



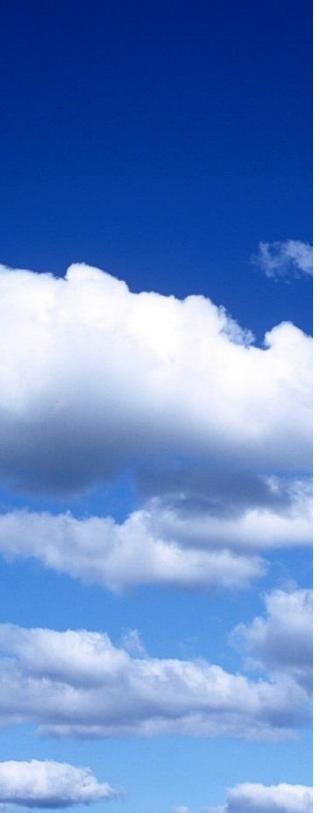
# Grenada National Ecosystem Assessment (NEA) Training Series on Foresight Scenarios

Session 1 – Introduction to Foresight Scenarios

Facilitated by Dr. Adrian Cashman

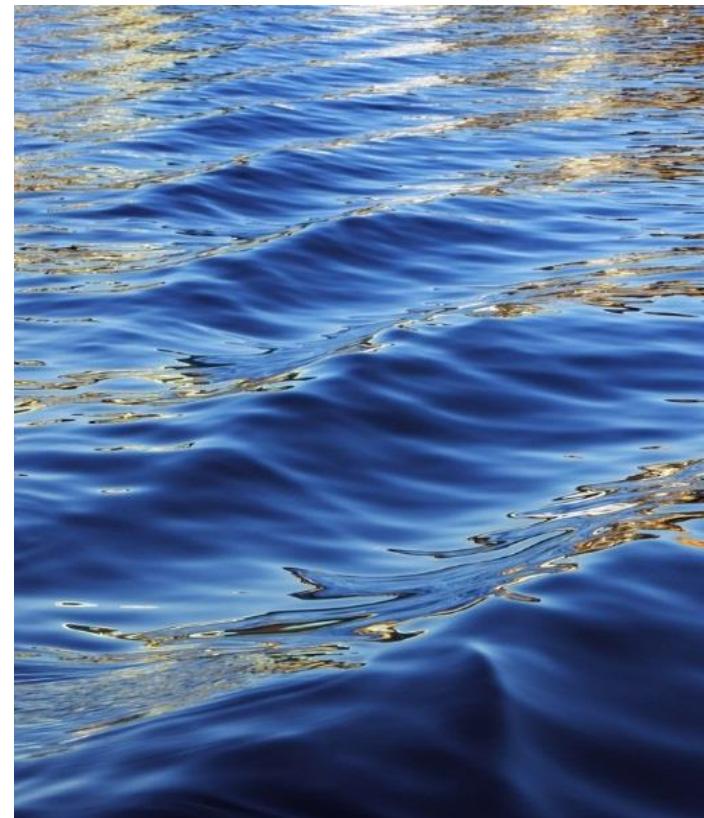
16<sup>th</sup> August 2021





# Foresight Scenarios

Session 1: An Introduction



<https://www.youtube.com/watch?v=R4xf5oaUxaE>

**Does anyone remember the story lines of the film  
Back to the Future I, II & III ?**

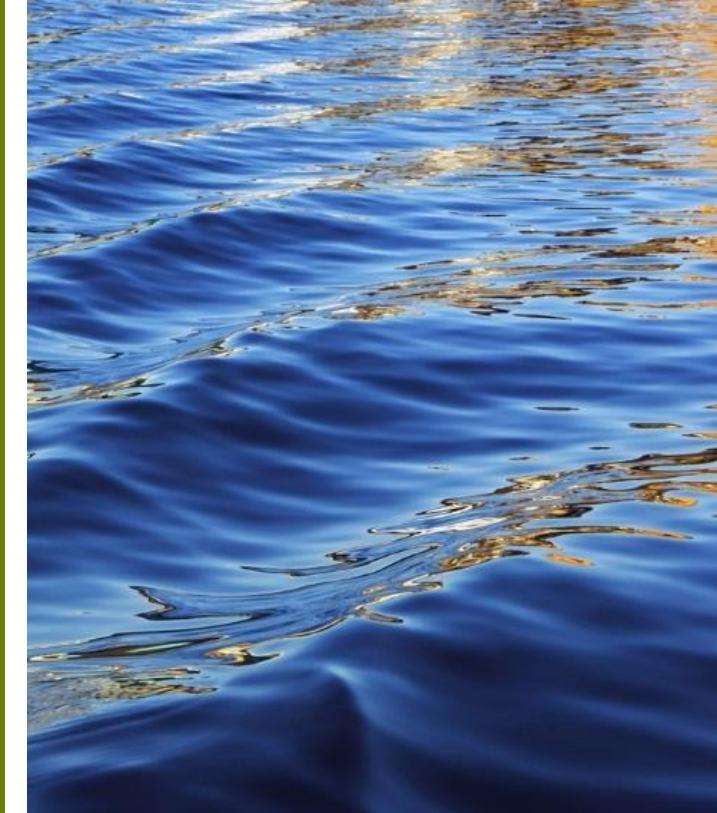
# **Session 1: An Overview**

- Purpose
- A short history
- What are scenarios
- Why use them

**We may not be able to know the future – but we can imagine it.**

# Purpose

- To provide you with an introduction to what scenarios are about
- Understand some of the terminology
- What they can and cannot do
- Why you should consider using Foresight Scenarios



# First some history

## A short history - 1

There is general agreement that the practice of using foresight scenarios started seriously at the RAND Corporation in the 1950's – building on advances in military planning developed during World War II.

The RAND Corporation was set up to research new forms of weapons technology. RAND's Hermann Kahn used the technique – adopting the term scenarios from the cinema (instead of the less serious 'screen play') – to produce detailed analyses written as if it written by people living in the future; communicating about the future through stories told in the future. It was used, for example, to analyse the relationship between weapons development and military strategy.

Around the same time Stanford University set up the Stanford Research Institute (SRI), to offer long-range thinking for business incorporating operations research, economics and political strategy alongside hard science and military consulting.

## A short history - 2

In the 1960's there was a shift in emphasis as interest grew in how to plan for changes in society - in the USA this was spurred by upheavals resulting from the Vietnam War.

One example was the Office of Education, which was interested in what changes should be made to the education system considering possible societal changes – 5 scenarios were developed only one of which followed the 'official' line.

SRI also did work for the Environmental Protection Agency, creating 10 to 12 scenarios of the future.

