

# A future with electric buses?

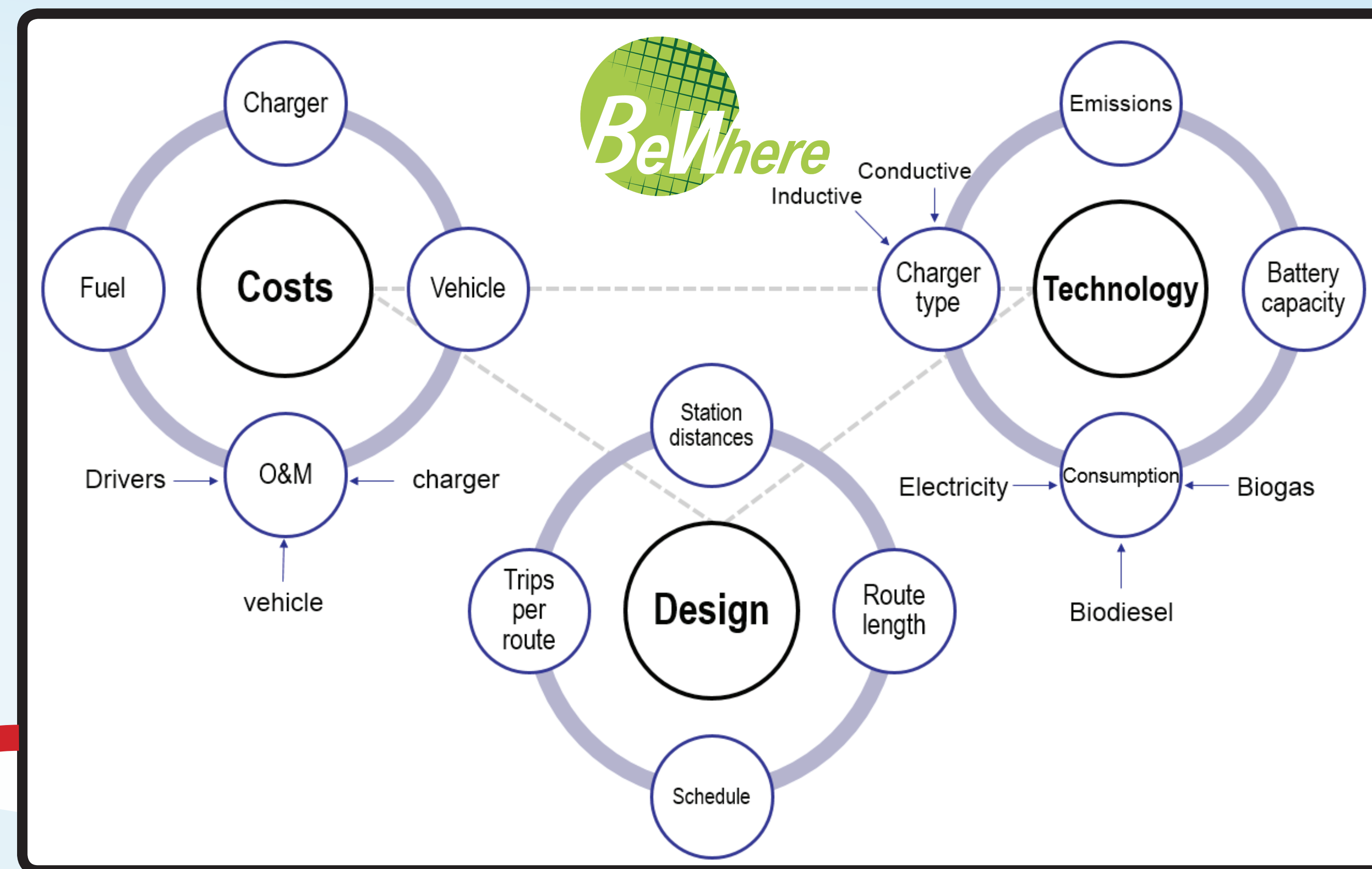
## Placing bus chargers in Stockholm

Maria Xylia<sup>1,2</sup>, Sylvain Leduc<sup>3\*</sup>, Piera Patrizio<sup>3</sup>, Florian Kraxner<sup>3</sup>, Semida Silveira<sup>1</sup>

<sup>1</sup> Energy and Climate Studies Unit (ECS), KTH Royal Institute of Technology, Stockholm, Sweden

<sup>2</sup> Integrated Transport Research Lab (ITRL), KTH Royal Institute of Technology, Stockholm, Sweden

<sup>3</sup> International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria



**Cost minimization scenario**

**Energy minimization scenario**

**42 electric routes, 59 chargers**

**94 electric routes, 150 chargers**

Cost reduction 3%

Vehicle Investment cost +24%

Fuel saving -32%

Energy consumption -34%

CO<sub>2</sub> emissions -51%

Infrastructure cost 5 M€

A bus electrification pathway can be **cost-competitive** compared to a 100% biodiesel pathway

Advantageous to **concentrate** chargers in **major hubs**, but space allocation and bus route rescheduling is required

Infrastructure cost is **balanced** by **lower electricity price** up to 185% above its current price

The model is **flexible** and can be applied in **any urban** transport planning, providing **accurate** input data (e.g., bus routes and schedule)

