

Adapting infrastructure assets in practice: Facing up to future challenges

A co-convened workshop between
the Interreg North Sea Region FAIR
project and the Environment Agency

Post meeting summary

Paul Sayers, Jim Barlow, Bart Vonk and Theresa Rooke

4th February 2020

Exeter College, University of Oxford, England

Prosper Polder, Courtesy Owen Tarrant

Context

Collectively EU Member States invest an average of €3 billion per year on flood protection infrastructure. But a combination of climate and socio-economic change is increasing the annual average damage caused by flooding. Complex and difficult decisions will need to be taken in response to these threats, especially in coastal regions, as rising sea levels challenge the sustainability of existing policies and plans. These challenges are compounded by the ageing asset base and multiple demands on resources that exist across different sectors and countries.

This session will focus on sharing practical examples of the how these challenges are being addressed across the EU Member States and further afield. Specifically, what are the drivers for adaptation (including for example new evidence on climate change), what are the barriers to progress and, importantly, what are the enablers (in terms of innovative designs, asset management approaches that explicitly recognise future uncertainty, as well as governance and funding arrangements).

Motivation for the workshop

In 2015 the EU funded the FAIR programme that brings together flood protection asset owners, operating authorities and researchers from across the North Sea Region (NSR) to share the policy, practice and emerging science of asset management. FAIR recognises that despite the diverse character of the NSR, asset managers face common challenges across the region; in particular around how to best manage flood defence infrastructure and ensure they are appropriately adapted to an uncertain future. During the summer of 2019 Environment Agency launched its draft consultation strategy for the future of flood risk management. Central to this strategy was the need for flood and coastal risk management to meet the challenge of climate change. The themes of resilient communities and infrastructure alongside promoting an adaptable approach are all important to the aims of the strategy. These challenges are not however confined to the FAIR partners and the Environment Agency. This workshop seeks to share information, including emerging science, policy and practice between all those involved in the planning and management of flood and coastal risk management infrastructure. The workshop aims to help address barriers to adaptation by providing practical and innovative solutions through the planning, design and maintenance of flood assets.

FAIR identifies four priority policy recommendations: **Prepare for change: Develop flexible strategies and asset designs that can be adapted to meet changing requirements in future.** This workshop will expand the challenges and practical approaches to responding to this recommendation. A Policy Brief of four recommendations from the FAIR is available here: https://northsearegion.eu/media/8638/aw_interreg-policy_a4_web.pdf

Practical information

Where: Exeter College, University of Oxford, United Kingdom

When: 4th February 2020 Adaptation and Workshop

RSVP: Please respond with confirmation of attendance to **Theresa Rooke** (theresa.rooke@environment-agency.gov.uk)

Technical contacts: Paul Sayers (paul.sayers@sayersandpartners.co.uk)

Organisation of the day

The session ran as a combination of presentations followed by an extended interactive discussion to elicit '**how we can deliver adaptation in practice - what are the opportunities and barriers**'.

The Workshop was Co-Chaired by the Rijkswaterstaat and the Environment Agency supported by representation from the other Risk Management Authorities, Researchers and Consultants.

Agenda

Time	Activity
4th February 2020	
9:30	Registration and coffee, tea and biscuits
10:00	<i>Welcome to the meeting</i> Jim Barlow : Deputy Director, Asset Performance and Engineering
10:15	<i>Setting the scene</i> The challenges and opportunities for adaptive asset management in the England and the Netherlands; Jim Barlow and Bart Vonk , Rijkswaterstaat
Part I - Emerging examples of adaptive management: Strategic, tactical, operational Examples of adaptive flood protection infrastructure: Short introduction and then a discussion of the challenges of adopting an adaptive approach to asset management	
10:30	FAIR framework of Asset Management and policy recommendations– strategic, tactical and operational – Bart Vonk and Paul Sayers (FAIR)
10:50	Welsh coastal communities responding to climate risk – adaption in practice: Robin Campbell , Arup
11:10-11:30	Coffee break
11:30	Developing and implementing an adaptive plan for the City of Dordrecht: Berry Gersonius (consultant to Dordrecht City and FAIR Partner)
11:50	Developing, implementing and adapting a long-term asset management plan for the Thames: TE2100 10-year review: Katy Francis (Environment Agency) and Richard Windsor (Jacobs)
12:10	Breakout #1: Round table discussion (facilitated by Paul and Berry) Are these examples, what we mean by an adaptive approach? If not, why not? If yes, what makes them ‘adaptive’?
12:45-1:45	Lunch - Buffet lunch provided
1:45-2:10	Reporting back and plenary discussion Reporting the characteristics of an adaptive approach (and associated illustrations from the presentations or other examples from your own experience)
Part II - Supporting successful adaptive management Focusing on the how to make it happen in practice – from making the case to the design details	
2:10	Adapting drainage urban assets in practice – Examples of success and challenges Richard Ashley , Ecofutures Ltd
2:30	Embedding multi-functionality into flood protection infrastructure and valuing of adaptive capacity: Is it practical? Paul Sayers , SPL and FAIR partner
2:40	Breakout #2: Structuring the knowledge agenda (facilitated by Paul and Berry) What are the priority needs for progress - research gaps, communications, opportunities of cooperative learning – principles of adaptive planning
3:30-4:00	Tea break
Part III Next steps	
4:00	Plenary discussion: Chaired by Jim and Bart <i>What is adaptive assessment management in practice – what does it look like? How do we get there?</i> Opening summary of points from the Day – Paul (5mins) <i>Are these the right issues? What is missed?</i> Chaired Discussion Jim and Bart
4:45	Summary reflection: Jim and Bart
5:00	Depart and reconvene for Dinner @ 7pm (courtesy Environment Agency; dress code smart casual)

