

 **MAGNUM CAP**<sup>®</sup>  
ELECTRICAL POWER SOLUTIONS

2

  
**MOBILE**  
MOBILE ELECTRICAL





GO ELECTRIC



YOUR QUESTIONS  
ANSWERED

# ELECTRIC MOBILITY

IS AN ELECTRIC VEHICLE A GOOD ALTERNATIVE TO CURRENT ICE VEHICLES?

IS ELECTRICITY A GOOD ALTERNATIVE TO PETROLEUM BASED FUELS?

DOES THE BATTERY SUBSTITUTE THE CONVENTIONAL FUEL TANK?

# ELECTRIC MOBILITY

## THE ISSUES AND QUESTIONS

RANGE

PERFORMANCE

COMFORT

VEHICLE PRICE

PRICE PER KM

USABILITY

MAINTENANCE

CO<sub>2</sub> AND POLLUTION

BATTERY ISSUES

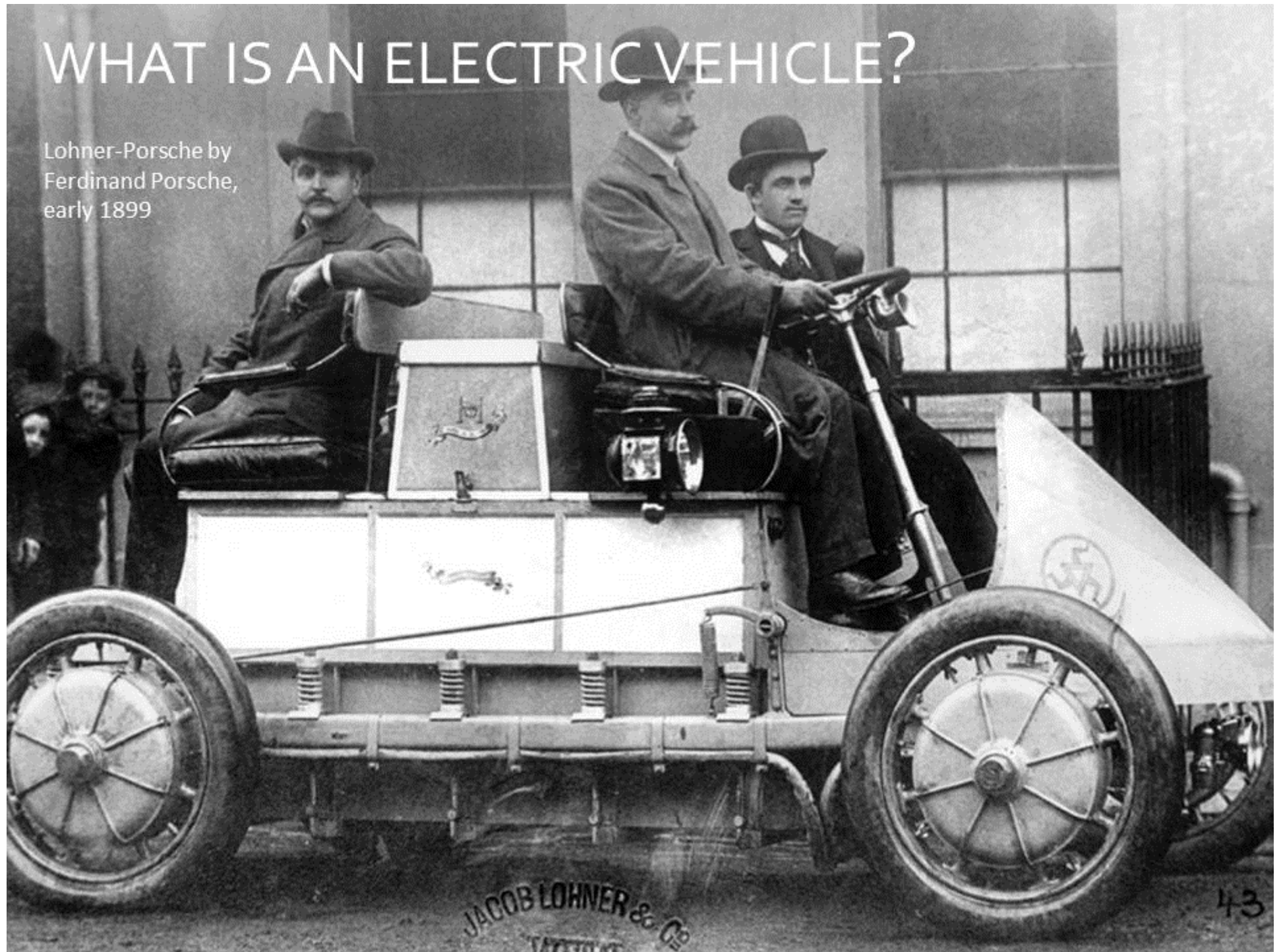
WHERE TO CHARGE

GRID IMPACT

HOW MUCH OIL WE SAVE

# WHAT IS AN ELECTRIC VEHICLE?

Lohner-Porsche by  
Ferdinand Porsche,  
early 1899



