Flood performance certificates

Developing a blueprint for how they can support household climate resilience

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Contents

About this report

WPI Economics was commissioned by Flood Re to scope out the feasibility of a system of Flood performance Certificates (FPCs) and develop a framework for how they could be implemented effectively in the UK. This report was compiled based on desk-based research and extensive discussions with experts and stakeholders including two workshops. It explores the role of property flood resilience in addressing the UK's flood risk, and the barriers to take up that currently exist, and sets out the potential role that FPCs could play in breaking down these barriers.

It then goes on to set out how FPCs should be designed such as to maximise their impact, as well as some recommendations around the overall policy and regulatory infrastructure surrounding FPCs.

About WPI Economics

WPI Economics is a specialist economics and public policy consultancy. We provide a range of public, private and charitable clients with research, modelling and advice to influence and deliver better outcomes through improved public policy design and delivery.

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About Flood Re

Flood Re is a joint initiative between the Government and insurers. Its aim is to make the flood cover part of household insurance policies more affordable and promote the affordability and availability of flood insurance for homeowners across the UK. Flood Re's operation promotes a competitive insurance market that customers can take advantage of. Insurers can place the flood risk element of domestic property insurance with Flood Re at a premium linked to property Council Tax bands. Flood Re sits in the background, with the purchase of the policy and the process of making a claim being unchanged.

The scheme launched on 4 April 2016 as an independent body that is privately owned and operated, whilst also being publicly accountable, and insurers are now making use of it to benefit their customers.

About The Authors

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Matthew is a respected economist and policy analyst, having spent well over a decade working in and around policy making in Westminster. Before founding WPI Economics Matthew held a number of roles including Chief Economist and Head of Financial Services Policy at the consumer champion Which?, and Head of Economics and Social Policy at the think tank Policy Exchange. Matthew also led the Independent Review of Jobseeker's Allowance sanctions that reported to Parliament in 2014, and previously spent eight years at the Treasury.

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Joe is an experienced policy professional. Before joining WPI Economics, he spent the past five years working in a range of roles at the Association of British Insurers – most recently as a Senior Policy Adviser in the general insurance team. During his time at the ABI, Joe led on policy development and Government engagement across a range of areas including cyber risk, work and health, and civil justice reform. Prior to the ABI, Joe worked in the communications team at the New Schools Network and before that, in the office of Andrew Jones MP.

Executive Summary

Climate change means flooding will be a fact of life for many more households in the future

Insurance is one of many important tools that households possess to help them respond to the damage caused by flooding. Flood Re has created a lifeline for hundreds of thousands of those at highest risk who now have greatly improved access to affordable insurance. Importantly, Flood Re also creates the space to devise and implement solutions which prevent and mitigate against flooding and its associated harms. In this respect, previous work from Flood Re and the authors of this report highlight the important role that property flood resilience and resistance (PFR) measures can play.

However, despite the significant potential benefits of PFR measures, take-up amongst at-risk households is incredibly low. In light of this, previous work sponsored by Flood Re provides a framework through which the barriers to households taking up PFR measures can be understood and makes recommendations for interventions that could increase take-up. One such intervention is the introduction of Flood performance Certificates (FPCs) – a document for the homeowner and any potential purchasers or renters of the property which sets out the severity of its flood risk and steps that could be taken to mitigate the risk.

WPI Economics has been commissioned by Flood Re to conduct detailed analysis scoping out the viability of such a proposition. Having concluded our analysis, we recommend the introduction of FPCs on the basis that they would:

- Help to provide **relevant and actionable information** that creates a roadmap for household flood resilience – research shows that a lack of information around both the level of risk faced by a household, as well as how they can take steps to address this, prevents many from taking appropriate steps to address their flood risk. The information within an FPC could fill these gaps.
- Address the issue of **householders fearing being 'blighted'** by the installation of resilience measures – fearing that they would highlight their home's flood risk and cause it to lose its value. An FPC would reverse this by introducing proactive protective measures and ensure that households always have an incentive to improve the flood resilience of their home.
- Provide a benchmark for various **third-party policy levers and incentives that encourage household flood resilience** – including grants, improvements funded through Flood Re's proposed Build Back Better scheme and potential insurance premium discounts.
- Signpost opportunities for **social and community resilience** which are important elements of a comprehensive approach to managing flood risk.
- Improve **the home sales process** by providing more information at the outset of any transaction.

We have identified a series of decisions and further actions that need to be taken in order for FPCs to be implemented effectively. These broadly fall within two areas; design and implementation. We believe that **the Government should take responsibility for working with a full range of stakeholders to take this forward**, building on the blueprint outlined in this report. It is likely that this will need consultation and subsequent legislation to be passed and we expect that an initial scheme could be opened in 2022, with full mandation beginning towards the end of the decade.

Designing FPCs

This report considers a range of technical design questions that will need to be answered if FPCs are to help to drive the take up in PFR measures needed in the UK. Based on our analysis of these issues, our recommendations for the blueprint of an FPC process are summarised below.

1. While FPCs should be universal, **only households at significant flood risk should be required to have a detailed physical survey** to inform the risk rating and the recommendations. Which households require a survey would need to be determined by publicly available data, such as that of the Environment Agency (EA), the Scottish Environment Protection Agency (SEPA) and Natural Resources Wales.

2. The contents of the survey should be drawn as closely as possible from the **six standards of the Property Flood Resilience Code of Practice** developed as part of the Department for Environment, Food and Rural Affairs (DEFRA) resilience roundtables. This represents the best in terms of the institutional knowledge of the sector and carries legitimacy among important groups.

3. The design of the certificate itself should be kept relatively simple, and should include:

    a. **A simple risk rating of the property** – for example, an A to D rating, which reflects both the likelihood of flooding and the potential impact if a flood did happen.

    b. **An indication of the impact of flooding on the person** – for example the time someone could spend outside their home if their property were flooded – this could challenge people's understanding of the impact that a flood could have on them.

    c. **A set of recommendations** – these should include some indicative costs for installation, as well as a sense of the scale of improvement that could be achieved.

    d. **A list of any existing measures** – and an assessment of their state of effectiveness, plus information on operation and maintenance.

    e. **Signposts to social and community resilience** – details should be included regarding where there are local groups, forums, or plans which provide opportunities for community-based resilience.

4. **Piloting of the design and content of the survey** would need to be conducted to optimise its propensity to positively impact householder and home purchaser behaviour. This should be taken forward with the help of behavioural science experts.

5. Transitioning to an affordable risk-reflective market in 2039 will require a substantial change in the risk profile of large parts of the UK's housing stock, and ambitious solutions will be required to deliver this. Any voluntary or incentive-based means of encouraging use of FPCs is unlikely to be effective, as there is a lack of evidence of significant voluntary take up of PFR more broadly.

6. As a result, we recommend that take up of FPCs should be achieved through a phased approach over several years culminating in the **mandation of the display of an FPC upon the sale or rental of any domestic property** in the UK. This would ultimately require underpinning by primary legislation.

7. There should be a **robust overall framework for the regulation of FPCs** taking into account the lessons of the EPC model, which has been roundly criticised for being unreliable. This should include that all surveyors are registered to an accreditation scheme which approves and subsequently audits individuals on the grounds that they are able to carry out surveys in line with the PFR Code of Practice (COP).

8. While there are benefits to having multiple registration bodies through which individuals could be approved to carry out FPC surveys, on balance the best model would be to have a **single registration body**.

9. By and large, landlords and those selling their property will have to fund surveys underpinning an FPC if one is required. However, there is a political decision to be made about means tested support for certain households.

10. The recommendations within an FPC will be paid for through **a multitude of sources**, such as government grants, which vary in generosity depending on which part of the UK someone lives in, and potentially Flood Re's proposed Build Back Better programme.

11. The roll-out of FPCs would also provide an opportune moment for the UK Government to reassess the best possible way in which it could financially support the take up of flood resilience measures for at-risk properties. In particular, we believe that it should consider the potential benefits of a long-term scheme like the one currently running in Northern Ireland, which provides generous match funding the for the installation of property flood resilience measures.

12. Government should **monitor any emerging issues that arise following the implementation of FPCs which suggest a need to introduce minimum standards** for the private rented sector. This could involve monitoring data from FPCs to identify if take up of property flood resilience is happening more slowly in the private rented sector.

Our roadmap to delivering full take up of FPCs can be found below.

2020 — Piloting, testing and legislation

Time for a significant programme of testing and piloting that can be used to refine the format and nature of the FPC, so that the impact on behaviours can be maximised.

Government will need to set out its strategy towards the scheme (presumably with some form of prior consultation) and develop and pass the necessary legislation to begin mandating FPCs for various types of properties.

2022 — FPC scheme up and running, FPCs mandated at point of claim for all Flood Receded properties others can adopt voluntarily

The regulatory body overseeing FPCs will be up and running. The scheme will be open to all on a voluntary basis.

The survey and an FPC would be offered when paying a claim and commissioning repairs to any Flood Receded property.

This will be a homeowner facing certificate, i.e. it won't yet be mandatory to display upon sale or rental of the property.

2024 — Offer free surveys and certification to properties at high flood risk

Flood Re would offer a free survey to all properties at flood risk to voluntarily have a survey of the flood risk of their property, in line with the PFR COP.
Again, this will be a homeowner facing certificate.

2026 — Mandatory for all new builds and property alterations

The display of an FPC should be mandated at the point of the sale of any new build home. In addition, any major alterations made to properties should include a flood risk survey if in an at risk area.

This should ensure flood resilient practices cascade down to the planning and building stages.

2028 — Full rollout - mandatory for the sale/rental of any home

There are around 1.2 million property transactions every year - leading to a gradual rollout of the certificates by the end of the Transition plan.

2039

CHAPTER 1

Introduction

Background

While the majority of people in the UK are likely to never experience one, flooding is the UK's primary natural catastrophe risk. For those who do experience flooding, it can be a significant source of physical, psychological and financial distress.[1]

Absent a dramatic change of trajectory in relation to the global climate crisis, and given the pressure for new housing development, it is likely that, in future, the threat of being flooded will be a fact of life of many more people than today. The Chair of the Environment Agency Emma Howard-Boyd has suggested that England should prepare for the worst when it comes increasing flood risk.[2] As a result, it is prudent to identify solutions that can mitigate this risk, and its associated challenges, which are robust to the ever-increasing scale and severity of threat that flooding poses to households and businesses in the UK.

Historically, one of the major challenges related to flooding has been one of insurability. Insurance plays a vital role in addressing flooding – it can provide financial and practical support for those flooded and peace of mind for those at risk. However, those at the greatest risk have historically faced very high premiums and excesses, and in some cases had very few providers who would offer them insurance at all.

Flood Re has created a lifeline for hundreds of thousands of those householders at the highest risk of flooding, the overwhelming majority of whom can now purchase home insurance at an affordable price from a broad range of providers.

