

Accelerating the move to Zero Emissions Bus systems

As the air quality in urban areas gets increasingly worse through CO₂ emissions and other pollutants, zero emissions bus systems provide an important way to improve this worsening situation. But without enough reliable data, the move towards electric bus fleets across Europe is proving to be a slow process.

Name	Decision Support Model (TCO) for Transition to Zero Emission Bus Transportation (ZEB)
Project Type	Pathfinder – Explores relevant climate arenas to identify and prioritise innovation opportunities
Lead Partner	Michiel Ytsma, TU Delft
Project Partners	Delft University of Technology (TU Delft) Twynstra Gudde Province Utrecht Schiphol Airport Energy Technology Institute Institute for Sustainability
Project Manager	Michiel Ytsma, TU Delft
Project Location	Pan-European, coordinated from the Netherlands
Project Start Date	March 2013
Theme	Sustainable cities

The climate change issue

Fossil-fuelled bus transport systems are a major source of CO₂ emissions. Every single day diesel powered buses drive millions of kilometres throughout the European Union using inefficient internal combustion engines. There are no doubts in the ability of zero emissions bus transport systems to improve the air quality in urban areas. Especially when it's considered that an electric bus can save 500 tonnes of CO₂ being released every year compared to a bus running on diesel. But without enough reliable data on the costs and benefits of running an electric bus fleet, implementation into the market is proving to be a difficult process.



The project solution

The Decision Support Model for transition to Zero Emissions Bus (ZEB) project is bridging the gap between technology and information in the decision-making process. By designing a standardisation decision support model, the project will help to move forward the transition towards zero emission bus transportation. Based on a Total Cost of Ownership (TCO) approach, the model will demonstrate the higher purchase price for zero carbon buses against the potential for long-term benefits. Through better insight into the TCO of zero emissions buses and supporting infrastructure the project is focussed on making the benefits and disadvantages of zero emissions bus transport clearer to better inform decisions. The end goal is to develop the design of a standardised decision support tool, with the long-term aim to accelerate the transition to low carbon transportation across Europe.

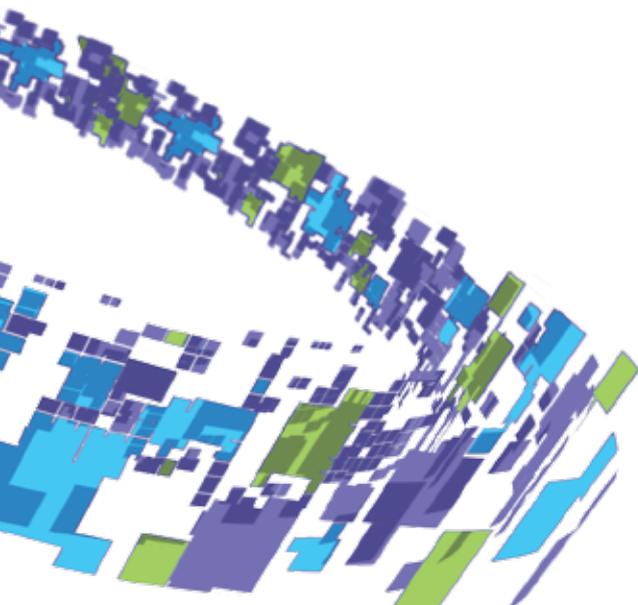
The role of Climate-KIC

By working with Climate-KIC, the project has received the funding required to advance, and access to new partners who have helped to deliver a Europe-wide perspective. This includes working with partners in the UK, the Netherlands and Spain such as the Institute for Sustainability, Schiphol Airport and the Instituto Tecnológico de la Energía. Meaning the project has now been able to assess how zero emissions buses would work in relation to the different systems in different countries and develop a European approved model.

“The projects I am involved in with new European partners would not have happened without Climate-KIC. They have helped us to think about projects at a European-wide level”

Michiel Ytsma

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About Climate-KIC

Climate-KIC is an initiative of the European Institute of Innovation and Technology (EIT) with a mission to create sustainable growth by addressing climate change mitigation and adaptation. As Europe's largest public-private innovation partnership we integrate education, entrepreneurship and innovation. By bringing together communities we help transform knowledge and ideas into economically viable products or services that help to mitigate climate change.

To find out more about this project or about working with Climate-KIC, visit www.climate-kic.org