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Title:	Teaching Staff, Lab of Soft Energy Applications & Environmental Protection, Mechanical Eng. Department, Piraeus University of Applied Sciences (ex TEI of Piraeus), Athens, Greece	
Presentation title:	**Real World Driving Energy Consumption and Air Pollution Implications of Decarbonizing the Greek Transport Sector**	

As of late, EVs are promoted around the globe as the clean and environmental friendly alternative mean of transportation to the currently heavy polluting market dominant technology of internal combustion engines. Though, fueling electric vehicles with electricity generated from burning of scarce and depletable resources, strips those of their sustainable and pollution preventive advantages. The local electricity generation sector is considered to be the largest CO2 emitter while the transportation sector is advancing with fast pace.

The present work is based upon data resulting from the operation of the multifunctional autonomous and grid connected, solar EV charging station located at the Soft Energy Applications and Environmental Protection Laboratory of Piraeus University of Applied Sciences. The said installment, constitutes a realistic materialization of a project incorporating renewable energy sources, electric vehicles, smart grids and measuring instrumentation. Renewable sources dominated fueling of electric vehicles through similar installations widely recognized as the leading option for decarbonizing the transport sector while covering the future needs of this steadily and fast expanding sector.

The results, relate to different patterns adopted during the charging and discharging of a modern battery electric vehicle. The vehicle discharged under real-world driving conditions was later charged with different charging speeds and climatic conditions, under partial and full load. Outcome was that the total energy consumed per kilometer driven was larger from what it was expected to be. The significance of the findings is particularly useful giving the opportunity to estimate the actual energy consumed, the total efficiency of charging an electric vehicle, while future implications may rise from the implementation of Vehicle-to-Grid and forthcoming, hourly, price variable electricity tariffs and prices. Additionally, based upon real-world data acquisition the benefits of reducing air pollution in urban and suburban environments in comparison with conventional vehicles is quantified.

CV:	

MSc George Spyropoulos (male) is teaching staff of the Mechanical Engineering Department and researcher at the Soft Energy Application and Environmental Protection Lab of the Piraeus University of Applied Sciences (ex TEI of Piraeus), since September 2003. He holds a Mechanical Engineering Degree from the Piraeus University of Applied Sciences and an MSc in the field of Environmental Policy and Management, from the Department of the Environment of the Aegean University in Greece. His research activities are mainly focused on sustainable development, policy related issues and electric mobility services and infrastructure. His research experience may be validated by his participation in many National research projects and co-authorship of 25 peer-reviewed journal and conference papers. He is the co-author of book "Computional Applications of Renewable Energy - Solar Energy, Photovoltaics, Solar Thermal Systems", by Stamoulis. Furthermore, in the business area, during the same period he has been technical manager of accredited inspection body for the installation and operation of roof and large-scale photovoltaic power systems and recently in 2015, he developed the first autonomous photovoltaic powered electric vehicle charging station in Greece, in Piraeus University of Applied Sciences.