

OxCam Integrated Water Management Framework (IWMF)

Test and trial in a place to shape change

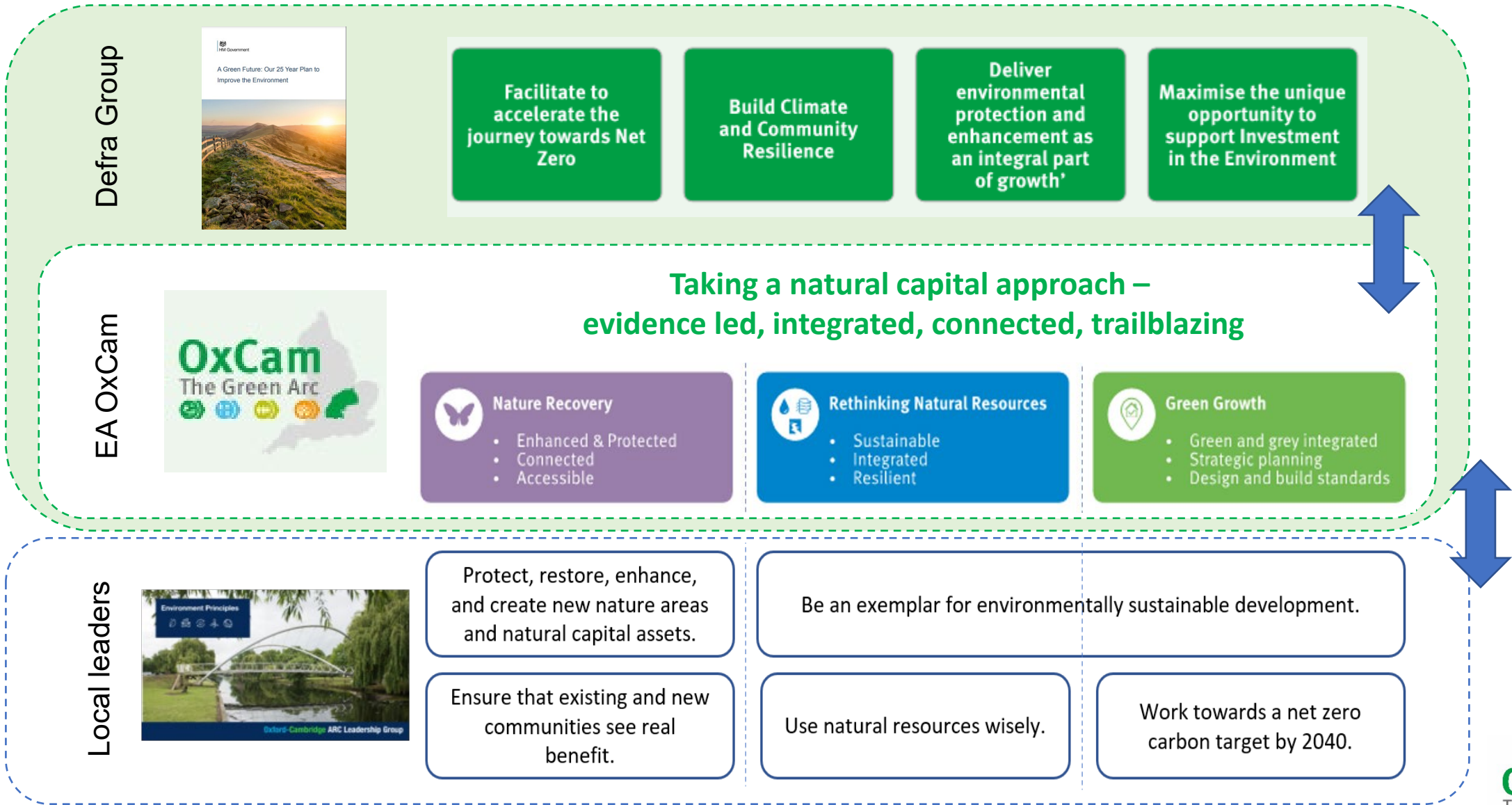
OxCam

The Green Arc



Oxford to Cambridge Arc Leaders Group
11 March 2022

Our approach





– A Natural Capital approach to cross-boundary, integrated, evidenced planning



Green Growth

- Green and grey integrated
- Strategic planning
- Design and build standards

“We will place environment at the heart of planning, integrating understanding of future needs, including climate resilience to create great places for people and nature.

