ARUN DISTRICT COUNCIL

REPORT TO AND DECISION OF CABINET
ON 3 JUNE 2019

PART A : REPORT

SUBJECT:	Managing the Coast in a Changing Climate

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DATE:	April 2019
EXTN:	37812
PORTFOLIO AREA:	Technical Services

EXECUTIVE SUMMARY:

The Report will present the content, conclusions and recommendations of the recently published report by the Committee on Climate Change. It is put forward for consideration in respect of its implications for the Arun District. It is anticipated that separate further reports will be necessary in respect of individual Council Services.

RECOMMENDATIONS:

To note the report – especially the content and spirit of Paragraph 1.6

1. **BACKGROUND**

1.1. The Climate Change Act of 2008, set a target to significantly reduce UK greenhouse gas emissions by 2050 and a path to get there. The Act also established the Committee on Climate Change (CCC) to ensure that emissions targets are evidence-based and independently assessed.

1.2. The Committee has over the past few months published a number of reports; three of the reports are as:

- Managing the coast in a changing climate - Oct. 2018
- Land use: Reducing emissions and preparing for climate change - Nov. 2018
- UK housing: Fit for the future? - Feb 2019

This report deals primarily with the former but reference will be made to the latter two reports and their potential implications for this Council.

1.3. The CCC's Adaptation Sub-Committee is chaired by The Baroness Brown of Cambridge DBE and is made up of experts in the fields of climate change impacts, science, environmental economics, conservation, public health and business. It provides independent, expert advice on preparing for and adapting to climate change to UK and devolved governments and parliaments and has a statutory role in monitoring progress in preparing for climate change

1.4. The report accepts that risks of flooding and coastal erosion have always existed on an ever-changing coastline– ever since people starting developing settlements on the coast there have been many villages that were lost or abandoned to the sea and there are many stories of damaging floods from the past. However, the report uncovers how coastal risks will increase in the future - and we are not prepared.

> *"Climate change is causing sea waters to expand and is melting glaciers. Melting of ice caps on a much larger scale is possible unless more urgent action is taken to limit greenhouse gas emissions. We will almost certainly see 1m of sea level rise at some point in the future, possibly within the lifetimes of children alive today, and we must account for this change in long-term land use and coastal defence plans.*
>
> *Meanwhile, the number and value of assets at risk on the coast has steadily been increasing. Houses, businesses, roads, railways, train stations, power stations, landfill sites and farmland will all be affected by increased coastal flooding or erosion in the future. Many of these assets are protected by coastal defences that date back to the last century, so are deteriorating in the face of rising sea levels and eroding coastlines. The strategies we"*

1.5. The report has the following Key messages:

- It is almost certain that England will have to adapt to at least 1m of sea level rise at some point in the future;
- In England, 520,000 properties (including 370,000 homes) are located in areas with a 0.5% or greater annual risk from coastal flooding and 8,900 properties are located in areas at risk from coastal erosion, not taking into account coastal defences;
- By the 2080s, up to 1.5 million properties (including 1.2 million homes) may be in areas with a 0.5% of greater annual level of flood risk and over 100,000 properties may be at risk from coastal erosion;
- The public do not have clear and accurate information about the coastal erosion risk to which they are exposed, nor how it will change in future;
- Today, coastal management is covered by a complex patchwork of legislation and is carried out by a variety of organisations with different responsibilities;
- The current policy decisions on the long-term future of England's coastline cannot be relied upon as they are non-statutory plans containing unfunded proposals;

- We calculate that implementing the current Shoreline Management Plans to protect the coast would cost £18 - 30 billion, depending on the rate of climate change, and that for 149 - 185 km of England's coastline it will not be cost beneficial to protect or adapt as currently planned by England's coastal authorities;
- To minimise these risks, global emissions of greenhouse gases need to fall dramatically, which would slow sea level rise in the long term. In parallel, the UK needs to strengthen its policies to manage the risks of coastal flooding and erosion.

1.6. It concludes with five Recommendations

- **1: The scale and implications of future coastal change should be acknowledged by those with responsibility for the coast and communicated to people who live on the coast.**
- **2: Local government and the Environment Agency need to be enabled by national government to deliver a long-term and appropriately resourced approach to engaging affected communities and stakeholders.**
- **3: Defra and MHCLG policy on the management of coastal flooding and erosion risk should specify long-term, evidence-based, quantified outcomes that have the buy-in of the affected communities and stakeholders.**
- **4: Government should make available long-term funding/investment to deliver a wider set of adaptation actions.**
- **5: Plans to manage and adapt specific shorelines over the coming century should be realistic and sustainable in economic, social and environmental terms.**

1.7. <u>General observations</u>

1.7.1. The report highlights that there are eleven items of Primary legislation that relate to flood and coastal erosion risk management (FCERM) and sets out the actors and stakeholders (see fig. 1)

1.7.2. The Coast Protection Act 1949 is the main vehicle which provides this Council (together with other District, Borough and Unitary authorities) with permissive powers to manage the coast. However, policy in relation to FCERM is provided by Defra and the Environment Agency has a coastal overview alongside its own powers in relation to flood defence (sea defences).

