

Aging Infrastructure: The State of America's High Voltage Power Transformers

Introduction



The United States' high voltage grid consists of over 3,500 substations, with more than 5,500 power transformers. More than 33% of the U.S. transformers are more than 50 years old. Out of those 33%, about half (or roughly 1/6 of all U.S. power transformers) are more than 60 years old, which contributes towards a significant annual demand for power transformers.

The U.S. Power Transformer Market

The Power Transformer Market by Voltage Levels



■ 765 kV ■ 500 kV ■ 345 kV ■ 230 kV ■ 161 kV ■ 138 kV ■ 115 kV ■ 69 kV

- On average, ~2500 power transformers were sold in the U.S. with the voltage segmentation shown above.
- The most frequently-occurring voltage combinations in the transmission network are 500/230kV, 345/138kV, 345/115kV, 230/115kV, and 230/69kV.

Major Import Markets



Top 5 Import Markets

 More than 80% of power transformers in the U.S. are imported when it comes to Extra High Voltage (EHV) Transformers >=345kV.