

Title	The energy transition: A mining and exploration industry perspective			
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The mining industry is likely to play an important role in the energy transition. Most new energy technologies are reliant on a stable supply of several critical minerals that are currently not a focus for the mining industry, requiring a shift in production priorities. In turn, the mining industry itself, as a major energy consumer, will be affected by the energy transition. Indeed, with mines often in remote locations, the industry is already proving a fertile testing ground for many renewable energy and battery technologies. As the custodian of long-term foresight within the mining industry, minerals explorers are particularly interested in the opportunities and challenges presented by the energy transition. A recent scenario planning workshop by the Centre for Exploration Targeting considered this issue. Three scenarios were developed outlining the pathway through the energy transition for the minerals exploration industry. The first scenario considered the challenge for mining and exploration companies of surviving in our present world of traditional energy sources, which could last one year, ten years or even 100 years. Linked to this challenge is seeing the energy transition and acting appropriately when it arrives: not jumping too soon or too late. The final challenge raised by the energy transition is seeing what the world will look like on the other side. The rapid change in technology required for the energy transition means that it will also require considerable societal change. Two scenarios were developed to help understand societal structure beyond the energy transition, representing two extremes along an axis of individual versus hierarchical control. In one scenario the world is defined by entrepreneurialism where great ideas, companies and individuals, rapidly rise and fall. Globally society is better off, but individually life is very uncertain. In a second scenario, the world has divided into great blocks of competing regional powers, each with a hierarchical societal structure, reliant only on local resources and innovations. Some regions have completed the energy transition, whilst others remain reliant on old fashioned energy sources. This is an uncertain world, but as a company or a professional in the mining or renewables sector it is a relatively protected living, with strong support from local governments to find and develop new mineral and energy sources. The lesson for the mining and renewables industries is that organisations big and small must structure themselves so that they can compete effectively in the present world; see the energy transition when it is arriving and be able to survive in a new and unpredictable world. Staying on the leading edge of innovation and being well-connected with host governments are, however, likely to remain key capabilities. It also appears there are two broad mechanisms for the energy transition: In one individual innovation drives the transition forward; whilst in the other some form of energy crisis forces us to make the transition. The former is likely to lead to a more individualistic, turbulent society, whereas the latter may lead to a more hierarchical, but internally stable society.

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