



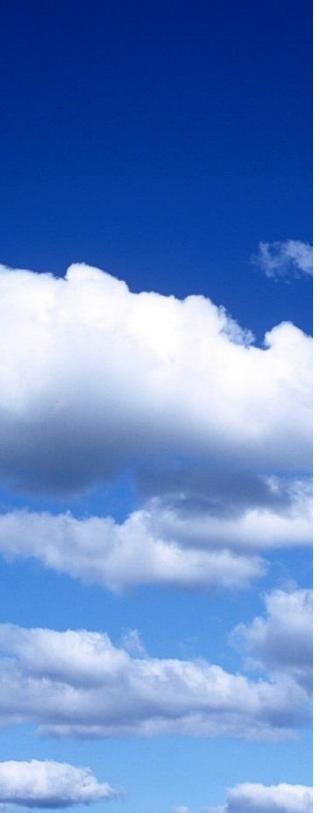
Grenada National Ecosystem Assessment (NEA) Training Series on Foresight Scenarios

Session 2 – An Overview to Foresight Scenarios

Facilitated by Dr. Adrian Cashman

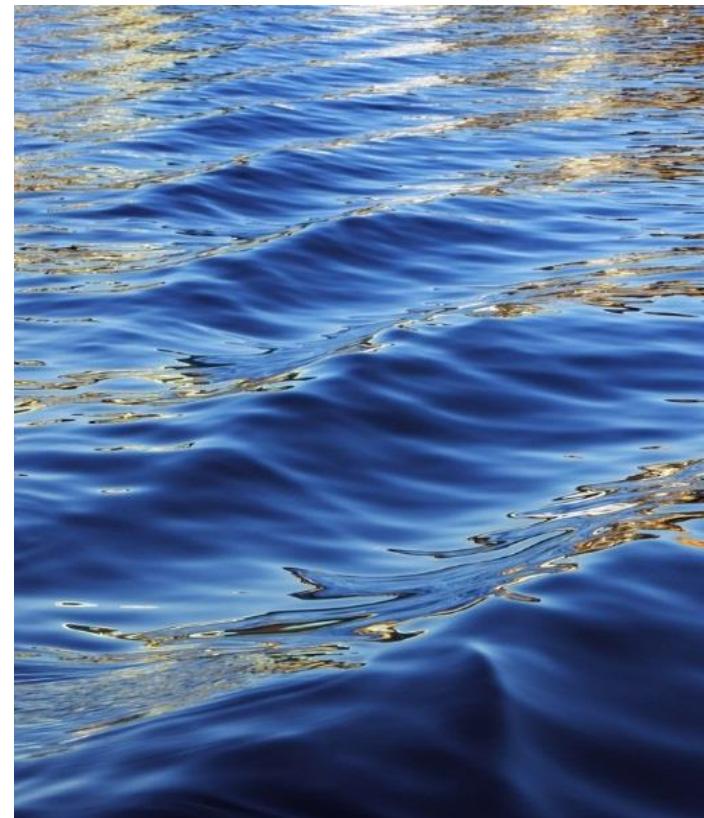
20th August 2021





Foresight Scenarios

Session 2: An Overview



In the last session we looked at some history and how scenarios have been used
In this session we are going to look at types of scenarios and their different uses
We are going to consider how each of them might be used in the context of
Grenada

Let's just remind ourselves of some of the things we went through during the last sessions