Prior to Flood Re, only 9% of households who had made previous flood claims could get quotes from two or more insurers. With Flood Re, this is now 100% of households. Further, four out of five eligible households saw a greater than 50% premium reduction in their home insurance.[3]

However, Flood Re is not just about providing affordability in the short term. The overall intention is that it also creates the space to develop permanent solutions to the UK's underlying flood risk, so that the home insurance market can transition to affordable risk-reflective pricing by 2039.[4]

"Flood performance Certificates (FPC) have been mooted as a potential means of addressing the barriers households face in implementing their own flood protection and resilience measures"

Flood Re's regular transition plans set out its vision for supporting the creation of an affordable risk-reflective insurance market for household flooding.[5] Whilst Flood Re will have varying degrees of responsibility for different aspects of its plans, its role is primarily to identify measures that can be taken by a range of political, commercial and third sector stakeholders. In both of the last two plans, Flood Re has highlighted the potentially significant role that property flood resilience could play in both mitigating the risk of flooding and reducing the costs of flooding when it does occur.

Property flood resilience refers to various measures to limit the damage to a property in the event of a flood. Some measures can prevent water from entering a property entirely, whereas others potentially make it easier for properties to recover if water enters the home. More widely, resilience to flooding also involves a range of actions beyond physical adaptions to a home, such as developing household and community flood plans.

However, other work commissioned by Flood Re including from the Social Market Foundation (SMF) and University of West England, alongside a significant UK and international evidence base, shows that there are real challenges with supporting households to take this action.[6] In particular, the work from SMF identified a number of behavioural and incentive barriers which prevent households from implementing their own flood protection and resilience measures. A Flood Performance Certificate (FPC) for homes has been mooted as a potential means of addressing these barriers.

Report scope and approach

To take this discussion forward, Flood Re committed to further exploration of FPCs in its most recent Transition Plan, published in 2018, stating that: "*Flood Re will undertake work in the coming months to develop a blueprint for action based on previous UK and international experience; bring together interested parties to form a working group; and scope the feasibility of such an approach in the UK*"[7]

To fulfil this commitment, WPI Economics was commissioned by Flood Re to further scope out the feasibility of FPCs, and develop a framework for how they could be implemented effectively in the UK.

This report explores:

- The role of property flood resilience in addressing the UK's flood risk and barriers to take-up that currently exist;
- The potential role that FPCs could play in breaking down barriers to improved property flood resilience for UK households;
- How FPCs and an underlying survey should be designed such as to maximise their impact in guiding good household decisions about property flood resilience; and
- The overall policy and regulatory infrastructure surrounding FPCs including debates around a mandatory versus voluntary framework, how best to control the quality of surveys, and who should pay for FPC surveys and their recommendations.

There is little existing work exploring the concept of FPCs, what their potential benefits are and how they could be developed and implemented. As a result, we wanted to draw upon the insights and expertise of relevant sectors and professionals in the broader flooding space. This included:

- Hosting several workshops made up of a core group of stakeholders representing insurance, government, surveyors, and representatives of local food groups; and
- Engaging some of these attendees, as well as other important stakeholders, in more focussed, bilateral discussions.

We also sought to draw on existing work examining the impact of Energy Performance Certificates (EPCs) where this carries relevant lessons for the implementation of FPCs.

Properties at risk

There are also wider benefits attached to greater household action on flooding, as many properties are at a non-negligible risk of flooding but fall outside Flood Re's scope, e.g. they were built after 2009. The Environment Agency identifies one in six households as being at risk of flooding[8] and, as outlined earlier, this number is likely to grow in response to climate change. The potential benefits to all these households will also be considered as part of this report.

CHAPTER 2

Property flood resilience

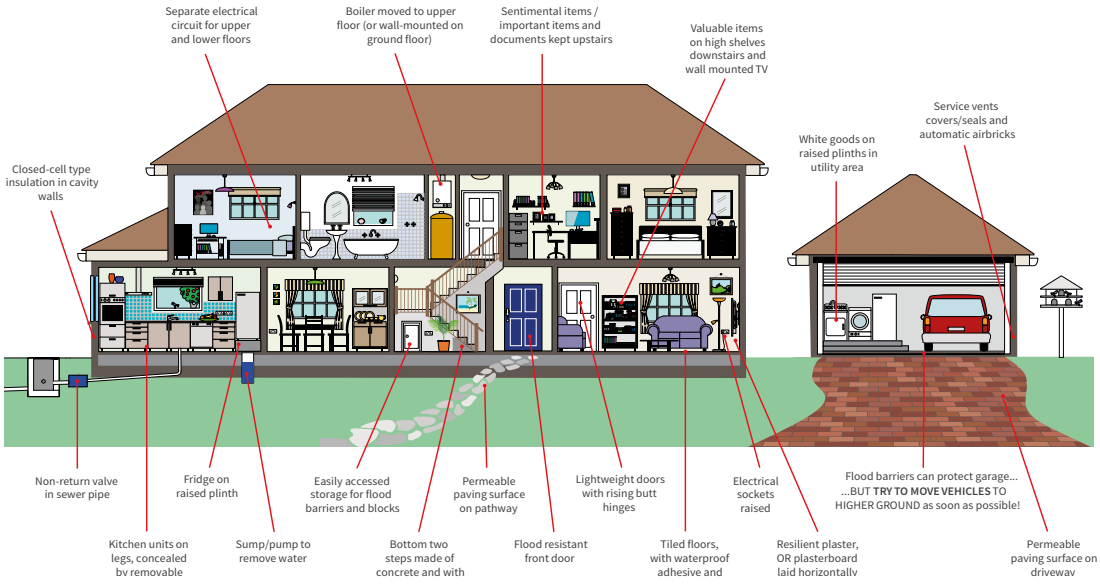
Why Property Flood Resilience?

Transitioning to an affordable risk-reflective market requires the cost of providing insurance for the highest risk properties to fall significantly. The cost of providing insurance is determined by a number of things, the primary one being the size and frequency of claims received by insurers. In the area of household flood insurance, reducing the size and frequency of claims received by insurers necessarily means taking action to reduce the overall risk of flood damage to properties, especially for those at greatest risk.

One important element of flood risk management is improving the action that takes place at the level of individual homes, otherwise known as property flood resilience. A range of measures can be taken at a household level which reduce the amount of damage experienced by a property in the event of a flood. These generally fall into the categories of resistance (preventing water from entering a property) and resilience measures (reducing the amount of damage if a property is flooded). These are often both referred to collectively as Property Flood Resilience. Examples of some measures can be found in the graphic below.[9]

Combined resistance and resilience measures

Keeping water out for as long as possible buys valuable time to raise / move your belongings

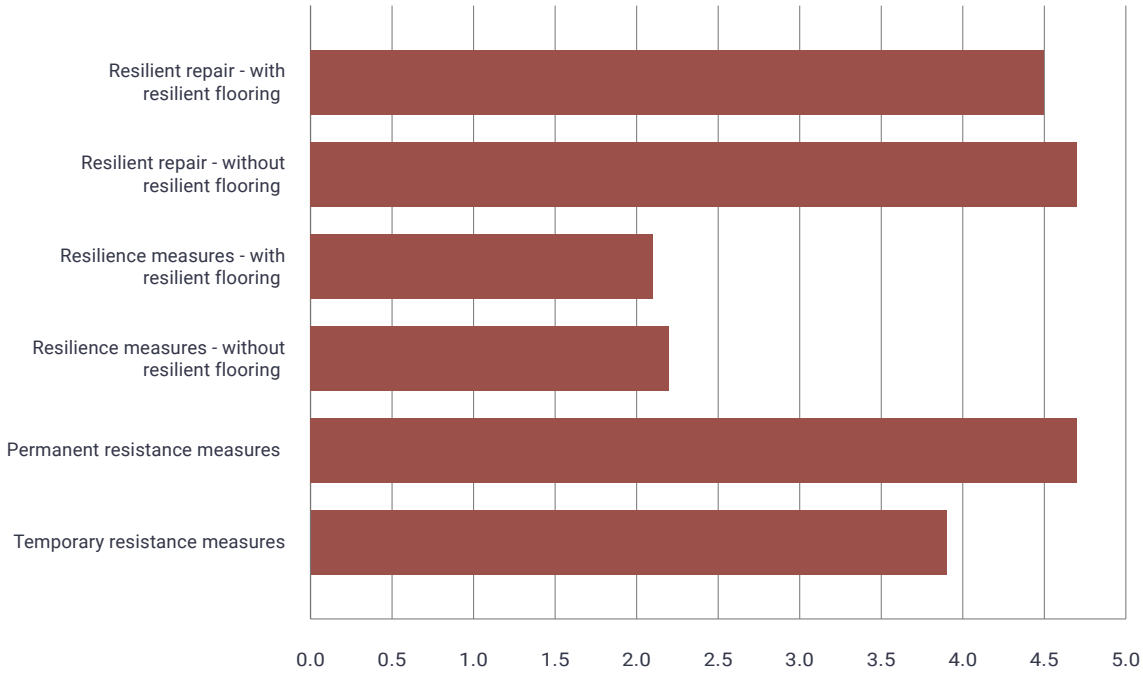


There is significant evidence demonstrating the effectiveness of resistance and resilience measures in reducing or even eliminating damage caused by flooding. While the evidence from the UK is largely based on theoretical models as opposed to real world scenarios, it is complemented by real world studies conducted in other countries, such as Germany.[10]

Typically, resistance and resilience measures need to be implemented as part of a package rather than on a standalone basis in order to be effective. The precise combination of measures that are best suited will be based on the specific characteristics of the residential building, such as the materials from which it is made, whether it is terraced, detached, or semi-detached, and the nature of the flood risk it faces.[11]

Resilience measures are often installed as part of other work being done to a home. This can include restoration work being done following a flood – known as resilient repair – or building work such as a renovation or extension. This tends to carry a much higher return on investment than when resilience measures are implemented on their own, as the chart below shows.

Figure 1: Economic benefit-cost ratios of packages of flood resistance and resilience measures for residential properties at a 1 in 10-year flood risk.