At around the same time companies like Shell, Corning, IBM and General Motors were introduced to future scenario thinking.

In the 1970's there was the work of the Club of Rome model looking at interconnections between population, food production, industrial production, pollution, and natural resources, published later as the "Limits to Growth"

## A short history - 3

The next land mark was the story of Royal Dutch Shell and the Oil Crisis of 1973-74. Between 1969 -1970 Shell set up a study to look its position to the year 2000. This suggested at some point power would shift from oil companies to oil producers in the Middle East and could create major increases in oil prices – it didn't say when though.

The company took this on board and planned accordingly. As a result Shell weather the Oil Crises better than other oil companies. By the late 1970's scenario planning was adopted by a significant fraction of the Fortune 1000 companies, based on a variety of techniques. Many of these used multiple scenarios.

After the 1970's there was a fall off interests with though from the later 1980's onwards there has been growing interest and application to fields well beyond business applications.

Pierre Wack

## A short history - 4

Scenarios have been used to guide government policy and plans. In 1991-1992, the Republic of South Africa (RSA) engaged a team from Shell to help them envision the future of RSA post-apartheid. Four scenarios were developed and then reverse engineered the decisions required along the way to achieve the future state most preferred by all stakeholders.

From 2000 onwards there has been a proliferation of foresight studies. The UK Government uses future tools and techniques to support policy making – it has produced 32 Foresight Reports since 2003

Other examples include:

- The Millennium Ecosystems Assessment which draws on global scenarios
- The Representative Concentration Pathways (RCP) adopted by the Inter-Governmental Panel on Climate Change (IPCC)
- The International Panel on Biodiversity and Ecosystem Services' (IPBES) Regional assessment report on biodiversity and ecosystem services for Europe and Central Asia

- In the 2000's Foresight was redefined as "the application of 'systematic', 'participatory', 'future intelligence-gathering and medium-to-long-term vision building process' to 'informing present day decisions and mobilising joint actions' (Miles and Keenan, 2002)".
- Summarising the changes over time