# HOW MY FRIENDS SEE AN EV



# EV WORLD TODAY AND MUCH MORE ...



AUDI - A3 e-tron



Audi - e-bike



BMW - Active E



BMW - i3 & i8 -



BMW - Pedelec Electric Cycle



Brammo - Empulse



Chevrolet - Spark



Chevrolet - Volt



Citroen - C-ZERO



Fisker - Atlantic



Mini - Electric



Nissan - Leaf



Opel - Ampera



Peugeot - Cycles



Peugeot - Partner



Renault - Circular Economy 4L



Renault - Twizy



Renault - Zoe



Smart - Fortwo Electric Drive



Smart - Scooter



SsangYong - XIV-1



Tesla - Model S



Toyota - iQ



Volvo - C30





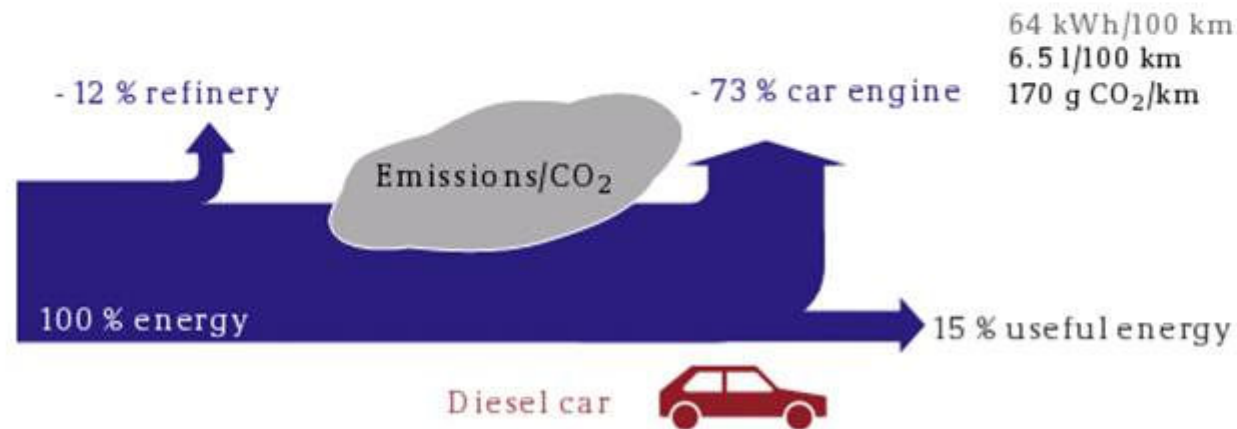
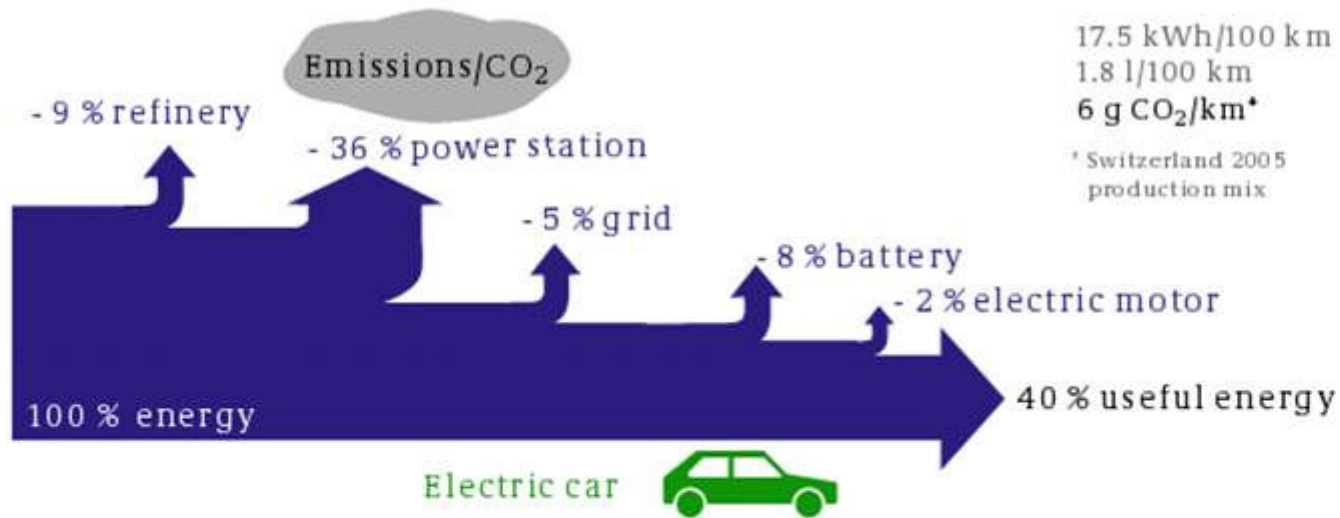


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HOW FAR  
CAN I GO?

