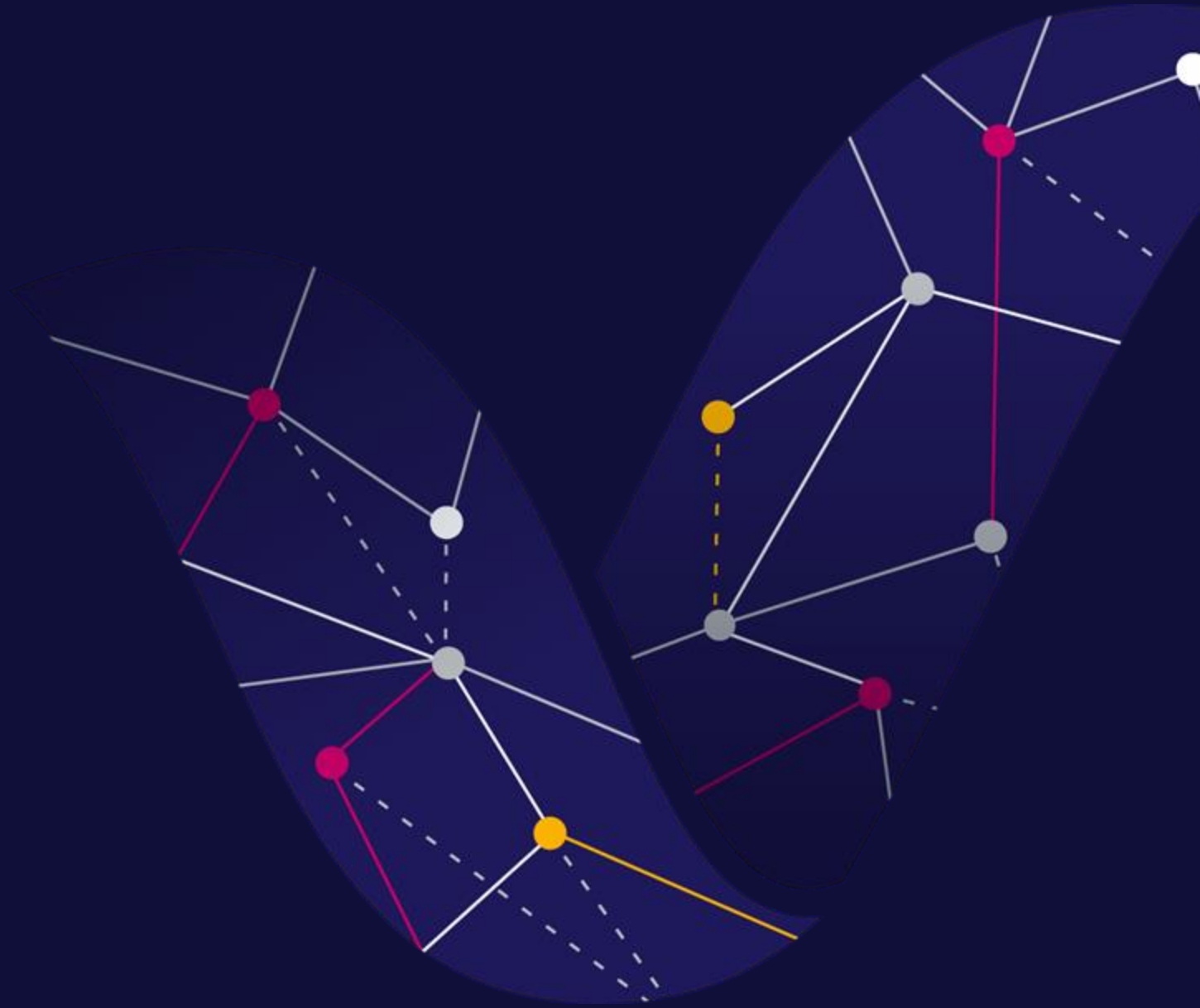




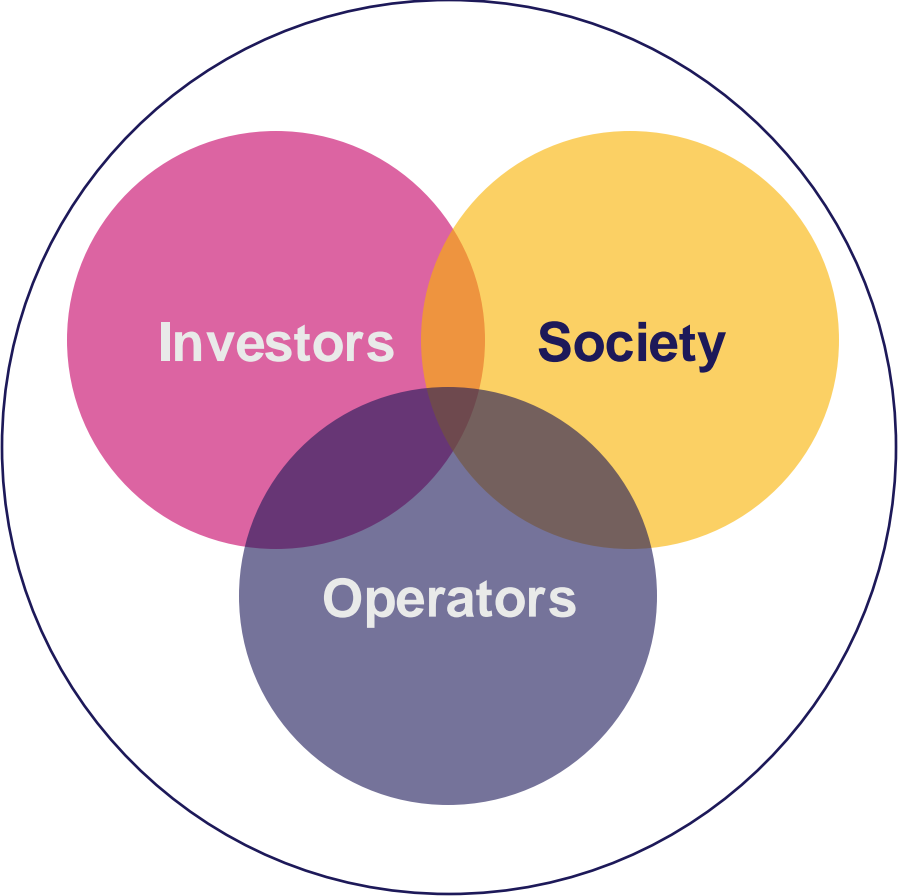
Data-driven products for infrastructure investment

