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Help us improve this document:

This document represents the current best thinking available from the literature and within the consortium of how regions can develop Investment Plans which help them mobilise the resources. However, it is a rapidly evolving area, with new approaches and examples constantly being generated. In addition, piloting this work with 100 regions will result in significant amounts of new learning and understanding. Therefore, the guidance will be updated over the lifetime of the P2R project, based on our learning from working with our 100 regions.

If you have any feedback on how it could be further improved throughout the lifetime of the Pathways2Resilience programme, please provide feedback to hello@pathways2resilience.eu

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Foreword

Adapting to ever more challenging climate futures provides significant economic, societal and environmental benefit to European regions and Europe as a whole. But numerous assessments have shown us that the amount of money being spent on adaptation is significantly below what is needed, and that public finance alone will not be enough. At the same time, the EU Adaptation Mission sets very ambitious goals, stretching regions further.

We know why the funds being allocated to adaptation are insufficient – there are issues relating to information, finance, market failures, policy and governance, and behaviours. There are also many practical barriers. But whilst the solutions will look different from region to region, we also know what to do to shape and redirect regional economies towards increased climate resilience through the use of strategic public financing, policy, regulation, and incentives.

Pathways2Resilence is supporting regions to develop Climate Resilience Investment Plans. These help regions translate their visions into bankable projects, helping quantify and structure the financing of their adaptation. In doing so, it encourages them to prioritise projects and diversify the range of sources and instruments, crowding in finance and action from the private sector, communities and citizens.

This practical guide outlines the process involved in this and helps regions to create an Investment Plan to boost their adaptation financing. As such, it is a significant step forward, but in many senses, it just marks the beginning – the real change will happen once regions start to pilot it, and work with us to enhance it further. We are eager to see what we manage to accomplish together.

Thomas Koetz and Laura Pando Martinez
Coordinators, Pathways2Resilience

Executive Summary

Introduction

This guidance is designed to support regions participating in Pathways2Resilience ("P2R regions") to develop Climate Resilience Investment Plans. The objectives of the guidance are to:

- Provide an overview of the process required to develop a Climate Resilience Investment Plan as part of the Regional Resilience Journey.
- Help regions scope, prepare and deliver their Climate Resilience Investment Plans.
- Build the adaptation financing knowledge and capabilities of those leading or participating in developing a region's Climate Resilience Investment Plan.
- Provide an entry point for further training and learning on adaptation finance.

The guidance provides a model process for a region to develop a Climate Resilience Investment Plan to meet the investment needs for the region that are identified in the Strategy and Action Plan, in collaboration with investors and the private sector. In doing so, it helps regions move from high-level adaptation visions to a pipeline of bankable actions. The first half of the guide explores the concept of an Adaptation investment Cycle and its benefits, whilst the second half is dedicated to the detailed practical guidance required to follow the cycle and produce a Climate Resilience Investment Plan.

The Regional Resilience Journey, Adaptation Investment Cycle and Investment Plans

Proper consideration of economics and finance throughout the adaptation cycle is a key enabling condition for adaptation. Because the delivery of a Climate Resilience Strategy and Action Plan depends on the availability of finance, and robust financing plans depend on knowing what you want to do, the processes are designed to be undertaken together. Pathways2Resilience has integrated a financing process into the Regional Resilience Journey (RRJ), known as an Adaptation Investment Cycle (AIC). This alignment is shown below:

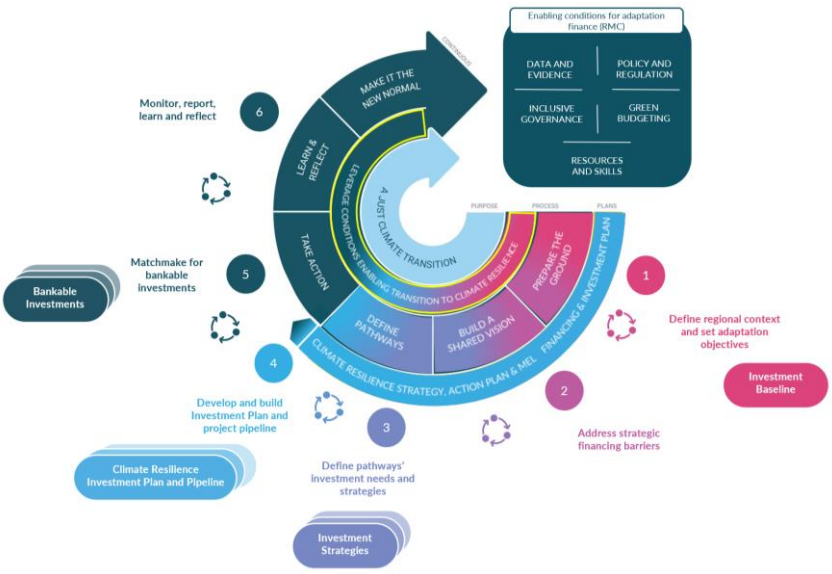


Figure 1: The Adaptation Investment Cycle phases supporting the Regional Resilience Journey.

What an Investment Plan is and why it is needed

Climate Resilience Investment Plans translate your region's vision and Strategy into a pipeline of bankable projects for their action plan. They have a number of characteristics:

Figure 2: Characteristics of Climate Resilience Investment Plans.

Through these characteristics, they focus on financing the near-term actions of a region, whilst anchoring them in an equitable, region-wide, long-term approach to financing the entirety of the region's adaptation needs, The approach is aligned to the economic and financial planning frameworks of public and private sectors, helping maximise the use of public money to crowd in additional investment,

Producing a Climate Resilience Investment Plan opens up new possibilities to fill funding and financing gaps for Strategies and Action Plans. They ensure regions cost their total finance needs, appraise their economic and financial benefits, and use a diverse range of sources and instruments to structure bankable projects and a positive investment environment as part of a longer-term investment strategy for their pathways and innovation agendas.

The process maximises economic benefits and help fit adaptation needs within the limited budgets of the public sector by acknowledging that not all adaptation is urgent now. By sequencing and prioritising actions based on timings of risk, benefits, and existing policy and investment decisions, Investment Plans can help you meet adaptation needs within budgetary constraints and prioritises options which offer good value for money.

Developing an Investment Plan also maximises the chances of financing by activating and mobilising stakeholders, increasing the visibility of investment needs and opportunities. Finally, the process helps regions better understand the state of play, and builds region's collective skills, knowledge and capabilities in adaptation finance.

How to produce an Investment Plan

As the process aligns with a complete adaptation planning cycle, the AIC consists of six phases. However, Pathways2Resilience is focusing on supporting regions to producing strategies and action plans that get you ready for implementation. Therefore, this guide focuses in detail on the first four phases of the AIC, which focus on developing the Investment Plan.

The Adaptation Investment Cycle has 12 tasks that help regions to move through these phases and develop their investment plans. These are shown below:

Figure 3: Phases and tasks to develop a Climate Resilience Investment Plan. Colours indicative relative importance for development.

Each Task is supported by a series of case studies, resources and materials to help you apply them in practice. A summary of each phase and its main activities are as follows:

Phase 1 – Define the regional context and set objectives

The aim of this phase is to understand the context for adaptation. This involves the policy and financial context, this includes regional development objectives, policy goals for adaptation, as well as the relevant financing processes and criteria, as well as existing relationships with the private sector and future investment decisions in the region. It also involves identifying an indicative budget envelope for thinking about the investment plan development.

Task 1.2 then involves collecting data on the historic financial and economic impacts of extreme weather, as well as on future costs on inaction, to help frame adaptation as a positive economic narrative and demonstrate it can help meet wider economic, social and environmental policy goals. Finally, these should be used to identify an initial budget envelope and develop a rationale and spending objectives to underpin the Investment Plan.

Phase 2 – Address strategic financing barriers

The aim of this phase is to understand the potential to diversify and scale the range of strategic financing options available to the region for adaptation. You can do this by exploring range of financing approaches already being used by the region and identifying future strategic sources and instruments that you may wish to use. Finally, regions identify barriers to unlocking these approaches and actions that are needed to help realise them either during the lifetime of the region's Strategy and Action Plan, or during their development.

Phase 3 – Define pathways' investment needs and strategies

The focus of this phase is putting together a longlist of adaptation options that are economically effective, prioritising and sequencing them into pathways and then developing possible investment strategies to realise them. This links heavily with the RRJ tasks in the RRJ to explore options, assess their effectiveness and sequence them into pathways with short, medium and long-term actions.

Phase 4 – Develop and build the Investment Plan

The aim of this phase is to finalise the economic and financial case for the region's action plan, ensure each action has financing approaches are in place. You then select the final bankable projects and actions for the Action Plan and Investment Plan, as well as the actions to improve enabling conditions for finance.

This involves evaluating the costs and benefits of the project in economic and financial terms and checking they are acceptable to the region. For those that are acceptable, it then involves checking there are financing approaches in place and undertaking structuring if needed, before then deciding on the final set for inclusion in the action plan, and the enabling conditions actions required to achieve them.

Once these phases are completed, you should compile your Investment Plan, ensure it has senior management and political approval and publish it. The pipeline of projects can be published on an investment prospectus, or submitted to the InvestEU portal, or other funding or financing mechanisms such as the Cities Capital Hub or the EIB's ADAPT Advisory platform.

Whilst the AIC is presented as a set of sequential phases and tasks developing an Investment Plan is not necessarily a linear process, and instead it is likely you may need to iterate a number of times. Therefore, the Adaptation Investment Cycle should be considered illustrative, and you may need to adapt the process to fit the local context.

The development of a Climate Resilience Strategy and Action Plan and Investment Plan go hand in hand. This means some of the Tasks are common to both the RRJ and AIC phases and tasks (for example economic appraisal of pathways), whilst others rely on inputs from the other journey (e.g. the list of options produced in the RRJ that are appraised for economic and financial viability). Throughout the guide we have highlighted where outputs from the RRJ can be used as inputs into the AIC process and where outputs can support the RRJ tasks. The specific linkages are discussed at the start of each phase of the AIC tasks.

Further guidance and support

Whilst this guide forms the backbone of the Investment Planning process for Pathways2Resilience, there are a much wider set of resources available to support the process, and to build your knowledge and understanding of all the elements in adaptation finance. P2R has bought these together in the Climate Toolbox. It includes guidance, training, presentations, websites and tools that provide more detailed examples of the topics referred to throughout this guide. Initial further resources that are in the toolbox are referred to throughout the guide.

1 Introduction

The EU Mission on Adaptation aims to create 150 climate-resilient regions and 75 demonstrations of systemic transformations by 2030, requiring significant investment. The Mission Implementation Plan leverages Horizon Funds to mobilize public and private funding for adaptation.

Regions and subnational governments, traditionally recipients of public adaptation funds, must now transition into stewards of adaptation capital. This involves leading financial planning processes to scale and target adaptation finance, similar to cities' roles in the EU Mission on Climate Neutral and Smart Cities. In that initiative, through the NetZeroCities project, cities develop climate neutrality and investment plans, forming a Climate City Contract, as supported by the NetZeroCities project.

Pathways2Resilience aligns with this approach, demonstrating how regions can lead adaptation efforts, moving beyond recipients of financing to active financial planners in achieving climate resilience as shown below:

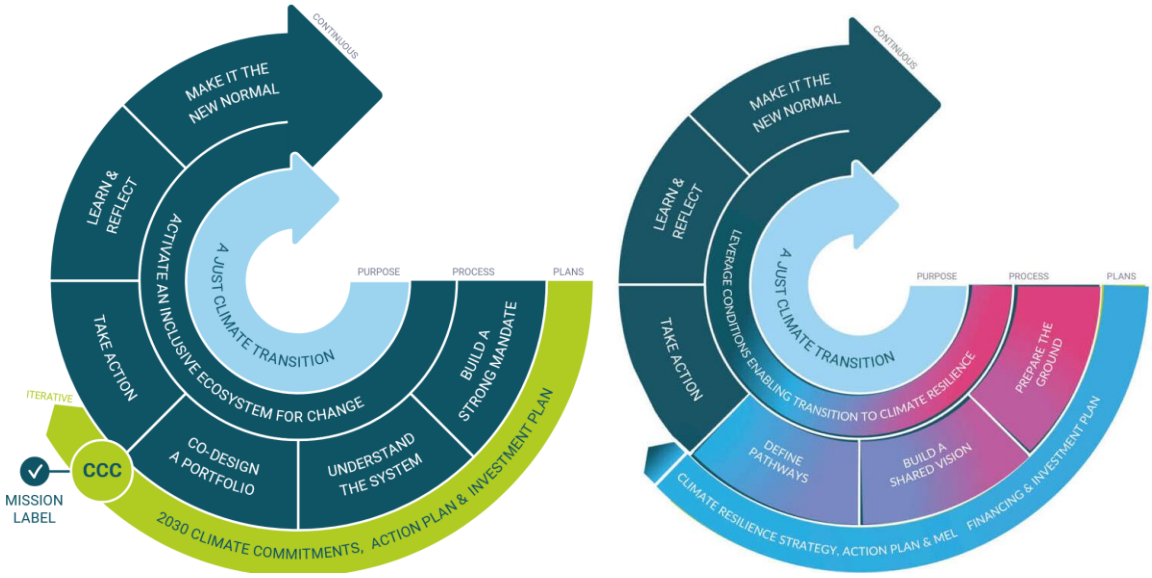


Figure 4: The Climate Transition Map from NetZeroCities (left) and the Regional Resilience Journey for the Adaptation Mission (right).

This in turn unlocks additional investment support through the Mission Cities Capital Hub, a new dedicated investment facility from the Commission and the EIB to help finance the mitigation and adaptation missions. But the additional financing challenges presented by adaptation (such as context-specific nature of adaptation, the low revenues or returns, the uncertainty of future climate change and the need for coordinated collective action to implement adaptation options) means that planning for adaptation investment warrant a different process. This combines financial structuring with Strategy and Action Plan development to address these barriers effectively.

As regions you are the perfect scale to play this role. You understand their local economic, social and environmental needs. You understand risks and robust adaptation options, are networked enough to engage a wide range of actors, and large enough to lead action and push for stronger enabling conditions from member states and the Commission when things are not

working. And many of you already have robust financial and investment management processes to build on to develop and structure bankable projects.

Who is this guide for?

This guide is for individuals within the P2R regions who will lead the development of their regional Climate Resilience Investment Plan (CRIP). It is designed to ensure you are familiar with the Investment Plan process, in turn ensuring you can help engage and involve others in the efforts. However, the guide will also be useful to other audiences, including:

- Those being engaged in the development of a Climate Resilience Strategy and/or Investment Plan, who want to understand the process in more detail.
- Financing institutions supporting regional adaptation or looking for investment opportunities.
- Consultants supporting regions in developing elements of their CRIP.

Just like any other topic, climate financing has its own range of terms and language. The most used ones throughout this guide to aid understanding are outlined in more detail in the box below:

Explainer: Key terms in adaptation and climate resilience financing

This guide uses a range of finance-related terms to help describe the process and its individual tasks. The most common ones are:

Sources – Sources are defined as the entities able to provide the money to fund adaptation activities within a region. Examples of sources include the European Commission, the European Investment Bank, Businesses, Commercial Banks, SMEs, and Universities.

Instruments – Instruments are the mechanisms which enable the provision of finance from one actor to another, or to a dedicated project which delivers adaptation. Examples include Grants, Loans, Taxes, Debt. Note: Instruments vary in complexity – they can be generic (e.g. grants) or tailored (e.g. the Hamburg Green Roof Subsidy), or somewhere in between.

Financing – We use the term 'financing' to cover all approaches to investment in adaptation despite being different in two main ways. Funding refers to money provided without expectation of being repaid (though it may have conditions attached). Examples include European Commission grants, EIB Technical Assistance, or intergovernmental transfers. Financing is money provided by a lender which must be repaid over a period of time, typically with interest. Examples include an EIB Framework loan, commercial loans, or Green Bonds.

Bankable project – A project is bankable if it meets the terms required by the source to provide the finance.

Further terms and detailed descriptions are set out throughout this guide and in the glossary available on the Pathways2Resilience website.

Aim, objectives and scope of this guidance

The aim of this guidance is to provide a model process for developing a Climate Resilience Investment Plan for regions participating in Pathways2Resilience. It is particularly targeted at those in regions leading the development of the region's Investment Plan, such as the P2R programme manager and the adaptation finance officer, as well as those inputting into its development, such as technical officers and consultant, community engagement coordinators, politicians and innovation experts.

The objectives of the guidance are to:

- Provide an overview of the process required to develop a Climate Resilience Investment Plan as part of the Regional Resilience Journey.
- Help regions scope, prepare and deliver their Climate Resilience Investment Plans.
- Build the adaptation financing knowledge and capabilities of those leading or participating in developing a region's Climate Resilience Investment Plan.
- Provide an entry point for further training and learning on adaptation finance.

The guidance provides a model process for a region to develop a Climate Resilience Investment Plan to meet the investment needs for the region that are identified in the Strategy and Action Plan, in collaboration with investors and the private sector. In doing so, it helps regions move from high-level adaptation visions to a pipeline of bankable actions. You should refer to this guidance throughout the development of your investment plan.

Whilst the guide is comprehensive, it is not:

- **A guide to bankable adaptation projects -** The guide is not designed to help develop individual bankable adaptation projects. Readers are advised to consult documentation and work from sister Mission projects, particularly ClimateFIT, Soteria, and PIISA, as well as the Mission Implementation Platform, the Climate Cities Capital Hub and MIP4ADAPT.
- **About adaptation planning** – Though successful financing is informed by, and informs, adaptation projects, this is not the primary focus of this guide. Certain steps of the investment planning process rely on inputs from the adaptation planning process. Where this is the case, the guide refers to the Regional Resilience Journey guidance.
- **Focused on mitigation** – Whilst parts of the process are like those for mitigation (for example, governance and enabling conditions), the guide has been designed to address the particular challenges and barriers of financing adaptation.
- **Prescriptive** - It does not advocate a particular course of action for adaptation. Instead, it provides a gold standard replicable process which regions can follow or adapt for their own situations.
- **Legal advice** – This guide does not constitute legal advice. All parties must seek appropriate legal, financial and commercial advice for projects they are involved in.

The information in this guide is presented in sequential chapters, providing an introductory context, preparatory steps and the detailed Phases and Tasks required to successfully develop a Regional Climate Resilience Investment Plan.

- Section 1 provides the introductory context, including the Regional Resilience Journey, and the role of regions in financing adaptation.
- Section 2 outlines the preparatory actions needed to establish and run the Investment Plan process.

- Section 3 sets out the Phases and Tasks involved in developing an Investment Plan.

The Appendices provide a series of useful additional information to support you in developing your Climate Resilience investment Plan.

Throughout the guidance there are included several types of boxes to help you:

Insights – Practical hints based on insights from those who have already undertaken some of the activities in this guide. They don't guarantee success but are hallmarks of approaches that will likely create more conditions for success.

Explainers – These explain the underpinning methods and concepts in Investment Plan tasks. They provide in-depth coverage of the more complex areas of the process which may be less familiar and are designed to build your awareness and understanding.

Food for thought – these boxes highlight issues that should consider carefully as you develop your Investment Plan to help it meet your region's local context, needs and constraints.

Case studies – These showcase regions (in the EU and beyond) undertaking Tasks of the Adaptation Investment Cycle. Because the Investment Cycle and Climate Resilience Investment Plans are innovative concepts with limited examples, we have drawn on example activities aligned to the investment planning process to illustrate individual tasks.

The Regional Resilience Journey and the Adaptation Investment Cycle

Pathways2Resilience is working with 100 regions through its transformational adaptation planning approach, the Regional Resilience Journey, to develop a Climate Resilience Strategy and Action Plan. The EU Mission recognises finance as a Key Enabling Condition for adaptation in regions. Because the delivery of a Climate Resilience Strategy and Action Plan depends on the availability of finance, P2R has designed a parallel process for this KEC, known as the Adaptation Investment Cycle (AIC). The processes shown in Figure 5 below are designed to be undertaken together.

This approach has a number of benefits:

- Financial and economic constraints (such as cost-benefit ratios, or fiscal space limitations) can be accounted for early in the process.
- As finance needs or constraints emerge, adaptation options can be updated.
- The potential benefits and co-benefits from adaptation options can be used to inform the development of possible financing solutions.

The AIC consists of six phases, each containing a number of Tasks. This guide only focuses on the first four phases of the AIC, which focus on developing the Investment Plan. The final two phases of the cycle focus on implementation. Phase 1 relates to collecting the information required for the Baseline Report, whilst Phases 2, 3 and 4 relate to the Investment Plan

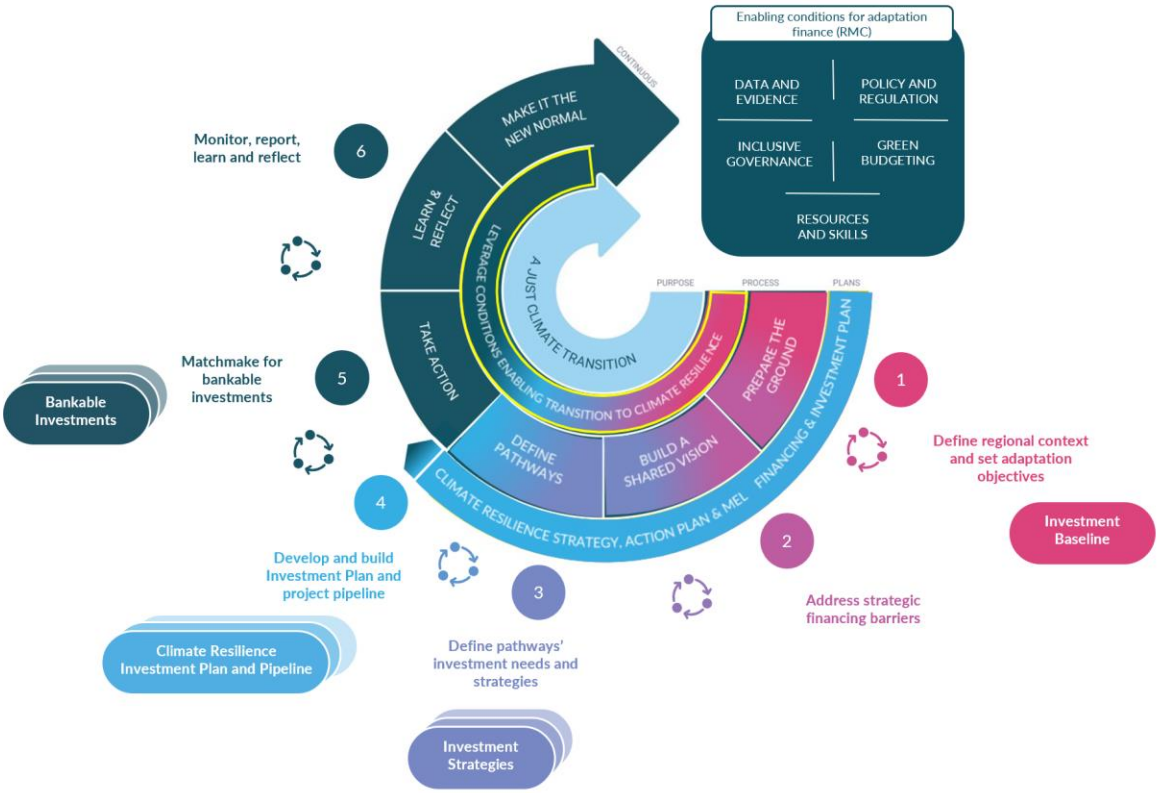


Figure 5: The Adaptation Investment Cycle phases mapped onto the Regional Resilience Journey.

To guide regions through developing a Climate Resilience Investment Plan, we have identified 12 tasks, across the first four phases of the Investment Cycle. These are shown below:

Because the development of a Climate Resilience Strategy and Investment Plan go hand in hand, some of the Tasks are common to both the main RRJ and the AIC, with some tasks from each of the RRJ and AIC serving as inputs or outputs to one another. Throughout the guide we have highlighted where outputs from the RRJ can be used as inputs into the AIC process and where outputs can support the RRJ tasks. An overview of the linkages is included at the start of each Phase.

The Investment Plan is not necessarily a sequential process (although illustrated as such), and it is likely you may need to iterate some Tasks several times. Therefore, the AIC should be considered illustrative, and you may need to adapt the process to fit your local context.

What is a Climate Resilience Investment Plan?

