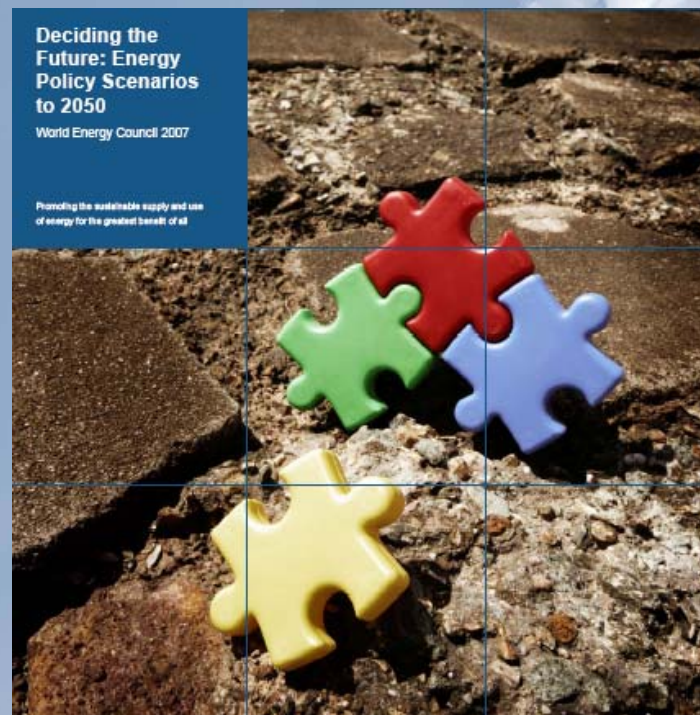


Deciding the Future: Energy Policy Scenarios to 2050



Approach

Traditional Approach – Top-down

- Many recent in-depth studies of the sustainability of energy systems.
- Strong top-down perspective from experts.
- Focus on macro-economic and global or regional energy aspects.

This Study is **Different** – Bottom-up

- Conversely, it is the decision makers that influence, plan, and manage regional and local energy systems on a daily basis.
- This report captures and collates their priorities and opinions, from the bottom up, in each of the five regions of the World Energy Council.
- 67 WEC Member Countries, 398 individuals; all decision makers
- 7 Specialist Studies
- Reports available on www.worldenergy.org

