

VAAS™ and distribution system capacity

Voltage as a Service (VAAS)™ is an energy-saving service solution for regulating and optimizing the voltage supplied to electrical equipment to the optimal level for efficient operation. The purpose of VAAS is to reduce energy consumption, lower electricity bills, and decrease carbon emissions by ensuring that electrical devices operate at their most efficient voltage level.

Enhancing distribution system capacity

The large scale deployment Voltage as a Service (VAAS)™ managed services can free up significant capacity in the electrical transmission and distribution systems, thereby reducing investment requirements, thus creating an economic externality.

Estimating the replacement value of electrical transmission and distribution systems involves evaluating the costs to replace or rebuild these infrastructure assets at current prices. This value can fluctuate based on various factors including the condition of the infrastructure, technological advancements, and economic conditions. The estimated replacement value of electrical transmission and distribution systems in Australia is addressed in the following table.

System	Replacement Value	Details	References
Transmission Systems	Approximately AUD \$60-70 billion	This estimate reflects the combined value of high-voltage transmission lines, substations, and associated infrastructure.	Australian Energy Market Operator (AEMO): AEMO's Annual Planning Report provides insights into the infrastructure and its valuation. Australian Energy Regulator (AER): Reports on network costs and infrastructure valuation, such as the State of the Energy Market.
Distribution Systems	Approximately AUD \$50-60 billion	This includes low and medium voltage distribution lines, local substations, and related equipment.	Australian Energy Market Operator (AEMO): AEMO's Annual Planning Report provides insights into the infrastructure and its valuation. Australian Energy Regulator (AER): Reports on network costs and infrastructure valuation, such as the State of the Energy Market.
Combined	The combined value for both transmission and distribution systems in Australia is estimated at approximately AUD \$110-130 billion.		Australian Energy Market Operator (AEMO): Transmission and Distribution Infrastructure reports. Energy Networks Australia (ENA): State of the Industry Reports.

As an approximate estimate, a 10% penetration of VAAS in the C&I market segment in Australia would free up transmission and distribution system capacity worth in the range of AUD \$1-2bn.

These estimates provide a broad overview and may vary based on specific regional conditions and updates to infrastructure valuations. For the most accurate and up-to-date figures, consulting detailed industry reports and regulatory filings would be essential.

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