29th January 2025

CONFIDENTIAL



The Vallorii Mission



The world needs critical infrastructure that supports economic prosperity, social equity, and a sustainable environment.

We help investors, utilities, and regulators understand investment needs, risks, and returns.

Data-driven intelligence for sustainable and inclusive infrastructure investments.

Agenda

1. **Introduction and vision**
2. Are energy, rail, telecoms... heading the way of water?
3. Exploring ways forward for UK infrastructure
4. Vallorii Membership & upcoming meetings

We are building a team with AI, big data, economics and financial analytics



Sandy Arbuthnott
Oxford/LBS, ex-Bain, engineering, sustainability & program management



Lennart Baumgärtner
Oxford, ex-McKinsey, complexity economics & physics



Anita Bharucha
Cambridge, ex-Whitehall, public sector NED, ops leadership



Cassian Burger
Bocconi/Cass, ex-investment banking



Jorge Cardenas
KIT, ex-Quantum Black, AI product leader



Cassandra Etter-Wenzel
Oxford, ex-OECD, regulatory specialist



Dieter Helm
NED, Oxford Prof of Economic Policy



Cameron Hepburn
NED, Oxford Prof of Environmental Economics



Ranjita Rajan
NED, start-up leadership, PE and sustainability expert



Robert Ritz
Cambridge/Ofgem, ex-Vivid/McKinsey, financial economics



Jennifer Vaughan
Order from chaos



Henry Tian
LSE, Queens, ex-McKinsey data scientist

Fit-for-purpose infrastructure must be based on fit-for-purpose economics, data and models

We are creating a platform for change in UK infrastructure

Our Mission

The world needs critical infrastructure that supports economic prosperity, social equity, and a sustainable environment. We help investors, utilities, and regulators understand investment needs, risks, and returns.



Community, meetings & events to exchange ideas and foster new thinking



Thematic reports offering regulatory and investment insights backed by rigorous, academic research



Online platform containing Cost of Capital and Risk & Valuation modelling laboratories



Database of granular information in user-friendly formats

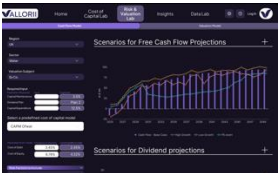
Vallorii's Labs increase modelling flexibility, accuracy, and transparency

Product	Cost of Capital Lab	Risk & Valuation Lab	Research & Insights	Data Lab
---------	---------------------	----------------------	---------------------	----------

User interface



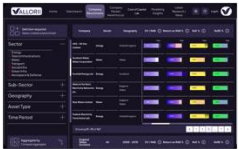
CoC Modelling



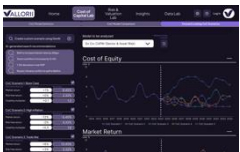
Cash Flow Modelling



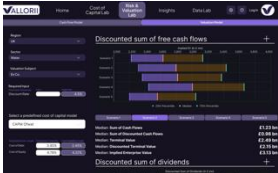
Latest Research Access



Benchmarking



Scenario analysis



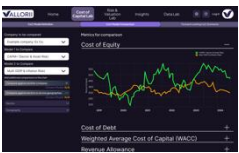
Valuation Modelling



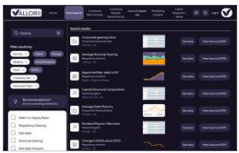
Research Search



Company Deep Dives



Model Comparison



Data Search

Benefits

- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none">• Automated delivery• Customizable risk factors• Model comparisons | <ul style="list-style-type: none">• Automated delivery• Standardized methods• Uncertainty drivers | <ul style="list-style-type: none">• Thematic research insights• International scope | <ul style="list-style-type: none">• Single source of information• Granular non-financial data |
|--|---|--|--|

POLL: How investable is UK infrastructure?