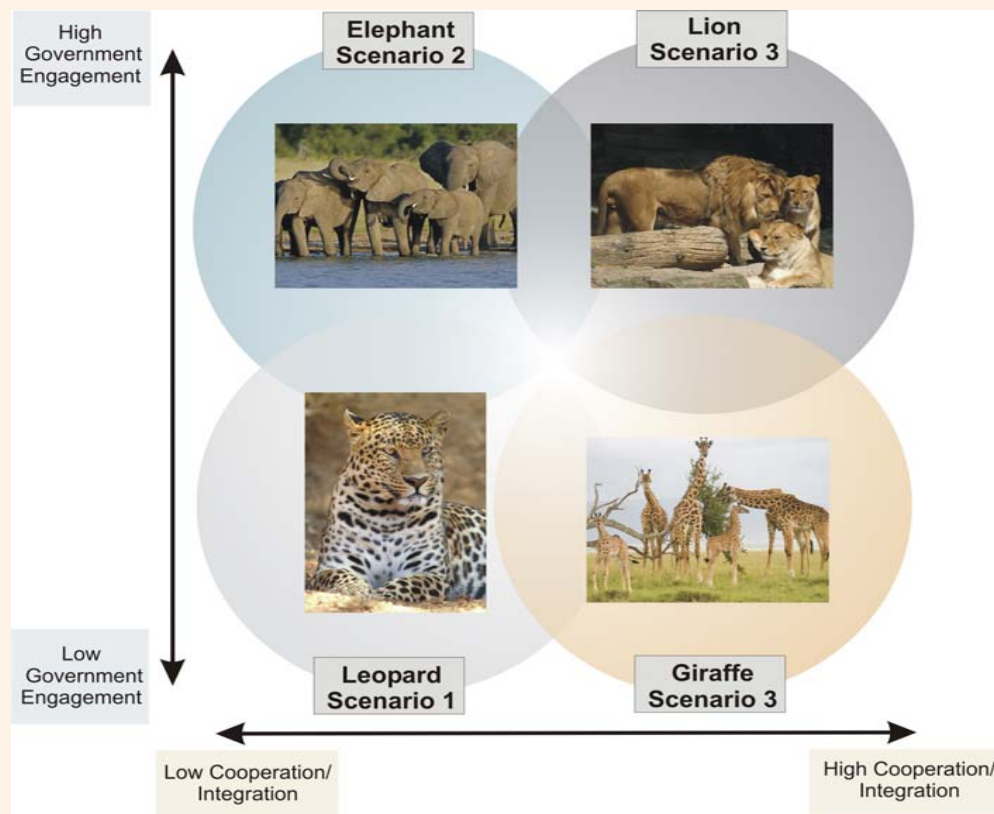
Measures – Study Framework

We studied Energy Policy within the framework of:

- **Government Engagement (High – Low)**
- **Cooperation and Integration (High – Low)**

These dimensions have real interest across the spectrum of WEC member counties.

The study is qualitative, with some quantitative validation.



Evaluation of the Scenarios

We evaluated each of the scenarios on the basis of positive and negative implications for the achievement of the WEC Millennium Goals.

WEC Millennium Goals

Accessibility: access to affordable modern energy for all people

Availability: reliable and secure energy supply

Acceptability: protect and preserve the local and global environment

Leopard (Low Government – Low Cooperation)

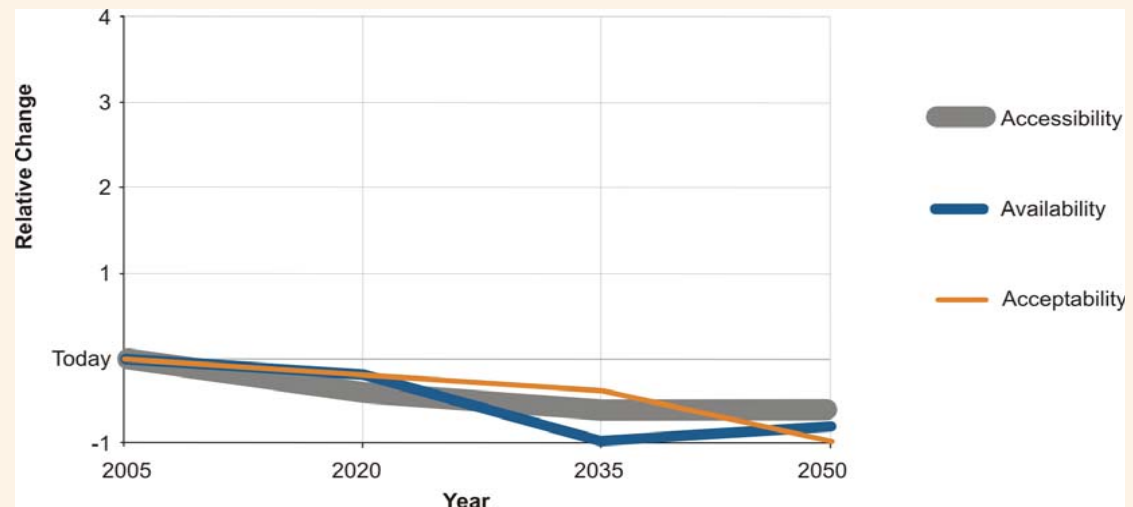
The LEOPARD is silent and enjoys a solitary existence, It looks out for itself with very little cooperation, scanning the landscape for opportunities. When these arise it is swift to act by itself. Most of the time it remains within its marked territory and interacts very little with other animals. It protects its own territory and does not share its food resources with other animals.

- Domestic economic development is the primary driver, underpinned by domestic energy security.
- Government engagement is constrained and there are few levies or subsidies.
- International treaties, where they exist, are ineffective.



Leopard (Low Government – Low Cooperation)

- There is very little progress on any of the measures under this scenario.
- For the developing regions, this scenario leads to social and climatic degradation.



