



Advancing Science-Based Strategic Foresight for Climate Action

Workshop 7: Strengthening Public Institutions for Climate Action

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Our common agenda

“... accounting for the interests of future generations requires strengthening the capability to imagine and assess future development trajectories as well as embracing ‘long-termism’ into decision-making processes.”

(Our Common Agenda, p. 44)



With a longer time-perspective in decision-making, tradeoffs can sometimes (often?) be transformed into synergies.

"In the longer-term, self interest and common interests converge"

Many areas of societal planning need to adopt a long-term perspective. I can think of two areas that stand out in this regard:

1. National **defence and security**.
2. Global **climate change**.

We need methods and tools to grapple with long-term decision-making.

Scenario planning is one primary example of this, and this is extensively used in climate change research.

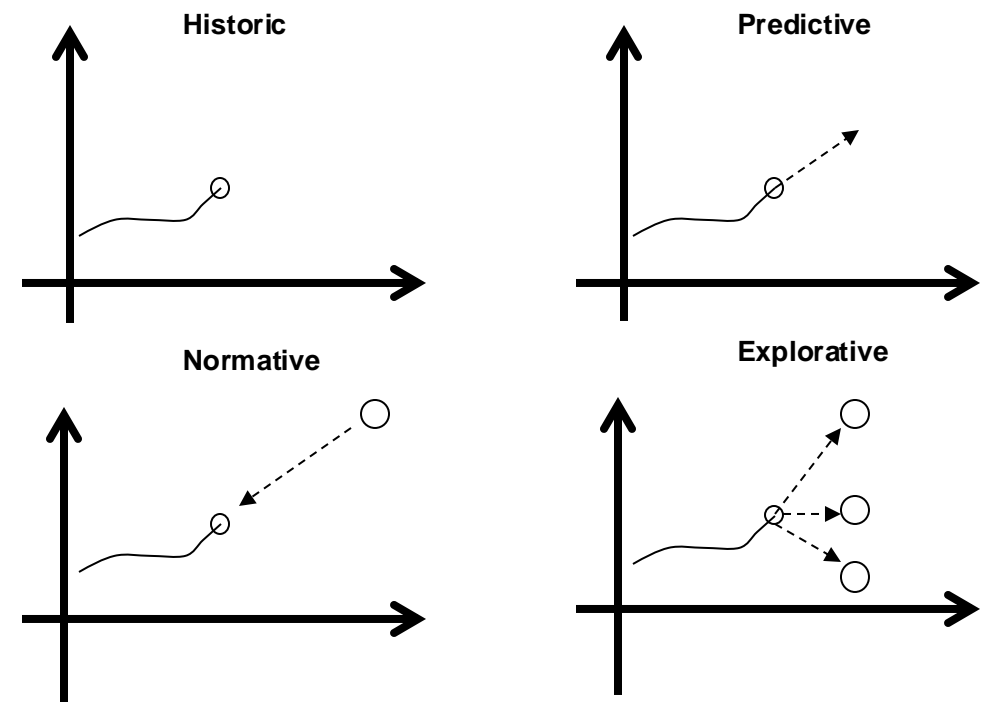


Figure courtesy: Karl Dreborg



What is long-term decision-making?

	Consequence
Option 1	10
Option 2	-5
Option 3	30



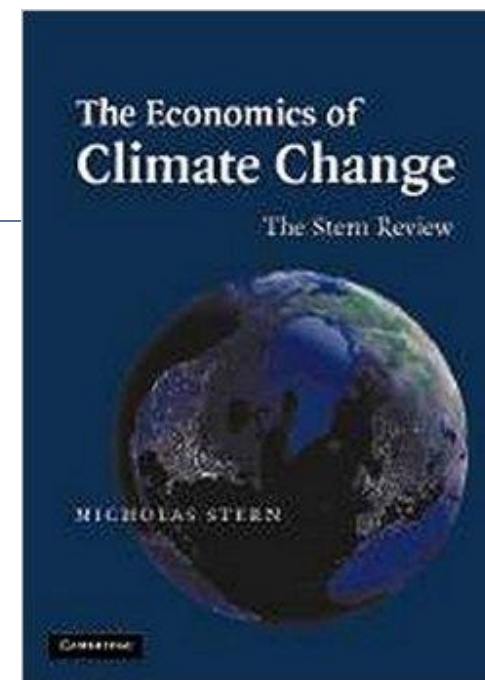
Discounting

$$\text{Present value} = \frac{\text{Future value}}{(1 + r)^t}$$

Example: $r = 0.1$ (0.15), present value of 10:

$$t = 1 \rightarrow 9.1 \text{ (8.7)}$$

$$t = 2 \rightarrow 8.3 \text{ (7.6)}$$



CRITERIA FOR SCENARIOS

	Property of...	
	Individual scenario	Set of scenarios
Relevance	X	
Plausibility	X	
Representative		X