<https://www.youtube.com/watch?v=bBSNZC7Todo>

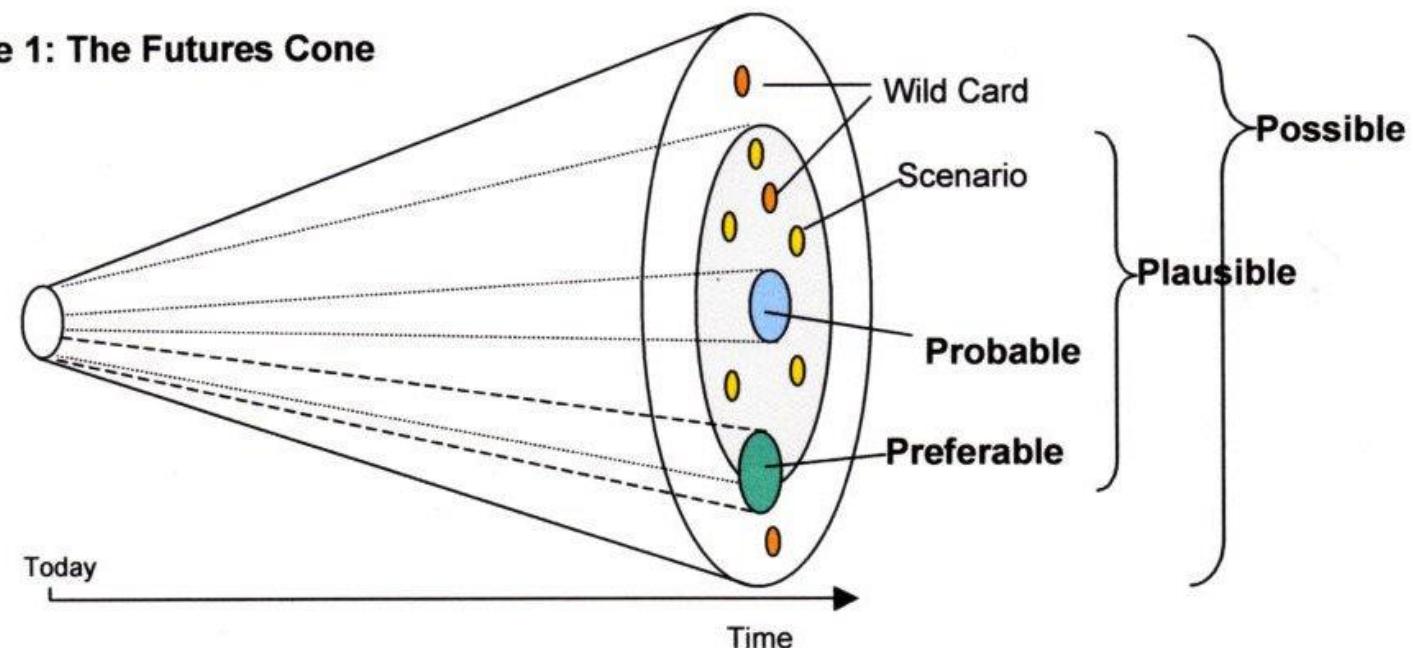
So what types of future are there?

A taxonomy of potential alternative futures

It can be useful to consider four classes of potential alternative futures:

1. Possible
2. Plausible
3. Probable
4. Preferable

Figure 1: The Futures Cone



(Source: adapted from Hancock & Bezold 1994).

(Adapted from J. Voros, 2001)

<https://thevoroscope.com/publications/foresight-primer/>

Possible futures

- Includes all the kinds of futures we can possibly imagine – those which ‘*might* happen’ – no matter how far-fetched, unlikely or ‘way out’. They might, as a result, involve knowledge which we do not yet possess (the ‘warp drive’ of *Star Trek* is a good example), or might also involve transgressions of currently-accepted physical laws or principles.
- Can be characterised as being reliant on the existence of some *future knowledge* that we do not yet possess, for it to come about.