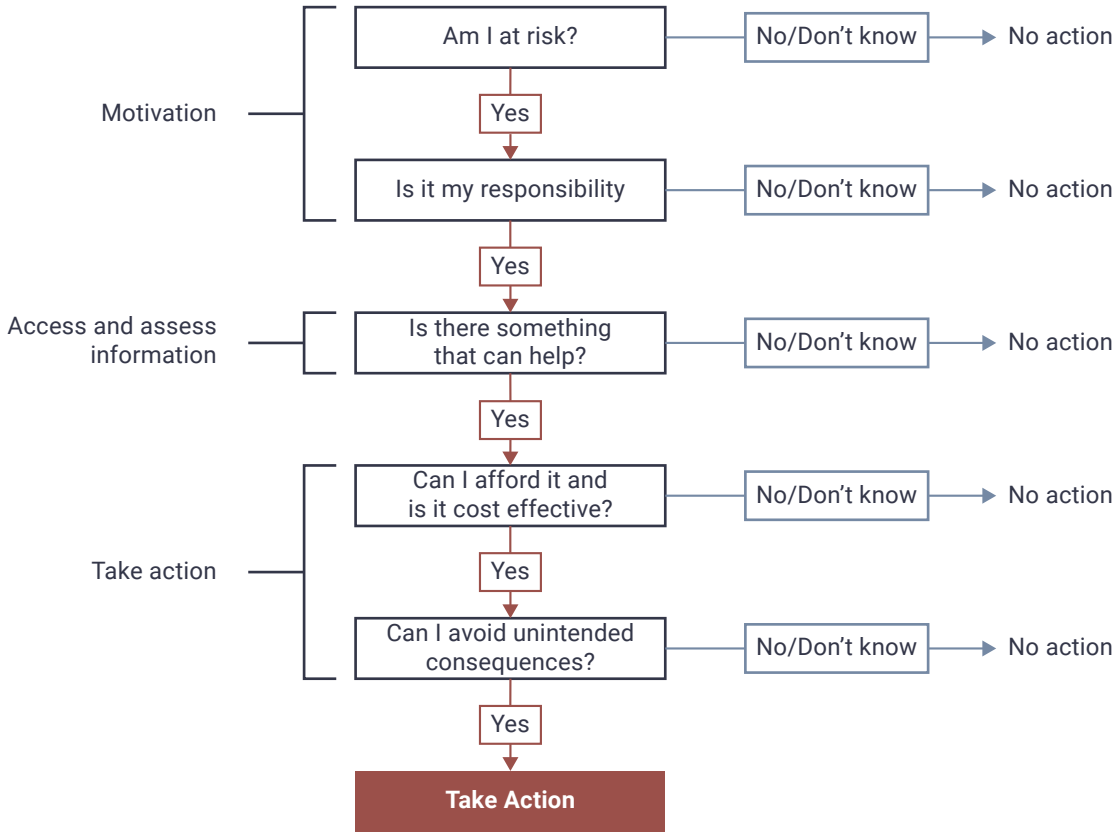
Based on DEFRA and Environment Agency commissioned analysis.[12] Note: any ratio above a 1 denotes a positive return.

Currently however, take up of resistance and resilience measures is very low. A survey by DEFRA found that around 27% of households and businesses that have previously experienced flooding have taken up protection measures, while for those without previous experience the figure is only around 6%.[13] There is widespread acknowledgement that adoption of flood resistance and resilience measures must improve dramatically in order to facilitate the transition towards an affordable risk-reflective market for household flood insurance, and also to deliver benefits to residents exposed to ever-increasing flood risk.

Barriers to household action on flooding

The SMF examined the question of barriers as part of its report on incentivising household action on flooding, devising the structure below for how decision making for householders likely happens in practice.[14]

Figure 2: Deciding to act on household flood risk



Source: Social Market Foundation (2018) 'Incentivising household action flooding'.

As will be explored in greater detail later in the report, there are several ways in which the rollout of FPCs will address the behavioural barriers identified by the SMF.

The Property Flood Resilience Landscape

There is a range of existing initiatives seeking to address barriers to greater take up of PFR. Considering the broader ecosystem is important when deciding how best to implement and design FPCs, so that any new system of certification can both complement existing initiatives as well as address gaps where these occur.

Build Back Better

Historically, the principle of indemnity has been a cornerstone of how insurance functions. This principle states that the purpose of an insurance claim is to restore a policyholder to the position they were in prior to the insurable loss event taking place. Any claim amount exceeding this is regarded as 'betterment' – and has typically been ruled out by insurers for the reason that it creates a moral hazard where policy holders do not have an incentive to seek to implement risk management to reduce losses in the first place.

This principle has begun to face challenge. There are types of insurance where restoring the policyholder to their previous position does not work for insurers from the perspective of controlling future claims costs. One example of this is in the nascent cyber insurance market, as after a breach resulting from a malicious hack it can make little sense for insurers to simply repair and restore what were previously out-of-date or vulnerable systems.[15]

Flood insurance looks set to embark on a similar journey. A minority of insurers have moved to providing 'betterment' payments that fund resilient repair of flooded homes, above simply correcting the damage as a result of a flood.[16] This includes both measures that come at an increased cost to the insurers, as well as 'cost neutral' resilient and resistant repair. Currently, the rules for Flood Re state that insurers are not reimbursed for claims at a greater cost than simply restoring a home to its state prior to it being flooded.

However, as part of its Quinquennial Review (QQR), Flood Re recommended to the Secretary of State for Environment, Food and Rural Affairs that the rules of the scheme be changed to allow insurers to 'Build Back Better' (BBB). Under these proposals, Flood Re will reimburse insurers at a value of up to £10,000 for measures designed to install resilience measures to a home following a flood.[17]

This development has been widely welcomed and will, if approved by the Secretary of State, likely lead to a substantial overall improvement in the flood resilience of many of those at the greatest risk of flooding. There is significant potential for BBB to complement the implementation of FPCs, both through funding the completion of surveys as well as the recommendations made within the FPC.

Discounted premiums for flood resilience measures

Another innovation potentially arising as a result of proposals in the QQR is that insurers could offer discounted premiums for customers who have installed PFR in the homes. Currently, there is no explicit provision in the Flood Re rules for this at present - inward premiums paid to Flood Re by insurers are determined solely by council tax band.

The Flood Re proposals would benefit the typical Flood Re ceded household around 25% of their premium in exchange for the implementation of PFR, offering a sizeable incentive for policy holders to take action. As outlined in the QQR, this subsidy could be linked directly to recommendations included in a future system of flood certificates.

Flood Resilience Grant Schemes

In the aftermath of several serious floods, such as the 2015/16 winter floods, governments in England, Wales, Scotland and Northern Ireland have made funding available to implement resilient repair over and above restoration measures (traditionally) covered by insurance. These have varied in terms of their breadth and generosity. Some, such as the Northern Irish scheme,[18] provide sizeable subsidies for resilience and resistance measures for at-risk homes regardless of when these are installed. However, other schemes have provided smaller grants which are typically limited to resilient repair.[19]

These grants are obviously welcome in seeking to improve the flood risk profile of the UK's housing stock and are a lifeline for many communities at high risk of flooding. However, many of those we have spoken to who are familiar with how these schemes have been implemented have voiced concerns about the quality and reliability of some of the work being done. We are aware of concerns relating to, for example, whether measures installed are fully appropriate to the property in question, and whether proper guidance is always given about the maintenance and operation of installed measures. These concerns have been particularly prevalent in instances where the individual who carries out a property survey also conducts the work.

Going forward, grants could be complementary to FPCs by providing a potential funding stream for resistance and resilience measures recommended in in FPCs, particularly resilient repair. In addition, the rollout of FPCs should create a reliable framework for ensuring that:

a. **PFR measures funded by public money are effective and targeted to the home in question** as determined by a survey carried out by a regulated and trained professional, and in accordance with the six standards of the PFR COP (see below).

b. **Previously installed measures are effective and maintained appropriately** – where surveys are conducted in line with the PFR COP (see below), they can highlight scenarios where poor quality resilience measures have been installed in a home, or where they have not been installed effectively, and steps to remedy the identified issues.

Flood Resilience Community Pathfinder

Between 2013-15 the Environment Agency (EA) and DEFRA ran pathfinder schemes directed at specific communities for projects to trial various approaches to flood resilience. These typically proceeded in partnership with an institution in a pathfinder community, such as a local authority or flood forum.[20] The pathfinder schemes looked to address ways of building resilience in the broadest sense, encompassing both physical measures installed in homes as well as community-based measures such as awareness raising or risk monitoring.

Earlier in 2019, the UK Government committed to spending an additional £2.9 million on three further projects across Yorkshire, Devon and Cornwall, and central England that will focus specifically on promoting property level resilience.[21] Learning from these projects will help inform how the rollout of FPC can work most effectively, particularly around how to communicate risk and to frame recommendations.

Liverpool pathfinder project

The Woodlands Estate in Liverpool is one of the most deprived areas of a city which faces very significant flood risk, particularly as a result of surface water flooding. The homes and business of this estate were the target for this pathfinder project. Liverpool's first ever flood action group was set up to coordinate the project, which was supported by a DEFRA grant of £306,600.

The objectives of the pathfinder were to:

- Provide property flood protection for 30 more homes on the estate (only six had protection at the outset of the project);
- Increase the general resilience of the estate and facilitate behaviour change through a programme of community engagement; and
- Create a model that could be replicated in other parts of Liverpool.

The pathfinder reached out to the community in various ways, including 'flood fairs' and 'winter survival events', as well as working with a local theatre to produce plays about climate change. Physical resilience measures, including flood doors, brick sealant and flood air bricks, were successfully installed in 27 homes as part of the project.

Source Flood Resilience Community Pathfinder scheme evaluation[22]

Property Flood Resilience Code of Practice

In scoping out this work on the feasibility of FPCs, many stakeholders vocalised concerns about the general quality of work being done in the PFR sector – from the surveying of flood risk to the construction of resilience measures themselves. In order to address this, a proposal was made as part of the DEFRA flood resilience round tables to create a Code of Practice (COP) to tackle inconsistent standards in the sector. The COP and its standards are outlined in more detail in below. The six standards cover initial survey work and the formulation of options for resilience, as well as the construction, commissioning, and maintenance of resilience measures.

The purpose of the COP is not to build barriers to entry or to prevent a healthy market for providers of flood resilience work - rather it is to tackle the poor practice that is widely acknowledged to exist in the sector. The COP is representative of best practice across the resilience sector and has been designed and formulated with extensive input from relevant professionals and stakeholders. There is the potential for surveys underpinning FPCs to draw heavily on the PFR COP as there is high degree of alignment between the six standards and the information required to populate an FPC.

PFR code of practice – six standards

The PFR Code of Practice articulates six standards to adhere to in the course of carrying out flood risk and resilience surveys, making recommendation about PFR measures, and ensuring that recommendations are made and implemented appropriately. The COP is supported by a range of important political and professional stakeholders in the sector including the Environment Agency, Welsh, Scottish, and Northern Irish Governments, Chartered Institute of Water and Environmental Management (CIWEM), Royal Institution of Chartered Surveyors (RICS), and Building Research Establishment (BRE).

The six standards are outlined below:

1. Assessment of flooding likelihood and severity – an assessment which summarises the available information to identify the likelihood and severity of different types of flooding.
2. Property survey – an assessment of the resilience of the property in order to inform the PFR plan.
3. Options development – produces options for achieving PFR in the specific property – completing the PFR plan.
4. Construction – ensures that any construction works done conform to the PFR plan.
5. Commissioning and handover – ensures that PFR measures operate effectively and the building owner has any relevant information pertaining to those installations.
6. Operation and maintenance – this standard ensures that any installed PFR work is properly operated and maintained.

CHAPTER 3

The case for flood performance certificates

The direct role of FPCs in driving take up of flood resilience

First and foremost, FPCs are a tool for encouraging better decisions about flood risk management at the level of households and communities. They achieve this by improving the information available to households, shifting perceptions and incentive structures, and activating individuals to install resilience and resistance measures.

Energy Performance Certificates (EPCs) are a similar example of a tool seeking to improve the information available to householders (and businesses) to encourage owners to take decisions that facilitate the delivery of public policy objectives - in this case ones around climate change and heating fuel poverty.

Energy Performance Certificates (EPCs)

EPCs were introduced as a result of the EU Energy Performance of Buildings directive - consequently many other European countries have a similar scheme. Currently in the UK, it is mandatory to display an EPC upon the sale or rental of any property (domestic or non-domestic).

