

The future of infrastructure: Challenges and opportunities for utility companies

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Keywords: *Infrastructure, Business models*

Abstract

Traditionally, many business models of utility companies are based around the planning, construction, and operation of large-scale infrastructure facilities. Innogy's portfolio is no exception and covers, for example, electricity, gas, and heat networks as well as communications and water infrastructure.

In recent years, however, utility companies have witnessed a substantial change in the energy landscape and are facing new challenges. Changing regulations, increasingly competitive markets with new players appearing (e.g. in retail), and ever faster innovation cycles put pressure on the existing business models. Additionally, these challenges are amplified by technology-dependent mega-trends such as digitalization, decarbonization, and decentralization – all of the three being typical building blocks of 4th industrial revolution.

As a result, infrastructures themselves and the way in which they are financed, built and operated will change considerably in the coming years. Little is currently known about the success factors for the future planners, builders and operators of these systems, about the way they interact with politics and society, how boundaries between today's infrastructures are shifting or dissolving and which new business areas can be developed based on infrastructures. In any case, a major part of utilities' traditional business will be challenged by new market participants bringing new concepts and technologies into play.

The talk aims to sharpen the view on this perspective by highlighting the results of a current innogy project that consists of two parts. Part one reviews on past/former infrastructure developments, emphasizing life cycles, maturities, and value drivers. Building on that, the second part then analyses potential future infrastructure developments, their impact on business and potential risks and opportunities for utilities. Here, the presentation is enriched by insights that also can be transferred to the African continent, such as the implications of fast growing populations, urbanisation, and the role of rural areas on infrastructure developments.