The Oxford Cambridge Arc will be an exemplar for environmentally sustainable development, accelerating the Arcs journey to net zero and delivery of biodiversity net gain. We will encourage green investment to support sustainable waste management and the development of circular economy.”



Nature Recovery

- Enhanced & Protected
- Connected
- Accessible

“We will protect, restore, enhance and create habitats across the Arc. We will map nature from local to landscape scale. We will identify and capitalise on opportunities for improved connectivity for nature and people”



Rethinking Natural Resources

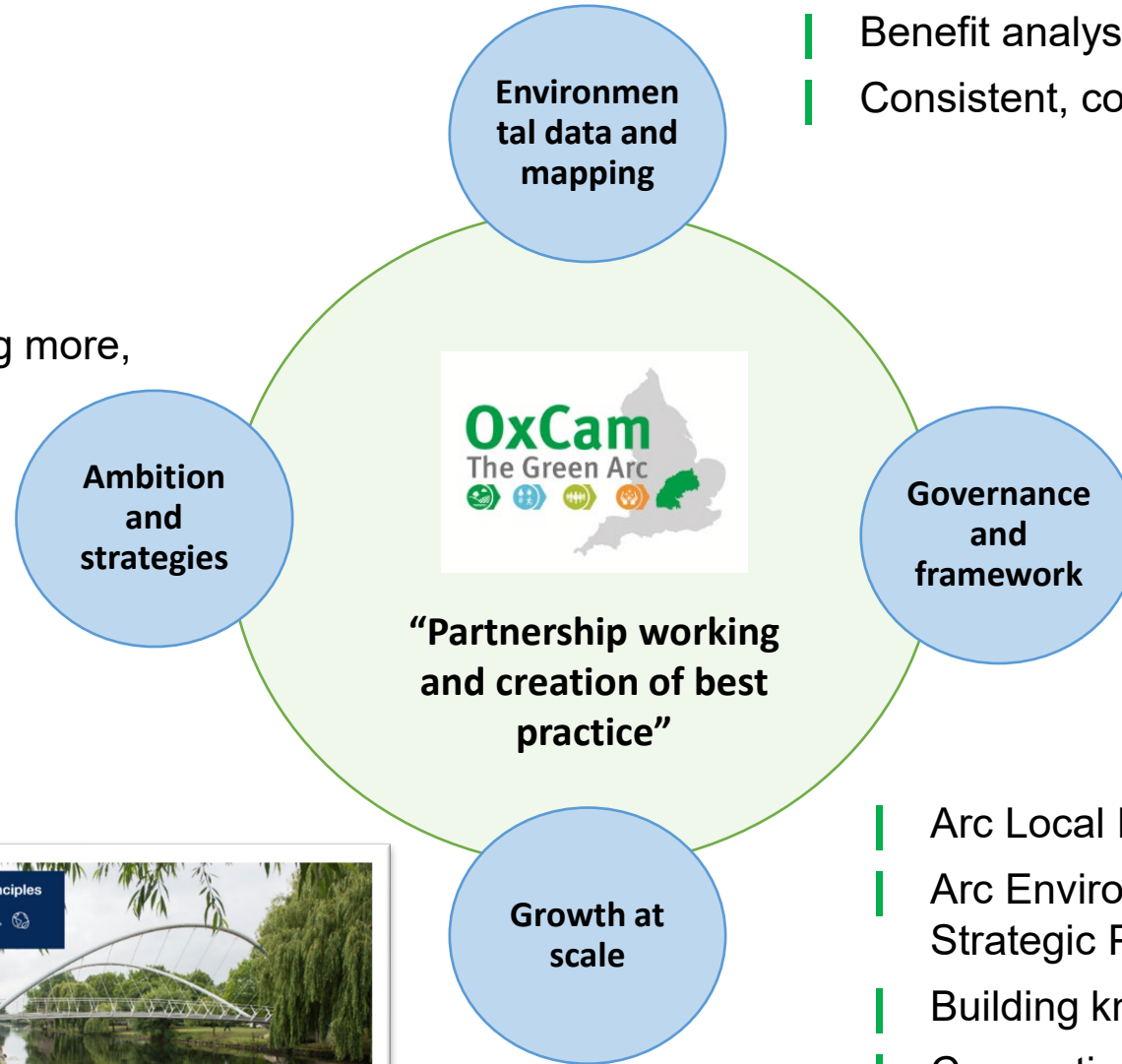
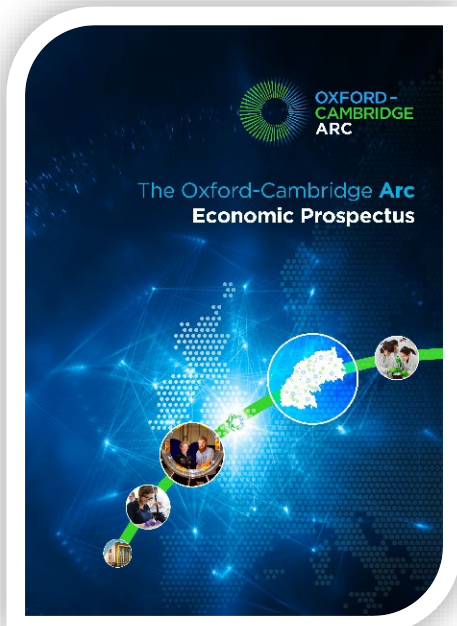
“Clean Air and Integrated management of Water”

