



Trolleybuses the forgotten experience in electromobility

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DAIMLER

Daimler Buses

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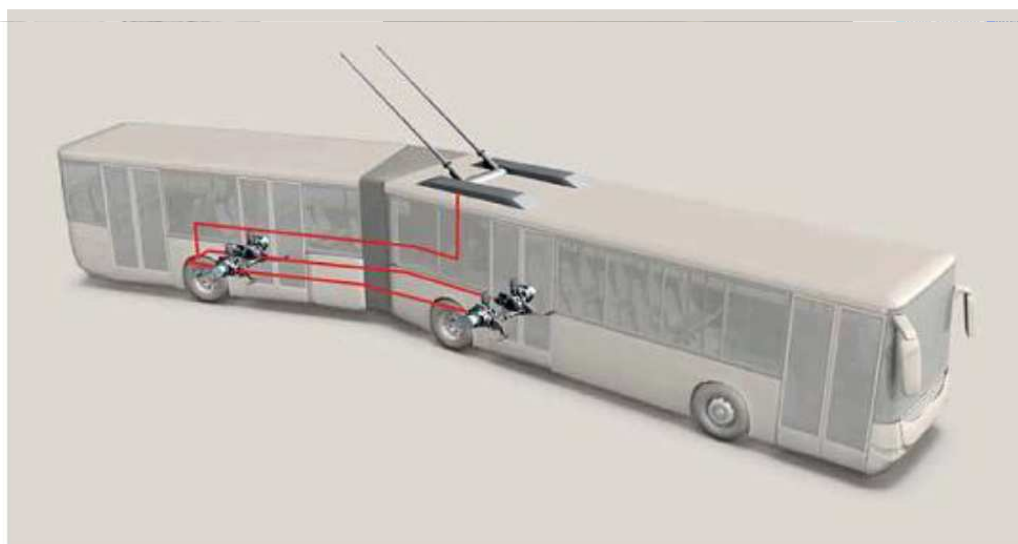
Daimler Buses

AVE130 elektromos hajtású tengely



Elektromos hajtású tengely felhasználása

Driveline and Chassis Technology



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What is electromobility?

According to the car industry (car culture...):



