

Non-Electric Applications to Help Reduce Environmental Impacts

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Abstract

Non-electric applications of nuclear energy beyond electricity are reviewed. These include cogeneration, district heating and cooling, high-temperature process heating, hydrogen and alternative fuel production, transportation and desalination. These additional applications expand the prospects for nuclear energy notably, and enhance the benefits that can be derived from it, such as reduced environmental impact and climate change mitigation.

numerous awards and honors, and is a fellow of several societies and organizations

Speaker Publications:

1. "Role of exergy in increasing efficiency and sustainability and reducing environmental impact"; Energy Policy. / 2008 / Volume 36, Issue 1(2008) 128-137
2. "District heating and cooling: Review of technology and potential enhancements"; Applied Energy/ Vol 93 (2012)
3. "Exergy, exergoeconomic and environmental analyses and evolutionary algorithm based multi-objective optimization of combined cycle power plants";Energy,Volume 36, Issue 10,2012, 5886-5898.
4. "Energy, environment and sustainable development", Applied Energy, Vol 64, 1999- Issue 1-4
5. "Geothermal heat pump systems: Status review and comparison with other heating options"; Applied Energy/ Vol 103, 2013, Pages 341-348.

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Biography:

Marc A. Rosen is a Professor at the 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 was President of the Engineering Institute of Canada. A registered Professional Engineer in Ontario, he serves as Editor-in-Chief of several journals and as a Director of Oshawa Power and Utilities Corporation. With over 60 research grants and contracts and 900 publications, Dr. Rosen is active in sustainable energy, environmental impact, and energy technology (including renewable energy and efficiency). Much of his research has been carried out for industry, and he has written numerous books. Dr. Rosen has worked for such organizations as Imatra Power Company in Finland, Argonne National Laboratory near Chicago, and the Institute for Hydrogen Systems near Toronto. Dr. Rosen has received