A. Highly investable

Strong long-term growth potential and stable returns

B. Moderately investable

Good opportunities, but with notable risks and challenges

C. Barely investable

Significant barriers and risks outweigh potential benefits

D. Not investable

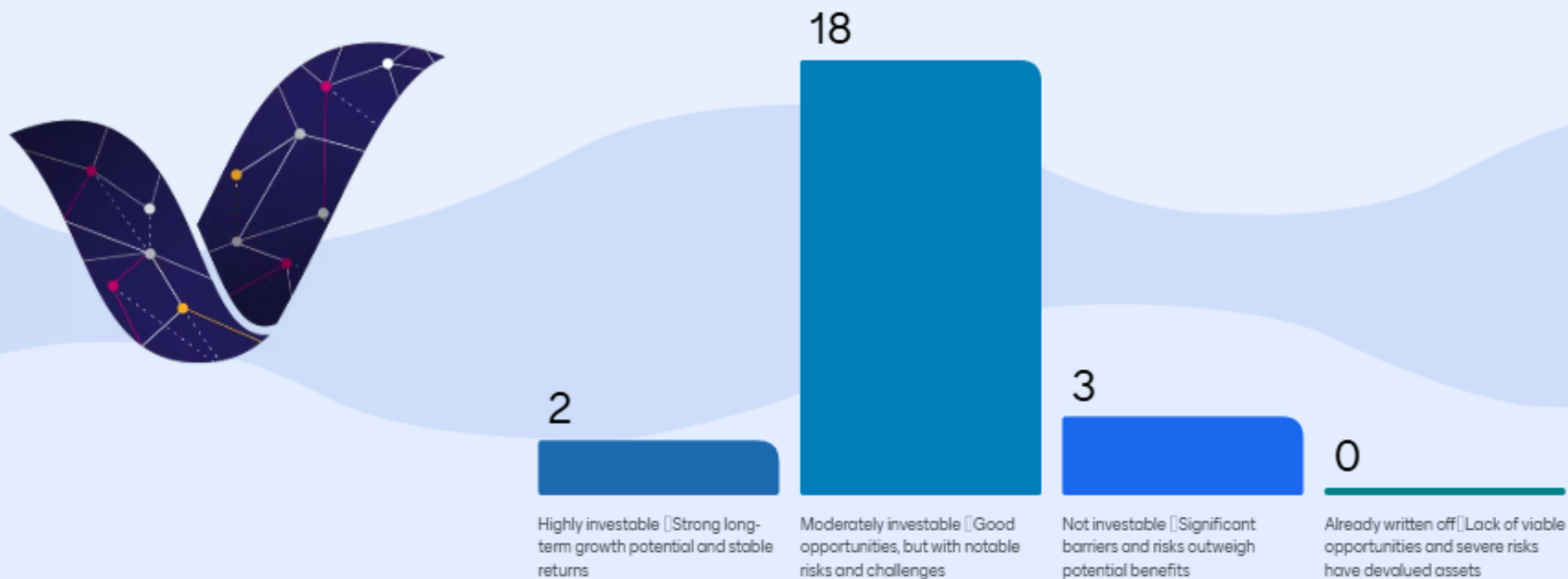
Lack of viable opportunities and severe risks have devalued assets



WWW.MENTI.COM

CODE: 6901 7176

How investable is UK infrastructure?

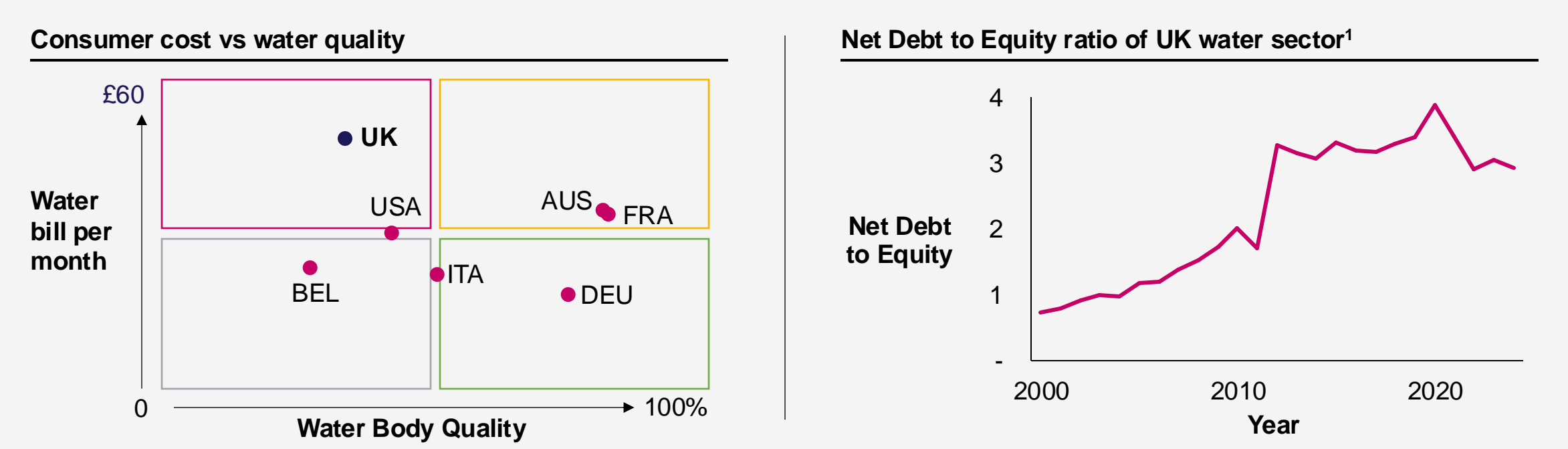
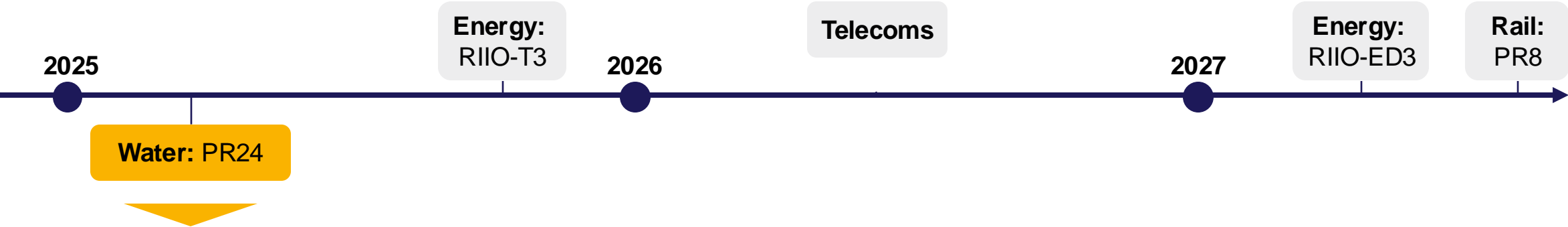