1.7.3. Shoreline Management Plans (SMP) provide a large-scale assessment of the risks associated with coastal evolution and presents a policy framework to address these risks in a sustainable manner with respect to people and to the developed, historic and natural environment.

1.7.4. They are not statutory and do not bring with them financial commitment to implement the actions outlined in the policies. Also, they do not align with other with the (shorter) timescales of other plans

1.7.5. The SMP for any given stretch of coast is a high-level document that forms an important part of the Department for Environment, Food and Rural Affairs (Defra) strategy for flood and coastal defence (Defra, 2001). Arun was the lead authority for both the initial SMP and the Beachy Head to Selsey Bill 1st review

(SMP2)

1.7.6. A refresh of SMP2 has recently been awarded to a partnership of independent consultants to bring the 10-year-old SMP2 up to date; this may lead to SMP3 – which the Report alludes to be necessary

1.7.7. Below the SMP sits a series of Coastal Defence Strategies (CDS) which take the SMP policy as a starting point and look at smaller sections of coast in greater detail and from that the preferred management of the coast is indicated; both in terms of capital interventions and day to day management

1.7.8. The Report seem to take the policies set out in the various SMPs around the country but does not seem to recognise the work done in the CDSs, although this could be an error in interpretation

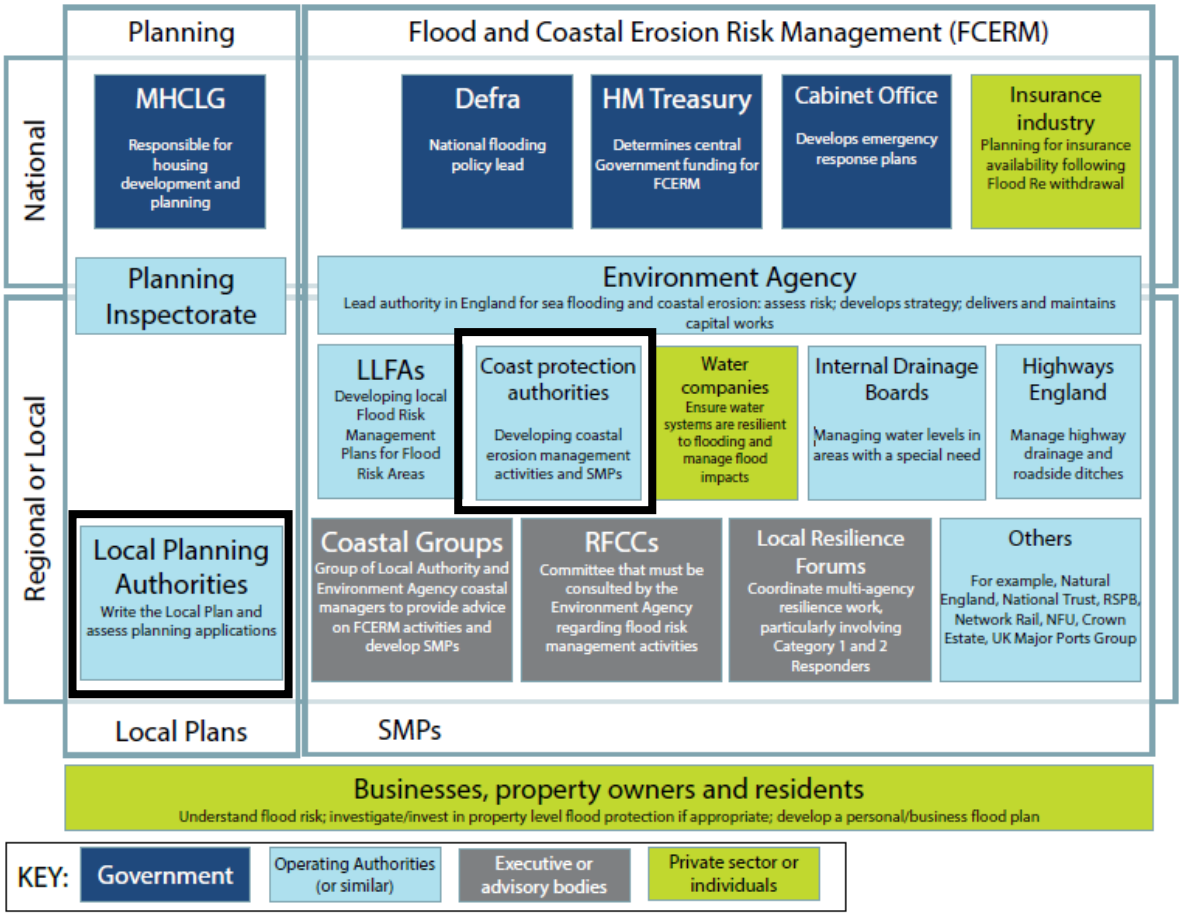

Figure 1 – FCERM Actors (Arun DC elements emboldened)

