

WHY ELECTRO MOBILITY IN PUBLIC TRANSPORT?

Ulf Gustafsson



The Volvo Group's vision is to become the world leader in sustainable transport solutions by

creating value for customers in selected segments

pioneering products and services for the transport and infrastructure industries

driving quality, safety and environmental care

working with energy, passion and respect for the individual



Challenges for Cities

Related to public transport

- ✓ Congestions
- ✓ Air quality
- ✓ Noise
- ✓ Reduction of CO₂ emissions
- ✓ Investments in PT



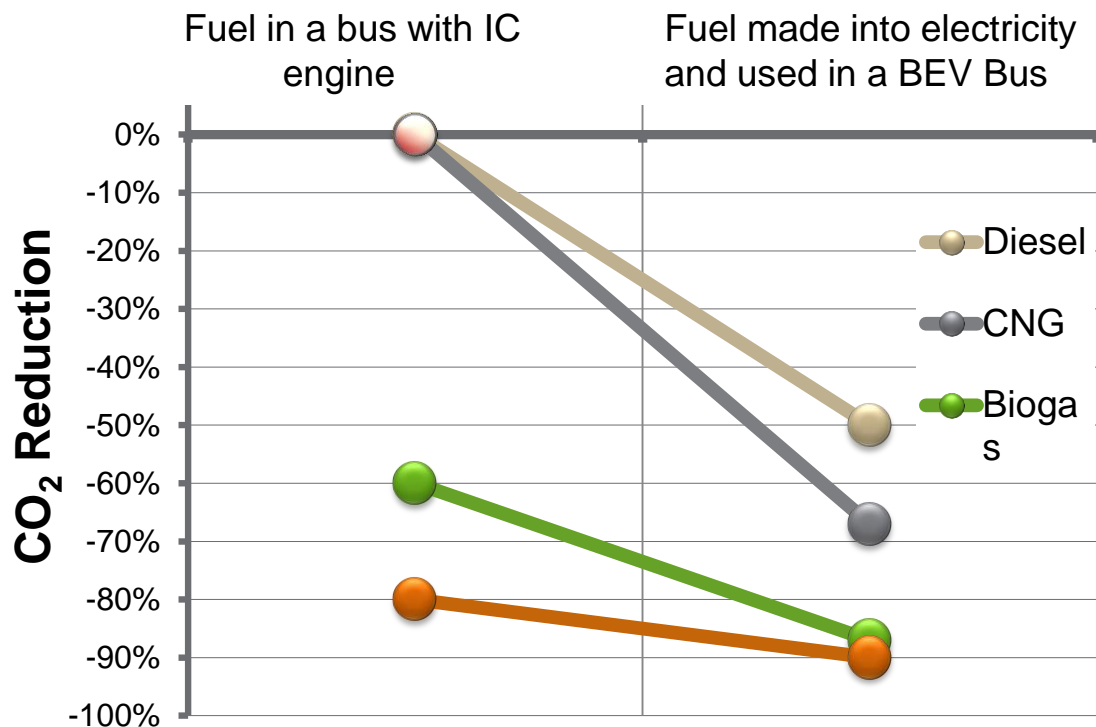
Our business case for electrification is based on:

- **Energy efficiency** combined with **CO₂ reduction**.
- Improving local **air quality**
- Reducing disturbing **Noise** from traffic.
- Attract **new passengers** for public transport.
- **TCO** in line with or better than comparable alternatives