Plausible futures

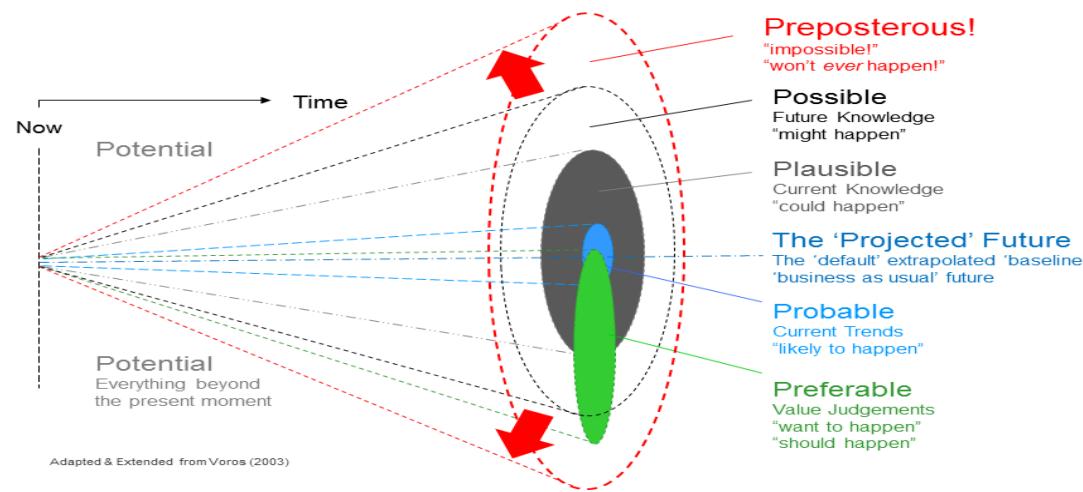
- Futures which '*could*' happen according to our *current* knowledge of how things work.
- Based on our current understanding of physical laws, processes, causation, systems of human interaction, etc. They are a smaller subset of futures than the Possible.

Probable futures

- Futures which are considered 'likely to happen', and stem in part from the continuance of *current trends*.
- Some probable futures are considered more likely than others; the one considered most likely is often called 'business-as-usual'. It is a simple linear extension of the present.
- However, trends are not necessarily continuous over long periods of time, and discontinuities in the trends may occur. Some trends may fade out suddenly, while new ones may emerge unexpectedly.
- Just using trends gives rise to a *much smaller* class of futures than the previous two

Preferred futures

- Preferred futures are concerned with what we ‘want to’ happen; in other words, these futures are largely *emotional* rather than cognitive.
- Based on *value judgements*, and are more subjective than the previous three classes.
- Because values differ so markedly between people, this class of futures is quite varied.
- Preferable (or *preferred*) futures can be in any of the previous three classes



Approaches to Scenario Building

- The choice of the type of approach depends on the questions as well as the scope and scale of analysis.
- There are two main approaches used to identify relevant drivers and to construct the scenarios:
 - Expert-based
 - Participatory-based
- Based on the scenario assumptions, different types of tools may be used to quantify the drivers and their impacts

Expert-based Approaches

- All scenario construction implicitly involves some degree of expert opinion
- Formal expert-based scenario development entails identifying and eliciting information from multiple experts, either individually or in a group
- Expert-based approaches are particularly valuable for translating a perceptual model (i.e. qualitative understanding) into a formal model (i.e. mathematical representation)
- Limitations include:
 - Subjective choices and value laden assumptions related to disciplinary backgrounds
 - Susceptible to scientific uncertainties
- Experts can also be stakeholders

Participatory approaches

- Participatory approaches to scenario development consist of involving a larger group of stakeholders through workshops or other formal meetings to share ideas and ultimately develop scenarios based on their collective knowledge
- Benefits from mobilising local and indigenous expertise, as well as enabling participation and better informing local stakeholders
- Challenges include the limited understanding of relevant issues – in particular the influence of external factors and inter-scale interactions
- Difficulty in translating qualitative data into quantitative inputs

Discussion points

- What do you think the strengths and weakness of each approach might be
- Can you think of techniques which we might use to elicit information

FOCUS

Discussion:

What might be an overarching question/issue regarding Grenada's biodiversity and ecosystem services. Formulating this will assist in:

- The development of scenarios
- The exploration of Policy Options and Implications

So, what do you think the focus of the future foresight scenarios might be?

In your group brainstorm ideas and then try to synthesis them down to one or two Key Questions.