1.7.9. Since 1901 there has been an average sea level rise (adjusted for geological differences) of 1.4mm/yr. There are various model predictions for the future amount and rate of sea level rise due to climate change, with the potential for 0.8m rise in today's children's lifetimes.

1.7.10. UK climate projections predict only modest changes to storm surge intensity but there is considerable uncertainty in the North Atlantic storm track location, so extreme may be possible in the future

1.7.11. As a general stance, coastal structures need to take account of sea level rise.

1.7.12. There are currently 370,000 homes at risk of coastal flooding (0.5% annual risk) with 8,900 at risk of coastal erosion. Homes are the government's current

main driver for promoting defences but there are 7,500km of road, 520km of railway, 205,000ha of good (or better) quality farmland and 3,400ha of potentially toxic landfill at risk, with some power plants, ports, gas terminals, etc. also at risk.

1.7.13. By 2080 these figures could increase dramatically with homes at coastal erosion risk increasing to 100,000.

1.7.14. The report says that the public do not have a clear or accurate understanding of risks involved or how things will change in the future.

1.7.15. The report suggests that the long-term policy for the coastline (through the SMP) cannot be relied upon and that there is a need for those plans to be statutory and also that Planning Policy needs to be linked to those statutory Plans.

1.7.16. The problem is not one just for this country; global emissions need to fall thus slowing the long-term effects but in parallel, the UK needs to strengthen its policies to manage coastal flood and erosion risk

1.7.17. One tool in achieving that aim should be ‘adaptation’; this involves potentially relocation of existing properties, limiting the approval of new properties, managed realignment, etc. It will involve the viewing of long time horizons for people with assets at risk. Unfortunately, long term aspirations often conflict with short term interests of those who would be at risk.

1.7.18. National Planning Policy aims to steer development away from risk areas but if local authorities are to fully assess those risks Planners need to be aware and from an analysis nationally, some authorities are not taking adequate account of the risks.

1.7.19. This situation may worsen through the removal of the requirement of SMPs to underpin development strategies from the 2018 NPPF – (moved to Planning Practice Guidance).

1.8. Coastal Change Management Areas (CCMA) are another tool that can be used.

1.9. The capital funding process, with its technical and financial tests, may not be conducive to long term sustainable plans that address environmental and housing needs.

1.10. Partnership Funding is a process that enables beneficiaries to part fund schemes.

1.11. On the other side of this, there is no mechanism for compensation for property lost to coastal erosion

1.12. <u>Housing and Land Use Reports</u>

1.12.1. In summary, for Housing, the report finds:

- Greenhouse gas emission reductions from UK housing have stalled and efforts to adapt housing for climate change are falling behind;
- In the long run, consumers pay a heavy price for poor-quality build and retrofit;
- UK Government policy has inhibited skills development in housing design, construction and ‘new measures’;

- The uptake of energy efficiency measures such as loft and wall insulation must be increased;
- There are plans for 1.5 million new homes by 2010; these must be low-carbon, energy and climate efficient and climate resistant;
- From 2015 at the latest, no new homes should be connected to the gas grid*;
- There are urgent funding needs and these must be addressed b HM Treasury, not least with resources local authorities, in particular Building Control;
- Householders can make a big difference with small changes;
- Building Regulation standards should be strengthened;
- Water leakage needs to be reduced and householder behaviour can reduce consumption.

* This measure was mentioned in the Chancellor's 2019 Spring Statement

1.12.2. Again in summary, for Land Use, the report finds:

- The current approach to land use is not sustainable;
- There exists an opportunity to define a better land strategy;
- There are potential multiple benefits across climate change mitigation, adaptation and the Government's wider goals including:
  - New technologies and farming methods
  - Shifting diets towards nutritional guidelines to improve health
  - Diversifying afforestation peatland restoration and catchment management have positive impacts on habitats.

1.13. <u>Implications for Arun District Council - General</u>

1.13.1. It would appear that the report is aimed at Government in the first instance. There is little that can be done without further guidance and funding from Government. Clearly, public awareness and understanding of the seriousness of the situation and its implications would go a long way towards a good start. This is true in terms of short-term actions to address climate change and also the longer term, therefore, all of our 'green' initiatives should not be allowed to lapse.

