

## Environment Agency

### Draft National Flood and Coastal Erosion Risk Management Strategy for England

1. CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector. The Institution provides independent commentary on a wide range of issues related to water and environmental management, environmental resilience and sustainable development.
2. We welcome the opportunity to respond to this consultation. This response has been compiled with the assistance of our members, who are expert practitioners in the field.

#### Response to consultation questions

##### **Q1. To what extent do you agree with the vision: A nation ready for, and resilient to, flooding and coastal change - today, tomorrow and to the year 2100?**

We are strongly supportive of the vision and of the thrust of strategy as a whole. We consider that the extensive engagement process undertaken prior to publication of the draft has resulted in what is, broadly, a very well-considered strategy. It is reassuring to note that the strategy identifies that it is not possible to better protect everywhere, all the time, and that this will get harder in the future.

There is perhaps an additional dimension to the vision which needs to be more clearly expressed (we think this probably comes under the umbrella of the term "ready for") around before people are resilient they need to be aware, and accepting of, climate change and the *need* to be resilient.

We question whether 2100 creates an arbitrary yet hard cut-off, beyond which we do not need to consider? Given the timescales over which adaptation will need to be delivered (particularly where this is significant change), 2100 could quickly become a relatively short time horizon. Whilst it makes complete sense to plan to 2100, given that much major infrastructure commonly lasts over 100 years, visioning should arguably go beyond 2100. Thus, we suggest the vision should be "...today, tomorrow and *beyond the year 2100*".

Some of our members have also expressed concern around the apparent acceptance that properties will continue to be built on floodplains and have questioned whether in doing so we are introducing new people and properties to current or future risk. It is accepted that growth in towns in low lying areas such as Eastern England cannot be reasonably avoided, however, in areas such as the Humber, should we be permitting developments in small settlements when higher ground is proximal that is significantly less vulnerable? We consider

that there is an important distinction to be drawn between the appropriateness of facilitating regeneration in the floodplain and new development which is creating growth and expansion of development in such areas.

The strategy is heavy on influencing local RMA's and communities but would be helpful to have more information on how the EA are going to drive this forward nationally as well as delivering its own operational role to a very high standard setting an example to others. The EA are in an ideal position, with having a strategic overview, to be able influence government and national organisations to achieve and objectives and measures.

However, a concern commonly expressed by our members relates to the resourcing of the EA itself, as well as other RMA's (and wider bodies). This is particularly strongly expressed in the context of lead local flood authority (as well as local planning authority) resource challenges. Quite simply, in order to deliver this strategy, there will need to be an increase in capacity to enable all RMA's to discharge their responsibilities adequately to meet future challenges.

The emphasis on the EA could potentially have a detrimental effect on the ownership and delivery of the strategy by other RMA's. The latter paragraphs of this section outline it is a consultation by the EA; however, all RMA's contributed to the draft strategy's development and we suggest it would be beneficial for there to be a stronger narrative of co-production and co-ownership of the strategy between all RMA's and other FCERM stakeholders. Advanced sight of the proposed action plan, which will be launched with the final version of the strategy, would have potentially helped understanding of this question.

The strategy does not describe the level of resources that RMA's will require to enable effective delivery of the objectives. Given the historic and ongoing reduction in real terms of FCERM funding for LLFA's and the EA, the lack of commitment to provide adequate resources undermines the achievable and realistic ambition of the strategy's objectives.

## **Q2. To what extent do you agree with the Environment Agency's proposed strategic overview role as set out in the chapter 'setting the context for the draft strategy'?**

Figure 2 in this section only shows flood risk examples. Overall, the document manages to maintain parity of flood and coastal erosion/change in discussions, but Figure 2 does not set the tone that this is the case; we suggest that it would be beneficial to change one of the photos for a coastal erosion one. We would also like to see greater recognition of the different challenges that erosion and flooding bring from the threat of sea level rise, particularly for communities only a little above, or indeed below sea level, who are currently defended from flooding.

In addition, the section on LLFA's is slightly misleading; the Councils are Category 1 responders but the LLFA's themselves do not have a specific role in emergency planning and response for surface water flooding. This falls to the emergency planning department, who may work in partnership with the LLFA.

We consider that the description of the Strategic overview role is generally sound but should also include the EA's permissive powers function of managing and maintaining Main Rivers and flood defences. Without some form of strategic role in FCERM infrastructure investment, asset management as well as wider activities and behaviours, the EA will miss opportunities for integrated delivery, efficiencies and sustainable development. Essentially the Agency

should be looking at when infrastructure and asset management investment will be landing and seek to align with that cycle. Its ability to do so may come back to the issue of resourcing, which we raised in response to Q1.

However, the bullet point "lead effective partnerships that enable place shaping, to manage flooding and coastal change" needs to be changed, or the following directly addressed: At the local authority RMA level this effective partnerships approach has too often not been the case. Indeed, there has at times been resistance on the part of the EA, tied up with the existing guidance, to do anything outside of the remit of FCERM and better protecting homes. The EA currently charge local planning authorities for support with local plan development and consequently can be cut out of the loop or have limited involvement. We consider that this approach (of charging in such a way) runs contrary to the vision set out in the strategy and should be addressed in the final version.

The concept of place-shaping is a very welcome addition to the strategy but is only now starting to be widely used as a term by the EA when local authorities have been using it and doing it for many years. We therefore suggest that the bullet should read "lead *or support* effective partnerships...." Similarly, we suggest slightly amending the bullet point "leading flooding and coastal change as part of broader climate resilience contributing to integrated solutions..." to "...integrated and *innovative solutions*...." because the innovation must play a key role going forward.

Further, the text around RMAs on page 10 does not adequately describe the roles of some local authority RMAs. It needs to include both District and Borough Councils. It also needs to acknowledge that the EA don't always lead on flood risk; there are plenty of examples where local authorities are leading on coastal flood risk projects under the flood and water management act, and not just coastal protection projects under the Coastal Protection Act.

This issue follows through into figure 5 which only show districts and coast protection authorities and restricts their function to coastal erosion. Boroughs need to feature, and it needs to be acknowledged that local authorities can and do undertake sea flooding projects.