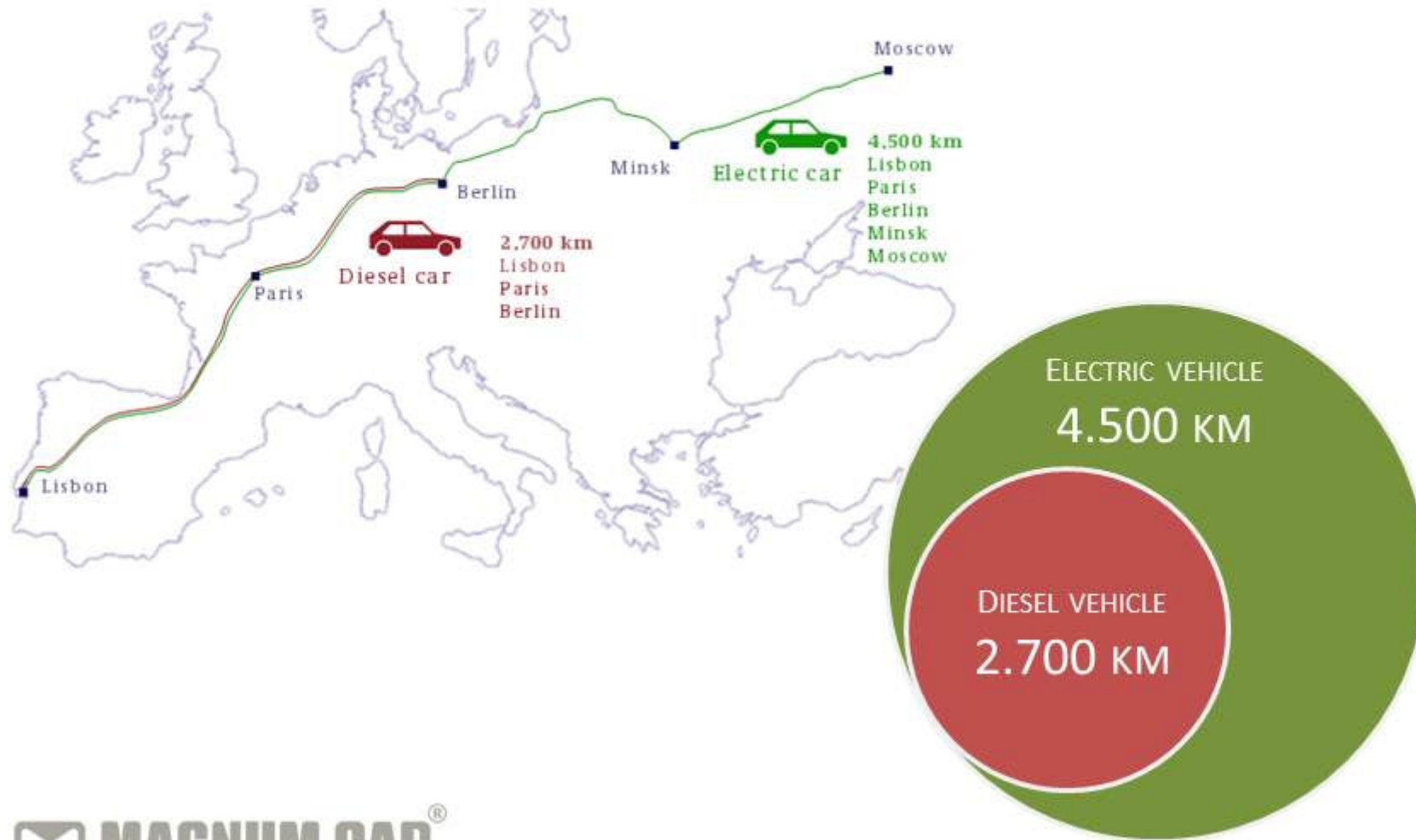


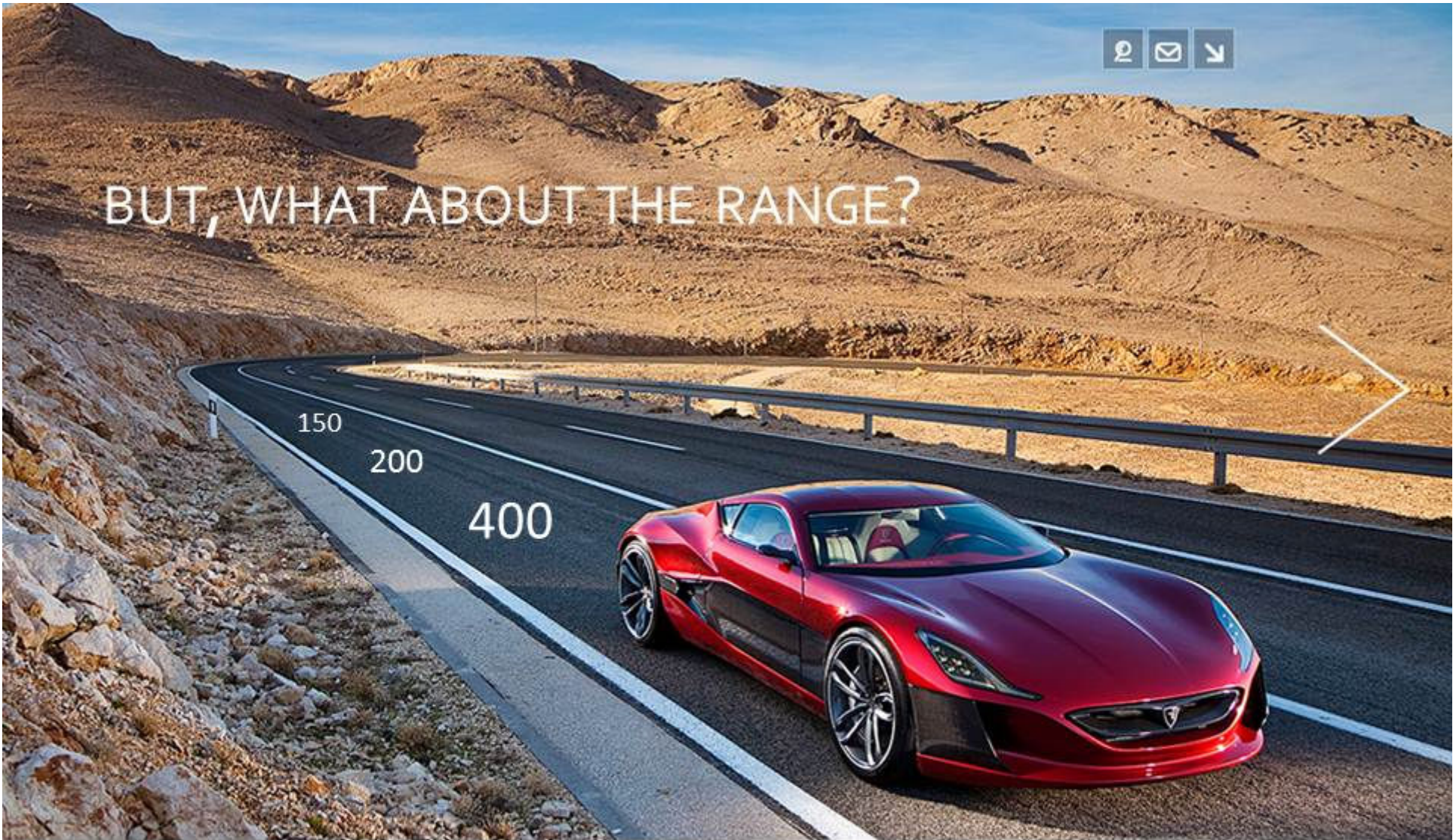
# EFFICIENCY AND CO<sub>2</sub> EMISSIONS



# ENERGY EFFICIENCY

RANGE ON ONE BARREL CRUDE OIL





BUT, WHAT ABOUT THE RANGE?