<b>Organisation</b>	Centrally managed one single exercise	Centrally managed one single exercise	Centrally managed one single exercise	Distributed Foresight exercises on the landscape
<b>Breadth</b>	Holistic (entire spectrum of fields) or macro-level (a number of fields)	Holistic (entire spectrum of fields) or macro-level (a number of fields)	Holistic (entire spectrum of fields) or macro-level (a number of fields)	Usually meso-level (single scientific field) or micro (project) level
<b>Level</b>	National level exercises	National level exercises	National and/or regional level exercises	Multi-level exercises (e.g. at research institute and/or corporate levels)
<b>Coverage</b>	Mainly technology forecasts	Combines technology and market perspectives	Integrates technology, markets and the social perspectives	Covers all kinds of systems (e.g. science, technology, markets, society or ecology)
<b>Focus</b>	Disciplinary taxonomies of science and engineering	Industrial and service sectors	Thematic focus, reflecting socio-economic problems	Multiple focuses
<b>Methods</b>	Creative and consultative methods, i.e. Delphi, scenario, brainstorming, panels	Combination of creative, consultative methods, i.e. Delphi, scenario, brainstorming, panels	Combination of creative, consultative methods, i.e. Delphi, scenario, brainstorming, panels	Combination of creative, consultative methods, e.g. Delphi, scenario, brainstorming, panels
<b>Actors</b>	Technological experts and even professional futurologists	Actors from academia, industry and scientific bodies of government	Social stakeholders are also involved, other government institutions on health, safety and the environment	Science base, government departments, and research councils – can be anyone

Table 1: evolution of Foresight practice and characteristics  
Source: Saritas (2006)

In Break-out Groups - discuss

**What might be the difference between  
Forecasts/Projections and Future Foresight Scenarios?**

# So what are scenarios - a Glossary

Terms used:

- Foresight – is a structured and systematic way of generating ideas about the future to anticipate and better prepare for change. It is about exploring different plausible futures, and the opportunities and challenges they could present. The objective is not to ‘get the future right’, but to expand and reframe the range of plausible developments. A longer-term tool incorporating uncertainty.
- Scenarios – are manifestations/descriptions of plausible future states which differ from each other in fundamental ways in responding to a set of drivers.
- Scenario planning - explores the uncertainty inherent in looking at the long-term future through scenarios. Allows the exploration of alternative responses to the key guiding question.
- Forecasting/Projections – assumes that the future looks much like it does today, does not anticipate significant shifts, uses quantitative inputs and methodology to predict what will, or should, happen by interpreting historical data. A shorter-term tool based on known variables in the system.

# Forecasts vs. Scenarios

	Forecasting	Scenarios
Purpose	<p>Prediction of the future based on past historical information and trends</p> <p>Planning for one future</p>	<p>Thinking process to consider potential futures based on risks and uncertainties</p> <p>Planning for multiple futures</p>
Certainty	Probable	Plausible
Information type	Quantitative	Qualitative & Quantitative
Risks & Uncertainty	<p>Does not factor in risks and uncertainties, focuses on certainties</p>	Considers risks and uncertainties
Testing	Can be tested for accuracy.	Difficult to test
Theoretical Basis	<p>Based on theoretical models and statistics</p> <p>Future can be predicted</p>	<p>Based on relationships and causality</p> <p>Future is unpredictable</p>
Stakeholder Engagement	Narrow, stakeholders involved in the process	Wide set of stakeholders involved in the process
Objectivity	Objective – fact based	Subjective – assumptions
Horizon	Short term perspective	Long term perspective
Repeatability	Results can be replicated	Unique representations

# A quick overview of foresight

<https://www.youtube.com/watch?v=OytuOl6X6Y>

# The future is uncertain

- Coping with uncertainty is a major challenge so how do we make decisions about the future in the face of the complex interaction of social, economic, environmental and political changes?
- The complexity suggests that there linear and non-linear connections and interdependencies, a change in any one of which can lead to very different outcomes.
- Foresight Scenario thinking provides a structured process of thinking about and anticipating the unknown future, without claiming to predict the future or even influence the environment in a major way.
- The approach is to think and plan for future developments instead of waiting for them to happen

# Aims of Foresight Scenario thinking include

:

- Exploring the interrelationships between multiple factors in terms of cause/effect and chronology and to realize the possibilities are not endless
- Understanding that whilst the future is largely unpredictable and unknown, it is also knowable and understandable to a certain degree
- Provide a framework for better informed decision-making
- Analysing the relationships between the critical uncertainties, important trends and the behavior of actors who have a stake in the particular future
- Foresight Scenario thinking starts by asking questions about the future and what if questions:

# Discussion

Can you think of some 'What if' Questions that might affect Grenada?

# Why would you adopt a Foresight scenarios approach?

- Scenarios provide a useful means to understand the dynamics underpinning different potential trajectories of future development. By incorporating future uncertainty this can help decision makers design policies and actions addressing the impacts of global and local.
- It's a systematic and purposeful processes of future-oriented deliberation with a view to identifying actions to be taken today for a better future tomorrow.
- Provides a space for deliberation and strategic conversations between actors to create a pool of knowledge and analyses to inform debates and to provide a resource for others (decision-makers) to use.
- Foresight time horizons are usually beyond the normal planning horizon but can vary depending on the issue. Time horizon can be up to 50 years.

