


#	<p>Theodoros Pappas Mechanical Engineer, Ph.D</p>	
Title:	Associate Academic Staff Heriot-Watt University - Piraeus University of Applied Sciences (A.T.E.I. of Piraeus), MSc in Energy, Athens, Greece	
Presentation title:	<p>Investigation into the electrification of Greek rail network: energy and CO₂ considerations</p>	
<p>Transport sector is responsible for a great amount of energy use as well as energy related carbon dioxide and is the sector that may promise great environmental benefits by becoming independent on fossil energy sources that moreover are becoming more and more sparser. Railway electrification is very challenging taking into consideration the targets that are set for the improvement of rail sector energy efficiency and reductions of GHG as well as the interoperability and safety of European railways. The aim of this paper is to estimate the electrification impact on the energy consumption and the corresponding CO₂ emissions of Greek railway for the period of 2013-2050. This is achieved through the development of a computational algorithm spreadsheet which calculates the energy consumption and the corresponding CO₂ emissions from Greek railways taking into account data retrieved from bibliography, other research studies, and actual data. The results clearly show that there is strong relation between railway electrification share, the fuel mix used in electric power production, and the reduction of energy consumption and CO₂ emissions. The outcomes of this study could provide significant reference knowledge for future reductions of energy consumption and waste gas emission in Greek's railway transportation.</p>		
CV:		
<p>Theodoros Pappas received his Ph.D degree in Mechanical Engineering from Brunel University of London UK in 2002. Since then he has gained experience working in multinational companies in various commercial managerial positions in Business Development and Sales in infrastructure area. Since 2005, he has been working as Adjunct Lecturer in various Universities of Applied Sciences (A.T.E.I.) responsible for courses in the field of Mechanical Engineering. Areas of research interest include building energy efficiency, fuel cells and Electric Vehicles. Theodoros is a certified Energy Inspector with experience in leading roles at projects funded by European Union (FP7). He is a member of Institution of Mechanical Engineers (IMechE) and founding member of Institution of Mechanical Engineers Greece Group which he serves it from the position of Hon. Secretary. He is currently employed as a Project Manager at a multinational company in Rail Sector.</p>		