Focus – what are the scenarios about

- Scenario building must have a purpose – there is a question/issue that needs to be addressed
 - Scenarios are a way of going about answering the question or addressing the issue.
- The process starts by identifying our objective(s) of the exercise that will benefit from the use of future scenarios and the mapping of potential impacts.
- Agree on the focus because everything builds around it
- One way is to formulate questions and iteratively discuss and agree
 - Give direction as to the drivers and their influences
 - Give direction as to the range of policy options
 - Assists in identifying critical uncertainties



Types of scenario

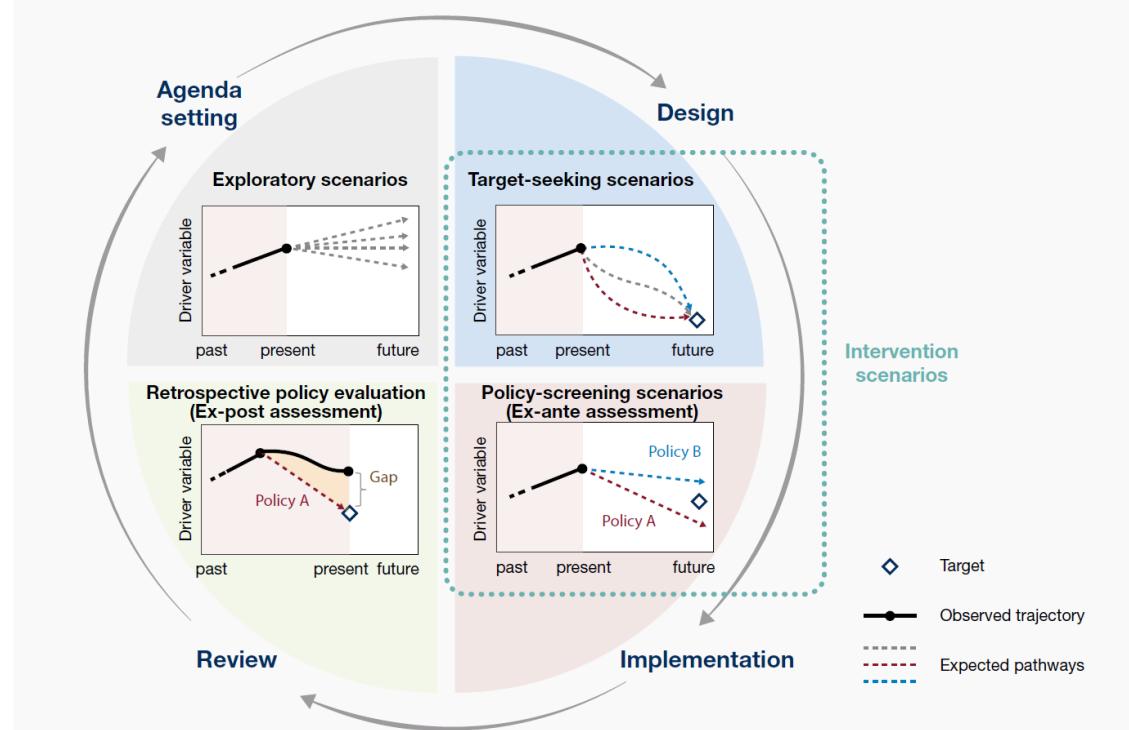
Scenarios may be thought of as fitting into one of four types, depending on how they are to be used in decision-making:

- Exploratory scenarios
- Target seeking (back-casting)
- Ex Ante scenarios (policy screening scenarios)
- Ex Post scenarios (retrospective policy assessment)

Scenario construction is a valuable endeavour when attempting to construct possible futures in the context of uncertainties, particularly when ecological outcomes are highly contingent on indirect drivers such as economic growth and demography.