150

200

400

How We Drive

THE AVERAGE DAILY TRIP LESS THAN 10 KM



600 KM PURE ELECTRIC



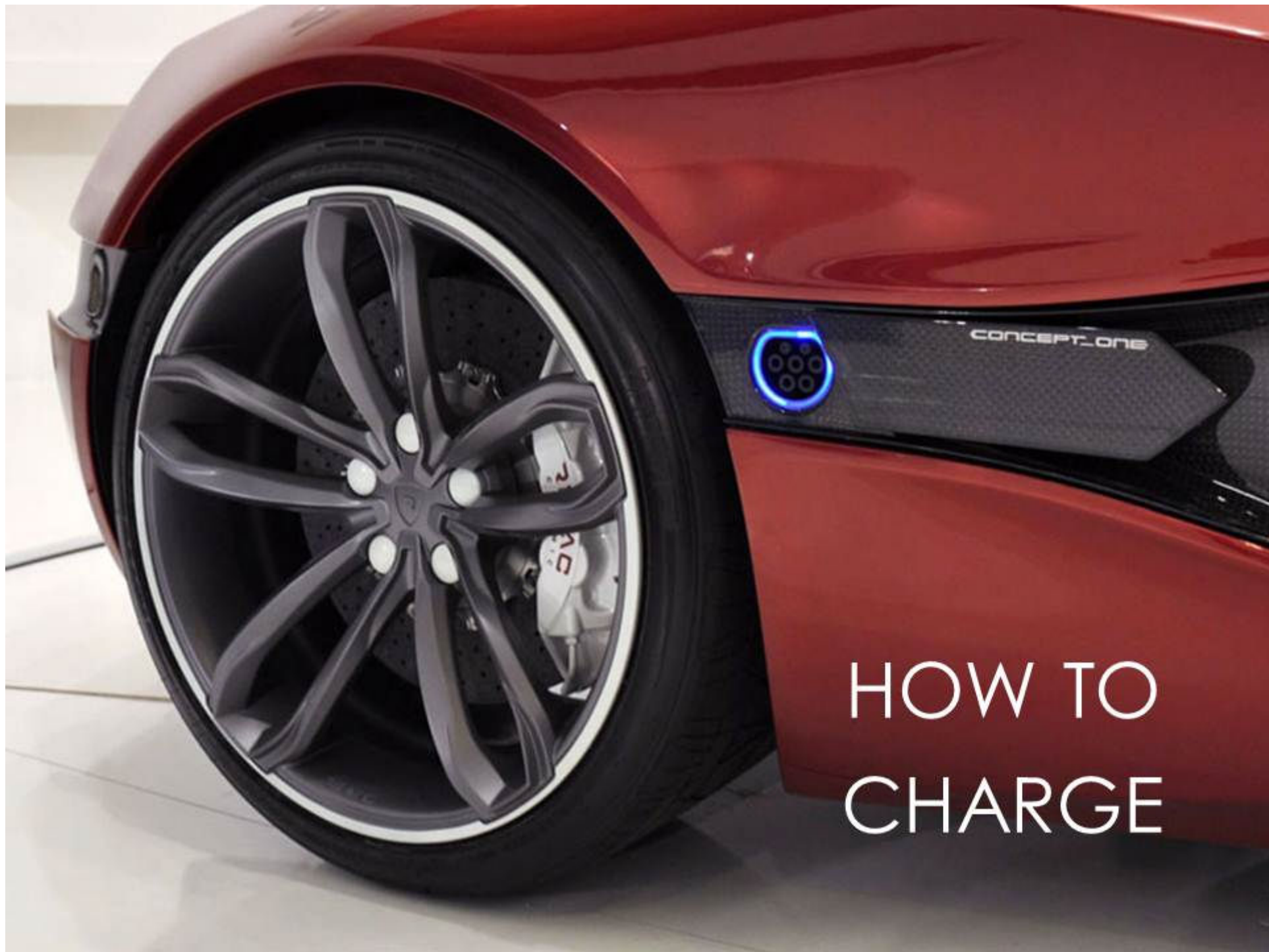
600 KM PURE ELECTRIC



1.600 KM, BATERIAS DE FERRO-AR  
LIBERTY ELECTRIC CARS PROJECT

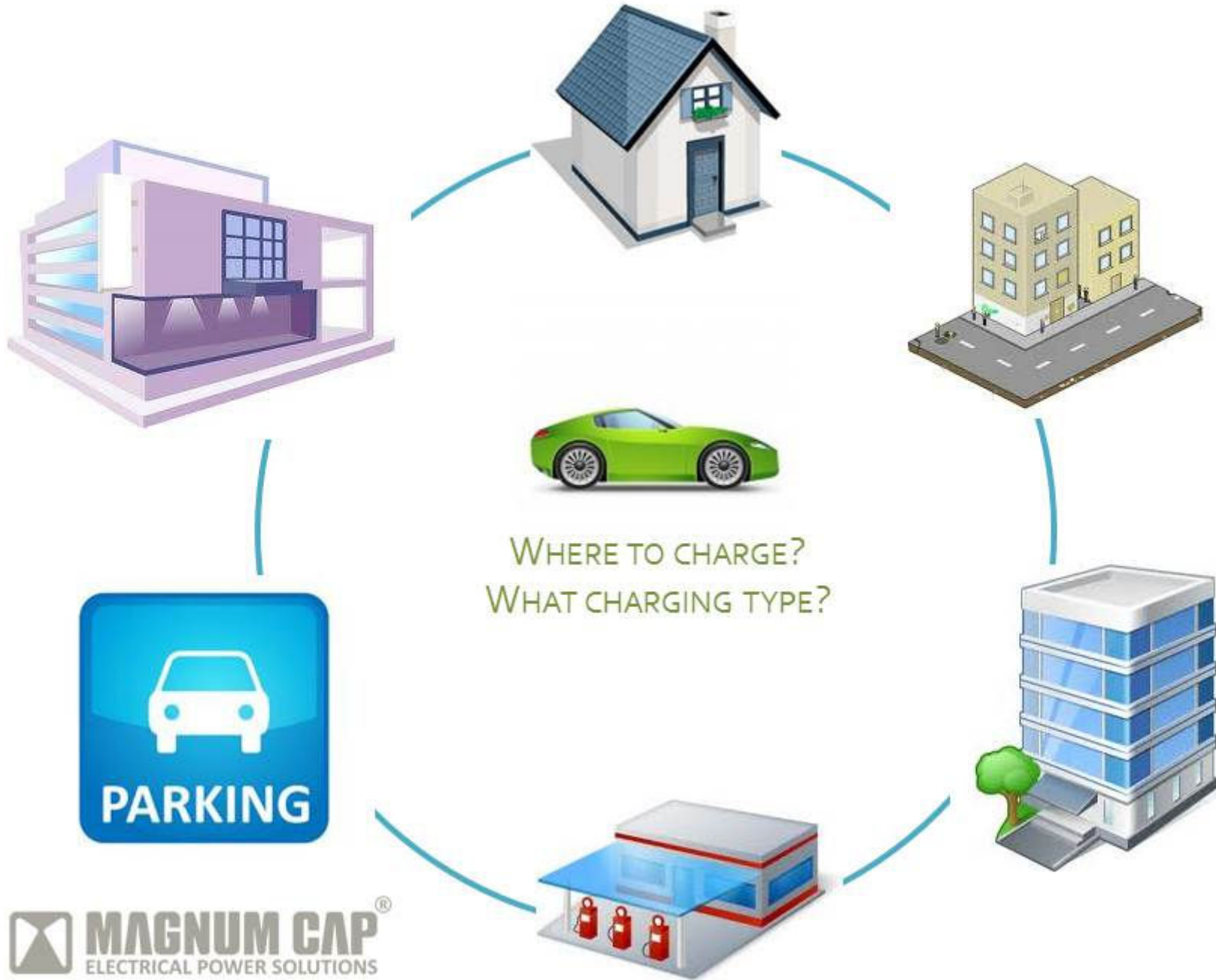






HOW TO  
CHARGE





HOW LONG DOES  
CHARGING TAKE?