An energy efficiency rating of A to G is given based on a review of a property's energy efficiency carried out by an energy assessor. The key things an assessor will look at are the age and type of house, its materials, windows, and type of insulation.[37]

In addition to the rating, the certificate also includes:

- Estimated energy costs;
- Recommendations;
- Summary of a building's features;
- Low and zero carbon energy sources; and
- A building's heating demand.

EPCs have been beset by a number of issues since their inception – in particular, their accuracy and consistency have always been called into question. A mystery shopper exercise carried out on behalf of the Department of Energy and Climate Change (DECC) in 2014 found that, in the majority of cases, results varied across at least two energy efficiency ratings when five different assessments were carried out.[38]

There are clearly limitations to what can be achieved through FPCs. Furthermore, there are areas which require further exploration if some of the potential benefits of FPCs can be fully realised. The constituent parts of the potential benefits of FPCs are outlined in greater detail below.

Guiding decisions on household flood resilience

In their report, SMF outlined three broad stages of the decision-making process around deciding whether to implement property flood resilience.

1. **Motivation** – a household must establish that they have a need to explore installing PFR in the first place. This involves an assessment and awareness that there is a flood risk to their property, and that they are responsible for addressing this.

2. **Access actionable information** – the household must be aware of the various solutions available in the market to improve their property's resilience, and understand which is the best option for them.

3. **Take Action** – the household must not face prohibitive barriers in terms of cost or behavioural biases that prevent them from taking the right approach with regard to PFR.[23]

Currently, there is substantial evidence of a range of factors likely to prevent a household from completing each stage above and implementing appropriate PFR. The following information and awareness gaps have been observed:

- **A general lack of awareness of their home's flood risk** – 67% of people in the UK have never checked their own home's flood risk.[24]

- **An awareness of flood risk more broadly, but not their home's specific flood risk** - an Environment Agency survey found that roughly half of the homeowners in an at-risk area may be aware of flood risk in their area, but only 7% feel that this affected their own home.[25] This suggests that a huge number of people lack motivation to address their own flood risk, simply through a lack of understanding that such risks affect them.

- **Uncertainty around responsibility for flood risk** – a DEFRA survey found that 42% of people living in high-risk properties held the view that the agencies responsible for managing flood risk (such as the EA or local authorities) will have taken steps to address it, and therefore there is nothing for property owners to do.[26]

- **No understanding of what they can do to mitigate flood risk** – the same survey found that the vast majority of households and businesses were not aware of any effective resistance measures they could take apart from the use of sandbags (which are relatively ineffective) and only one in ten could name a single resilience measure.[27]

Information included in an FPC could help to addres some of these gaps and barriers. For example, it could describe the flood risk faced by that specific household in a way which is clear to them and instils a sense of ownership of the issue. As such, if done correctly, an FPC could help to increase understanding of the need for at-risk households to install PFR measures, thereby increasing their motivation to do so.

An FPC would also contain a series of recommendations for addressing the risk, once a motivation has been established. A list of recommendations, when combined with indicative prices and an assessment of the potential impact that these measures could have, provides a framework for the homeowner to make an informed decision about the right solutions to address their property's flood risk, and the means of implementing these at a non-prohibitive cost.

The exact design suggested for the FPC to achieve this is set out in Chapter 5.

Addressing the challenge of blight

Further to the barriers above, a significant concern involved with addressing household action on flooding is fears about the potential 'unintended consequences' of investing in resilience measures.

One of these fears is around blight. Householders can be concerned that simply by implementing resilience measures they send a signal that they are a household at significant flood risk, and that this can have a range of negative consequences, such as in lower home value or higher insurance premiums. A study found that a quarter of householders had chosen not to put in place resilience and resistance measures because they felt this would signal flood risk to potential buyers of their home.[28]

Requiring FPCs to be displayed upon the sale or rental of a property has the potential to address this concern. This is because the FPC would make the flood risk and respective resilience needs of all households clear to prospective buyers. This means that at-risk households would have nothing to lose from installing flood resilience measures, since that action would no longer provide a signal of flood risk (as the information is already known). In fact, by implementing the recommendations for making their home more resilient that are contained within the FPC, a homeowner would be able to show an improvement in their flood risk rating, i.e. move from a C to a B. As a result, a household implementing resilience measures would unambiguously be associated with an improvement in a home's outward risk profile, rather than be a real or perceived source of blight. This provides an incentive to install resilience measures, as the homeowner will likely yield benefits as a result, for example in the form of, for example, a higher home value or reduced insurance premiums.

There could be concerns that, while it is positive to highlight flood risk and how the risk could be addressed, there will be deprived communities who may not have the resources to implement the resilience measures required. The overall effect of FPCs therefore could be perceived to be to blight those communities. This is a legitimate concern, and careful consideration is given to how this could be addressed under 'Implementing FPCs' in Chapter 6.

The role of FPCs in supporting other policy levers

Levers and incentives

There are a number of current and potential levers that provide a means of encouraging or incentivising households to implement the recommendations of their FPCs. These add to the overall benefit of implementing FPCs by helping to convert the information available to the householder into meaningful action.

Subsidies and grants

As already discussed, there are existing grants available from government to pay for resilience measures, with differing levels of generosity depending on where you are in the UK. In the future, there is also the possibility of funds being made available through Flood Re's proposed Build Back Better of up to £10,000 for specifically resilient repair.

As a joined-up approach, there is potential for both future grant schemes and payments made under Build Back Better to be specifically tailored to funding the recommendations in the FPC. This could maximise the cost effectiveness of the two schemes for Flood Re and the Government, as it should ensure that resilience work being done is relevant to that specific property. It also means that there should be substantial funding available for households at risk of flooding to improve their FPC rating during a time when it is particularly cost effective, i.e. at the stage of repair and restoration following a flood.

Insurance

Within the context of the transition from Flood Re to an affordable risk-reflective insurance market, insurance seems an obvious lever to encourage the implementation of the recommendations in an FPC. In theory, an improved FPC rating and corresponding reduction in risk of flood damage could cause a reduction in premiums, improved terms, or a reduced excess. However, a number of things need to be considered here:

- At present, Flood Re-ceded properties are in receipt of a cross subsidy which makes their premiums non-risk reflective. As a result of this, any reflection of FPC ratings in a premium could only realistically happen in a post-Flood Re world (a risk-reflective market).
- There is not significant evidence to date of insurers possessing the data and modelling capabilities to provide risk-reflective premium discounts for resilience measures. However, FPC ratings could help to remedy this by providing an overall indication for a home's flood risk that encompasses any installed resilience measures.
- Any reductions in premiums would likely be small in relation to (a) the out of pocket costs of installing resilience measures, and (b) the overall cost of home insurance.

Overall, on its own, a reduction in home insurance premiums is unlikely to play a major part in how householders are encouraged to implement FPC recommendations. However, insurers could play a major role in the success of FPCs, such as through facilitating 'Build Back Better' of properties that have been flooded and providing a further signal of the benefits of PFR.

Strengthening household and social resilience

FPCs could also have a wider role in providing information and prompts to households to improve resilience. At the household level, this might include the development of Flood Plans which compose a set of actions that could be taken in order for a household to best prepare for when floods happen. This can typically include things like:

- Having an 'emergency flood kit' prepared for the event of needing to evacuate your home. This could contain important documents such as insurance policies, chargers for mobile phones, and emergency cash and credit cards;
- Being aware of key pieces of information such as how to turn off energy and gas, and important phone numbers to call; and
- Taking pictures of key belongings before they are potentially damaged by flood water, for insurance purposes.

Communities working together for flood resilience is vital, as evidenced by the results of the pathfinder projects outlined in Chapter 2. This is particularly the case when thinking of attached or semi-detached properties, where certain measures (particularly resistance measures) are only impactful if done by connected properties. Pooling human effort in a response to a flood can also help to limit damage where those properties are not occupied at that time. For example, putting up temporary protections or turning off neighbours' electricity.

As well as being vehicles for action, communities are also an important means of encouraging individuals to install physical resilience measures in their home. This could happen through participation in local flood discussion groups or awareness raising activities. This is an important benefit of FPC because, as SMF highlighted, the lack of a social norm relating to the installation of flood resilience remains a significant barrier to further take up.[29]

FPCs provide an opportunity to flag to the occupants of homes where there is an opportunity to engage wider networks or groups that address resilience at a community or social level.

Improving the home buying process

One objection to requiring the display of an FPC at the sale or rental of any property is a fear of its potential impact on the housing market. The Government has set an ambitious target of building 300,000 homes a year by the mid 2020's.[30] A number of things are required to happen in order for this to be a success, one of which is a healthy rate of home transactions in the wider domestic property market, as research shows that greater numbers of property transactions positively correlates with higher rates of homebuilding.[31]

There is some concern among policy makers that requiring sellers to provide lots of information during the home sales process reduces the number of property transactions due to added cost. This was partly the rationale behind the abolition of Home Information Packs (HIPs) in 2010.[32]

EPCs (Box 3) were originally introduced as part of HIPs. However, EPCs were retained following the scrapping of HIPs due to a consideration that a home's energy efficiency is a vital characteristic that any purchaser must properly understand, because of the impact on energy bills. Another reason for their retention is that they are a key element of the Government's strategy around tackling climate change.[33] We would argue that FPCs are similar in both respects. Whether you are likely to be flooded and the severity of that flooding are important contributors to the experience of living in a home, and therefore something that potential purchasers should understand. Furthermore, FPCs are an essential part of the UK's climate change adaptation strategy.

There is evidence that the property sector supports the view that information about flood risk needs to be more visible to potential home purchasers. In a poll conducted by the National Association of Estate Agents (NAEA) of their members, 67% of respondents took the view that displaying better upfront information about flood risk (i.e at the outset of any transaction) is a useful way providing material information for purchasers of homes.[34]

Furthermore, the presentation of better information about flood risk could make the housing market more efficient by improving the number of housing transactions that are completed once an offer has been made. In the second quarter of 2019, about 25% of initiated property transactions did not result in a transfer of ownership. In many cases (23%) this was as a result of information unearthed as part of a survey.[35] In the same survey of estate agents outlined above, 64% felt that displaying flood risk information at the outset of any transaction would help to reduce the number of failures that result from information unearthed by a survey further down the line.[36]

CHAPTER 4

Designing flood performance certificates

For the FPC to deliver the benefits set out in the previous chapter in terms of improving household decision making about property flood resilience, smart decisions need to be made about how the document and surrounding process are designed. There are two elements to FPCs that need to be designed:

- **The survey**. A piece of technical work looking at the physical characteristics of the property and its surroundings which will (in some cases) underpin the risk rating, recommendations, and other information within an FPC. Due to its technical nature, this is primarily not something for the consumption of the householder.
- **The certificate**: The person-facing document that communicates the relevant information in a way that facilitates behaviour change on the part of the householder.

