



Scenarios as a Tool for the 21st Century

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Probing the Future Conference, Strathclyde University
July 12, 2002



Ged Davis is Vice President, Global Business Environment in Shell International Limited and head of Shell's Scenarios Team. He has been a scenario practitioner for over 20 years, engaged in the building and use of scenarios at the country, industry and global level. From 1997 to 2000 he was facilitator and lead author of the Intergovernmental Panel on Climate Change's Emissions scenarios 2000-2100 and in 1996/97 was Director of the World Business Council for Sustainable Development's Global Scenarios 2000 - 2050.

Prior positions in Shell International include Head, Scenario Processes and Applications and Head, Socio-Politics and Technology, with special responsibility for regional scenarios. From November 1990 to the middle of September 1994 he was Head of Group Investor Relations for the Royal Dutch/Shell Group. From 1986 to 1990 he was Head of Energy in Group Planning responsible for world-wide energy analysis, including global energy scenarios.

He has postgraduate degrees in economics/engineering from the London School of Economics and Stanford University, California and graduated in Mining Engineering at Imperial College, London.

We live in a world of increasingly complex interconnections, both between people, and between people and nature. As we enter the 21st century, we find ourselves facing an emerging set of complex issues for which there appears to be no simple analysis. Scenario thinking may offer a solution. Scenarios are coherent, credible stories about alternative futures. The process of creating scenarios places a strong emphasis on the joint definition of a ‘problematique’ and on a synthesis of ideas, rather than just extended and deeper analysis of a single viewpoint. Because they involve using multiple perspectives to explore problems, scenarios can help us to create shared understandings of possible developments, options and actions. We have been using scenarios within Shell for the last 30 years, and over that time our processes and approaches have grown and developed. Recently, we have become involved in international projects that use scenarios to tackle complex issues not easily resolved by a single institution. Scenarios offer a unique approach for working effectively in such situations, honouring differences and aiming to broaden different frames of reference as part of reaching resolution.

Our future success—sometimes just our survival—depends on the choices we make today. Those choices, in turn, depend on our understandings and assumptions about what the future may bring. Humans are unique in their capacity to think about the future, and yet the future is uncertain.

Making sense of uncertainty

Scenarios provide a way of making sense of these uncertainties and of challenging our assumptions about what the future holds.

We can agree that some elements of the future are predetermined—they are the inevitable consequences of events that have already taken place. For example, in the summer months monsoon rain falls on the upper Ganges valley in India. The impact of the water downstream in Calcutta can be forecast days before it happens.

But any such predetermined elements in the future are surrounded by countless uncertainties. The challenge of creating scenarios is to understand not just what we can forecast, but also the critical future uncertainties that we must take into account.

Scenarios are not projections, predictions or preferences. Rather they are coherent and credible stories, describing different paths that lead to

alternative futures.

The process of producing and using scenarios is as important as the scenario stories themselves. Building and using scenarios is about asking questions and not just providing answers. The process is intended to widen our perspectives, helping us to understand issues and events as significant that we might otherwise dismiss as unimportant, or just not see at all.

Scenarios should focus on the near future, that is, on the strategy and policy agenda of the next one to three years, and not on the scenario horizon.

Good scenarios help us to connect our plans and our vision—enabling us more clearly to challenge our planning assumptions, benchmark our vision and lay out strategies for handling the macro risks ahead. (*figure 1*)

Scenarios provide a common language to help us explore future possibilities, with others as well as among ourselves. They can be built and used at many different levels: for individuals, communities, companies, countries or international organisations—or any combination of these.

In creating scenarios, we are like explorers setting out on a journey of discovery. Although we have a vision of our destination, we know that conditions

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may change, new opportunities—or problems—will probably emerge, and the chances are we will need to change direction and adjust our course. Building and using scenarios helps us to face the rigours of our journey. It prepares us to maintain an open mind and be flexible in the face of uncertainty. In a constantly changing environment, it can help us both to understand what our destination should be, and how to get there.

