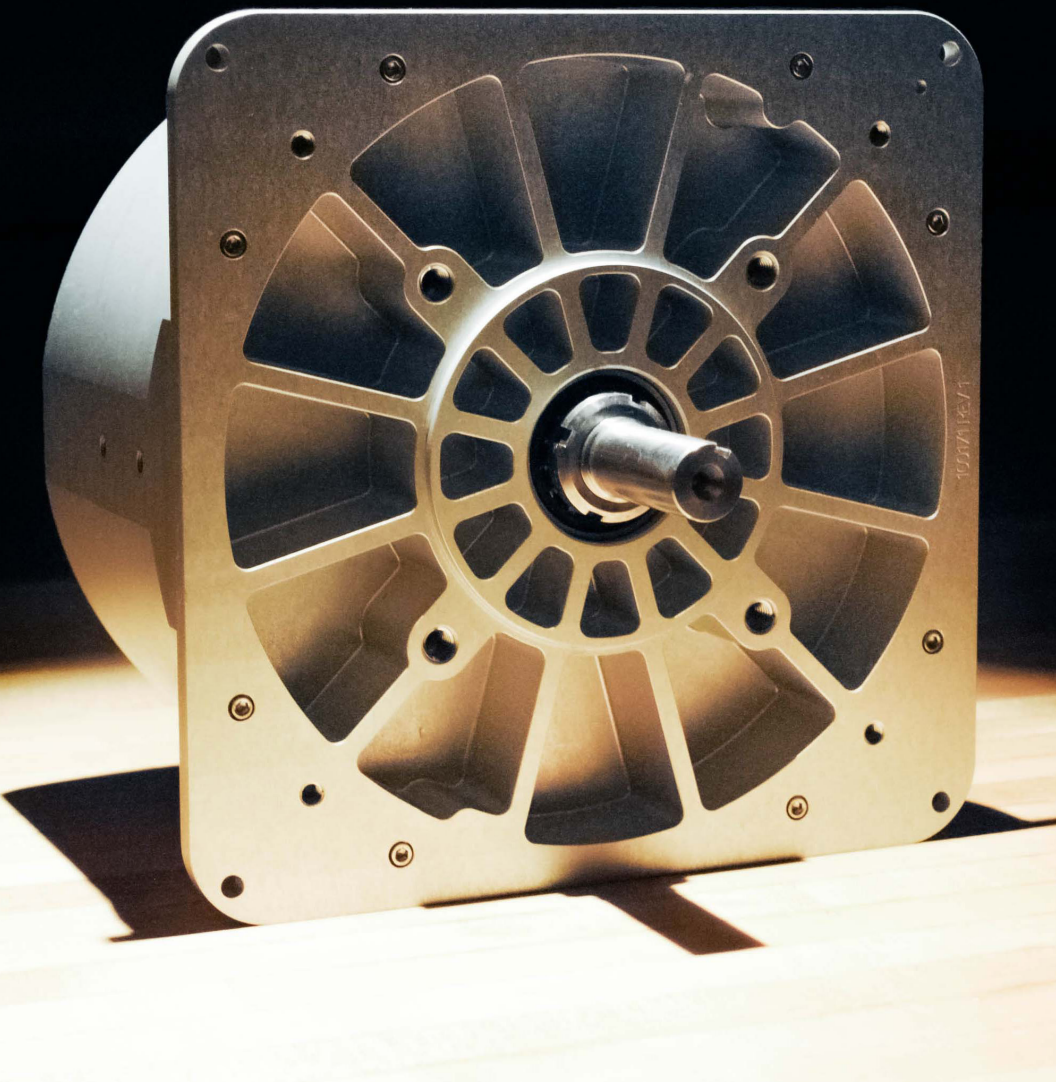
C·MOTIVE



Modern Electric Motors

While we don't think of them often, electric motors are essential to technologies all around us: washing machines, hair dryers, laptops, cars, and plenty of other everyday items. Electric motors are even more prevalent in industrial facilities that use fans, conveyor belts, pumps, automation equipment, and more.

95%

of energy produced globally comes out of an electric generator

50%

of all electricity worldwide is consumed by electric motors

Traditional electromagnetic motors use either permanent magnets or induction systems to generate magnetic fields. These fields are created by passing current through copper windings wrapped around electrical steel, making electromagnetic motors heavy, costly, and incredibly reliant on critical raw materials.