Designing the survey

At a simple level the survey must assess a property's flood risk and identify appropriate options to address this through PFR. Happily, good practice already exists in this space which could be drawn upon. Specifically, we recommend that the content of the survey underpinning FPCs should closely align to the six standards of the COP. This is for the following reasons:

- **The COP has a high degree of alignment with information required for the certificate** – all six standards within the COP provide relevant pieces of information that need to be included in the survey, as set out in table 1.
- **Achieving stakeholder buy in** – the COP already has buy-in and support from many individuals and organisations representative of the sectors that are key to making FPCs a success, including the surveying and engineering sectors, insurers, and environmental professionals.
- **Quality of surveys** – the formulation of the COP has drawn together the collective expertise of sectors and groups of professionals involved in PFR. This provides assurance that, where surveys are carried out in a way which is aligned to the COP, they will represent an accurate assessment of the flood risk of the property and carry recommendations which could meaningfully address this.
- **Leveraging FPCs to promote good practice** – the corollary of the above is that FPCs can be used as a vehicle to deliver greater awareness of, and adherence to, the COP thus improving the quality of work being done in the PFR sector overall.

Exactly how the six standards in the COP are then converted into an FPC survey is a question that will need to be worked through in greater detail as part of any implementation process. As with the developments of the PFR COP, this is something that should be done based on consultation with experts, sector representatives and homeowners to ensure clarity.

Table 1: PFR COP and FPCs

PFR COP Standard	Description	Role in an FPC
Assessment of flooding likelihood and severity	An assessment which summarises the available information to identify the likelihood and severity of different types of flooding.	Feeds into the A to D risk rating of the property.
Property survey	An assessment of the resilience of the property in order to inform the PFR plan.	
Options development	Produces options for achieving PFR in the specific property – completing the PFR plan.	Feeds into the list of recommendations.
Construction	Ensures that any construction works done conform to the PFR plan.	Where resilience measures are recommended/have been previously installed, these will be relevant to the overall risk rating of the property and any additional recommendations.
Commissioning and handover	Ensures that PFR measures operate effectively and the building owner has any relevant information pertaining to those installations.	
Operation and maintenance	Ensures that any installed PFR work is properly operated and maintained.	

Designing the Certificate

As discussed, the certificate itself is a means of changing occupant behaviour in the direction of more flood resilient practices. Its design should therefore be maximised to this end.

Doing so will require significant testing and support from behavioural scientists, given the nature of the barriers to action on property flood risk. However, to start that process, we have developed a straw man of the sorts of things that are likely to need to be considered in the design of FPCs:

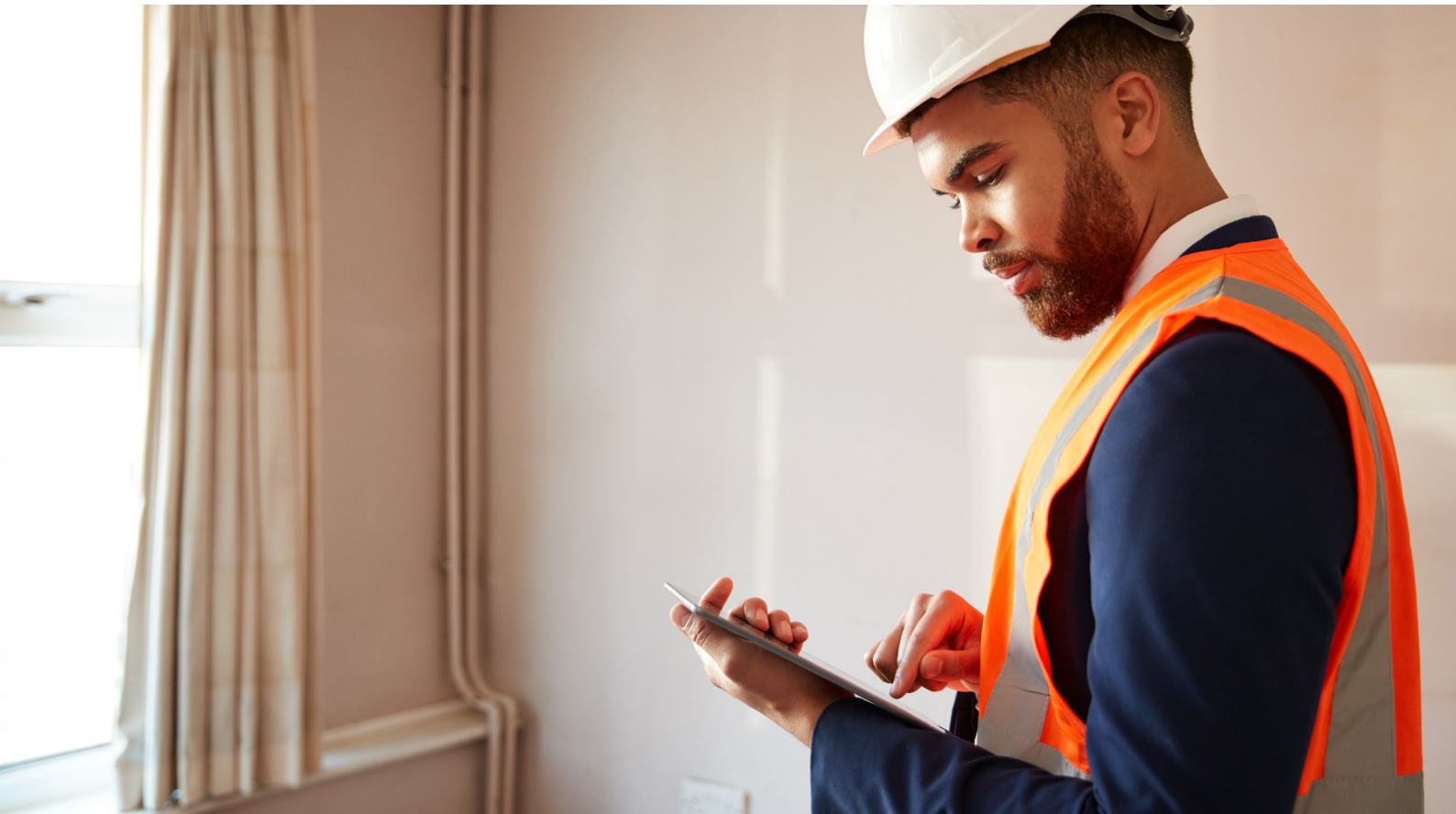
- **The actual barriers to PFR** – the FPC needs to include the information that will help households to overcome the specific barriers identified by SMF that arise as part of the decision making process around PFR, so that they can take action to address their flood risk.
- **Clear and timely information** – the FPC is first and foremost a means of influencing behaviour change on the part of occupants in the building, and so the information within needs to be communicated at a time and in manner which is conducive to creating awareness and converting that into action.
- **Linking in with other market levers** – such as insurance, e.g. it should recommend resilience measures that are most likely to bring down insurance costs and therefore premiums. For example, FPCs should display an estimate for the amount of time the occupants of a house would have to spend in alternative accommodation should a flood occur because that is a major contributor to the size of a claim on a home insurance policy
- **The wider context about the home sales sector** – due to wider policy considerations about the housing market, there is a current drive by government and the housing sector to look to streamline the process of buying a home. As a result, the data points to be included in an FPC should be kept to a minimum.

Recommendation

The contents of the FPC itself ought to remain as simple as possible. They should clearly state:

- **A simple risk rating of the property** – for example, an A to D rating, which reflects both the likelihood of flooding and the potential impact if a flood did happen.
- **An indication of the impact of flooding on the person** – for example the time someone could spend outside their home if their property were flooded. This could challenge people's understanding of the impact that a flood could have on them.
- **A set of recommendations** – these should include some indicative costs for installation, as well as a sense of the scale of improvement that could be achieved. For example, this could be expressed by how the resilience measure impacts the risk of water entering the property if a flood were to happen, or a reduction in the amount of time it would take to dry out and repair the property.
    - A calculator developed by JBA Consulting and DEFRA provides a series of recommendations for implementing flood risk protection to a property, alongside ranges of indicative costs, based on some basic information about the property.[39] This could be built upon in designing how the FPC should frame its recommendations.
- **A list of any existing measures** – and an assessment of their state of effectiveness, plus info on operation and maintenance.
- **Signposts to social and community resilience** – details should be included regarding where there are local groups, forums, or plans which provide opportunities for community-based resilience.

As is set out as part of the implementation plan under Chapter 6, there will need to be a significant period of piloting and testing of an iterative FPC design with individuals and communities before a final format is determined. This could involve holding focus groups and one-on-one interviews with consumers in order to test aspects of the certificate such as its length, the salience of the A to D rating, whether the language used within the document is too technical, and its overall 'look and feel'.



CHAPTER 5

Implementing flood performance certificates

A perfectly designed certificate would not be sufficient to successfully deliver an increase in take-up of flood resilience and resistance measures that is needed in the UK. A range of further issues need to be addressed if FPCs are to have a significant impact on reducing flood risk and lowering the cost of providing insurance. Some of the key success criteria that we have identified for implementing FPCs are:

- **Gaining consumer trust** – FPCs as a policy intervention will live or die on whether consumers trust their property flood risk assessment and the recommendations to address the risk. Absent this trust, it is not likely that the recommendations of an FPC will be acted upon, and people will not consider FPC ratings at crucial junctures, such as when purchasing or renting a property.
- **Achieving stakeholder buy-in** – a range of industries and professionals are key to making FPCs a success including insurers, estate agents, loss adjusters and surveyors. The contents of an FPC, including its rating and recommendations, must carry the confidence of those stakeholders if their interactions are to yield positive results.
- **Accurate guidance** – the recommendations within an FPC need to provide reliable guidance for addressing the flood risk for the property in question. This is crucial as there is no single identifiable set of measures that can be recommended for all properties at risk of flooding, and therefore inaccurate recommendations carry a significant risk of not actually improving the property's flood risk profile.
- **Broad take up** – enough households need to make use of FPCs for the policy to have a meaningful impact on overall levels of flood risk, and also to properly address the issues of households being blighted as a consequence of flooding.
- **Supply of assessors** – there must be a sufficient pipeline of adequately trained surveyors to carry out the required number off FPC assessments.

Designing an effective framework which successfully delivers on these criteria requires significant policy decisions across three areas:

1. **Driving adoption of FPCs** – how to ensure that the demand and supply of FPCs is enough for take up to be widespread.
2. **Regulation and Quality** – consideration will need to be given to a process through which the surveying process itself, and repairs that take place as a consequence of recommendations, are regulated to ensure quality standards are met.
3. **Funding** – who pays for FPCs and the implementation of the recommendations?

These areas have all been explored in detail as part of our research, and our analysis of each is set out in this chapter. In each area, a recommendation is given. However, some further piloting, consultation and consideration is likely to be required to successfully implement FPCs.

Driving take up of FPCs

Transitioning to an affordable risk-reflective market in 2039 will require a substantial change in the risk profile of large parts of the UK's housing stock. This is a huge ask, and while it is right to use the time and space created by Flood Re's existence to take an incremental approach, it is important not to forget that the overall objective is ambitious and effective solutions will be similarly ambitious.

