

Managing extreme weather and climate change in a business context

Lisa Constable
Principal Consultant, Sustainability and Climate
Change
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Overview

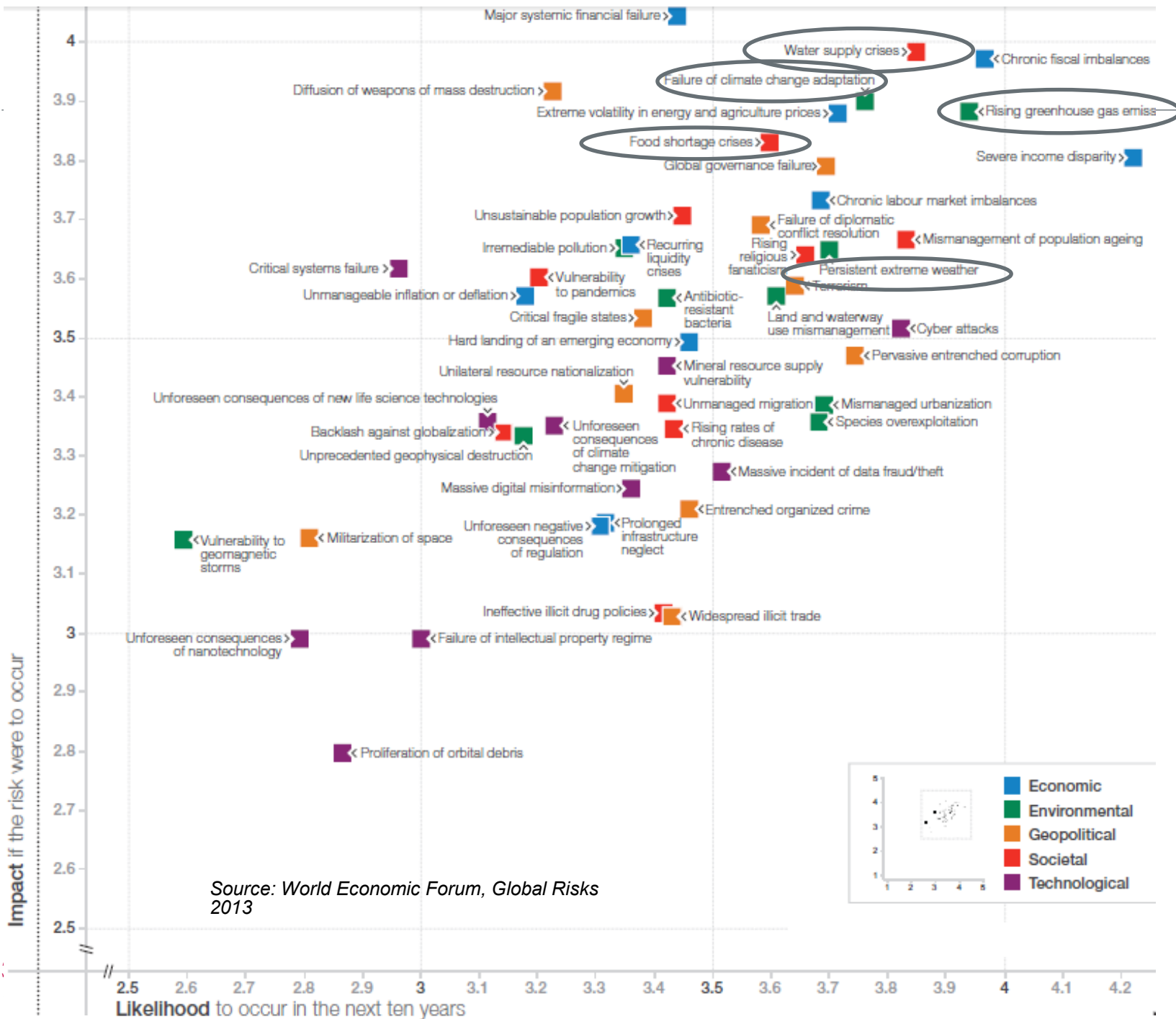
Systemic risks and the web of impacts

Step by step guide to understanding and managing climate change

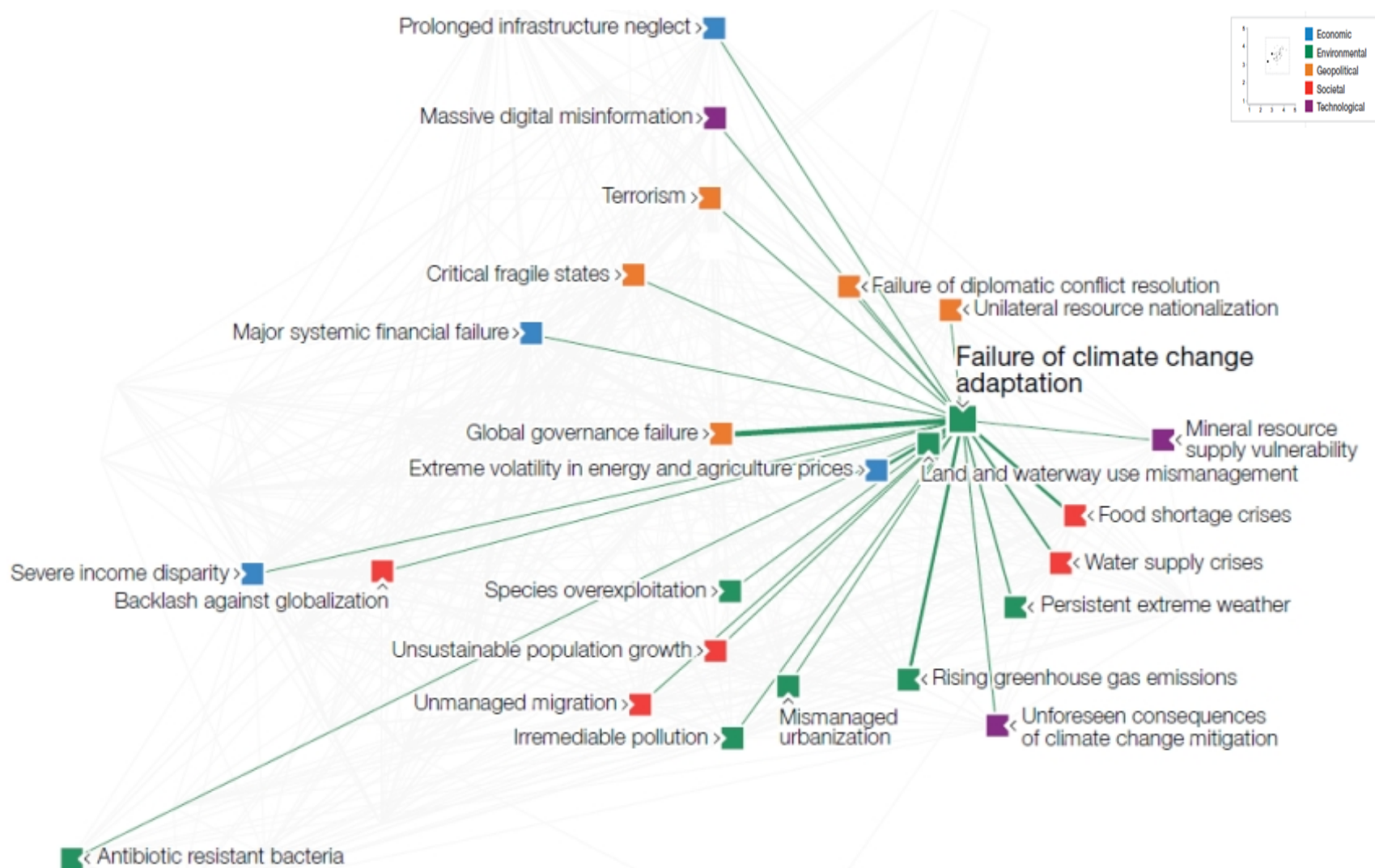
1. Understand the climate context
2. Analyse impacts and risk sources
3. Develop the business case for adaptation
4. Create an adaptation strategy

