

Coastal Loss Innovative Funding and Financing (CLIFF)

Facilitation of FCRIP project Interviews to establish a coastal financing current state framework

Callum Ellis and Will Healy | Project Managers

April 2023

1. Project background and overview
2. Assessment and evaluation approach
3. Project outcomes: *current state for a “coastal innovative financing framework”*
4. Next steps / recommendations
5. Appendix – interview read-outs

Contents

1. Project background and overview

Overview of CLIFF and this project

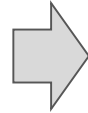
How did CLIFF Originate?

- In July 2020, the UK Government's published **Flood and Coastal Erosion policy statement**¹ committed to explore the **availability and role** of innovative financial products or services
- Aim is to **achieve a managed coastal transition** of property away from areas at risk of coastal erosion.
- In response to this, **CLIFF was launched, aiming to establish new financial mechanisms** that could support coastal areas

What work has CLIFF covered to date?

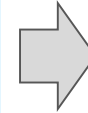
Phase 1a – Quick Scoping Review (2021)

- **Review past research** / case studies
- **Interview experts** to inform potential innovative financing and funding mechanisms
- **Develop options** to support properties impacted by flood and coastal erosion



Phase 1b - Feasibility Assessment (2022)

- **Assess option feasibility** and evaluate cost-benefit of 3x most viable options from phase 1a
- **Develop bespoke coastal risk financial model** to financing potential
- **Outline roadmap** to progress most practical scheme(s)



CLIFF Progression Workshop (2023)

- **Key stakeholder workshop** to identify **options for progressing** of coastal innovative funding and financing
- **Establish linkages from FCIP**, incl. related CTAP or FCRIP projects
- Refine and **develop coastal financing framework** to progress CLIFF

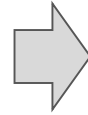
How CLIFF is being progressed through the new project work?

- Formalisation of the **Coastal Innovative Funding and Finance framework**
- **Interviews** with CTAPs, FCRIPS, Green Finance and Resilient Coast (+ others as applicable) to **understand the work that is being undertaken and how it fits in the framework**
- Identify **potential gaps** in the current framework

Evaluating current state for a “coastal innovative financing framework”

Key Components

- We have broken the project down into a **set of elements** to be resolved in order to review current state of coastal finance
- **Each element has a number of sub-elements** that need to be explored to see if they are viable options
- A **gap analysis** has been undertaken to **identify sub-elements that do not already have data available** and need to be studied so comparison can be made
- Once all sub-elements have been studied, the **most suitable combination** can be used. What is most suitable may vary by region



Framework Elements:

| | |
|-----------------------|--|
| Setup | Identify what needs to be true for the project to go ahead – policies in place, data to identify target residences, confirmation of public appetite |
| Enablers | Where the resources to fund the program could come from – what mix of public and/or private and whether this would be uniform or vary across programs |
| Administration | Establish how the scheme would be administered – through an expansion of existing mechanisms, a duplication (e.g. Coast Re) or something new/bespoke |
| Programs | Determine the payout type and nature – whether to rehouse people nearby, fund a move elsewhere, how much a household is allocated, what the trigger is |
| Beneficiaries | Depending on the scale and nature of the payout, determine the primary and secondary benefits – impact on individuals, community and commercial |

2. Assessment and evaluation approach

We have established the maturity of the “coastal innovative financing framework” through structured interviews

We have conducted a number of interviews for relevant FCRIP programmes, to provide further insight into:

- What innovative funding **mechanisms are already being tested**?
- Are FCRIP programmes **assessing policy challenges** that identify any blockers for implementation?
- Are FCRIP programmes fully evaluating each component of a coastal innovative financing framework?
- What gaps can be identified in order to improve maturity?