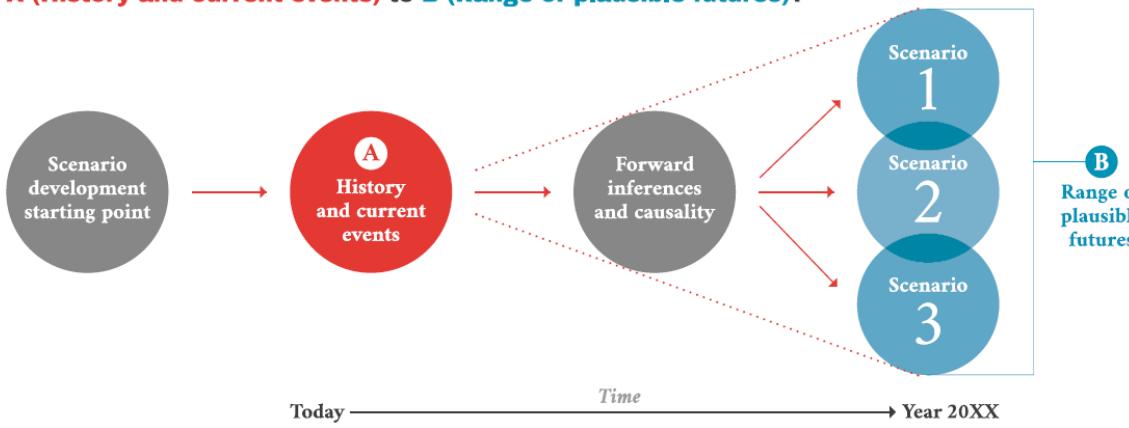
FIGURE 3.2

Building scenarios of indirect and direct drivers within the policy cycle context for biodiversity and ecosystem services.

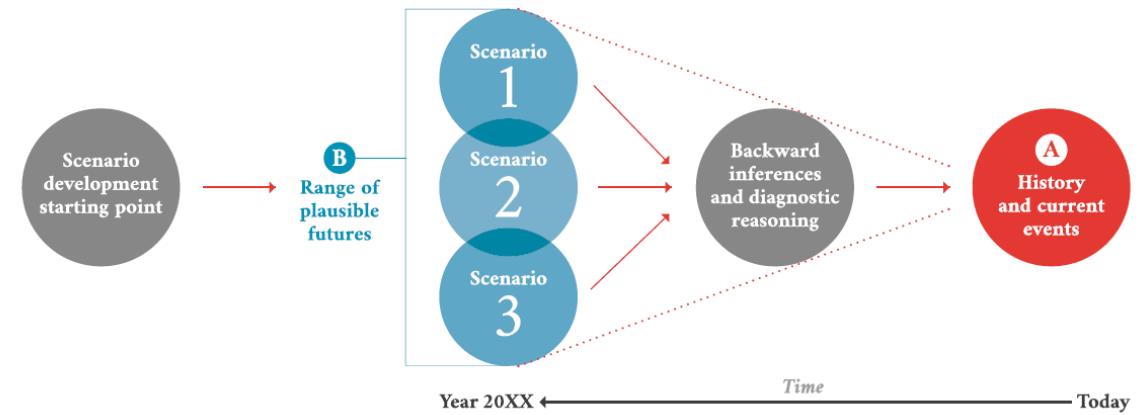


IPBES (2016): Summary for policymakers of the methodological assessment report on scenarios and models of biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.
S. Ferrier, K. N. Ninan, P. Leadley, R. Alkemade, L. A. Acosta, H. R. Akçakaya, L. Brotons, W. W. L. Cheung, V. Christensen, K. A. Harhash, J. Kabubo-Mariara, C. Lundquist, M. Obersteiner, H. M. Pereira, G. Peterson, R. Pichs-Madruga, N. H. Ravindranath, C. Rondinini, B. A. Wintle (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany. 32 pages.

How might events unfold within the scenario time frame to get us from A (History and current events) to B (Range of plausible futures)?



What must have happened during the scenario time frame to get us to B (Range of plausible futures) from A (History and current events)?