- Sustainable
- Integrated
- Resilient

“We will understand, facilitate and apply best practice approaches to improve air quality across the arc. We will work to understand water resources, water quality, and flood management issues to create an integrated, resilient cross-Arc approach to sustainable, integrated water management.”

Delivering in partnership

- | 25 Year Environment Plan
- | Arc Environment Principles
- | Arc Infrastructure Principles
- | Arc Economic Prospectus
- | Shared ambitions, delivering more, adding values collectively



Environmental data and mapping

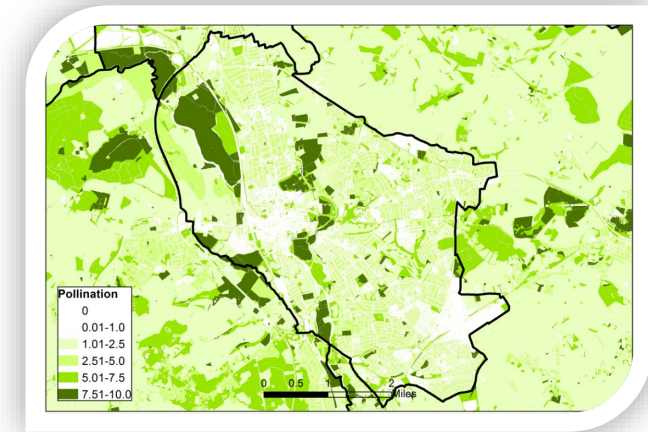
Ambition and strategies

"Partnership working and creation of best practice"

Growth at scale

Governance and framework

- | Integrated environmental evidence
- | Natural capital mapping and valuation
- | Benefit analysis
- | Consistent, considered decision making



- | Arc Local Leadership Group
- | Arc Environment, Infrastructure, and Strategic Place Working Groups
- | Building knowledge and capacity
- | Connecting stakeholders

IWMF project objectives

Project origins

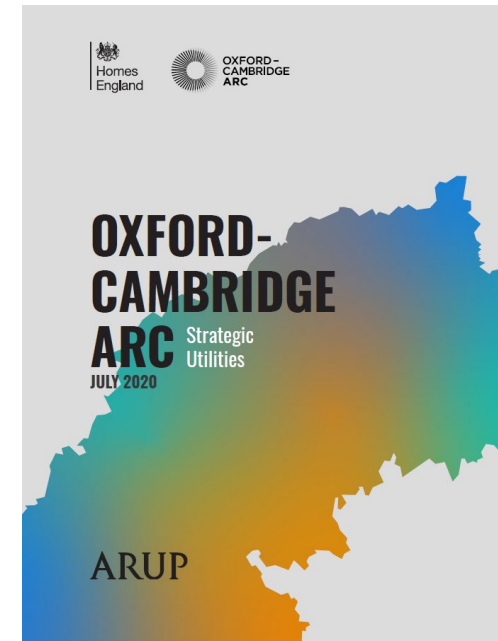
- Significant existing water pressures that growth and a changing climate will exacerbate
- A commitment to cross boundary spatial planning to deliver a Green Arc
- Strategic Utilities review pointed to emerging issues around water planning and capacity
- Environment Act and Arc principles set out ambitions to define and take a more integrated approach to water - test and trial at scale to help shape approaches