# Discussion

What do you think might be some of the outcomes from a Future Foresight approach?

(hint: Improve policy implementation)

# When considering using a Foresight scenarios approach

- We need to be clear as to why we are doing this
  - What are the problems and challenges to be addressed
  - Do we think a Foresight approach can help to address these
- So we would need to have clear and shared objectives.
- Rationale - the need to create of visions and/or set priorities
- Foresight scenarios are not the solution to everything, we need to be realistic as to what they can and cannot achieve

In thinking about Future Foresights we need to distinguish between:

- Predictable variability and trends - normal variability around an average e.g. wet & dry seasons
- Unpredictable random events - can be anticipated and prepared for though timing is not known e.g. volcanic eruptions, droughts
- Uncertain long-term phenomena - this is truly uncertain, dynamics not understood e.g. technological change, climate change

# Strengths

Foresight scenarios:

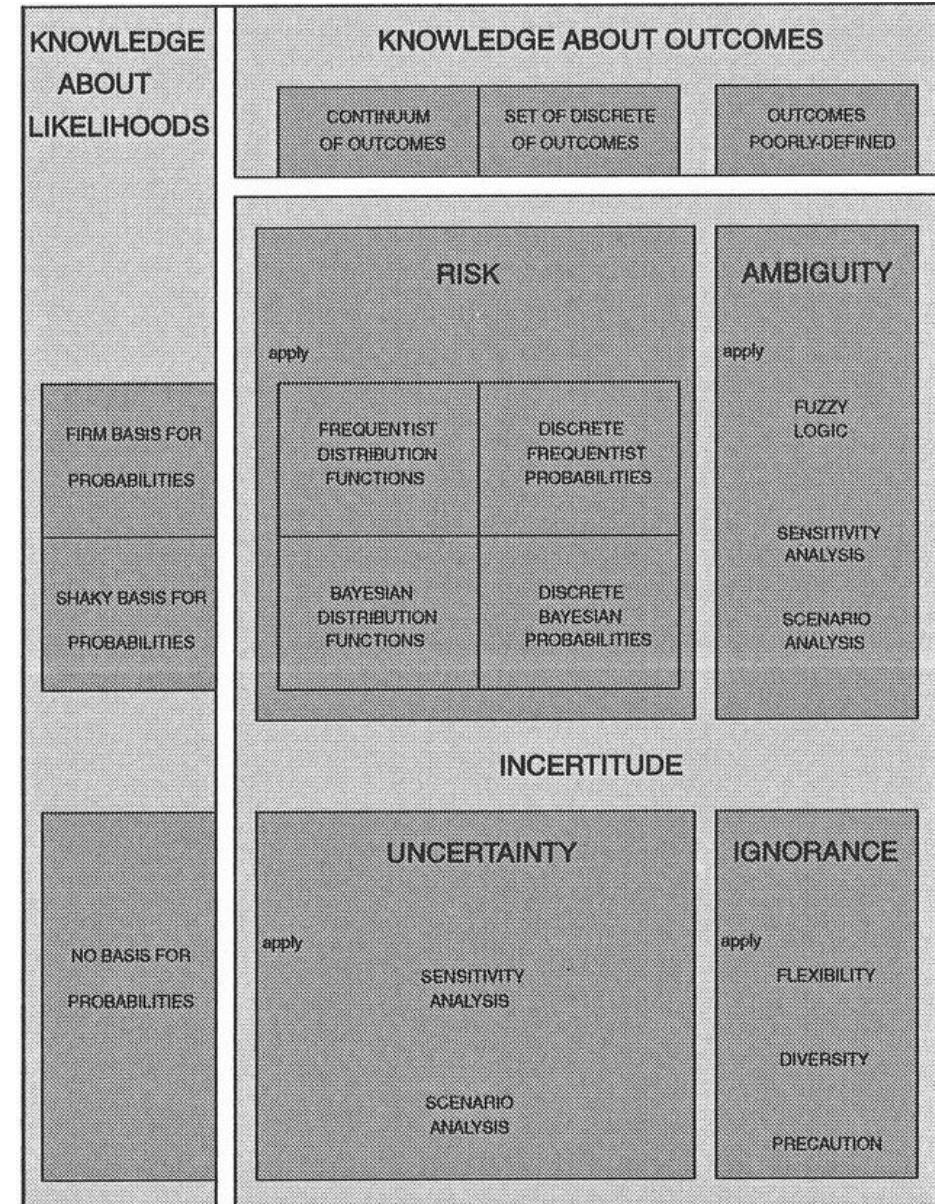
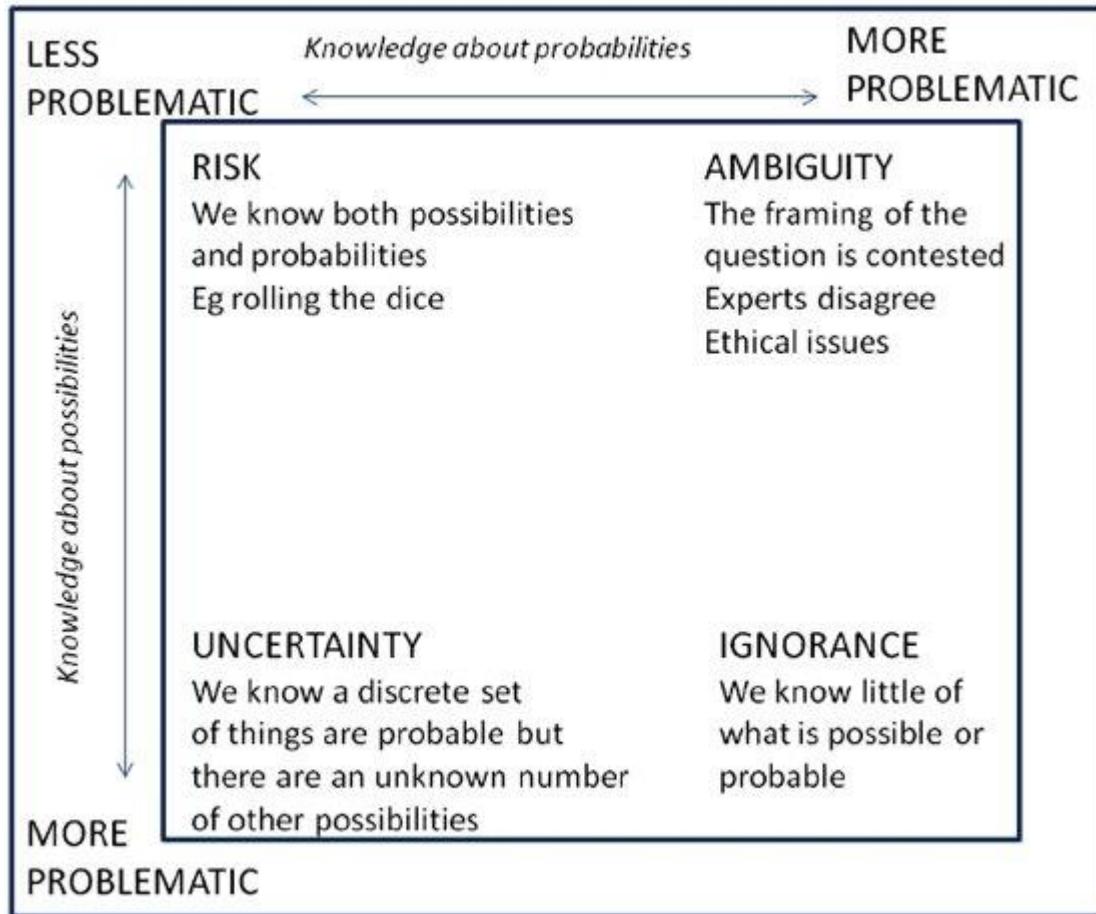
- Respect differences and encourage multiple perspectives;
- Combine quantitative and qualitative knowledge;
- Combine different fields of knowledge and ways of knowing;
- Reframe questions across disciplines;
- Project the future as “full of possibilities”; and
- Are based on collaborative conversations

# Dimensions

Consider:

- Geographic scale
- Domain - economic, social, environmental, technological
- Who needs to be engaged
- How are we building collective learning

# Stirling's matrix of unknowns



# When can we use Foresight Scenario Planning?

- As we have seen, scenarios can help planning and decision-making by describing future conditions in which a system may have to operate, as defined by sets of distinct hypotheses on key variables that affect the development of the system.
- When we need to challenge the idea that the future will be a continuation of the past
- Scenarios show opportunities to set interventions today because it shows what happened in the past and the possibilities in the future.
- Emphasis on creativity and thinking the unthinkable

# When to use Foresight Scenario approaches

There are six typical questions that you can ask to help identify whether scenario approaches or forecasting will be more effective:

- Is the future uncertain and unpredictable, or certain and predictable?
- Are one or multiple futures more likely?
- Is the focus on qualitative or quantitative analysis?
- Are we looking for an objective, fact-based discussion with stakeholders or a subjective, wider-ranging discussion?
- Are we looking for a shorter-term or longer-term perspective on the future?
- Can the analysis results be replicated on an ongoing basis, or are they a one-time representation of unique information?

