

# Design of a Zero Emission Bus for use in a European City

**Electrifying public transport in a European city is one way of reducing the amount of emissions that are currently being produced within Europe.**

It is a requirement for all double decker buses to be converted to euro 6 standard or above before 2020 in London, and therefore this project provides a solution for converting 15 of the Enviro400 double decker buses currently in service on route 23 to zero emission buses, rather than euro 6 standards. The project also gives a cost comparison and looks at the implications, politics and other areas of key interest that need to be taken into consideration when concluded if this bus could be a viable solution. The main objective of this project was a complete redesign of the propulsion system, breaking

down each of the sub systems and investigating various possibilities and options. An initial recommendation was suggested for each sub system, with the final solution developed differently once the simulation had been optimised and other areas taken into consideration such as reliability, availability, maintainability and cost.

The project considers two bus routes; route 43, looking at the performance of the bus, and route 23 which considers environmental aspect. Route 43 is, geographically, one of the most challenging routes in London. The double decker bus has been designed for this route. Route 23 passes through some of the busiest parts of London, such as Oxford Street, where emissions are at an all-time high and therefore looks at the social aspect •