Conclusions





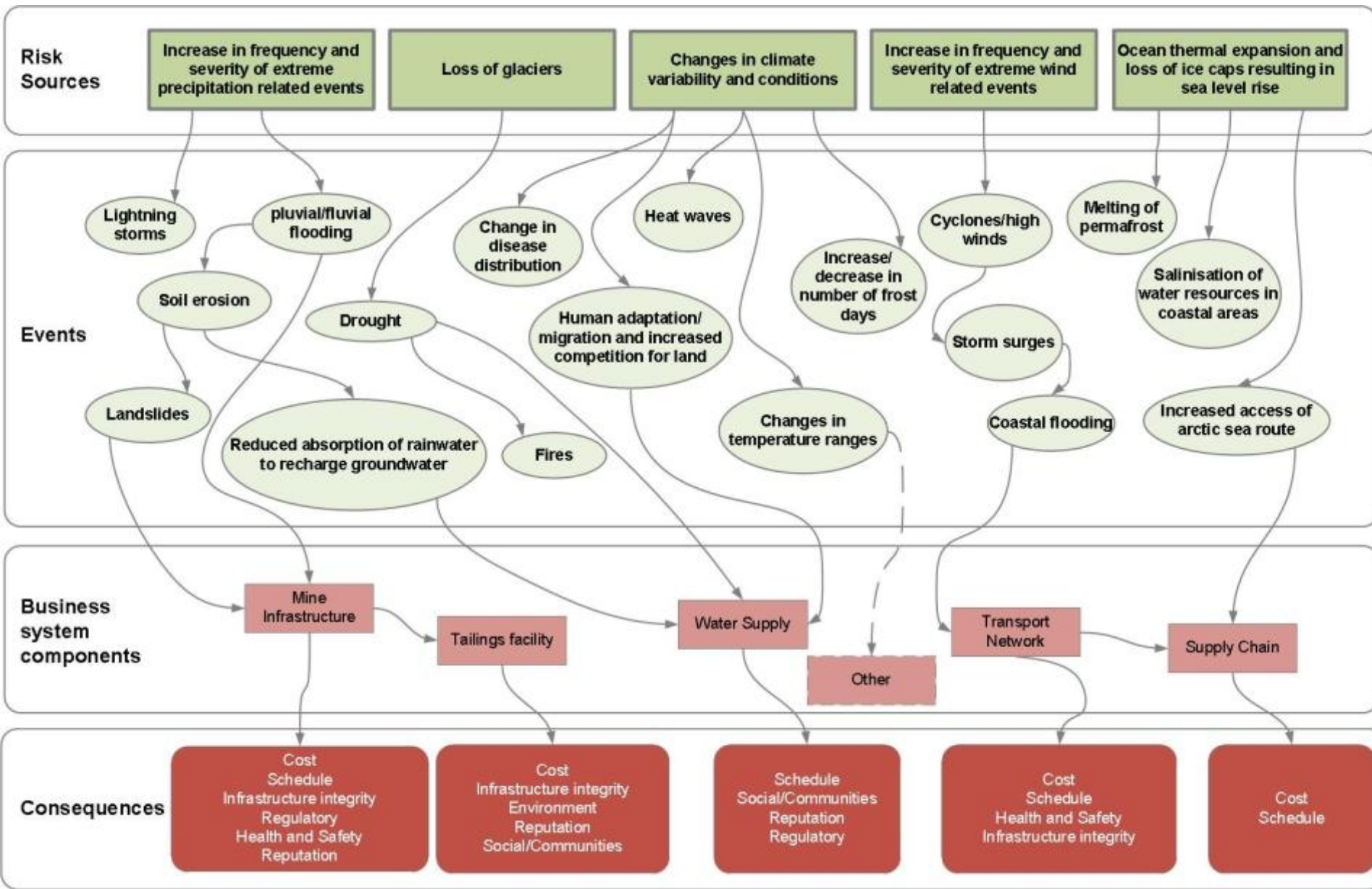
Risk Interconnectedness



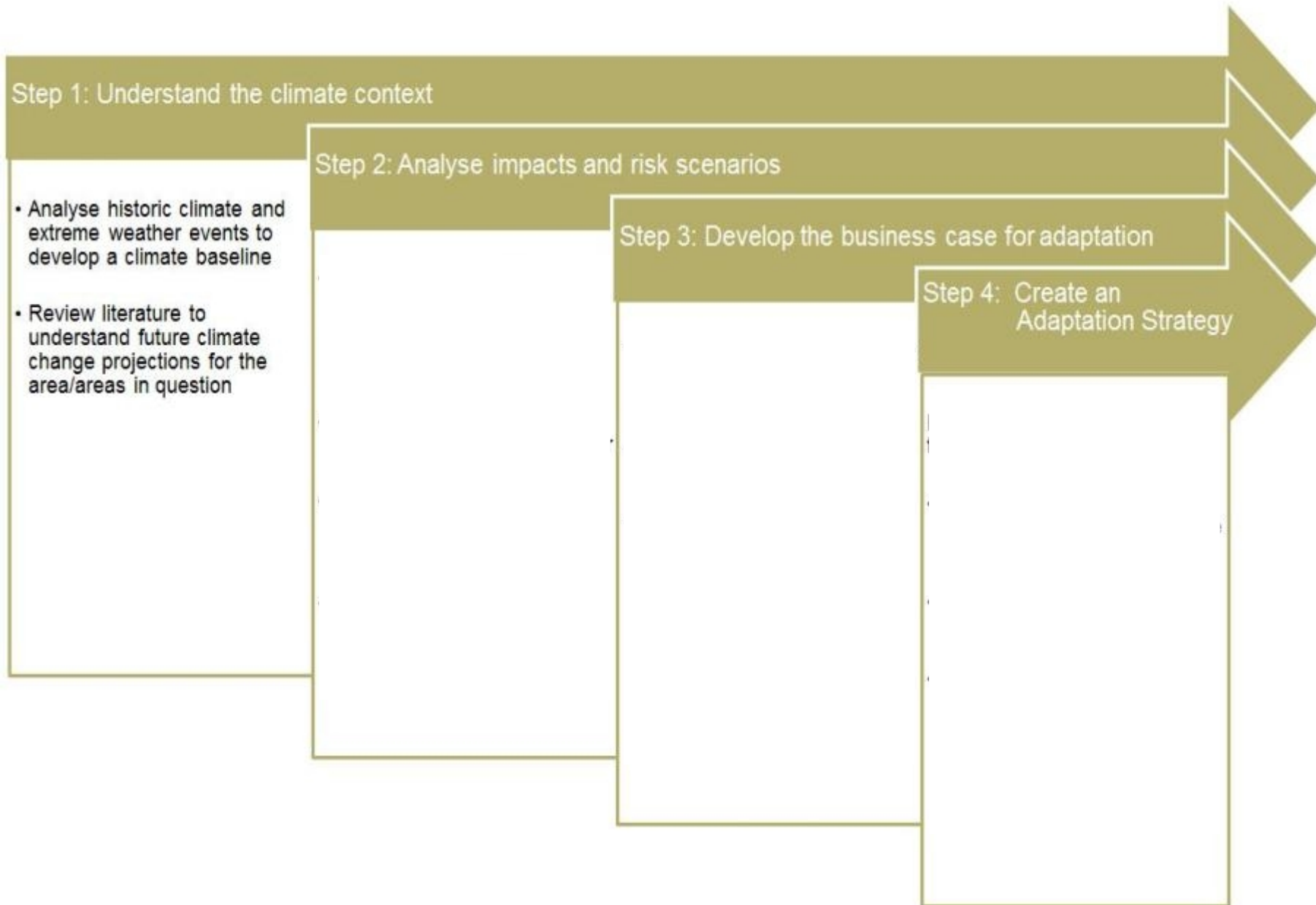
4 Source: World Economic Forum, Global Risks 2013

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Climate Risk Map for a mining complex