The interviews were conducted with a structured question set that included the following areas:

Summary of FCRIP project being undertaken

Key outcomes / objectives of each project and any **policy blockers encountered**

Alternative funding sources including the potential for self-sustaining funds

Discussion of how scheme funds were to be **administered**

The nature of **pay out mechanisms tested**

How outcomes can be **monitored** and **measured** and assess the **benefits**

Outcomes from this work will be used to map the “**current state**” of innovative financing options being **tested through FCRIP**

This mapping will be **evaluated against a “coastal innovative financing framework”** to assess potential gaps, areas for improvement and identify a suitable path forward

We have completed 7x interviews across a range of applicable FCRIP programmes

| Project | Interviewee Name(s) | Interview Date | Interview Complete? |
|--|--|--------------------------|---------------------|
| A Stronger Shores - marine habitats protecting coastal communities [link] | Michelle Hogg | 5 th January | Yes |
| B York and North Yorkshire catchment flood management [link] | Phil Delaney | 5 th January | Yes |
| C Tees Tidelands - Banking biodiversity credits to fund local flood resilience [link] | Zoe Fraser-Connell, Jane Salisbury, Zoe Seaman | 9 th January | Yes |
| D Innovative flood resilience in the Beverley Brook catchment in Richmond [link] | Elizabeth Bunker | 10 th January | Yes |
| E Resilient Frome [link] | Abigail Hall | 11 th January | Yes |
| F Smarter Flood Resilience - sponge catchments for people and nature [link] | Olivia Flint | 12 th January | Yes |
| G Project Groundwater [link] | Jed Ramsay, Andrew Rainsford | 16 th January | Yes |

Potential additional interviews to support any further work, include:

- **FloodRe** – follow up conversation on where CLIFF has got to and this mapping
- **EA Board** – Discussion with Mark Southern given his Green Finance background
- **FCRM Committee** – coming to NNDC in March, opportunity to mention this mapping and next steps
- **Green Finance Team** – follow-up with them on their project. Working on an “East Coast” program. Also have another insurance project ongoing

3. Project outcomes

Current state for a “coastal innovative financing framework”

Detailed overview of framework components (1/2)