A key output of the Strategy needs to be recognition of innovative local authority partnerships which have been or are being set up around the country in response to the increasing demand and challenges of FCERM. These include The Eastern Solent Coastal Partnership (ESCP), Poole, Bournemouth, Christchurch Coastal Partnership (BCP), Coastal Partnership East (CPE), East Kent Engineering Partnership. They are sound models for the delivery of both flood and coastal erosion projects and are becoming centres of excellence around the country. Their ability to help deliver and achieve the objectives of the Strategy should not be overlooked and the government should do more to support such initiatives. This should be brought out within the strategy, and similarly with the achievements of local FCERM groups.

In addition to providing timely and effective information and warnings, we would like to see the EA take more proactive measures to ensure there is greater uptake of signing up to these. As the strategy document explains, only 34% of people in flood risk areas believe their property is at risk, and local emergency planners are often spread too thinly to improve this figure themselves. It would therefore be beneficial if the EA could take on greater

responsibility for this within their strategic overview role and support the improved resilience of communities.

In recent years the EA's operational role in matters relating to local sources of flood risk has diminished, for example it is no longer a statutory consultee on planning applications relating to surface water flood risk. This approach is understandably leading to a reduction in technical knowledge and skills relating to the management of flood risk from surface water, groundwater and ordinary watercourses. The strategy would benefit from outlining how the EA intends to maintain an effective level of skills both locally and nationally to enable it to deliver its proposed enhanced strategic overview and FCERM leadership roles.

**Q3a. To what extent do you agree with strategic objective 1.1: Between now and 2050 the nation will be resilient to future flood and coastal risks. Over the next year the Environment Agency will work with partners to explore and develop the concept of standards for flood and coastal resilience?**

We suggest it would be better to amend this objective to say "the nation will be *more* resilient to future flood and coastal risks". This would allow progress to be tracked against the baseline of present day. To say it will be resilient implies that we will have every area of resilience where it needs to be by 2050. Whilst we would praise the ambition here, it is perhaps unrealistic particularly as climate change is a moving target.

Adopting standards is a good way to ensure a minimum delivery standard is achieved and that would minimise some of the piecemeal delivery currently undertaken for low Standards of Protection or short benefit periods. By establishing a minimum standard it would provide confidence in investing in these areas and ensure their long term viability.

However, we do not agree that different standards should be applied to communities of different sizes. A house in a city should merit the same standard of protection as a house in a rural town or village. The economic case for delivering that standard in each community is a separate issue.

It is also not clear whether the standards will be intended to cover all forms of flooding or just river and coastal flooding. We strongly suggest that they should cover other forms of flooding such as surface water. It would be useful if the standards also aim to explicitly address future climate change impacts up to 2100 for example.

We are concerned that there is a risk these standards may be interpreted by the public as standards of protection rather than standards of resilience. Care will be needed to ensure that this is explicitly clear. We would suggest that standards should be accompanied by worked examples for different scenarios, e.g. eroding coast, somewhere like the Wash, a major city, rural wider floodplains e.g. the lower Trent to really drive home that these are not standards of protection.

Government also needs to commit to fully funding this initiative and to ensuring it is effectively rolled out. Member experience of community engagement work within local authorities is that it takes a huge amount of resource and at times building a bund would be cheaper (although less sustainable in the long term).

The objective looks to provide more focus on communities looking at ways to recover and cope with flooding when this happens. Overall this does seem to be a rewording of previous strategies that we are not able to defend everyone against all flooding and that resilience measures are important in the suite of measures, this is still the correct approach in the long term. The suite of tools under figure 8 look appropriate and make sense, but we suggest should include an additional icon to include in-channel conveyance maintenance of existing assets.

We consider that trying to deliver schemes with 0.1% or 0.5% standards of protection taking into account future climate change and sea level rise will inevitably be at odds with protecting and enhancing the natural, historic and built environment. There is already resistance to infrastructure required to meet such standards at the coast and the mitigation required is significant and challenging. In some restricted locations it is also technically not possible, indeed delivering lesser standards of protection (as per current practice) can already be challenging.

Given the significant past, current and future investment in flood risk management infrastructure (watercourses, rivers and flood defences) the 2<sup>nd</sup> and 3<sup>rd</sup> bullet points on page 19 should be strengthened to include *maintaining* that infrastructure to manage flood risk.

**Q3b. Please provide comments on the measures described under strategic objective 1.1, and tell us about any additional measures you think there should be, and who could implement them.**

Measure 1.1.1 includes an enhancement of the appraisal guidance in relation to climate change scenarios; it is not clear though whether the appraisal guidance itself is fit for the future, to cover wider elements such as all flood sources and how wider benefits e.g. ecosystem services, social value, natural capital, are measured in the economic appraisal when making future funding decisions. To avoid potential ambiguity, we also suggest inserting "to account for all forms of flooding" at the end of the current text used under Measure 1.1.1.

Updated appraisal guidance should clearly set out how standards should be developed, in consultation with those affected and enable financial decisions for creating adaptable and future proofed flood defences and flood risk management, in the context of wider strategies and national planning policy. We consider that there is a real risk that these could become disjointed.

The guidance needs to enable a broader range of risk management approaches to be appraised on an equal footing to traditional options (e.g. allow relocation options to be appraised on a par with continued defence options). In doing so, there is also a need to facilitate valuing natural capital / ecosystem services and recognise this value in outcome measures more strongly, alongside commercial which helps local communities and is also not currently reflected in the OMs. The appraisal guidance must also include greater recognition of the social and economic value of the wider fabric of a community, e.g. its transport, energy and water infrastructure and the community's ability to function (i.e. the disproportional effect of losing all its shops and services even if that equated to only a small number of properties).

The review should ensure that coastal projects get better funding due to the requirement to plan for climate change and sea level rise within designs. At present, future homes protected are not considered in the funding formula, despite being required to be protected. This may encourage better 'buy-in' from developers and businesses and increase the potential for partnership funding. There are also considerable challenges for surface water schemes and we need to move away from the current PF approach that considers larger river or sea, and smaller river or surface water flood schemes on an equal footing as in reality they are completely different – a difference which should be better reflected.

