Propelling the Energy Transition Through Technology-Driven Decision Making

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Many industrial leaders will be aware of the research published by the EIA that total energy demand is projected to rise by approximately 50% by 2050.* And despite a slight decrease in the traditional energy share over the past decade, absolute usage continues to increase.

On its face, meeting the rising demand for energy while reducing carbon emissions may seem like a big challenge. However, it presents a significant opportunity for sustainable energy production and renewables. The urgency to address climate change – along with geopolitical events like the Ukraine war – have highlighted market volatility and the importance of energy security. Government officials, business leaders, and consumers expect energy industry leaders to embrace new and innovative approaches to meet these evolving market needs.

***Source:** "EIA projects nearly 50% increase in world energy usage by 2050, led by growth in Asia," U.S. Energy Information Administration, September 2019

Prepare for Increased Disruption

In this era of rapid technological advancements, the energy sector is experiencing a rate of disruption like never before. Digital tools and technologies are revolutionising the industry and impacting every aspect. The adoption of AI, cloud computing, data science, and other emerging technologies is reshaping how energy companies operate.

Next-generation technology is redefining the energy supply chain. This is driving a comprehensive, data-centric approach toward tackling the big challenges. Leaders in the industry recognise the importance of speed, business impact, and scale when deploying digital solutions.

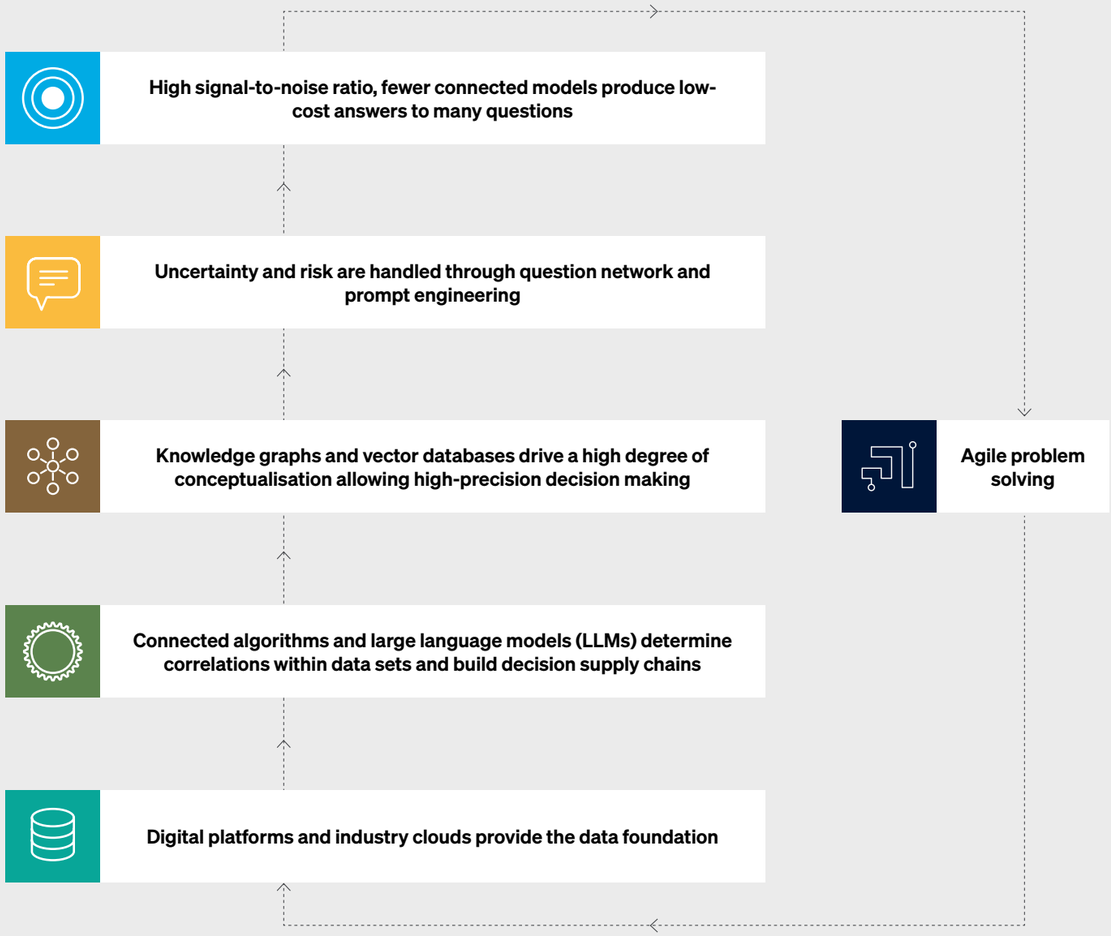
Adapting quickly to changing circumstances and making informed data-driven decisions is more crucial than ever. To achieve this, organisations must foster small and adaptive teams that can provide quick input to decision cycles yet stay connected to drive holistic progress against a set strategy.

The energy transition relies heavily on new technology, end-to-end analytics, and data-driven insights, prompting both traditional oil and gas service providers and clean tech startups to move from anecdotal analytics to a systemic approach to decision science.

Move from Resilience to Antifragility

Energy sector leaders often focus on building resilient organisations that can withstand and adapt to environmental changes. However, the key to thriving in uncertainty lies in becoming antifragile. Resilience merely enables organisations to withstand shocks and maintain stability, while antifragility allows them to thrive and grow stronger amidst uncertainty and chaos.

Enterprises Need to Build Systemic Decision-Science Capabilities



Source: Quantum Capital Group

To build such an organisation, you must intentionally inject stress, add redundancies, and create slack that will allow gains as volatility increases. Achieving success requires improving organisational memory through a persistent knowledge graph and enhancing the learning ability with a living question network. Through increased experimentation and exploration, the organisation will generate more optionality and become more transformation-friendly. This is especially true in times of fundamental changes such as the current energy transition and climate crisis.

Embrace Algorithmic Leadership

By leveraging advanced algorithms and AI, organisations can extract valuable insights from vast amounts of data, enabling them to identify emerging opportunities and optimise their operations for maximum efficiency. Algorithmic leaders embrace technology as an enabler, integrating it into their decision-making processes and organisational structures.

Algorithmic leadership provides a framework for propelling the energy transition through advanced technologies and data-driven decision-making. Embracing the potential of data analytics, algorithms, and advanced technologies, organisations can make informed decisions, drive innovation, and navigate the uncertainties of the rapidly changing energy landscape.

The path to a sustainable future lies in algorithmic leaders who understand and leverage augmented intelligence to connect people, processes, and platforms to create solutions that transform the organisation and address the challenges ahead.