The main output from following the AIC is a Climate Resilience Investment Plan. Climate Resilience Investment Plans are documents which outline how regions intend to finance the pathways outlined in their Climate Resilience Strategy, with a specific focus on ensuring the short-term actions are bankable adaptation investments. They build on global Adaptation Investment Planning approaches and are closely aligned to the Climate Neutrality Investment Plans of the European Commission's Mission to create 100 Climate Neutral and Smart Cities. They have a number of characteristics, summarised below in Figure 6:

Figure 6: Characteristics of Climate Resilience Investment Plans.

- **Aligned to Climate Resilience Strategy and Action Plans** – Climate Resilience Investment Plans align to regional Climate Resilience Strategies, Action Plans and Innovation Agendas, providing the detail on how they will be paid for.
- **Economic and Financial Planning** – They are an economic and financial planning tool, with detailed information for a region's adaptation investment, within public financial management criteria, to enhance its deliverability, credibility, and scalability.
- **Region-wide, place-based approach** – An Investment Plan provides a comprehensive statement of the entire current and future investment needs and opportunities across the region, collating information from public, private and third sectors.
- **Covers priority risks and opportunities** – The Investment Plan sets out financing strategies for the adaptation pathways which comprehensively address climate risks, realise opportunities and support systemic transformation.
- **Iterative, maturing process** – Plans are developed iteratively alongside Climate Resilience Strategies and Action Plans and mature over time.
- **Catalyst for capital** – As the focal point for adaptation investment, Investment Plans are designed to act as a catalyst, triggering new and additional investment from public and private sectors and financial institutions.
- **Long-term focus, short term action** – They are rooted in financing a region's long-term adaptation pathways but focus on developing detailed approaches to mobilise the finance needed to deliver the short-term actions.
- **Equitably, inclusively governed** – Climate Resilience Investment Plans should be developed using equitable and inclusive governance. They should involve stakeholders from the public, private and third sectors, particular those most vulnerable to or affected by climate change and adaptation action.

Why develop a Climate Resilience Investment Plan?

Producing a Climate Resilience Investment Plan will provide multiple benefits, helping you to:

- **Open new possibilities to fill funding and financing gaps** – the process encourages more collective responsibility for risks and adaptation across communities, the private sector and financiers, based on who benefits. This encourages the development of innovative financial approaches.

- **Help meet budgetary constraints or limitations** - This approach helps to prioritise, sequence and phase investments over time to meet constraints on public finance and align with the rising climate risks.
- **Increase visibility of investment opportunities and needs** – an Investment Plan increases the visibility of investment needs and opportunities to governments, investors, and intermediaries by providing a 'go-to' place.
- **Use public financing strategically**, ensuring that it is targeted to the role of the public sector, notably to pay for solutions which truly benefit everyone (public goods in non-market sectors); to leverage and crowding-in private finance; and support innovation needed for transformational adaptation.
- **Activate and mobilise stakeholders** – involving stakeholders in the design of adaptation pathways and financing approaches helps increase the likelihood of delivering or financing climate action at the end of the process.
- **Better understand the state of play** – including the costs of doing nothing, investment needs, existing flows and the finance gap.

Use cases and audiences

Their main use of a CRIP is to translate a region's high-level pathways into bankable projects. In doing so, they can be a standalone document or used as an input into wider capital and revenue investment planning.

There are also a series of secondary use cases for an Investment Plan:

- **Convincing stakeholders on the need for further action**- Developing the strategic economic case for adaptation and gathering the economic and financial evidence.
- **Developing priorities for to improve the enabling environment** – The process can identify improvements to the enabling environment (e.g. improvements in regulation, markets or policy), in areas where financing needs to be scaled or improved.
- **Diversifying finance sources and instruments to boost finance -**the AIC can help regions identify potential new sources of finance and the most suitable instruments that may support implementation of a Climate Resilience Strategy and projects.
- **Enhancing financing considerations of an existing adaptation strategy or action plan** – The AIC can be applied to existing Climate Resilience or Adaptation strategies to enhance their implementation.
- **Supporting bankable climate proof or adaptation projects** – The range of information gathered in the development of Climate Resilience investment Plan can also be used as inputs into the development of individual adaptation or climate proofing projects.
- **Supporting a pitchbook for investors** – The process can help regions develop the information a series of projects that is usually required for seeking inward investment into their region.

For each of these secondary use cases, we have identified the final elements in the template as not required, essential, essential but advanced or optional. Your region may have already completed some of the activities for each use case, and so you should always compare the investment plan contents with their existing regional contexts.

●+ Essential but advanced ◑ Optional for this use case
● Essential ○ Not required

Section	Secondary use cases					
	Convincing stakeholders on the need for further action	Developing priorities to improve the enabling environment	Diversifying finance sources and instruments for adaptation	Enhancing financing of existing adaptation strategies	Supporting Bankable climate-proof or adaptation projects	Supporting a pitchbook for investors
1. Introduction, Context and Spending Objectives						
1.1 Regional Context						
1.1.1 Policy Context	○	○	○	○	●	◑
1.1.2 Planned development expenditure	◑	◑	◑	◑	●	●
1.1.3 Budgetary process	○	○	◑	●	●	◑
1.1.4 Revenue and Capital Investment Process	○	○	◑	●	◑	◑
1.1.5 Budget envelope	○	◑	◑	◑	◑	◑
1.2 Costs of climate change and near-term investment needs						
1.2.1 Financial impacts of historic weather events	●	●	○	◑	◑	◑
1.2.2 Costs of climate change (inaction)	●	●	○	◑	◑	◑
1.2.3 Existing adaptation funding and financing	●	●	○	◑	◑	◑
1.3 Strategy objectives and rationale						
1.3.1 Strategy objectives	○	◑	◑	◑	◑	○
1.3.2 Rationale	●	◑	◑	●	●	◑
1.3.2 Just Resilience considerations	●	◑	◑	◑	◑	◑
2 Strategic Sources, instruments and barriers evaluation						
2.1 Existing sources and instruments						
2.1.1. Existing sources	◑	●	●	●	●	○
2.1.2. Existing instruments	◑	●	●	●	●	○
2.2 Additional sources and instruments						
2.2.1. Additional sources	○	●	●	●	●	○
2.2.2. Additional instruments	○	●	●	●	●	○
2.3 Mitigation financing synergies	○	◑	●	●	●	○
2.4 Enablers to financing	●	●	●	●	●	○
3. Investment Strategies for Climate Resilience						
3.1 Investment strategies for adaptation pathways	○	◑	◑	○	○	◑
3.2 Enabling conditions	○	○	◑	◑	◑	●+
4. Action Plan and Project Pipeline						
4.1 Action Plan	○	◑	●+	●+	●+	●+
4.2 Project pipeline	○	◑	●+	●+	●+	●+
5 Enabling Conditions for the Action Plan						
5.1 Enabling conditions	○	●	◑	●	◑	◑
5.2 Implementation risks and mitigation arrangements	○	◑	○	●	●	●
6. Monitoring, Evaluation, Learning and Reflection arrangements						
6.1 Monitoring and scrutiny arrangements	◑	◑	○	◑	●	◑
6.2 Economic and Financial Indicators	◑	○	○	◑	●	●
6.3 Learning and reflection approach	◑	◑	○	◑	●	○

Figure 7: Components of an Investment Plan required for secondary use cases.

The main audience for a CRIP is those associated with delivering the Climate Resilience Strategy in the region. However, additional audiences include:

- **Public finance institutions,** such as the EIB, European Commission or national development banks who have an active mandate to boost adaptation finance and are looking for regions to work with, for instance through framework loans.
- **Private investors** looking to invest in or finance projects which support adaptation and resilience directly.
- **Strategic finance sectors, i.e.** those organisations in a region which may be able to play a strategic role in helping the region achieve its goals, e.g., insurers who could help close the protection gap, or commercial banks lending to SMEs for adaptation.
- **Local businesses and actors** who need clear signals about the adaptation they are expected to invest in.

Further guidance and support

While this guidance provides an overview of the process, you may need more information to complete particular Tasks. In each section we included a set of core resources. However, this guide is the companion and entry point to a much wider range of tools, resources and training on regional adaptation finance for regions that available within P2R. These are shown below:

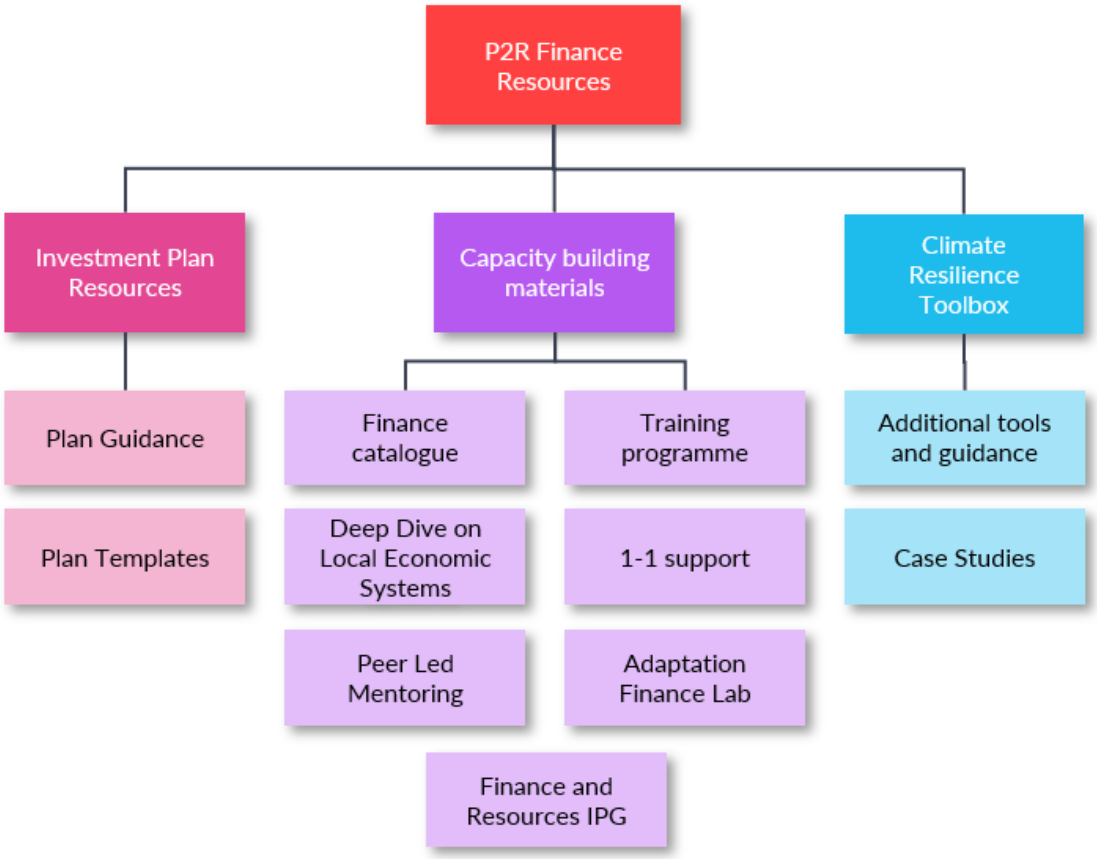


Figure 8: Pathways2Resilience finance resources.

The full range of support includes:

- Training modules on developing Investment Plans, as part of the wider P2R Training and Capacity Building Programme.
- Detailed support to 9 of our regions to develop Climate Resilience Investment Plans, with learnings being used to feed back into future iterations of this.
- A peer-led mentoring programme
- One to one support to a small number of regions.
- A Climate Toolbox containing additional finance-focused tools and guidance and case studies, for regions looking to deepen their learning or go beyond the scope of what is covered in the P2R programme.

The project is also working with regions to advance the state of the art, which includes:

- The Finance and Resources Innovation Practice Group to incubate new ideas and projects which could help regions mobilise additional finance in the future.
- A deep-dive exploration of finance as a key enabling condition.
- An adaptation finance accelerator to develop new solutions to financing adaptation and resilience projects.

2 Preparing to deliver your Investment Plan

Before you start, it is important to have the right conditions in place to be able to successfully develop your Climate Resilience Investment Plan. This includes:

- Defining the scope, objectives and outcomes.
- Defining outputs
- Identify and allocate resources and skills.
- Deciding how to govern plan development and engage stakeholders
- Developing a project plan.
- Seeking political sign off and approval to proceed

These steps relate closely to Phase 1 of the main Regional Resilience Journey but may differ because of the focus on finance. Therefore, they may be carried out in parallel or as a combined process.

Define the scope, objectives and outcomes of the Investment Plan

When producing your first Investment Plan, you should start by deciding the outcomes, objectives and scope. Outcomes and objectives are important as they will guide the focus and effort. At the start of the process, objectives may just focus on the totality of available finance (e.g., "ensure appropriate finance for the Climate Resilience Strategy"), whilst more mature organisations or future iterations may be more specific (e.g., "boost insurance coverage in agriculture", or "strengthen enabling conditions for SME financing of adaptation"). Such objectives may also be informed by the types of adaptation options you are seeking to finance, and stakeholder preferences.

You should refine and update these objectives throughout the process, but an early set are important to help define resource requirements, identify the appropriate stakeholders and secure their engagement, and to guard against scope creep.

Finally, you should consider the scope of work to develop your Investment Plan. Whilst P2R has set a 'gold standard' for what should be included, the scope of work and available resources, and therefore the content regions will need or want to include in their Investment Plan will vary. You may also wish to consider whether you want to use the Investment Plan for any of the secondary use cases shown above.

Food for thought

The complete set of Tasks in the Adaptation Investment Cycle, and the associated templates represent the 'gold standard' in Adaptation Investment Planning – the best practice of what regions should try and do, based on research and engagement with financing institutions. However, not all regions may want, need or be able to complete them all. And because Investment Plans are iterative and maturing, a key decision you should consider is which elements of the Investment Plan you want to focus on in the first iteration, and which elements can be left until later. For example, in early iterations of the Climate Resilience Investment Plan, the focus may solely be on accessing public capital, which may mean that you do not need to do some activities related to encouraging private sector finance.

Explainer: Classifying adaptation investments: Climate Proofing vs Dedicated adaptation

A key consideration for financing adaptation is the extent to which it is part of the project's overall purpose. The extent of adaptation in projects can range from projects which mainly focus on development (where adaptation is 'mainstreamed' – i.e. considered in the project but it is not the primary objective), through to those focused purely on adapting to climate change. This is illustrated below:

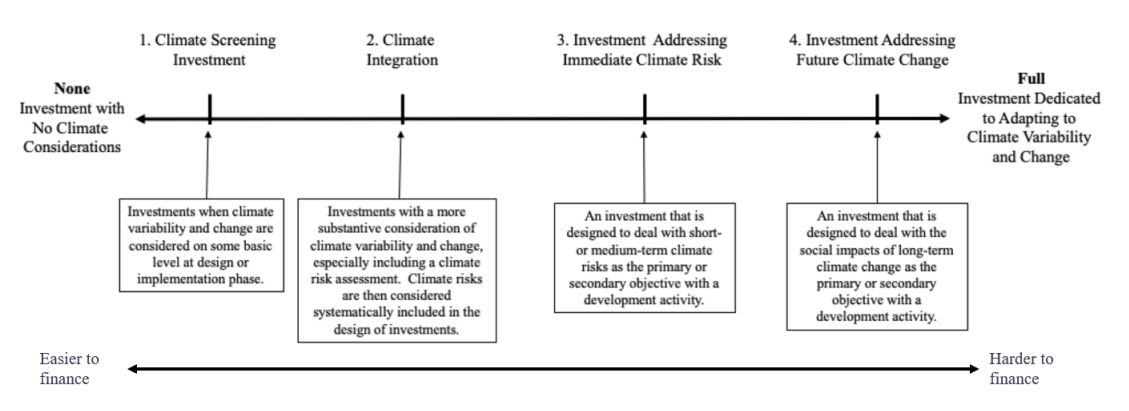


Figure 9: Spectrum from Climate Integration (Risk Screening and Assessment) to Formal Investment in Adaptation, and ease of financing. Source: Authors, based on Barrett and Chaitanya, 2023.

Dedicated adaptation projects require more effort than mainstreaming for two reasons:

1) **Economic and financial appraisal of dedicated adaptation is more challenging** - where adaptation is a main objective, economic and financial appraisal is more challenging and resource intensive. This is because whilst adaptation benefits increase further in the future, the longer the time horizon for the project the more benefits are discounted. In addition, in there is also a greater need to consider the uncertainty of future climate change to confirm the project offers good value for money.

2) **It is typically easier to identify financing approaches for mainstreaming projects** - For example adaptation components can be included in highways budgets to cover the additional costs for adaptation elements of new road construction. In contrast, dedicated adaptation projects (for example early warning system extensions) rarely have ringfenced funds to support their development and/or implementation.

Identifying which areas of your Climate Resilience Strategy will rely on mainstreaming, and which will require dedicated adaptation at an early stage will help you work out where more time and effort will be needed within the Adaptation Investment Cycle.

This issue of apportionment also causes significant issues for reporting and tracking adaptation finance. To address this concern, The International Development Finance Club and Multilateral Development Banks (MDBs) have adopted an approach which focuses on the envisaged outcomes. and classifies finance depending on the objectives.

Further information: Uittenbroek et al. (2014) Political commitment in organising municipal responses to climate adaptation: the dedicated approach versus the mainstreaming approach.

IDFC (2023) Common Principles for Climate Change Adaptation Finance Tracking

Define outputs

As well as the outcomes, objectives and scope of work, it is important to consider the outputs you need or want. For example, should you produce a Climate Resilience Investment Plan document, or would your objectives be better met by undertaking the process and feeding the results into the main budget process of the regional government or those of stakeholders, and the national government? You may also wish to embed your Investment Plan into your Climate Resilience Strategy and Action Plan.

Pathways2Resilience *strongly encourages* regions to align their work to the P2R Baseline Report and Climate Resilience Investment Plan templates. Doing so makes sure that all the essential elements are covered. It also provides a degree of standardisation across Europe, making it easier for potential investors or funders to assess and engage with your region. Where you choose to use your own Investment planning processes, it will be important to demonstrate how you have undertaken the steps required in the P2R CRIP process, and how the outputs align.

No matter what you decide, it is important to follow the Phases and Tasks of the Adaptation Investment Cycle, because it has been designed to address adaptation financing challenges, including approaches to prioritisation, economic appraisal, and addressing barriers.

Identify and allocate resources and skills

You should identify the human and financial resources you need to run the process and produce the Investment Plan. The precise mix will vary from region to region, but Pathways2Resilience recommends a mix of strategic and technical, and a mix of adaptation and finance expertise. It is unlikely that one individual will have all the expertise.

There is a direct relationship between the collective resources and skills, and the depth and maturity of the Investment Plan that that region can produce. You may want to identify training and skills development needs, or where you may need to bring in additional expertise or support. Ideally regions should see the production of an Investment Plan as a capacity-building process, which strengthens their capabilities for future iterations. You may wish to draw on the assessment being undertaken in the RRJ in Task 1.3.2 – Assess capabilities.

Decide how to govern plan development and engage stakeholders

To support and champion the development of a regional Climate Resilience Investment Plan, you should ensure you have an appropriate governance mechanism, representing teams from across the regional government, as well as from organisations across the wider region. This may be your overall local team or may be different.

Effective governance is an art as well as a science. You will need to facilitate involvement from interested parties and balance their conflicting tensions and views. The governance should also provide robust scrutiny of the emerging Investment Plan which improves the quality of the final output, whilst also ensuring it is produced on time and within available resources. Some key considerations are:

- **Seniority** - ensure the governance structures enable the right mix of seniority. This will help champion the work and create connections to and buy in from others.
- **Diversity of backgrounds** - Securing the appropriate technical and financial expertise will also be important to guarantee that the plans are credible.

- **Multi-level governance** – The ability to finance and implement a full range of adaptation options depends on involving local municipalities, as well as Member State governments and or EU institutions, who have the appropriate powers to implement projects or facilitate policy or regulatory change.
- **Just Resilience** - You should consider how the governance can support procedural and distributional justice and recognition. For example, you may choose to include groups or citizens most affected by climate risks, the implementation of adaptation actions, and who may be paying for the adaptation.
- **Risk and adaptation ownership and beneficiaries** – Consider adopting a governance structure which balances the views of those responsible for managing the risks and developing adaptation, and of those who will be impacted by and benefit from it.
- **Political involvement –** Political involvement and direction-setting can significantly enhance the credibility and ownership of an Investment Plan, particularly if the governance engages parties from across the political spectrum to generate buy in.
- **Sign off process –** How the final Investment Plan will be formally approved – for example which committees and structures will need to approve it.
- **Links to wider Climate Resilience Strategy development** – Consider how the development of your Investment Plan be linked to the wider Strategy and Action Plan development. This could involve shared governance arrangements.

The precise governance structure will vary from region to region but may include a steering group and working groups to guide the production of the plan, as well as the wider fora and mechanisms for engagement, such as citizens panels, assemblies or formal consultation.

Insight

Academic literature and evidence from other climate projects suggest that early private sector involvement is a strong pre-requisite for their financing. Since many of the risks can only be addressed by the private sector, and the totality of financing will be met with private sector participation, ensuring appropriate representation is crucial.

Whilst it can take longer and more resources at the outset to establish inclusive governance approaches, involving potential financiers, the private sector and communities helps overcome barriers to finance. It builds collective understanding of adaptation and financing challenges and establishes consensus on the right way to finance adaptation pathways and actions, including the roles of the public and private sector.

Develop a project plan

Once the outcomes, objectives, resources and governance of the plan are agreed, you should develop and agree a project plan. This should include the relevant milestones and include the sign off process needed for approval. The P2R team suggest that the timetable aligns with the development of a Climate Resilience Strategy, which is roughly around 18 months. The figure below shows a sample timetable which is downloadable from the P2R Climate Toolbox:

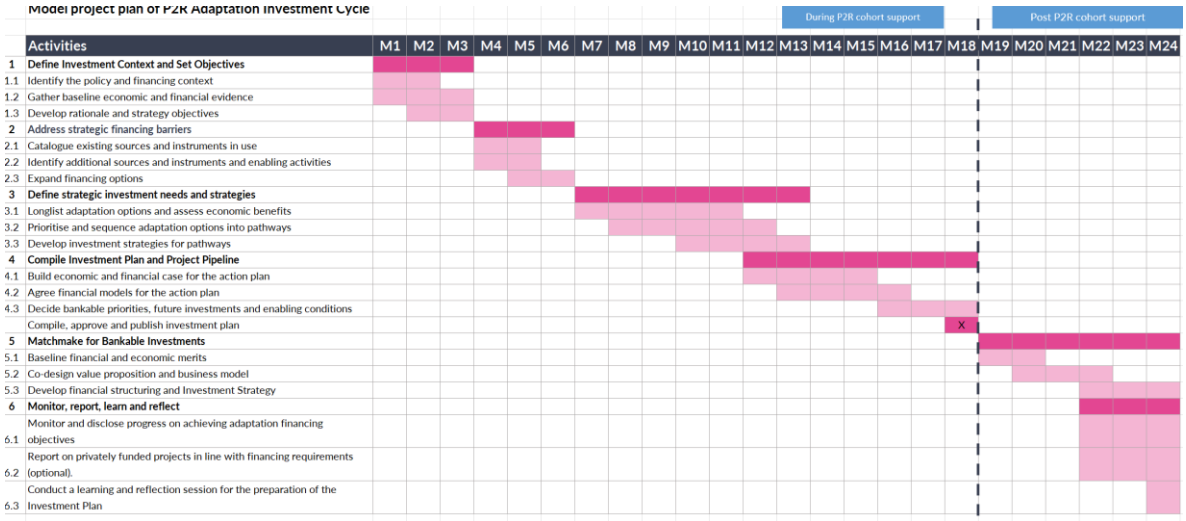


Figure 10: Model project plan for developing a Climate Resilience Investment Plan.

This timetable should align to the wider project plan for developing the Climate Resilience Strategy and Action Plan, as outlined in the RRJ guidance.

Seek political sign-off and approval to proceed

Once you have developed all the relevant elements of the approach, you should seek political sign-off to proceed with developing the Investment Plan. This approval may be informal or may require formal endorsement by a lead politician or Mayor, or by the relevant committee(s). As with overall governance, the sign-off will benefit from oversight and endorsement by those politicians with responsibility both for adaptation and for finance.

Checklist:

Before moving onto Section 3 and embarking on developing your Climate Resilience Investment Plan, ensure that you have:

Action	
Set initial outcomes, objectives and scope	☐
Identified and allocated resources and needs	☐
Agreed a governance and engagement approach	☐
Developed a project plan	☐
Secured political approval	☐

Supporting resources:

- **Model terms of reference** – An example of a Terms of Reference for a regional board is included in the P2R Climate Toolbox.
- **High-level project plan** - To help you with estimating the amount of time required to design and deliver a Climate Resilience Investment Plan, we have put together a model project plan template, based on a typical amount of resource.