# Quiz

## Question 1

The purpose of developing scenarios is to help organisations predict unknown futures (True / False?)

## Question 2

Scenario planning can be characterised as a systematic, analytical and rational approach (True / False?)

## Question 3

Scenarios are designed for the long-term and are not designed for immediate decision-making (True/False?)

# Quiz - Answers

## Question 1

The purpose of developing scenarios is to help organisations predict unknown futures

True - Incorrect.

Scenarios are not used to predict the future. They are more like mental models that give insight and understanding to aid decision-making in the event that a future scenario was to come to pass. Scenarios help answer questions such as : What will we do now, if that future happened?

False – Correct

Scenarios are tools to help better understand the forces that might have an impact on the future so that we can prepare should these materialise. They are not intended to predict, especially as usually we develop multiple story- lines.

# Quiz - Answers

## Question 2

Scenario planning can be characterised as a systematic, analytical and rational approach.

True - Incorrect.

Systematic and analytical approaches, as favoured by planners, are not suited to generating plausible descriptions of alternate futures.

False – Correct

Scenario is more of an art than a science. It is a creative process which generates alternative but compelling views of alternative futures which are usually significantly different from the past.

# Quiz - Answers

## Question 3

Scenarios are designed for the long-term and are not designed for immediate decision-making

True - Incorrect.

Scenarios are designed for the long term – using plausible alternatives and they provide decision-makers with a better understanding of the world around them and the main drivers of change. This can be used for decisions for immediate implementation resulting in more effective choices because, future alternatives are ‘known’.

False – Correct

Scenarios will not be effective or worth the effort unless alternatives for the future are translated into decisions in the real world.

## Why use scenarios – making the case

[https://www.youtube.com/watch?v=yVgxZnRT54E&feature=emb\\_imp\\_woyt](https://www.youtube.com/watch?v=yVgxZnRT54E&feature=emb_imp_woyt)

Are you convinced?  
What questions do you have?

# Characteristics of a good scenario and limitations of its use

Good scenarios:

- Are based on analysis of change drivers
- Enable critical uncertainties and predetermined elements to be distinguished
- Are credible and compelling
- Are internally logical and consistent.

Scenarios will not:

- Make the decisions
- Begin an unstoppable course of action
- Ever be entirely right (although elements of each scenario could be)
- Persuade everybody.

# Examples

- A major retailer in Barbados commissioned a Foresight study on what sector might look like in 2030
- This is what they said:

**DESTINED TO FAIL**

**BY 2030:**

- Supermarkets
- Post Offices
  - Banks
- Bookstores
- Dept. Stores
- Boutiques
- Toy shops
- Newsagents

# Examples

## US spies peer into the future - and it doesn't look good

By Gordon Corera  
Security correspondent



The US Intelligence Community has issued a survey of where the world may end up in 2040.

It warns of a political volatility and growing international competition or even conflict.

The report entitled A More Contested World is an attempt to look at key trends and outlines a series of possible scenarios.

It is the seventh such report with one coming every four years since 1997 from the National Intelligence Council.

The Global Trends 2040 report does not make comfortable reading if you are a political leader or international diplomat - or hope to be one in the coming years.

The latest attempt by the US National Intelligence Council to understand what may happen within and between countries points to uncertainty and instability. It firstly focuses on the key factors driving change.

## STRUCTURAL FORCES

### DEMOGRAPHICS AND HUMAN DEVELOPMENT

Slowing global population growth and a rising median age will help some developing economies, but rapidly aging and contracting populations will weigh on many developed economies. Decades of progress in education, health, and poverty reduction will be difficult to build on or even sustain. Pressure for migration is likely to increase.

### ENVIRONMENT

Climate change will increasingly exacerbate risks to human and national security and force states to make hard choices and tradeoffs. The burdens will be unevenly distributed, heightening competition, contributing to instability, straining military readiness, and encouraging political movements.

### ECONOMICS

Several global economic trends, including rising national debt, a more complex and fragmented trading environment, the global spread of trade in services, new employment disruptions, and the continued rise of powerful firms, are shaping conditions within and between states. Calls for more planning and regulation will intensify, particularly of large platform, e-commerce corporations.

### TECHNOLOGY

The pace and reach of technological developments will increase, transforming human experiences and capabilities while creating new tensions and disruptions for all actors. Global competition for the core elements of technology supremacy will increase. Spin off technologies and applications will enable rapid adoption.