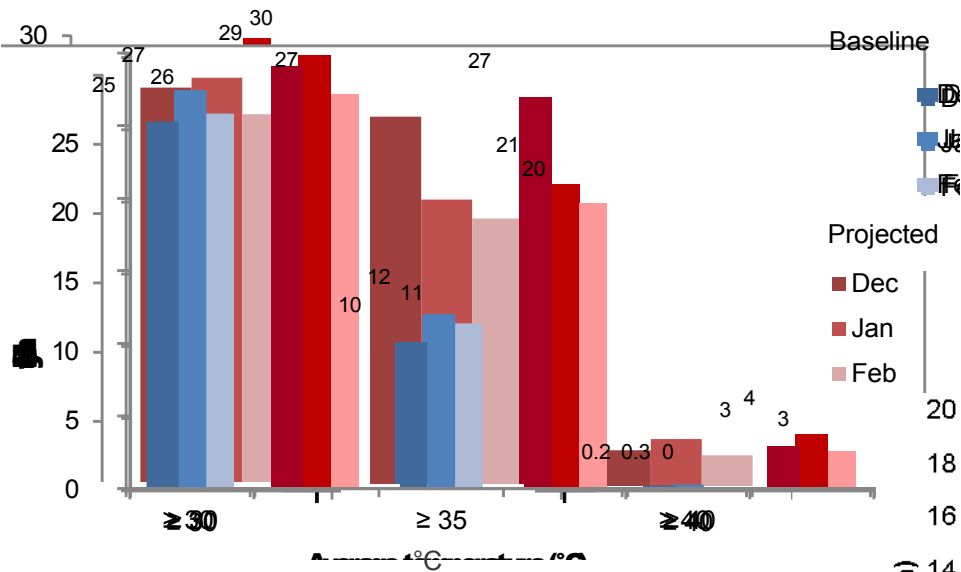


Guide to managing climate risks

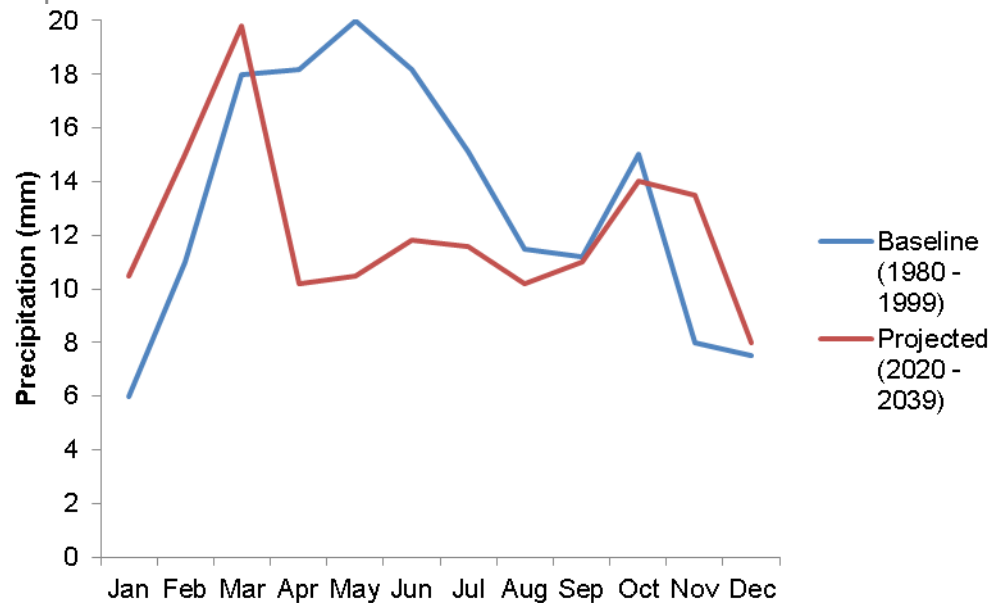


Changing climate variables

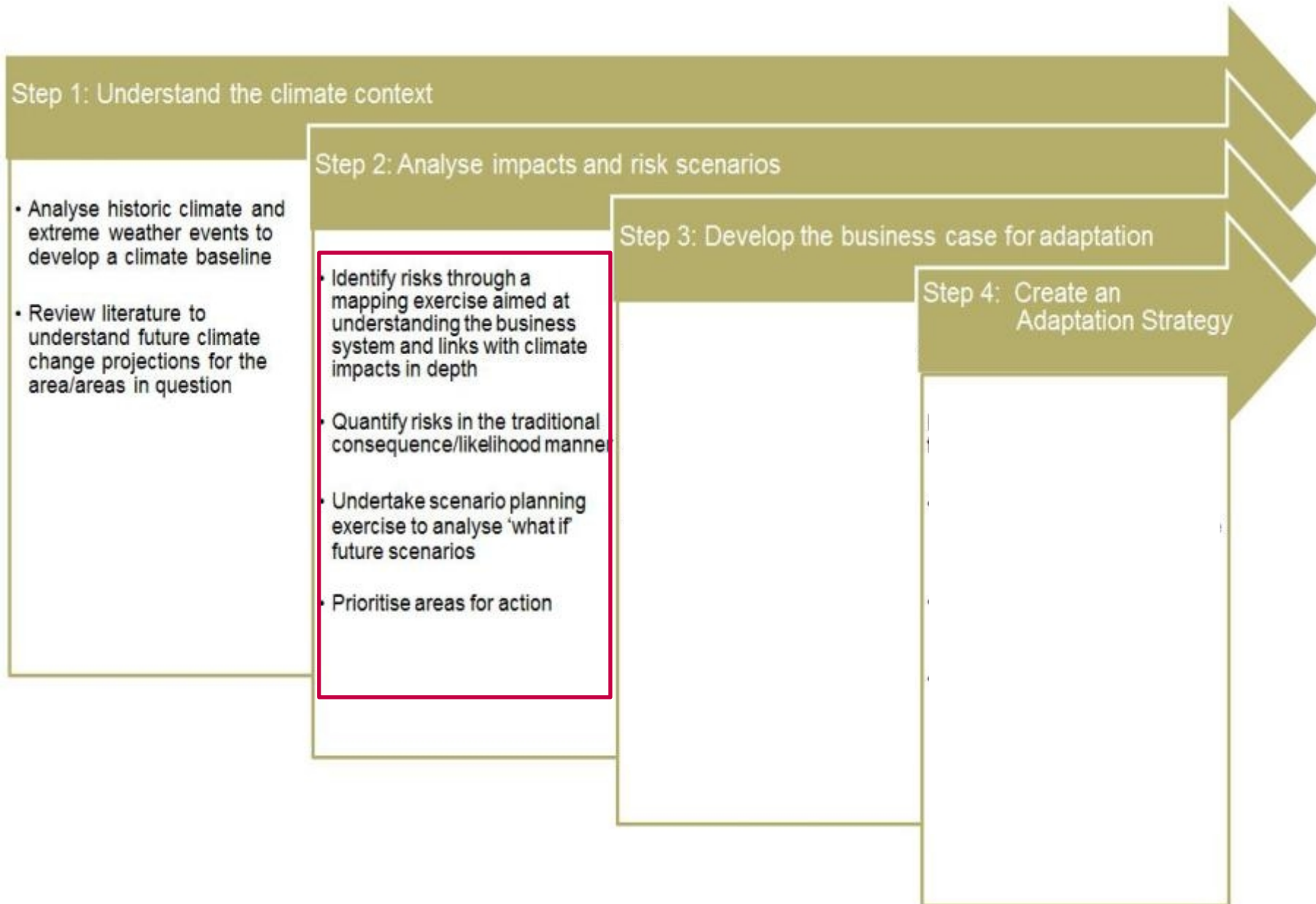
Projected increased in days with temperature over 30, 35 and 40°C given a 2.5°C increase in temperature against the baseline