Comparing scenario types

TABLE 3.1

Combining scenario approaches and policy objectives

Approaches for using scenarios	Brief summary	Relevance for policy making processes	Role of indirect and direct drivers	Examples
EXPLORING alternative futures by using exploratory (descriptive) scenarios	Based on plausible alternative futures built on extrapolations of past trends and new assumptions	Creates awareness of future policy challenges and agenda setting. Assumes the absence of explicit policy intervention	Projections of indirect drivers and their effects on direct drivers	IPCC SRES, 2000; Global Environment Outlook (GEO)/UNEP; Millennium Ecosystem Assessment (MA), including from global to local applications
INTERVENTION: Using target-seeking scenarios (normative scenarios)	Starts with a prescriptive vision of the future and then works backward in time to visualise different pathways of achieving this future target	Policy Prescriptive Identifies the conditions necessary to achieve the desired target	Identification of driver values consistent with the desired target	IPCC Representative Concentration Pathways (RCPs) (Van Vuuren et al., 2011). VOLANTE European VISIONS on sustainable land use (Pedroli et al., 2015)
INTERVENTION: Policy screening using ex-ante assessment	Depicts the future effects of environmental policies	Policy Screening and impact assessment of alternative policy options before implementation	Driver projections are used as reference for policy options	The Strategic Environmental Assessment of the European Union (SEA Directive, 2001). Assessment of biofuel policies on direct and indirect land use change (e.g. Moser and Mußhoff, 2015)
POLICY EVALUATION using ex-post assessment	Looks backward to analyse the gap between environmental policy objectives and actual policy results, after using counterfactual scenarios	Reactive Policy Assessment Post hoc evaluation of policy effectiveness	Identification of drivers explaining discrepancies of outputs	For assessing forest loss within and outside protected areas (monitoring the success of protected areas) (Joppa and Pfaff, 2010)

Quiz time

Question: What do the following terms mean to you?

1. Ex post
2. Normative
3. Ex ante

Ex Post scenarios

- Ex-post assessments are the present evaluations of past efforts to achieve policy goals throughout all stages of the policy cycle and decision-making context
- Ex-post assessments can be based on the straightforward monitoring of variables of interest as well as on a comparison of the achieved change or status with the original targets and the anticipated impacts of the implemented measures

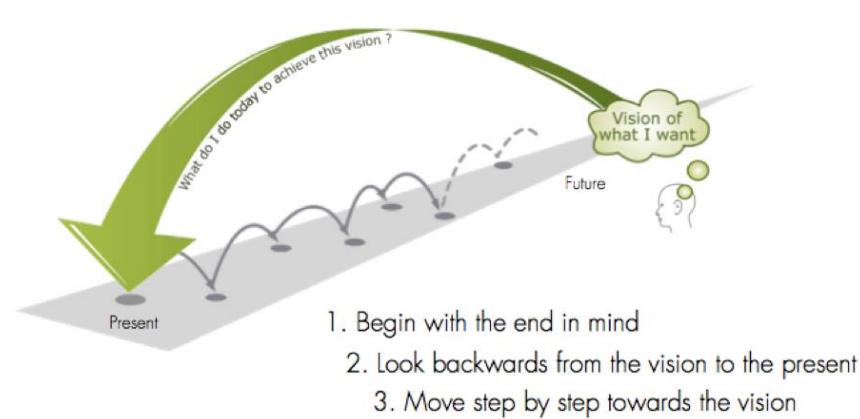


Ex Ante scenarios

- Ex-ante assessment is a proactive approach, oriented to identify and address potential effects of environmental policies
- Ex-ante assessments use policy-screening scenarios to forecast the effects of alternative policy or management options (interventions) on environmental outcomes
- Ex-ante assessment usually starts in the very early stages of a policy formulation and design
- May contribute to the social acceptance of policies by anticipating and addressing conflicting objectives and adverse effects
- Assessment may include expert considerations and consultations with relevant stakeholders
- Similar to EIAs and SEAs