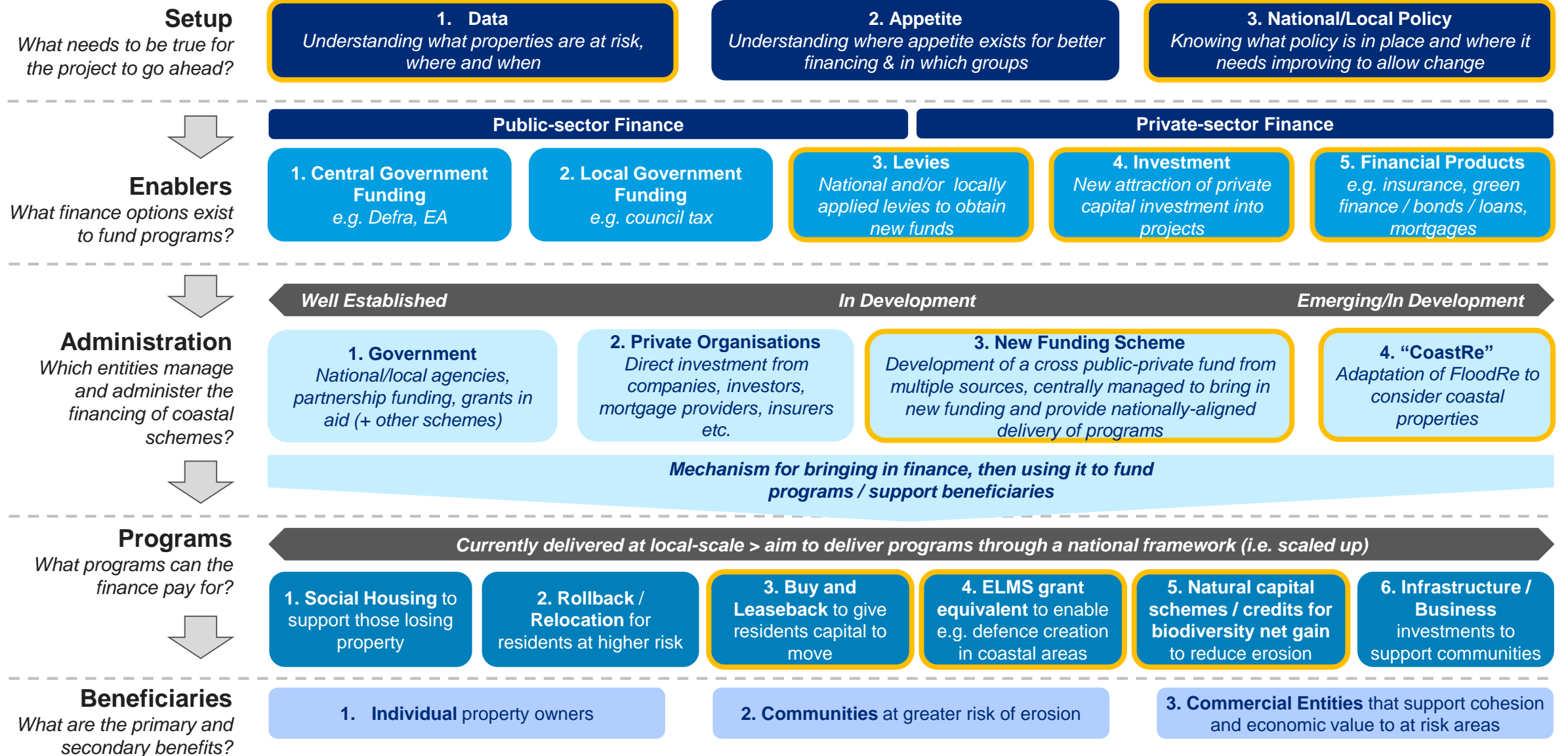
| Component | Definition | Current State / Relevant concepts explored in FCRIP projects | Potential gaps |
|-----------|--|--|--|
| Set-up | What needs to be true for the project to go ahead? | <ul style="list-style-type: none"> Projects initiated through Outline Business Case (OBC) process <ul style="list-style-type: none"> Issues identified with OBC process where it is unable to adequately recognise the direct / indirect benefits delivered. Potentially prevents new innovative mechanisms being progressed Policy barriers identified where government funding is used to generate a return on investment (e.g. sale of biodiversity credits) <ul style="list-style-type: none"> Further policy challenge work may be needed to identify suitable options to enable local authority led “innovative” projects All project delivered at local scale with no/limited view to assess potential for national scale up | <ul style="list-style-type: none"> Need an “innovative-OBC process” to enable more effective bidding / alternative to partnership funding Mechanism to develop legally constituted management mechanism (i.e. policy blockers removed) Need a national view of what can be scaled up Establish what FCRIP programmes are applicable in other localities nationally |
| Enablers | What finance options exist to fund programs? | <ul style="list-style-type: none"> Funding through FCRIP (government funding) predominant mechanism Increasing interest nature-based solutions from private investors, including companies who are directly impacted by the risks <ul style="list-style-type: none"> Potential for this to be better coordinated nationally Adaptation of existing approaches being explored incl. other government funding/schemes such as ELMS / biodiversity (BNG) credits Few FCRIP project looking to include private-sector investment <ul style="list-style-type: none"> Limits potential establish circular funding / self sustainable project e.g. through creating BNG units and selling the credits to private investors | <ul style="list-style-type: none"> Assess appetite for ‘national-led’ approach to deliver projects on a national basis Review of private-sector investment opportunities / financial products needed (likely required at national level – potential for some local testing) Investor appetite to fund projects needs to be assessed Understanding of how community funding would be implemented as this is currently just an area of potential |

Detailed overview of framework components (2/2)

| Component | Definition | Current State / Relevant concepts explored in FCRIP projects | Potential gaps |
|-----------------------------|---|--|--|
| Adminis- tration | Which entities manage and administer the financing of coastal schemes? | <ul style="list-style-type: none"> Projects largely run by the lead authority local council on the project <ul style="list-style-type: none"> Some formed of partnerships with local council / other Organisations More established projects have steering or working groups who are responsible for delivering the work No FCRIP programmes have evaluated “private funding” offerings to manage pots of funding (i.e. to further grow funding) | <ul style="list-style-type: none"> Administration currently only undertaken at a local level – review for national level administration needed To attract private funding, more flexible administration schemes to be tested (allow for national / public-private partnering) No centrally managed funding – held locally rather than at e.g. government |
| Programs | What programs can the finance pay for? | <ul style="list-style-type: none"> Good coverage of payout mechanisms and programs being examined <ul style="list-style-type: none"> Potential for more coastal projects For the majority projects, the money is used by the LA to fund resilience / mitigation measures <ul style="list-style-type: none"> Limited view of using funding to generate more funds Pay outs also made via a grant scheme to target action in key groups <ul style="list-style-type: none"> Grants are based on an eligibility criteria and funding formula for | <ul style="list-style-type: none"> Potential to test programs which assess a “circular / sustainable funding” approach <ul style="list-style-type: none"> I.e. funds are collected back from the initial investment made |
| Beneficiaries | What are the primary and secondary benefits? | <ul style="list-style-type: none"> Possible to quantify benefits using modelling, using scenarios to understand the expected outcomes – not yet fully underway Provision of benefits for different beneficiaries – individuals, communities and even industry Intention for monitoring and evaluation of benefits before and after the initiatives to quantify improvements | <ul style="list-style-type: none"> As the projects are all relatively new, there wasn't a lot of detail on the approach to monitoring / measuring benefits and they were often in progress <ul style="list-style-type: none"> Need to establish a robust way of monitoring benefits for CLIFF to ensure they are realised |