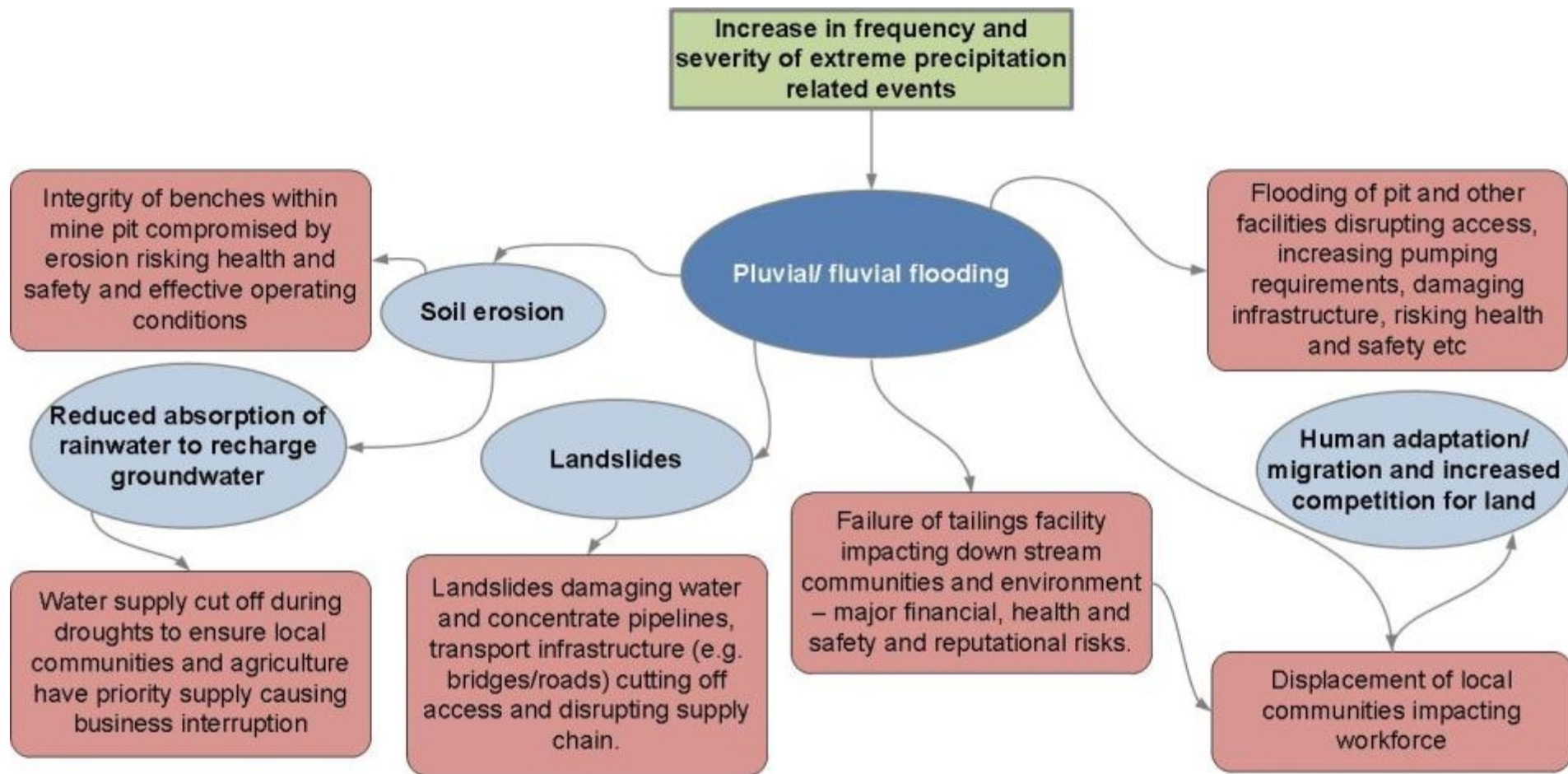
Historical modelled precipitation (1980 – 1999) vs mean projected precipitation (2020 – 2039) for the project area