We would suggest that the measures should also include reviewing opportunities to include NFM and solutions that deliver Environmental and Biodiversity Net Gain and align to the Natural Capital approaches set out in the 25 YEP.

In terms of making decisions on land use, we support measures to encourage sound decisions and direct development away from the floodplain, or to mitigate risk for the life of the development. But consideration must also be given to 100 years' time, when communities may be entrenched in the mindset of being protected. Indeed, we consider that this has already happened, illustrated by too many political *hold the line* policies within shoreline management plans, which are not actually deliverable or fundable. Here we suggest that the strategy might need to be bolder. The current funding mechanism and local need for housing actively encourages development in the flood plain. Future generations are unlikely to thank us for this.

More detail should also be provided on how, and when, communities will be supported to move out of harm's way, enabling local areas to achieve a managed transition. The question of who will fund such transition needs to be considered in detail here, alongside how relocation would help to enable the delivery of the local standard of resilience. We hope that this will become clearer with the Defra policy statement, but it will need a strategic approach, which EA should be closely involved with.

We are pleased to see reference to better engagement with local elected members who work on much shorter timescales than those which the strategy is proposing. However, at present only unitary or upper tier authorities are represented on regional flood and coastal committees. Bodies such as SCOPAC on the south coast provide improved engagement but elsewhere this is absent, other than via the LGA Coastal SIG. We would suggest that for this welcome proposal to be effective, borough and district councils need active involvement alongside Parish Councils where appropriate.

Regarding measure 1.1.2 consideration should be given to how it will be ensured that any standards are met. If they are non-statutory, then there is a real risk that they will be ignored (as happens often with the Defra non-statutory technical standards for SuDS). The resilience standards will also need to set out what is an acceptable level of risk in different settings. The standards must be clear, transparent and this needs a coherent framework across each and every source of flooding.

**Q4a. To what extent do you agree with strategic objective 1.2: Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change across a range of climate futures?**

The strategy does not fully address the need to ensure that flood and coastal erosion infrastructure is built in a way that makes it adaptable over time. For example, stronger foundations to allow future raising, dedicated land take with removal of development rights to allow for future set back etc. In theory, local planning authority strategic flood risk assessments should set out where land needs to be safeguarded, however we are not sure that this is always done, as the quality of SFRA's (and how up to date they are) can vary greatly.

On the issue of recovering quickly, flood and coastal defences should be designed to withstand reasonable levels of overtopping without failure. Provision should be made for speedy evacuation of any overtopping water from behind defences once river or sea levels have dropped. This relates to a wider operational response, concerning factors such as the availability of high capacity pumps at a national scale as *in situ* pumps, because for example to evacuate coastal areas behind defences and below sea level is likely to be prohibitively expensive.

There is also perhaps a need to more strongly recognise the need to retrofit our urban environment to ensure its resilience against residual risk, e.g. that there are flood warning and community evacuation plans in place, new developments have safe refuge, etc. This is all set out in national planning policy but needs consistent application alongside a consideration of how existing development should be treated.

The adaptive approach is not always the most acceptable where coastal flooding schemes are concerned, particularly if development is being facilitated by the flood schemes themselves, which means from a planning perspective mitigation is needed for the life of the development i.e. 100 years. Any new approaches to appraisal should be mindful of this and the strategy should not be overly restrictive to the delivery of coastal schemes. The cost of intervention in restricted coastal environments and the mitigation required often means intervening once upfront rather than on an adaptive basis is cheaper and has less impact on the historic and natural environment.

Figure 8 mentions flood walls, but flood defences would be a better term to use as it is a wider term than just walls.

**Q4b. Please provide comments on the measures described under strategic objective 1.2, and tell us about any additional measures you think there should be, and who could implement them.**

We consider that measures 1.2.1 to 1.2.5 represent a good way of developing approaches in relation to adaptive measures with local partners. This is the right approach and reflects logical steps in relation to bringing forward such measures. There will need to be an understanding of the constraints that each RMA faces and what this means in relation to budgets and forecasts for spending, which goes beyond their own funding programmes.

The range of RMAs from public, private, elected and non-elected, makes future funding difficult. The strategy should consider what must change to free up RMAs to work in true

partnership, with the forthcoming action plan putting in place measures to overcome these barriers and develop a more collaborative approach.

In the context of Measure 1.2.1, it is important to recognise that at the coast there has already been a lot of work on adaptive approaches. This measure reads like it wants to reinvent the wheel when what all the work on this over the past 10 years has shown is that it needs policy and funding to provide the tools to enable it to be implemented appropriately, it does not need more trials!

Measure 1.2.2 is only focused on flood risk and not erosion risk. The National Coastal Erosion Risk Map has been developed and needs to be maintained and updated as a minimum, and possibly further developed (as per recommendations in the NCERM reports and to reflect updates to SMPs). We suggest that an additional measure should be added to give parity on coastal erosion to flood risk mapping.

Measure 1.2.2 should be clear on whether the new evidence of current and future risk will include all sources of flooding. In addition, climate change allowances are periodically updated based upon better data and new prediction studies. Streamlining the incorporation of future Climate Change Act updates into the evidence base would be beneficial. The evidence base could also consider mapping historic records of flooding from all sources.

Under 1.2.3 we welcome the framework to help RMAs deal with coastal adaptation. The funding to actually implement this also needs consideration, so the framework will need to set this out. The Agency could recognise within this section the role that it, Defra and other Defra agencies could play in terms of balancing the payments for agriculture. There seems to be a focus within the strategy on consultation around adaptation and roll-back. However, in some areas it's more a case that we should be refocusing some of the unsustainable support that is offered from treasury and the EA can play a role in informing such decisions.

We do not consider that measure 1.2.5 is ambitious enough, as by 2026 many current local flood risk management strategies will be more than 10 years old and considerably dated to the point they are possibly no longer used. We suggest that it would be better to consider how to dovetail local FRM strategies and the emerging drainage and wastewater management planning work and set a date that aligns with DWMPs.