Our objectives

- Define and design an integrated framework for management of water across systems in the Arc - and beyond
- Shape ways of working, wider planning policy, land use allocation, future interventions

Ultimate outcomes

- A model approach - or lessons learned in testing - for integrated water management
- Streamlining environmental requirements/ opportunities through the planning system
- Increased delivery of environmental net gain in the Arc
- Contributing towards climate resilience and adaption



Delivering OxCam ambitions



Nature Recovery

- Enhanced & Protected
- Connected
- Accessible

The project's **core objective** is to improve the water environment. This means helping nature to recover where needed and to thrive across the OxCam Arc.



Rethinking Natural Resources

“Clean Air and Integrated management of Water”

- Sustainable
- Integrated
- Resilient

The project will deliver its objectives through **rethinking how we manage water** across the Arc. It will challenge current approaches and **test and trial** new methods of appraising and selecting options, capturing benefits and funding mechanisms.

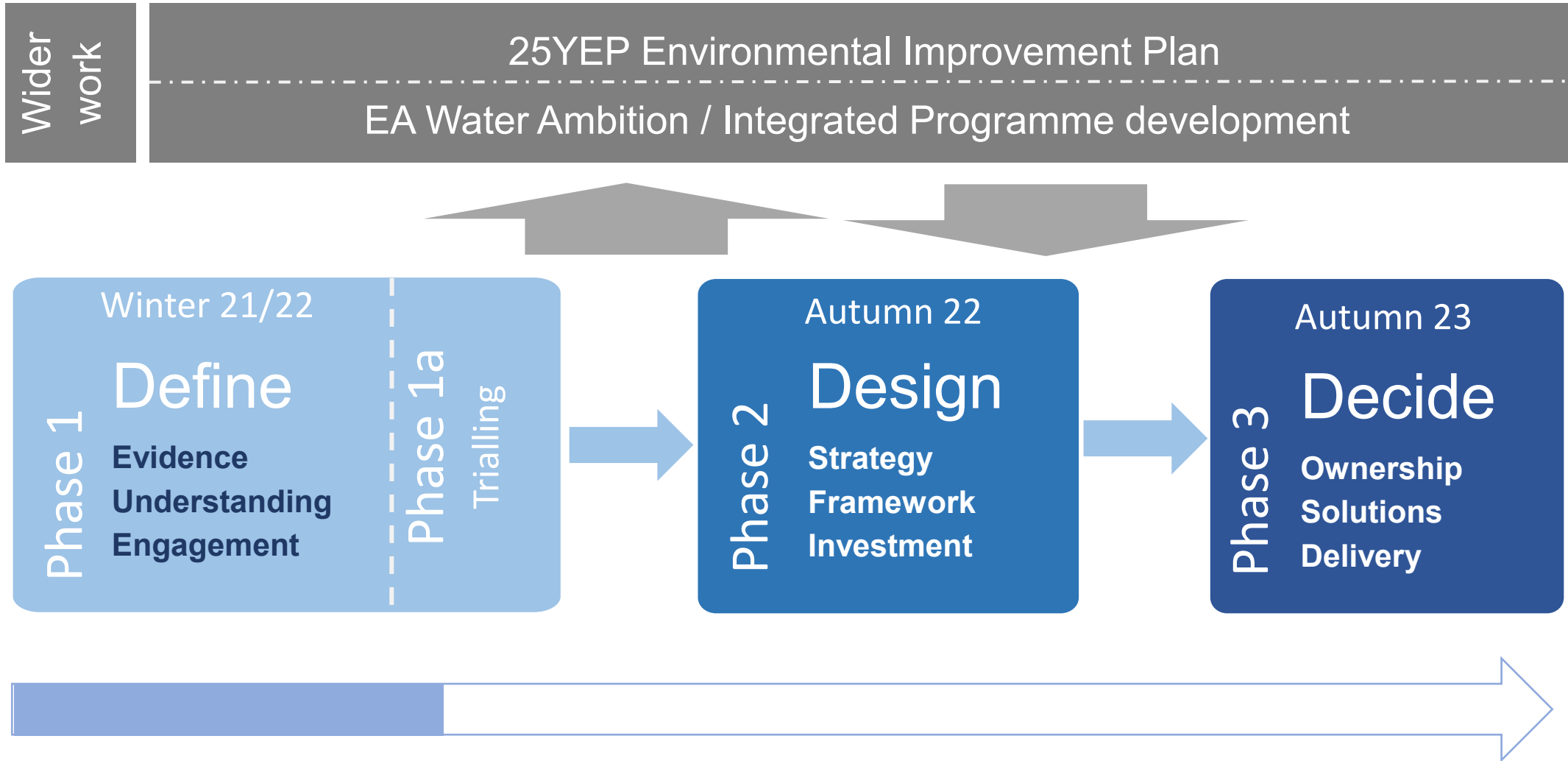


Green Growth

- Green and grey integrated
- Strategic planning
- Design and build standards

The project investigates, evidences, tests, and proposes ways we can **harness growth to improve the water environment**. This will include consideration of building standards, spatial plans, and blue/green infrastructure.

Programme Overview



Phase 1: Summary

1. Define the current challenges

- Baseline GIS maps
- Capacity assessment and hotspot mapping

2. Define links across the water systems

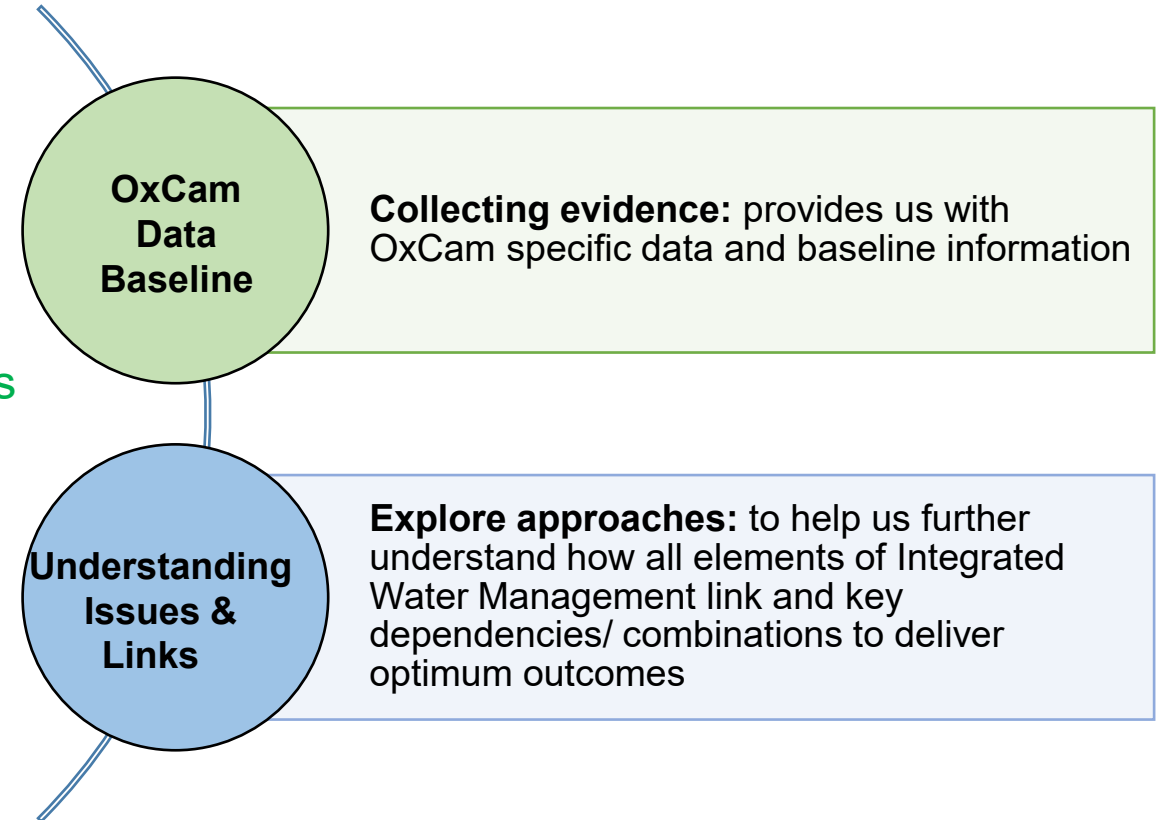
- Scope and interconnections between systems
- Informed standardised option and benefit categories