Efficiency and CO₂ emissions

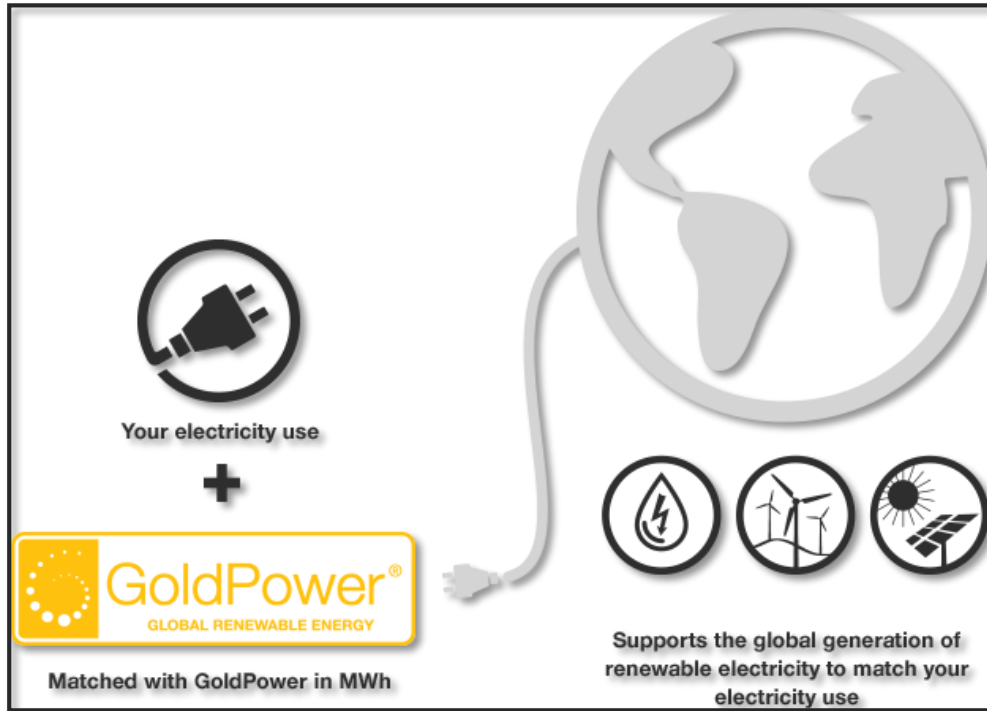
Indication of CO₂ footprint (W to W) if the fuel is used to make electricity and used in an electrical bus.



* Reference: Based on average CO₂ reduction 2014, issued by Swedish Energy Agency.

Efficiency and CO₂ emissions

Buying renewable energy? One alternative is GoldPower, supported by WWF



GoldPower is supported by WWF because, unlike most conventional green power options, GoldPower demonstrably stimulates new investments in new renewable energy capacity and is certified to reduce greenhouse gas emissions beyond business as usual.

WWF recommends GoldPower to companies that want to drive quality renewable electricity solutions.”

PTx2

New type of vehicles has to be combined with investments in traffic infrastructure.

Bus Rapid Transit

- ✓ Fast
- ✓ Low emissions
- ✓ Quiet
- ✓ Cost effective
- ✓ Flexible
- ✓ High capacity



EBSF



Urban planning

Utilizing the features electrified buses have

The absence of noise and local exhaust emissions is opening grate opportunity's for urban planning.

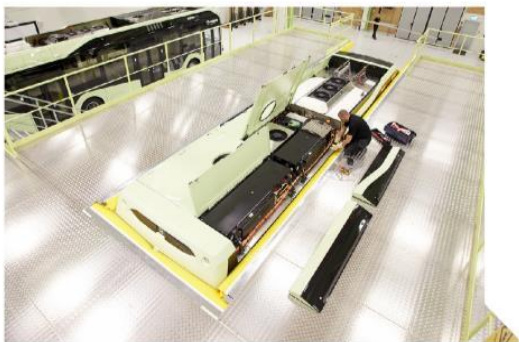
Providing a new tool for to build a more dense city.

Making public transport more accessible. Hence, more attractive.



A bus driving in to the library!

