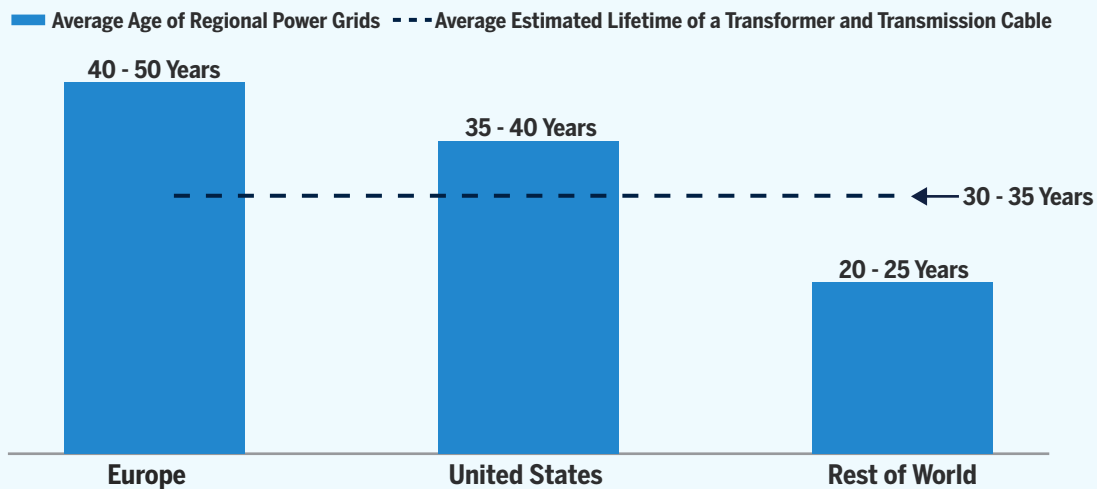


## Time for an Upgrade?

In the developed world, the complexity of maintaining the electrical power grid is often underestimated. Many power grids were installed decades ago and are deteriorating. Moreover, for the first time in two decades, U.S. utility companies are experiencing and forecasting a meaningful increase in power demand, driven by the adoption of new technologies such as Artificial Intelligence (AI) and electric vehicles (EVs).<sup>1</sup> Can these aging power systems handle the projected surge in electricity consumption?

### Estimated Average Age of Regional Power Grids (in Years)



Source: Nexans 2024.

- Many power grids in the U.S. and Europe are in need of significant upgrades based on their advanced age, as shown in the chart above. Aging and deteriorating infrastructure is not only less efficient but also increasingly dangerous—such as in California, where aging power lines have been linked to wildfires. In the U.S., approximately 55% of transformers—which regulate voltage for safe and efficient power distribution—are over 33 years old, exceeding their average useful life of 30 years.<sup>2</sup> Additionally, 70% of transmission lines in the U.S. are over 25 years old, many of which were built in the 1960s and 1970s and are now nearing the end of their typical lifecycle.<sup>3</sup>
- At the same time, these aging grids struggle to support power-intensive AI workloads, creating bottlenecks for data center planning and construction. With electricity demand projected to rise approximately 25%<sup>4</sup> in the U.S., and 25% - 50%<sup>5</sup> in Europe by 2035, we believe utility companies may need to undertake substantial upgrades to their grid infrastructure to meet increasing electricity needs.
- In our view, companies involved in grid-related equipment and services, as well as those focused on sustainable power generation, may be well positioned to capitalize on the growing electricity demand driven by intensifying AI workloads and EV adoption.

<sup>1</sup> Quanta Services 4Q24 conference call

<sup>2</sup> Eaton Corporation

<sup>3</sup> U.S. Department of Energy

<sup>4</sup> International Energy Agency, World Energy Outlook 2024

<sup>5</sup> Timera Energy

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