A philosophy, an approach, a tool

The art and the practice of scenario planning draw on many different disciplines. Many of the best scenario practitioners have idiosyncratic backgrounds and eclectic interests. For example, Pierre Wack, one of the founders of Shell scenario planning in the early 1970s, credited a wide range of influences. These included the poet and diplomat Paul Valery; his own training in ‘seeing’ and the teachings of Vedanta philosophy; the practice of ‘la prospective’ in France; and the work of Herman Khan’s Hudson institute, which was founded to bring to civil society some of the unconventional modes of thinking about the future developed by Khan at RAND for the US military planners. All this and more, Wack brought to bear in thinking about how the energy industry might develop in the 1970s.

The roots of scenario thinking are as old as the human process of making sense of the world—ideas about planning, thinking about possibilities and probabilities, reflecting on how the world works. Disciplines and practices that have influenced scenario practice include: mental models and cognitive mapping, systems analysis, stakeholder analysis, conceptual thinking, decision analysis, facilitation techniques, the oral tradition and storytelling. And, I am sure, there are many more. (figure 2)

Just as there are many influences on scenario thinking, so there are many different ways in which scenario thinking can be applied. (figure 3) These range from strategic decision making, through envisioning civic futures and conflict

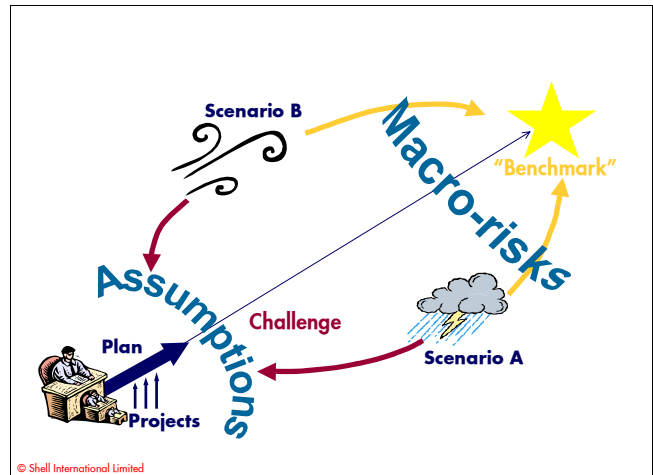


Figure 1: Scenarios—challenging assumptions and benchmarking vision

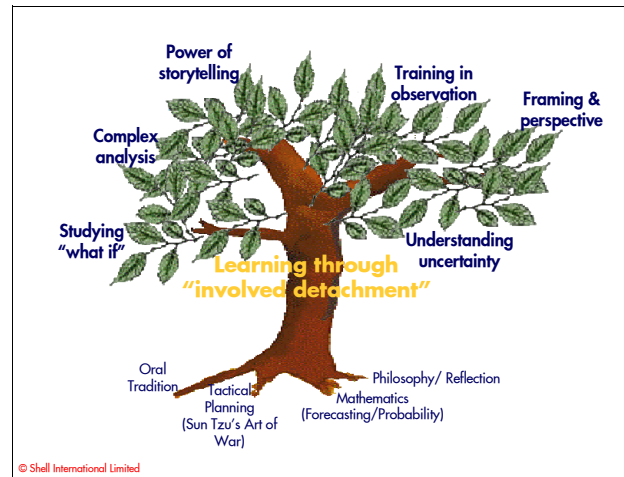


Figure 2: Roots of scenario thinking

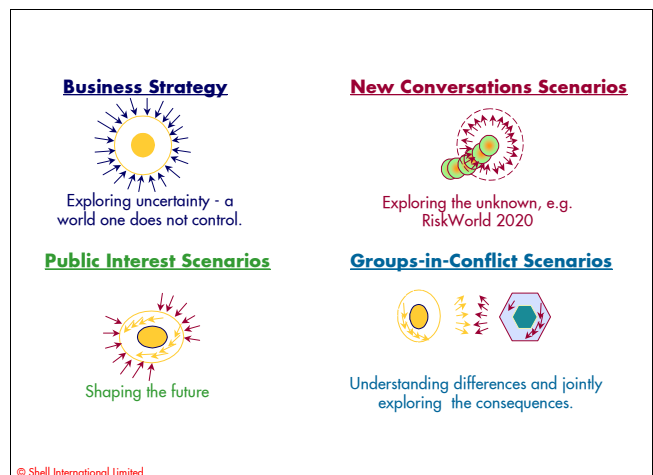


Figure 3: Different end-users of scenarios?

resolution, to enabling new conversations and educating the public. And, of course, these disciplines and activities feed back into scenario practice.