Case Study: Adaptation Scotland Guide to Adaptation Climate Finance

"There is a significant shortfall between the finance available for adaptation and the amount required - 'the adaptation finance gap'. Our Guide introduces adaptation finance, identifies current barriers, and aims to support the development of the knowledge and skills needed to finance adaptation projects in Scotland successfully." – Matt Grady, Head of Climate Adaptation and Engagement Unit, Scottish Government

Introduction

In Scotland, there is a significant shortfall between the finance available for adaptation and the amount that is required, referred to as 'the adaptation finance gap'. By developing knowledge and capability on adaptation finance, we can improve access to finance and increase adaptation action.

Core information

The Adaptation Scotland Programme, a capacity-building programme funded by the Scottish Government, set up a Climate Finance Working Group made up of private and public sector organisations. The group shared their challenges in financing adaptation and heard from external speakers working on the topic. The group then worked with consultants to produce the Guide to Adaptation Climate Finance. Informed by the needs of Scottish actors, the guide introduces adaptation finance, identifies current barriers, and aims to support the development of the knowledge and skills needed to successfully finance adaptation projects in Scotland. The work also helped the Scottish Government develop thinking for the third Scottish National Adaptation Plan and the expansion of regional adaptation partnerships across the country. Adaptation Scotland also developed guidance on building business cases for adaptation finance, including case studies in Newcastleton, Uist, and Inch of Ferryton, and Edinburgh.

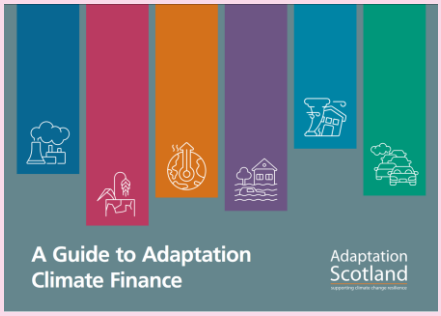
Key takeaways

Regions should consider proactively boosting their skills and resources to effectively develop their investment plans: Collaborating with the government to establish working groups, like the Climate Finance Working Group in Scotland, can be instrumental in building the necessary competencies for financing adaptation projects.

Addressing skills gaps to tackle finance needs: The case study underscores the prevalent skills gaps that regions and organisations face in the realm of adaptation finance. Implementing targeted solutions to bridge these gaps, such as tailored training programs or knowledge-sharing initiatives, is crucial for meeting the financial requirements of adaptation efforts.

Leveraging collaborative efforts for long-term planning: The collaborative approach taken by the Scottish Government, as seen in the development of the Adaptation Finance Guide, offers valuable insights for regions. By working together with public and private stakeholders, regions can develop more comprehensive and forward-thinking investment strategies, ensuring they are well-prepared to meet the demands of climate adaptation.

These reflections aim to guide regions in producing robust investment plans, emphasising the importance of collaboration, skill enhancement, and the development of tailored financial models.



Sources: Adaptation Scotland (2022) A Guide to Adaptation Climate Finance

3 Developing your Investment Plan

This section outlines the four phases and detailed tasks involved in developing your Climate Resilience Investment Plan.

Each phase includes an introduction, which summarises the process and outputs as well as the relationship to the RRJ more generally, before describing each task. Each task includes a box at the beginning which highlights the related RRJ tasks, the relevant sections of the Climate Resilience Investment Plan template, the relative effort levels required to complete it and the overall importance of the task to the RRJ process itself. The figure below shows an example:

Task 1.1 Identify the policy and financing context

RRJ Tasks(s)	CRIP Template Section(s)	Effort	Importance
1.1 Establish a baseline, understand the system	1.1.1, 1,1,2, 1.1.3	Low	Essential

Figure 11: An example task from the Climate Resilience Investment Plan process.

For effort and importance, each task is rated using three categories:

Table 1: Effort and importance categories for Investment Plan tasks.

Category	Description
Effort	
Low	Involves basic data collection, preliminary analysis, and initial system mapping. They require minimal resources, time, and stakeholder engagement.
Medium	Tasks involve more detailed analysis, stakeholder consultation, and the development of new data or insights. They require moderate resources, time, and coordination.
High	Tasks require extensive analysis, significant stakeholder engagement, and the development of comprehensive frameworks or strategies. They are resource-intensive, time-consuming, and often involve complex coordination across sectors.
Importance	
Essential but advanced	Essential to the development of the Strategy, Action Plan and Investment Plan. Failure to complete these tasks would jeopardize the overall success of the Investment plan. but is advanced and may require additional expertise or external support.
Essential	Essential to the development of the Strategy, Action Plan and Investment Plan. Failure to complete these tasks would jeopardize the overall success of the Investment plan.
Optional	Tasks that are beneficial but not critical. They may enhance the adaptation plan but are not necessary for its core objectives. You may choose to use this depending on your own region's situation and context.

Each Task contains detailed written guidance structured using six headings:

1. **What is this task about?** –A summary of the task and what is involved
2. **What are the key inputs for the task? –**What the key inputs for the tasks are, from both previous tasks and the wider Regional Resilience Journey.
3. **What are the expected outputs? –** The outputs from the Task.
4. **Why is it important?** – the significance of the task for the wider Investment Plan process and adaptation financing mor broadly.

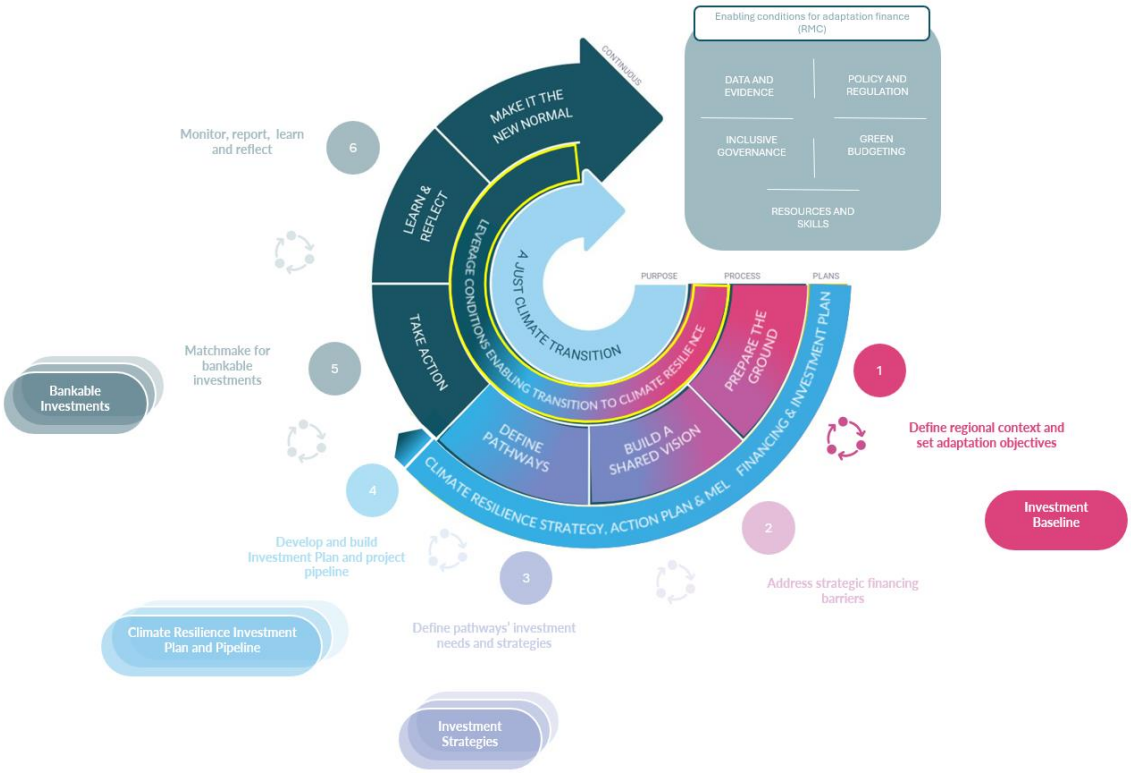
5. **What should you focus on in the early iterations?** –This helps you work out which elements of the task are most important in the first iterations of an Investment Plan.
6. **How you can complete it** – The practical steps you can take to undertake the task, and examples of the types of outputs from the process.

Each Task also includes relevant guidance materials or examples from other regions to help inspire you or help you learn and build your knowledge.

At the end of each task, the guide includes a short checklist of actions to check your progress as you move through the Adaptation investment Cycle, as well as core resources that can support you in building understanding or completing the task. An example of a checklist is shown below:

Checklist:		
Before moving onto Task X.X, have you:		
	Identified…	☐
	Reviewed…	☐
	Assessed….	☐

Phase 1 – Define the regional context and set adaptation objectives



The aim of this phase is to understand the context for adaptation. This involves the policy and financial context and costs of inaction. These should be used to identify a budget envelope and develop a rationale and spending objectives to underpin the Investment Plan. It should provide you with all the financial information needed to support you to complete the Baseline report.

Links to the Regional Resilience Journey:

AIC tasks	Relevant RRJ inputs	Outputs relevant to the RRJ process
Phase 1: Define regional context and set objectives		
Task 1.1: Identify the policy and financing context	The information generated in RRJ Task 1.1 (Establish a baseline) on relevant frameworks can be used to identify the policy context	Summary of the existing policy objectives, headline budget (AIC Task 1.1 can be used in RRJ Task 1.1 (Establish baseline)
Task 1.2: Gather baseline economic and financial evidence	Summary of evidence on climate impacts from previous events and the repository from RRJ Task 1.1 can be used to help with costing. You may also wish to draw on the assessment of risks and vulnerabilities in RRJ Task 1.3 and seek to quantify the economic or financial aspects.	The information on the costs of doing nothing can be used as part of the risk assessment in Task 1.3 to help provide an economic component to risk assessment.
Task 1.3: Develop rationale and strategy objectives	The framing of the (set of) problem(s) produced in RRJ Task 1.1 as well as the system maps (1.2) assessment of risks (1.3) and the shared vision and theory of change (RRJ Task 2.3) can be used to inform the setting of strategy objectives.	The objectives can be used to inform the longlisting of options set out in RRJ Task 3.1.

Task 1.1 Identify the policy and financing context

RRJ Tasks(s)	CRIP Template Section(s)	Effort	Importance
1.1 Establish a baseline, understand the system	1.1	Low	Essential

What is this task about?

This Task is about understanding the context in which your Investment Plan is taking place. It involves three things:

1) Understanding regional and organisational policy priorities and objectives and their fit with the Climate Resilience Strategy.
2) Identifying the financial processes and conditions for approving financial expenditure and investments, as well as existing private sector financing arrangements.
3) Identifying the indicative budget envelope for the Strategy and Action Plan

What are the key inputs for the task?

- Self-assessment you did at the start of P2R.
- The organisation's mission statement or strategic plan.
- Key regional plans and strategies (including those identified in RRJ Task 1.1 - establish a baseline).
- Any formal documentation of the region's budgetary and investment processes.

What are the expected outputs?

The output is a short, written summary of the regional policy and financing context. It should provide an overview of the organisational and regional policy priorities, and future expenditure planned to meet them, as well as how they may be affected by climate change and how adaptation will support them. It should also set out the budget processes (PFM cycle) and investment decision making approach (PIM) for the region including any key criteria. It should also set out any pre-existing relationships (such as Public Private Partnerships) with the private sector for the delivery of services. Finally, the Task should include an agreed indicative budget envelope for the Strategy and Action Plan.

Why is it important?

Understanding regional priorities helps inform the rationale and objectives for the Strategy which you will set out in Task 1.3. Any Climate Resilience Strategy should have a good strategic fit with the wider regional policies and priorities. You can use these wider priorities to reframe adaptation as an investment rather than a cost, i.e. that it helps the region achieve its wider economic and social goals. In addition, understanding planned decisions and expenditure helps identify where it may be possible to mobilise additional investment in adaptation, while understand existing private sector relationships (such as public-private partnerships or major suppliers) will help you identify pre-existing stakeholders who will be important to involve to finance adaptation.

Linked to this, identifying a high-level budget envelope early on helps you understand what resources you will likely have available for the pathways, and actions of the Climate Resilience Strategy. This will also inform later Tasks, such as when deciding how to allocate such resources between adaptation pathways, and how actions should be sequenced over time.

Finally, understanding the relevant process, criteria and metrics of the region's budget and capital investment processes will ensure that the development of the Investment Plan and the pipeline of bankable projects are informed by, and comply with, the broader budgetary systems and approaches. This will increase the likelihood that the final Investment Plan and individual projects meet the final requirements for approval at the end of the process.

What should you focus on in early iterations?

In the early stages, ensure you have a solid understanding of the region's economic and social priorities. It is also important to focus on those policies and strategies which are most relevant to the development of the Climate Resilience Strategy – namely the economic development strategies, as well as existing strategies and programmes to adapt to climate change. In the early stages, the focus should be on understanding the objectives and the implications and less on documenting them.

In addition, understanding the timetable and processes of the region's budget and Investment decisions will help identify if the timetable for the development of the Investment Plan is aligned with key decision-making points on financial spend or whether changes are needed.

How can you complete it?

Policy and financing context - Start by identifying and summarising the organisational priorities, objectives and goals of the regional government, focusing on its purpose, vision or mission statements, strategic goals, business aims, services and key stakeholders. You should also detail the organisational structure, and governance arrangements. You should also review the set of economic, social and environmental plans for the region to understand the broader objectives and goals. These could include those developed by the region, but also other agencies.

This can be completed through a desktop review, to draw out key targets and any assessments of how climate change may affect the ability to meet them. You may also wish to draw on the policy objectives identified in Task 1.1 of the RRJ, identify evidence.

Once you have identified them you should explain how they could be affected by climate change and how development of the Climate Resilience Strategy and Action Plan will support the existing policies and strategies and will assist in achieving the region's goals, strategic aims and business plans.

You should also consider the relationship between the Climate Resilience Strategy and other programmes and projects within the organisation, such as flood risk management plans. Given the Climate Resilience Strategy will contribute to shared outcomes across multiple organisations, you should also explain any links and interdependencies with their programmes and projects.

Financing processes –work with the finance team to identify the regional government processes for developing and approving capital and day-to-day spending. This should include the relevant process, information and timetable for submissions of budgetary or investment proposals. It should also seek to identify key requirements for regions to allocate capital. Examples of such metrics could include the Cost-Benefit Ratios required for new capital

investments, the Net Present Value, and Internal Rate of Return[1]. This work should also identify 'ringfenced' spend – such as dedicated budgets or grants from national government for things such as flood risk management.

Budget envelope - To identify an indicative budget within the fiscal space of the region, you should meet with your finance department and politicians to determine the available financial resources and borrowing potential of the regional government to support adaptation. At this stage you will have limited information on actual investment needs, so this should be purely indicative, provide an initial framework to work within, subject to wider financial demands of the region. The fiscal space and financing scenarios will change throughout development of the Strategy and Investment Plan, because of work on the strategy, but also the wider budgetary process and changes to spending priorities in other policy areas.

Insight

When funding or financing projects, public and private sources of finance will have a wide range of different financing requirements or metrics. However, in the early stages, the AIC focuses on the region's criteria, since all investments included in the pipeline of projects are likely to need to meet these.

Checklist:		
Before moving onto Task 1.2, have you:		
	Identified a high-level indicative budget for the Strategy and Action Plan.	☐
	Reviewed the region's economic and social goals, how they will be affected by climate change and how adaptation can help achieve them to help provide a backdrop for the adaptation investment.	☐
	Documented the key requirements from the Public Financial Management and Public Investment Management approaches, as well as key existing financing relationships with the private sector.	☐

Supporting resources:

- World Bank (2019) PEFA, Public Financial Management, and Good Governance. Chapter 1: Introduction: What Is PFM and Why Is It Important?
- ODI (2016) Public investment management: a public financial management introductory guide.

[1] For more detail on these terms, please see the Glossary.

Explainer: What is fiscal space?

Fiscal space is defined as "room in a government´s budget that allows it to provide resources for a desired purpose without jeopardising the sustainability of its financial position or the stability of the economy" (Heller, 2005). When developing a Climate Resilience Investment Plan, it is important that a region has the appropriate fiscal space to pay for its share of adaptation investment.

For regions, fiscal space depends heavily upon legal competence and subnational funding arrangements. It also depends on national fiscal space, which is in turn contingent on public debt, as well as the EU approach to assessing the sustainability of public debt.

Depending on their local context, a regional government can create fiscal space in a range of ways, including by raising taxes, securing outside grants, reprioritising expenditure, boosting efficiency, borrowing resources (from citizens or foreign lenders), or borrowing from the banking system (and thereby expanding the money supply). But it must do this without compromising macroeconomic stability and fiscal sustainability, making sure that it has the capacity in the short term and the longer term to finance its desired expenditure programmes, as well as to service its debt.

To generate estimates of fiscal space, governments often use multiple lines of evidence to provide a range, as illustrated in the Figure below:

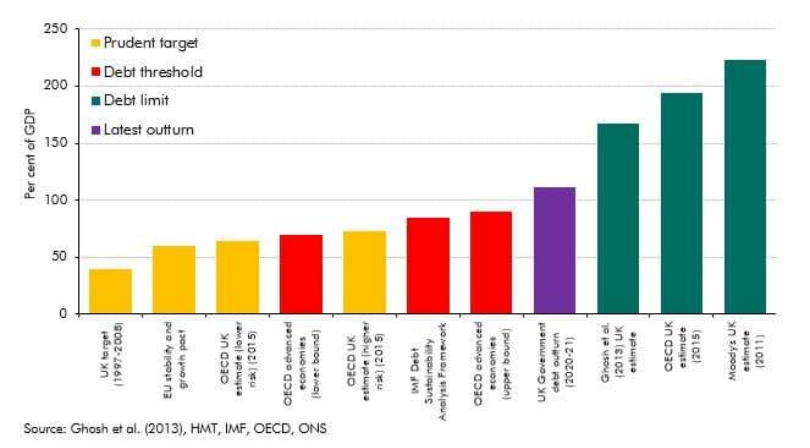


Figure 12: Illustrative Fiscal Space for the UK Government. Source:(Office for Budget Responsibility, 2021)

Whilst fiscal space is an important component of securing budgetary approval for a region's Climate Resilience Investment Plan, in reality, a Plan is likely to also include a wider set of resources for adaptation investment – in part mobilised by this direct regional spend.

Explainer: Types of financial expenditure and governance processes

Public spending normally consists of two types – capital and revenue. Capital expenditure refers to one-off large expenditures on fixed assets, whilst revenue expenditures cover day-to-day, recurring expenditure (e.g. salaries or maintenance costs of infrastructure). In both cases, there are normally standard processes that govern how decisions are made about whether such expenditure is good value for money, as well as about how the region will maintain and operate completed assets. Like any other expenditure, it is important adaptation projects meet these criteria.

Public Investment Management (PIM) is the umbrella term that refers to processes and systems that governments use to manage capital expenditure, i.e., how they select, construct, and maintain public assets. It can be thought of as a system comprising groups of processes linked around an investment management cycle with links to the annual budget cycle at certain key points. Most governments have formal processes for appraising projects for selection. The exact criteria will vary, but in practical terms ensuring projects meet PIM criteria is likely to involve evaluating why the project is needed, appraising the costs and benefits of the project to society, appraising how the project will be implemented and its risks, and considering how it would be financed and if necessary, repaid, with an assessment of cashflows. This also covers private investment repaid by citizens (e.g., Public Private Partnerships).

Once a project is approved for funding, the next step is to consider whether to include the project in the annual budget. The processes designed to manage public finances are commonly known as '**Public Financial Management'** and are often described in terms of an annual budget cycle, and/or a medium-term expenditure programme. It typically involves four key phases:

1. **Budget formulation.** The budget is prepared with due regard to government fiscal policies, strategic plans, and adequate macroeconomic and fiscal projections.
2. **Budget execution**. The budget is executed within a system of effective standards, processes, and internal controls, ensuring resources are obtained and used as intended.
3. **Accounting and reporting.** Accurate and reliable records are maintained, and information is produced and disseminated at appropriate times to meet decision-making, management, and reporting needs.
4. **External security and audit.** Public finances are independently reviewed, with external follow-up on whether the executive has acted on recommendations for improvement.

Task 1.2 Gather baseline economic and financial evidence

RRJ Task(s)	CRIP Template Section(s)	Effort	Importance
Task 1.1.1 Gather evidence, Task 1.3.1, Assess climate risk	1.2	Medium	Optional

What is this task about?

In this Task you gather existing data and evidence on the costs of regional climate impacts. This could cover:

- Current and historic costs of extreme weather, as well as projected future costs.
- Existing and committed expenditure on development and climate change adaptation.
- Estimates of adaptation investment needs or of the benefits of adaptation.

What are key inputs for this task?

Key inputs include existing records or reports on impacts of extreme weather, as well as media reports. You may also gather information from the policies and plans reviewed in Task 1.1. You may also wish to draw on the assessment of risks and vulnerabilities in Task 1.3 of the RRJ and seek to quantify the economic or financial aspects.

What are the expected outputs from this task?

Completing this task provides you with an overview of the existing evidence on the costs of weather and climate, now and in future, as well as the costs and benefits of adaptation. It also provides you with a summary of the major regional development expenditure planned over the next 10-20 years (e.g. construction of new hospitals, metro or rail). You may want to summarise this into a short briefing report to raise awareness and understanding. The outputs from this activity can be used to support the main assessment of climate risks and vulnerabilities (RRJ Task 1.3) with an economic component.

Why is it important?

Having data on the costs of extreme weather and how they may rise in the future, and what you are currently spending helps in multiple ways. First it provides an appropriate framing for investments in adaptation by showing there are costs that are already occurring will rise from business as usual. Adaptation can often seem like an additional cost on already stretched budgets. This information can also be used to provide a baseline of 'business as usual' against which to appraise the costs and benefits later of investment Strategies and Actions later in the Adaptation Investment Cycle. The process also identifies where more systematic data collection processes may be required, or where there are data gaps which can be filled.

Mapping planned regional development expenditure will help you identify opportunities to mainstream consideration of climate change and adaptation options within them, reducing future costs.

What should you focus on in early iterations?

In the early stages, it is important to focus on the largest, most obvious sources of costs or evidence – for example damages from major floods, or expenditure in key sectors which are

vulnerable to climate impacts. In later iterations, you may focus on developing new evidence or implementing systems to better capture the costs of extreme weather.

How can you complete it?

Search for, collate and review the existing data and evidence about the costs of current weather on public services, businesses or the region, and how this may change with climate change. Data can be about costs to individual organisations (financial) or to society (economic, including non-market effects, such as costs to health or carbon emissions from wildfires). You may also wish to undertake one-to-one conversations and interviews with staff in the regional government or other organisations, or issue a call for evidence to capture additional public, private sector or civil society costs.

You many also be able to gather information on current and planned expenditure from a range of sources, including capital investment plans, budget lines, and stakeholder dialogue. You may also choose to draw on budgeting information, especially if your organisation uses green budgeting approaches which include adaptation.

Wherever possible, data and estimates should seek to cover both the economic (costs to society) and/or financial costs (i.e., costs to individual organisations, such as the regional authority, or other public bodies, such as health organisations). If available, this should also include consideration of the differential impacts of individuals and households from varying hazards, exposure, or vulnerability.

You should systematically capture and log the data in a spreadsheet or database, and you may also wish to produce a summary report to help build awareness of the costs of extreme weather and climate change. If it does not already exist, you may also wish to consider setting up a regular process for this activity to expand the evidence base in future.

Food for thought

When planning the type of information to search for, it is worth thinking about what will help you make the case for action most convincingly to those you need to bring on board early on. For example, many senior managers and politicians have a strong focus on boosting Gross Domestic Project (GDP) as part of economic development. The COACCH project has produced NUTS2 level estimates for Europe which illustrates how climate change could impact regional GDP, which can be leveraged relatively easily to make the case to senior managers and politicians that adaptation will support such goals.