**Q5a. To what extent do you agree with strategic objective 1.3: Between now and 2030 all those involved in managing water will embrace and embed adaptive approaches to enhance the resilience of our environment to future flooding and drought?**

We agree with strategic objective 1.3. In reality, this approach is already being undertaken to some degree, so these principles are not necessarily new in terms of their thinking. Focus should arguably be on enhancing how effectively they are implemented and how widely, enabling implementation across the whole of England as routine. For example, can we more effectively align different planning cycles, programmes or regulations? Defra has explored this in its consultation regarding managing water in the environment, in advance of the Environment Bill, but MHCLG and other functions need to be involved too, in order to properly integrate water management frameworks.

The objective will represent a shift, particularly for some Local Authorities; they have limited control over future drought management, albeit they can influence water usage behaviour



through implementation of ambitious planning guidance and building control to drive factors such as wastewater recycling, rainwater harvesting and SuDS in new developments or regeneration.

However, they require greater support from government policy and from adopting bodies such as water companies to really make this progress to the extent that the strategy clearly envisions. There will also need to be significant investment in upskilling and improving technical awareness. Perhaps, the strategy should provide more steer on what new initiatives must be taken by the local authorities, water companies and developers as part of government's accelerated house building programme in this regard? We suggest referring to suitable national and international case study examples that involve delivering innovative and integrated water management solutions.

**Q5b. Please provide comments on the measures described under strategic objective 1.3, and tell us about any additional measures you think there should be, and who could implement them.**

We support the concepts of taking lessons from the NFM pilot and working with RMAs to expand the extent to which working with natural processes is used to improve flood risk management. The challenge will be how to mainstream this as far as possible outside the environment agency. Awareness, support and advice will be important in this regard. In the context of working with natural processes, we would suggest that beach management should be categorised and promoted as a measure more explicitly.

There is a big opportunity to drive such approaches forward in a concerted way via the proposals for the new environmental land management scheme. The EA should act as an enabler of NFM approaches as far as it is able to do so within this framework, alongside measures to improve water quality and tackle diffuse pollution. If there are opportunities to do so in a strategic way, working at scale with a number of landowners and managers then we would encourage this. The EA should also work to monitor NFM measures and their effectiveness, promoting best practice and ensuring that measures are well-delivered as far as possible. The EA's role as leader and facilitator on this topic, versus that of LLFAs, needs clarifying for local issues that do not relate to main river or coastal flooding.

We endorse the use of the Future Fens project as an example of good practice in balancing flood risk management and high-grade agricultural land needs. This may become even more important with uncertainties over food availability after we leave the EU.

It is not clear how RMAs will be able to better align their processes with water company business planning cycles as proposed in 1.3.3. The terms "seek to" and "from 2020" in this context are very loose. Whilst the sentiment is entirely welcome and something that we would fully support, we consider that this needs a strategic review of where the main opportunities for the proposed synergies lie and what change would be required in order to optimise planning and delivery cycles. RMAs can also have differing objectives which can present challenges when aligning plans and priorities. Promoting the identification of mutual benefits and encouraging these to be reflected in funding evaluation methodologies could prove advantageous.

In many respects this is less about aligning the timeline as it is with all RMAs being open about their programmes and plans for delivering interventions. Currently, finding out if or when a scheme is planned is uncertain meaning that these opportunities are missed. Another dynamic possible is that of Northumberland Integrated Drainage Partnership where a programme is developed outside of the RFCC between the EA, Local Authorities and the Water Company.

It would be useful if the EA could provide some evidence to support the functionality of Natural Flood Management in the Stroud example (figure 13/14). The Slowing the Flow at Pickering project showcased NFM, but the facts from the Defra Report (May 2015) shows that 104 large woody dams provided only 1,020 cubic metres of attenuation and was needed in combination with an engineered reservoir that by contrast provided 120,000m<sup>3</sup> of attenuation, a ratio of 0.8% / 99.2%. We are fully supportive of the contribution, and wider benefits that NFM / working with natural processes can deliver not only on FCERM but in delivering wider benefits. However, we need to be careful how we manage people's expectations and ensure that approaches are not discredited because (unrealistic) expectations are not met.

Of course, action to achieve net zero carbon emissions will mean that there will in future be considerable opportunity to undertake reforestation and upland restoration at far greater scale than is currently the case for the purpose of carbon sequestration. This will offer significant potential to do so in areas and at scales which can deliver more extensive benefit than provided by these examples.

**Q6a. To what extent do you agree with strategic objective 1.4: Between now and 2030 risk management authorities enhance the natural, built and historic environments so we leave it in a better state for the next generation?**

If we are to leave the environment in a better state for the next generation, all organisations will need to play a role. This includes RMAs and a wide range of other organisations conducting, for example, habitat restoration and enhancement work. It would seem opportune to, alongside promoting RMAs driving environmental improvement, encourage bodies concerned with delivering environmental improvement to also consider opportunities to seek to reduce flood risk via working with natural processes. RMAs should also consider other wider sustainability issues such as materials re-use, air quality and carbon footprint.

It is not clear whether this objective would mean that outcome measures etc. will give greater weighting to the valuation of ecosystem services, including value of historic environment. We would suggest that this would be beneficial to assist the objective's delivery. Those areas where flood risk management operates (the water and land fringe) are some the richest from a natural capital / ecosystem services point of view. Thus, these practices need to be clearly acknowledged and championed.

We should also recognise the need for managed retreat and compensatory habitat creation on the coast to compensate for lost habitat. For example, due to coastal squeeze against current hard defences with 1m+ of sea level rise, many designated beaches, mudflats and saltmarshes will be lost. This needs to be planned for on a strategic, rather than a scheme-by-scheme basis.

**Q6b. Please provide comments on the measures described under strategic objective 1.4, and tell us about any additional measures you think there should be, and who could implement them.**

We are supportive of the proposed measures and strategic direction. The detail of how these will work in practice will have to be set out in the action plan. There is often a conflict between local communities in relation to managing flood risk and improving the habitat and restoring natural environments. The suggestion should be working with those directly affected by flooding so that they can understand how these areas could go hand in hand.

It would be helpful for the strategy to explicitly outline the role of RMAs in advising LPAs and influencing the spatial planning process. Spatial planning decisions are the catalyst in many cases for changes to natural and built environments, both detrimental and positive. RMAs have a valuable role to play in proactively leading the identification of enhancement opportunities and providing these to LPAs in a timely manner for their local plan cycles.