The ways of building scenarios are many. (figure 4) You will be familiar with the standard taxonomy of approaches: inductive, deductive, incremental and normative. Each has a place depending on the problem in hand and the required application.

As a practice, scenario building today is synonymous with thinking broadly and freely about a problem, enlarging frames of reference and involving different worldviews, rather than seeing a situation from a single perspective. Scenario building places a strong emphasis on the joint definition of a ‘problematique’ and on the synthesis of ideas, rather than just extended and deeper analysis.

Because of this, scenario thinking is capable of helping participants to view their shared concerns or opportunities from a completely different perspective.

Scenarios within Shell

Shell companies have used scenarios for over 30 years to help managers think about the future implications of the decisions they are making today.

Our scenario process begins with trying to uncover the key frames of reference within an organisation that are relevant to the strategic decisions at hand. (figure 5)

We invest significant effort in understanding the dominant mental models and alternative perspectives within the organization. We try to surface the implicit assumptions that underpin, and the conflicts and dilemmas that are related to business objectives, strategies and plans.

We then identify the key drivers of change that might shape these assumptions over the relevant time horizon. First we must agree on what is likely to persist over the time horizon of the scenarios: What are the predetermined elements—the things which, like the rainwater of the Ganges, will create results we can describe now—

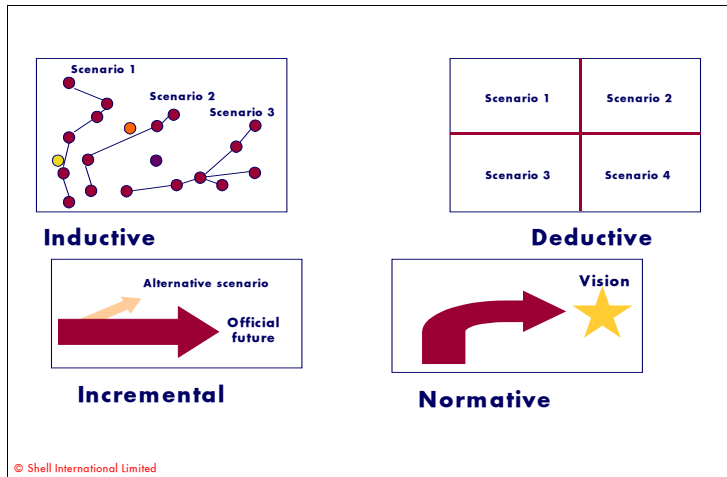


Figure 4:
Structuring scenario stories

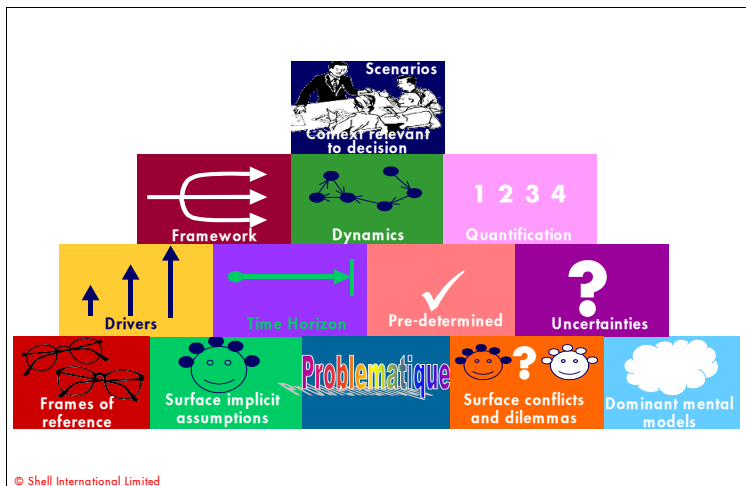
and what is fundamentally uncertain or even unknowable.

Taking the uncertainties, we can then identify the different directions in which they might lead, and select those which will most help us think about the future, in ways that will shape and influence present decisions.