Checklist:		
Before moving onto Task 1.3, have you:		
	Engaged with existing services or other organisations on what impacts they have experienced or might experience in future.	☐
	Undertaken a desktop search of existing studies.	☐
	Completed an inventory on the costs of extreme weather or climate change in the region, as well as known adaptation needs and existing expenditure.	☐

Supporting resources:

Guidance and supporting materials

- COACCH - COACCH Climate Change Impact Scenario Explorer – Online tool which allows an assessment of the economic impact of climate change at the NUTS2 regions for a range of climate scenarios.
- UKCIP (2007) Costing Guidelines – Guidelines for costing the impacts of extreme weather events - These guidelines set out the standardised approach to costing extreme weather impacts. They also include a costings spreadsheet tool for collecting impacts.
- ICLEI – Cost of Doing Nothing Toolbox - The CODN toolbox provides municipal decision makers with guidance on collecting locally-relevant data and weighing the costs of action vs. inaction. The CODN resources also support municipalities in framing their local data within a national and provincial/ territorial context and examine costs and impacts of climate change across a number of hazards and sectors.

Case Studies and Examples

- Climate Ready Clyde (2019) Towards A Climate Ready Clyde: Climate Risks And Opportunities For Glasgow City Region – Economic Assessment
- ICLEI and City of Hamilton (2022) How much is climate change costing Canadian communities? City of Hamilton Report.
- City of Windsor, (2019) Climate change impacts in Windsor: A Technical Analysis.
- Highland Adapts (2024) Economic assessment of climate change impacts in the Highland Region.

Explainer: Estimating costs of extreme weather and climate change

There are a range of methods available that regions can use to gather financial-related information on the costs of extreme weather and climate change to inform their financial and economic baseline.

Such costs can be a) financial – i.e. viewed from the perspective of an individual or an organisation, or b) economic – i.e. viewed from the perspective of society. Economic costs include non-market values, for example impacts on health or the costs of carbon.

Estimating historic impacts of weather events

- *Direct costs* – These are costs incurred based on actual recorded activity in a region. For example, the amount of funds spent on recovery from a flood event. These may be provided by individual departments or organisations or be held in databases in specific teams in a region. An example might include the staff costs associated with responding to an extreme weather event.

- *Standard formats of costing individual events* – Where direct costs are unavailable, but quantified impacts are available (e.g. hectares of wildfire burn or numbers of homes flooded), these can be valued using market prices or non-market valuations. The typical formula, using the guidance from Metroeconomica (2004) is:

Cost (or benefit) = number of physical units in year x economic unit value

Specifically: the cost (or benefit) of a weather-related event on a specific vulnerable receptor (or group of receptors) under selected climate and socioeconomic scenarios (€ per event in year t) equals the predicted 'physical' impact under selected climate and socio-economic scenarios (the number of physical units affected by the event in year *t*) *times* the appropriate economic unit value or 'price' € per affected unit in year *t*).

An example could be the impacts of wildfires. In such circumstances, the area of a burn is combined with generalised measurements to estimate the amount of carbon emitted, and the air pollution caused. These are then valued using the governmental values for the cost of carbon and air pollution.

Estimating future impacts:

- *valuation of future risks* – future valuation uses a similar approach to the Metroeconomica guidance. It typically uses impact models to model the potential impacts of future climate risks before then valuing them using market prices. An example would be estimating future energy costs. This would involve estimating reduced heating demand and increased cooling demand and then applying retail prices of electricity to provide indicative costs and benefits.

- *Use of macroeconomic models* – In addition to using valuation of impacts on individual risks or sectors, macroeconomic models can be used to simulate the impacts of climate change on the economy overall, e.g. on GDP of Europe or regional economies. These are more complex and time consuming, but some major EU research projects, such as COACCH and ACCREU provide outputs that regions can use.

Expenditure on adaptation

- *Direct budget lines* – Many governments have dedicated budget lines for services or teams that provide services that directly support adaptation. These include sustainability teams, flood risk management or green infrastructure teams.

- *Green budgeting* – Green budgeting refers to the set of tools and systems of budgetary policymaking and public financial management – to inform, assess and deliver green objectives. A common part of green budgeting is tagging – identifying budget lines that deliver, or contribute to delivering, sustainability objectives including adaptation. The advantage of such systems is that they can be more tailored, as well as identifying areas where more progress is needed and incentivising further action.

Estimating costs of climate change and adaptation, Lower Austria

"Being able to frame climate impacts and adaptation costs in economic and financial terms has made a significant difference to being able to engage colleagues from different Departments in the Regional Government and make the case for greater action to adapt." - Simone Hagenauer, Project Manager, Ecoplus, the Business Agency of Lower Austria

Introduction

As part of preparing for the development of additional climate change adaptation measures, the environment and economy departments of the regional government of Lower Austria worked with Pathways2Resilience to review costs of extreme weather and future investment needs.

Core information

The region was keen to better understand how much extreme weather was costing the region, and the costs of climate change, as part of the preparation for the next Lower Austrian Climate and Energy Programme. They were keen to strengthen the argument for investments in adaptation. They also wanted to identify further improvements to local and regional systems to better capture costs of extreme weather and climate change, and to stimulate investments in adaptation and innovation.

Key takeaways

- The region learnt that existing public data already highlighted the impacts of extreme weather on public budgets, and it became clear that climate change could have a substantial effect on regional GDP.

- They learnt that the amount being spent on adaptation was significantly lower than near-term costs of adaptation and that it was better to proactively address adaptation needs, including exploring the potential for using adaptation as a tool for innovation and new business opportunities.

- They learnt that it was possible to undertake a high-level appraisal of the costs of extreme weather and climate change, as well as indicative near-term adaptation costs using publicly available data (even data on NUTS2 level). Data came from a range of national and EU research and innovation projects, including the Horizon 2020 project, COACCH, and work by the University of Graz.

- The work has helped the region frame adaptation as an investment which protects the environment, people and the economy and strengthened the case for increasing the allocation of public budgets towards adaptation.

- It has also helped the region to realise that there are local economic development opportunities arising from supporting the development of companies which can provide the goods and services to help the region adapt.

The region is reframing its approach to adaptation as supporting economic and social benefits and is taking forward new actions to support the economy as part of its adaptation strategy. As part of the ARCADIA project, the region will be looking at raising awareness of climate risks and adaptation plans for municipalities and businesses, developing and testing nature-based solutions. Moreover, as part of the Partnerships for Regional Innovation initiative with Climate-KIC, Lower Austria is looking at developing a roadmap of innovation actions and interventions for the transition towards climate resilience, with a particular focus on the opportunities from digitalisation and adaptation.

Leveraging existing public data can reveal the financial impacts of extreme weather and highlight the economic risks of climate change. Proactively addressing adaptation needs not only reduces costs but also opens new business opportunities. By reframing adaptation as an investment in both the environment and the economy, regions can support growth while enhancing resilience. Moreover, regions should consider the different initiatives available that offer valuable models for raising awareness, developing solutions, and capitalizing on digitalisation in adaptation efforts.

Task 1.3 Develop rationale and strategy objectives

RRJ Tasks(s)	CRIP Template Section(s)	Effort	Importance
1.1. Understand the system, 1.3 Assess climate risks and vulnerabilities, and 2.3 Co-create a shared vision	1.3	Low	Essential but advanced

What is this task about?

This Task involves setting out the economic rationale for a Climate Resilience Strategy and the associated spending objectives.

What are the key inputs for this task?

Regions can draw policy appraisal guidance from their central policy and finance departments, as well as from member states and the EC. You should also draw on the information collated in Tasks 1.1 and 1.2, as well as the RRJ tasks related to establishing a baseline (1.1), assessing climate risks (1.3) and co-creating the vision. (2.3).

What are the expected outputs from this task?

The output from this task is a written statement of the economic rationale for development of a Strategy and Action Plan and the Strategy objectives, The rationale sets out *why* the region is developing a Climate Resilience Strategy and Action Plan from an economic perspective, whilst the objective set out *what* it will seek to achieve. The rationale and strategy objectives should consider adaptation objectives but may also consider financing objectives. This is used to support the longlist of options for adaptation pathways in Task 3.1.

Food for thought

At the early stage of developing your Investment Plan, you may wish to keep your baseline report as an internal document which provides a stocktake of progress to date and consolidates progress. However, you may also wish to publish this or issue it for early consultation. Doing so could have a number of benefits, such as identifying new costs, helping refine the regional narrative or objectives, encouraging stakeholder support and buy-in, and engaging additional stakeholders in the process.

Why is it important?

- **Providing a framework to appraise adaptation options** - considering the Strategy's economic case from the beginning helps with securing investment in the action plan in the later stages. This starts with a clear rationale and objectives informs and constrains the development of a longlist of adaptation options and pathways.
- **Stakeholder engagement and momentum** - Outlining the contribution a Climate Resilience Strategy makes to a region's broader policy goals helps engage stakeholders and builds early momentum. It provides a forward signal on the

approach the region is taking to develop proposals for investment and why, bringing other actors such as communities, private sector or financiers into the process,

- **Informing financing models -** considering the economic rationale helps early thinking on the respective roles of the public and the private sector in adaptation. Similarly, the AIC process builds on the high-level benefits in future tasks to identify them in more detail and link them to potential beneficiaries as part of developing financing approaches for pathways and actions.
- **Centring Just Resilience** – Considering distributional implications and requirements ensures your approach encourages Just Resilience, both in terms of addressing risks, but also in terms of who pays for the adaptation.
- **Monitoring, Evaluation and Learning –** A clear rationale and objectives are important for monitoring, evaluation and learning of the Strategy and Investment Plan.

What should you focus on in early iterations?

Focus on being clear on the economic rationale for why the region is developing a Strategy and developing specific objectives or outcomes you want to achieve. This is important to help clarify the roles and responsibilities of different partners in financing and delivering these options. Future iterations can expand the scope of the Strategy's risks or sectors.

How can you complete it?

Start by setting out an economic rationale for why you are developing a Climate Resilience Strategy and Action Plan. This may involve a number of reasons:

- **Delivering improvements in public services –** improving efficiency of services, the quality or quantity of services, providing a new service, complying with new policies or legislation, or continuing certain activities. For example, a region could seek to extend the coverage or improve the quality of a flood or heat alert or early warning system.
- **Providing social/public goods** – providing things that are not provided at a satisfactory level by the market alone – for example flood defences, or nature-based solutions. Another example could be making healthcare services climate resilient.
- **Improving the welfare efficiency of existing private markets** – helping improve the societal benefits provide by private markets. For example, imposing temperature standards for buildings to lower impacts on workers.
- **Achieving social objectives considering ethical or distributional issues** - for example fair access to health or education. This is particularly relevant since people from lower socio-economic backgrounds are disproportionately exposed to climate change and have more limited resources to adapt. Geographical variations in hazards and exposure (e.g. in coastal areas, or urban heat islands) also affect people differently.

In reality, the rationale is often a mix of all of all of these and it will vary from region to region.

You should then develop a more detailed set of strategy objectives. Strategy objectives set out ***what*** the Climate Resilience Strategy and Action Plan will aim to do through the spending and investment. They should be framed as social outcomes, aligned with the underlying policies, strategies and business plans of the organisation. Focus on a small number of objectives (e.g. reducing risks of flooding). These should focus on what needs to be achieved rather than the potential solution (e.g. reducing flood risk, rather than 'building sustainable drainage systems').

While politically challenging, being more specific is helpful as it allows better definition of options and their costs and benefits. For example, whilst 'reducing flood risk' is a positive outcome, 'reducing flood risk so that no-one in the region is exposed to a 1 in 200-year flood event' is more helpful, because it is specific and quantitative. Relevant options can then be evaluated for their adaptation effectiveness, value for money and economic and financial benefits. Finally, the Strategy objectives should also quantify the high-level benefits that the Strategy and action plan will achieve. You may also wish to outline the contribution to wider economic, social or environmental policy goals and targets.

The rationale and objectives can normally be developed by the team leading the Climate Resilience Strategy but should be informed by evidence and views of stakeholders. Regions may draw on the outputs developed in Phase 1 of the RRJ process, including the framing of the problem (Task 1.1), system maps (Task 1.2) and the risk assessment (Task 1.3), as well as vision and objectives developed through the vision co-creation process from the RRJ process (task 2.2.1 and 2.2.2) as spending objectives, or they may choose to develop them after this process. Regions should draw the information together with information collected in Tasks 1.1 and 1.2 and use them to populate the financial sections of the Baseline report.

Insight

Setting out a rationale is not a common step in developing a Climate Resilience Strategy –regions may assume that adaptation is needed, or they may have a legal duty to adapt. Therefore, whilst it might feel unnecessary early on, having a clear economic rationale for intervention will support the mobilisation of finance. It will help you think about where the region can act strategically to crowd in new economic activity in additional sectors and systems.

Checklist:		
Before moving onto Phase 2, have you:		
	Documented the spending objectives for the Climate Resilience Strategy and Action Plan.	☐
	Set out a clear investment rationale.	☐
	Completed the financial parts of the baseline report.	☐

Supporting resources:

Guidance and supporting materials

- HMT (2022) The Green Book – Central Government guidance on appraisal and evaluation – The green book provides an overview of the standard approach to economic and financial appraisal of policies, programmes and projects in the UK. It also serves as a model example for wider Europe.
- Cimato and Mullan (2010) Adapting to Climate Change: Analysing the Role of Government - This guide explores the role of Government in supporting people and businesses to overcome barriers and help them take the right adaptation decisions.
- Frontier Economics and Paul Watkiss Associates (2022) Barriers to financing adaptation actions in the UK - This report outlines the common barriers to financing adaptation in the UK, based on a literature review. Whilst UK-focused, the barriers

are more common and widespread. It highlights the indicative strength of the barriers, and groups them by type - for example information, economics and finance, behavioural and policy and regulation.

- GLA Economics (2008) The rationale for public sector intervention in the economy II – This report looks at the rationale for public sector intervention in the economy. The report sets out the general economic theory on why and when the public sector should intervene and tries to give relevant regional examples.

Explainer – Common barriers to adaptation financing

One rationale for Governments to develop new proposals is to improve the welfare efficiency of private markets - that is, focusing on ensuring that competitive markets are functioning in a way that maximises the overall economic utility for society.

This theory is often used as a reference framework for adaptation and thus adaptation barriers to financing. Watkiss and Frontier Economics (2023) highlight that there are a number of common barriers to financing adaptation:

- *Public goods* – Because of the nature of the goods in question, the private sector fails to supply them adequately. Public goods are traditionally defined by being 'non excludable' and 'non rivalrous'. Non-excludable means that individuals cannot be prevented from consuming the good, whilst non-rivalrous means that one individual's consumption does not reduce availability for others. Examples include street lighting or heat health alert systems.

- *Imperfect Information* – Insufficient information on climate risks or high uncertainty, as well as on adaptation effectiveness and benefits.

- *Market failures* – such as public characteristics or in non-market sectors (e.g. health). There are also positive externalities – i.e. where there are high economic benefits but low financial returns meaning others benefit from action by individual institutions.

- *Financial barriers* – including the limited revenues associated with climate risk reduction, the low financial IRR or long paybacks, the large number of actors, project complexity and low capacity.

- *Policy and governance barriers* – these include regulation or the lack of it, conflict or competing policy objectives (including mitigation), lack of coordination and cooperation, and the political economy, including the challenge of altering the status quo.

- *Behavioural barriers* – including social, behavioural and cultural, the perceived urgency of adaptation and the low willingness to pay for adaptation.

Not all barriers are equally important – in particular, information gaps, market failures, and financial barriers are particularly important, as is the use of regulation.

Explainer: Reframing adaptation: from extra cost to prudent investment

Adaptation has historically been portrayed as an additional cost to regions, making it seem unaffordable and making it compete against other spending priorities. Regions can successfully reframe adaptation to show its positive regional economic and financial benefits. The most common economic reframing is known as the triple dividend. This involves seeing adaptation as:

- **Avoiding future losses** - Adaptation helps minimise economic and financial losses, and while context-specific, it often has very high cost-benefit ratios compared to other investments.

- **Generating economic benefits through adaptation activity –** Adaptation, like any other economic activity, generates economic benefits, both directly and indirectly, including through job creation, productivity enhancements and tax revenues.

- **Delivering co-benefits** – Whilst they vary from case to case, adaptation projects deliver a wide range of extra benefits, for example helping increase property values and rental yields, or boosting biodiversity.

The narrative can be further extended to demonstrate that **adaptation helps achieve strategic economic and social priorities, by improving the effectiveness of such actions.** For example, adaptation improves regional economic performance by reducing the impacts of heat on labour productivity, or the disruption to transport networks and supply chains. It also supports the transition to net zero by improving the reliability of energy generation, helping reduce the costs of mitigation**.** In communicating these issues, it is also important to recognise the existing 'adaptation deficit', i.e. the extent to which societies are adequately adapted to the current climate, since these are often excluded from evaluations of costs.

As well as economic, social and environmental benefits of adaptation, an additional under-communicated area is the financial co-benefits it can provide. Examples of these benefits include:

- **Reducing future pressures on municipal finance** – Climate impacts result in financial costs to regions because of extreme weather events, and slow-onset changes. This can occur directly (e.g., through payments for recovery from extreme weather and adaptation measures), as well as indirectly from erosion of the revenue base because of reduced output, high public expenditure on social payments, or wider debt sustainability. As one example, sea level rise could affect up to 30% of local government revenue in Florida.

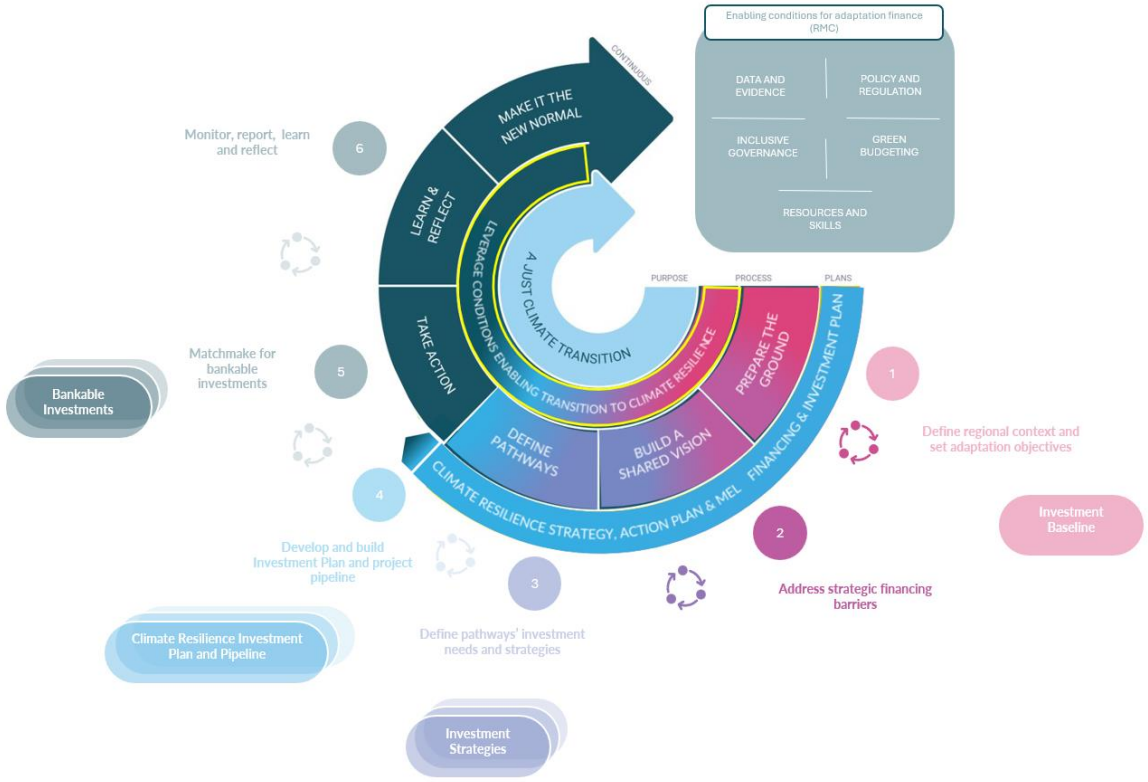
- **Supporting access to finance** - Strong adaptation policies can improve creditworthiness and reduce the potential future risk of downgrades of credit ratings, due to improved economic performance, reduced regulatory risk, and improved sustainability.

- **Protecting existing revenue streams –** Adaptation also has the potential to protect revenue streams which are used and relied upon for public spending or repayment of debt. For example, climate-proof transport systems, or actions which support businesses to adapt, increase the ability of the private sector to continue the payment of local taxes.

- **Supporting broader macroeconomic stability – I**nvestments in adaptation have the effect of providing a more stable economic environment, which in turn contributes to a positive investment environment. This helps support continued public and private investment into a region, in turn bolstering the public tax base and reducing the risk of capital flight.

- **Lower insurance costs –** Proactively demonstrating investments in adaptation can be used to obtain reductions in insurance discounts.

Phase 2 – Addressing strategic financing barriers



The aim of this phase is to understand the potential to diversify and scale financing options available to the region. You explore the range of financing approaches the regional already uses and identify future strategic sources and instruments that you may wish to use. Finally, you identify barriers to unlocking these approaches and actions that help address them during the lifetime of the region's Strategy and Action Plan or their development.

Links to the Regional Resilience Journey:

AIC tasks	Relevant RRJ inputs	Outputs relevant to the RRJ process
Task 2.1: Catalogue existing sources and instruments	N/A	N/A
Task 2.2: Identify additional sources and instruments	Regions may also wish to draw on the possible futures, emerging shared vision and theory of change in Phase 2 of the Regional Resilience Journey as these may include indications of the mix of possible sources or financing arrangements which might need to be available in future.	Depending on the ordering of tasks, regions may wish to use the strategic financing options as an input into the development of the Vision and Theory of Change in RRJ Task 2.3 and Task 2.4.
Task 2.3: Expand financing options	Regions may wish to draw on the possible futures, emerging shared vision and theory of change in Phase 2 of the Regional Resilience Journey to inform their thinking and communicate with stakeholders how financing will need to change to meet these goals.	An expanded set of financing options may open different ways to meet the adaptation objectives and therefore also options. Therefore, the new financing options should be an input into RRJ Task 3.1 in the longlisting of options.

Task 2.1 Catalogue existing sources and instruments in use

RRJ Task(s)	CRIP Template Section	Effort	Importance
N/A	2.1	Low	Optional

What is this task about?

Once the Strategy and Action Plan rationale and objectives have been defined, the next step is to map the existing adaptation initiatives already underway and build a picture of how much finance is already flowing, including which sources and instruments are used and how. This task deepens the work conducted in Task 1.3.

What are the key inputs for this task?

The keys input for this are the output from Task 1.3 outlining the existing adaptation spend. You may also wish to draw on the P2R D5.2 Catalogue of sources and instruments to help identify types of sources and instruments.

What are the expected outputs?

The output from this Task is a summary of the existing sources and instruments for adaptation finance currently being used in the region, including the size and the extent to which they contribute to meeting the region's adaptation objectives.

Why is it important?

Adaptation financing is at an early stage in Europe, and many regions only use traditional sources and instruments. To bridge the finance gap, regions will need to mobilise greater resources from existing sources, as well as building a more diverse set.

Mapping your region's existing sources and instruments provides a richer picture of the current maturity of the region's finance approach, including who is currently paying for adaptation and the instruments that are being used. It also helps identify the scope to expand those approaches and where innovation might be needed. It also has a secondary benefit of identifying the region's current collective financing expertise and capabilities.

Collating the existing financing approaches also creates a broader awareness the options a region already has available to finance adaptation in a particular sector or for particular risks. It can also be used to inform the design and implementation of the Investment Strategies developed in Phases 3 and 4.

This Task also builds the region's capabilities and understanding of finance, helping reduce the region's long-term reliance on external consultants. It also improves the uptake of existing sources and instruments by showcasing what is already available and focusing the discussion on scaling their uptake and replication.

What should you focus on in early iterations?

The priority for this Task is making sure that you document the main sources and instruments in use, in terms of the volume of finance and the priority risks, such as ERDF, LIFE or other streams. In future iterations you can focus on smaller, less central sources and instruments that provide a richer picture,

How can you complete it?

Review the list of existing spend on adaptation already documented in Task 1.3, and document the source and instrument used for each. To help you, you can use the P2R Catalogue of sources and instruments to classify the sources and instruments you have identified, or to identify other possible sources or instruments that may have been missed in the initial review. An example of the type of mapping is shown below:

Table 2: Example catalogue of existing regional sources and instruments for adaptation. Note the totals are the same even though individual lines may differ based on the mix of sources and instruments.

