Scenario analysis: what is it and how can it help business deal with climate risk?

Andrew Blau
Managing Director
Deloitte & Touche LLP
London | October 31, 2017
“The gods often contradict our fondest expectations. What we anticipate does not come to pass. What we don't expect, some god finds a way to make happen.”

Euripides, *Medea* 431 BCE
“The impact on the broader economy and financial markets of the problems in the subprime market seems likely to be contained.”

Ben Bernanke
Chairman, Federal Reserve Bank
March 2007
Scientific consensus, business uncertainty

**Market and Technology Shifts**
- Reduced demand for higher-carbon products/commodities?
- New technologies that disrupt markets?

**Physical Risks**
- Increased business interruption and damage across operations and supply chains?

**Policy and Legal**
- What requirements and how consistent at international, national, and state level?
- Threats to securing license to operate for high carbon activities?
- Emerging concern about liabilities?

**Reputation**
- Growing expectations for responsible conduct from stakeholders, including investors, lenders, and consumers?
- Opportunity to *enhance* reputation and brand value?

...and: how much time do we have?

Source: TCFD Technical Supplement, *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, June 2017
Typical responses to uncertainty

Denial
- Oversimplify
- Express false confidence

Paralysis
- Plan for everything
- Wait and see
"Scenarios"—a word used many different ways

**Financial professionals**

“A model that represents the financial operations or financial statements of a company in terms of its business parameters and forecasts future financial performance.”

**Climate modelers**

“Climate models are used with future scenarios of forcing agents (e.g., greenhouse gases and aerosols) as input to make a suite of projected future climate changes that illustrates the possibilities that could lie ahead.”

**Scenario planning professionals**

“Scenario analysis... evaluates a range of hypothetical outcomes by considering a variety of alternative plausible future states (scenarios).”

Sources:

1. NASDAQ, *Financial model definition*, 2011
3. TCFD Technical Supplement, *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, June 2017
Scenarios: A flexible and powerful tool for exploring uncertain futures

• Rich, data-driven stories about tomorrow that can drive better decisions today

• Descriptions of the external environment in which the organization may need to operate

• Hypotheses about the future—not predictions

• Narratives that stretch thinking, challenge conventional wisdom, but are always plausible and logical

• A tool to methodically identify contingencies and the resilience and flexibility of strategy
The essential elements of creating scenarios

1. Use outside-in thinking
2. Embrace diverse perspectives
3. Take the long view

- Contextual environment
- Transactional environment
- Organizational environment
Scenarios are built from the most important uncertainties.

“If a man will begin with certainties, he shall end in doubts, but if he will content to begin with doubts, he shall end in certainties.”

Sir Francis Bacon
*The Advancement of Learning*
The scenario development process
Flexible process, common architecture

1. Focal Question
2. Driving Forces
3. Critical Uncertainties
4. Scenario Frameworks
5. Scenario Narratives
6. Implications & Options
7. Indicators & Signposts
What is the critical issue that would best organize this scenario effort?
The scenario development process

2. Driving Forces

What is the full spectrum of relevant forces in play?
Which of the many uncertainties could affect the focal question most significantly?
How could these critical uncertainties combine to create surprising futures that challenge today’s conventional wisdom?
The scenario development process

1. Focal Question
2. Driving Forces
3. Critical Uncertainties
4. Scenario Frameworks
5. Scenario Narratives
6. Implications & Options
7. Indicators & Signposts

How might these futures plausibly unfold? What could happen that might lead to futures very different from today?
The scenario development process

1. Focal Question
2. Driving Forces
3. Critical Uncertainties
4. Scenario Frameworks
5. Scenario Narratives
6. Implications & Options
7. Indicators & Signposts

What risks to current assumptions emerge, what impacts could they have, and what steps could you take now to prepare?
The scenario development process

What early signals of change should you look for and how will you know when to act?
One example

Scenarios built to explore:

Who will take a leadership role in climate change?

Can and will business be a force for stability?

How will financial markets influence the choices people make?

How can you define, discuss, and make informed choices about tradeoffs?

How can you begin to understand and address system vulnerabilities?

---

**Solidarity in crises**
Investments in relatively well-established mitigation technologies and consumer behavior changes due to more stringent regulations and compulsion.

---

**Kyoto 2.0**
Consumers see gradual issues being solved through policy and regulation. Market prices drive international investment in breakthrough technology.

---

**Survival of the fastest**
Urgent solutions developed to respond to local threats and capabilities. Impatient customers and a media frenzy create bottom-up activist movements.

---

**Many shades of green**
Climate change vies with other issues as a priority for most countries. Consumer behaviors change very slowly.

---

**Perception of response window**
5-10 years

---

**Coherence of global response**

---

**Aligned**

---

**Unaligned**

---
Scenarios allow for a new look at asset values and portfolio valuation

Scenarios allow executives and boards to model the impact of alternative futures on an organization’s strategic and financial value. They help organizations explore questions such as:

- What could happen to our shareholder value if “X” occurred?
- What could be the most costly strategic risks?

ILLUSTRATIVE

Better than expected financial performance
No change in current financial projections
Significant downturn in financial performance
Tapering of financial performance
FRANKENSTEIN;
OR,
THE MODERN PROMETHEUS.

IN THREE VOLUMES.

Did I request thee, Maker, from my clay
To mould me man? Did I solicit thee
From darkness to promote me?—

PARADISE LOST.

VOL. 1.

LONDON:
PRINTED FOR
LACKINGTON, HUGHES, HARDING, MAYOR, & JONES,
FISBURY SQUARE.

1818.
This presentation contains general information only and Deloitte is not, by means of this presentation, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This presentation is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor.

Deloitte shall not be responsible for any loss sustained by any person who relies on this presentation.