

The electric vehicle

CONTENT

- Introduction
- CO2 emissions
- FEV 100%
- Charging
- IT Integration
- Smart Tech
- Market models
- Sales FEV
- Conclusion
- Quiz
- Bibliography



By Antonio López

01/02/2013

EOI
English



Introduction

Years ago, when we talked about Electric Vehicles, we thought about splendid cars which existed only on our minds. But here we are in 2013, and the electrical vehicles are there. *You can't feel their presence, can you?*



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Causes of the appearance of the Electric Vehicle in our lives.



Green Power
Carbon footprints
Carbon dioxide emissions
Exhaustion of fossil fuels





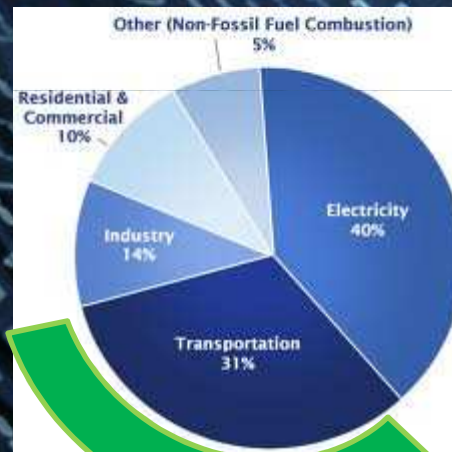
CO2 emissions in the World

CO2 emissions are polluting our planet every day.



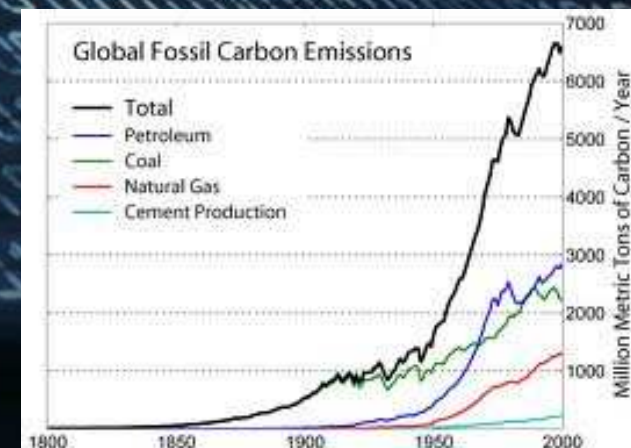
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Transportation represents between 25% and 31% of the CO2 emissions

Tremendously huge between 1950 and 2000





The Full electric vehicle

An alternative?

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- **Full Electric vehicle is a car 100% electric**
An automobile that is powered entirely by electricity

Renewable energy

Biofuel • Biomass • Geothermal •
Hydroelectricity • Solar energy • Tidal power •
Wave power • Wind power

Renewable energy

- **Sustainable energy**

Sustainable energy





Charging



CHAdeMO

It is the trade name of a charging method,

Pun for



“O cha demo ikaga desuka “

in Japanese “How about some tea?”

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Types of charge

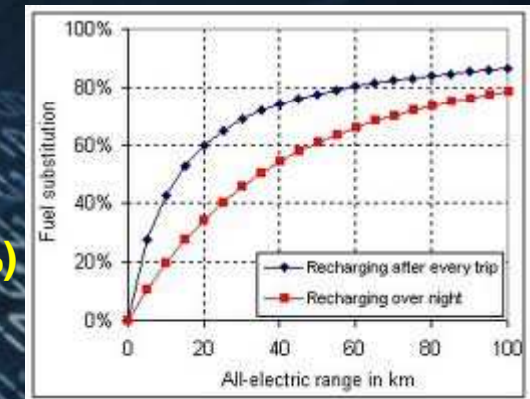
- Slow charging (better for the battery, up to 80%)
- Domestic use DC
- Ultra fast DC, allowing recharging in 15 min.

Alternative studied

- Magnetic induction technology
- Replace battery

.... Looking for a worldwide standard.

