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Electricity Energy Mix Changes in Portugal to Comply with the Electric Vehicles Penetration of RNC2050

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Electric vehicles penetration is a solution braced by a wide range of agents and players, such as Governments, environmental organizations, social groups, companies, citizens and media. The motives seem valid but need technical and energetic validation. What is generally accepted is that the electric vehicles are a no pollution and environmentally friendly mobility solution regarding the consumption. However, the electricity production is dependent on several factors that can jeopardize these advantages and even aggravate the electricity sector.

The present paper focuses on the micro analyses of the energy mix in some periods of the day. For the case study it is chosen typical days in Portugal regarding consumption, primary energy availability and weather. The studies are made based on the present legislation, implemented status quo and foresee goals.

Analysing it, allows to understand how environmentally friendly and cheaper the electricity is and that is the guidelines of the present paper. It was possible to conclude that electricity mobility in Portugal is environmentally harmful, economical expensive and energetically unstable.

Biography:

Nuno A. S. Domingues (b. 1972) received the Undergraduate (5-year) degree in Electrical Engineering from ISEL in 2005, Master's degree in Electrical Engineering and Computer Science from IST in 2008 and PhD in Electrical Engineering and Computer Science from FCT-UNL in 2015. He is a Professor in ISEL. His topics of research include electricity markets modelling and simulation, energy systems, SCADA and DSS, decision making, intelligent optimization, evolutionary algorithms, machine learning, sustainability, efficiency, clean technologies, mobility and transport, sustainable consumption, e-learning, science communication, education and regulation.