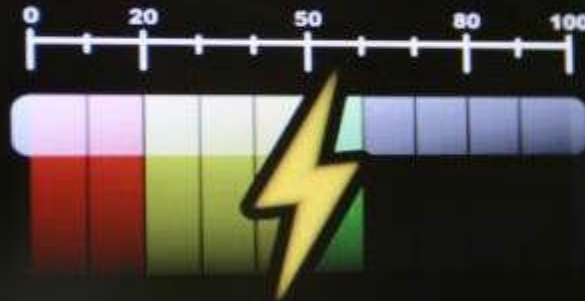


Place your card on the reader spot to terminate

Duration: 07m28s

Energy: 16.92kWh

Current: 200A



100 KM IN ONLY 7 MIN



DOES IT HAVE COMPARABLE  
PERFORMANCES?





EXAGON FURTIVE E-GT: 402 hp, 516 Nm





**Concept\_One**

Power: 1088 hp  
Torque: 1600 Nm  
Acceleration: 0-100 km/h 2,8 secs  
Range: up to 600 km



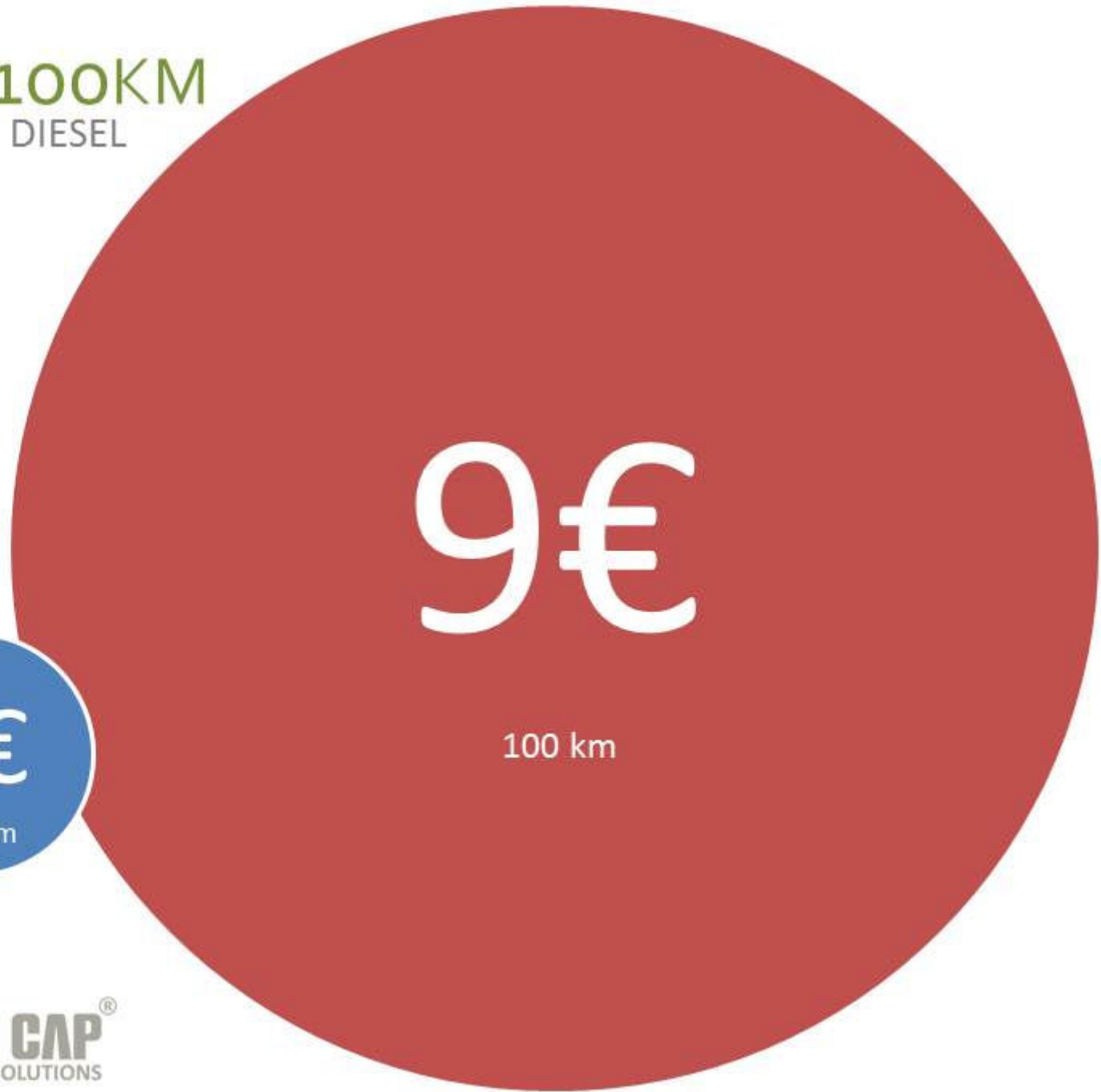


HOW MUCH  
CAN I SAVE?