3. Define how to appraise interventions consistently

- Standardised option and benefit categories
- High level MCA
- Idealised MCA

4. Evidence to support policy/ decision making

- IWM standards definition across scales
- Water Neutrality and Nutrient Neutrality feasibility



Engagement

Co-design with key stakeholders



Through engagement with:

- The **Arc Water Leadership Group**; and
- **IWMF technical group** which provides our main **technical input: 500+ comments** on work to date

Extensive engagement over 3 months including:

Technical Groups - 6 sessions

Water Neutrality	IWM Evidence Baseline	Systems Mapping
Nutrient Neutrality	Hotspot Mapping	Multi Criteria Analysis

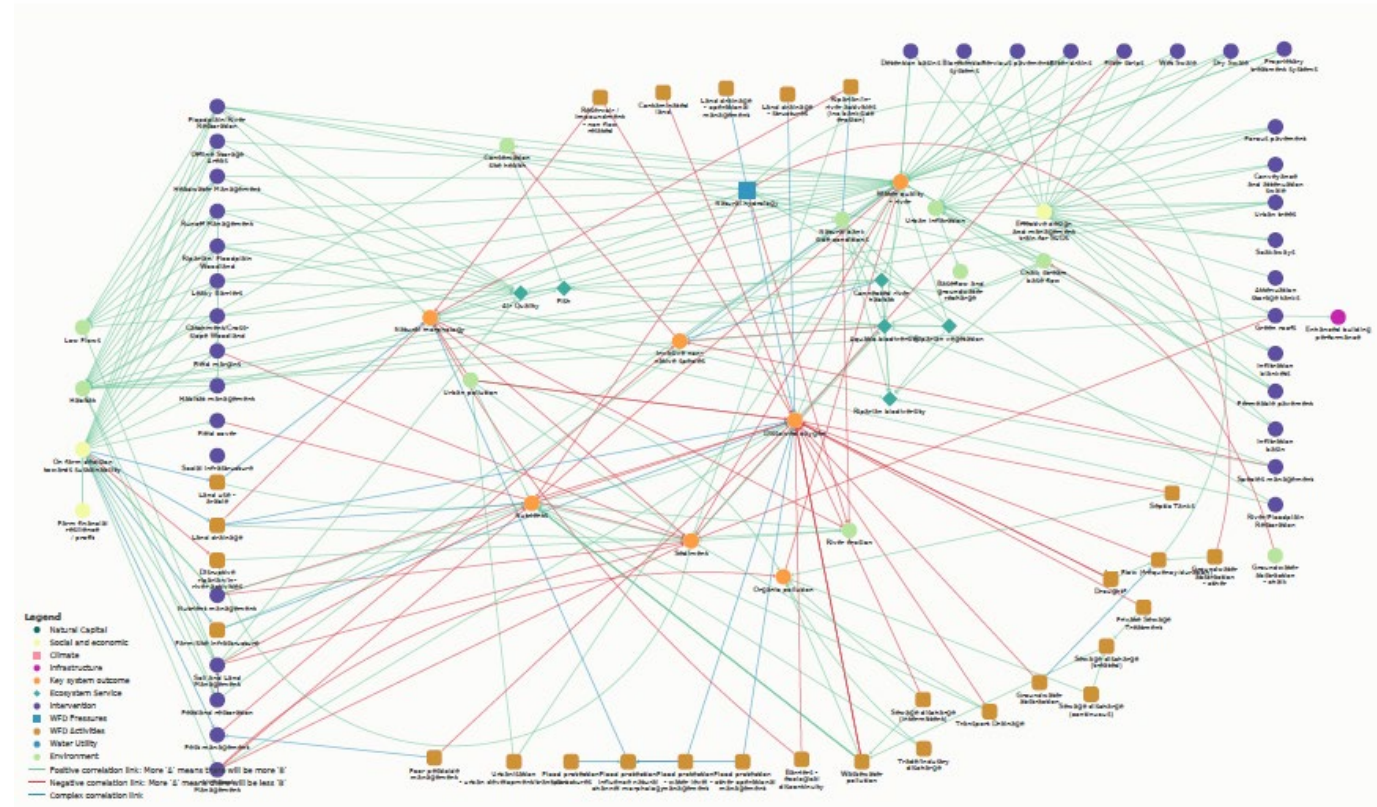
Systems Mapping - 8 sessions

2. Define links across the water systems

Define interdependencies across the water systems through Systems Mapping to:

- Understand how system components best work together to achieve our objectives
- Allow us to adopt a more coherent view of the existing systems and therefore better understand/direct benefits of interventions