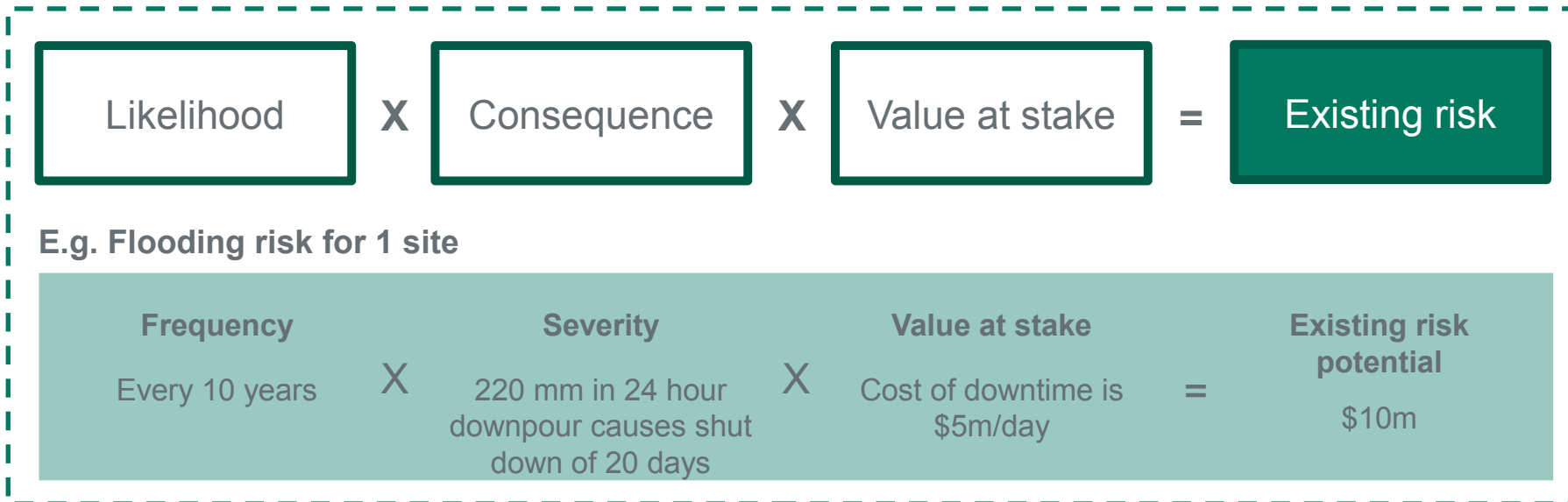
Guide to managing climate risks



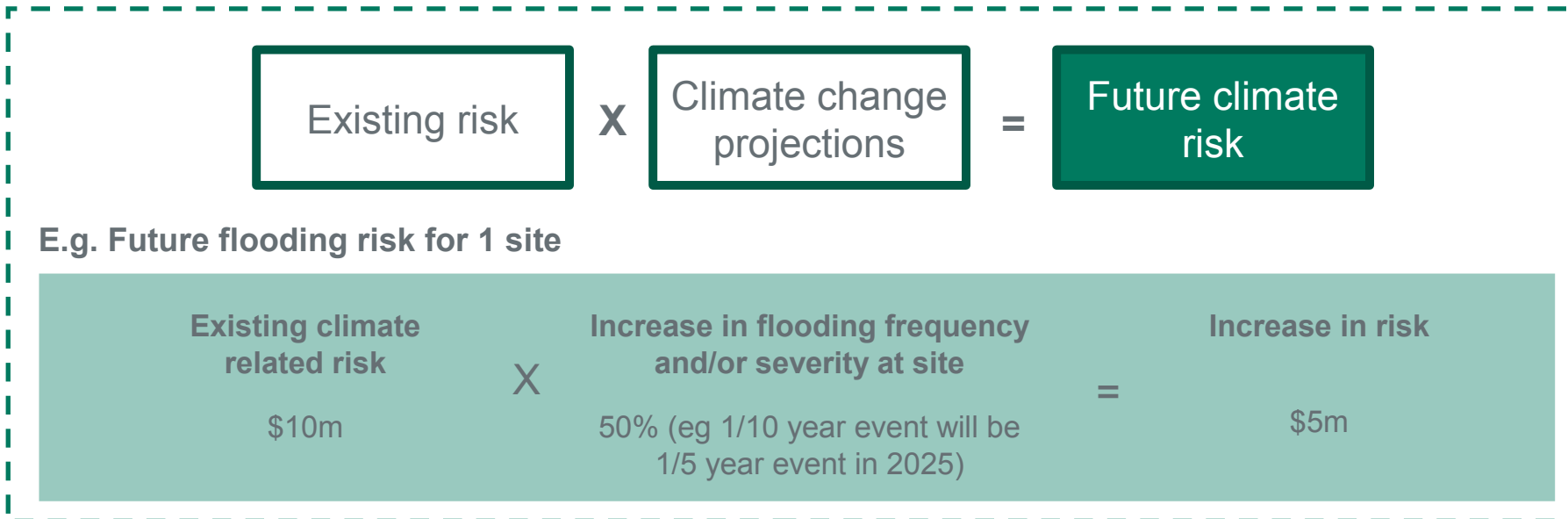
Flood risk map for mining complex



Traditional Risk Management Approaches



Traditional Risk Management Approaches



Enhancing traditional risk management

Risk amplification

Businesses invest on the basis of technical or non-technical risks that in most cases are considered static and un-related. Need to consider how **climate change and other critical factors might amplify seemingly unrelated risks** and their relationships amongst them or create new opportunities.