Elephant (High Government – Low Cooperation)

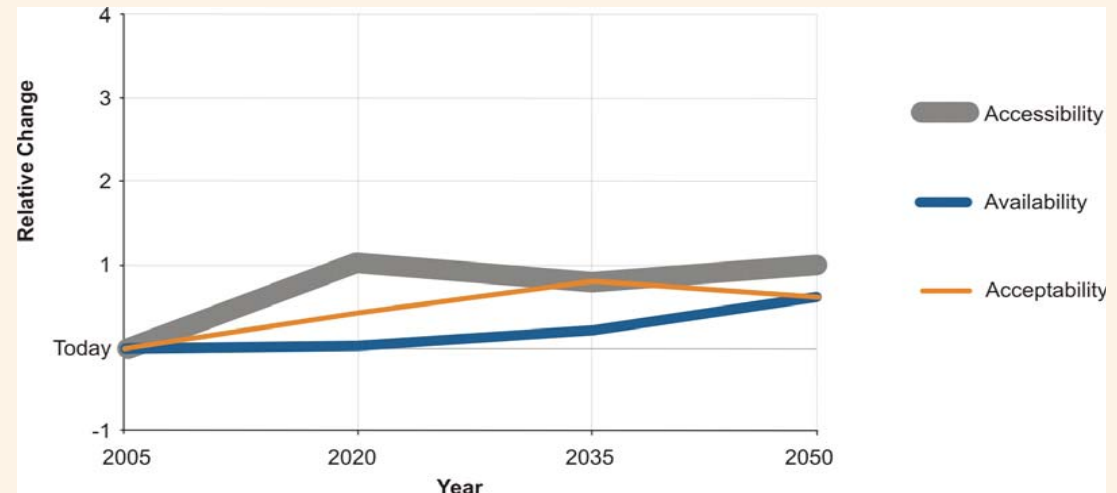
The ELEPHANT is a social animal ruled by a matriarchy with a strong hierarchical nature to the family. While the family unit is strong, there is little inclination to cooperate between families, and families strive for self-sufficiency.

- Strong, hierarchical leadership from governments.
- The first priority is domestic energy security to support structured economic activity and growth.
- Focus on development, and protection, of indigenous resources.
- Limited use of international bilateral agreements.



Elephant (High Government – Low Cooperation)

- Government engagement ensures steady improvement in all the measures.
- Low cooperation inhibits progress in developing regions due to technology and resource constraints.



Giraffe (Low Government – High Cooperation)

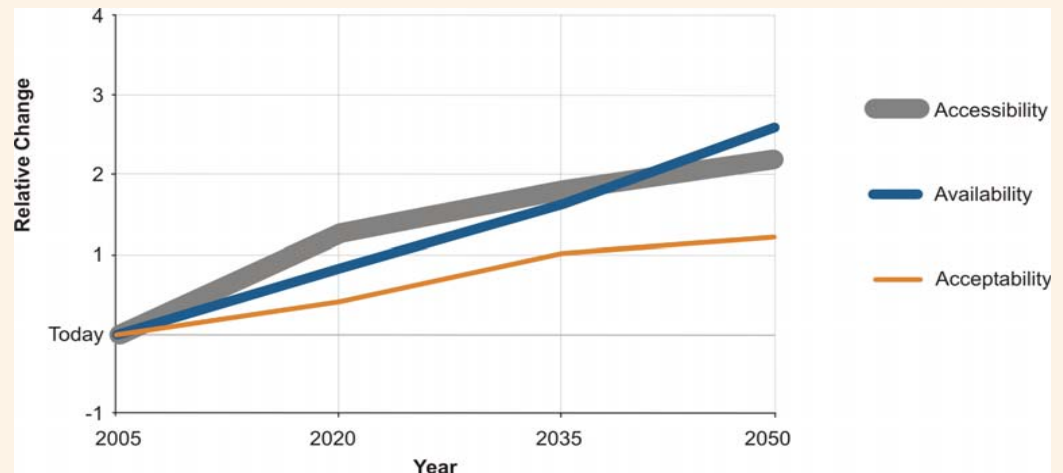
The GIRAFFE, the tallest animal on earth, strolls calmly across the plains and can see both danger and opportunity at great distances. Giraffes are also very adaptable and can exist on their own. Leadership is a very loose arrangement with no established overall hierarchy. The giraffe is essentially an entrepreneur and can readily adapt to different circumstances.

- Primary focus is economic growth, freeing up global markets to promote international trade.
- Heavy reliance on market mechanisms with limited regulation.
- Few levies and subsidies and few restrictions on global movement of goods and services.



Giraffe (Low Government – High Cooperation)

- Availability improves dramatically as an essential enabler of economic growth.
- Accessibility and Acceptability are second order priorities in the absence of government engagement.
- Developing countries also progress due to high cooperation.



