Engineering and Socio-Economic Aspects of Sustainable Energy and Transportation

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Abstract

There is plenty of hydro-carbon resource energy available on earth, for hundreds of years. The urgency of sustainable energy and transportation problem is from prolusion, global warming, and equitable access to energy for all humanity. The way forward is to help the developing world (90% of population that dominates the future emissions) with "clean" energy, rather than making the developed world clean (the 10% solution). This has to be done by appropriate technologies, consistent with sound business plans, and market economy.

This presentation offers the engineering and economic foundations of the above proposition. Case studies and example technologies from the author's group at Texas A&M University will be presented as specific illustrations.



Mark Ehsani is the Robert M. Kennedy Endowed Professor of electrical engineering and Director of Sustainable Energy and Vehicle Engineering Research Program and the Power Electronics and Motor Drives Laboratory at Texas A&M University. He has served in leadership positions of several IEEE Societies, including their governing boards. He has been honored by various international organizations over 140 times, including IEEE Field Award for undergraduate Teaching and IEEE Vehicular Technology Society Avant Garde Award. He is the co-author of over 400 publications, 17 books, over 30 US and EU patents, and has been a consultant to over 60 international companies and government agencies. He is a Life Fellow of IEEE and a Fellow of SAE.