Exergy Methods for Addressing Climate Change and Other Environmental Impacts

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Abstract

The use of exergy methods is described as tools for addressing climate change so the benefits can be appreciated and attained. Exergy can be used to understand climate change measures and to assess and improve energy systems, and can help better understand the benefits of utilizing sustainable energy by providing more useful and meaningful information than energy provides. Exergy clearly identifies efficiency improvements and reductions in wastes and environmental impacts attributable to sustainable energy. Exergy can also identify better than energy the environmental benefits and economics of energy technologies. Exergy should be applied in addressing climate change.

Keywords: *Exergy; climate change; environment; ecology; energy*

Biography

Marc A. Rosen, Ph.D., is a Professor at University of Ontario Institute of Technology in Oshawa, Canada, where he served as founding Dean of the Faculty of Engineering and Applied Science. Dr. Rosen has served as President of the Engineering Institute of Canada and of the Canadian Society for Mechanical Engineering. He has acted in many professional capacities, including Editor-in-Chief of various journals and a Director of Oshawa Power and Utilities Corporation. With over 70 research grants and contracts and 900 technical publications, Dr. Rosen is an active teacher and researcher in sustainable energy, sustainability, and environmental impact. Much of his research has been carried out for industry. Dr. Rosen has worked for such organizations as Imatra Power Company in Finland, Argonne National Laboratory near Chicago, the Institute for Hydrogen Systems near Toronto, and Ryerson University in Toronto, where he served as Chair the Department of Mechanical, Aerospace and Industrial Engineering. Dr. Rosen has received numerous awards and honours, and is a Fellow of numerous societies.

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