Source/ Instrument	Public, private, or hybrid	Purpose	Amount
Sources			
National Government	Public	General, un-ringfenced grant. Small proportion allocated to fund sustainability team.	€1.25m (€250,000 a year for 5 years)
European Commission	Public	LIFE climate change adaptation grant for deployment of green spaces (note 50% cofinanced with own resources)	€10m
Own resources	Public	Own resources to co-finance LIFE grant	€10m
EIB	Public	Framework loan for regeneration of public spaces, with design considerations for adaptation included.	€100m
		Total	€121,250,000
Instruments			
Intergovernmental Transfer	Public	Use of own resources for co-financing of LIFE grant	€10m
		National government funding for core staff.	€1.25m (€250,000 a year for 5 years)
Grants	Public	LIFE climate change adaptation grant	€10m
Loans	Public	Used for mainstreaming climate resilience into public space regeneration.	€100m
		Total	€121,250,000

During this process it is also worth using the P2R catalogue to critically evaluate the strengths and drawbacks of each identified source and instrument to help build your understanding of the current advantages and limitations.

Checklist:

Before moving onto Task 2.2, have you:

- Compiled a comprehensive catalogue of the existing sources and instruments the region is using to finance adaptation action. ☐
- Reviewed the strengths and weaknesses of sources and instruments through the P2R catalogue. ☐

Supporting resources:

Guidance and supporting materials:

- Pathways2Resilience (2023) Financial sources, instruments and best practice case studies to support financing regional adaptation –Pathways2Resilience has built a catalogue of 57 sources and 78 financial instruments. The catalogue includes advantages and drawbacks of each, and key considerations for their use.
- Regilience funding opportunities catalogue – The toolkit produced as part of the REGILIENCE project provides an overview of the main 'off the shelf' European funding opportunities for adaptation.

Task 2.2 Identify additional sources and instruments and barriers

RRJ Task(s)	CRIP Template Section	Effort	Importance
2.2 Explore possible futures 2.3 Co create a shared vision, 2.4 Develop a theory of change.	2.2, 2.3, 2.4	Medium	Essential

What is this task about?

This task identifies additional sources or instruments your region could be interested in using in the Investment Plan. This could include existing sources and instruments to scale, as well as new ones. The aim is to identify early preferences and barriers to their use.

What are key inputs for this task?

The key inputs for this are:

- The region's own catalogue of existing sources and instruments from Task 2.1.
- P2R's D5.2 - Catalogue of Sources and Instruments, for inspiration on additional sources and instruments, and their benefits, drawbacks and regional suitability.

Regions may also wish to draw on the possible futures, emerging shared vision and Theory of Change in Phase 2 of the Regional Resilience Journey as these may include indications of the mix of sources or financing arrangements which might need to be available in future.

What are the expected outputs?

By this end of this task, you will have a documented list of sources and instruments to explore during the Investment Plan process. It will be accompanied by an assessment of the barriers to scaling or deploying these. It should also set out which sources and/or instruments will be excluded from consideration in the Investment Plan. Depending on the ordering of tasks, regions may wish to use the strategic financing options as an input into the development of the Theory of Change in RRJ Task 2.3 and Task 2.4.

Why is it important?

Constraining or expanding choices of sources and instruments: preliminary evaluation can identify potential barriers such as political, legal, or ethical reasons for working/not working with certain sources or instruments. Some of barriers may be able to be removed (e.g. a lack of credit rating), whilst others may act to constrain the choice of sources and instruments (e.g. political attitudes to use of sources or borrowing limitations).

Building a more detailed picture of financing limitations and constraints. This assessment gives you a clearer picture of the region's potential to mobilise certain sources or instruments, which can then be used to inform the development of adaptation options and investment strategies. For example, it may give you greater understanding of what the specifics constraints are that would prevent a bank or the national government from financing certain solutions; or you could deepen your understanding that the nature of an adaptation option might not allow the use of debt financing unless co-benefits are added that could provide an additional revenue stream.

Addressing barriers early on: Considering barriers early ensures you can take actions to make them viable options for financing your pathways and action plan. For example, if your region has limited powers to raise taxes or impose regulations to require private sector adaptation, you can engage with Member States whilst they develop their Investment Plan to seek such powers. This boosts your region's capabilities to access and mobilise different sources and instruments of adaptation finance overall, instead of focusing on project-specific needs.

Setting direction: identifying additional sources and instruments helps frame the development of Investment Strategies in Phase 3. It also signals the type of financing approaches the region is seeking to deploy to regional stakeholders, allowing them time to prepare and respond.

What should you focus on in early iterations?

In the early stages, you should prioritise sources or instruments which could help address priority climate risks. Determine whether the existing adaptation sources and instruments address those needs, as well as seeking inspiration from the P2R Catalogue to determine what additional ones you may need to deploy and evaluate how to access them.

You should also take stock of whether there are any "obvious" strategic options that may have been considered by the region before or are currently being explored. For example, crowdfunding may have been used in other policy areas due to its ability to connect citizens with real outcomes. While we recommended developing specific ideas to initiate early preparation work, it is also important to keep an open mind and consider options once you begin the work to develop adaptation pathways and actions.

How can you complete it?

Review the P2R Catalogue to identify potential additional sources and instruments to consider for use in the Investment Plan. The catalogue compiles a highly comprehensive list of financial sources and instruments for adaptation and can therefore increase awareness of what is possible beyond your region has already deployed. It can also be used to evaluate the suitability of sources and instruments. Key considerations it addresses are shown below:

Table 3: Considerations in sources and instruments catalogue.

Sources	Ability to offer different instruments; Motivations for providing finance; A region's capabilities to reach those sources; The national, regional and local political context; The terms under which that source provides the finance; Region's economic and financial context, i.e. its ability to borrow funding or financing.
Instruments	speed of implementation required; maturity of the private investment environment for the sector(s); monitoring and evaluation capacity needed; region's adaptation-related financial objectives; region's envisaged use(s) for the instrument; ability to raise funds to repay investments;

When identifying additional sources or instruments, it is important to engage the region's local stakeholders who will be key to addressing barriers, developing the desired instruments and financing the adaptation actions. This is the crux of the "Building a shared vision" step in the RRJ. As a minimum you should draw on the possible futures, emerging shared vision and

Theory of Change in Phase 2 of the Regional Resilience Journey to inform choices. However, you may also wish to involve potential sources as stakeholders directly in the visioning process to raise their awareness of what the region is trying to achieve, where its challenges are and where the opportunities for them are.

You should also consult with the region's financial team to determine whether any existing work has been done to assess their financial approaches' size and suitability to fund adaptation. You may also wish to run workshops with stakeholders to collectively evaluate and prioritise potential new sources and instruments, or undertake one-to-one engagement with sources to gauge their interest, get feedback and secure future buy-in.

Food for thought

While the best practice examples from the P2R catalogue are intended to illustrate additional possible financing options that could be transferrable or replicated, their suitability is highly context-specific, depending on climate-related hazards in the region, the characteristics of a particular sector, and the local, national and EU policy. Furthermore, the role of each region may also differ in otherwise similar applications. Hence, these case studies are not comprehensive and are meant to serve as inspiration as the region explores their own financing models that address their specific needs.

Finally, you should evaluate the barriers to scaling or developing these additional sources and instruments. Barriers can be specific to the source or instrument or may relate to the region overall. This should take account of the region's local risks and opportunities and its stated adaptation objectives, as well as by the wider political, economic, and financial context. You should also assess the types of barrier, the relevant sources and/or instruments it affects, the relative importance and strength of the barriers, as well as the degree of control the region has over them. Barriers can be grouped into a number of types: Behavioural and Capability; Financial and Market; Technical and Data; Political, Institutional and Governance; and Knowledge and Awareness. An example of this kind of assessment is included below:

Table 4: Example assessment of barriers to sources and instruments.

Barrier name	Description	Type	Relevant sources and/or instruments	Importance (H /M/L)	Strength of barrier (H/M/L)	Degree of control	Sector and stakeholders involved
Inability to levy taxes	The region does not have legal powers to introduce new taxes	Legal	Households/ Businesses via Taxes	M	M	Low	National Government
Lack of credit rating	Lack of credit rating prevents	Legal	Capital Markets - Bonds	L	L	High	Regional government
Private sector contributions to flood resilience	Private sector is not required to contribute to the costs of flood defences	Policy	Businesses via Regulation	L	M	Low	Chamber of Commerce, Real Estate owners and developers, national government

In addition to developing actions to address specific barriers, regions should also consider whether synergies with mitigation financing, or more strategic use of insurance could help

enable further financing. Some mitigation options can include significant financial savings or revenue streams that could be used to support adaptation efforts. Depending on the size of benefits, these could include early efforts such as feasibility studies, or the financing of the measures themselves. Similarly, insurance can often be deployed alongside other financing approaches to reduce project risk, but it can also be used in partnership with physical adaptation interventions to make adaptation options viable – for example a flood defence project with an insurance scheme to support coastal communities.

Checklist:		
Before moving onto Task 2.3, have you:		
	Identified a strategic set of extra financial sources and instruments that would help achieve your adaptation objectives.	☐
	Identified the barriers that stop you using these extra sources and instruments.	☐

 **Supporting resources:**

Guidance and supporting materials

- Pathways2Resilience (2023) Financial sources, instruments and best practice case studies to support financing regional adaptation –Pathways2Resilience has built a catalogue of 57 sources and 78 financial instruments. The catalogue includes advantages and drawbacks of each, and key considerations for their use.
- Regilience funding opportunities catalogue – The toolkit produced as part of the REGILIENCE project provides an overview of the main 'off the shelf' European funding opportunities for adaptation.
- ClimateFIT – 20 best practices - ClimateFIT performed in-depth research of 20 international best practices of innovative adaptation funding and financing solutions. Each case offers an inspirational example of successfully raising financial resources for climate adaptation. The project analysed the local context, the governance and organisational structure, the business model and financial model, successes and limitations, and conditions for transferability.
- IISD (2021) Innovative Financial Instruments for Climate Change Adaptation - This guide includes a wide range of innovative instruments that can be used to fund or finance adaptation.

Case study: Catalan Climate Fund: Using new taxes to fund mitigation and adaptation activities, Catalonia

"The climate fund is one of the instruments of the Government of Catalonia for the financing of public policies on climate change in the field of local media, research, business, citizen participation, and environmental organisations.", ***Mireia Boya, Director General for Climate Change and Environmental Quality, Government of Catalonia***

Introduction

The approval of the Catalan Climate Change Law in 2017 led to the creation of three new taxes aimed at financing mitigation and adaptation actions within the framework of public climate change policies under the Catalan Climate Fund. This fund is supported beyond the general budget of the Catalan government by these new taxes on carbon dioxide emissions from tourists, motorbikes, commercial vans, large vans, and approximately 1,400 economic activities in Catalonia.

The successful deployment of the Catalan climate change law requires ensuring the implementation of the commitments made within this regulatory framework. The insufficiency of necessary funding from the Spanish government means that Catalonia continues as an autonomous community with most of its own taxes. This necessity prompted the establishment of the Catalan Climate Fund to address these funding challenges.

Core information

Since the launch of the Catalan Climate Fund in 2021, projects amounting to more than 300M€ have been financed. These projects cover both adaptation and mitigation of climate change for local authorities (town councils), research centres, small and medium-sized enterprises, citizen participation, and environmental organisations. Creating the climate fund not only facilitates the implementation of actions but also simplifies the integration of GHG emission reduction and climate risk vulnerability reduction objectives into the government's sectoral policies and programming.

Key takeaways

- The primary benefits are the facilitation of mitigation and adaptation actions at the local government and small and medium enterprise levels. Without funding from the fund, implementing these actions would be difficult.
- The next steps include incorporating the remaining two challenges (large valleys and economic activities) into the climate fund.
- Additionally, the goal is to expand the financing lines to enable the full deployment of the Catalan climate change law.

The Catalan Climate Fund demonstrates how new taxes on emissions and various economic activities can generate significant funding for climate projects. By creating similar funds and incorporating dedicated taxes, regions can facilitate local climate actions, integrate climate objectives into sectoral policies, and address funding challenges more effectively.

Source: Catalan Climate Fund (Available in Spanish and Catalan)

Task 2.3 Expand financing options

RRJ Tasks(s)	CRIP Template Section	Effort	Importance
2.2 Explore possible futures, 2.3 Cocreate a shared vision, 2.4 Develop a theory of change	2.4	Medium	Optional

What is this task about?

Once the region has identified barriers to developing or scaling its future financing options, the next Task is to identify possible solutions to address them alongside the development of the Investment Plan to increase the range of sources and instruments available in later stages.

What are key inputs for this task?

The main input is the barriers assessment in Task 2.2. You may also wish to draw on the possible futures, emerging shared vision and Theory of Change in Phase 2 of the RRJ.

What are the expected outputs?

The output of this Task is an action plan for the region to diversify its adaptation sources and instruments, during the development of the Investment Plan. The actions should detail how it will address any barriers to the use of additional sources and instruments and the broader financing environment. These additional actions can also inform or revise the Theory of Change in RRJ Task 2.4, and as an input into the options longlisting in Task 3.1.

Why is it important?

Identifying parallel work to diversify the region's sources and instruments to support plan development. This Task identifies specific activities to undertake and organisations to engage during the development of the Investment Plan so that a wider set of funding or financing options are available when considering how to finance your pathway or action plan.

What should you focus on in early iterations?

Improving the enabling conditions for adaptation finance is a long-term challenge. Therefore, the priority should focus on the risks, sectors or places which most urgently need funding, but which are not able to access it in the current financial landscape. Another priority should be where simple interventions could unlock significant additional finance flows, to make the most efficient use of public funding. For example, in Hamburg, the use of €1.5m for a green roof subsidy mobilised €13.5 million (ClimateADAPT, 2022). You may also wish to consider which areas have the likelihood of making realistic and substantial progress.

How can you complete it?

Take the barriers to using extra sources and instruments identified in Task 2.2 and identify a range of actions that can be taken forward to address them, along with responsibilities and timelines. An example is shown below:

Table 5: Example assessment of barriers to sources and instruments and associated actions.

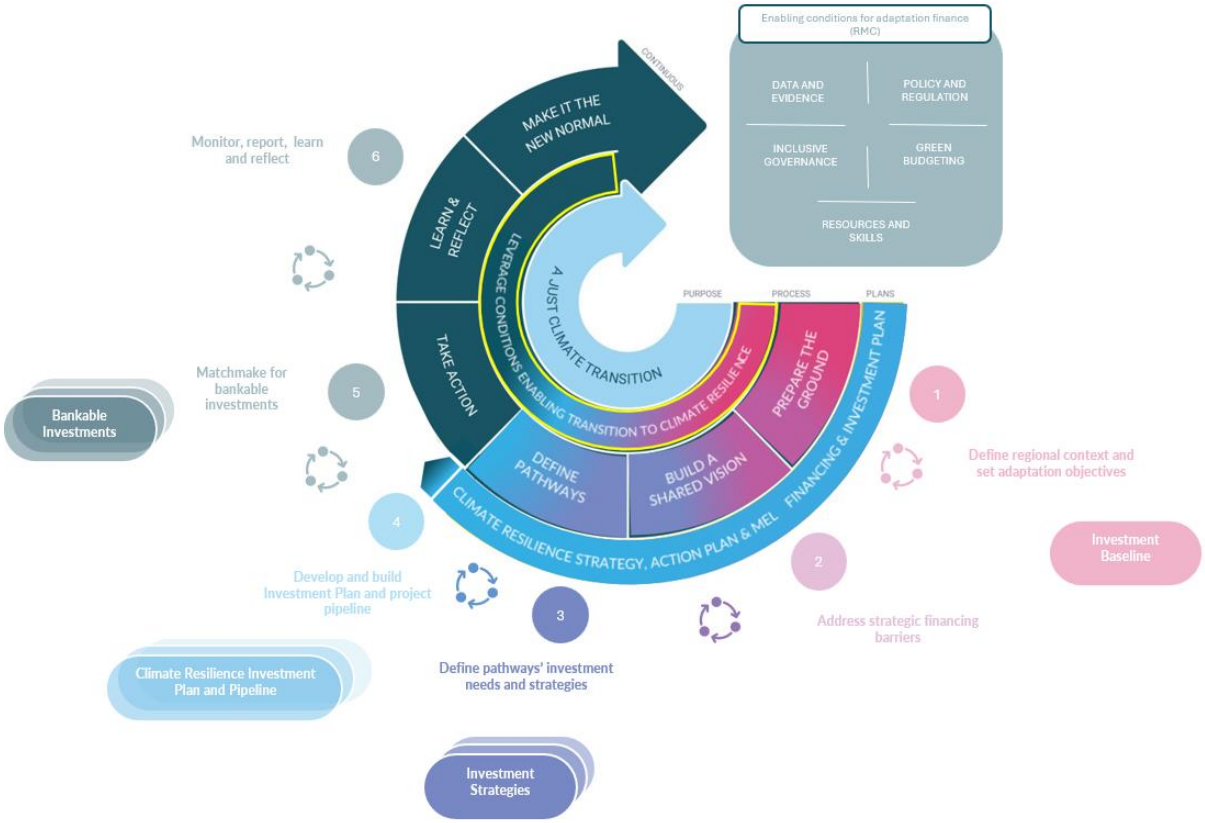
Barrier name	Description	Type	Actions:	Who?	By when?

Inability to levy taxes	The region does not have legal powers to introduce new taxes	Legal	Lobby national government for new powers	Political representative	Ongoing
Lack of credit rating	Lack of credit rating prevents	Legal	Obtain credit rating for region	Finance team	M12
Private sector contributions to flood resilience	Private sector is not required to contribute to the costs of flood defences	Policy	Develop proposals for a national new tax credit for contributions to flood defence.	Head of Economic Development, Flood Risk Management Team	M15

Like the previous task, actions could be developed through expert review, or through a stakeholder workshop involving finance players from across the region. You should then take forward the actions in parallel to this process. Where it is not possible for actions to be pursued during plan development, they should be used as an input for the development of investment strategies in Phase 3 and the investment plan in Phase 4, as early thinking to improve the enabling conditions during delivery of the Investment Plan.

Checklist:		
Before moving onto Phase 3 have you:		
	Compiled an action plan on how to diversify your adaptation-related financial sources and instruments, including timelines, and a clear allocation of roles and responsibilities.	☐

Phase 3 – Define pathways' investment needs and strategies



The aim of this phase is to put together a longlist of adaptation options that are economically effective, prioritising and sequencing them into pathways and then developing investment strategies to realise them. This links heavily with the tasks in the RRJ to explore options, assess their effectiveness and sequence them into pathways with short, medium and long-term actions.

Links to the Regional Resilience Journey:

AIC tasks	Relevant RRJ inputs	Outputs relevant to the RRJ process
Task 3.1: Longlist adaptation options and assess economic benefits	The Theory of Change (RRJ Task 2.4) should help frame the process. This task should be undertaken in parallel with RRJ Task 3.1. This means you should only have a single set of adaptation options.	The outputs of this task should be used to inform the MCA scoring characteristic of financial and economic viability in RRJ Task 3.1.2 (assess effectiveness of options).
Task 3.2: Prioritise and sequence adaptation options	The list of agreed options from RRJ Task 3.1.2. (assess effectiveness)	The final sequencing of pathways can be used for evaluation in RRJ Task 3.2.2.
Task 3.3: Develop investment strategies for preferred pathways.	N/A	N/A

Task 3.1 Longlist adaptation options and assess economic benefits

RRJ Tasks(s)	CRIP Template Section	Effort	Importance
Task 3.1 Identify and assess options	3.1	Medium to high, depending on the complexity of the region's needs and the availability of data.	Essential

What is this Task about?

This Task is about developing a long list of adaptation options and appraising their potential. This guidance focuses on the economic and financial components of this activity. This should be undertaken alongside broader identification and assessment of adaptation options undertaken in Tasks 3.1.1 and Task 3.1.2. of the RRJ.

What are key inputs for this task?

The Theory of change produced in RRJ Task 2.4 will help frame the process, along with the rationale and objectives set in Task 1.3. The range of climate risks identified and assessed in Task 1.3.1 of the RRJ are also relevant.

What are the expected outputs?

The expected output of Task 3.1 is an assessment of the economic benefits and co-benefits of a set of adaptation options for pathways. The outputs should inform the high-level assessment of options in Task 3.2.1 of the main RRJ, (assess effectiveness of options), alongside the wider appraisal criteria. These options will be sequenced into a set of pathways, with associated adaptation benefits and co-benefits in Task 3.2.

Why is it important?

Comparing the relative costs and benefits to ensure economically optimal actions - Different adaptation options offer varying levels of benefits and co-benefits. Identifying these early in the planning process is essential ahead of building the economic and financial justification for individual adaptation actions (Task 4.1). Evaluating these benefits and co-benefits will also help you build stronger cases for investment for pathways and individual actions.

Identifying new sources of finance - Comprehensively identifying benefits and co-benefits the project provides is necessary to be able to identify who benefits from the option and therefore possible future sources of finance for the adaptation. This is important for the development of investment strategies for the pathway in Task 3.2, as well as the detailed financing approaches for in the action plan in Task 4.2.

What should you focus on in early iterations?

In the early iterations of this Task, focus on identifying and evaluating the major benefits delivered by the various options under consideration for particular sectors or risks. Future iterations could identify and quantify additional, smaller benefits, which would further improve the financing potential. To identify benefits and their relative size, consider engaging with stakeholders to gather input and ensure the proposed options address local needs.

How can you complete it?

Start by agreeing a set of key objectives for the pathway. You should then identify a list of adaptation options for the broad areas or sectors where adaptation is likely to be needed (e.g., flood risk management, climate-smart agriculture, adaptation of buildings for overheating), and outline options which could be combined into packages of adaptation options. The options should include all the major ways to meet the objectives. This should also be framed by the Theory of Change (RRJ task 2.4). For each potential option, map the climate risks that the range of options address (using the risk assessment in RRJ Task 1.3.1 assess climate risks). You should then identify the associated adaptation benefits and co-benefits provided by the option and their relative actual or economic size.

Adaptation benefits could include reduced levels of exposure or vulnerability to key hazards for populations or sectors. Co benefits are the wider benefits that arise from implementing adaptation actions such as enhanced biodiversity, improved public health, or increased economic resilience. At this point, you may not want to use specific criteria, but just focus on the relative or indicative size of benefits. Alternatively, you may choose to define some quantitative criteria. (e.g. a reduction in damages or increases in value). An example for packages in a flood risk reduction pathway are shown below:

Table 6: Indicative economic and financial benefits of a pathway to reduce surface water flood risks.

Options	Climate Risks	Benefit	Type of benefit (adaptation benefit / co benefit)	Size of benefit (Quantified or H/M/L)
Nature-based solutions for the built environment	Damage to property from Surface water flood risk	Flood risk reduction	Adaptation benefit	M
		Reduced insurance premiums / claims	Adaptation benefit	L
		Reduced maintenance costs	Co-benefit	L
	Heatwaves and high temperatures	Productivity benefits – reduced temperature	Adaptation benefit	L
	N/A	Improved air quality	Co-benefit	L
		Increase in rental yields	Co-benefit	M
		Increase in property values	Co-benefit	M
		Carbon Storage	Co-benefit	M
		Reduced water treatment costs	Co-benefit	M
		Improved biodiversity	Co-benefit	L
Adaptive management	N/A	Improved decision making	Adaptation benefit	M
		Improved public sector coordination and decision-making	Co-benefit	L
Climate Proof Highways	Disruption to transport from Surface Water Higher temperatures / heatwaves	Reduced repair and maintenance costs	Adaptation benefit	M
		Reduced economic disruption	Adaptation benefit	H
Early Warning System Extension	Flood risk to homeowners	Reduced damage to property	Adaptation benefit	H
		Avoided physical and mental health impacts	Adaptation benefit	M
		Reduced insurance premiums / avoided costs	Adaptation benefit	L

You can do the longlisting and appraisal of benefits directly, or through use of experts or consultants, though it assumes a certain level of knowledge about the local context. You can use workshops and participatory sessions to involve stakeholders in identifying, evaluating, and prioritising adaptation options, generating further consensus. It is important to facilitate open dialogue to gather diverse perspectives, build consensus, and ensure community.

In addition to benefits, you should gather information on the potential costs and equity implications of the options. Where possible, this should include the period over which investment is likely to be needed, or potential funding sources. Information could be taken from early-stage project feasibility studies, from engagement with relevant stakeholders (such as environmental agencies or development banks), or from similar work undertaken elsewhere (e.g. in other regions) Estimates should be confirmed with relevant stakeholders for accuracy or assumptions. The aim should be to ensure the options equitably address climate risks to regional development as well as supporting the transformative pathways. If any gaps are identified, then add additional adaptation options. The assessment of benefits should then be fed into the wider assessment and selection of options in Task 3.1.2 of the RRJ shown below:

Table 7: Multi-criteria evaluation of adaptation options. Economic and financial appraisal shown in green.

