

Eight questions for the transition plan

1. Are there clear short, medium and long term emissions goals that lead to the IEA targets of 184g/kWh by 2035 (or local targets, whichever is lower) and 40g/kWh equating to 95% clean electricity generation by 2050?

The energy utility sector is the single biggest user of fossil fuels, and therefore achievement of the Paris target of keeping global warming to 2°C or less will depend critically on the sector rapidly reducing its consumption of fossil fuels. The IEA (International Energy Agency) has two relevant scenarios that yield a >50% chance that the increase in global temperatures will be kept to not more than 2°C. They are the World Energy Outlook 450 Scenario and the Energy Technology Perspectives 2DS scenario.

2. Is there a long term business strategy (25+ years) to achieve 95%+ clean energy business model by 2050, including a long term power generation fuel strategy?

Because of the long life of generation and transmission investments, decisions which will affect the achievement of a 95% clean electricity system in 2050 need to be considered over the next five to ten years. Investors and companies need to have a shared view of that trajectory. The business strategy needs to have key business model transformation milestones along the transition pathway to 2020, 2035 and beyond to 2050. The generation fuel strategy needs to take account of a) carbon dioxide emissions b) relative pricing of generation sources, including storage, at different scales c) demand side factors e.g. electric vehicles, space heating/cooling versus energy efficiency d) climate related stresses, e.g. water shortages, vulnerability to high winds e) likely business model transformation (see below). If the company is using a shadow carbon price, this should be revealed.

3. Is there a clear business plan, short medium and long term to adapt to a changed business environment and exploit new business opportunities in the face of new competitors and changing demand patterns?

Given the level of uncertainty from so many factors, we suggest that investors ask companies to outline one or more scenarios for 2035 and 2050 under which they will be meeting the IEA targets, and then plan in detail on a rolling five-year basis as to how they will reach their 2035 and 2050 goals. The business plan should incorporate at least the following aspects of the changing business model and core business process transformation:

- New clean energy end state (95% clean by 2050) and energy efficiency, as above
- New clean energy products and solutions and role in a new clean energy power ecosystem – distributed generation and transmission, storage, smart grid and grid reconfiguration, smart metering, electric vehicles
- Underpinning R&D strategy including direction and quantum of investment
- The timing of the phasing out of fossil fuel intensive plant, and implications for operations and the company balance sheet.

It should also display an understanding of who the leaders are in innovation worldwide.

4. Is there a short medium and long term capex plan showing relationship between ROIC and WACC and regulated ROE over the period of the transition? How will the expectation of growth, innovation and value creation based on the disclosed strategy affect the future valuation? Does the transition plan consider the impact on ROIC from potentially stranded fossil fuel assets, and the opportunities for increasing free cash flow from investment in renewable energy?

Taking the energy utility sector as a whole, future value is low compared with other sectors (median is 3.3% of enterprise value according to data from Credit Suisse HOLT 2016 compared with 40% in technology and 50% in consumer staples.) Hence the importance of the company making value-accretive investments that take into account the inherent risks of increased dependence on fossil fuels. The energy transition will demand investment from companies some of whom are already in a weak financial position (e.g borrowing to sustain dividend payments.)

5. Is there a clear view of the regulatory environment needed to support the transition and business model transformation strategy and a public policy plan to lobby for this? What are the company's working assumptions about how public policy affects its operating and investment decisions?

Future facing utility companies will be seeking to accelerate the transition and gain competitive advantage from early learning in the transforming market, not seeking regulatory cover to block it. This means companies leaving, or distancing themselves from, backward looking lobbying by established trade bodies.

6. Is there a corporate governance and succession plan to bring on board and deploy Directors who not only understand climate change and its impacts but also can conceptualize the new energy utility ecosystem and the company's place within it?

Companies will want a minimum of 2-3 Directors in key positions (audit, remuneration, risk) able to:

- Constructively engage with the CEO in assessing alternative paths short medium and long term to the clean energy transformation, including capital allocation between Business As Usual and strategically calculated bets on new business activities
 - Set key metrics and incentive designs to align to the business transformation strategy
 - Appraise CEO performance in executing a strategy that is likely to involve more innovation risk and uncertainty than in the past, and ensure that the CEO has the conceptual capacity and business model thinking to do this, or if not, determine the need for a new CEO.
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7. Is there an organisation structure, succession planning, recruitment, retention, and development strategy (and supporting IT systems) for the CEO and senior leadership that recognises the imperative to recruit strategic thinkers able to conceptualise the new utility ecosystem, the changing value creation economics and the company's place within it? Is there a succession plan for the next generation of leaders up to 2050?

The CEO and senior leadership will need to be able to pay attention simultaneously to the day to day value creation through energy efficiency and innovation and the long term goal of 95% clean energy by 2050. They will need to be alert to competitive pressures from a wide range of new entrants, and enhance the organisation's skills base with skills in, among other things, product and process innovation and consumer marketing. Forward looking companies will show a new approach to managing the talent pipeline, in terms of remuneration, promotion, mentoring and recognition, to fast track innovative and visionary thinkers from within the company and encourage all employees to develop and implement innovative approaches to meeting transition plan goals.

8. Does the organisation demonstrate a good understanding of the risks from climate change – physical, transition, and regulatory/legal – including clear timelines when risks are expected to present and anticipated responses to them? Does the organisation in addition have an enterprise risk management system that recognizes the structural risks and leadership risks of the business model transformation to a clean power system by 2050?

Today the sector is: stable; operations- and supply-driven; accustomed to long term capital projects; and monopolistic. Post transformation, it will be a highly distributed ecosystem with consumers acting as producers; with many different suppliers feeding into the grid; with storage capacity; and with demand shifting due to electric vehicles and electric heating/cooling in buildings that are increasingly efficient. Systems level conceptual thinking in both board and senior management will be needed to integrate the risks arising from climate change, and from regulatory and legal implications of climate change, with the risks and opportunities arising from the transformation of the energy utility sector. There may be very few people within the utility sector with these business model transformation capabilities and recruitment from outside the sector will be needed.