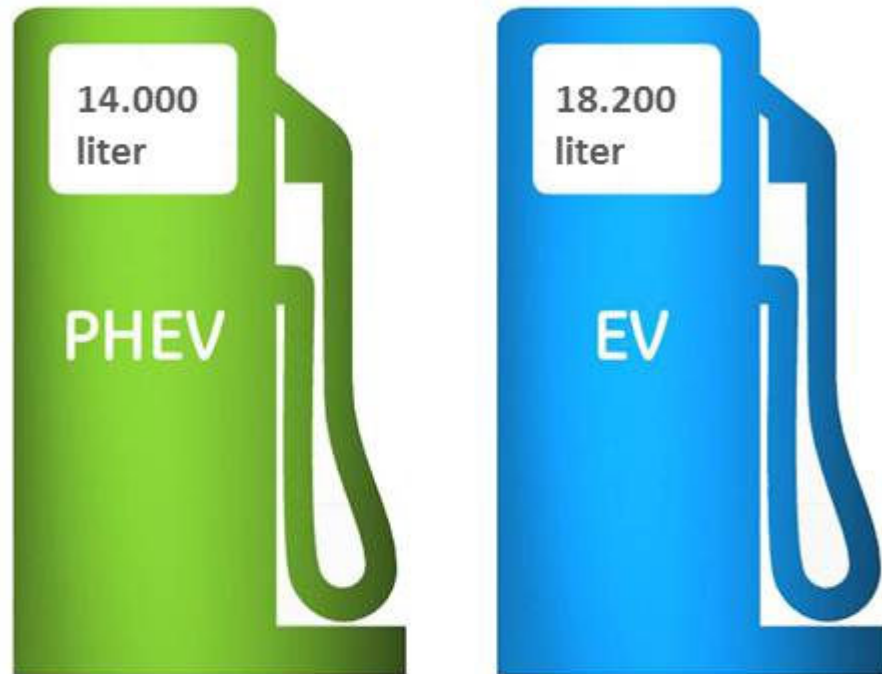
# PRICE PER 100KM BEV COMPARED TO DIESEL

9€ = 450 km  
if driving an EV



# How We Drive

## HOW MUCH OIL CAN WE SAVE



Based on 250.000 km  
vehicle life estimation

26.000 € diesel  
5.000 € electricity



# HOW IS ELECTRICITY GENERATED?

70%



**WHY  
ELECTRIC?**



# ELECTRIC MOBILITY THE MOBILITY OF THE FUTURE



Petroleum reserves are becoming depleted and increasingly expensive to extract.

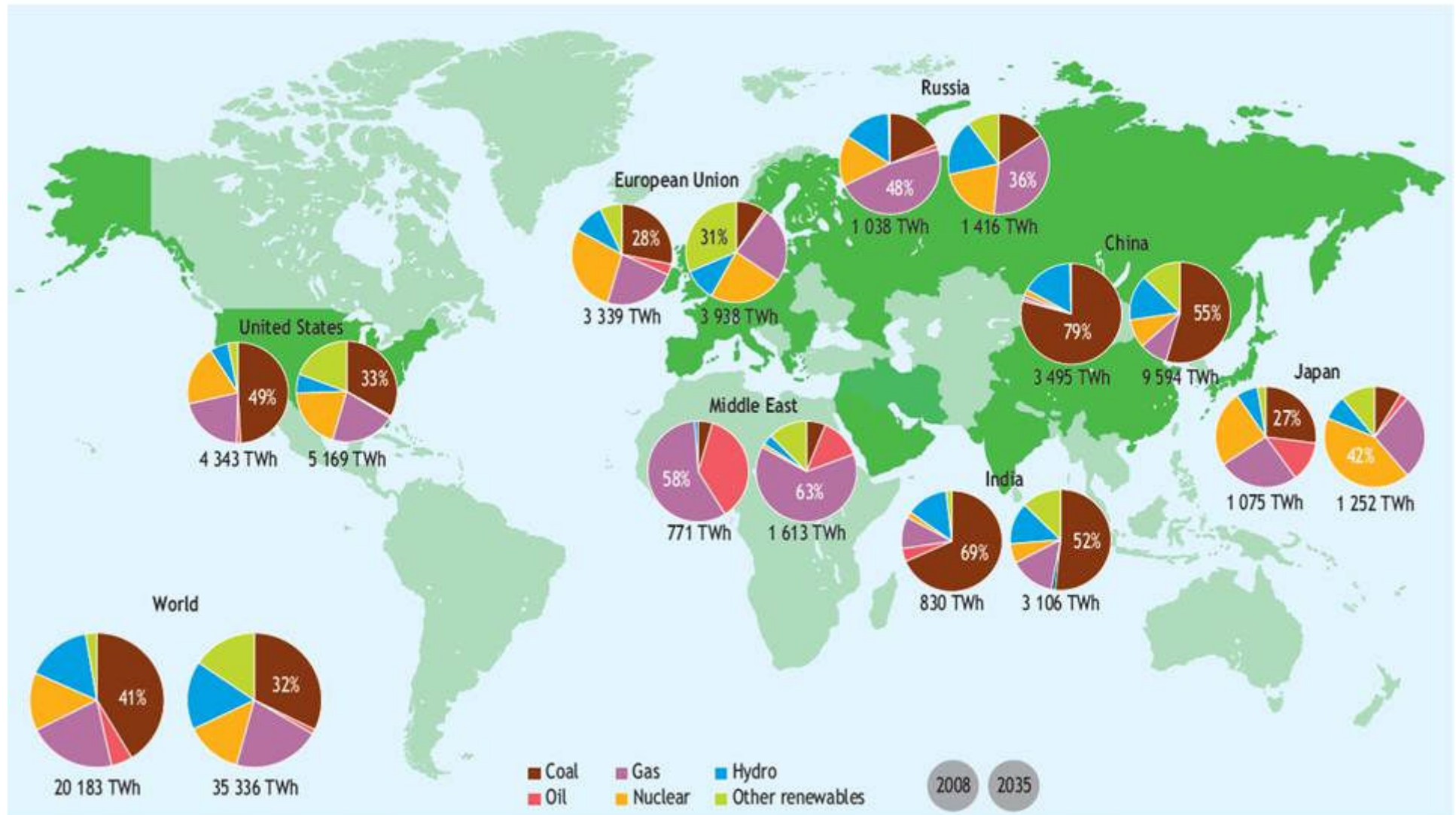
Our emissions are polluting the environment and causing climate change.

Here, electric mobility is a key component.



# ELECTRICITY GENERATION BY FUEL AND REGION

SOURCE IEA INTERNATIONAL ENERGY AGENCY



For each region, the largest source of electricity generation in 2008 and 2035 is denoted by its percentage share of the overall mix.

