

CAGE TECHNOLOGIES

CAGE (Clean Air Gas Engines)

Power low emission generators using Liquefied Petroleum Gas (LPG), biogas or hydrogen fuel.



Challenge

In the global economy, the widespread use of diesel generators for off-grid power is no longer sustainable because of air pollution that causes harm to human health and the rising cost of diesel fuel. Biogas from waste is a sustainable alternative to diesel, particularly if solutions can use local waste processed on sites such as farms. However, there are many challenges to achieving efficient and reliable biogas combustion in small engines.

Innovation

CAGE Technologies (CTL) has developed smart engine technology that allows reliable, efficient biogas combustion with low emissions at a competitive cost. This world-leading solution enables CAGE biogas engines to deliver the same performance as a diesel engine of equivalent capacity, using low-quality biogas fuel containing up to 55% CO₂. CAGE biogas machines work directly from low-pressure biogas produced through Anaerobic Digestion (AD). This is the first plug-and-play solution of its type and allows biowaste conversion through AD to electricity to power machinery, homes and communities. This improves lives and makes businesses in growing economies more efficient by eliminating reliance on expensive diesel.

Impact

CTL has worked with micro-AD global leader Sistema Bio to demonstrate CAGE generators in Kenya and is now commercially supplying CAGE 6KW biogas generators to the UK, India, Africa and Latin America. The generators have been a game-changer for off-grid communities who are delighted with their reliable performance that enables farm waste to replace diesel as a fuel with no compromise.

By efficient combustion of gas and clever engineering, CAGE generators are proven to be 25% more efficient than commercially available alternatives giving customers significant savings. In addition, the intelligent CAGE engines exceed all global emissions standards. CTL is supported with funding from UK Government programmes – Energy Catalyst and Innovate UK.