Lion (High Government – High Cooperation)

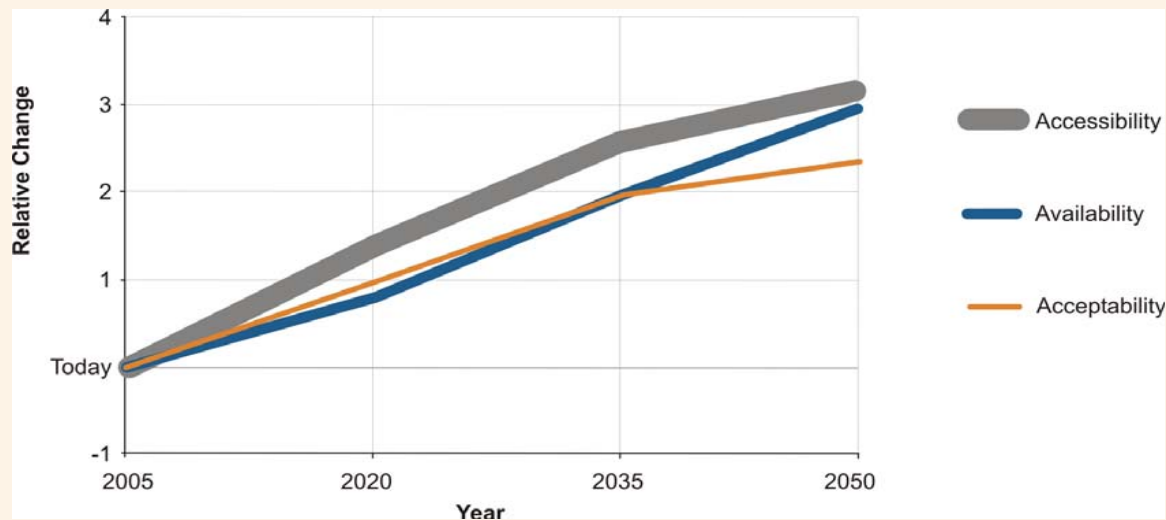
The LION represents this scenario for its sociability. Adults transfer experience and expertise to the cubs. Hunting is a very cooperative effort with evidence of careful planning, clear identification of the goal, and executed in a controlled, disciplined manner. All members of the pride share in the results.

- National policies provide protection of property and commercial rights promoting international alliances.
- Governments and businesses actively share their experience and expertise.
- Public Private Partnerships ensure a focus on delivery of policy intent.



Lion (High Government – High Cooperation)

- Accessibility and Acceptability are global concerns.
- All 3A's make strong progress through powerful international agreements and programmes.
- This is the best scenario for developing regions.



Key Message 1

To meet the energy needs of all the people in the world, global energy supplies will have to double before 2050.

Key Message 2

The world has sufficient energy resources, knowledge, skills and capital to meet the supply needs; the challenge is to get them from where they are plentiful to where they are needed most.

Key Message 3

We can address the world's accessibility needs in harmony with the effective management of acceptability, thereby mitigating against both social and environmental degradation.

Key Message 4

Higher energy prices (or the specter of the same) will drive efficiency and attract capital investment in developed countries but robust international cooperation and integration is necessary to avoid unintended negative consequences and exacerbating energy poverty in developing countries.

Key Message 5

Private sector engagement is essential – influencing national policy, driving business policy, and ensuring focus on sustained delivery of the policy intent.

Making it Happen

Public and the private sectors need to work together and invest in new, wise, clear and pragmatic protocols and agreements.

Specifically, the following
“Arenas for Action”
have been identified:

Arenas for Action: Government to Government



Arenas for Action: Business and Government



- Increase in RDD&D, especially on accessibility and acceptability initiatives.
- Demand-side mobilisation.
- Transport transformation with emphasis on acceptability.
- Risk management and fiscal consistency.
- Protection and preservation of property rights (both physical and intellectual).
- Equitable movement of resources (goods, services, know-how, skills, capital).

**A few issues for
consideration
to initiate
your dialogue**

- Energy systems will be under stress in all scenarios.
- The capability to meet the energy supply challenge will be stretched.
- The scenarios with High Cooperation deliver enhanced performance.
- Acceptability is a concern under all scenarios.