# ELECTRIC MOBILITY

## THE MOBILITY OF THE FUTURE

Electric vehicles are very efficient.

EVs give us the opportunity to use energy from renewable sources in transport.

They can help on the changeover to renewable energy

They will make an important contribution to grid stability.

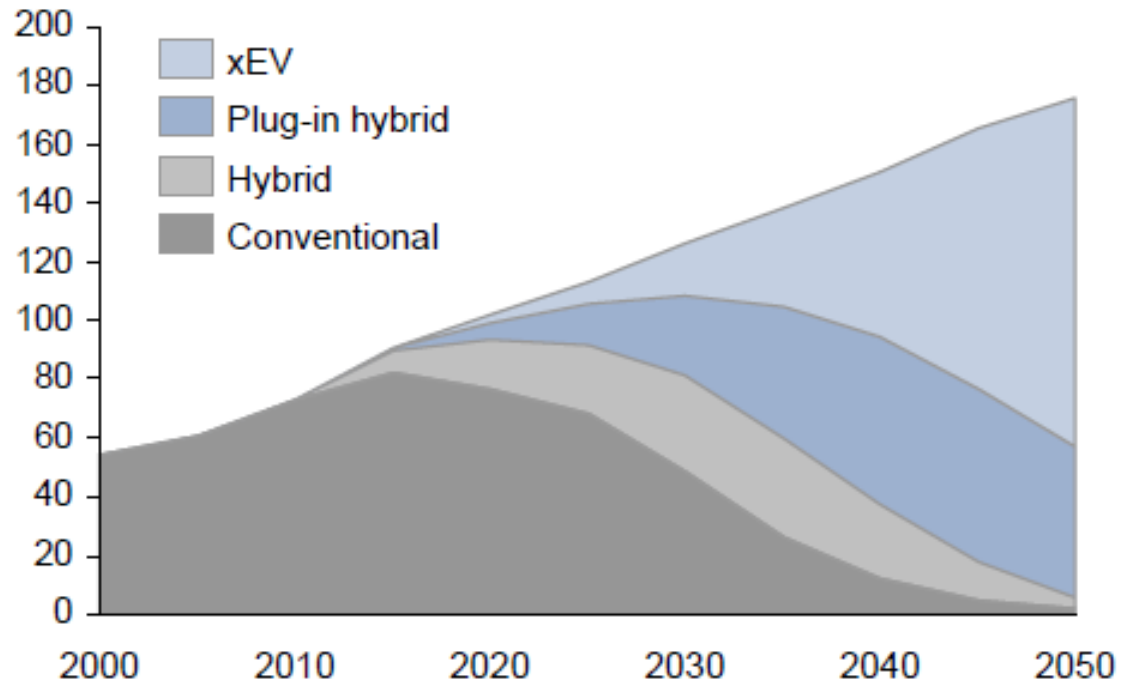
They will maintain our freedom to move.

# WORLD EV/PHEV SALES MILLIONS

EXPECTED VEHICLE NEW SALES BY TECHNOLOGY TYPE

Global CO2 emissions must be cut by at least 50% by 2050

Expected global passenger car sales (in million units p.a.)

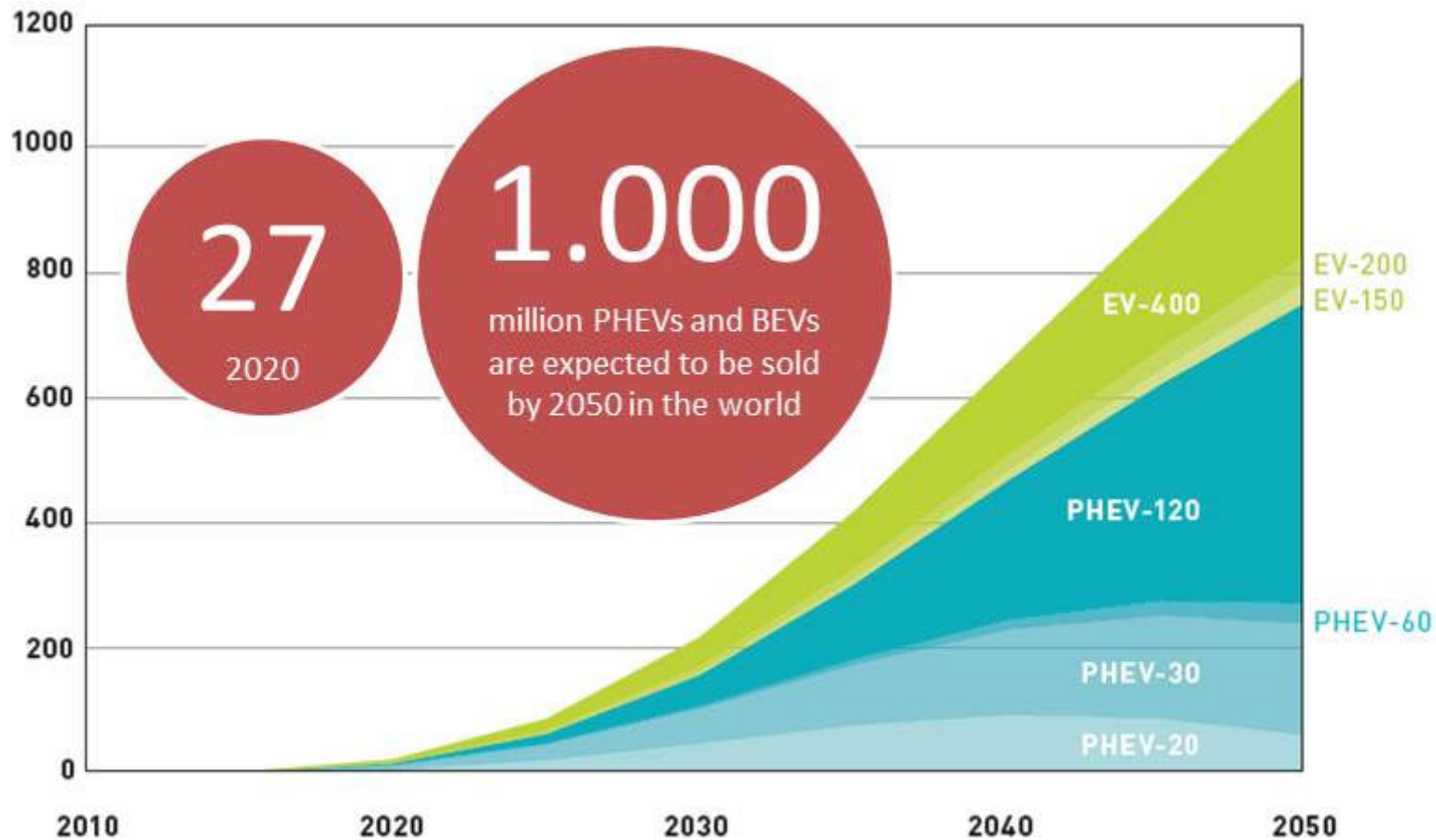


Source: IEA: Global Energy Report 2010; Siemens

1) xEVs including battery-electric vehicles (BEV), electric vehicles with range extender (EREV), and fuel cell electric vehicles (FCEV)

