

MEDIA RELEASE

For Immediate Release

Voltage Optimisation: Unlocking Grid-Wide Benefits Across Commercial and Industrial Sectors

Melbourne, 21st October 2024 – Voltage Optimisation (VO) is emerging as a critical solution for reducing energy consumption, cutting carbon emissions, and improving grid stability.

A new report highlights the transformative potential of VO adoption across Australia’s Commercial and Industrial (C&I) sectors, revealing that widespread implementation could deliver substantial benefits to businesses, the energy grid, and the environment.

VO regulates and optimises the voltage supplied to equipment, ensuring it operates at optimal efficiency.

This simple but effective technology offers a path toward sustainable energy use without compromising business operations.

Key Findings from the Report

1. Significant Energy Savings

- C&I users could achieve energy savings of 5-15% depending on load type and initial voltage levels.
- With 170 TWh of annual electricity consumption in Australia, a conservative 5% savings from C&I users would equate to 4.25 TWh annually—enough to power 600,000 homes. A 10% saving could power 1.2 million homes.

2. Lower Carbon Emissions

- By reducing energy demand, VO could cut Australia’s carbon emissions by 2.975 million tonnes per year, the equivalent of taking 650,000 cars off the road.
- At the higher end of potential savings (15%), emissions reductions could reach 8.925 million tonnes, comparable to removing over 2 million cars from the road annually.

3. Reduced Peak Demand and Grid Stress

- VO can reduce peak demand by 5-10%, preventing grid instability and reducing the need for costly peaking power plants.
- For example, a 5% reduction in C&I peak demand—if starting from 20 GW—would save 1 GW, equivalent to the output of a large gas-fired power plant.

4. Enhanced Equipment Protection and Longevity

- VO prevents over-voltage conditions, extending the lifespan of electrical equipment such as motors and transformers by 10-15%.
- This also translates to reduced maintenance costs and fewer equipment failures, ensuring businesses save on operational expenses.

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Broader Network and Financial Benefits

- **Reduced Transmission Losses:** Ensuring voltage levels remain optimal could reduce transmission and distribution (T&D) losses by 1-2%, especially during high-demand periods.
- **Lower Operating Costs for Businesses:** A business using 10 GWh annually could save 500 MWh per year, or \$75,000 annually, through VO.
- **Deferred Infrastructure Investment:** Reducing peak demand and improving load efficiency would allow utilities to defer expensive grid upgrades, saving \$100-\$500 per kW of deferred capital expenditure.

Supporting Australia's Energy Transition

With the commercial and industrial sectors accounting for half of Australia's energy consumption, adopting VO across the board can play a critical role in achieving Australia's emissions targets. This technology offers businesses a win-win scenario: reduced operational costs and enhanced environmental performance.

VO not only supports grid stability but also reduces the need for new infrastructure investments, promoting a more resilient energy network.

Conclusion

The aggregated impact of grid-wide Voltage Optimisation is transformative. Implementing VO across Australia's C&I sector can deliver energy savings, emissions reductions, and financial gains, aligning perfectly with Australia's sustainability and energy transition goals.

As the nation seeks to build a more stable and sustainable energy future, Voltage Optimisation offers a cost-effective, immediate solution to meet these challenges.

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End of Release

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