Percent of Total Machine Weight by Materials

	Permanent Magnet Motor	Induction Motor
Copper	10 - 20%	15 - 35%
Electrical Steel	30 - 40%	40 - 60%
Magnets	3 - 10%	N/A

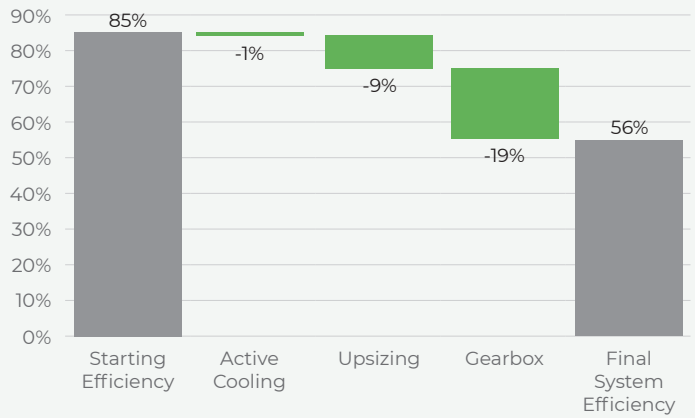
Each of the essential materials for electromagnetic motors (steel, magnets, and copper) have seen prices escalate over time. Almost all rare earth magnets are mined and/or refined in China, concentrating supply chains to a single source and increasing costs for manufacturers.

Material Pricing and Sourcing

	Pricing in the past two years:	Sourcing % processed outside of the US:
Copper	+58%	60+% from China, Chile, & Japan
Electrical Steel	+76%	70+% from Asia
Magnets	+101%	80+% from China alone

Traditional electric motors rely on additional accessories to work in their applications; users will choose a larger motor than necessary to avoid overloading, active cooling systems battle against heat generated within the motor, and gearbox sets reduce speed. This results in significant efficiency reductions, bringing an 85% efficient machine to 55-65% efficient as a system.

Motor Efficiency



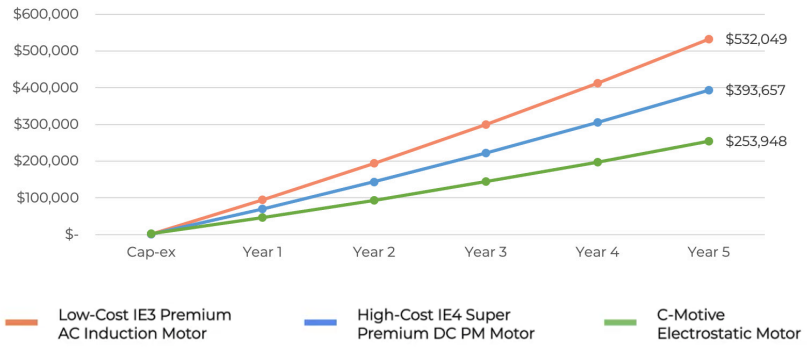
Operational Cost

The first benefit of improved energy efficiency is financial savings. Users can experience a 1-2 year payback period through energy savings by using a C-Motive electrostatic motor. Additionally, removing the need for routine maintenance of gearboxes and belt drive replacements grants users significant savings from lower operational and maintenance costs.