1.14. <u>Implications for Arun District Council - Coastal</u>

1.14.1. Arun needs to be fully engaged in the SMP Refresh and if it is forthcoming SMP3 mand its use in coastal defence policy and operational activities.

1.14.2. The report is a little generalised in its outcomes and how it reaches them, using the SMP as a quasi-universal indicator. This is not surprising, as there are many different types of beach around the country (from high rock cliffs to soft eroding intermediate ground to low shingle beaches). There is also clearly a range of 'forcing factors', leading to how beaches respond to prevailing natural conditions and then there are numerous ways in which human intervention has shaped, and is shaping, our current coastline.

1.14.3. In general terms, Arun district has two types of beach, those area that are susceptible to erosion – managed by Arun or private entities and this which are slightly lower and more prone to flood risk and typically managed by the Environment Agency.

1.14.4. As we experience sea level rise, there could be a transfer of land currently at erosion risk, moving to a greater risk of flooding. There have been no discussions on this point with the EA, as we currently have well defined lines between the areas. As time moves forward this will become a national discussion point, rather than a local one as sea level rise will effect all coasts.

1.14.5. In terms of Arun DC managed (erosion) frontages, they can be sub-divided into two types. Those with natural shingle beaches which will tend to roll back and increase in height naturally as they respond to increasing wave action and the other, where there has been a more noticeable human intervention for example with the construction of seawalls.

1.14.6. Firstly, addressing the more natural 'roll-back' situation, this is dependent upon a sufficient supply of shingle. Timber groynes, and a natural response, provide the best likely outcomes, provided there is a sufficient back-shore to enable unrestricted roll-back. We should be able to adapt and manage into the future However, if sea level rise occurs rapidly or there is a change to littoral drift processes, there could be a shift in the natural beach response. This was highlighted in the work done for SMP2 and is something that cannot be predicted with any degree of confidence at this stage.

1.14.7. Where there has been human intervention e.g. construction of seawalls. This tends to fix the defence line and could lead to ever increasing management requirements; again, this was covered in our SMP2. As set out in the report, there may come a time when difficult decisions need to be made and this should be kept on the agenda, at least until there is further guidance and/or funding that enable us to deal with those decisions properly.

1.14.8. If it is forthcoming, SMP3 and the policies identified need to be fully translated into Planning decisions. This is not an issue for Arun, as the Planning Teams are fully aware of the SMP and its policies.

1.14.9. Residents should be made aware of the risks, as far as they can be identified, as early as possible. We can help develop adaption plans to address change as it unfolds.

1.15. <u>Implications for Arun District Council - Housing & Land Use</u>

1.15.1. There is little in the either the Housing or Land Use reports that suggests or requires direct action from local government at this stage.

1.15.2. In general terms however, we must not be complacent and should do all that we can in terms of 'green' initiatives and day to day actions, to promote awareness of, and help offset or delay, the potential implications of climate change. This means applying our current policies in full and where possible negotiate additional mitigation beyond the current policy requirements.

1.15.3. Also in terms of our forthcoming review of the Local Plan the Council should model significant sea level increases; understand all the likely potential

impacts of climate change (including significant changes in rainfall and temperature) and develop a coherent strategy to accommodate and mitigate these changes.

1.15.4. It should be recognised that as part of this process the Council will need to consider very carefully along with its partners and the community whether in parts of the district a process of managed retreat should now be adopted.

2. PROPOSAL(S):

To note the report – especially the content and spirit of Paragraph 1.6

3. OPTIONS:

To ignore the contents

4. CONSULTATION:

Has consultation been undertaken with:	**YES**	**NO**
Relevant Town/Parish Council		✓
Relevant District Ward Councillors		✓
Other groups/persons (please specify)		✓

5. ARE THERE ANY IMPLICATIONS IN RELATION TO THE FOLLOWING COUNCIL POLICIES: (Explain in more detail at 6 below)	**YES**	**NO**
Financial		✓
Legal		✓
Human Rights/Equality Impact Assessment		✓
Community Safety including Section 17 of Crime & Disorder Act		✓
Sustainability	The report addresses assets and sustainability but does not suggest changes	
Asset Management/Property/Land		
Technology		✓
Other (please explain)		

6. IMPLICATIONS:

If the contents of the report are ignored the Council may not be as prepared, as might be possible, to address climate change in terms of the subject areas mentioned.

7. REASON FOR THE DECISION:

Recognition of the potential impacts and timescales (long and short) of climate change.

8. EFFECTIVE DATE OF THE DECISION: 12 June 2019

9. BACKGROUND PAPERS:

Committee on Climate Change https://www.theccc.org.uk/

and its various publications https://www.theccc.org.uk/publications/