	Key Criteria (indicator)	Adaptation Option 1	Adaptation Option 2	Adaptation Option *n*
Impacts	Adaptation effectiveness (i.e. risk reduction)*	*High/ Medium/ Low*	*High/ Medium/ Low*	*High/ Medium/ Low*
	Potential to deliver integrated impacts (i.e. co-benefits)**	*High/ Moderate/ Low*	*High/ Moderate/ Low*	*High/ Moderate/ Low*
Adaptivity	Robustness (future proof)	*High/ Medium/ Low*	*High/ Medium/ Low*	*High/ Medium/ Low*
	Flexibility (adaptive)	*High/ Medium/ Low*	*High/ Medium/ Low*	*High/ Medium/ Low*
	Potential regret (risk of maladaptation)	*Low Risk/ Moderate Risk/ High Risk*	*Low Risk/ Moderate Risk/ High Risk*	*Low Risk/ Moderate Risk/ High Risk*
Implementation Feasibility	Technical Feasibility (technical readiness)	*Ready/ Needs Adjustment/ Not Ready*	*Ready/ Needs Adjustment/ Not Ready*	*Ready/ Needs Adjustment/ Not Ready*
	Economic & Financial viability (from AIC Task 3.1)	*Favourable/ Neutral/ Unfavourable*	*Favourable/ Neutral/ Unfavourable*	*Favourable/ Neutral/ Unfavourable*
	Relevance (stakeholder priority)	*Essential/ Important/ Non-Essential*	*Essential/ Important/ Non-Essential*	*Essential/ Important/ Non-Essential*
	Local Suitability (community support)	*Strong/ Moderate/ Weak/ Contested*	*Strong/ Moderate/ Weak/ Contested*	*Strong/ Moderate/ Weak/ Contested*
	Policy Relevance (coherence, institutional support)	*Aligned/ Partially Aligned/ Not Aligned*	*Aligned/ Partially Aligned/ Not Aligned*	*Aligned/ Partially Aligned/ Not Aligned*
	Regional capabilities (local skills and resources)	*Sufficient/ Needs development/ Not Ready*	*Sufficient/ Needs development/ Not Ready*	*Sufficient/ Needs development/ Not Ready*
Transitional	Facilitates Just Resilience (equity of impacts)	*Positive/ Neutral/ Negative*	*Positive/ Neutral/ Negative*	*Positive/ Neutral/ Negative*
	Transformative Power (potential to stimulate systemic change)	*High/ Moderate/ Low*	*High/ Moderate/ Low*	*High/ Moderate/ Low*

Checklist:

Before moving onto Task 3.2 have you:

- Clearly defined a long list of adaptation options. ☐
- Identified the types and sizes of economic and financial benefits they offer. ☐
- Evaluated the options based on their initial economic and financial viability. ☐

 **Supporting resources:**

Guidance and supporting materials

- MEDIATION (2013) Decision Support Methods for Climate Change Adaptation - This guide provides a summary of decision support tools, their potential relevance for adaptation and guidance on their potential applicability. It covers a range of traditional decision support tools (cost-benefit analysis, cost-effectiveness analysis and multi-criteria analysis) as well as alternative approaches that more fully capture uncertainty (real options analysis, robust decision making, portfolio analysis and iterative risk (adaptive) management, adaptation turning points and analytic hierarchy process). It also includes complementary tools that can assist in adaptation assessment including social network analysis.

Case Studies and Examples

- Climate Ready Clyde (2021) Glasgow City Region Climate Adaptation Strategy and Action Plan: Annex 4: Glasgow City Region Multi-Criteria Analysis of potential interventions.

Task 3.2 Prioritise and sequence adaptation options into sets of pathways

RRJ Tasks(s)	CRIP Template Section	Effort	Importance
Task 3.1, Task 3.2 Co-design a portfolio of interventions	3.1	High	Essential but advanced

What is this task about?

This Task prioritises and sequences the adaptation options identified in Task 3.1.2 of the RRJ (assess effectiveness of options) into sets of adaptation pathways with short, medium and long-term actions. Like Task 3.1, this guidance focuses on the financial and economic aspects and should be completed alongside Task 3.2.1 in the RRJ guidance (formulate pathways).

What are key inputs for this task?

The list of agreed options from Task 3.1.2 (assess effectiveness) of the RRJ.

What are the expected outputs?

The expected output of Task 3.2 is a set of pathways that can be evaluated in task 3.2.2 of the RRJ (evaluate pathways). The pathways are developed based on adaptation criteria in RRJ task 3.2.1, but also economic aspects such the timing of the risks, economic benefits and the timing of adaptation decisions.

Why is it important?

Optimising economic and financial benefits of adaptation pathways – The timing of climate change risks and the timing of adaptation decisions (and the associated costs and benefits) differ and influence the economic and financial case. Some investments that are needed now to deal with current risks deliver benefits now and into the future (e.g. early warning systems), Others need investment now, but benefits arise later (climate proof infrastructure). In other cases, both costs and benefits arise later (e.g. adaptive flood risk management or sea level rise).

Alongside the uncertainty of future climate change, this makes it challenging to ensure that options perform well under detailed appraisal. Sequencing early on helps ensure that decisions on adaptation to both manage the risks well and optimise investment to offer value for money, avoiding over or underspending,

Meeting budgetary constraints - because of tight regional (and national) budgets and constrained access to capital, prioritisation becomes even more critical. Regions must allocate their limited resources to the most impactful and cost-effective adaptation measures, and total expenditure will need to fit within an agreed budget. The sequencing process helps show that not all adaptation measures must be implemented now and helps fit within fiscal constraints.

What should you focus on in early iterations?

In the early iterations of this Task, focus on being clear about the relative timing of when the actions are needed. If necessary, focus on performing this for a smaller number of sectors. Getting the process right will enable you to scale up and build from experience gained early on.

How can you complete it?

Take the options developed in Task 3.1 and prioritise when actions need to be taken within the pathway. From an economic and financial perspective, you should consider:

- **Option type** - categorising the options based on their ability to pass the economic tests of effective adaptation offers some light touch appraisal. Classify each option into one of the following:
    - **No-low regrets** – actions which deliver economic benefits now by reducing risks associated with current climate variability as well as building future climate resilience, or to enhance opportunities.
    - **Climate-Smart Design** - actions designed to ensure adaptation is considered in near-term decisions that have long lifetimes, such as major infrastructure to avoid 'lock-in' (see key terms). This can include the use of decision making under uncertainty (DMUU) concepts (i.e., flexibility, robustness).
    - **Adaptive management activities** - Fast-track early adaptive management actions, especially for decisions that have long lead times or involve major future change, including planning, monitoring, and research. This can enhance learning and allows the use of evidence in forthcoming future decisions, for either risks or opportunities.
- **Urgency –** The urgency of implementing the option. Higher urgency scores indicate action is needed to manage climate risks and deliver further benefits now.
- **Indicative economic benefits –** the overall indicative economic benefits based on your assessment of options.
- **When costs arise –** When the investment in the option would be needed – either now (i.e. within a current action plan), or in the future (future packages).
- **When benefits arise –** When the benefits associated with the option would be realised within the region.

This information, combined with the adaptation criteria in RRJ task 3.2.1 (formulate pathways) should allow you to sequence options into adaptation pathways, with initial and packages within an adaptation pathway, spread across near-term, medium term and long-term. An example pathway is shown in Table 8 below. Adjust the sequencing based on other local preferences, such as windows of opportunity (e.g. significant investment decisions where adaptation could be mainstreamed), available fiscal space and political considerations (such as acceptability or community priorities).

Checklist:		
Before moving onto Task 3.3 have you:		
	Categorised options based on type, urgency, benefits and investment needs.	☐
	Sequenced the options into pathways that will form the basis for evaluation.	☐

Supporting resources:

Guidance and supporting materials

- Watkiss, P. and Betts, R.A. (2021) Method. In: The Third UK Climate Change Risk Assessment Technical Report [Betts, R.A., Haward, A.B. and Pearson, K.V. (eds.)]. Prepared for the Climate Change.

Table 8: Sequencing approach to adaptation pathway for flood risk management. Note sections of the appraisal in grey are completed in the RRJ task, 3.2.1 Formulate pathways

Options		Adaptation criteria					Economic criteria				Pathway Input		
Name	Option type	Potential regret	Adaptation effectiveness*	Timing of adaptation limit*	Indicative co-benefits**	Lead time***	Urgency of action	Indicative economic benefits	When costs arise	When benefits arise	When should the action happen?		
											Short	Med	Long
Early warning system extension	*No-regrets*	*Low*	*Exposure reduction (casualties): Med*	*Expected annual casualties > threshold: 2035*	*Addresses social vulnerabilities: Low*	*1 year*	*High*	*High*	*Now*	*Now*	*X*		
Resettlement with coastal and river planning	*Adaptive management*	*High*	*Exposure reduction (damages): High*	*Flooding EAD > threshold: 2100+*	*Climate smart spatial planning, addresses social vulnerabilities, restores coastal/river biodiversity, etc.: High*	*25+ years*	*Low*	*Medium*	*Future*	*Future*			*X*
Climate proof highways	*Climate Smart*	*Low*	*Exposure & Vulnerability reduction (damages): High*	*Flooding EAD > threshold: 2075*	*Maintains transport corridors and associated economic activities, aids in disaster response/recovery: Med*	*5 years*	*High*	*High*	*Now*	*Future*	*X*		
NBS in built environment	*No-regrets*	*Low*	*Hazard reduction (runoff, delays flood peaks): Med*	*Flooding EAD > threshold: 2045*	*Restores biodiversity, addresses heat stress, provides public recreation areas, etc.: High*	*10 years*	*Med*	*Med*	*Now*	*Now*		*X*	

* Risk reduction impacts and timings can be expressed either quantitatively or qualitatively depending on your selected assessment methodology. Separate impact assessments should be completed for each option against each of the primary adaptation objectives.
** Secondary impacts can be expressed either quantitatively or qualitatively depending on your selected assessment methodologies. Separate impact assessments may be completed for each option against each of the secondary planning objectives.
*** Lead time refers to the length of time to address any implementation feasibility concerns and/or for the likely emergence of favourable opportunity conditions (based on analyses completed in Task 3.1.2)

Explainer – economically effective adaptation using a building block approach

It is important to prioritise the most effective adaptation in a way that maximises the societal benefits within available resources. This is influenced by the type of decision, noting that for many risks and adaptation responses, there is a need to address the challenge of deep uncertainty, i.e., where the probability of risks is not known. Whilst there are a range of methods for appraising the economic benefits and effectiveness of adaptation, they can require significant effort. To remain proportionate P2R involves a high-level screening of actions for use in MCA, and a sequencing approach to help identify those which have the potential to perform well in more detailed appraisal. The approach is built on a well-established literature and frameworks for identifying early adaptation priorities using a portfolio approach. Key to this is to categorise actions into three main priorities for early adaptation activities which pass an 'economic test'. These aim to:

Address any current adaptation gap by implementing 'no-regret' or 'low-regret' actions to reduce risks associated with current climate variability as well as building future climate resilience, or to enhance opportunities.

Intervene to ensure that adaptation is considered in near-term decisions that have long lifetimes, such as major infrastructure developments, to avoid 'lock-in' (see key terms). This can include the use of decision making under uncertainty (DMUU) concepts (i.e., flexibility, robustness).

Fast-track early adaptive management activities, especially for decisions that have long lead times or involve major future change, including planning, monitoring, and research. This can enhance learning and allows the use of evidence in forthcoming future decisions, for either risks or opportunities.

These are shown in the adaptation priority framework below, along with the decision characteristics involved. All three of these adaptation priorities or building blocks (shown in the green boxes) are needed, and this requires portfolios of interventions for each individual risk or opportunity. Indeed, the three activities above can be part of an adaptation pathway. The differences between the three 'building blocks' are quite subtle, but important. Each involves a different combination of the timescale of climate risks and the time of the adaptation decision.

On the left of the figure there are some current decisions or actions that can be taken now to address current climate risks. These lead to an immediate benefit. An example is to improve weather and climate services to reduce current weather-related impacts from heatwaves. In the centre of the figure there are near-term decisions which will be exposed to future climate change risks, and there is a one-off opportunity to adapt now. For example, to change the design of a major new infrastructure project (e.g., a major bridge or hydroelectric-power plant) to make them more resilient to future climate change, noting later major retrofits could be expensive or impossible. Finally, on the right of the figure, there are some future decisions that may need to be implemented to address major climate change in the future. Some of these will take time to develop, and some will benefit from improved information and learning. In these cases, it makes sense to start planning now (especially if lead times are long or the potential for learning is large). Sea level rise (is such an example, where early planning and monitoring is put in place now to prepare for the possibility that a new tidal barrier might be needed in the long-term. The key point is that all of these involve some near-term actions in the next five years.

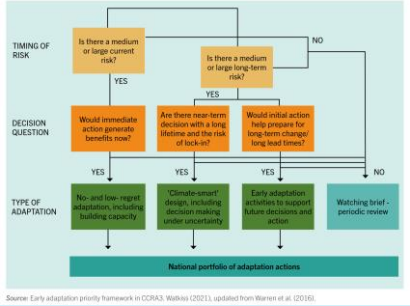


Figure 13: Three types of early adaptation with strong economic rationales. Source: World Bank (2024), updated from Watkiss & Betts. 2021

Task 3.3 Develop Investment Strategies for preferred pathways

RRJ Stage(s)	CRIP Template Section	Effort	Importance
Task 3.1.2b Evaluate Pathways	3.1, 3.2	Medium to High	Essential but advanced

What is this task about?

This Task involves developing high level Investment Strategies to mobilise the resources required for your adaptation pathways. The approach links pathway benefits to beneficiaries to diversify the sources of finance and considers the use of different instruments to leverage them. You will also evaluate the wider range of sources and instruments available and identify improvements in enabling conditions planned for each of the areas of investment need.

What are key inputs for this task?

To complete this Task, you need the preferred adaptation pathways developed in RRJ Task 3.2.2, the benefits and beneficiaries identified in Task 3.1 as well as your additional strategic sources and instruments identified in Task 2.2.

What are the expected outputs?

The main outputs of this Task are a high-level Investment Strategy for each preferred pathway.

Why is it important?

The development of investment strategies for adaptation pathways helps lay the groundwork for bankable near-term actions by:

Giving a sense of whether the pathways are financeable, or whether further action will be needed to close the gap - The process of developing an Investment Strategy highlights whether your region is likely to have access to the finance it needs for its pathway over the long term, or whether a gap exists. In doing so, it raises awareness of more fundamental changes that may be required (e.g. in governance or risk ownership) to help mobilise finance and close the gap.

Ensuring public funds are used strategically to mobilise private sector - Engaging private finance is particularly vital, as it can significantly augment public resources and drive innovation in adaptation solutions. By clearly identifying opportunities for private sector involvement and developing mechanisms to incentivize investment, regions can tap into new sources of funding. This not only helps meet immediate adaptation needs but also ensures long-term financial sustainability and resilience in the face of climate change challenges.

Increasing the financial attractiveness of adaptation projects - a well-defined investment strategy enhances the attractiveness of nearer-term adaptation projects to potential investors by demonstrating a structured approach to financial management and risk mitigation.

What should you focus on in early iterations?

In the early iterations focus on the simpler pathways with clearer benefits and beneficiaries, to become more familiar with the process. In future iterations you can focus on more complex arrangements where dedicated structuring is needed and more effort is required.

How can you complete it?

An Investment Strategy includes three sets of information:

1) General information about the project and its climate risks,
2) The economic and financial case for the pathway; and
3) The indicative financing strategy.

Start by summarising the general information about the pathway, including the packages of options, and the relevant KCS or KEC's. Also outline the climate risks it aims to address and who owns these risks (both in terms of being responsible should the risks occur, and who has strategic responsibility for managing the adaptation approach to them).

In terms of the economic and financial pathway, you should summarise the pathway objectives and the economic rationale for intervention, the total cost of the pathway as well as any indicative economic metrics (such as CBR, NPV, or IRR). These may be indicative estimates drawn from technical studies, or from values of costs of similar projects in other places. Whilst optional, you may wish to undertake economic appraisal or detailed costing of your pathways. You will develop detailed economic appraisal of the near-term actions in the pathway in Phase 4.

Finally, you should develop the indicative financing strategy for the pathway. Detailed guidance on how to do this is as follows:

Step 1: Map benefits to beneficiaries and identify possible pathway revenue streams

Start by mapping the benefits quantified in Task 3.1 to beneficiaries - identify the key beneficiaries of the adaptation pathways, including local communities, businesses, and governmental bodies. Building on the example in the previous task a table of indicative beneficiaries are shown below.

Table 9: Example of an evaluation of benefits and beneficiaries for a preferred pathway to reduce flood risk.

Pathway	Benefit	Type of benefit (adaptation benefit / co benefit)	Size of benefit	Beneficiaries
Nature-based solutions for the built environment	Flood risk reduction	Adaptation benefit	M	Downstream building owners, Municipality
	Reduced insurance premiums / claims	Adaptation benefit	L	Insurers, policyholders
	Reduced maintenance costs	Co-benefit	L	Building owners, tenants
	Productivity benefits – reduced temperature	Adaptation benefit	L	Health bodies, Businesses
	Improved air quality	Co-benefit	L	Geneal public, health services
	Increase in rental yields	Co-benefit	M	Building owners
	Increase in property values	Co-benefit	M	Building owners
	Carbon Storage	Co-benefit	M	High emitting companies
	Reduced water treatment costs	Co-benefit	M	Water companies, billpayers
	Improved biodiversity	Co-benefit	L	General public
Adaptive management	Improved decision making	Adaptation benefit	M	Adaptation organisations

	Improved public sector coordination and decision-making	Co-benefit	L	Public sector agencies
Climate Proof Highways	Reduced repair and maintenance costs	Adaptation benefit	M	Highways teams
	Reduced economic disruption	Adaptation benefit	H	Local businesses
Early Warning System Extension	Reduced damage to property	Adaptation benefit	H	Businesses and citizens
	Avoided physical and mental health impacts	Adaptation benefit	M	Health bodies
	Reduced insurance premiums / avoided costs	Adaptation benefit	L	Insurers, policyholders

You should then identify potential revenue streams from the beneficiaries based on the benefits or co benefits provided. These could include cost savings and avoided damages, but also increased productivity, or enhanced ecosystem services. This will help identify their potential roles as sources of capital to meet the investment needs for each sector or risk area identified in the pathways and their actions (RRJ Step 3.1.2a).

Table 10: Mapping of revenue streams from project benefits and beneficiaries.

Category	Benefit	Nature of good	Beneficiaries	Revenue streams
Adaptation benefits	Flood risk reduction	Public	Downstream building owners, Municipality	Avoided damages
	Reduced insurance premiums / claims	Private	Insurers, policyholders	Avoided costs
	Reduced maintenance costs	Private	Building owners, tenants	Avoided costs
	Productivity benefits – reduced temperature	Private and public	Health bodies, Businesses	Increased output and profits
	Improved air quality	Public	Geneal public, health services	Avoided respiratory treatment costs
	Increase in rental yields	Private	Building owners	Increased rental fees
	Increase in property values	Private	Building owners	Increased monthly rentals
	Carbon Storage	Public	High emitting companies	Carbon Credits
	Reduced water treatment costs	Private	Water companies, billpayers	Avoided costs
	Improved biodiversity	Public	General public	Biodiversity credits
Co-Benefits	Improved decision making	Public	Adaptation organisations	Increased effectiveness
	Improved public sector coordination and decision-making	Public	Public sector agencies	Increased effectiveness
	Reduced repair and maintenance costs	Public	Highways teams	Reduced maintenance costs
	Reduced economic disruption	Private and public	Local businesses	Improved profitability
	Reduced damage to property	Private	Businesses and citizens	Avoided damages
	Avoided physical and mental health impacts	Private and public	Health bodies	Avoided damages
	Reduced insurance premiums / avoided costs	Private	Insurers, policyholders	Avoided costs

Step 2) Evaluate possible additional sources and instruments to capture value.

In parallel to assessing the beneficiaries and revenue streams, use the P2R sources and instruments catalogue and other sources of information to generate a longlist of additional funding or financing sources (and associated instruments) that are available. You should also build on the outputs of Tasks 2.1 and 2.2, zeroing-in on the specific sources and instruments that are of relevance once the pathways are formulated.

Then begin to appraise each source and instrument as to whether they would be suitable for use in the pathway. This should focus on three criteria: acceptability, deliverability and quantum:

- Acceptability: Will the approach be acceptable to the relevant parties?
- Deliverability: How likely is it that this approach can be used to deliver the adaptation outcomes envisaged (i.e. is it technically possible)?
- Quantum: Will the approach provide the appropriate scale of financing required for the pathway and actions, either by capturing the value, or from elsewhere?

An example evaluation is shown below:

Table 11: Sample evaluation of existing sources and instruments for an adaptation pathway.

Source	Instruments	Mechanism type	Acceptability	Deliverability	Quantum
EC	LIFE	New	High	Medium	Medium
	ERDF	New	High	High	Medium
EIB	Framework Loan	Existing	Medium	Low	High
Regional Government	Own resources	New	Medium	High	Low
National Government	Flood Risk Management Fund	Existing	High	High	Medium
Businesses	Local Taxation	New	Low	Medium	Medium

These should be scored from different perspectives – e.g. from the public sector and private sector, or through a workshop-based approach to generate consensus on the priorities. If there is consensus between the key stakeholders, then these should be considered as the main approaches for the financing strategy for the pathway. If such activities do not yield a financially viable pathway, detailed financial structuring will be needed.

Step 3) Consider enabling conditions required to mobilise the finance.

Finally, you should consider the enabling conditions that allow this financing strategy to proceed, and what else should be improved to mobilise additional finance. Examples of things that could be changed to either modify the attractiveness of financing include new policies, regulations or taxes, but also better data or evidence or development of new skills. You should also consider whether facilitating changes in risk ownership and governance would also create incentives. For example, regions could shift the responsibility (and associated costs) of flood recovery from being purely the role of governments to partially making private businesses responsible. This would allow them to prioritise public funds to protect citizens could provide a strong signal to encourage private sector investment in adaptation.

These activities should be used to populate the summary investment strategies template in the P2R Climate Toolbox.

As with many other stages in this process, it may be helpful to hold workshops and engage with relevant financial experts, government agencies, private sector partners, and community representatives, to understand their attitudes, and share knowledge.

You can undertake many of the activities in this Task yourselves, for example mapping beneficiaries and revenue streams. In simpler pathways, you will also be able to develop the Investment Strategies. However, depending on the complexity of the preferred pathways and number of beneficiaries, you may also benefit from securing technical assistance or engaging financial experts to provide specialist knowledge and input. There are a number of options for this including the Mission Platform, EIB Technical Assistance or the Covenant of Mayors, as well as P2R's adaptation finance lab.

Checklist:		
Before moving onto Phase 4 have you:		
	Assessed the beneficiaries from your pathway and possible revenue streams.	☐
	Documented the investment strategy for each adaptation pathway.	☐
	Confirmed the envisaged Investment Strategies for the Strategy and Action Plan fit within the region's fiscal space.	☐

 **Supporting resources:**

Guidance and supporting materials

- Pathways2Resilience - Investment Strategies template – This is available in the toolbox.

Case Studies and Examples

- Sniffer (2023) Craigleith Retail Park Case Study - This report explores the potential economic and financial case for installation of nature-based solutions at a retail park in Edinburgh. It assesses the relevance of a range of sources and instruments based on the benefits of the project, as well as potential revenue streams that could be mobilised. It then appraises the economic and financial case and structures a financial model.
- IISD (2021) Innovative Financial Instruments for Climate Change Adaptation - This guide includes a wide range of innovative instruments that can be used to fund or finance adaptation.

Explainer: Using public finance strategically to maximise private adaptation finance

Whilst much adaptation has the characteristics of public goods, the need for private finance and action to close the gap requires regions to use their own funds strategically to maximise private sector innovation to address barriers. At the same time, the challenging situation of public finances increases the need to maximise value for money from public spend and incentivise and crowd in private sector action.