Our understandings about the key dynamics of change, and their interactions, provide a foundation for scenario development. They form the basis for the creation of different scenarios. If they are chosen well, these different stories about the future can provide useful alternative contexts within which to explore policies and strategies. These can help a group to reach a common understanding of their situation—prompting informed debate and leading to consensus around the level and degree of flexibility required to make strategic choices and decisions.

There are many stories about the impacts of building and using scenarios within Shell over the last three decades. We have time to highlight a few now.

Figure 5:
Elements of scenario building



The 1970s: enabling early action

The first real use of scenarios was in 1972. Of the six developed, one scenario suggested that disruptions to oil supply could result in a sharp rise in prices. In a period of continuing expansion, with a long history of stable prices, this was contrary to prevailing expectations.

A year later it was more than a scenario—the oil shocks were the most significant discontinuity our industry had faced. But Shell was prepared: by building scenarios addressing global economic and oil issues, we were already thinking about what most others in the industry had deemed unthinkable.

And in 1974, ‘The Rapids’—a period of transition and new challenges—was born, with scenarios explaining the possible new habitats of *Belle Epoque* and *World of Internal Communications*.

The communication and wider application of scenarios relied heavily on the inspirational presentation abilities of key individuals, such as Pierre Wack, and the cascade of internal publications.

The 1980s: learning to rehearse the future

In the 1980s, we used scenarios to enrich our understanding of socio-political developments and energy market dynamics. The scenarios of the 1980s were strongly coloured by the high oil prices and recession of the early part of the decade; the subsequent oil price collapse; speculation about the longevity of the USSR; and later, concerns over climate change and sustainable development.

Global scenarios began to be used as a starting point for addressing strategic issues more broadly in the company. By the end of the 1980s, it was clear that we were entering a new era. Scenario workshops with business-unit management teams complemented other modes of communication and engagement.

The 1990s: addressing globalisation?

The 1990s explored the new shape of a more integrated world that was subject to powerful forces. Over the decade a

series of global scenario planning exercises were conducted. The core concept behind our scenarios was of a world driven by powerful forces for change and integration—globalisation, liberalisation and accelerating technological advance.

In 1992, the question was whether those forces would be embraced, as in the *New Frontiers* scenario, or resisted, as in *Barricades*. Two important themes emerged: the necessity of being able to learn and adapt in open markets; and the expectation that companies would assume wider responsibilities to society as they achieved increasing market freedom.

The 1992 scenarios were thoroughly worked into the Group’s mainstream thinking, mainly by means of more than 50 structured scenario-to-strategy workshops held around the world.

By 1995, the key question had become not whether these forces would be embraced, but which way of doing so would be most successful. Shell created two scenarios: in *Just Do It!* US-style individualism and hyper-competition dominated; in *Da Wo*, it was the government-led cohesion practised in parts of Europe and Asia.

In 1998, Shell created a new set of global scenarios focused on the institutions driving this new world. *The New Game* stressed the development of international institutions and rules for the global economy. *People Power* explored the flowering of diversity, institutional decay and greater volatility in an increasingly open and connected world.

Shell’s scenario expertise was also breaking new ground in the design and leadership of scenario-based projects addressing complex issues and involving multi-stakeholder engagements. For example, the Shell scenario team supported the development of the ‘Mont Fleur scenarios’ on the future of South Africa in the early 1990s; it also led the development of scenarios on sustainable development for the World Business Council for Sustainable Development.

There was also growing recognition that scenarios needed to be used more

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widely throughout the Group.

By 2000, a Strategic Management System had been developed and was being deployed. This further devolved strategic transparency and accountability from international businesses to over 50 Strategic Planning Units. Scenarios offered these groups a way of scrutinising the resilience of their strategic decisions, revitalising the contribution of scenarios to strategy within the organisation. (figure 6)

In addition, a wider range of scenario applications was adopted, involving both global and focused scenarios, and providing a broad framework of future thinking which decision makers could use to reflect on their strategy. The process of communication continued as the Shell Group Committee of Managing Directors decided that every Strategic Planning Unit must demonstrate robustness of strategy against both the Group’s global scenarios and the supporting focused scenario work in countries and selected businesses.