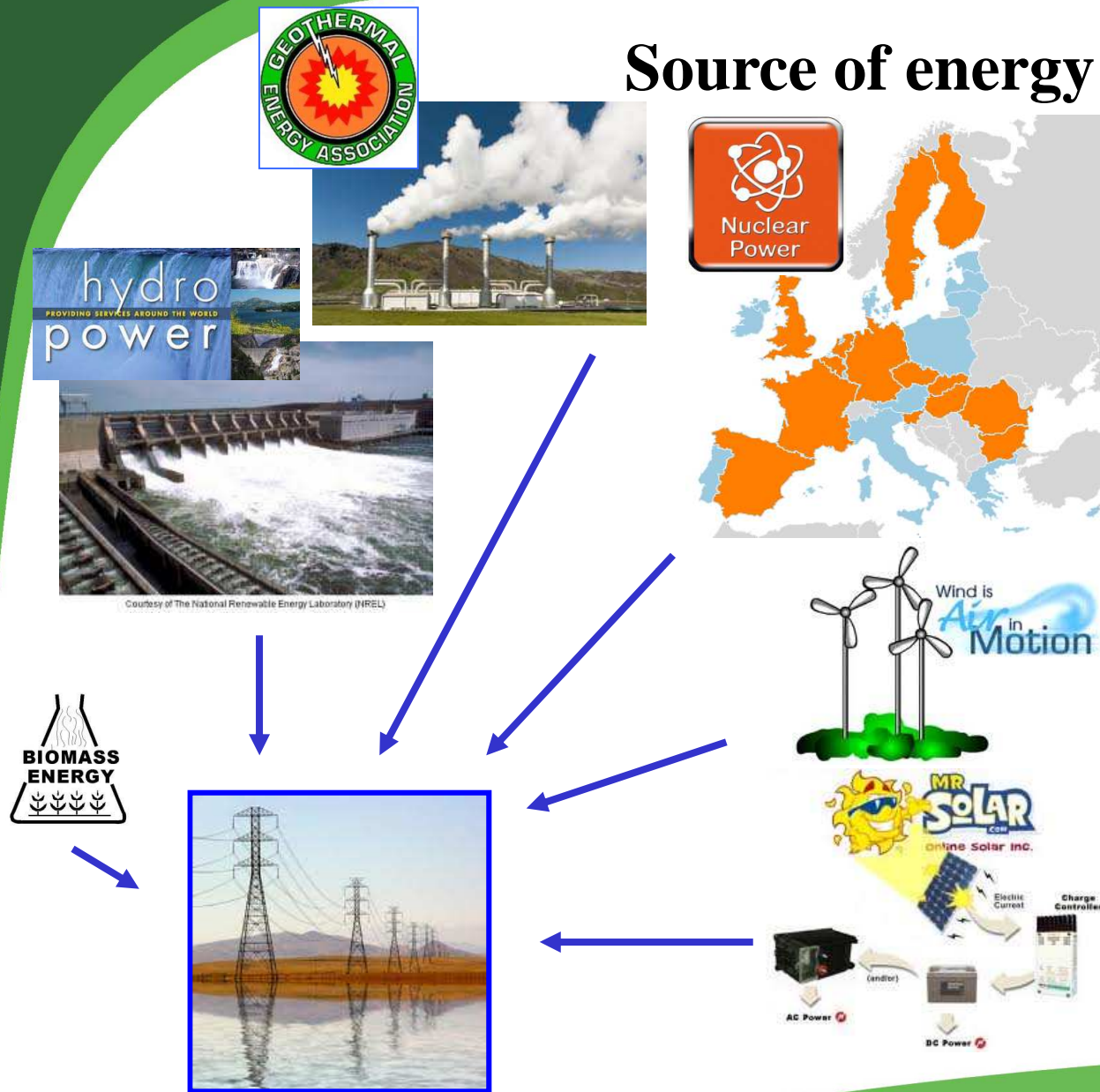
vossloh
KIEPE

Efficient in Public Transport – Serial Hybrid Traction Systems



...instead according to sustainable future (urban culture...)