Take up of FPCs must be maximised to ensure the largest possible impact on overall levels of installation of household flood resilience. There are a range of ways in which take up could be encouraged, that broadly fall into three categories:

- Voluntary/incentive based – relying on cash incentives or improved awareness to encourage take up of FPCs.
- Part mandation – legally requiring FPCs to be in place for some pre-determined group of high-risk properties, for example, Flood Re-ceded properties or those determined to be at risk by the EA.
- Full mandation – legally requiring all properties to have an FPC in place.

These different proposals are examined below

Voluntary or incentive based

This approach can be rejected at a relatively basic level of analysis. As discussed earlier, the relevant literature shows us that voluntary take up of household PFR is low for even those properties that have been flooded in the past. There is little reason to believe that households would be any more likely to commission, and possibly fund, an FPC survey and then take action to implement its recommendations. Furthermore, financial support and incentives alone have been found lacking when it comes to altering behavior in this space.[40]

There is a further reason why a voluntary approach is unsuitable for this particular policy, which is to do with the challenge of blight. As discussed above, individual householders fear that their properties could be blighted if they put in place PFR work, on the grounds that it is an outward signal of their flood risk. It seems very likely that this will transfer across to putting in place an FPC which clearly sets out their flood risk at property level. This means if left as a voluntary scheme, take up is likely to be limited in the very areas where FPCs would have the most impact.

Part mandation

Another option could be to only mandate the display of an FPC for all homes (or a subset of them) that are currently at high risk of flooding. From the perspective of managing the money and resources associated with implementing FPCs this is a potentially attractive proposition.

However, one of the primary issues with this approach is the shifting nature of flood risk in the UK. In this respect, the Environment Agency has rightly suggested that flood risk is an area in which we ought to 'prepare for the worst' – as climate change could significantly worsen the flood risk profile of the country. Significant levels of adaptation may be required even if temperature rises are kept to 1.5°C,[41] and of a 4°C rise has the potential for very drastic changes needed in certain communities.[42] This means that the group of properties mandated to hold and display FPCs would likely need to change regularly as flood risk increases and our understanding of flood risk shifs. This would be costly and confusing for consumers.

While we would reject part mandation based on the analysis above, there is clearly more urgency for addressing the flood risk of certain properties and a need to prioritise. We endeavor to take this into account as part our decisions about the rollout of FPCs.

Full Mandation

In order to futureproof FPCs to the UK's changing flood risk profile, we propose that the display of an FPC should be mandated on the sale or rental of any domestic property in the UK, regardless of its flood risk. There are a number of reasons to mandate FPCs for all properties:

- **Addressing blight is best, and most fairly, achieved in the context of the broadest possible take up of FPCs** - it reduces the extent to which flood risk is seen as something which isolates certain communities, and in fact something experienced by a range of properties to varying and ever-shifting degrees.
- **Full take up of FPCs will be more likely to improve norms around ownership of flood risk** – if FPCs are simply more widespread and prominent then it is more likely to help change attitudes around ownership of flood risk than if they are only present for a subset of properties.
- **Builds greater familiarity with broader stakeholders** – similar to the above, 100% take up is an effective way of ensuring the greatest possible level of familiarity with FPCs with insurers, loss adjusters, estate agents, and others who are crucial to making the policy a success.
- **Signaling demand for surveys** – making a clear statement that there will be high levels of demand for FPCs in the future, but with a long lead-in period before this is in place, is a good way of ensuring that a sufficient number of surveyors carry out the required training.

Who needs a survey?

Many homes will not need a physical survey. From discussions with those familiar with the development of the PFR COP we know that there is likely to be a non-trivial cost attached to funding these kinds of surveys for a home, likely to run into the hundreds of pounds. This cost might be lower for homes that don't require resilience measures, or for which there are no existing resilience measures installed. Nevertheless, there is obviously an opportunity cost to paying for surveys, regardless of whether this is funded publicly, privately or through a combination of the two. This presents a clear challenge with the recommendation for full mandation of FPCs, outlined above.

Furthermore, most homes in the UK are presently in areas that are at a negligible risk of flooding. For those homes, a physical survey of the property and its surroundings seems disproportionate, and any requirement for homeowners to pay for one could result in a consumer backlash. Publicly available data, such as through the EA, should be sufficient to determine that many properties are not currently at risk and require little or nothing in the way of resilience measures.

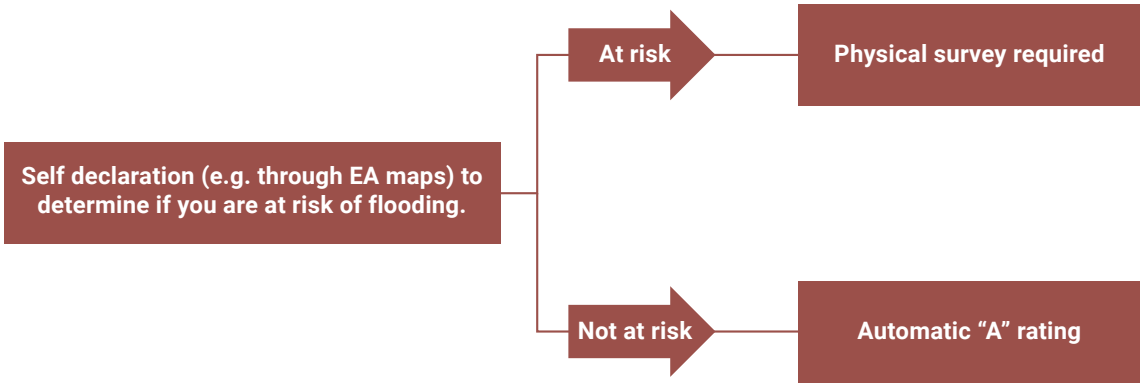
In light of the above, we believe that a simple triage system should be used to determine which properties require a physical survey. Any individual could confirm that their property is not at flood risk according to the EA's data, forego the need for a survey, and receive an automatic 'A' rating for their FPC, with limited or no recommendations and at zero cost to them. This could be done through an online portal, such as EA's current system for checking flood risk.[43] Similar systems could be developed for Wales, Scotland and Northern Ireland through data from Natural Resources Wales, the Scottish Environment Protection Agency (SEPA), and Flood Maps NI respectively.

There are some limitations to this proposition, in that some of the available public data contains gaps around flood risk. We are aware of gaps relating to:

- **Ground water flooding** – we know that the EA data has only a limited capacity to tell us which areas are vulnerable to groundwater flooding, though we understand this to be improving.
- **Flood risk from blocked drains and burst pipes** – also not known from EA mapping.
- **Installation of flood defences** – surveyors have suggested that current EA maps do not always consider where flood defences have significantly reduced levels of flood risk in those areas. We understand this is something that is also being improved by EA.

Further work would likely need to be undertaken to identify what could be done to either improve the publicly available data on flood risk through EA and other bodies in devolved nations, or to identify other sources of information and data to complement these. We understand that existing work in this space is being undertaken by EA, which could be built upon. Furthermore, the development of Drainage and Wastewater Management Plans (DWMP) could improve knowledge sharing across institutions in relation to surface water flooding. This could support the development of a common dataset about various kinds of flood risk in different parts of the country.

Figure 3: Triage model for determining flood risk



Accompanying the message that an individual's property is 'at risk' and requires a physical survey, an individual could be shown some basic information about their flood risk, such as their local flood map, and some high-level advice about how to deal with a flood.

One interesting model for self-assessment of flood risk has been developed by the Intact Centre on Climate Adaptation at the University of Waterloo. This tool works through an online questionnaire which offers advice on flood resilience based on self-reported facts about someone's home.[44] This is an interesting model which may merit further exploration as part of designing the interface for the online portal.

Regulation and Quality

The widespread concern about the market for PFR and flood risk surveys suggests that the existing system of largely self-regulation is not effective. While some professional and representative bodies have excellent processes in place for ensuring that their members are carrying out work of a sufficient quality and that consumers can secure redress for poor work, these are ultimately voluntary membership organisations and cannot ensure that all individual professionals in the sector will adhere to their preferred approach.

Statutory regulation is not necessarily a better approach if the processes and levels of oversight are insufficiently robust, as is borne out by the example of EPCs. Any individual carrying out a domestic energy assessment to underpin an EPC is legally required to be accredited by a government approved accreditation Scheme, which must fulfil a set of Scheme Operating Requirements.[45] The Ministry of Housing Communities and Local Government (MHCLG) maintains a register of domestic energy assessors who meet this standard.[46]

However, a number of issues have been highlighted in terms of how accurate these assessments are in practice. As mentioned earlier, a mystery shopping exercise carried out in 2014 found that multiple separate energy assessments would vary across at least two EPC ratings in at least a third of all cases.[47] Members of the UK Green Building Council have also highlighted inconsistencies for aspects as basic as "room measurements, depth of insulation, wall type etc".[48]

In examining the oversight system for domestic energy assessments, and EPC regulation more broadly, a number of issues have been highlighted by consumer and industry representative groups.

- **There are multiple certification bodies but little information sharing between them** – this leads to scope for rogue assessors who are struck off from one body to register with a new one and then continue assessing.[49]
- **Limited powers are available to certification bodies in relation to rogue assessors** – they are able to strike off an assessor for defective certificates or refusing to comply with audits but cannot reliably enforce redress for consumers.[50]
- **Data from assessments are unavailable to the consumer/subsequent assessors** – the fact that homeowners are not able to provide the underlying assessment data from previous surveys to subsequent assessors leads to reduced opportunity for scrutiny of assessments, as well as potentially driving greater inconsistency.[51]
- **Long validity period for certificates** – an EPC is valid for 10 years, which some have suggested leads to the information becoming out of date and inaccurate. When changes are made to a building, even ones which could change the EPC grade, there is no requirement to update the EPC.[52]
- **Competition between certification bodies** – the competition to get assessors to sign up for your scheme creates downward pressure on the cost of subscription and compliance burden, which in turn has been regarded as impacting the quality of assessments being carried out.[53]
- **Desk based nature of audits** – the audits carried out by certification bodies are typically desk based,

which means that it is difficult to assess the veracity of certain aspects of the assessment. As a result, there are some elements of the assessment that can be hard to fully scrutinise, for example where there is no photograph of the part of the dwelling being assessed.[54]

Royal Institution of Chartered Surveyors

The Royal Institution of Chartered Surveyors (RICS) is the world's leading professional body for qualifications and standards in land, property, infrastructure and construction.

Both individuals and firms can be members of RICS. It acts partly as a body which imposes standards on its members, and partly one which advocates on their behalf. Its quasi-regulatory role takes various forms:

- It provides a whole range of guidance/standards for its members in relation to things such as conflicts of interest, outsourcing, anti-money laundering, culture and ethics etc.
- There are a set of qualifications, which are internationally trusted, that denote an individual's ability to carry out a survey of a specific type and quality.
- It has a mandatory Rules of Conduct for all firms/professionals which it regulates. Crucially, the rules for *firms* require that "a Firm shall operate a complaints-handling procedure and maintain a complaints log. The complaints-handling procedure must include an Alternative Dispute Resolution (ADR) mechanism that is approved by the Regulatory Board." However, this is only for RICS regulated firms.
- RICS will also handle complaints to it directly and investigate those that fall foul of its rules. RICS itself cannot impose damages or compensation, it can only revoke accreditation of those that fall foul of its rules.
- Membership of RICS is non-mandatory but it is a strong brand. If you carry out an internet search for a home survey, most of the adverts are for "RICS accredited surveyors". However, it is unclear how many of those surveyors are members of firms which are RICS accredited, or simply independent RICS accredited surveyors.