# WORLD EV/PHEV STOCKS MILLIONS

EXPECTED VEHICLE STOCK BY TECHNOLOGY TYPE AND RANGE IN KILOMETERS (KM)



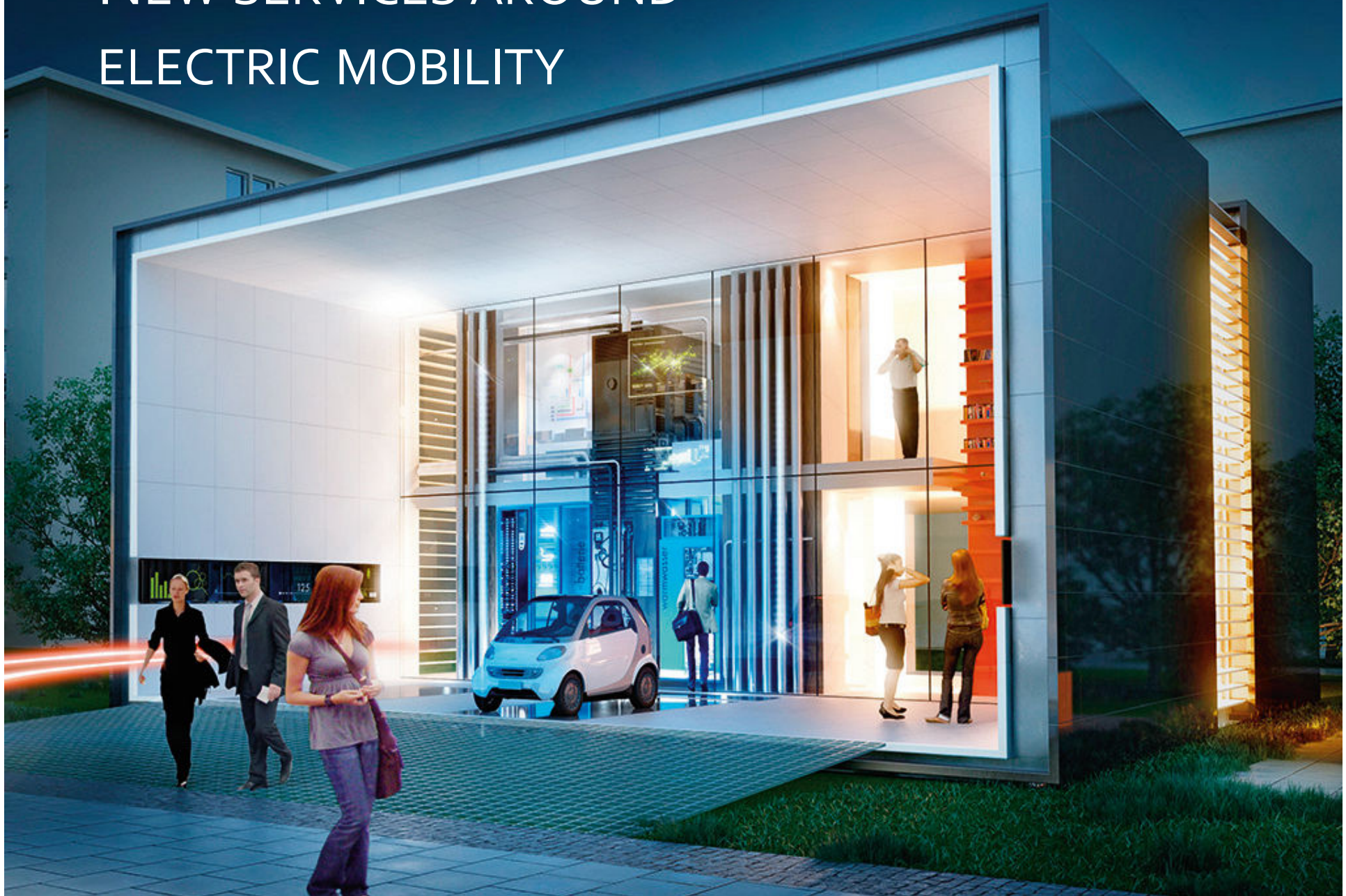


I CAN'T  
CHARGE!



I LIVE HERE  
HELP ME

# NEW SERVICES AROUND ELECTRIC MOBILITY











# Ligue-se à corrente.

OS VEÍCULOS ELÉTRICOS CHEGARAM.  
E VIERAM ACOMPANHADOS  
DE MUITAS VANTAGENS:

BAIXO CUSTO POR KM - APROXIMADAMENTE 1/3  
DE VEÍCULOS NORMAIS

EFICIENTE - USAM ENTRE 0,1 E 0,23 KW/H POR KM

CUSTOS MENORES - MUDANÇAS DE ÓLEO

AUSÊNCIA DE ISV

MANUTENÇÃO MENOR

Linha MOBI.E  
800 916 624



**MOBI.E**  
MOBILIDADE ELÉTRICA





**THE FUTURE IS ELECTRIC**  
**WELCOME TO THE FUTURE**





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**MAGNUM CAP**  
Zona Industrial da Taboeira, Lote 2  
3800-055 Aveiro  
Portugal

Phone: +351 234 248 100  
Fax: +351 234 248 101  
E-mail: [geral@magnumcap.com](mailto:geral@magnumcap.com)  
Website: [www.magnumcap.com](http://www.magnumcap.com)  
facebook: [www.facebook.com/magnumcap](http://www.facebook.com/magnumcap)