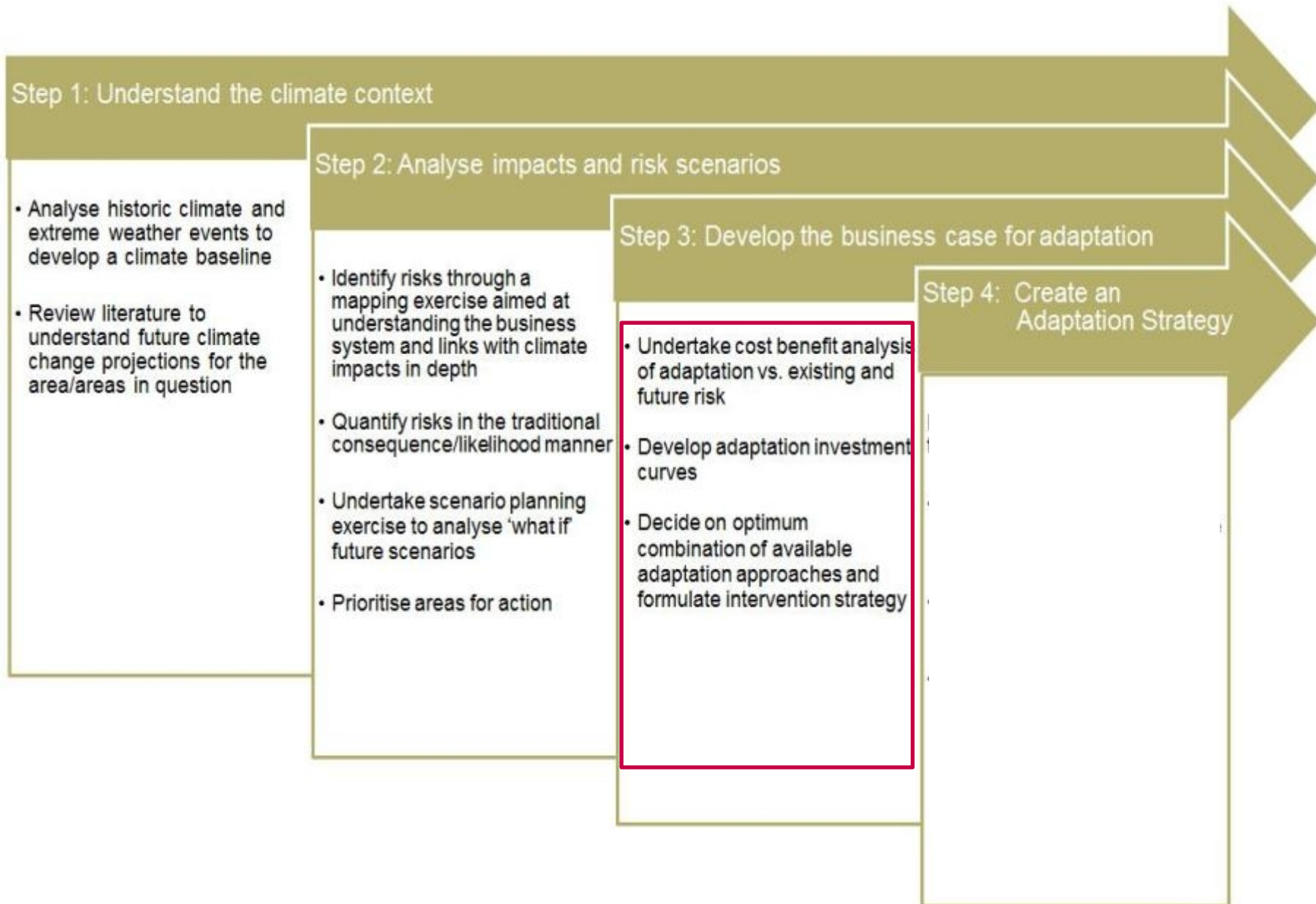
Stress testing

‘What-if analysis’ can be used to **assess the resilience of a given operation** to hypothetical external shocks. e.g. What might happen to a project’s risk register if future climatic extremes are being underestimated by 20%. Helps with manage uncertainty and can identify vulnerabilities and opportunities for quick wins.