Installed Chargers	in 2012
Japan	1154
Europe	207
Others	32
TOTAL	1393





IT integration

• To look after Charging stations

• To integrate the new technologies

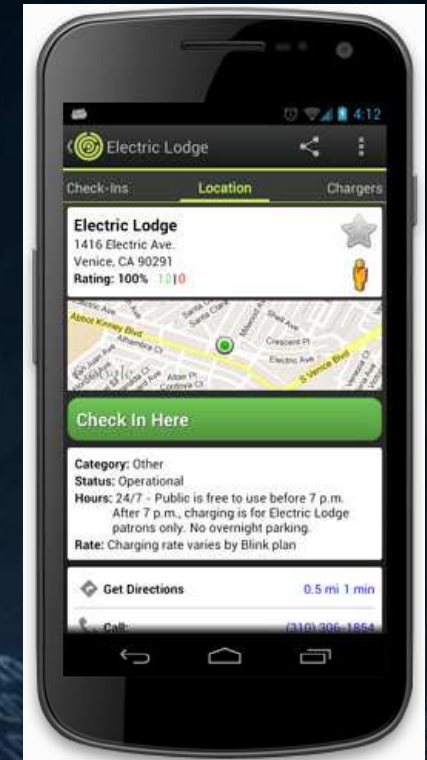
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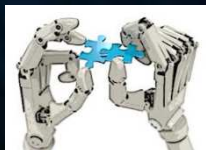
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• Electric Vehicle Integration into Modern Power Networks

• On the palm of your hand





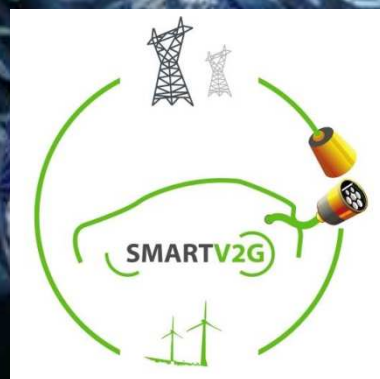
Smart Tech

- The SMARTV2G project provides added value to the Full Electrical Vehicle (FEV) integration in the Smart Grids.
- The FEV shall become an energy active node that needs advanced tools and algorithms to be managed.

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Main goal of the SMARTV2G project





Market models



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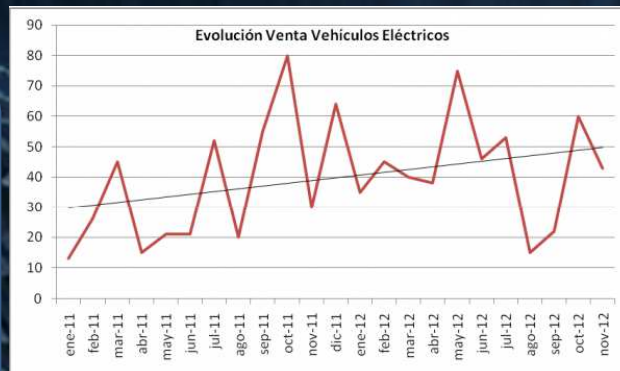


FEV Sales

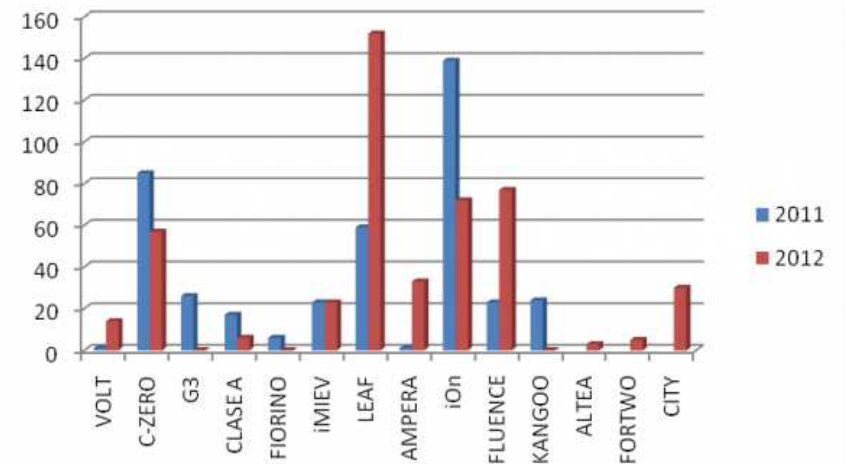
• Sales of electric vehicles in Spain

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The monthly average purchase of electric vehicles has increased from 36.8 to 42.9 cars per month.