Source of energy



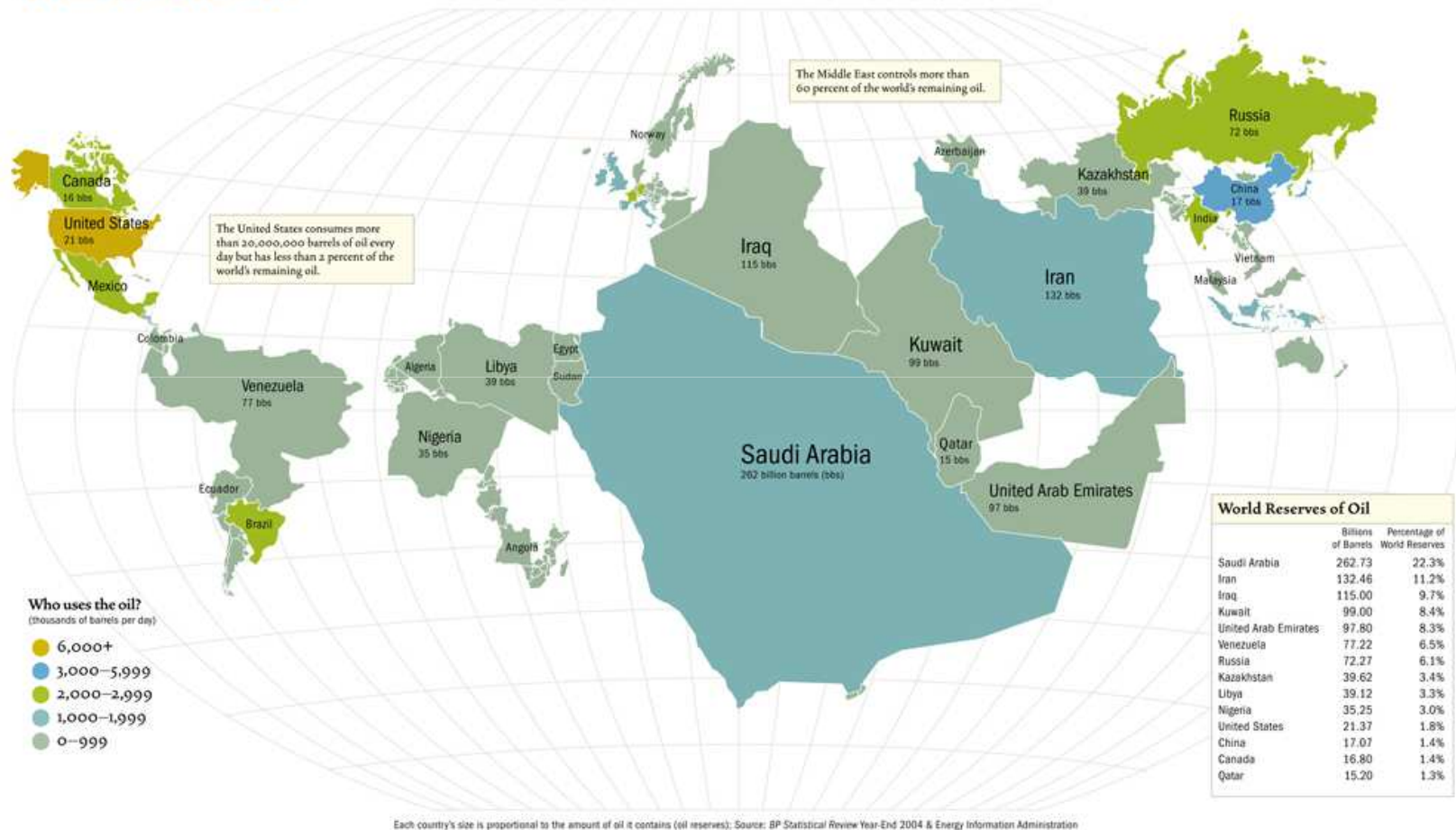
The central premise is simple:

oil dependence problem
&

CO₂ emission reduction

Source of energy

Who has the oil?