In this context, regions should seek to maximise the impact of public funds in adaptation through leveraging, crowding in, and avoiding crowding out, based on the maturity of markets and views of relevant stakeholders. This ranges from championing early successes, through to de-risking. In cases where private sector investment is unviable, purely public financing is used as a last resort. A decision tree for the approach, outlining the range of different stances the public sector can take is shown below:

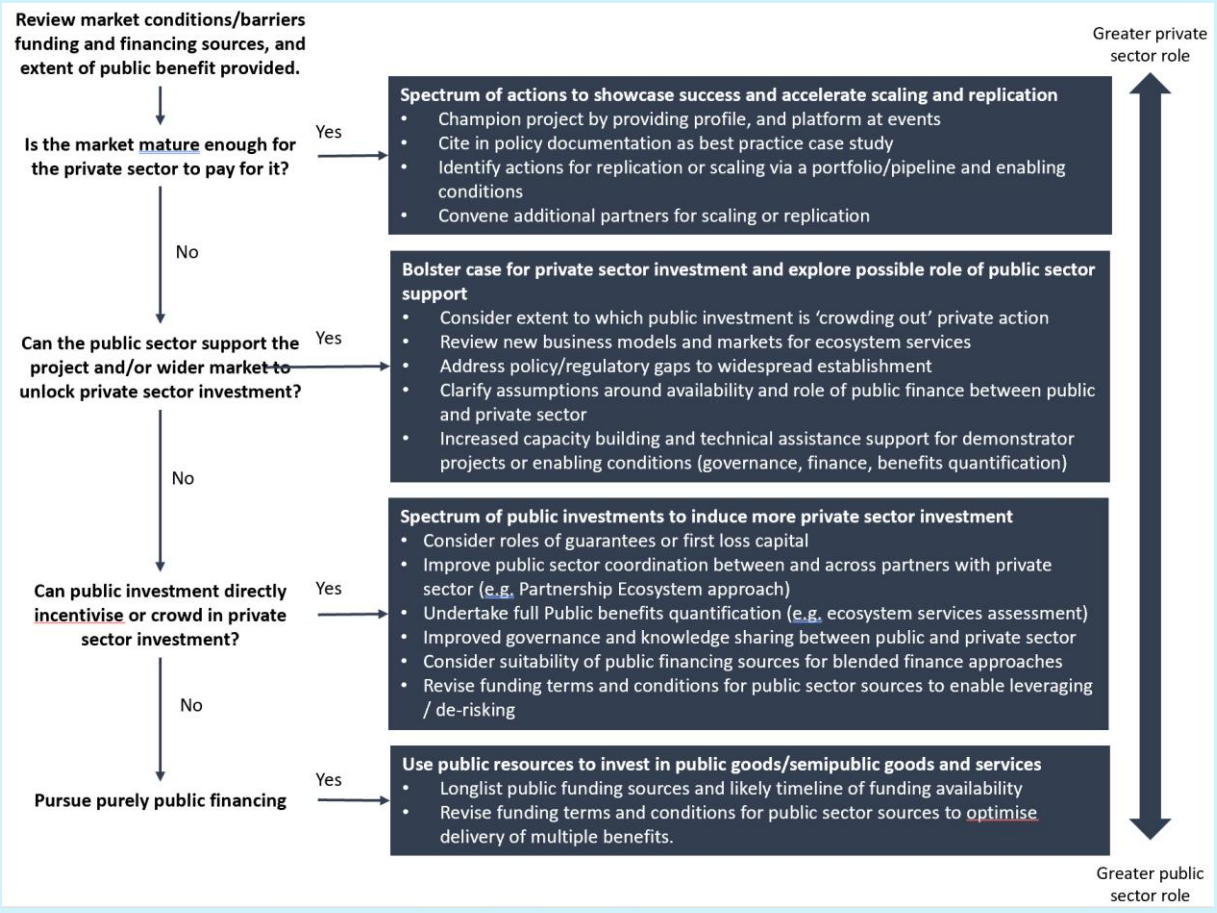


Figure 14: Decision tree for public sector to maximise private sector funding of nature-based solutions in Scotland in the changing private sector context. Source: (England et al., 2023), adapted from (World Bank Group, 2019)

Case study: CLIMATEFIT: Developing Investment Strategies in European Regions

Introduction

The CLIMATEFIT project, funded by the European Union's Horizon Europe program, is dedicated to enhancing financing of climate resilience and adaptation. It aims to advance climate resilience by developing and applying innovative tools, methodologies, and strategies to support investment in projects in 20 European Regions. It focuses on providing actionable solutions to adapt to the effects of climate change, ensuring that both urban and rural areas are prepared for future climate challenges. The project spans multiple sectors, including agriculture, water management, energy, and infrastructure, reflecting the broad impact of climate change on different aspects of society.

Key takeaways

- **Development of Investment Strategies, Plans and Cases:** The project is developing a suite of tools and strategies tailored to regional needs. This will involve 20 investment strategies of which 10 will progress to investment plans and four will then progress to investment cases.
- **Local Resilience Taskforces:** CLIMATEFIT is developing Local Resilience Taskforces, groups of local stakeholders. These will be used as the basis to develop a European Network of Local Resilience Taskforces.
- **Stakeholder Engagement and Capacity Building:** Engaging stakeholders is a critical component of CLIMATEFIT. The project involves local governments, businesses, community organizations, and other relevant parties in the development and application of adaptation finance strategies. Capacity-building activities, such as workshops and training sessions, are conducted to ensure that stakeholders have the knowledge and skills needed to effectively use the tools and implement adaptation measures.
- **Knowledge Sharing and Dissemination:** CLIMATEFIT emphasises the importance of sharing knowledge and disseminating findings. The project develops resources such as reports, guidelines, and case studies to communicate its results and insights. It also organizes events and activities to promote the adoption of its tools and strategies across Europe and beyond.

Expected Outcomes:

- CLIMATEFIT will streamline collaboration for innovative finance across EU contexts, focusing on investment strategies in 20 regions to overcome barriers and support successful financial instruments, using a unified financing framework.

- The project will have delivered a Capacity Building Programme to boost institutional capacity, offering e-learning based on successful initiatives like the EU City Facility project.

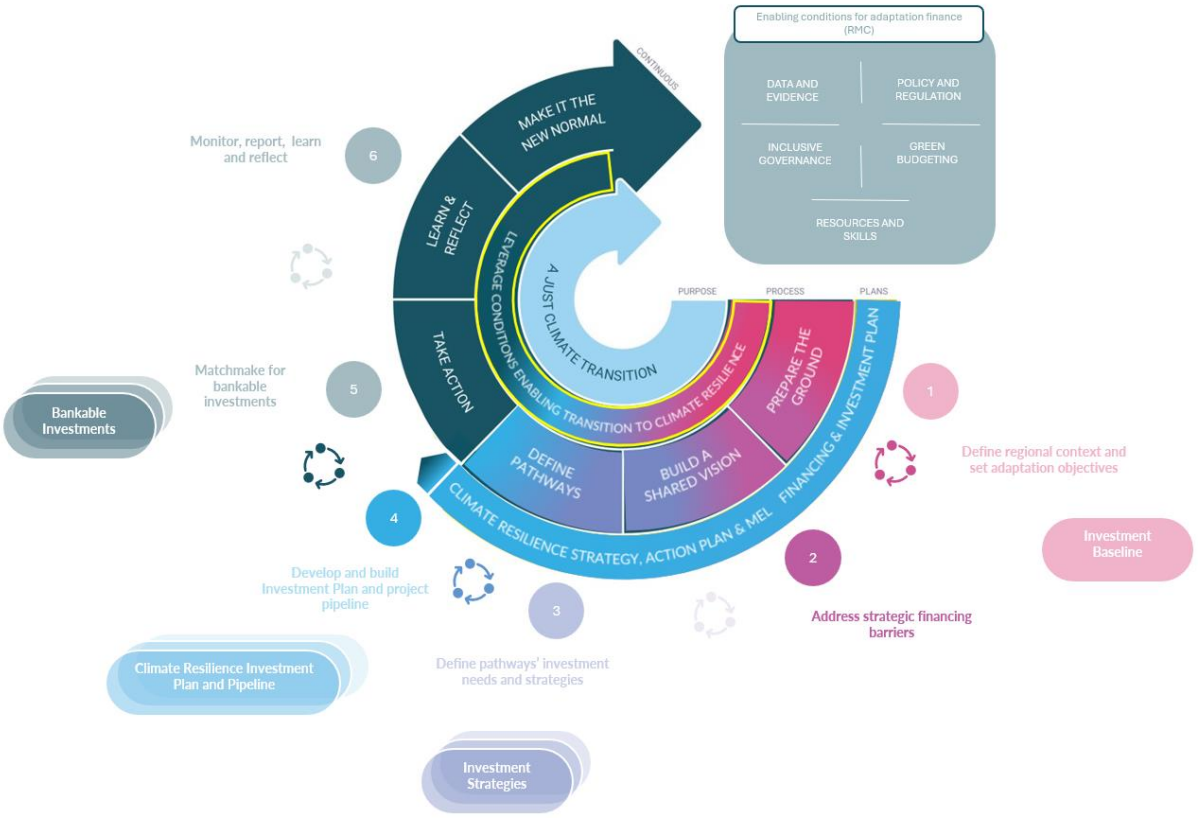
- A manual for public authorities on leveraging tailored financing models and creating resources like a leverage manual and priority-setting tools.

- Successful implementation of pilot projects demonstrating the practical application of adaptation measures.

- Strengthened capacity and knowledge among stakeholders to address climate change impacts.

Source: ClimateFIT.

Phase 4 – Develop and build the Investment Plan and Project Pipeline



The aim of this phase is to finalise the economic and financial case for the region's action plan, and ensure each action has a financing approach in place. You then select the final bankable projects and actions for the Action Plan and Investment Plan, including actions to improve enabling conditions for finance.

Links to the Regional Resilience Journey:

AIC tasks	Relevant RRJ inputs	Outputs relevant to the RRJ process
Phase 4: Develop and build the Investment Plan		
Task 4.1: Build economic and financial case for actions	You should be able to draw on the near-term actions in the preferred pathways developed in RRJ Task 3.3.	These can be used to feed into the action plan prepared in RRJ Task 3.3 (prepare for implementation)
Task 4.2: Agree financial models for actions	You should be able to draw on the near-term actions in the preferred pathways developed in RRJ Task 3.3.	These can be used to feed into the action plan prepared in RRJ Task 3.3 (prepare for implementation)
Task 4.3: Decide bankable priorities, future investments and enabling conditions.	N/A	The outputs should be used as in input into the overall action plan for the region in Task 3.3.

Task 4.1 Build economic and financial case for the action plan

RRJ Task(s)	CRIP Template Section	Effort	Importance
3.2 Design a Portfolio of Interventions, 3.3 Preparing for implementation	4.1	High	Essential but advanced

What is this Task about?

This Task involves individually and collectively evaluating the economic and financial viability of your proposed actions in the action plan, to ensure they represent good value for money. Whilst this task focuses on the action plan, it should be seen in the context of the overall strategy and future iterations of the action plan, over the next 10 – 15 years.

Insight

The decisions on whether a project is investible involves considering different things depending on whether you are in a public body or a private organisation.
Public bodies are interested in the economic case – that is, the costs and benefits to the society, including non-market benefits, such as carbon storage, or health improvements and whether the project is affordable. In contrast, private organisations are typically focused on the total amount of private value created (Net Present Value), and the rate at which the project makes a return (as well as achieving wider objectives). These perspectives are important to consider both when evaluating actions, but also in developing financing approaches.

What are key inputs for this task?

You will need the high-level adaptation pathways developed in Task 3.2, and short-term actions and Innovation Agendas developed as part of RRJ Task 3.3, as well as the associated Investment Strategies in Task 3.3.

What are the expected outputs?

The main outputs of this Task include a comprehensive economic and financial appraisal and a business case for the short-term actions within the action plan. This appraisal should help inform the creation of the action plan in RRJ Task 3.3. By providing a detailed analysis, this output helps justify the investment, making it easier for funders to understand the benefits and viability of the proposed actions.

Why is it important?

Developing a strong economic and financial case for investment is crucial for several reasons.

Justification of investment – Appraisal provides the necessary justification for investment, which is essential for securing funding. Public sector funders need assurance that the project delivers significant societal benefits, whilst private sector needs assurance that the project delivers appropriate financial returns and will generate value. This justification is often a formal requirement for use of funds.

Comparability of investments - Appraisal using common monetary metrics also allows regions to compare the proposed adaptation investments against other potential investments in different policy areas, ensuring the best use of available funds.

Identifying evidence gaps - appraisal identifies areas where further evidence gaps that need to be addressed to make a stronger case for investment, ensuring all relevant information is considered in the decision-making process.

What should you focus on in early iterations?

In the early stages, it is important to develop a high-level case focusing on the overall justification for intervention, societal costs and benefits and potential delivery mechanisms. As your region becomes more advanced and uses a wider range of sources and instruments, focusing on more advanced appraisal metrics, (such as NPV and IRR) becomes more important.

How can you complete it?

Begin with a detailed review of short-term actions, as well as the associated investment strategies, focusing on justifying the economic rationale for. This appraisal should be aligned with the specific requirements of the relevant sources of finance, as regions, countries, or entities may have their own frameworks and processes with specific requirements. For example, the EIB has its own standards for economic appraisal, whilst in the UK, compliance with the HM Treasury Green Book standards is crucial. Ensure that your appraisal meets the standards required by your region's specific financial frameworks.

Next, conduct a comprehensive economic and financial appraisal of the near-term actions. The detailed appraisal required will vary from region to region, The level of appraisal needed will vary from action to action, as well as the overall financing criteria for the region and other actors. However, common metrics used to assess this include Cost Benefit Ratios, Net Present Value, and the Internal Rate of return. Such metrics are also discounted to consider the time value of money – that in general money available today is more valuable than that used in the future. Again, different discount rates are used across the EU.

It is essential to scrutinise both the costs and benefits from both economic and financial perspectives. For the public sector, this focuses on societal costs and benefits, while from a private perspective considering the financial aspects from an investor's viewpoint, such as cash flow, rates of return, and investment merits. Note that some of this work may have been done by individual project teams. A brief summary of this process is outlined below.

Economic appraisal

Drawing on the benefits and beneficiaries generated in Phase 3, summarise the relevant costs and benefits realised over the lifetime of the action. Where possible, quantify these in monetary terms (e.g. health benefits, carbon storage benefits), and compare these to business as usual/do nothing. An example is shown below:

Item	Option 1: BAU	Option 2: BGI
Costs	£586,000	£1,314,253
Benefits		
Drainage and Waste Water	£0	£116,708
Property values	£0	£711,666
Environmental Regulation	£0	£2,039
Total	£0	£830,412
Benefit- Cost Ratio	**0**	0.63
ENPV	**-£586,000**	-£483,841

All prices discounted over thirty years using HM Treasury Discount Rates

Figure 15: Summary of costs and benefits from a nature-based solutions project for flooding in Edinburgh, UK. Source: Adaptation Scotland, 2023.

Financial appraisal

To do this, build on the Investment Strategies developed in Task 3.3 to build a programme-level cash flow analysis to examine the income and expenditure of individual actions. This analysis provides an overall picture of the expenditure profile and financial performance, including Net Present Value (NPV) and Internal Rate of Return (IRR). This should focus on the near-term actions in the pathway, but could also include assessment of the pathway overall, including the medium- and long-term actions within it.

You should then confirm whether the action meets the criteria required that means it can be included in the action plan. The economic and financial cases might need to be assessed for each project individually and also as part of the overall portfolio of actions. At an aggregate level, the high benefits or profitability of some actions can balance those that are important but have lower cost-benefit ratios (CBRs) or lower returns. This holistic approach ensures that while individual projects are justified, the overall portfolio provides a balanced and optimised economic and/or financial benefit. You may also need to modify the project scope or financing approaches to improve the results – this is done in the next task 4.2)

Whilst the process of a standard economic and financial appraisal is summarised above, it is a resource-intensive and complicated process. In particular, for larger projects, or for decisions with long-lifetimes or a degree of irreversibility, more detailed appraisal methods which better consider uncertainty can be used (see Mediation, 2012). If resources for detailed individual appraisals are limited, you can leverage existing evidence from similar interventions in other places to provide the necessary justification. This approach ensures the economic case is backed by relevant and credible data, even if detailed individual appraisals are not feasible.

Checklist:		
Before moving onto Task 4.2 have you:		
	Reviewed the relevant appraisal criteria for your region and major known sources.	☐
	Appraised the economic and financial cases of the actions to understand the potential costs and benefits and which meet regional and/or funder requirements.	☐

Supporting resources:

Guidance and supporting materials

- Sniffer (2022) A guide to climate adaptation finance - The Guide to Adaptation Climate Finance, introduces adaptation finance, identifies current barriers, and aims to support development of the knowledge and skills needed to successfully finance adaptation projects in Scotland. It also covers key elements of project appraisal.
- HM Treasury (2022) Green Book – Central Government Guidance on Appraisal and Evaluation - The green book provides an overview of the standard approach to economic and financial appraisal of policies, programmes and projects in the UK. It also serves as a model example for wider Europe.
- EIB (2023) - The Economic Appraisal of Investment Projects at the EIB – 2nd edition. – This guidance provides an overview of how the EIB performs economic appraisals of the projects it considers for investment to ensure they sufficient value to society to merit support. Beyond considerations of financial profitability to investors, the economic appraisal also addresses the wider value generated by the project to society. This comprises benefits and costs to project final users, the taxpayer and third parties, allowing for all applicable market failures, such as environmental externalities.
- European Commission (2014) - Guide to cost-benefit analysis of Investment Projects. Economic appraisal tool for Cohesion Policy 2014-2020 - The guide sets out general principles for carrying out cost benefit analysis in major EU projects, with particular guidance for energy, transport, environment, broadband, and research, development and innovation, along with case studies.
- MEDIATION (2012) Decision Support Methods for Climate Change Adaption: Method Overview - Summary of Methods and Case Study Examples from the MEDIATION Project - This guide provides a summary of decision support tools, their potential relevance for adaptation and guidance on their potential applicability. It covers traditional tools (cost-benefit analysis, cost-effectiveness analysis and multi-criteria analysis) and alternative approaches that more fully capture uncertainty (real options analysis, robust decision making, portfolio analysis and iterative risk (adaptive) management, adaptation turning points and analytic hierarchy process).

Case Studies and Examples

- EIB Advisory Hub (2022) Climate change adaptation and economics and investment decision-making in the cities. 'How to guide' and case studies. - This document brings together the knowledge and experience from the EIB to provide guidance for supporting municipal and local authorities on using adaptation economics in a local context. It introduces the role of adaptation economics in investment decision-making and outlines when it can be used at different stages in project development and appraisal. It describes the relevant decision tools that can be used to undertake economic appraisal of adaptation options. It provides a toolkit for choosing which approach to use. Finally, it presents case studies in Loule (Portugal), Turku (Finland), Genoa (Italy) and Glasgow (United Kingdom) to illustrate the use of decision-making tools in different urban contexts.
- Sniffer (2023) Craigleith Retail Park Case Study - This report explores the potential economic and financial case for nature-based solutions at a retail park in Edinburgh. It assesses the relevance of a range of sources and instruments based on the benefits of the project, as well as potential revenue streams that could be mobilised. It then appraises the economic and financial case and structures a financial model.

Explainer – Economic appraisal and financial appraisal of adaptation projects

Options appraisal is a standard part of policy and project analysis, and national governments and regions have existing guidelines and decision support tools to help in prioritising options.

Appraisal can be conducted from two perspectives: economic (which includes the costs and benefits to society) or financial (which focuses on cash flow, rates of return, and the merits of investing). Economic appraisal is typically conducted by public organisations and encompasses broader social and environmental impacts (such as health or ecosystem services benefits). In contrast, financial appraisal focuses on the decisions of investors, exploring financial flows and emphasising rates of return, and the merits of investing. Appraisal typically involves consideration of three key metrics:

- **Cost – Benefit Ratio** – the ratio between the total costs of a project and its projected economic or financial benefits. (e.g. a 1:2 ratio means that every €1 invested generates €2 in benefits)

- **Net Present Value** - the difference between the present value of cash inflows and the present value of cash outflows over a period of time. A positive value highlights the project will generate value.

- **Internal rate of return** – the metric used to estimate the profitability of a project. It is the annual rate of growth that an investment is expected to generate.

In simple terms, the costs and benefits of adaptation can be assessed by estimating the current and future impacts of climate change, then assessing the reduction in these impacts (the benefit of adaptation) and the associated cost. However, there is nearly always residual damage after adaptation, because adaptation rarely reduces impacts completely. This leads to a trade-off, because increasing the quantity of adaptation will lead to higher adaptation benefits, and lower residual damage, but higher costs. The costs and benefits of adaptation thus depend on whether the objectives are set based on economic efficiency (where resources are allocated to maximise the production of goods and services, and therefore growth), reducing risk to acceptable level, or trying to return to current risks levels.

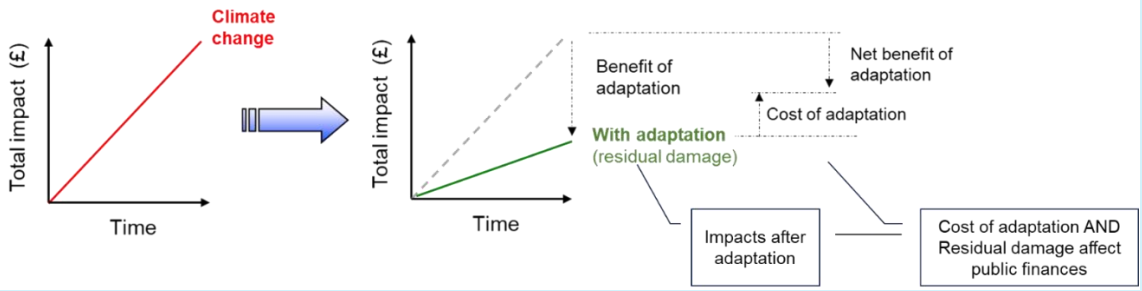


Figure 16 Schematic of the Climate Change Impacts, Adaptation and Residual Damage.

However, appraising adaptation options involves several methodological challenges. These relate to uncertainty, as well as the spatial and sector context. As a result, the most common tools use in appraisal and decision support have limitations in coping with the uncertainty associated with climate change. There is therefore a growing consensus that the appraisal of climate change adaptation should incorporate uncertainty, and that this requires extended analysis within existing appraisal methods or new decision methods that more fully capture uncertainty. As a result, a number of different decision support methods have been developed to help assess adaptation options. For projects where adaptation is the primary objective, or where there are material economic or financial impacts associated with high physical climate risks, these methods may be justified. However, they are complex to apply, require detailed data and are time consuming and resource intensive. Many projects may only require a 'light-touch' economic appraisal to introduce an economic rationale for adaptation. Light-touch economic appraisal may also have a role in either screening high physical climate risk projects or projects where adaptation is a primary objective. The EIB advisory hub has provided an overview of when different methods should be applied in economic appraisal.

Case study: Using models to undertake economic and financial appraisal of adaptation options for the wine sector in Tuscany (Cost-Benefit Analysis)

Introduction

As Climate Change is affecting Chianti wine production in Tuscany, a model-based assessment of adaptation options was applied to address grape yield and quality loss and measure the benefits and costs of adaptations to provide choices for famers on adaptation measures. The study combined six regional circulation models (RCMs) with an existing meteorological data set of Tuscany to simulate the grape yield and quality response to climate change. The study then undertook an economic analysis for two important adaptation measures: (a) relocating the grape production area uphill, where there is less climate impact on wine quality, and (b) using an "exotic" grape variety (e.g. a southern Italian variety), which is drought resistant, to replace the current grape variety.

Core information

Using simulation models for different scenarios can provide decision-makers with information about plausible futures under climate change uncertainty and possible response measures. However, indirect benefits of adaptation measures are not considered in the current optimisation model because it is difficult to quantify them, and the study focused on the net benefit optimisation.

Key takeaways

The study used sensitivity analysis for time horizon and discount rate to confirm the theory of investment under uncertainty, showing a shorter time horizon (or more frequent investment) gives the possibility to postpone the decision to implement adaptation measures due to the value of flexibility, while a higher discount rate leads to a later adaptation decision, because uncertainty creates a value of waiting for new information.

For decision-making under climate change uncertainty in this adaptation situation, the study recommended using a combination of the adaptation measures starting with relocating, because the benefit of a new variety is not yet certain.

Source

Zhu et al. (2013) A model-based assessment of adaptation options for Chianti wine production in Tuscany (Italy) under climate change.

Task 4.2 Agree financial models for action plan

RRJ Tasks(s)	CRIP Template Section	Effort	Importance
3.3 Prepare for implementation	4.1, 4.2	Medium	Essential but advanced

What is this task about?

This task focuses on ensuring that each action within the action plan has a funding or financing model to mobilise the necessary resources to implement it. It also helps you identify which actions need further development before they can be included in the action plan.