Agenda

1. Introduction and vision
2. **Are energy, rail, telecoms... heading the way of water?**
3. Exploring ways forward for UK infrastructure
4. Vallorii Membership & upcoming meetings

Water is the first regulated sector to boost its capital program

Other sectors will follow shortly



Source: UN Water Statistics, EurEau Europe's Water in Figures (2021), Forbes Monthly Utility Costs by State (2024), BBC "How much will I have to pay for my water?" (2025), Canstarblue "What is the average water bill in Australia?" (2024), DEStatis "Charge for drinking water supplied to tariff areas by tariff type"

1. Defined as aggregate net debt, divided by aggregate equity, of 7 UK water companies

Water challenges are greater than ever – Ofwat responds by doubling expenditure allowance and incentives, marginal changes to the WACC

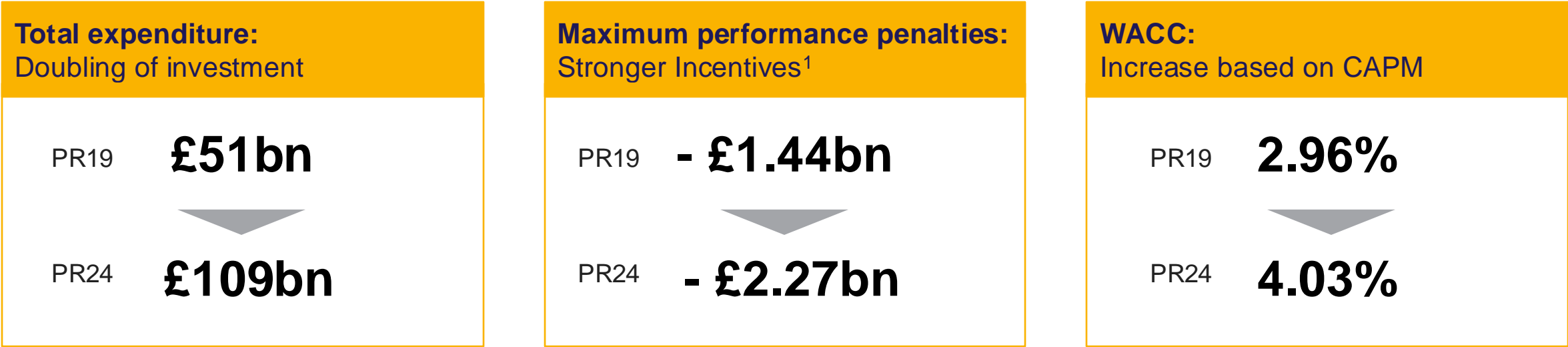
Political pressures
Consumer inflation and government goals

Heavy scrutiny
Increased attention on investor compensation

Macro environment
Continuing high interest rates

Competition for infrastructure capital
E.g., Net Zero

Ofwat regulation 2025-2030



Source: Ofwat
Note: Final determinations sector summary (PR19, PR24); PR24 FD: ODI Rates; PR19 FD: OPC Appendices, In-period ODIs
1. Vallorii Analysis: nominal rates; PR19 ODIs: 2020 PC targets; synthetic P90 limit

PR24 is overshadowed by heightened global risk...