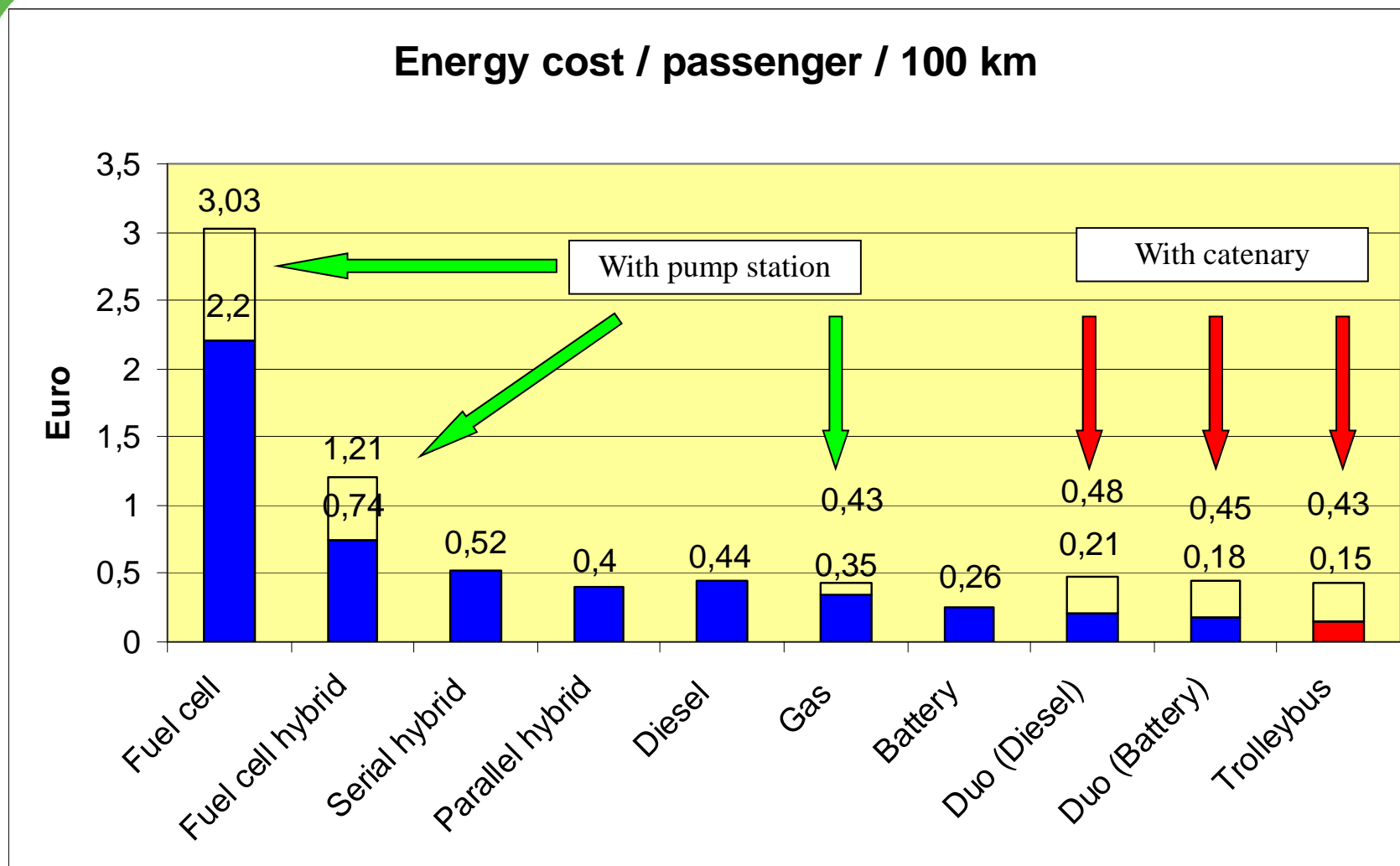


Diesel and gas prices are not in our control...

