

## **Geo-political changes over the last decades resulting in systemic consequences for electricity utilities**

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### **Abstract**

*"Stop trying to change reality by eliminating complexity." David Whyte*

Exploring the future of energy transitions requires us to look back to the past. Electricity utilities worldwide are in a constant flux of transition. The presentation presents an analysis of the changing composition of global energy over the last three centuries and, in parallel, the three energy transitions that have occurred. The presentation will describe how significant events have fundamentally influenced how utilities have responded over time. The lack of foresight, flexibility and agility from a utility perspective on the interconnectivity of the ecosystem has potentially led to a massive societal backlash in terms of environmental degradation and global sustainability. "A systemic ripple effect"

Widely as global power utilities may differ, their subtle forced understanding of their future framework as a business imperative is changing. They have come to realise one central aspect: to shape the energy system of the future a sound and well-considered transformation path is required based on a comprehensive understanding and assessment of the complex and dynamic ecosystem. The concept of organisational resilience from a systemic perspective is fundamental in understanding and reshaping our planet's future and ensuring business energy sustainability.

Research and development plays a pivotal role in developing this knowledge in paving the way for the transition. Thus, it is imperative that the success of these transitions depends on not only technological development but the critical considerations of broader political, social, and environmental innovations and the complex ecosystems in achieving organisational resilience.

This can only occur at the interfaces between the different disciplines, and only by fully integrating the concept of systemic perspectives and resilience can the transfer of knowledge and understanding between science, industry and society be truly meaningful.