**Q7a. To what extent do you agree with strategic objective 1.5: Between now and 2030, risk management authorities will use funding and financing from new sources to invest in making the nation resilient to flooding and coastal change?**

This objective is highly welcome and represents the ideal scenario. However, it has already been tested through the current partnership funding process. Over recent years, funding has been secured, but mainly this has come from elsewhere in the public sector (e.g. local authorities, Highways England) and largely on easier schemes to deliver with smaller funding shortfalls. Green finance is appropriate for infrastructure investment, but this is not possible everywhere and there are challenges particularly at the coast.

We would like to see a wider range of contributions to ensuring schemes progress, but we consider there may need to be additional incentives and mechanisms put in place to really mobilise the private sector or to enable local levies or precepts. The precise mechanisms are for government to determine and we are of the view that the forthcoming policy statement will need to set the tone for how more diverse funding will work in practice.

The ethos of flood risk management where public authorities exercise permissive powers on assets in riparian ownership, would appear different to the normal model of an infrastructure provider also being the owner and hence attracting outside funding for the physical asset in their possession. It would be useful to see suggestions of how wider funding could apply in this instance.

**Q7b. Please provide comments on the measures described under strategic objective 1.5, and tell us about any additional measures you think there should be, and who could implement them.**

As mentioned in response to Q1, we consider that funding for FCERM is one of the major issues that is likely to affect the ability of the EA and all other RMAs to deliver the whole strategy. We welcome the commitment to work with government on new funding options, in line with our response to Q7a.

However, this entire objective appears to hinge on the outcomes of forthcoming studies and strategies. There are clearly big question marks surrounding how funding can be delivered

differently to the way in which it has been in the past and given the concerns expressed about the effectiveness of partnership funding to date, these are big questions that need to be answered.

There is a strong theme throughout the strategy that focusses building new FCERM defences and maintaining or improving current defences. However built FCERM infrastructure is only one of the suite of measures highlighted as necessary by the strategy. The adequate funding of those other measures is of equal importance but is not yet properly reflected in the strategy, e.g. forecasting and warning, planning and incident response, community engagement.

It would be useful to understand what the EA consider to be an ideal funding scenario and what the implications for flooding and coastal change would be if we fall short of achieving the requisite investment. One of the challenges with partnership funding at present is that RMAs may investigate other sources of funding and they are either not there or cannot come forward.

We consider that work is required across government to enable different departments and agencies to work more closely together (and allow funding to follow) where there is opportunity to maximise investment of public funding to support multiple objectives and outcomes. That includes sharing monitoring data paid for by public funds via open data, no matter which government department pays for it.

We also consider that there is a need for better inclusion of Natural Capital interventions within funding for schemes. Too often schemes delivering Outcome Measure 2 (flood reduction) ignore what they could do to also enhance and deliver OM4 (Environmental Enhancement). We need a more strategic and streamlined approach to shape the incorporation of OM4s into more schemes. There may also be additional benefits of widening or changing the remit of what constitutes Outcome Measures. For example, if the vitality of local economies and community wellbeing is important to the strategy, then this should be reflected in the OMs, otherwise schemes which achieve these may not be successfully funded.

**Q8a. To what extent do you agree with strategic objective 2.1: Between now and 2030 all new development will contribute to achieving place based resilience to flooding and coastal change?**

We are strongly supportive of the ambition expressed in objective 2.1. However, without support and enforcement of this approach at local government level (ultimately this comes down to LPA and LLFA resources and political will) with explicit support through national government planning policy, then successful delivery against the objective will not be feasible.

The strategy's assertion, based on the EA's LTIS 2019 findings, of a likely doubling of the number of properties built in the floodplain over the next 50 years is extremely troubling. We note that the mitigation outlined in LTIS depends on planning policy mitigation measures relating to building design, not their location. We would suggest that a fuller and clearer explanation is therefore required in this section to reconcile the planning policy drivers and RMA roles and response to enable the objective to realistic and achievable.

We recognise that planning policy is the responsibility of MHCLG, however the 25 year environment plan was a cross government initiative owned by all departments and we see no impediment to a similar cross government initiative on planning related FCERM. Government must fully support Defra and the EA in this respect and ensure that wider departments are far more attuned to the adaptation and resilience imperatives and the onus on them to respond proactively to them.

The statement in the first paragraph about EA and LLFAs working closely together to advise and support LPAs may be a depiction of the desired approach and how it can often work. However, our member experience is that this is not always the case; the EA have pulled back from a lot of the planning related work that it used to undertake and in some areas the difference in remits is difficult for the local planning authorities to understand.

This is further hindered by the introduction of charging for advice as noted in our response to Q2, specifically for SFRA's, where local authorities are already facing challenging budgets to deliver quality assessments. This will hinder the achievement of objective 2.1. Ultimately though, planning authorities make the decisions and weigh up the differing views to make a decision. We agree that there are others (other than LLFAs and EA) involved in the strategic thinking of planning places.

We consider that there are conflicting messages between proposals to control new development in areas of flood and coastal erosion risk, followed by "projects provide long term confidence to investors looking to build new houses, fund new infrastructure and develop new businesses in places at risk". Developing behind defences increases the consequences should the defence fail, or its design be exceeded and as we set out earlier in our response, sets a long-term expectation that an area will always be defended. Whilst developing in 'at risk' areas cannot be avoided; this section seems to create the impression that doing so is acceptable, but this runs contrary to other objectives within the strategy.

An important consideration is the evacuation of people before or during flooding and the impact on emergency services of development in areas of food and coastal erosion risk. The 'blue light' services need to be involved in development of the strategy and any standards for places.

**Q8b. Please provide comments on the measures described under strategic objective 2.1, and tell us about any additional measures you think there should be, and who could implement them.**

We are supportive of the concept of RMAs being knowledgeable on planning aspects of their operations and having appropriate skill sets to enable them to engage effectively with planners and developers. We particularly welcome the statement that better and earlier cooperation on design of developments and places can help minimise future damages.