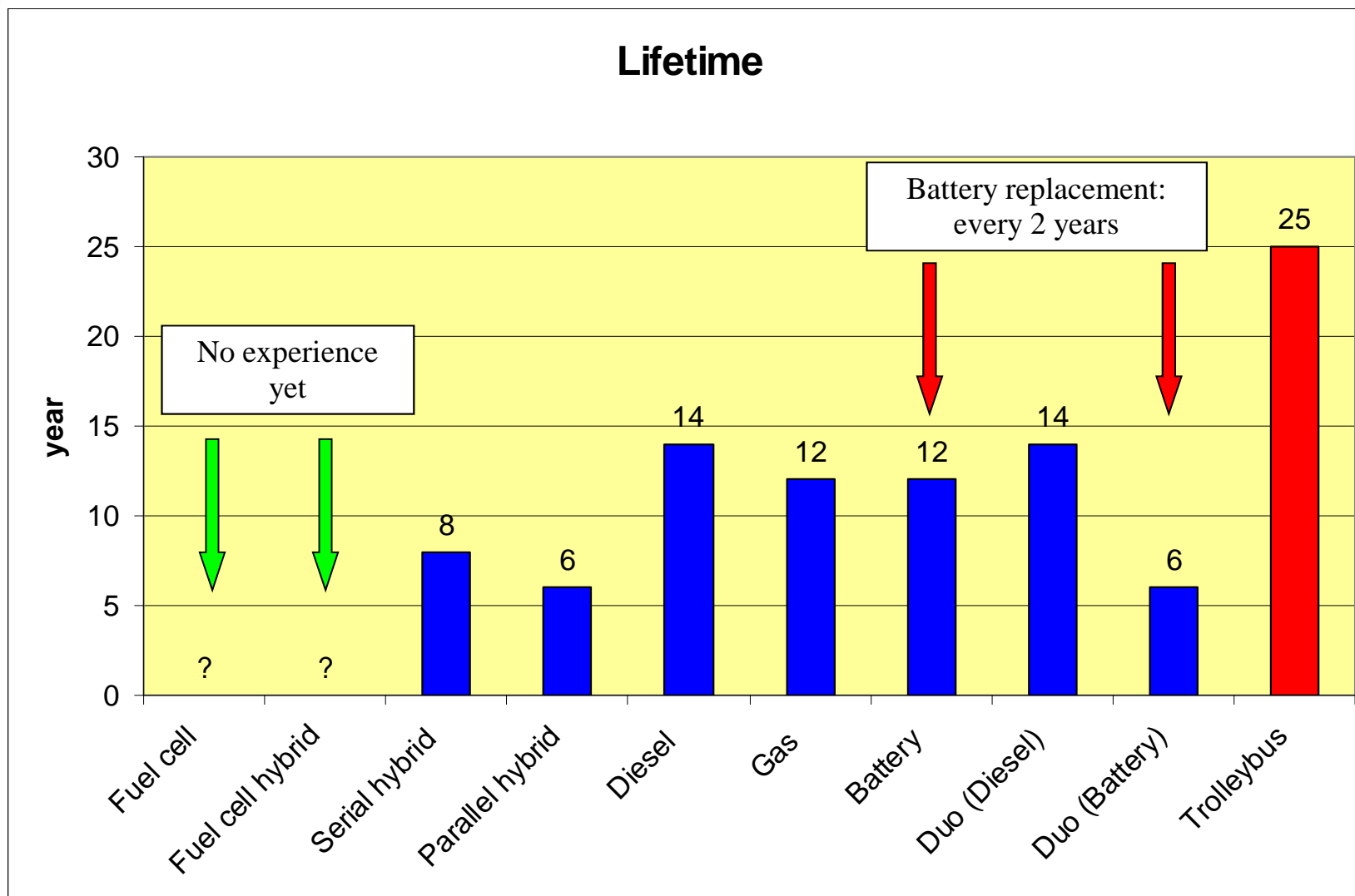
Rich history of trolleybus – since 1882



Arguments

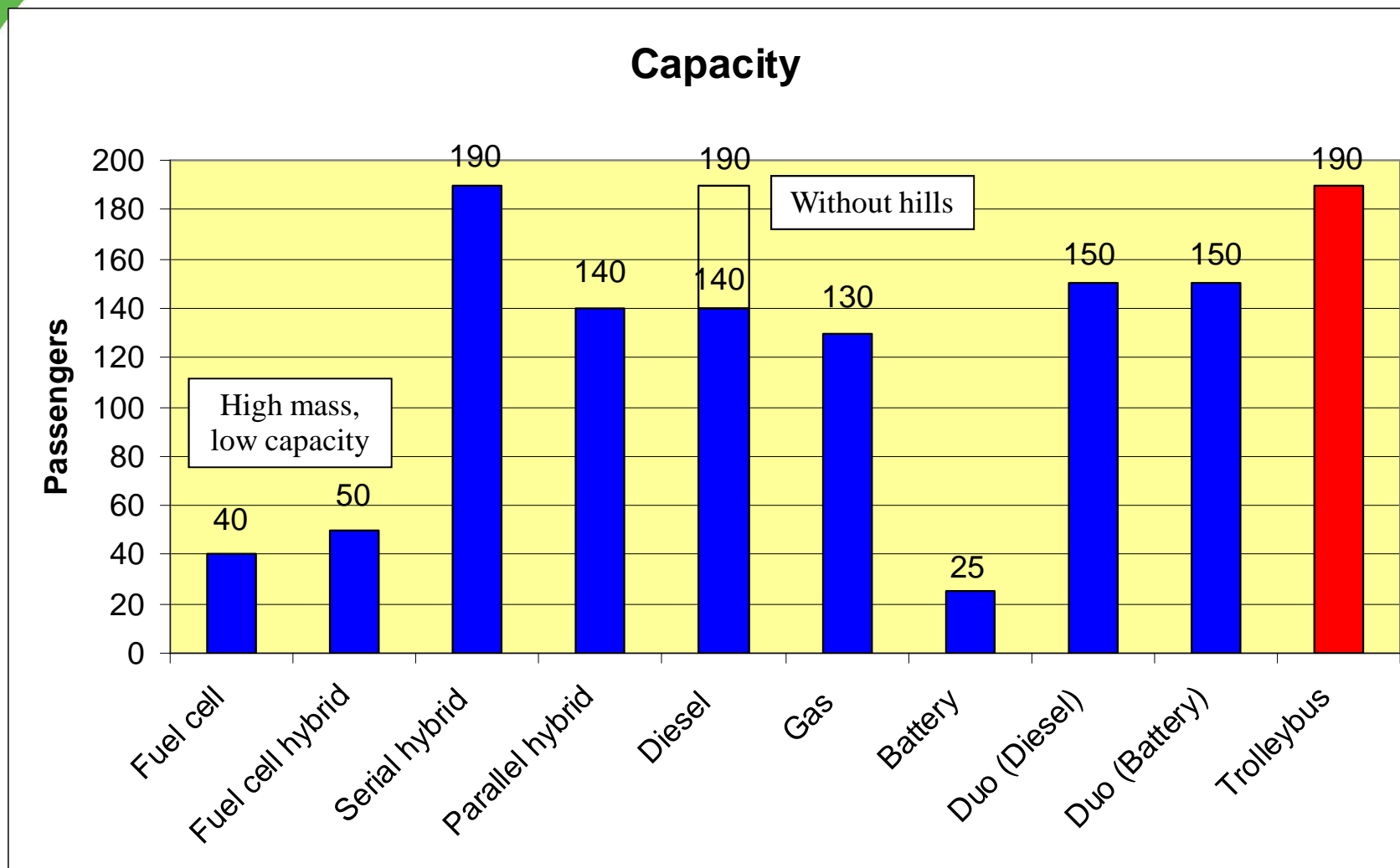


Arguments





Arguments





Ing. Luigi Bianco
21 OTTOBRE 2010

Energy and emissions

	Trolley	DIESEL		CNG
		Euro 4	Urban fleet	
DIRECT ENERGY (MJ/Km)	8,6	15,0	15,9	25,4
DIRECT EMISSION CO₂ (g/Km)	58	1.092	1.160	1.292
TOTAL ENERGY (MJ/Km)	16,4	15,8	16,7	26,3
TOTAL EMISSION CO₂ (g/Km)	1.137	1.146	1.218	1.344



Infrastructure, as a value

Overhead wires were controversial:

- depends on the country its evaluation
- must be viewed as an advantage! (...being connected...)



Existing trolleybus/tram catenary network is a good jumping point for advanced technologies (battery recharge possibility for hybrids)

- Case Rome: no overhead in the city center.
- Case Gdynia, Budapest, Castellón: bus route under existing wire. (Leipzig? Szeged?)

Szeged, trolleybus development

- Low-floor trolleybuses, new or converted
- New depot maintenance hall and power substations
- New routes



Route 8



Route 10





Thank you for the attention!

