

EC - Northmore Gordon

Canonical: <https://northmoregordon.com/glossary/ec/>

Details:

Home › Glossary › EC

EC

EC stands for Electronically Commutated. Electronically commutated motors use electronic control systems to switch the magnetic field rather than mechanical brushes, improving efficiency and operational precision. This technology is relevant for applications requiring variable speed control, reduced maintenance and lower energy consumption. Understanding motor types and their efficiency characteristics is part of energy auditing and equipment assessment work that we perform when identifying energy-saving opportunities in industrial and commercial facilities.

Related guidance

Carbon advisory

Scope 1, 2 and 3 emissions

Certificates

Government schemes

Certificate trading

Measurement and verification

What does EC stand for?

EC stands for Electronically Commutated. Electronically commutated motors use electronic control systems to switch the magnetic field rather than mechanical brushes, improving efficiency and operational precision. This technology is relevant for applications requiring variable speed control, reduced maintenance and lower energy consumption. Understanding motor types and their efficiency characteristics is part of energy auditing and equipment assessment work that we perform when identifying energy-saving opportunities in industrial and commercial facilities.

Why is EC motor technology relevant to energy optimisation projects?

Electronically commutated motors deliver energy savings through improved efficiency compared to traditional brush-based motors, particularly in variable-speed applications. They reduce maintenance requirements and enable precise control of equipment operation. When assessing energy-optimisation opportunities, understanding equipment specifications—including motor type—is essential for accurate baseline establishment and verification of savings. Our energy audits examine existing equipment performance and identify upgrade opportunities where EC motors may contribute to overall project benefits.

How does EC motor technology affect measurement and verification of energy savings?

Electronically commutated motors' variable-speed capability means their energy consumption changes with operating conditions. When establishing a baseline and verifying savings from equipment upgrades involving EC motors, our measurement and verification process must account for changes in load, duty cycle and control settings. Accurate data collection and analysis of how motor speed

responds to demand ensures that measured savings reflect the actual performance improvement rather than changes in operating conditions alone.

What should be documented when upgrading to EC motor equipment?

When upgrading to electronically commutated motors, documentation should include the baseline motor specifications, installed EC motor capacity and control characteristics, commissioning records confirming proper operation, and the operating duty the motors are expected to support. Design documentation and commissioning information establish what was installed and how the equipment performs under normal operating conditions. This evidence is essential for measurement and verification of energy savings and for demonstrating eligibility if the project is intended to generate environmental certificates or support funding applications.

Where does EC technology appear in Northmore Gordon's service offerings?

EC motor technology is addressed within our broader energy-optimisation services, which include energy audits, feasibility assessment, measurement and verification, and equipment procurement support. During the assess stage of our six-stage delivery approach, existing equipment specifications—including motor types—are documented. During the build-the-case stage, equipment options including EC alternatives are evaluated. We can assist with understanding efficiency gains, integration into control systems, and documentation needed for savings verification or certificate eligibility.

How does EC motor selection fit into an investment case for equipment upgrades?

When building an investment case for equipment upgrades, EC motor technology should be evaluated alongside capital cost, operating efficiency gains, maintenance savings and any applicable funding or certificate support. The business case should compare EC motors against baseline or alternative equipment using the same energy prices, operating hours and production assumptions. Our investment-case guidance recommends stating the baseline, proposed intervention, costs, savings basis and measurement approach separately, allowing informed comparison of EC technology options against other efficiency measures.

Can EC motor upgrades generate environmental certificates?

Whether an EC motor upgrade generates environmental certificates depends on the activity, location, timing and applicable scheme—not the technology alone. Victorian Energy Upgrades, NSW Energy Savings Scheme, and other jurisdictional schemes have specific methods and eligibility criteria. Motor replacements or upgrades may be eligible under certain conditions, but eligibility requires assessment of the method, baseline, evidence and registration requirements. Our environmental-certificate services include assessing whether a proposed motor-upgrade project meets particular scheme requirements before assuming certificate proceeds.

What is the connection between EC motors and compressed-air system efficiency?

In compressed-air systems, electronically commutated motors enable variable-speed drive technology that reduces energy consumption by matching motor output to system demand. Rather than running at fixed speed, EC motors with appropriate controls adjust their operation as pressure and flow requirements change. Understanding motor specifications and control characteristics is part of assessing compressed-air system performance. Our guidance on compressed-air assessment emphasises evaluating the complete system—including motor type and control strategy—before purchasing capacity upgrades or replacement equipment.