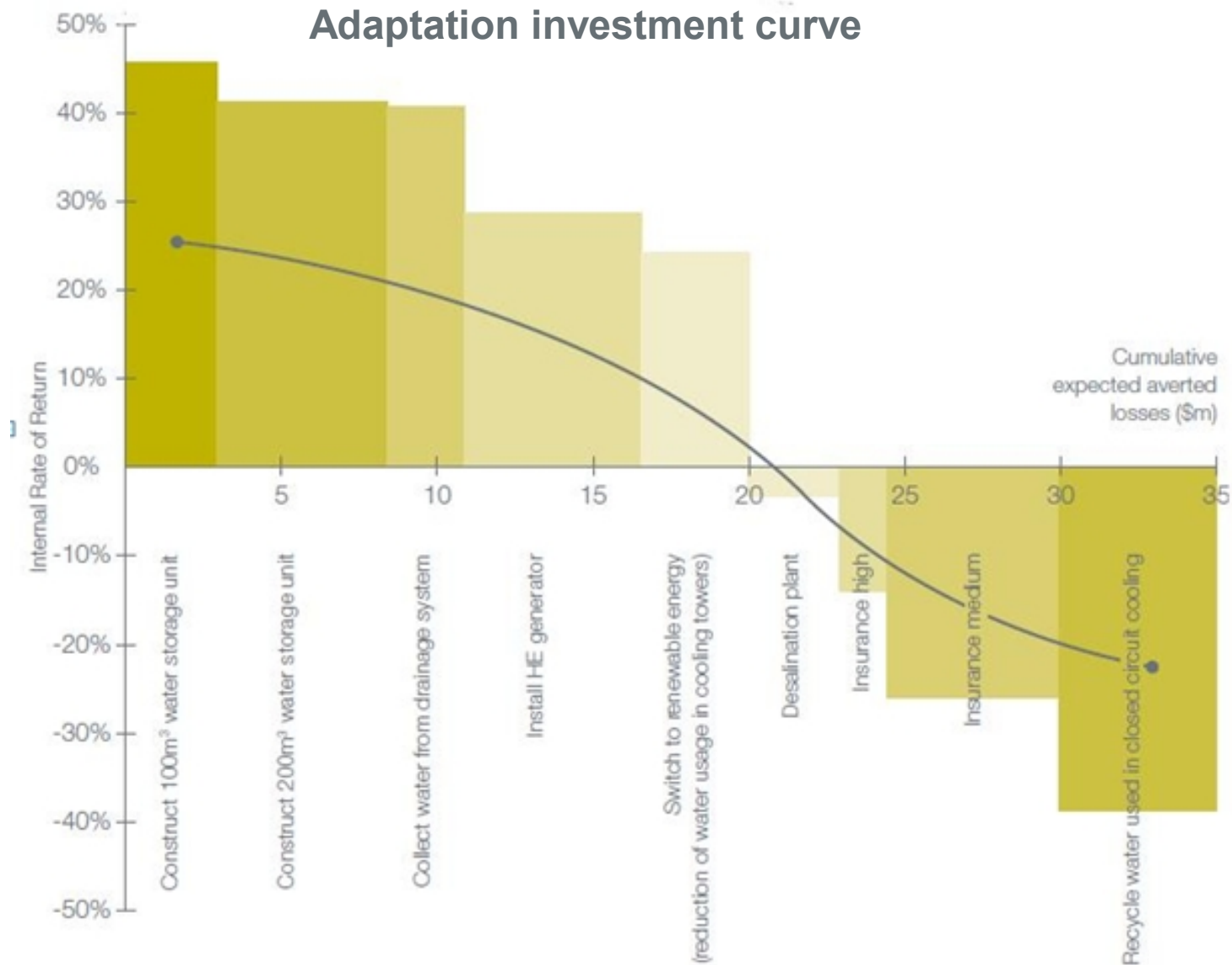
Scenario planning

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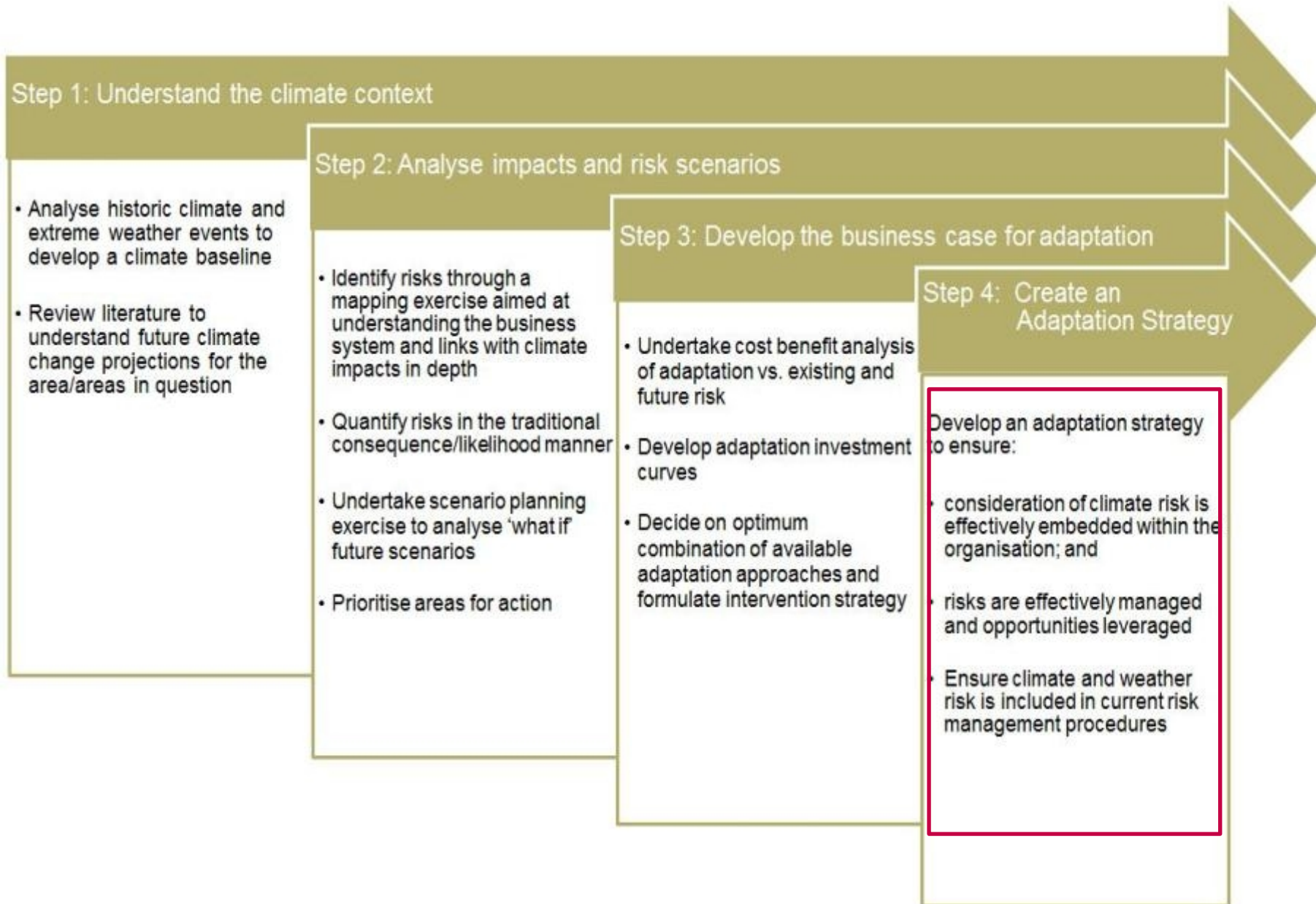
Guide to managing climate risks



The business case for adaptation



Guide to managing climate risks



Developing an adaptation strategy

- Explore the following questions
 - Where are we as a business today?
 - **Where are we do we want to be in X years?**
 - What are they key climate change issues that our business (or project) strategy needs to address now and in the future?
 - How can we best position ourselves to take effective action?

Needs to **impact the broader business environment** in which the company exists – is should recognise inter-dependencies between players, climate and time, and put a value to these.

Maximise opportunities and enhance resilience in the short, medium and long term

Ensure **future expenditure and planning take place with an ‘adaptation lens’** and that consideration of climate risk and adaptation is fully integrated within business processes.

Conclusions

Adaptation = risk management and can be embedded within day to day business activities

Improved resilience, cost savings and reduced business disruption

Enhanced reputation

More sustainable business activities

Opportunities to engage with local government and communities to enhance benefits



About ERM

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Over the past five years we have worked for approximately 60% of the Global Fortune 500 companies across the world

Who to talk to at ERM:

Lisa Constable

Principal Consultant

lisa.constable@erm.com

+27 21 681 5400

Cape Town, South Africa

This presentation is based on a paper of the same title by Ioannis Chrysostomidis and Lisa Constable from ERM. The paper is in review prior to publication in the Handbook of Climate Change Adaptation by Springer.

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