Conclusion

• FEV

- Electric vehicle
- IT integration and Smart grids

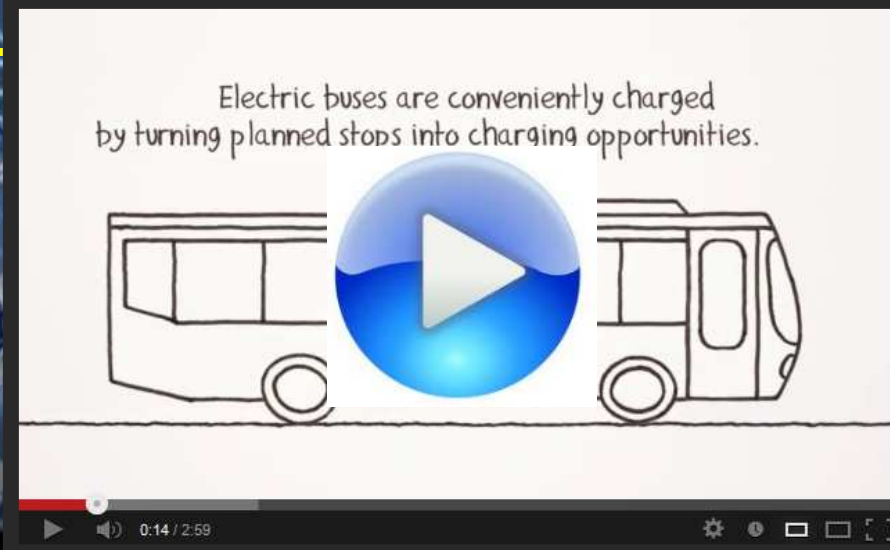
• Miscellaneous:

- The hydrogen will become a real alternative in 2025
- Solar powered cars
- The hybrids and plug-in hybrids
- Recharging by induction on public transport in Germany.



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Questions – Answer and argue your reply



Quizz

When do you think you'll buy your first FEV?

- next year* *within next 10 years* *You won't buy one*

FEV Inconveniences

- noiseless* *purchase cost* *recharges*

Do you believe in the change to FEV in the transportation?

- Yes, it is necessary* *Maybe.....* *It is an utopia*

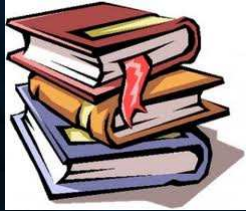
Do you think we are ready for it?



- Yes, of course.* *May be.....* *Not yet*

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Bibliography

- **More information on EV**

<http://www.forococheselectricos.com/>

- **Chademo**

<http://chademo.com>

- **SmartV2G**



@SMARTV2G_FP7

<http://smartv2g.eu>

- **Electric Vehicle Integration into Modern Power Networks**

Garcia-Valle, Rodrigo; Peças Lopes, João A. (Eds.)

2012, XI, 325 p. 202 illus., 134 in color.

ISBN 978-1-4614-0134-6

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The image features a hypnotic spiral background with alternating red and black concentric rings. The spiral is centered and expands outwards, creating a strong sense of depth and movement. Overlaid on this background is the text "That's all Folks!" written in a white, elegant cursive script. The text is positioned horizontally across the middle of the spiral, with the words "That's all" on the left and "Folks!" on the right. The white color of the text contrasts sharply with the dark red and black of the spiral, making it highly legible. The overall composition is balanced and visually striking due to the combination of the hypnotic pattern and the classic cursive font.