Understanding of this must be the responsibility of all involved, and it is equally important for planners to have a good grasp of flood risk management issues, as well as for developers to be aware of the range of flood risks and management measures via which they can introduce resilience into their designs. We would reiterate our strong position that there are very real challenges in achieving these essential objectives as a result of very significant resource

challenges within local authorities; many of whom are chronically under-staffed and see a high staff turnover.

We suggest that there is also a need for improved engagement at a national level across government departments and with professional bodies such as CIWEM and RTPI to support local engagement between planners and FCERM managers. We recognise the EA has ongoing research into improving the use of flood risk information in spatial planning; CIWEM is inputting to this research and would welcome timely publication of its results.

We are supportive of measure 2.1.2. However, this needs to include reference to not only the EA and LLFA's but also district and boroughs who deliver flood and erosion schemes and are internal consultees on planning applications. Coastal Partnerships and Coastal Groups also should be referenced.

**Q9a. To what extent do you agree with strategic objective 2.2: Between now and 2030 all new development will seek to support environmental net gain in local places?**

We are supportive of the concept of net gain and advocated strongly for biodiversity net gain to be a mandatory requirement for all new developments. We agree that this should include flood and coastal infrastructure. The concept of delivering net gain through FCERM infrastructure sits well beside a stronger emphasis on working with natural processes.

Offsetting is a legitimate approach to delivering biodiversity net gain where sufficient benefit cannot be delivered on-site. There is evidence that such an approach with SuDS may be effective from a flood risk management point of view, and where they may deliver greater benefit by being located outside of the development site but retrofitted elsewhere in within the catchment (particularly in the upper catchment) it would be prudent to do so.

**Q9b. Please provide comments on the measures described under strategic objective 2.2, and tell us about any additional measures you think there should be, and who could implement them.**

Measure 2.2.1: Biodiversity net gain is a welcome concept and we agree that it should apply to all developments above a minimum threshold, including infrastructure projects – which would, by definition, include FCERM projects. This will have implications on the costs of scheme delivery and we consider that this will need to be factored into partnership funding for new projects and into outcome measures.

Measure 2.2.2: We agree that RMAs should work with developers and planners to factor net gain into strategic development proposals. Local authorities will need to understand how this is to be incorporated into their own local plans. This needs to be supported by measures to improve how valuation of ecosystem services is reflected in appraisal guidance and outcome measures.

We would suggest that the measures could go further. The Agency should think more strategically about net gain; at an RFCC or strategy level net gain principles could be used to shape the form of interventions proposed in an area. For example, a shoreline management plan could strategically identify areas of coastal squeeze and designate sites of suitable connectedness to provide managed realignment for habitat purposes.

**Q10a. To what extent do you agree with strategic objective 2.3: Between now and 2030 all risk management authorities will contribute positively to local economic regeneration and sustainable growth through their investments in flooding and coastal change projects?**

We strongly welcome the inclusion of the benefits of sustainable growth and resilient development within the strategy. CIWEM has stressed the need for the benefits of continued community viability to be taken into account before (along with social aspects).

FCERM interventions can provide huge scope for economic development. That being said, local authorities need to consider the potential of this and develop such schemes into Local Plans so that can work towards justifying defend to develop schemes.

We do consider that local authorities are already trying to do this in many places, but that the appraisal guidance is restrictive, and the partnership funding process needs to change to facilitate it.

There is a need to be mindful of the potential clash with growth and regeneration and protecting existing infrastructure from detriment. For example, would a flood risk measure which allows for growth be prioritised over one which offsets greater flood risk but ultimately only maintains the status quo? How will this be weighed against the objective to enhance the natural, built and historic environments too?

**Q10b. Please provide comments on the measure described under strategic objective 2.3, and tell us about any additional measures you think there should be, and who could implement them.**

In identifying ways in which 2.3 will be delivered, the EA might undertake a review of existing projects already working in this way and which are delivering these wider benefits. Of course, it's not all about the EA here and local authorities have a wealth of best practice to bring to the table. The EA needs to work with other RMAs who are doing this well already.

We would suggest that another separate measure is needed; that is to review the current funding process with a view to widening the strict assessment of benefits focused around better protecting housing.

We would suggest that it would be beneficial for the EA to have a stronger role in strategic planning, working actively with for LEPs, on Local Plans and on regional business initiatives. This would be consistent with 25 Year Environment Plan and Clean Growth Strategy objectives. Proactively informing and critiquing these plans as well as trying to catch those developments during planning would be more effective and would help to deliver wider benefits. Furthermore, this could be shaped by allocating development costs via S.106 or similar to contribute to such initiatives.

**Q11a. To what extent do you agree with strategic objective 2.4: Between now and 2050 places affected by flooding and coastal change will be 'built back better' and in better places?**

We agree with this statement. It is not acceptable that insurers are still commonly replacing like for like in homes following flooding, rather than putting in resilient measures that the homeowner

would have preferred. There needs to be a resilient construction expert involved in this process at the earliest stages to identify what the appropriate resilient measures would be. Whilst initiatives like the forthcoming Property Flood Resilience Code of Practice will undoubtedly help to move this forward, it will be voluntary. There needs to be clear messaging from all relevant authorities and from government that the insurance industry must be rapidly moving towards a clear betterment position.

**Q11b. Please provide comments on the measures described under strategic objective 2.4, and tell us about any additional measures you think there should be, and who could implement them.**

We consider that these are all reasonable measures to undertake.

With regard to the build back better proposals, we need to ensure that any degraded areas are lost in a manner that isn't going to be detrimental to our coastal environments. Homes and roadways being allowed to fall into the sea cannot be accepted due to the potential impacts of litter and pollution to the marine environment.

A build back better programme needs to be strategically developed at regional or national levels. Such an approach needs to include natural capital approaches, not just FCERM as is the case in current SMPs. We also need to consider whether there is a way to optimise the loss of land.

The SMP approach needs fundamental review, to establish, considering the House of Commons EFRA Committee inquiry on coastal flooding and adaptation to climate change, and the Committee on Climate Change report on managing the coast in a changing climate, how far SMP policies are realistic and deliverable. It should look at how SMPs include more assessment of natural capital and better balance what needs to be done, sustainably. We could deliver managed realignment sites that also deliver significant FRM benefits that help a wider spectrum of people. We need to become integrators and deliver multidisciplinary solutions not just solving the FRM need and mitigating the impacts of natural capital and the Environment.