Only a few possibilities are investigated

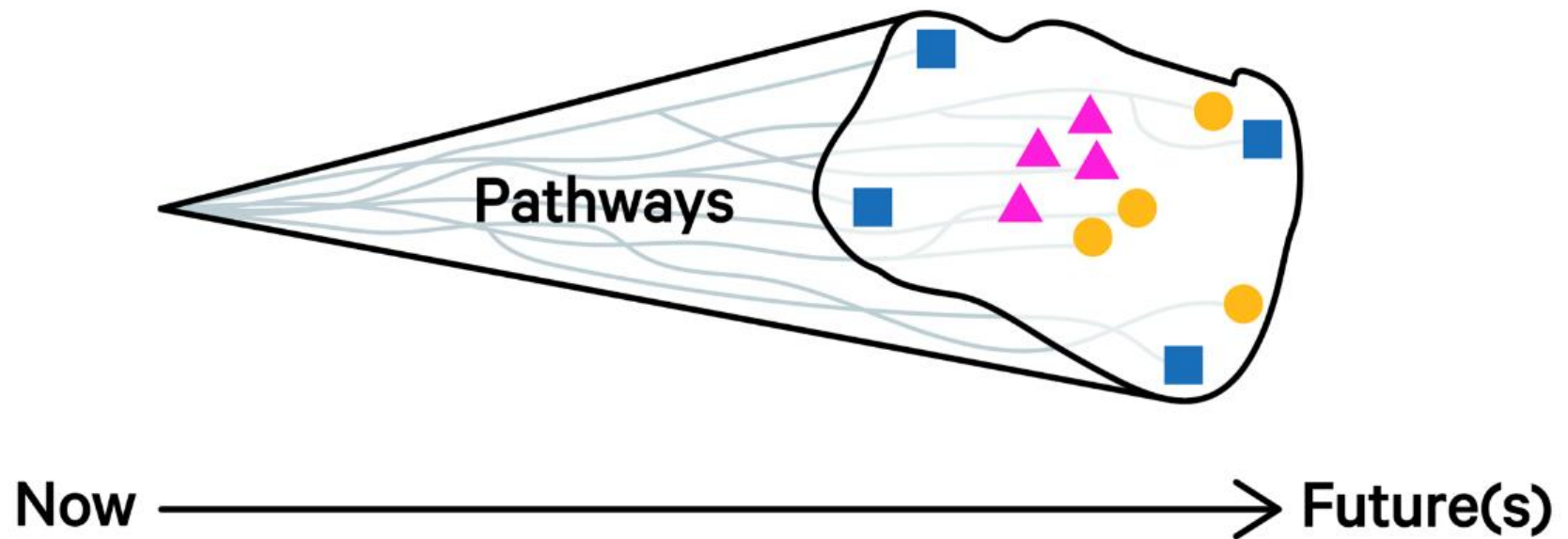
Although the number of scenarios developed that has increased dramatically over recent decades, it is well-known that the vast majority of these scenarios can be mapped onto a few 'scenario archetypes'.

Scenario archetypes describe different general patterns of future developments.

1. Business-as-usual
2. Economic optimism
3. Reformed markets
4. Regional competition
5. Regional sustainability
6. Global sustainable development



The future cone





Why is this important?

- Given the challenges ahead, including possible **irreversibilities** and **tipping points** it is important to strive for broad coverage of future possibilities when constructing scenario sets.
- Broad span should not always be sought for, but at least scenario designers should be able to explain why (if) they have constructed a conservative or an unbalanced set.



Assessment of strategies across a range of possible futures

	Scenario A	Scenario B	Scenario C	Scenario D
Strategy 1	+ +	-	+	0
Strategy 2	0	+ + +	0	-
Strategy 3	-	+ +	-	- -



How to make long-term decisions

1. Optimal strategy: Predict, then act
2. Robust strategy: Find strategy which is 'good enough' regardless of what happen



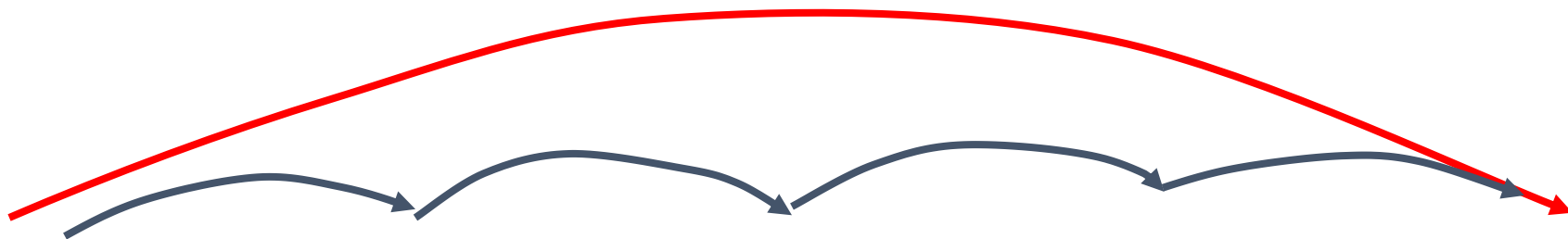
What is an 'optimal' decision?

	Scenario			
	SSP1	SSP4	SSP3	SSP5
PM1	15	5	-5	0
PM2	30	10	10	-40
PM3	-10	0	10	10
PM4	-20	20	10	10



But what if:

- i) There is a possibility to take steps and change strategy when the context changes
- ii) There is a possibility to learn over time?





Iterative decision-making is important when there are potential irreversibilities

- Leaving a stable climate
- Extinction



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A big elephant is moving into the room

- The development of artificial intelligence has reached a possible inflection point, with implications for how climate change researchers need to think about emerging technologies and how they drive long-term socioeconomic development.
- Most scenarios do not include emerging technologies (such as AI) that already shape societal development and might have outsized impacts during the time-frame of the scenarios.
- AI can impact almost all drivers in scenarios, and therefore has considerable potential of fundamentally changing societies in ways important for research and policy.



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Thank You

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