland (BEFS)
Federation of Small Businesses
Heads of Planning Scotland (HOPS)
Heat Pump Association
Homes for Scotland
Institute of Acoustics

Institute of Historic Building Conservation, Scotland Branch
NFU Scotland
REHIS
Scottish Grocers' Federation
Scottish Land & Estates
Scottish Wholesale Association
SPF
The Architectural Heritage Society of Scotland (AHSS)
The Federation of Independent Retailers (formerly known as NFRN).
The Royal Incorporation of Architects in Scotland
The Royal Town Planning Institute Scotland
The Stove Industry Association

Private sector - energy/renewables (n = 11)

Centrica
EDF
Eneco UK
Ennoviga Solar Ltd
Green Switch Capital Ltd
Locogen Limited
Scottish and Southern Electricity Networks (SSEN)
Scottish Power
Scottish Power Energy Networks
Scottish Renewables
Solar Energy Scotland

Private sector - thermal efficiency/heating (n = 2)

Glaze and Save
ROCKWOOL Ltd

Private sector - other (n = 8)

AGS Airports
Edinburgh Airport Limited
Eye Pro Ltd
Fastned
Highlands and Islands Airport Limited
Joseph Robertson (Aberdeen) Ltd
Kilfinichen Farms
Network Rail

Third sector - built environment/conservation (n = 6)

Edinburgh World Heritage
Friends of Glasgow West

Historic Houses Scotland
National Trust for Scotland
Pollokshields Heritage SCIO
The Cockburn Association

Third sector - shooting (n = 13)

BASC
British Association for Shooting and Conservation (Scotland)
Clyde Valley Pistol Club
FCSA (UK)
Galloway Small Arms Club
Gardners Guns Limited
Land Warrior Sports Ltd
Lothian & Borders Rifle Club
Precision Scotland (Gun Club)
Scottish Association for Country Sports
Scottish Target Shooting (STS)
United Kingdom Benchrest Association
United Kingdom Practical Shooting Association

Third sector - community councils/representative groups (n = 5)

Eskdalemuir Community Council
Kirkwall and St Ola Community Council
Orkney Renewable Energy Forum
Rosemount and Mile End Community Council
Stromness Community Council

Third sector – other (n = 12)

British Deer Society
Dudley Community Home Improvement Group
Energy Saving Trust
Existing Homes Alliance Scotland
Kagyu Samye Ling Monastery (Rokpa Trust)
Living Streets
Nesta
Paths for All
RSPB Scotland
ScotWays (The Scottish Rights of Way and Access Society)
SURF - Scotland's Regeneration Forum
The MCS Foundation



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