These represent significant gaps in the mechanisms that should provide oversight and assurance of the quality of EPCs for consumers. In deciding how to approach the regulation of surveys for FPCs, it is worth acknowledging that there is sometimes a tradeoff between having robust systems and regulation in place, and the cost of the end product for consumers. For example, requiring accreditation bodies to do more physical checks of assessments as opposed to desk-based research would add to their costs. This cost would likely be passed onto the assessor in the form of higher fees, which in turn would likely be passed on to the consumer in the form of more expensive EPCs.

However, as has previously been set out, assurance for homeowners about the appropriateness of recommendations is crucial. If it becomes clear to homeowners that FPCs and their recommendations are unreliable, then this has the potential to undermine the successful delivery of the policy. Furthermore, FPCs – particularly their ratings - will also need to carry the confidence of insurers, estate agents, flood risk professionals and a whole range of others vital for their success.

Given that this is the case, FPCs can only have a meaningful impact with a robust framework in place to support their quality and accuracy. As a result, in forming recommendations about a regulatory framework, we feel it is right to prioritise assurance of quality, over cost. Furthermore, in many circumstances the actual cost of getting the FPC survey done is likely to be subsumed into the wide range of other costs involved in selling a home.

Therefore, we take the view that, at a minimum:

- All surveyors for both the pilot stages and full rollout will need to be registered with, and receive training from, an accreditation scheme which approves and subsequently audits individuals on the grounds that they are able to carry out surveys in line with the PFR COP. The funding for an accreditation scheme should come in the form of subscription fees paid by surveyors to be able to carry out FPC surveys.
- There will also need to be a means of striking off bad surveyors and ensuring that consumers have access to redress through Alternative Dispute Resolution (ADR) where poor work has been carried out.
- A reasonable proportion of the audits done must involve a follow up physical survey which confirms the rating and recommendations of the FPC survey.
- An FPC presented upon sale or rental of a property must not be more than five years old as opposed to the 10-year requirement in EPCs.
- In addition to the FPC, the entire contents of the survey must be available to the homeowner in order to provide some frame of reference for consistency in future surveys. This information will also be useful for the homeowner in commissioning further resistance and resilience work for the property.

Two options for regulation

Recognising the analysis that we have set out above, there are two potential options for the overall regulatory structure of FPC surveys. These are:

- **Multiple registration bodies** – this system would be akin to an improved version of the EPC system. A series of accreditation schemes for FPC surveyors would be allowed, overseen by a responsible body which would audit each accreditation scheme.
- **Single registration body** – all surveyors would need to be registered, accredited through, and audited by a single body. This is similar to how gas engineers are overseen through the Gas Safe Register.[56]

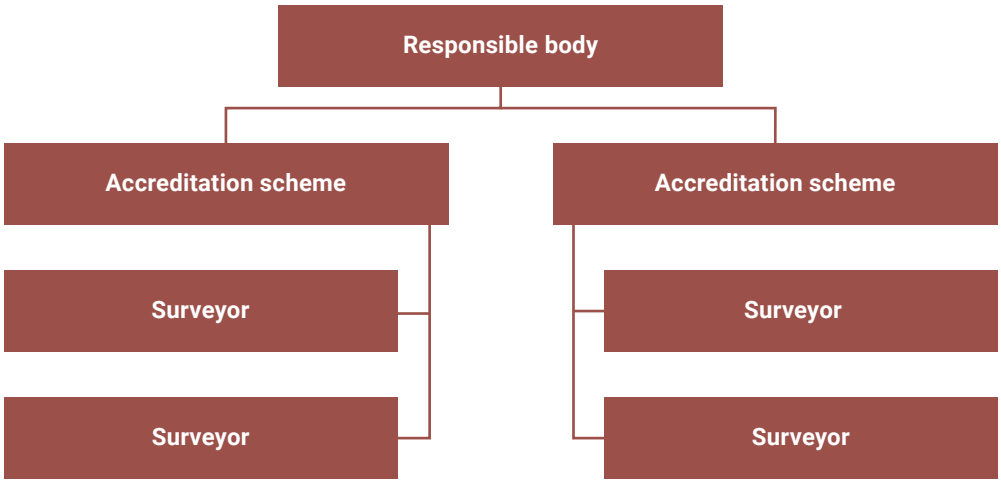
Currently, we view these as both potentially viable and carrying different strengths and weaknesses, outlined below. On balance, we believe that a regulatory structure with a single registration body is likely be most effective.

Multiple registration bodies

For this system, a series of schemes would be available through which surveyors could register to be approved to carry out FPC surveys. Each of these schemes would then be overseen by a central body which ensured these schemes were carrying out their duties in terms of applying sufficient scrutiny to surveyors. These schemes are likely to be run by bodies whose memberships make up those professionals most likely to carry out FPC surveys, such as RICS and CIWEM.

This would have the benefit of providing a certain degree of simplicity for practitioners as it would allow them to continue to work directly with whichever professional body they currently use. It would also be likely to make it easier and quicker for surveyors to become accredited and, as such, would make it easier to scale up the number of accredited surveyors to the required level. Furthermore, it would mean that the system is better able to draw upon the substantial existing networks of expertise that have been built up in professional standards and regulation in this space.

Figure 4: Multiple registration bodies



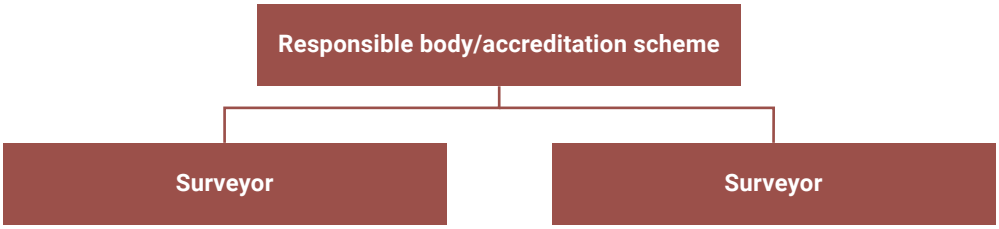
There are, however, a number of issues that we have identified with this model. One is that it leads to the possibility of accreditation scheme 'hopping' where surveyors who are struck off by one scheme could simply join another and continue carrying out surveys. Furthermore, one of the primary issues identified with EPCs is competition between the different schemes creating a 'race to the bottom' in terms of cost and compliance.

While the otherwise robust framework we are proposing is likely to mitigate these risks, they are more prevalent within a multiple registration bodies model than having a single registration body. Given the vital importance of consumer and stakeholder confidence in the accuracy of FPCs, we consider this to be a significant flaw for this model.

Single registration body

Another potential option for regulation is to have a single registration body – in line with Gas Safe for gas businesses and engineers.

Figure 5: Single registration body



There are several benefits to having a single body:

- **Eliminates fragmentation involved in regulatory process** – allows for a single source of data for FPCs and their surveys, prevents accreditation system 'hopping'.
- **Allows for a single robust process** – eliminates the potential for a race to the bottom between schemes.
- **A single strong brand** – allows for overall regulation of FPC surveyors to take place through a single recognisable brand, which may create greater potential to increase awareness of the project among consumers.

It is worth noting that the 2006 review of Domestic Gas Safety commissioned by the Health and Safety Executive left open the possibility of moving to a system of multiple registration bodies,[55] however the Government ultimately decided to keep a single body in the form of Gas Safe.

As above, we think the strength of this model lies in the potential for it to be substantially more robust than the approach for multiple bodies. It could also be designed to deliver many of the same benefits of the scheme with multiple registration bodies. For example, other professional bodies (e.g. RICS, CIWEM) could be licensed to deliver any required training schemes. This would make it easier for their existing members to access the required training, whilst retaining a single registration body and set of standards.

The primary drawback for a single body is the potential cost and complexity of building a new organisation, and the limited ability to draw upon existing professional groups and networks to administer the system. One potential way of mitigating against these drawbacks is to appoint one of the existing bodies in the broader PFR ecosystem to administer the single registration scheme on the Government's behalf.

What FPCs cost and who pays?

An FPC results in two potential costs:

1. The survey – there will be a non-trivial cost for whoever is having a survey (if required) to underpin the FPC.
2. Recommendations – for households at significant risk, packages of PFR measures are likely to be recommended by an FPC, and these can involve a significant cost.

Paying for the survey

Around one in six households are likely to be deemed at flood risk during the initial triage stage, whether this is through the Environment Agency data or that of an equivalent body for the other three nations of the UK, and therefore in need of a survey to underpin their FPC.

Given the robust processes and skills we are recommending for carrying out the surveys in line with the PFR COP, we expect the actual survey to come at a cost running into the hundreds of pounds. This is likely to vary based on several things, not least whether there are existing PFR measures in a property that will need to be examined by the surveyor.

In most cases, the costs of the survey itself will need to be met by the householder or landlord, absent a clear political decision by Government to introduce a specific grant or subsidy to certain groups. The potential exception here is in the early stages of the FPC rollout (see below) when a survey is mandated at the point of claim for Flood Re-ceded properties. In these circumstances, we think it seems reasonable that the survey could be funded in the future as part of money available through Flood Re's proposed 'Build Back Better' scheme or reimbursed through a discounted premium.

Paying to take on FPC recommendations

As outlined in Chapter 2 there are a range of government funding streams that could be available for the installation of PFR – particularly in terms of resilient repair, and these could link directly to implementing the recommendations within an FPC. Decisions would be taken by specific governments as to what is an appropriate level of subsidy for the recommendations in an FPC and, as is the case today, these are likely to vary depending on the area of the UK an individual lives in.

We believe that the roll-out of FPCs would provide an opportune moment for the UK Government to assess the best possible way in which it could financially support the take up of flood resilience measures for at-risk properties. In particular, we believe that it should consider the potential benefits of a long-term scheme like the one currently running in Northern Ireland.

As above – the proposed Build Back Better scheme also has the clear potential to provide another funding stream for resilient repair by providing up £10,000 for work over and above restoring the property to its state prior to a flood.

Minimum standards

There are limits to delivering public policy outcomes solely through changing behaviour. In some circumstances, this is because the individual being encouraged to carry out a positive behaviour and the person benefiting from it are two different people. The Government identified an issue of this kind for energy efficiency in the private rented sector, and so sought to introduce minimum standards for EPCs in these types of properties. This is outlined further in the below.

In theory one could propose a minimum standards model for FPCs in the private rented sector, where, for example, a property could not be let out unless it is a C rating for flood risk or above. As with EPCs, there could be a cost ceiling applied in order to prevent the cost burden for landlords to be too high.

