

Humanity is currently experiencing the ongoing changes brought about by the 4th industrial revolution, which has influenced collective practices. The use of data as a currency has enabled businesses to operate differently and has influenced consumer behavior. In response to these developments, the energy sector needs to adapt appropriately to ensure proper access to everyone, but at the same time to protect the fragile environment that has been damaged by global warming. Fortunately, the solution to these problems may lie with the same technology driving this change. There have been developments in energy management systems, capable of integrating solutions such as digital twins (virtual representations of physical systems) to ensure proper utilization of new energy systems fuel-based solutions, and avoid energy waste.

Although technological solutions offer advantages to corporations and states, their effectiveness ultimately depends on human involvement. Appropriate legislation will be necessary to regulate certain aspects of the Fourth Industrial Revolution. Governments will be pushed to provide more transparency on the generation of energy, and its distribution, especially in countries such as Mexico, where the only company allowed to distribute the energy is owned by the government. This data will be the key to achieve the environmental goals needed to reduce the carbon emissions drastically by 2025.

As these shifts accelerate, the need for cross-sector collaboration becomes even more apparent, pushing industries, governments, and communities to foster open dialogue and shared responsibility in shaping sustainable energy futures. By harnessing the collective insights offered by advanced analytics and digital infrastructure, stakeholders can anticipate challenges, optimize resource allocation, and support equitable energy access. In this new era, adaptability and foresight are essential—not only for achieving environmental benchmarks, but also for creating strong systems that empower societies to thrive amidst ongoing transformation.

Leurent, T., 2022. The Fourth Industrial Revolution and the Energy Trilemma. POWER Magazine. Available from: <https://www.powermag.com/the-fourth-industrial-revolution-and-the-energy-trilemma/> [Accessed 13 Aug. 2025].

Schwab, K., 2016. The Fourth Industrial Revolution: what it means, how to respond. World Economic Forum. Available from: <https://www.weforum.org/stories/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/> [Accessed 13 Aug. 2025].