PR19	20	21	22	23	PR24
------	----	----	----	----	------

Global Covid-19 pandemic

Ukraine War

Record inflation and structural shift in interest rates

2024 average temperature breaches 1.5deg

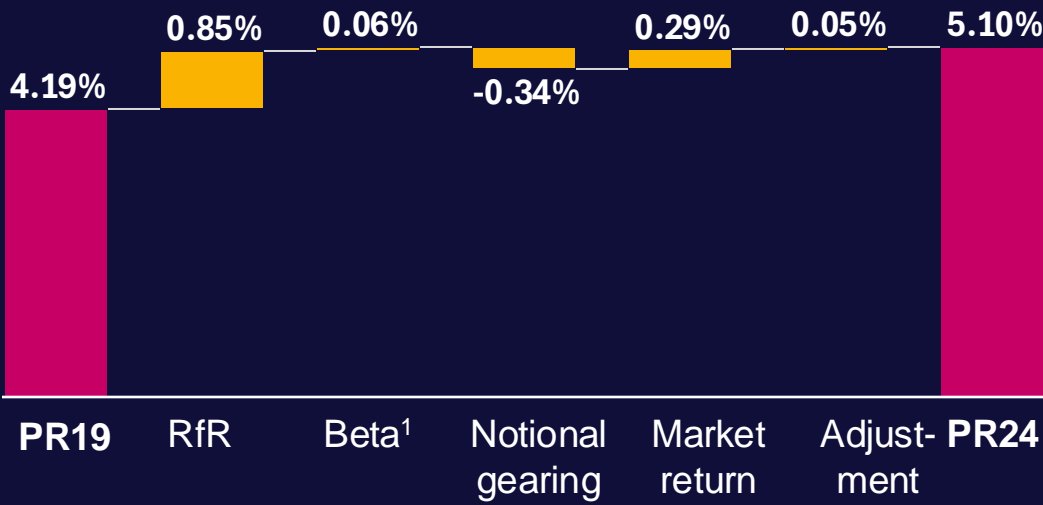
UK political upheaval

Expected tariffs and trade wars

1. Beta incorporates changes in unlevered beta, and assumed debt beta (which decreased from 0.125 in PR19 to 0.10 in PR24)

...but CAPM does not reflect that

Real Cost of Equity

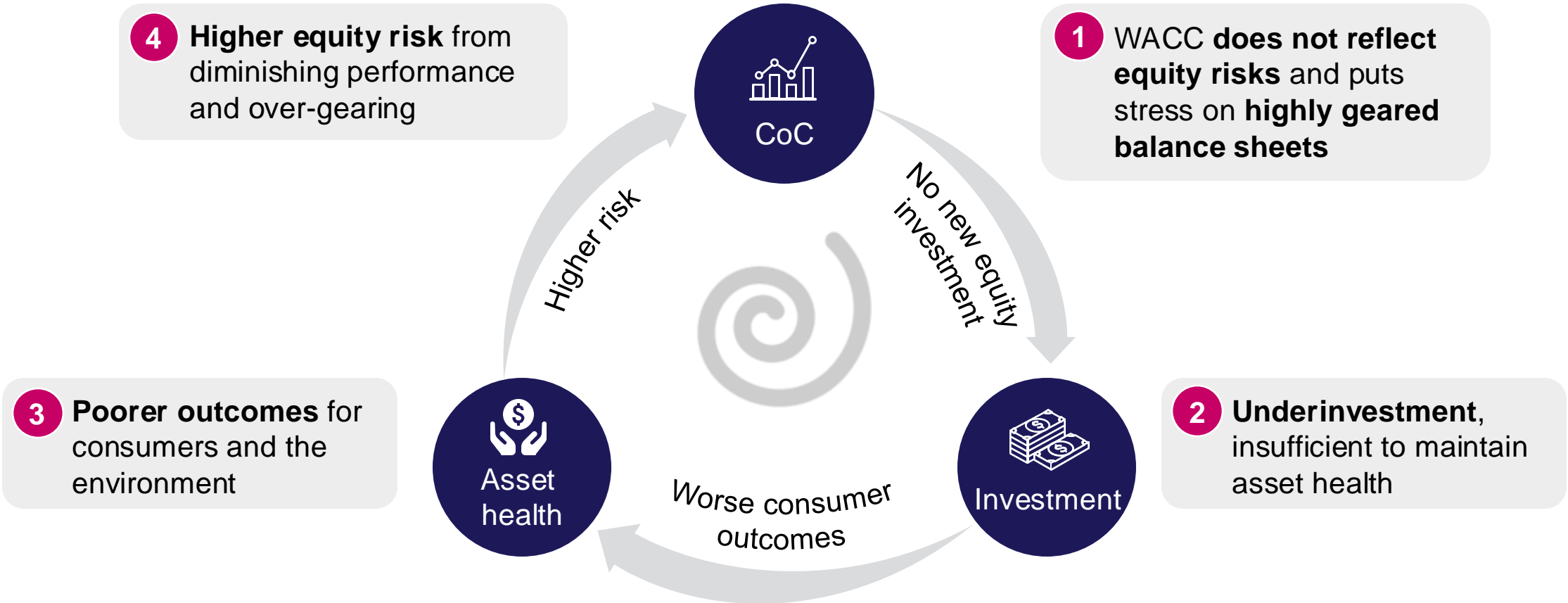


- **RfR:** -1.39% → 1.52%, positive impact on CoE is offset by reduction in market risk premium
- **Beta:** debt beta decreases, equity beta increases
- **Notional gearing:** 60% → 55%
- **Market return:** 6.50% → 6.98%
- **Adjustment:** 0.05% uplift

Source: Ofwat

Infrastructure Doom Loop

How do we break out of growing risks, underinvestment, and poorer consumer outcomes?