## EMERGING DYNAMICS

### SOCIAL

Many populations are increasingly pessimistic and distrustful as they struggle to deal with disruptive economic, technological, and demographic trends. Newly prominent identities, resurgent established allegiances, and a siloed information environment are exposing fault lines within communities and states, undermining civic nationalism, and increasing volatility. Populations are more informed and have greater ability to express their demands.

### STATE

Governments will face mounting pressures from the combination of economic constraints; demographic, environmental, and other challenges; and more empowered populations. A growing gap between public demands and what governments can deliver will raise tensions, increase political volatility, and threaten democracy. The mismatch may also spur new or shifting sources and models of governance.

### INTERNATIONAL

Power in the international system will evolve to include a broader set of sources, but no single state is likely to be positioned to dominate across all regions or domains. The United States and China will have the greatest influence on global dynamics, forcing starker choices on other actors, increasing jockeying over global norms, rules, and institutions, and heightening the risk of interstate conflict.

## SCENARIOS FOR 2040

### RENAISSANCE OF DEMOCRACIES

The world is in the midst of a resurgence of open democracies led by the United States and its allies. Rapid technological advancements fostered by public-private partnerships in the United States and other democratic societies are transforming the global economy, raising incomes, and improving the quality of life for millions around the globe. In contrast, years of increasing societal controls and monitoring in China and Russia have stifled innovation.

### A WORLD ADRIFF

The international system is directionless, chaotic, and volatile as international rules and institutions are largely ignored. OECD countries are plagued by slower economic growth; widening societal divisions, and political paralysis. China is taking advantage of the West's troubles to expand its international influence. Many global challenges are unaddressed.

### COMPETITIVE COEXISTENCE

The United States and China have prioritized economic growth and restored a robust trading relationship, but this economic interdependence exists alongside competition over political influence, governance models, technological dominance, and strategic advantage. The risk of major war is low, and international cooperation and technological innovation make global problems manageable.

### SEPARATE SILOS

The world is fragmented into several economic and security blocs of varying size and strength, centered on the United States, China, the EU, Russia, and a few regional powers, and focused on self-sufficiency, resiliency, and defense. Information flows within separate cyber-sovereign enclaves, supply chains are reoriented, and international trade is disrupted. Vulnerable developing countries are caught in the middle.

### TRAGEDY AND MOBILIZATION

A global coalition, led by the EU and China working with NGOs and revitalized multilateral institutions, is implementing far-reaching changes designed to address climate change, resource depletion, and poverty following a global food catastrophe caused by climate events and environmental degradation. Richer countries shift to help poorer ones manage the crisis and then transition to low carbon economies through broad aid programs and transfers of advanced energy technologies.

## Watch this video – The World in 2050

- How do you feel about this?
- What do you think the point of it is?
- In what way is this useful?