**Q12a. To what extent do you agree with strategic objective 2.5: Between now and 2030 all flooding and coastal infrastructure owners will understand the responsibilities they have to support flood and coastal resilience in places?**

We consider that this is less about people understanding their remits but ensuring that we have a transparent national delivery strategy that identifies key outcomes for schemes from each RMA.

For example, in Brunton Park flood risk management and foul sewer surcharge is the scheme driver. The strategy should weight that the outcome should deliver socially accessible ecological enhancements due to the local land use. One construction project, multiple beneficial outcomes that could be targeted before the scheme is tendered/started rather than tagging the environmental benefits at the project stage like many are. A key concern in this context is that some schemes have environmental improvements that are de-scoped at a later stage as they were never really deliverable in the first place, e.g. because funding for maintenance of biodiversity improvements was not provided.

Whilst the sentiment of greater awareness from riparian owners is supported, the objective should emphasise that RMAs are empowered with permissive powers to manage and maintain the whole system for the common good, thus negating the significant risks of a piecemeal approach to FCERM. Care is needed that in increasing greater understanding of



responsibilities, there is not an associated move away from the ethos of public bodies strategically managing the network as a whole, and less Government funding at a time when the need for greater investment is increasing.

**Q12b. Please provide comments on the measures described under strategic objective 2.5, and tell us about any additional measures you think there should be, and who could implement them.**

We consider that these are all reasonable measures to undertake. However, at the same time it is important to recognise the scale of the challenge for local authorities and the need for support to prioritise data collection and action and share best practise. In Staffordshire, for example, there is 4000km of ordinary watercourse of which 300km is culverted. This compares to 700km of main river for which there are regular inspections and better data management.

An additional measure might be a national FRM asset register which includes asset condition, inspection regime, design life and strategic valuation/benefits assessment and an indicative management plan. This could also include current level of resilience provided (as suggested in measure 2.5.2), and should consider all assets, including those privately owned to provide the whole picture.

There is also no measure included which targets riparian owners of flood and coastal change infrastructure. It would be useful if more could be done to inform riparian owners of their responsibilities, and actively encourage and assist/advise them to undertake their duties, as they are often unaware of them.

**Q13a. To what extent do you agree with strategic objective 2.6: Between now and 2050 the Environment Agency and risk management authorities will work with infrastructure providers to ensure all infrastructure investment is resilient to future flooding and coastal change?**

We consider that this is a fundamental area to get right; many areas of infrastructure are at risk and it's an important part of making the country resilient in the future. Whilst we believe the timescale of 2050 is realistic given the scale of the task, the strategy should make clear the expectation of proportionate progress on achieving the objective rather than risking the implication it could be back ended to the 2040s.

**Q13b. Please provide comments on the measures described under strategic objective 2.6, and tell us about any additional measures you think there should be, and who could implement them**

We welcome the formation of the Flood and Coastal Infrastructure Task Force and hope this will have a strategic role in FCERM funding allocations and link into the investment and regeneration section of the strategy.

**Q14a. To what extent do you agree with strategic objective 3.1: Between now and 2030 young people at 16 should understand the impact of flooding and coastal change, but also recognise the potential solutions for their place, and opportunities for career development?**

We do not consider that this should be limited to the school curriculum and those at 16 (though we agree that this is an important audience). There are other industry initiatives that could also be engaged and supported by the EA in relation to this knowledge base and career development, such as STEM and Apprenticeships. In addition, other age groups of the population are often unaware and shouldn't be excluded from being educated through other means, and they may also have more impact in terms of being actively engaged in their communities, or through making their own homes and businesses more resilient.

**Q14b. Please provide comments on the measure described under strategic objective 3.1, and tell us about any additional measures you think there should be, and who could implement them.**

We are surprised that the provision of materials to help teachers deliver against existing parts of the national curriculum is not already being undertaken. However, if it could be significantly expanded then we would strongly support doing so, and the EA playing a central role in this. An example of good practice is the Burton and Tamworth Flood Prepared Campaigns, where lessons were held in schools where the pupils live in high flood risk areas to raise awareness: [www.staffordshireprepared.gov.uk/Know-your-risks/Flooding/Tamworth-Prepared.aspx](http://www.staffordshireprepared.gov.uk/Know-your-risks/Flooding/Tamworth-Prepared.aspx) As per our response to 14a, the objective could be expanded to include other areas such as STEM and apprenticeships. The EA could work with professional organisations such as CIWEM more to deliver these. It would also be beneficial to reach out to consultant initiatives as part of the wider flood risk management community.

The future of flood risk management depends on developing an interest in this field and making all individuals responsible for flood risk management, as well as coastal change management particularly in vulnerable areas such as the east coast. The EA should utilise technology and more innovative ways of getting the message out, specifically targeting how young people are most likely to access information.

**Q15a. To what extent do you agree with strategic objective 3.2: Between now and 2030 people will understand the potential impact of flooding and coastal change on them and take action?**

We are highly supportive of this, which is a worthwhile objective; many people do not understand that the responsibility of protecting a property lies primarily with the property owner. This timeframe should extend beyond 2030 however, as this will be a continual effort.

**Q15b. Please provide comments on the measures described under strategic objective 3.2, and tell us about any additional measures you think there should be, and who could implement them.**

Whilst measure 3.2.1 is welcome, there is a real invigoration and energy around climate change at the present time and the impacts we are having on the planet. Waiting until 2022 to understand what this means for people seems a little too far in the future. The EA and other RMAs have been cognisant of these risks for a long time and there must be simple

messages around what people can do now, with good examples of actions individuals and communities have undertaken.

Measure 3.2.2 If the work around understanding how others accept and take responsibility is not due to finish until 2022 it is not clear how this measure can be achieved by 2021; this appears to be the wrong way around in terms of timing. It is also not clear who will pay for this digital work and the measure should be to encourage RMAs to work together to develop digital elements that work together otherwise the separation for community engagement and information would still be there. This objective should be enhanced to encourage the presentation of information and engagement to be done together by the RMAs, which we consider is fundamentally what communities would like.