Agenda

1. Introduction and vision
2. Are energy, rail, telecoms... heading the way of water?
- 3. Exploring ways forward for UK infrastructure**
4. Vallorii Membership & upcoming meetings

POLL: How do we solve it – what is the right model for sustainable investment in infrastructure?

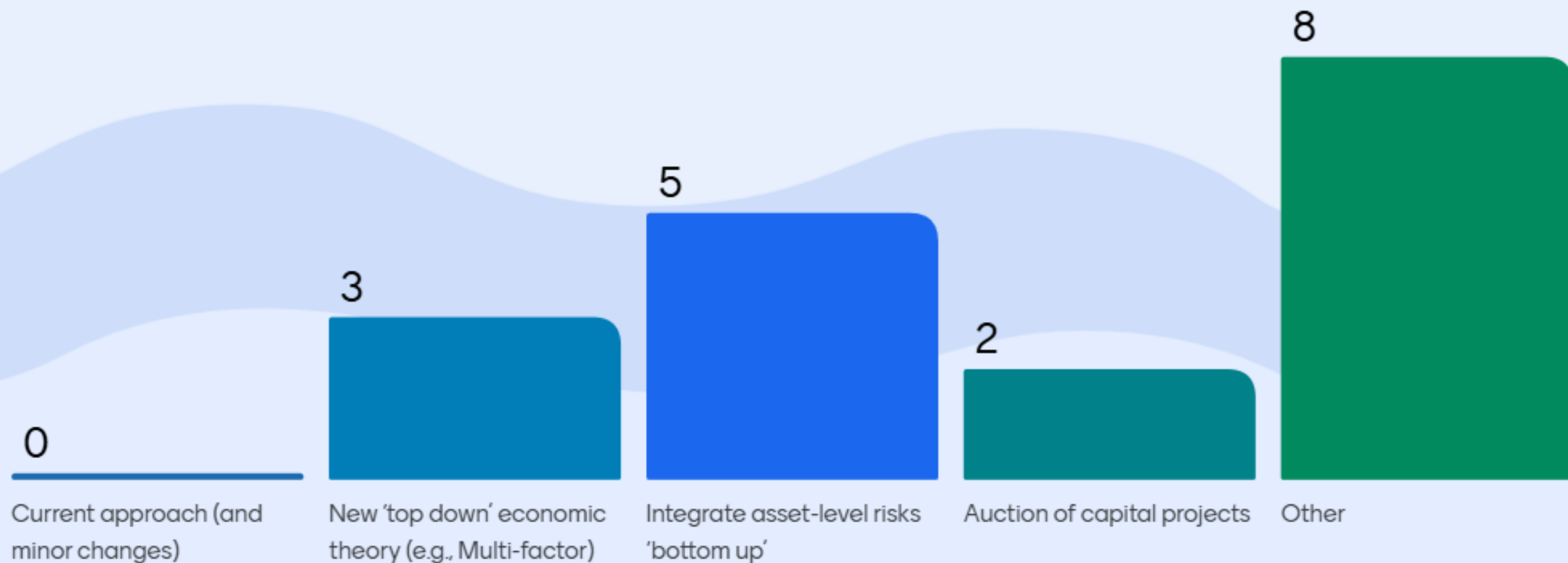
- A. **Current approach** (and minor changes)
- B. New 'top down' **economic theory** (e.g., Multi-factor)
- C. Integrate **asset-level risks** 'bottom up'
- D. **Auction** of capital projects
- E. Other