Target seeking scenarios

- There is an agreed end point and the definition of a clear set of objectives that can either be specified in terms of achievable targets (e.g. in terms of the extent of natural habitats remaining, or of food production self-sufficiency) or as an objective function to be optimised (e.g. minimal biodiversity loss)
- Target-seeking scenarios can also be thought of as 'normative scenarios'
- Analyses, such as back-casting approaches, allows for the identification of multiple potential pathways to a desired future vision
- Target-seeking scenarios are a valuable tool for examining the viability and effectiveness of alternative pathways to a desired outcome
- This type of scenario helps to develop targets and indicators for the future and assists with the design of policies





Exploratory scenarios

- Raises awareness of future policy challenges to inform agenda setting
- Applicable where specific policy responses are being considered and/or the nature of the problem to be addressed is unclear
- Can have strong qualitative and quantitative components and are often combined with participatory approaches involving local and regional stakeholders
- Frequently employ a co-evolutionary approach through the use of matrices where the projection of divergent futures is based on changes in the indirect and direct driver assumptions
- Flexibility to construct storylines (conducive to greater creativity), coverage over a wide range of outcomes
- Applied to problem areas where specific policy responses have yet to be formulated or the nature of the problem remains unclear, hence relevant in the agenda-setting stage of the policy cycle
- Utilised for climate change projections and were used in IPCC assessments

Normative (target seeking) versus Exploratory

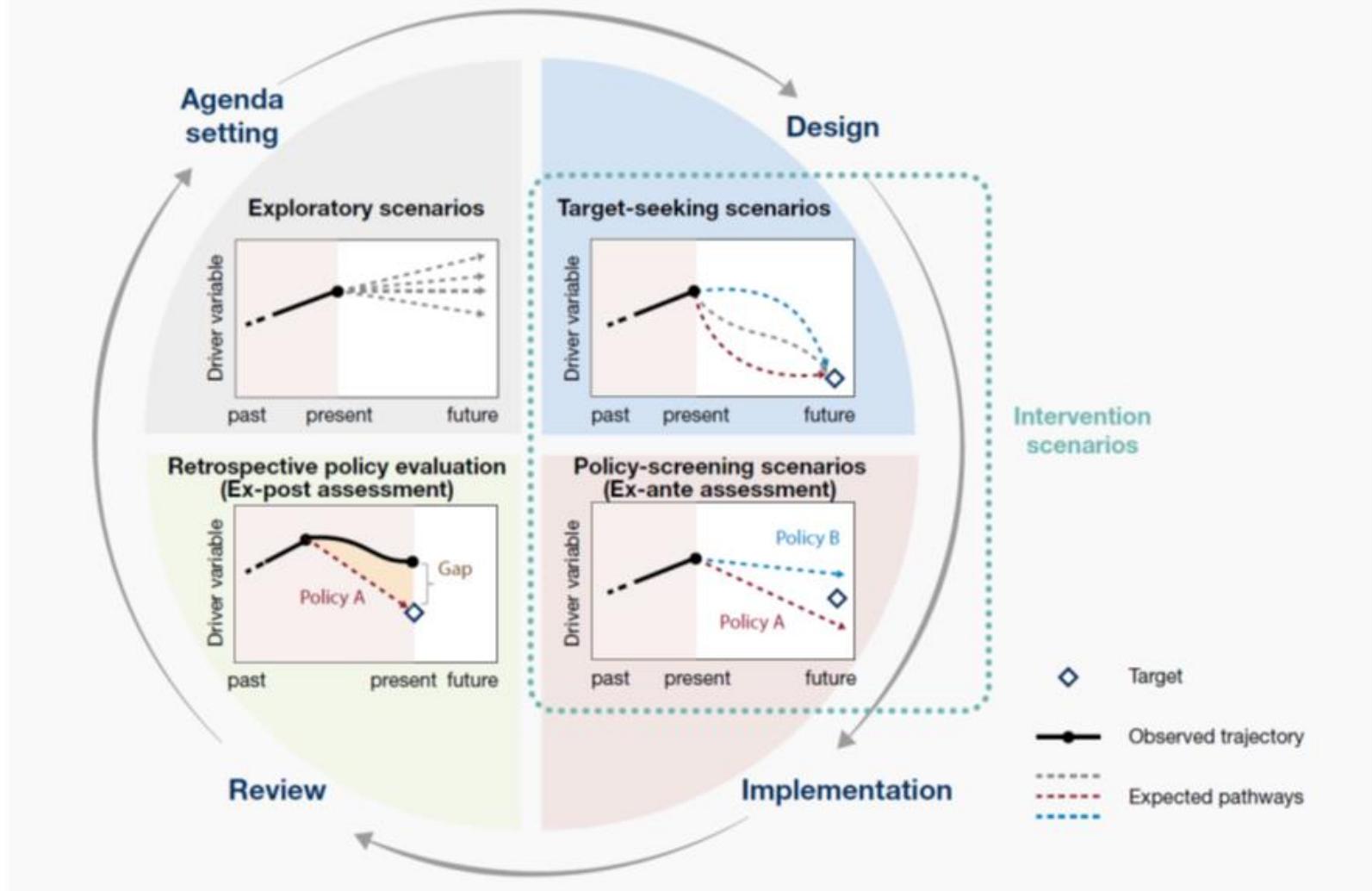
For a fuller exploration watch this video