The latest Shell global scenarios—looking out to 2020—explore the social consequences of three forces: globalisation, liberalisation and advancing technology. These forces will determine the future, but to understand what that might look like, we needed to ask how real human beings will respond, and which social groups in the world may dominate those responses. Our scenario team studied this by thinking about ‘the three Rs’—the Regulations, Restraints and Rules which people may use to resist these trends. Our methods reflected what we have learned about the scenario process: we started from the concerns of our clients, to ensure that our work was consistent with their needs; then we gathered a wide range of data and challenging ideas from a variety of different sources, ensuring the involvement of a broad diversity of people and opinions.

The world in *Business Class* focuses on efficiency and individual choice and is driven by an interconnected global elite influenced by US values and ideas. *Prism* describes a world shaped by the interplay of our differences, where countries find



Figure 6:
Strategic Management System

their own developments paths to suit their particular circumstances. In one, business success depends on focusing on the value-creating ‘core’ of the enterprise. The need to find and sustain elusive competitive advantage drives a relentless search for efficiency and innovation. In the other, multinational companies must be ‘local’ in many different environments. Access depends on relationships and reputation. Developing relationships and building trust are vital in both scenarios—with staff, customers, partners, suppliers, society and, of course, shareholders.

We believe that once again, our scenario practice has reflected new, salient and challenging insights about the changing world. And this has contributed further to the strategic conversations ongoing at different levels in the organisation.

As strategy has become a more devolved, inclusive and participatory process, so has our communication and application of scenarios.

Continuous learning

Over the last 30 years, we have come to understand the need to match good ideas with effective engagement and memorable communications. Part of this has been an evolution in storytelling, from individuals giving inspirational presentations to senior executives and restricted internal publications, to workshops with business-unit management teams, to the use of external publications and multimedia approaches.

And we are still learning: presently,

we are considering how scenarios can be used to support an effective system for monitoring signals of key change that are relevant to the existing Shell Group’s portfolio of strategic assets and choices. Such an ‘early warning system’ would help expand the space in which to revisit strategic positioning and choices open to today’s decision makers.

New connections and new challenges

We live in a world of increasingly complex interconnections, both between people, and between people and nature. Developments in trade and technology are generating new connections—and opportunities—between people. At the same time, we are becoming more aware that human activities impact the Earth’s natural systems (and vice versa), and can carry global implications.

We find ourselves facing an emerging set of complex issues for which there appears to be no simple analysis, let alone a straightforward statement of the problem.

Scenarios may offer the ideal tool for such situations. Because they involve using multiple perspectives to explore problems and research and clarify issues, they can help us to surface dilemmas, address conflicts, and create shared understandings of possible developments, options and actions.

Shell is already engaging in projects like this that involve complex issues on an international scale. Let me tell you about two of these in more detail. The first was a project initiated by the World Business Council on Sustainable Development: Shell International Limited lent its now significant expertise to the design and leadership of an international process aimed at developing global scenarios on sustainable development. My second example is our current support of a project on *AIDS in Africa*, which aims to develop informed, coordinated and effective responses to the AIDS epidemic.

Exploring sustainable development

The WBCSD project is a powerful example of how scenarios can create an

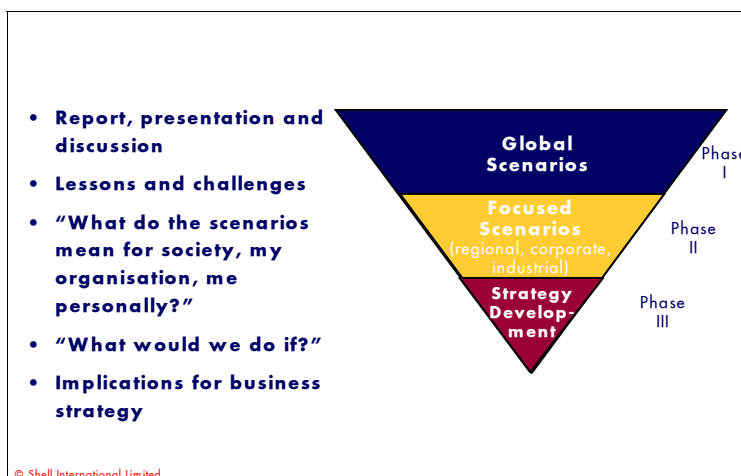


Figure 7: WBCSD ‘global’ and ‘focused’ scenarios

effective context for clarifying complex problems by bringing together multiple viewpoints, rather than seeking consensus within a single institution.