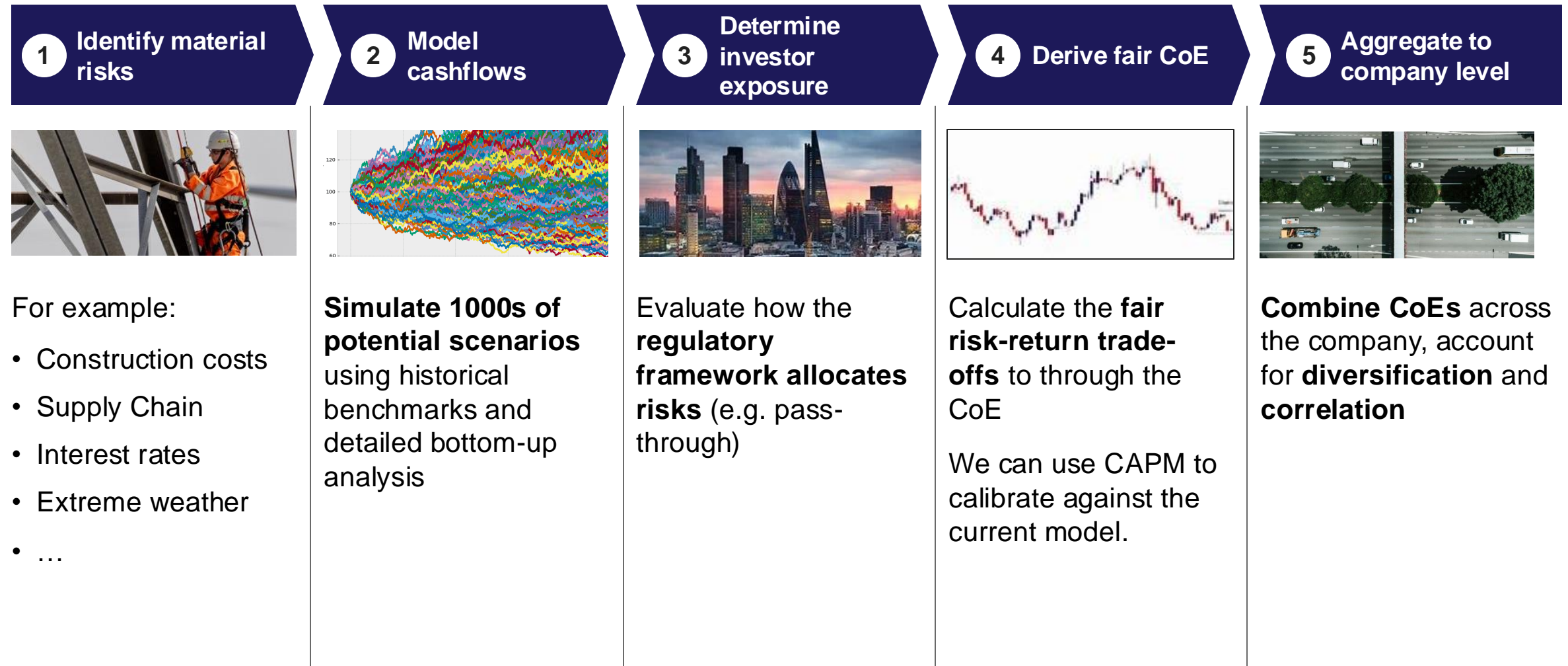
WWW.MENTI.COM

CODE: 6901 7176

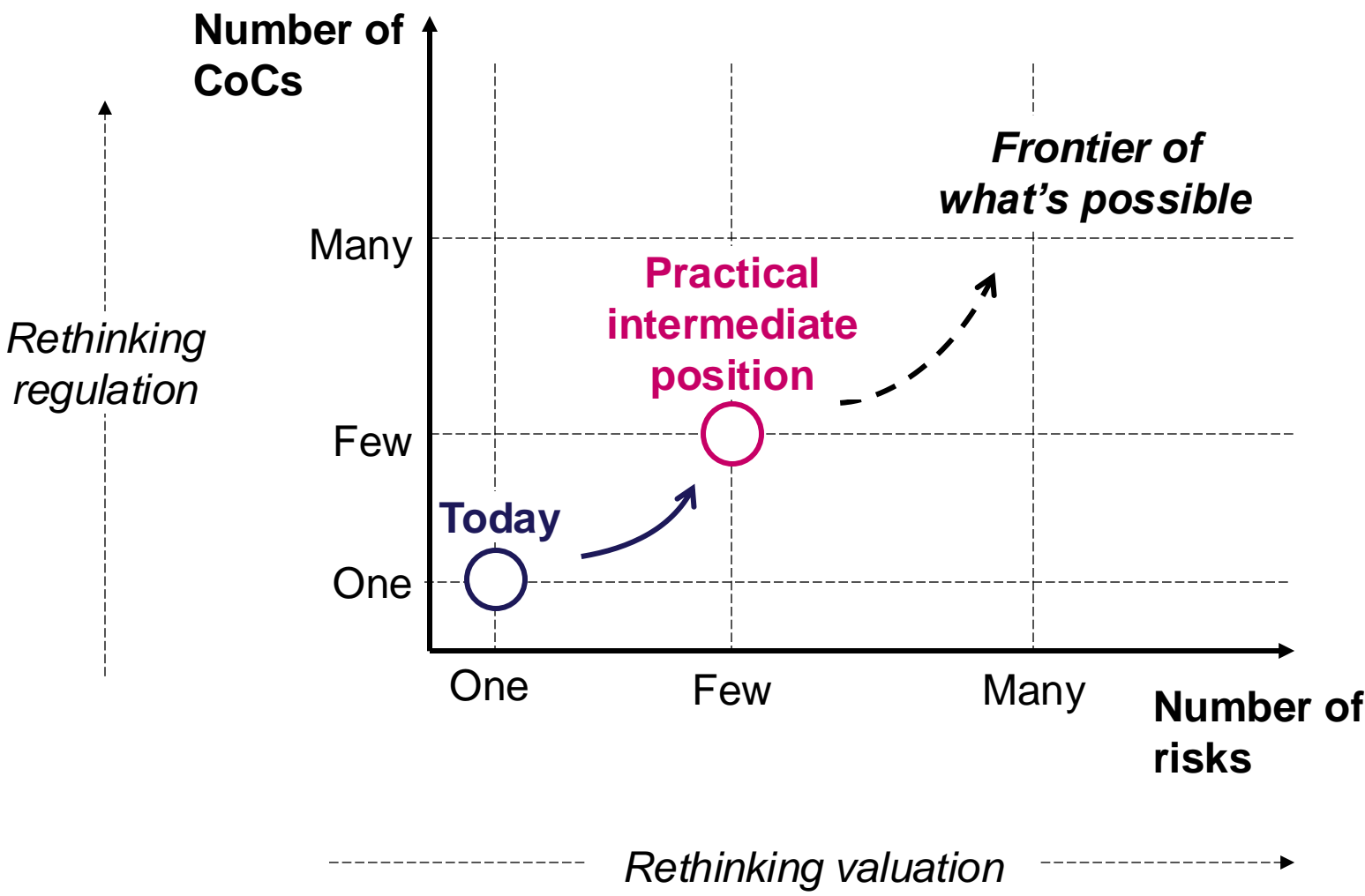
How do we solve it – what is the right model for sustainable investment in infrastructure?