**Q16a. To what extent do you agree with strategic objective 3.3: Between now and 2030 people will receive a consistent and coordinated level of support from all those involved in response and recovery from flooding and coastal change?**

We are supportive of this objective. We should be aspiring to a consistent approach to this aspect of FCERM. In reality however, during a major incident emergency services will need to prioritise where they focus response activities. Perhaps what is needed instead is a nationally consistent method or guidance for doing achieving this objective as far as practicable.

**Q16b. Please provide comments on the measures described under strategic objective 3.3, and tell us about any additional measures you think there should be, and who could implement them.**

This is also key in relation to managing flood events when they occur, however we do not consider that setting out roles and responsibilities is the best way forward. There has to be a strong link with Civil Contingences and the differences in how RMAs work in relation to this response.

Measure 3.3.1 is welcome as there does seem to be mixed interpretation of the extent of responsibilities. This measure does suggest that there hasn't been significant progress since the Pitt Review and there is a need to build on this, as well as implementing the government's surface water action plan. In relation to measure 3.3.2, we consider that there should be an ambition to provide some kind of flood warning for surface water in addition to rivers and the sea. We do recognise that this might need a longer timescale than 2022.

Concerning measure 3.3.3, it is not clear whether this would be through the Civil Contingencies role rather than the FWMA role for LLFAs and other RMAs. It would be beneficial if this work included greater commitment on the part of insurers, who are noted as being important parties in this process, on speeding up claim settlement and on betterment.

**Q17a. To what extent do you agree with strategic objective 3.4: Between now and 2030 the nation will be recognised as world leader in managing flooding and coastal change, as well as developing and attracting talent to create resilient places?**

We consider that the nation is already recognised in this way, but also that we need to continue to improve. There are FCERM goods and services that England, and the wider UK, already deliver at a world leader level but which are not widely recognised as such globally.

The government should consider how to further promote the goods and services of the UK FCERM sector.

**Q17b. Please provide comments on the measures described under strategic objective 3.4, and tell us about any additional measures you think there should be, and who could implement them.**

On measure 3.4.1 we are supportive of this and consider that despite the development of a range of codes of practice and standards in this area there will need to be strong strategic and policy steers to assist the fastest possible uptake of them. Thus, their use should be required in all relevant schemes, following flood events and in areas where plans identify developments in areas of flood risk. The EA can play a significant role in advocating this.

We are strongly supportive of measures to increase the engagement of universities and colleges to develop capabilities and skills for effective flood risk managers of the future, as highlighted by 3.4.2. CIWEM is well-placed to assist in this process and our accreditation of university undergraduate and postgraduate programmes enables us to work closely with them to influence and shape course content to ensure that it is developing professionals fit for the future.

Through partnership approaches we are working collaboratively with industry-leading universities to repurpose and reposition academic content to specifically upskill industry professionals. This is in the form of both free and paid for technical and professional skills training.

Concerning 3.4.3, knowledge and resource sharing through roundtable groups enables us to fund and conduct sector wide skills analysis projects in the FCERM sector to identify the gaps and develop appropriate training that bridges those gaps and prepares our workforce for future challenges.

Through the establishment of trailblazers and apprenticeship schemes we can ensure that the skills and capabilities needed in the industry now and in the future are met. As apprenticeship standards are often delivered by colleges, we are challenging them to diversify in the types of training that they are offering and the way in which it is delivered.

**Q18. Please provide any other comments:**

Whilst we are strongly supportive of the majority of the objectives, we are concerned by the presence of a significant number which include rather loose phrases such as "will seek to". Whilst we recognise that this is a strategy and there is a degree of aspiration rather than concrete commitment to the objectives and measures, such terms believe a lack of confidence that the desired outcome may well not be achievable in practice. The EA should seek assurances from government that all those included in the strategy are realistically deliverable.

There are some fundamental questions in relation to the Benefits, costs and funding section which states *"This section explores the potential costs and benefits of the measures up to 2026, and identifies where the funding for delivery may come from. We believe many of the measures are modifications to the existing activities and ways of working of risk management authorities. These should be cost neutral and sit within existing roles,*

*responsibilities and statutory duties. There are other measures which have the potential to be more costly than these existing activities."*

It is not clear which measures are cost neutral and which would require additional funding, or where any additional costs might sit. Therefore, it is difficult to comment and provide useful responses for this section.

It also needs to be clear what are ongoing, operational costs and what would be more of a capital investment in relation to the implementation of measures. What is the associated cost/benefit of implementing these measures and the overall improvement in flood risk management envisaged?

There is no information on risks to the delivery of the strategy overall. What would be the barriers and how likely are they to be overcome for each of the measures? It would be useful to understand how the success of this strategy will be measured and where the potential blockers are likely to be.

There appears a renewed focus on the impacts flooding has on mental health within the new strategy which is welcomed. There is a figure attached to this within the strategy (£3000-7000 per flooded household). Has consideration been given to adding this figure to the value attached to protecting a property from flooding?

We are disappointed that the strategy does not discuss designing for exceedance in the context of surface water management. We consider that this strategy is a great opportunity to push this approach, particularly given the overall thrust of the document concerning more effective multi-party working, resilience and enabling growth. We would strongly encourage the EA to work this into the final strategy.

Within the context of collaborative delivery, clarification and improved awareness of responsibilities, we would suggest that there would be benefit in mapping the range of responsibilities and how and where these can interact most effectively to deliver the greatest outcomes. This would aid in understanding, and potentially identify where the greatest opportunities and challenges lie.

There is little support for the National Network of Regional Coastal Monitoring Programme. This is a long running coastal data collection programme. It provides much of the evidence that was needed to help develop the draft strategy and FCERM studies and schemes nationally. Importantly it will be key in helping deliver the outputs of the next strategy. An idea for change was developed by the SCG for regional coastal monitoring but it is disappointing to not see it feature strongly in the strategy.

Broadly, we consider that the strategy is a little too engineering skills focused, and the strategy should more strongly emphasise the role, value and importance of other FCERM skills.