The starting point in designing such a project was to appreciate that sustainable development requires the integrated consideration of a wide range of elements with complex cause and effect relationships, spanning different timeframes and with differential impacts.

A team of about 50 people was directly involved throughout. The core problematique was not preconceived, but rather emerged throughout the initial interactions, interviews and workshops.

The stakeholder interactions and exchanges enabled the group to identify the elements that were felt really to matter from many different perspectives. The resulting ‘global’ scenarios—*Frog*, *Jazż* and *Geopolity*—have provided an informed context for sector-, region- and company-specific decision making.

The external rollout included a web-based course for those interested in understanding the scenarios more deeply, focused scenarios on energy and biotechnology and regional scenarios on sustainability in the USA. (figure 7)

AIDS in Africa

Over the last year, UNAIDS has been seeking ways to move beyond just raising awareness of the HIV/AIDS epidemic towards a process of enabling informed, effective and co-ordinated responses to it. (figure 8)

By developing a set of scenarios that describe the possible futures of the evolution of HIV/AIDS in Africa, the

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AIDS in Africa project aims to enable a joint exploration of different futures and stimulate a more co-ordinated and effective approach to defining and implementing solutions amongst the many stakeholders.

The project will involve approximately 50 core stakeholders in a series of three key workshops over a period of 14 months, and is due to commence later this year. The process of building scenarios will create a shared ‘future’ space through which stakeholders can exchange perspectives, share and stimulate learning, create new understandings and explore different options.

The process of building the scenarios will help to catalyse a partnership approach, involving the private sector and non-governmental organisations, as well as other key stakeholders. It will help develop public debate, by fostering communications and understanding between different parties.

A better-informed and wider understanding of the broader context that will shape the future of the AIDS problem in Africa should enable more effective options to be identified and implemented. Moreover, it will contribute vital learning to tackling AIDS in other parts of the world.

The scenarios are expected to provide an invaluable tool for informing the policy response to the AIDS epidemic in Africa in order to promote effective, coherent and sustained action.

The process of building, using and

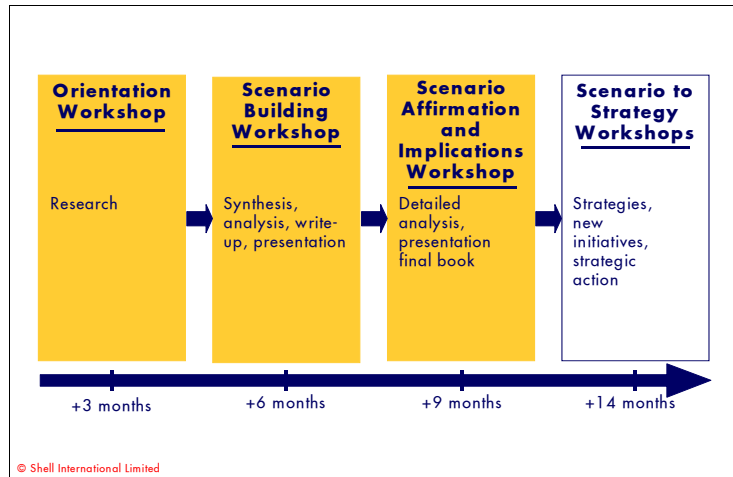


Figure 8:
AIDS in Africa—
three key workshops

communicating these scenarios should also assist in effectively targeting and channeling the financial and other resources allocated to preventing and mitigating HIV/AIDS.

The future of scenarios

Addressing the AIDS in Africa problem and the broader sustainable development challenge are but two examples of the complex issues emerging in society that are not easily resolved by a single institution.

Scenarios offer a unique approach for working effectively in such situations, an approach that honours differences and aims at broadening different frames of reference as part of reaching resolution.

The future is uncertain, but we can say with certainty that scenarios can and will play a central role in the action-oriented processes that help to identify and clarify the way forward for such difficult large-scale problems.

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