In considering whether to impose minimum standards for FPCs, several things that need to be explored:

- **The differences between energy efficiency and flood resilience** – given the greater risk of serious damage to their property, a landlord probably has a bigger incentive to address flood risk to their property than they do poor energy efficiency. This potentially means there is less imperative for an interventionist approach.
- **The need for FPCs to be embedded** – Minimum standards were only introduced after EPCs had been in place in the UK for about 12 years. During this period, EPCs were completely redrafted, and have grown to be much better understood by the public. This makes EPCs better candidates for the imposition of minimum standards than if their implementation were more recent.
- **The cost burden on landlords** – additional costs imposed on landlords need to be proportionate to the benefit they would deliver, as these would likely be passed on to tenants in the form of higher rents.

The best approach in this space is to monitor any emerging issues that arise following the implementation of FPCs which suggest a need to introduce minimum standards. This could involve monitoring data from FPCs to identify if take up of property flood resilience is happening more slowly in the private rented sector.

EPCs in the private rented sector

The building stock that makes up the private rented sector has poor levels of energy efficiency relative to other types of domestic property, such as social housing. This is despite the display of EPCs being compulsory upon the letting or sale of any property. One issue in the private rented sector is that those who would necessarily pay for any improvements to the energy efficiency of properties (landlords) are not those who would largely benefit in the form of lower energy bills and improved health (tenants). Therefore, landlords have less incentive to take up the recommendations of an EPC than an owner occupier would.

As a consequence of this disconnect, Minimum Energy Efficiency Standards (MEES) were introduced for EPCs the private rented sector. As of April 2019, properties cannot be let if their EPC rating is lower than an E, subject to a cost cap of £3,500 for changes to the property.

Source: Energy Saving Trust[57]

Timeline for rollout of FPCs

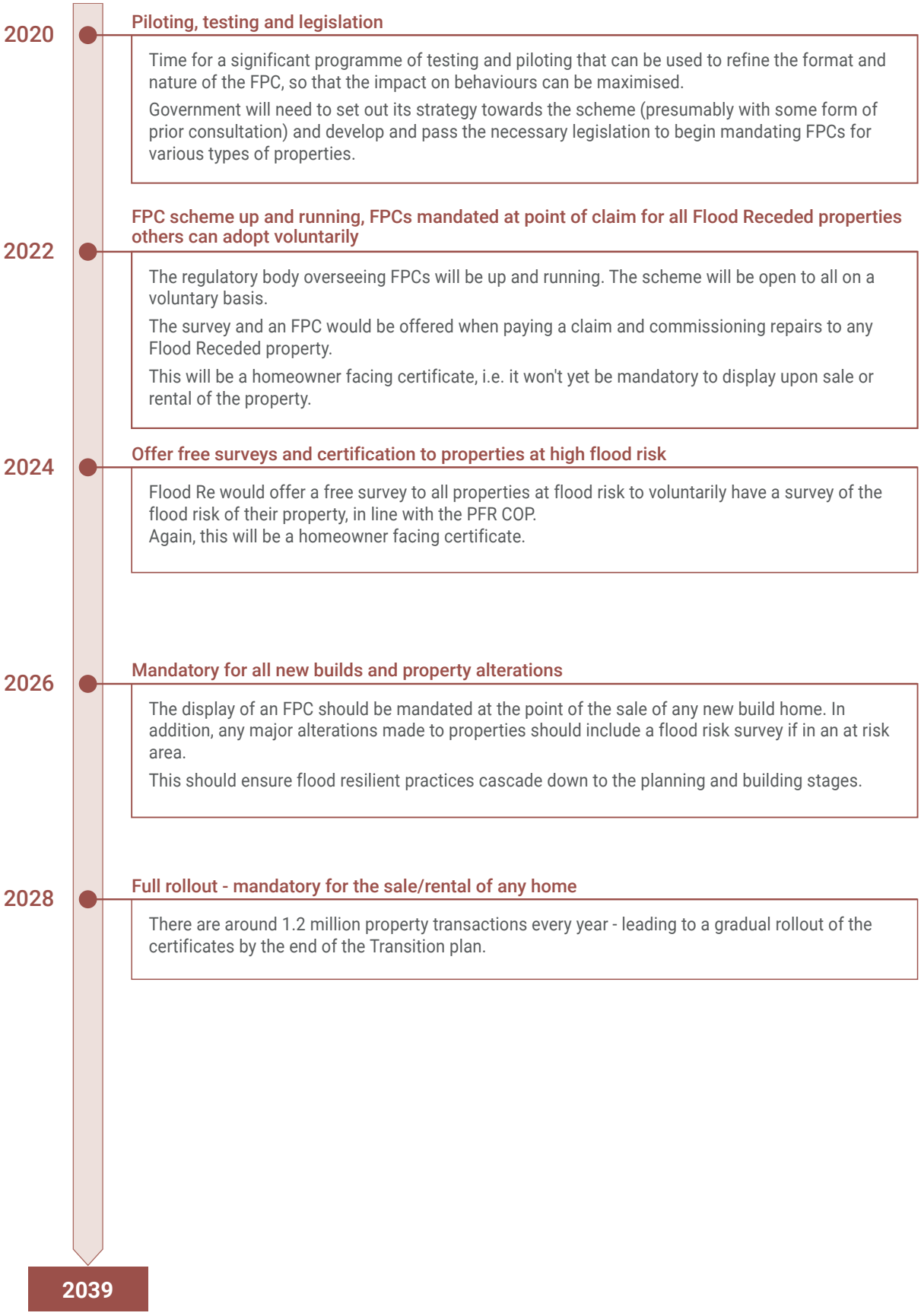
We have worked with stakeholders involved in exploring the feasibility of FPCs to scope out a roadmap to full take up, which can be found on the following page.

This timeline is only indicative – it allows several years for legislation to be put in place and for piloting and testing of the certificate design. If there was a desire to expedite the implementation of FPCs by collapsing some of the earlier stages, then this could be possible. The timescale below allows ample time:

- For the Government to develop its strategy and pass the legislation required to mandate FPCs;
- For the body needed to regulate and scrutinise surveyors (see section below), to be established; and
- For the surveying sector to go through the necessary training and upskilling to carry out the survey.

In addition, the rollout plan as set out above means that the highest risk households are prioritised and provided with maximum support at the front end of the timeline.

Figure 6: Roadmap to full rollout of FPC



CHAPTER 6

Policy recommendations

Background

This report has set out in some detail the case for FPCs and how these fit into the broader property flood resilience landscape. It also makes a series of recommendations about the design and implementation of FPCs, based on previous work in this space, extensive engagement with relevant stakeholders, and our own analysis. These are set out below.

This report is not an exhaustive exploration of every issue requiring consideration at the level of detail that would be required to immediately move forward with introducing and mandating FPCs. Where relevant, we have highlighted actions for various sector stakeholders which are necessary to pave the way for the implementation of FPCs.

Overall

1. A system of Flood Performance Certificates for homes should be introduced in order to improve levels of household flood resilience across the UK. FPCs would improve take up of PFR by:
    a. Providing relevant and actionable information that creates a roadmap to household flood resilience
    b. Reversing incentive structures and addressing the challenge of blight
    c. Potentially providing a benchmark for other levers that encourage PFR, such as grants and insurance.
    d. Encouraging non-physical household and community resilience
2. **The Government should take responsibility for working with the sector and full range of stakeholders to develop a detailed design of an approach to FPCs**. This should build on the blueprint outlined in this report. It is likely that this will need consultation and subsequent legislation to be passed and we expect that an initial scheme could be opened in 2022, with a roll-out that begins in earnest after 2025.

Designing FPCs

While FPCs should be universal, **only households at significant flood risk should be required to have a physical survey** to inform the risk rating and the recommendations.

3. Publicly available data, such as that of the Environment Agency should determine which households require a survey. We are aware of some shortcomings for this data for certain types of flooding and recommend that this explored by the Environment Agency and relevant agencies for the devolved administrations, possibly as part of the DEFRA resilience roundtables.
4. The contents of the survey should be drawn as closely as possible from the **six standards of the Property Flood Resilience Code of Practice** developed as part of the DEFRA resilience roundtables. This represents the best in terms of the institutional knowledge of the sector and carries legitimacy among important groups.

5. Exactly how the six standards are translated in the design of a survey underpinning the FPC requires some more detailed scoping work. An appropriate home for this is the DEFRA roundtables, which developed the COP in the first place and has links into the appropriate networks of expertise.

6. The design of the certificate itself should be kept relatively simple, and should include:

    a. **A simple risk rating of the property** – for example, an A to D rating, which reflects both the likelihood of flooding and the potential impact if a flood did happen.

    b. **An indication of the impact of flooding on the person** – for example the time someone could spend outside their home if their property were flooded – this could challenge people's understanding of the impact that a flood could have on them.

    c. **A set of recommendations** – these should include some indicative costs for installation, as well as a sense of the scale of improvement that could be achieved. This could be expressed by how the resilience measure impacts the length of time someone could spend outside of their home if their house is flooded.

    d. **A list of any existing measures** – and an assessment of their state of effectiveness, plus information on operation and maintenance.

    e. **Signposts to social and community resilience** – details should be included regarding where there are local groups, forums, or plans which provide opportunities for community-based resilience.

7. **Piloting of the design and content of the survey** would need to be conducted to optimise its propensity to positively impact householder and home purchaser behaviour. This should be taken forward with the help of behavioural science experts.

Implementing FPCs

8. Take up of FPCs should be achieved through a phased approach over several years culminating in the **mandation of the display of an FPC upon the sale or rental of any domestic property** in the UK. This would ultimately require underpinning by primary legislation.

9. The first two stages of the implementation process involve surveys taking place at the point of claim for ceded properties, and for Flood Re to offer surveys to at-risk properties. **We welcome Flood Re's views on this approach and proposals for how this could be delivered**.

10. There should be a **robust overall framework for the regulation of FPCs** taking into account the lessons of the EPC model, which has been roundly criticised for being unreliable. This should include that all surveyors are registered to an accreditation scheme which approves and subsequently audits individuals on the grounds that they are able to carry out surveys in line with the PFR COP.

11. While there are benefits to having multiple registration bodies through which individuals could be approved to carry out FPC surveys, on balance the best model would be to have a **single registration body**. This has the potential to allow for the most robust system of oversight of FPC surveyors by minimising fragmentation within the regulatory framework.

12. We recommend that government explore how it could appoint a partner with expertise in the broader property flood resilience ecosystem to deliver the single registration body. The rollout of the PFR COP provides an opportunity to identify an appropriate partner, as many of the bodies that could potentially fulfil this role are engaged in this process.

13. By and large, landlords and those selling their property will have to fund surveys underpinning an FPC if one is required. However, there is a political decision to be made about means tested support for certain households.

14. The recommendations within an FPC will be paid for through a **multitude of sources**, such as Government grants, which vary in scope depending on which part of the UK someone lives in, and potentially Flood Re's proposed Build Back Better programme.

15. The roll-out of FPCs would also provide an opportune moment for the UK Government to reassess the best possible way in which it could financially support the take-up of flood resilience measures for at-risk properties. In particular, we believe that it should consider the potential benefits of a long-term scheme like the one currently running in Northern Ireland.

16. Government should **monitor any emerging issues that arise following the implementation of FPCs which suggest a need to introduce minimum standards** for the private rented sector. This could involve monitoring data from FPCs to identify if take up of property flood resilience is happening more slowly in the private rented sector.

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