Example Case Studies, 5 Year Cumulative Cost Totals

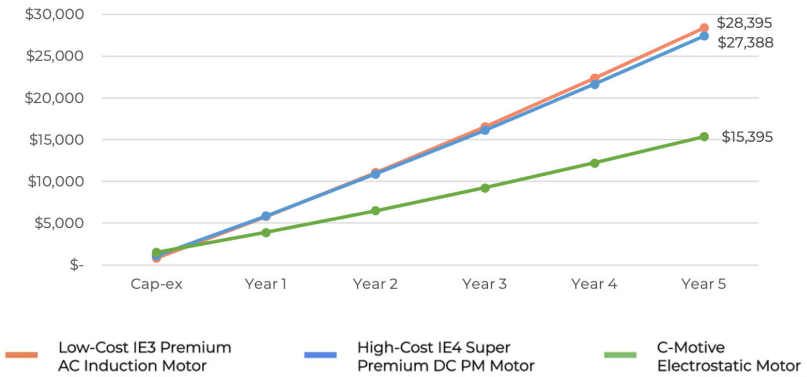
Average Logistics Facility

500 motors, 90% Duty Cycle



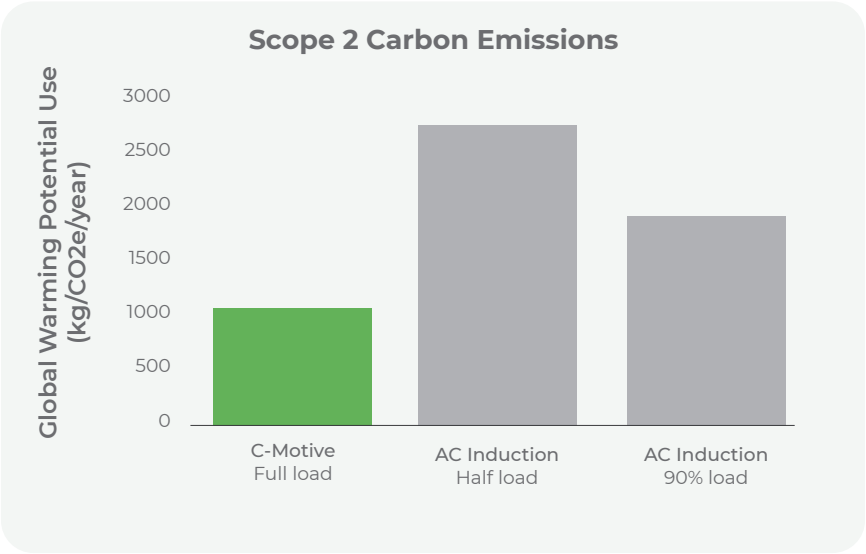
Agricultural Fans

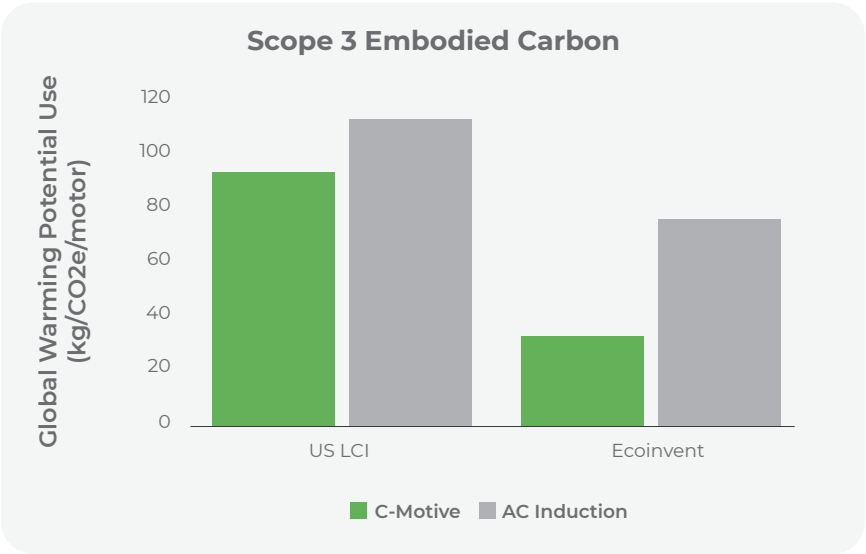
50 motors, 99.5% Duty Cycle

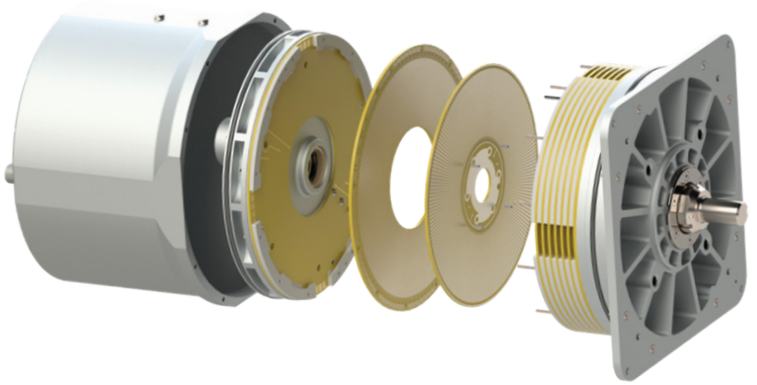


Sustainability

By omitting permanent magnets and significantly reducing copper content, C-Motive's electrostatic motors are more sustainable than traditional models. Motor efficiency alone saves between 3 and 8 metric tons of scope 2 carbon emissions per 1 hp machine. With industrial facilities using thousands of motors, this represents significant savings.







C-Motive's Electrostatic Motors

- 90+% efficient from 0-500 rpm
- No permanent magnets or rare earth materials
- No upsizing, cooling, or gearboxes needed
- Designed for high-torque low-speed applications
- Full torque and efficiency from zero speed
- Up to 10x specific torque of electromagnetic motors
- Nearly silent, generating 10 dB of noise at a steady state
- Ability to hold position with little energy loss (<0.2% full power)
- Precise motion control with no torque ripple

Rotor and Stator Plates

Printed circuit board plates make up the rotors and stators inside the machine; rotors are charged with alternating positive and negative voltages while stators have three phase A, B, and C voltages.

Proprietary Dielectric Fluid

With a liquid that acts as an insulator, C-Motive's machines can operate at higher voltages than they would in air and achieve maximum efficiency. C-Motive is developing this dielectric fluid in-house.

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