Current state summary for coastal financing

Key area requiring further exploration / assessment to improve data availability and understanding

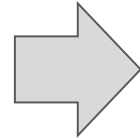


4. Next Steps

Where we are now vs. where we could get to...

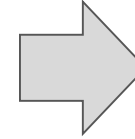
Now

- Running **Flood and Coastal Resilience Innovation Programme (FCRIP)** and **Coastal Transition Accelerator Programme (CTAP)** projects
- Programs currently only being run at a **local level to test what finance could be used to fund**
- **Trialing mechanisms** for implementing innovative measures to address flood and coastal resilience



This Work

- Refined the **coastal financing framework**, breaking down current state by element and sub-element
- **Interviews** held with select group of projects to understand **existing mechanisms and capabilities**
- Information from interviews compiled to provide an **overview of the status of each framework element** and identify gaps



Potential Goal

- Determine what the **gold standard approach for CLIFF implementation** could look like, using best practices from existing initiatives
- Identify **suitable options from FCRIP/CTAP that can be scaled up**
- **Collect evidence** to support coastal scale-up
- **Run program to scale local initiatives** to enable implementation on a national level

5. Appendix – interview read-outs

Stronger Shores - marine habitats protecting coastal communities



Brief explanation of project

- The aim is to **monitor** and **better understand** the composition of existing **coastal habitats** (including **seagrass meadows, kelp beds and native oyster reefs**) along the North East coast
- The project will **evaluate costs and benefits** of **marine nature-based** solutions to coastal protection in a UK context
- Information and data collected from the project will **assess the impact** that these habitats provide to **society**, especially to communities in the North East, as well as impacts on **climate change, biodiversity, water quality, and carbon capture**
- **South Tyneside Council** is the lead authority for the project

Key findings

| | |
|-----------------------|--|
| Setup | <ul style="list-style-type: none">• Sites have been taken over from previous projects• Majority of engagement has been with stakeholders and delivery partners, with an engagement plan in development |
| Enablers | <ul style="list-style-type: none">• Current funding through FCRIP (April 2021 – March 2027)• There has been an increase in private investors for nature based solutions e.g. Hendricks & Carlsberg• Green financing review required to understand private investment requirements |
| Administration | <ul style="list-style-type: none">• Project fully funded following approval of business case• Approve of the idea of a government run centrally managed fund for private funding |
| Programs | <ul style="list-style-type: none">• Money used to fund coastal habitats to enhance coastal protection |
| Beneficiaries | <ul style="list-style-type: none">• Looking at a range of benefits throughout the project• Difficult to breakdown cost as the project works with many delivery partners who have volunteers• RPA undertaking monitoring and evaluation of benefits of FCRIPs |

York and North Yorkshire Catchment Flood Management



Brief explanation of project

- This project involves looking at **Natural Flood Management (NFM)** options, including attenuation features, hedgerows and soil management
- The project is split in four work packages:
 1. **Flood modelling of catchment area** to understand how changes in land use and land management impact flooding
 2. **NFM initiatives incentivised through a grant scheme**
 3. **Engagement** with communities
 4. **Establish a legacy** to ensure funding beyond the FCRIP project (flood partnership funding and Environmental Land Management Funding (ELMS))
- **City of York Council** is the lead authority for the project and has previously spent millions on flood defences since 2015

Key findings

Setup

- Project initiated through a **business case** which was approved in summer 2022
- Project looks at whole catchment area

