GREENER BUSES

Over 3,000 buses in cities around the world are now powered by BAE System's HybriDrive technology and the company is set to follow up by using the system to drive heavy duty trucks.

HybriDrive technology is being used in fleets of city buses in New York, Toronto and across Europe. BAE Systems has calculated that its hybrid buses have accumulated over 200 million miles of revenue service, saved more than 10 million gallons of fuel and prevented more than 100,000 tons of carbon dioxide emissions.

The engine used in an advanced hybrid electric bus is approximately half the size of that in a standard bus and is attached to a generator that supplies power to the electric motor. The electric motor provides the momentum for the bus and ensures that it accelerates smoothly with no sudden jerks. During braking, the electric motor acts as a generator to recapture energy that is stored in the batteries.

The propulsion system is well suited to the needs of inner city vehicles, with routes that require low average speeds and frequent start-stop operation. The HybriDrive is quieter than conventional engines and has increased torque for faster starts and improved performance on hills. The system also uses no mechanical transmission, a major maintenance item on conventional diesel buses.

The energy is stored in long-life lithium-ion batteries, which in addition to being lighter than some alternatives are fault tolerant and designed to keep operating even if individual battery cells fail. The system is self-monitoring and easy to service thereby reducing maintenance costs.

Transport for London is trialing 56 hybrid buses from various manufacturers (a third using HybriDrive) with a view to all London buses being hybrid by 2012. The Department of Transport's £30 million Green Bus Fund has provided financial incentives for operators to adopt green technologies and up to 300 hybrid electric buses will be bought with these funds.

The system is currently being trialled in refuse collection vehicles in the UK with the intention of placing it in construction, package and delivery trucks. HybriDrive technology is set to become a major contributing factor in many cities' and councils' long-term goals to dramatically reduce their carbon footprint.

HYBRIDRIVE BUS SETUP