- The maps identified the potential for integration at the planning level so that synergies are achieved
- The system maps provided the basis for categorising standardised option types and benefits from planning processes across environmental systems to allow interventions to be appraised consistently
- The maps also act as repository of knowledge categorising options and benefits (link to multi-criteria analysis).

Figure 4.8: B03 - WFD, B05 - River health baseline maps and intervention maps I02 - NFM, I06 - ELM and I01 - SuDS.



3. Define how to appraise interventions consistently

Why?

To inform the development of investment plans in the water environment.

4 aspects of water planning: All appraised at different spatial scales and with different approaches

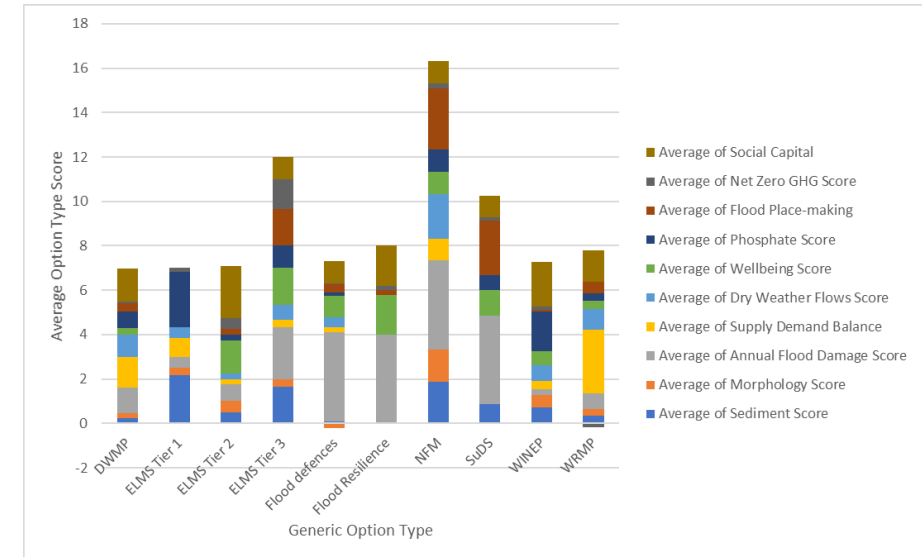
Interventions have implications beyond their core purpose

Evaluate option / intervention types

Phase 1 we assessed generic options – To prove the concept that assessing all options using standardised criteria provides benefits

What do we optimise for?

Our ambition, in consultation with stakeholders, is to optimise the portfolio of options to achieve the best environment.