<https://www.youtube.com/watch?v=YLmopM2xxtk>

FIGURE 3.2

Building scenarios of indirect and direct drivers within the policy cycle context for biodiversity and ecosystem services.

So just to recall



Over to you – time for your thoughts

In Break-out groups:

1. What do you think of the four different approaches,
2. How do you think the future of Ecosystem Services and Biodiversity would benefit from them
3. How might they inform the path towards the Sustainable Development Goals?

Choose some one to report back to the session.

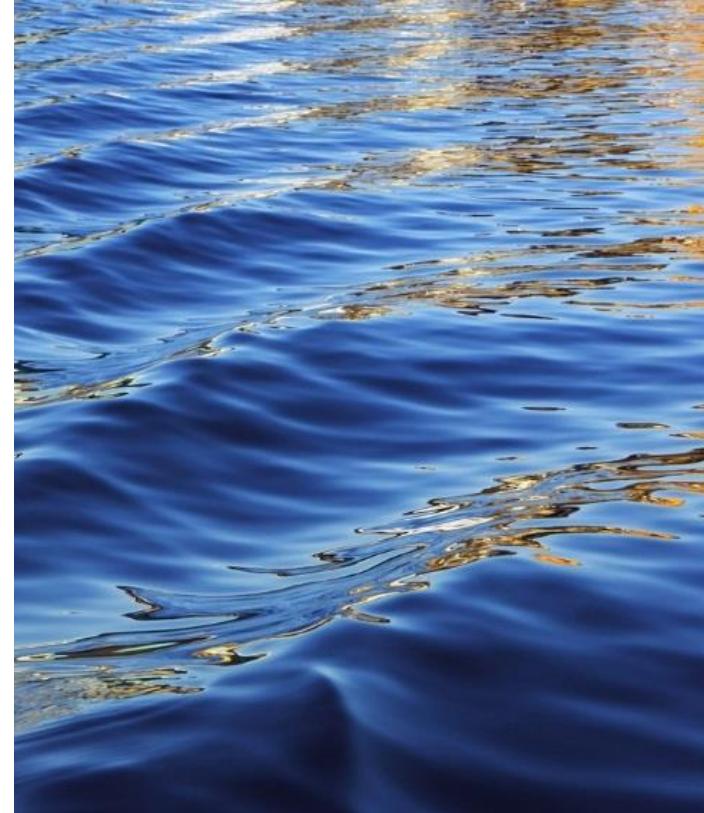
Lets have a look at a set of scenarios

<https://www.youtube.com/watch?v=bQGVYhrEHBE>

What do you think of this – this is a global set of scenarios, what do you think a 'downscaled to Grenada' version might look like?

Recap

- Looked at the taxonomy of futures
- Considered ways of going about constructing scenarios
- Introduced 4 approaches



That's all folks