Option C 'bottom-up' We can model investor exposure explicitly and set a fair compensation for risks (CoE)



‘Art of the possible’ needs to be applied pragmatically and in stages to achieve progressive change

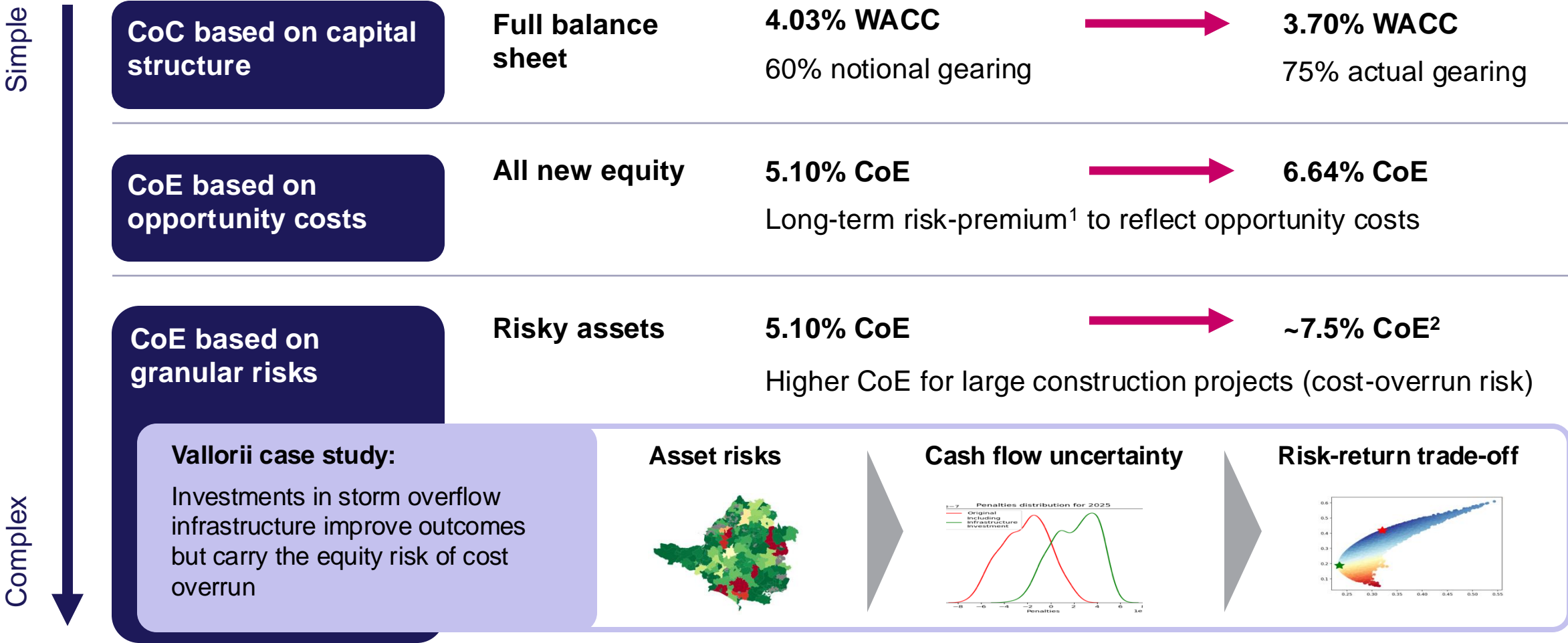


Granular assessment of every project is possible.

But ‘academic rigour’ must be balanced with the real constraints on regulators and companies

Initial practical changes could include improvements in market-based models as well as pragmatically applied bottom-up models

OFWAT PR24 EXAMPLE







Source: Vallorii analysis

1. Risk-premium is estimated using 20yr average annual risk premia (real) between MSCI World index and UK risk-free rate
2. CoE estimated for fair risk-return tradeoff for 5000 of cash flow scenarios in case of performing infrastructure investment to improve asset health and reduce storm overflow penalties. Estimates discounting rate at current PR24 determination, all investments financed via equity included in a RAV increase

Agenda

1. Introduction and vision
2. Are energy, rail, telecoms... heading the way of water?
3. Exploring ways forward for UK infrastructure
4. **Vallorii Membership & upcoming meetings**

How are we taking things forward?

	Next steps	Member involvement
 Membership Events	<ul style="list-style-type: none">• Invitation-only Founding Members• Roundtables throughout 2025	Join the forum
 Thematic reports	<ul style="list-style-type: none">• Publication of research insights• Build in your feedback and develop research base	Provide feedback
 Online risk & valuation tools	<ul style="list-style-type: none">• Release alpha/beta test versions• Build in your feedback and continue to develop functionality useful to you	Shape development of tools
 Database	<ul style="list-style-type: none">• Link together relevant disparate data• Develop ML/AI tools to link risk drivers to CoC	Work with us on data



Visit us at Vallorii.com