Enablers

- Current funding through **FCRIP** until 2027
- Ongoing efforts within catchment e.g. nature for climate funding, which is a strand of **ELMS/central government**
- **Private funding** to be used in future: brokerage schemes, impacted companies

Administration

- York City council is working with **North Yorkshire County council**, as part of the catchment is outside their council area
- No intention to draw a local levy on project-by-project basis as the **changes will be small**

Programs

- Payouts will be made via a **grant scheme** to people (e.g. farmers) who take action to **reduce flooding and implement NFM practices**
- Grants will be based on an **eligibility criteria** and **funding formula** for consistency – looking to finalise this by the end of the project

Beneficiaries

- Benefits quantified using **modelling** – intention for more in depth scenario modelling to understand expected benefits
- Grant scheme will be based on **NFM benefits** and will evaluate the set up of the scheme once modelling results are available

Tees Tidelands – Banking biodiversity credits to fund local flood resilience



Brief explanation of project

- The project is designed to **provide flooding resilience** to the low lying lands surrounding the Tees estuary
- It is split in three strands:
 1. A demonstrator site in Pt. Clarence, building a **biodiverse habitat** and creating Biodiversity Net Gain (BNG) units
 2. **Enhancing flood resilience** through building awareness of flood risk in the local community
 3. **Habitat banking** through selling the **BNG units** to offsite developers, using the money to reinvest in flood RM and purchase more habitats
- **Stockton-on-Tees BC** is the lead authority for the project and it is a FCRIP project

Key findings

Setup

- Project initiated through an **outline business case (OBC)** in Nov 2022
- Pre-OBC, work was done on potential **banking scheme mechanism**
- Ongoing discussions regarding claw back of funding: If EA funding used for habitat creation, the money goes to EA. If **LA** involved, **profits can be realised**

Enablers

- Funded from **FCRIP** (until 2027)
- Aims to bring income through **habitat funding**, becoming self sustainable
- **Private funding** through selling credits to industrial developers who need 10% net gain in biodiversity who can buy BNG units offsite

Administration

- Creating a **working group** for banking strand, who will create an **entity to sell the credits**
- Potential to turn this into a **body to deliver the work**, but would need to establish **resource** and **expertise**

Programs

- The funding is being used to develop **flood resilience** and **habitat area**
- The project will enable **further flood RM** at other sites that previously may not have been viable but, with the income from BNG credits, becomes viable
- Potential to include **carbon / nitrogen offsetting**

Beneficiaries

- Monitoring and evaluation of benefits in progress
- Benefits of BNGs are easily assessed, but expertise is required for the flood resilience benefits
- **Beneficiaries of all levels:** Pt. Clarence is home to industry e.g. chemical plants

Innovative flood resilience in the Beverley Brook catchment in Richmond



Brief explanation of project

- The project has three work streams:
 1. Delivery of **flood resilience measures**, including those that are more nature-based
 2. Communication and **engagement with the community** to understand residents' understanding and wants
 3. **Monitoring and evaluation** of the solutions, looking at both the quantitative outcomes and community benefits
- Richmond Council** is the lead authority for the project, working in partnership with **Barnes Common Ltd.** and **Wildfowl and Wetland Trust** and it is a FCRIP project

Key findings

Setup

- Plan to have **legally constituted management mechanisms** in place, however this will need an innovative mechanism which is not yet underway
- Thus far **no policy barriers** have been met, however they are planning on doing **policy challenge work** to determine barriers and make recommendations

Enablers

- Funding is largely from the **EA**, however **partnership funding** is being looked into i.e. with Wandsworth Council or Thames Water
- GLA **Green and Resilient Spaces fund** will be applicable to specific projects
- Also potential to see how the **community** can be involved in funding

Administration

- There are the three main partners, however the funding is mainly managed by **Richmond Council**
- EA/DEFRA pays the council** and then Richmond hold the money until there is sign off from the project board, and then the money can be spent in that remit

Programs

- The funding is being used to develop **flood resilience**
- Many projects undertaken e.g. highways and draining improvement, nature-based solutions such as river renaturalisation, integrating wetlands etc.