Summary findings

As we grapple with an uncertain future, Exeter College (University of Oxford) provided an excellent venue for an enjoyable and informative exchange of ideas and experience on how to deliver adaptation in practice. Although we didn't identify a single sliver point, there was significant consensus on the urgency of the issues to be addressed and what was needed to make real progress.

Building upon four Policy Recommendations from the FAIR project, namely:

- **Break-free of the silo:** Align multiple planning processes within, and beyond, flood management;
- **Mind the gap:** Link strategic planning and operational processes through a tactical handshake;
- **Prepare for change:** Develop flexible strategies and asset designs that can be adapted to meet changing requirements in future;
- **Make space for innovation:** Embrace and manage risk to support the development of innovative solutions.

The Workshop considered what was needed to 'make adaptation happen', this included:

Recognising common issues

Adaptation is more than simple modifying a flood defence asset – it is a process that requires innovative, whole system, longer term thinking. Achieving this relies on profoundly recognising:

- **'Our world is changing faster than our thinking'** – we need to catch up
- **Adaptation is a 'people thing'** – including individuals, communities, politicians, planners and engineers
- **Uncertainty is driven by more than climate change alone** – development (local and remote), funding, societal preferences all have profound implications for the choices we make.
- **Change starts with you!** Flood management is in a pivotal (although perhaps not leading) position to influence change - we must 'break free of our silo' – we all have to reach out

Addressing the prerequisites for progress

To make progress in flood and coastal management we must be better at:

- **Envisioning and visualising the future** - Storylines can be powerful agents in supporting buy-in to an alternative course of action.
- **Addressing the hard choices** - Adaptation 'at the edges' is easy but to address the hard choices (from realignment, to food security) is much more difficult but are central issues.
- **Recognising adaptation as a purposeful process** – not kicking the can down the road - 'own (not make) future choices today'
- **Accepting adaptation is not a free lunch** – how much are we willing to pay for future flexibility/reduced lock-in
- **Avoiding bear trap of 'paralysis by analysis': We have many of the tools. We have much information.** New data is not always needed (sometimes it may be) – but we can use the information we have to make better choices today.
- **Delivering adaptation as a continuous process** - you can't get 'adaptation done'; adaptation is an ongoing process that balances the dual masters of ambition and practicality.

The way forward

We agreed to continue to collaborate to make adaptation happen in practice. We will:

- Develop a reciprocal workshop in the Netherlands – Bart Vonk / Paul to take the lead.
- Develop two Regional UK workshops aimed at regional practitioners and local authorities – Jim Barlow / Theresa and Paul to take the lead
- Establish an informal collaborative group to continue to share experience and expertise on flood asset adaptation. This may include future workshops and the sharing of the tools and techniques. If you are interested in being involved plus contact us.

Attendees

Name	Organisation
Jim Barlow	Environment Agency (FCRM Asset Performance)
Paul Sayers	Sayers and Partners
David Cottrell	Environment Agency (FCRM Investment)
Lucy Robins	Environment Agency (FCRM Strategy)
Mike Steel	Environment Agency (FCRM Investment)
Adrian Rushworth	Environment Agency (FCRM Asset Performance)
Dave McKeown	Environment Agency (National Asset Management Operations)
Pete Reilly	Environment Agency (Area Operations Manager)
Charles.Schelp	TEAM (Jacobs)
Paul Conroy	TEAM (Jacobs)
Katy Francis	TE2100 10-Year Review – Environment Agency
Cantor Mock	TE2100 10-Year Review – Environment Agency
Richard Windsor	Team2100
Jaap Flikweert	DHV
Robin Campbell	Arup
David Wilkes	Arup
Steve Cook	AECOM
Hannah Coogan	JBA
Stephen Dury	Somerset Rivers Authority Project Manager Co-adapt
Gwyn Thomas	National Resource Wales
Bart Vonk	Rijkswaterstaat
Berry Gersonius	RWS Consultant
Ulf Radu Ciocan	Kysttekniker
David Thomas	IDB
Mark Johnson	Area FRM – Environment Agency
Owen Jenkins	CIRIA
Richard Ashley	Sheffield AC
Annemargreet de Leeuw	Deltares - Programme Manager
Frank Den Heijer	HAN University of Applied Sciences
Bridget Woods-Ballard	HR Wallingford
Leigh Fraser	SEPA

Further reading

More information on the FAIR project can be found on the FAIR project website:

<https://northsearegion.eu/fair/>

Partners

FAIR brings together Asset Owners (facing real problems and challenges) and leading scientists (with domain expertise) to share and develop innovative solutions to the management of flood protection assets. In doing so, FAIR is the first collaboration of its kind.