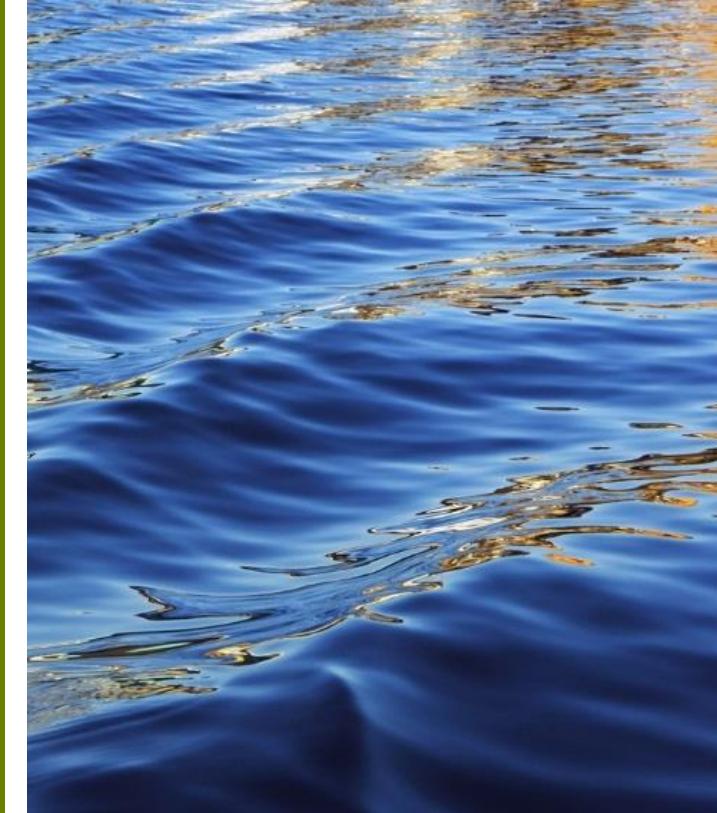
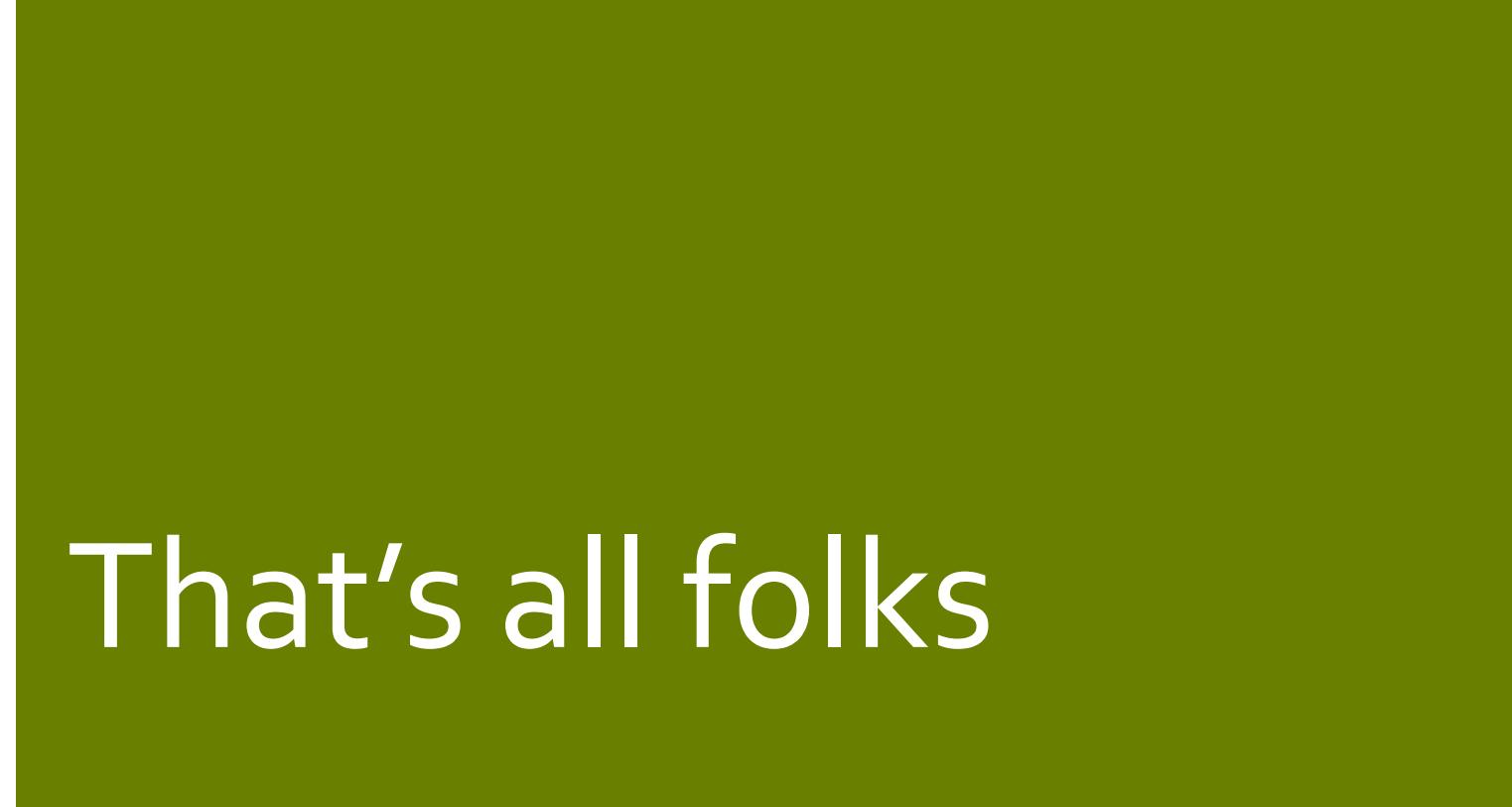
[https://www.youtube.com/watch?v=RNVh\\_HMX2IY](https://www.youtube.com/watch?v=RNVh_HMX2IY)

# Open discussion, questions and comments

# Recap

We have:

- Looked at the history and development of Scenarios and their uses
- Considered the difference between projections/forecasts and scenarios
- Thought about why we might consider a scenario approach and what it could bring
- Looked at some examples



That's all folks