Phase 1 - Key learning

Two areas we **need to influence** to deliver our **environmental ambition/outcomes**

Deliver / Funding mechanisms

More integrated approach to identification of solutions and delivery across the four core water subsystems

Policy

Improved IWM standards at all scales within the Arc development, local planning authority, catchment and regional

IWMF: Next steps (moving to Phase 2)

Phase 1 Autumn 2021

Define

Evidence
Understanding
Engagement

- | Delivery of the draft **Phase 1 report is** due w/c 28 February
- | 3-week **consultation period** to inform Phase 1 final report
- | Communicating phase 1 outputs and scope engagement to aid scoping Phase 2 **March / April**

Phase 1a Spring 2022

Pilot

Model
Test

- | In **March & April** we will trial using Imperial College's quantitative systems model alongside phase 1 outputs to understand if a modelling approach to Phase 2 will add value / be achievable
- | Detailed gap analysis of existing delivering mechanisms

Phase 2 Autumn 2022

Design

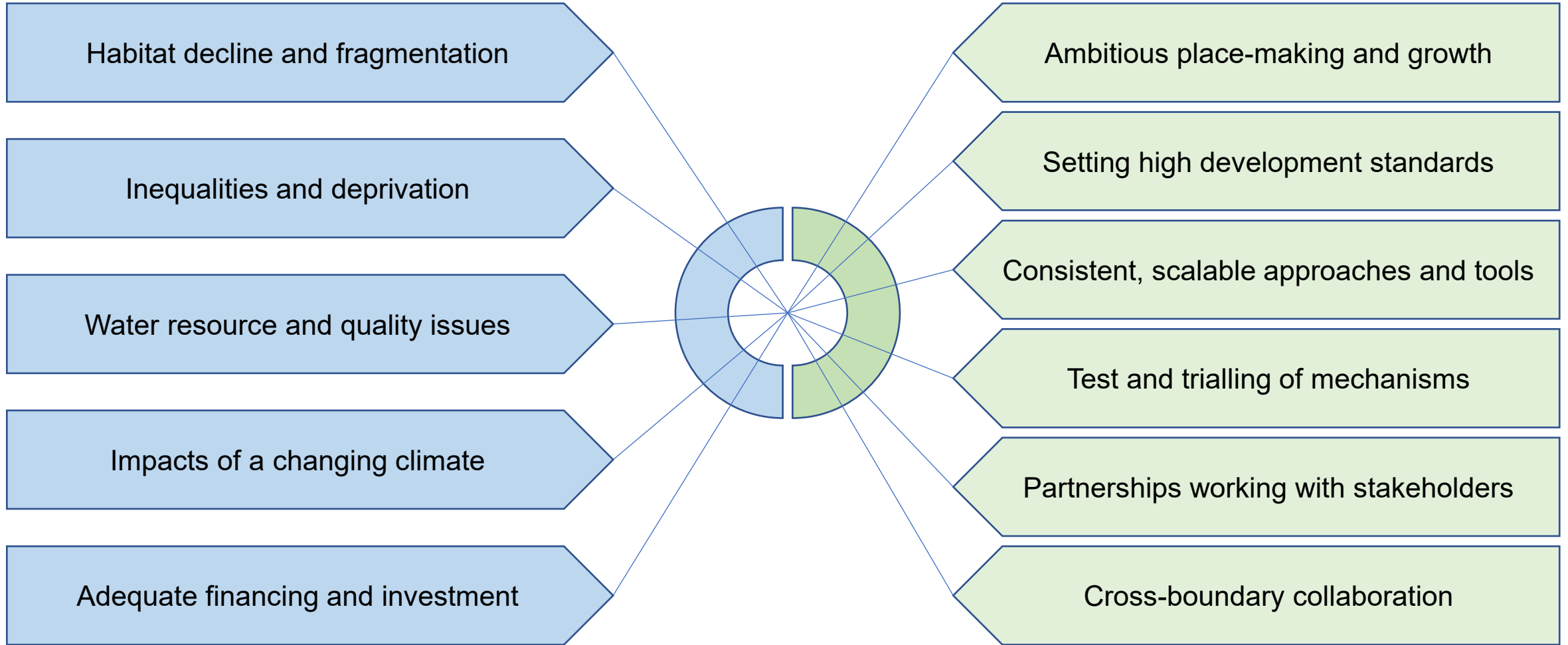
Strategy
Framework
Investment

- | Scope for Phase 2 developed in draft – review with stakeholders
- | Project procurement for Phase 2 commences in **May**
- | Phase 2 commences **Summer 22**

How IWMF supports Environment and Infrastructure principles



Challenges and opportunities





Questions & Discussion