Beneficiaries

- Plan to have **monitoring and physical surveys** before and after initiatives to quantify improvements
- Qualitative data collection** to understand how people feel they have benefitted to track the impact of the coproduction service

Resilient Frome



Brief explanation of project

- The project is based on the River Frome catchment aiming to **improve flood risk** using innovative options. The workstreams are:
 1. **Natural flood management (NFM)** in Frome headwaters
 2. **Retrofit SuDS** in urban areas
 3. **River restoration** in new development along Frome river
 4. **Policy challenge** for new developments in flood zone
 5. **Hydrometric monitoring** in culverts
 6. **Innovative private funding** to fund additional NFM measures
- **Bristol City Council** is the lead authority for the project, and it is a FCRIP project

Key findings

| | |
|-----------------------|--|
| Setup | <ul style="list-style-type: none">• OBCs signed off in September 2022• Innovative funding yet to start – still in early stages• Looking to challenge policy on developing in flood zones – not related to the funding |
| Enablers | <ul style="list-style-type: none">• Plan to procure private funding through consultancy, who go to landowners or businesses and to get funding, promising benefits including reduced flood risk• E.g. 3Keel who have LENs (Landscape Enterprise Networks) innovative funding process. Money from businesses put into central pot |
| Administration | <ul style="list-style-type: none">• N/A not currently established |
| Programs | <ul style="list-style-type: none">• The funding will be used to pay for the workstreams, including SuDS and NFM• For these two aspects, have analysed sites at risk of flooding and those that can help flooding downstream and found 40 sites, but only 10-15 can be funded through FCRIP |
| Beneficiaries | <ul style="list-style-type: none">• Benefits to private investor organisations, more than just reduced flood risk but also improving employee wellbeing and customer experience• Quantifying benefits for these investors depends on outputs of SuDS analysis – currently not sure of approach as there will be different things to measure |

Smarter Flood Resilience - sponge catchments for people and nature



Brief explanation of project

- The project is looking to deliver **surface water flood resilience** through **Sustainable drainage systems (SuDS)**, or controlled flooding and storage using open land
- Many different flood solutions will be tested in **two catchment areas** - Salt Hill Stream and Chalvey Ditches
- Focus on **open spaces**, including parks owned by the council or schools
- **Benefits** include carbon reduction, air quality, traffic journey time, transport modelling, biodiversity

Key findings

Setup

- Project looks to determine the benefits of having a SuDS local policy
- A key part of the project is empowering the local community to play a key role in choosing the adopted flood solutions

Enablers

- Looking to get funding from **Department of Education** for SuDS in schools
- Slough estates is a large area of land owned by **Segro** so opportunity to work with them to implement solutions
- **Thames Water** funding requires demonstration of reduced flow into their systems

Administration

- Initial FCRIP grant approved by **EA**
- **FC-ERM3 claims required** to draw money from the overall budget pool up to **3 months** in advance
- **Steering group** makes day to day decisions on projects

Programs

- Currently having **issues with procurement rules** so partnerships not finalised

Beneficiaries

- Project aims to gather an **evidence base of benefits** to demonstrate SUDs and nature based solutions **should get more funding**, not just flood funding
- The project had communities in mind and will provide sustainable public spaces

Project Groundwater



Brief explanation of project

- The project is designed to **evaluate how groundwater is addressed**
- This includes: monitoring, modelling, mapping, warning, policy reviewing
- There are two main strands:
 1. Flood resilience measures
 2. Community engagement and facilities
- **Buckinghamshire Council** is the lead authority for the project

Key findings

Setup

- OBC signed off Nov 2021
- Only just launched the website, as they were waiting to be ready to engage
- Found **issues with the OBC process** – felt the FCRIIP program had been shoehorned in and was a tick box exercise: somewhat **stifles innovation**

Enablers

- As well as FCRIIP funding, **water companies** and **LAs contributing** – also two **innovation tech funds** being used which are government sources
- **Young Foundation** funding community consultation - scope for the community to contribute

Administration

- N/A

Programs

- The project is looking at **property flood resilience measures**, including research to improve the offering and trialing installations, and NFM
- Also **focus on community facilities** e.g. those that will help people when flooding occurs and people lose access to amenities

Beneficiaries

- Individual and community benefits will come from flood resilience measures and community facility focus – also aware of potential **mental health benefits**
Thames Water also have benefits: it will **help with their data and mapping** as groundwater infiltrates into their sewage network, then also **reputational benefit**



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