What are the key inputs for this task?

The set of actions with strong economic and financial cases as developed in Task 4.1.

What are the expected outputs?

At the end of this task, you will have a list of actions, split by whether they are bankable, or whether they require further development. For those requiring further development, you should know which will be ready in time to include in the action plan, and which will need further development during its lifetime.

Why is it important?

Ensuring all actions in your action plan have financing approaches in place is essential to knowing your strategy and action plan are deliverable. It helps inform the final decisions in Task 4.3 on the set of actions to include and where further development is needed.

What should you focus on in early iterations?

In the early stages focus on agreeing financing approaches for the widest range of activities possible. This could include those actions for which there are obvious sources and instruments or where actions could be funded from public budgets with limited additional effort. You should also focus on making sure that these actions fit within the overall fiscal space available to the region as well as the final budget envelope. In later iterations, you can focus more heavily on actions which need detailed structuring and greater effort.

How can you complete it?

Review the actions in the action plan, and work through the list, checking that a funding or financing approach is in place for each one. A sample output is shown below:

Table 12: Illustrative review of financial models for actions in a Climate Resilience Action Plan.

Action	Finance model in place?	Decision
Regional adaptation planning team	Yes – Own budgets	Include in action plan
Early warning system extension – Phase 1 (localised heat coverage)	Yes – Grant funding	Include in action plan
Resettlement with coastal and river planning – Implementation of adaptive planning approach	No	Include in project pipeline - To be further developed and investigated in future action plans.
Climate proof highways – 5-year capital programme	Yes – Mainstreaming	Include in action plan

NBS in built environment – Pilot green roof subsidy	Partial – high level financial model developed	Consider if additional structuring can allow inclusion in plan. If not, include in project pipeline.
…	…	…

For those actions that are priorities for the action plan but are not bankable, review the Investment Strategies developed in Task 3.3 for the relevant pathway and discuss with relevant stakeholders to see if there is an obvious immediate solution to make the action bankable – such as rescoping the action. If no immediate solution can be found, consider allocating time for seeking technical assistance or undertaking financial structuring ahead of compiling the Investment Plan and seeking approval.

Financial structuring refers to the creation and organisation of dedicated financial arrangements between relevant parties for a programme, project or action to achieve the adaptation objectives. This is an iterative process which aims to maximise benefits, minimise costs, ensure regulatory compliance, and optimise risks and returns between parties.

The aim of structuring is to design a bespoke set of financial arrangements for an action or project so that it channels initial resources from sources to those delivering the project, and (if necessary) repays the costs through revenue flows and benefits. It also successfully allocates the risk and rewards between parties. Successful structuring makes a pathway or action bankable. An example for a regional sustainable urban drainage system is shown below:

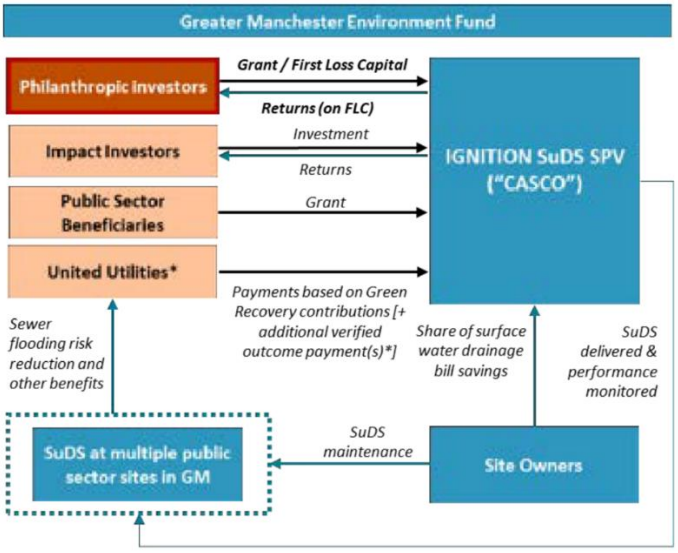


Figure 17: Financial structuring for sustainable urban drainage systems in Greater Manchester. Source: Evans et al., (2022).

Key questions to guide financial structuring approaches include:

- **Could actions be rescoped -** Are there different actions that could be undertaken which provide wider benefits which could mobilise additional funds (e.g. could you position the pathway as a demonstrator project to attract University research funding which could cover costs)?
- **Would strategic public finance unlock wider private finance** – e.g. to de-risk the project, or to leverage private finance, through some kind of blended finance. For example, could you use national and EU-level funding programs, grants, and subsidies to support regional adaptation efforts.

- **Could insurance be a targeted mechanism to help** – either as part of the adaptation pathway itself, or as a mechanism to reduce risks in delivery of projects? You could explore the potential of innovative insurance products and financial instruments that can be leveraged to support adaptation efforts, such as parametric insurance, catastrophe bonds, and resilience bonds.
- **Are there lessons from new governance or innovative financial instruments** – could. Newer and more innovative financing instruments be used to leverage the benefits such as green bonds, climate funds, and public-private partnerships?
- **Would changes to enabling environments, enhance revenue streams or create new ones?** For example, could a new regulation make it possible for water companies to repay savings in treatment costs to other beneficiaries?

In many cases, a combination of all these aspects will be needed, and you should take an iterative approach to understand potential effects on the overall bankability of the actions. In parallel to the work on the individual actions, you should also review the existing and preferred sources outlined in Task 2.2 and Task 3.2 and evaluate different financing models and mechanisms, such as public-private partnerships, grants, loans, and equity investments. You should aim to determine which are most suitable for your region's needs. You can also use the Pathways2Resilience catalogue of financing options to help consider the broad range of instruments, including innovative financial instruments and diversify sources of funding.

Depending on the complexity of the action and number of beneficiaries, you may also benefit from securing technical assistance or engaging financial experts to provide specialist knowledge and input. There are a number of options for this including the Mission Platform, EIB Technical Assistance or the Covenant of Mayors, as well as P2R's adaptation finance lab.

If it is not possible to secure a financing approach with a light touch structuring, the action may be left out from the action plan, and further work may be undertaken at later stages in the Adaptation investment Cycle (i.e. Phase 5, matchmaking).

Insight

The financial structuring process can also result in revisions to the project or action scope or costs. This may require you to repeat the economic and financial appraisal in Task 4.1 to confirm that the action still meets the relevant economic and financial criteria for investment.

Checklist:		
Before moving onto Task 4.3 have you:		
	Reviewed the action plan and identified which actions have financing in place and which need approaches developed.	☐
	Undertaken light-touch structuring where needed to increase the number of bankable actions.	☐
	Clarified which actions could be included in the action plan and which will need further development.	☐

Supporting resources:

Guidance and supporting materials

- Sniffer (2022) Guide to climate adaptation finance - The Guide to Adaptation Climate Finance, developed with Adaptation Scotland's Climate Finance Working Group introduces adaptation finance, identifies current barriers, and aims to support development of the knowledge and skills needed to successfully finance adaptation projects in Scotland. It is relevant for a wide range of sustainability, finance and project development professionals; anyone assessing financing options for climate adaptation related projects. It explores three use cases: public, blended and place-based adaptation finance, as well as providing explanations of comment methods to assess the attractiveness of investments.
  MIP4Adapt (2024) Funding and Financing Guide: Supporting Regional Climate Adaptation. - This report provides an introductory guide to adaptation funding and financing for European regions. It covers the project development process, and a set of sources and instruments that can be used to finance adaptation.
- Global Innovation Lab for Climate Finance (2024) Adaptation finance: Six key steps for structuring instruments that deliver results – This blog summarises learning from the Global Innovation Lab's efforts develop 17 successful adaptation finance instruments.

Case Studies and Examples

- Sniffer (2023) Developing adaptation finance business cases: Case studies and results - This report summarises work by Paul Watkiss Associates and Sniffer to support the development of three adaptation finance business cases from the Adaptation Scotland's Climate Finance working group, focused on flood risk management and coastal change.
- Sniffer (2023) Adaptation Finance Case Study 2023 - Craigleith Retail Park Demonstrator - This report explores the potential economic and financial case for installation of nature-based solutions at a retail park in Edinburgh. It assesses the relevance of a range of sources and instruments based on the benefits of the project, as well as potential revenue streams that could be mobilised. It then appraises the economic and financial case and structures a financial model.
- ClimateFIT (2024) 20 Best Practices - ClimateFIT performed in-depth research of 20 international best practices of innovative adaptation funding and financing solutions. Each case offers an inspirational example of successfully raising financial resources for climate adaptation or other climate measures. The project analysed the local context, the governance and organisational structure, the business model and financial model, successes and limitations, and conditions for transferability.

Task 4.3 Decide bankable priorities, future investments and enabling conditions

RRJ Journey Stage	CRIP Template Section	Effort	Essential/optional
Task 3.3 Preparing for implementation.	4.2, 4.4.3, 5.	Low	Essential

What is this task about?

This task focuses on prioritising actions to be included in the region's action plan or future project pipeline. It also involves finalising actions to improve the enabling conditions to ensure that projects can be successfully implemented.

What are the key inputs for this task?

The inputs for this task are the list of financeable actions developed in Task 4.2 and the improvements to enabling conditions in Task 2.3 and Task 3.3.

What are the expected outputs?

The primary outputs of this task are a well-defined action plan, with actions, project pipeline, and actions to addressing the enabling conditions.

Why is it important?

This task ensures that you have filtered all actions down towards those for which resources can be mobilised. It makes sure that the only actions that are included in your action plan are those that are bankable.

What should you focus on in early iterations?

In the initial stages, focus on ensuring that the overall set of actions are bankable, and that the improvements to the enabling environments are credible. In future iterations, you can include more aspirational actions where there is a greater likelihood that they will become bankable over the period of the action plan.

How can you complete it?

Review the near-final list of projects or actions that meet the economic and financial criteria and are bankable and agree which should be included in the action plan. Next, draw on the actions to improve the enabling conditions identified in Tasks 2.3, and 3.3, and select a final set of actions to improve the enabling conditions for adaptation finance. For instance, if regulatory barriers are a significant obstacle, the action plan should include steps to engage with relevant authorities to seek regulatory changes or clarifications. Addressing these issues can enhance the feasibility and attractiveness of projects, making them more likely to secure funding. Finally, you should check that the total costs of the actions fit within the region's fiscal space, as well as the relative budgets of each of the proposed partners.

Checklist:		
Before moving onto compiling the Investment Plan have you:		
	Agreed which projects are priorities now, and which are more suited to further funding cycles.	☐
	Agreed which enabling conditions need to be improved, and how.	☐
	Confirmed the action plan fits within the fiscal space of the regional government and other key organisations.	☐

4 Compiling approving and publishing your Investment Plan

RRJ Journey Stage	CRIP Template Section	Effort	Essential/optional
Task 3.3. Preparing for implementation.	5, 6.	Medium	Essential

Having completed all of the phases and tasks, you should bring together all the elements of the Climate Resilience Investment Plan into a single coherent and comprehensive document, setting out how you will finance the action plan, in the context of the wider Investment Strategies.

Links to the Regional Resilience Journey: During this phase, the important links between the AIC and the wider RRJ are as follows:

AIC tasks	Relevant RRJ inputs	Outputs relevant to the RRJ process
	The MEL approach developed in RRJ Task 3.3.2 can be used to inform the development of the finance-specific metrics and MEL.	The final set bankable projects and improvements to enabling conditions should be used to feed into the action plan.

What is this Task about?

Having completed all the Phases of the Adaptation Investment Cycle, you should now compile your Climate Resilience Investment Plan. A template for the Investment Plan is included in the P2R Climate Toolbox.

What are the key inputs?

The inputs are the key outputs from the previous tasks of the Adaptation Investment Cycle. A summary of the core plan elements and where they are developed is shown below:

Table 13: Key Investment Plan elements and where they are produced in the Adaptation Investment Cycle.

Plan Element	Associated Tasks
The financing context, strategy objectives, and current investment needs, flows and the gap.	Task 1.1, Task 1.2, Task 1.3
Existing and future sources and instruments for the Strategy, barriers and enablers	Task 2.1, Task 2.2, Task 2.3
Investment strategies for the pathways	Task 3.3
Actions, with associated economic and financial analyses, and financing approaches	Task 4.1, Task 4.2, Task 4.3
A project pipeline of additional projects for future development.	Task 4.1, Task 4.2, Task 4.3
Actions to improve the enabling conditions	Task 2.2, Task 3.3, Task 3.2

What are the expected outputs?

The excepted output is a Climate Resilience Investment Plan template.

Why is it important?

All public investment will be subject to formal sign off and approval by regional staff and /or politicians. The Investment Plan draws together all the previous information generated in the Investment Cycle into a single document which captures the region's approach to financing the Strategy and Action Plan and allows this sign off. The Investment Plan also allows you to further engage stakeholders and funders to help develop the project pipeline. Moreover, a signed-off plan is likely required for applications to funding mechanisms such as the Mission Cities Capital Hub. A further benefit is that an Investment Plan provides assurance the region can track progress mobilising finance and comply with monitoring requirements for certain finance sources (e.g. Green Bonds). Finally, it is a required output of Pathways2Resilience.

What should you focus on in early iterations?

Focus on ensuring a clear, focused Investment Plan, which includes all the relevant sections of the plan. It is better to have a narrower, but more robust Investment Plan, than a large list of actions that cannot be paid for or that offer poor value for money.

How can you complete it?

Start by compiling all sections of the Climate Resilience Investment Plan template and populating them. Once completed, you should develop the financial aspects of your Monitoring, Evaluation and Learning approach. This should focus on assessing how the plan is being delivered– for example the amount of capital that is being raised and deployed, and whether the volume is at the pace and scale expected, or how much is going to addressing the most vulnerable. More detail can be found in Task 3.3.2 of the RRJ guidance.

For actions financed through external sources or private investment, actions or projects must be able to generate the required information for reporting. This varies by source. For public funding sources, this may be monitoring indicators for the LIFE programme. For private sector financing., compliance with the EU Taxonomy on Sustainable Activities may be important, or if using a green bond, information should be available annually, in line with ICMA principles.

Once you have designed your MEL framework, consult on the plan with relevant stakeholders for final feedback and validation. This ensures it is comprehensive, realistic, and supported by all parties involved. Ensure the Investment Plan supports the broader strategic objectives and identify any gaps needing further alignment.

After this is complete, seek approval from relevant senior managers. You should present the plan to senior political figures or committees identified at the start of the plan development process, making sure to address any concerns. Once approved, decide on how to publish the plan. You should think about the level of detail to make publicly available and consider submitting the plan to funding platforms like EIB Adapt or InvestEU, as well as including them in your region's Inward Investment pitchbook.

Checklist:		
To complete the plan have you:		
	Brought all the inputs from the process together and completed a written Climate Resilience Investment Plan.	☐
	Consulted and engaged stakeholders.	☐
	Secured relevant internal or political approval.	☐
	Submitted the relevant elements to key platforms such as InvestEU or Mission Cities Capital Hub.	☐

5 Appendices

Appendix 1: Investment Plan checklist

This Appendix brings together the overall checklists included at the end of each phase and task within the CRIP development process, to provide a handy checklist for regions to consider for the overall Investment Plan.

Task	Activity	Done?
Prepare to deliver your investment plan		
	Set initial outcomes, objectives and scope of Investment Plan	☐
	Identified and allocated resources and needs	☐
	Agreed a governance and engagement approach	☐
	Developed a project plan	☐
	Secured political approval	☐
Phase 1: Define the regional context and set adaptation objectives		
Task 1.1	Identified a high-level indicative budget for the strategy and action plan.	☐
	Reviewed the region's economic and social goals, how they will be affected by climate change and how adaptation can help achieve them to help provide a backdrop for the adaptation investment	☐
	Documented the key requirements from the Public Financial Management and Public Investment Management approaches, as well as key existing financing relationships with the private sector.	☐
Task 1.2	Engaged with existing services or other organisations on what impacts they have experienced or might experience in future.	☐
	Undertaken a desktop search of existing studies.	☐
	Completed an inventory on the costs of extreme weather or climate change in the region as well as known adaptation needs and existing expenditure?	☐
Task 1.3	Documented the spending objectives for the Climate Resilience Strategy and Action Plan.	☐
	Set out a clear investment rationale.	☐
	Completed the financial parts of the baseline report.	☐
Phase 2: Addressing strategic financing barriers		
Task 2.1	Compiled a comprehensive catalogue of the existing sources and instruments the region is using to finance adaptation action.	☐
	Reviewed their strengths and weaknesses through the P2R catalogue.	☐
Task 2.2	Identified a strategic set of extra financial sources and instruments that would help achieve your adaptation objectives.	☐
	Identified the barriers that stop you using these extra sources and instruments.	☐
Task 2.3	Compiled an action plan on how to diversify your adaptation-related financial sources and instruments, including timelines, and a clear allocation of roles and responsibilities.	☐
Phase 3: Define investment needs and strategies		

Task 3.1	Clearly defined a long list of adaptation options.	☐
	Identified the types and sizes of economic and financial benefits they offer.	☐
	Evaluated the options based on their initial economic and financial viability.	☐
Task 3.2	Categorised options based on type, urgency, benefits and investment needs.	☐
	Sequenced the options into pathways that will form the basis for evaluation.	☐
Task 3.3	Assessed the beneficiaries from your pathway and possible revenue streams.	☐
	Documented the investment strategy for each adaptation pathway.	☐
	Confirmed the envisaged Investment Strategies for the Strategy and Action Plan fit within the region's fiscal space.	☐
Phase 4: Compile the Investment Plan and project pipeline		
Task 4.1	Reviewed the relevant appraisal criteria for your region and major known sources.	☒
	Appraised the economic and financial cases of the actions to understand the potential costs and benefits and which meet regional and/or funder requirements.	☐
Task 4.2	Reviewed the action plan and identified which actions have financing in place and which need approaches developed.	☐
	Undertaken light-touch structuring where needed to increase the number of bankable actions.	☐
	Clarified which actions could be included in the action plan and which will need further development.	☐
Task 4.3	Agreed which projects are priorities now, and which are more suited to further funding cycles.	☐
	Agreed which enabling conditions need to be improved, and how.	☐
	Confirmed the action plan fits within the fiscal space of the regional government and other key organisations.	☐
Compiling, approving and publishing your Investment Plan		
	Brought all the inputs from the process together and completed a written Climate Resilience Investment Plan.	☐
	Consulted and engaged stakeholders.	☐
	Secured relevant internal or political approval.	☐
	Submitted the relevant elements to key platforms such as InvestEU or Mission Cities Capital Hub.	☐

Appendix 2: Financing Just Resilience

Climate change affects people differently based on the combination of the hazards, exposure to those hazards and their relative vulnerability. These differential impacts also arise from historical injustices and unequal power arrangements. What's more, differential impacts of climate change can also arise from the processes and outcomes of adaptation policies and actions.

To address these considerations, the Investment Cycle has also been designed with an explicit focus on supporting 'Just Resilience' in line with the ambitions of the European Climate Adaptation Strategy. It encourages regions to consider:

- The inclusion of the most vulnerable to climate change or the impacts of adaptation actions in the development of the Investment Plan, including in decisions around which projects and programmes to finance.
- How the current impact of extreme weather, as well as the impacts of future climate change, affect individuals, households, and places differently.
- The equity-related implications of different financing approaches - e.g., the ethical credibility of different sources
- Prioritising actions which address risks to the most vulnerable.
- The ethical and distributional implications of delivering adaptation actions and their financing such as the distribution of costs across the population.
- Establishing metrics to help investments and flows which support Just Resilience.

Appendix 3: Financing transformative adaptation

Pathways2Resilience, and the mission for a Climate Resilient Europe aims to develop and finance transformative adaptation strategies and solutions in recognition that transformational adaptation will be required to meet the mission goals.

Typically, a Climate Resilience Strategy and its pathways and actions will involve a wide range of adaptation actions (e.g. dedicated adaptation solutions and capacity building), spanning market and non-market sectors. Some of the actions will be incremental whilst others will be aimed at transformative change.

In general terms, there are a range of adaptation and finance-related considerations that affect the difficulty of financing an adaptation project. The diagram in Figure 18 from the UNEP adaptation gap report below outlines the key considerations that make projects, programmes and strategies more or less difficult to finance, based on the literature. Ease of financing is shown in the middle. Options that are on the left of the diagram are typically easier to finance, whilst those towards the right are more challenging. For adaptation (shown at the top), considerations include the timing, nature and intent of adaptation as well as type of options. To complement this, financing characteristics are shown at the bottom of the diagram, often framed around barriers, as well as wider bankability challenges.

Similarly, projects which have low numbers of monetisable benefits, limited revenue streams in non-market sectors and with the nature of public goods are more challenging to finance.

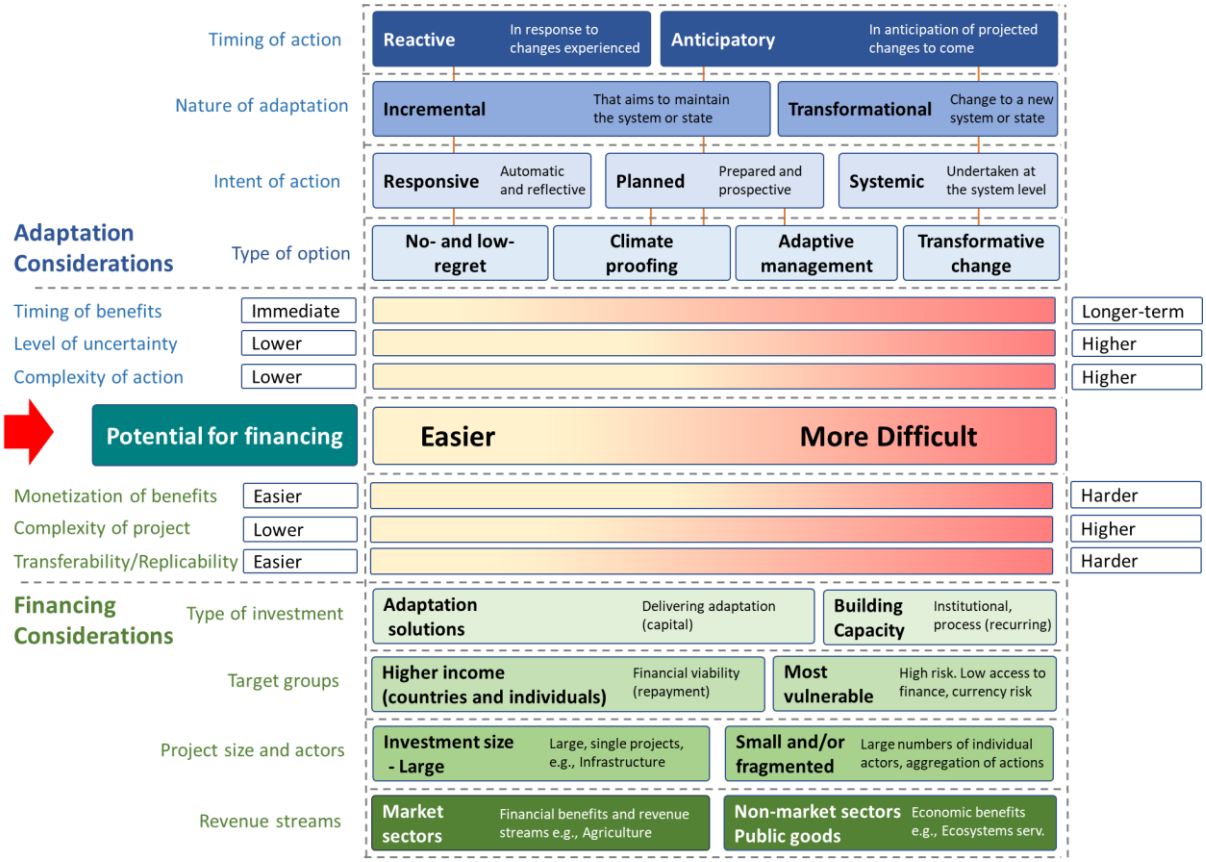


Figure 18: Adaptation financing potential of projects. Note that each consideration is not mutually exclusive, and there are always exceptions. Source: ECONOGENESIS 2024 (forthcoming).

The purpose of the diagram above is not to discourage a focus on adaptation, but highlight the challenges involved in its financing. Whilst financing transformative adaptation is more challenging, and suggests a greater role for public institutions, it should not be excluded from the scope of your ambitions. The process for developing a Climate Resilience Investment Plan has been designed to encourage the financing of a region's strategy and pathways in their entirety, whilst recognising that regions will be starting from different levels of maturity and capability.