ElectriCity – a Visionary Transport Solution



ZeEus

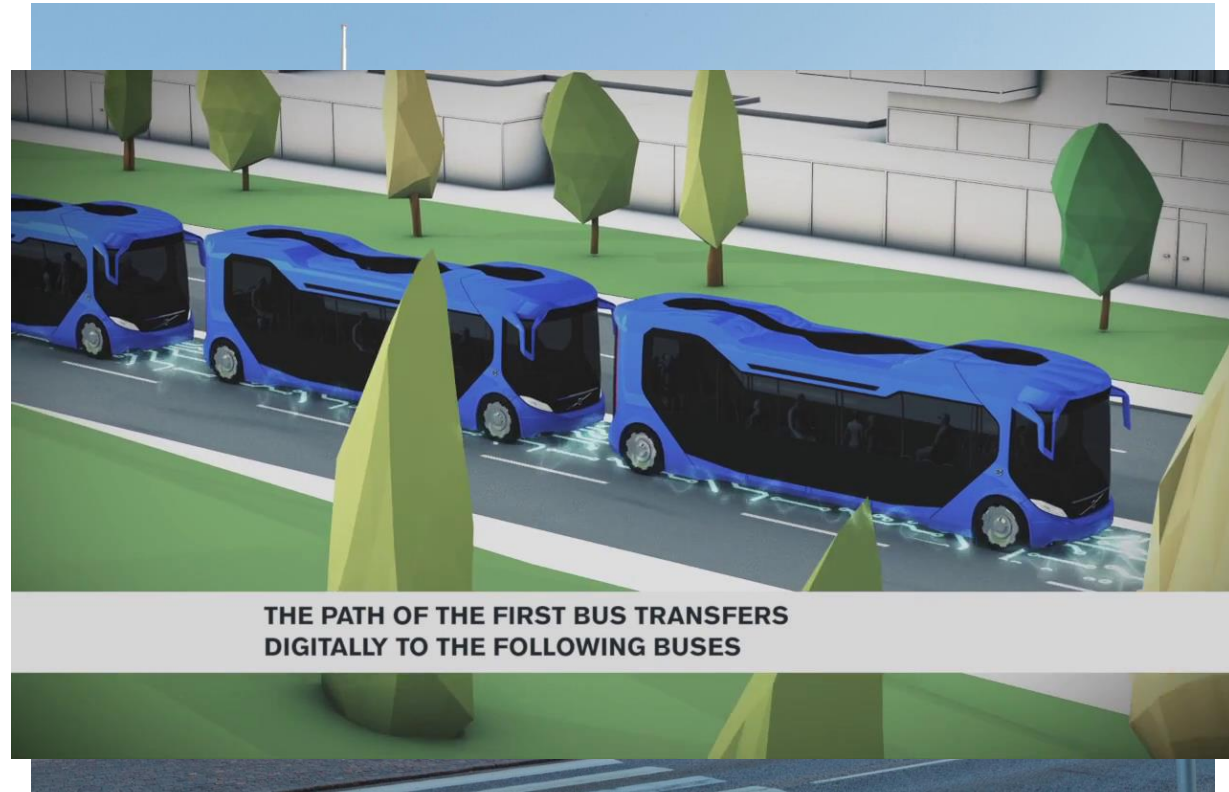


Electric Hybrid buses in live traffic on line 73 i Stockholm.

(Picture from royal wedding I Stockholm, in witch the buses was used for transport of guests)

Bus trains.

A future system that can improve capacity, flexibility and the TCO for a bus system.



A complete product offer of electrified buses

Hybrid buses

Electric hybrid buses

Electric buses



Now



2016



2017

- 30-40% fuel reduction
- Silent take-off
- 40% lower emissions
- Improved passenger capacity

- 75% fuel, 60% energy reduction
- Electric drive 70% of route
- 75% CO2 reduction*
- Silent
- Charge at end stations

- 80% energy reduction
- 100% electric
- 100% CO2reduction*
- Silent
- Charge at end stations

* With green electricity



Thank you!

Ulf.gustafsson@volvo.com

