

Water desalination infrastructure as a *resource* for flexibility to its energy counterpart

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Speaker:

Dr. Ali Al-Awami
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Abstract:

Do you know that Saudi Arabia is the largest producer of desalinated water in the world? Do you know that 10% of the Saudi annual energy consumption is due to water supply applications?

The inter-dependency between water and energy is called the energy-water nexus. Given the scarcity of water and rapid population growth in the Kingdom, addressing the efficiency and effectiveness of both the energy and water supply infrastructures within the context of energy-water nexus is key for ensuring sustainable critical infrastructures. This talk will discuss the synergies between energy and water infrastructures. Special emphasis will be given to water desalination and its potential to provide the flexibility needed for the integration of renewable resources to the Saudi energy mix.

Bio:

Dr. Ali Al-Awami obtained his Ph.D. in Electrical Engineering from the University of Washington in 2010. He is an Associate Professor at the EE Department and an IEEE Senior Member. His research interests include the integration of renewable energy sources into the smart grid, electricity markets, and hybrid energy systems. He holds four patents, authored five book chapters and more than 80 articles on these subjects. Dr. Al-Awami won several awards from IEEE, University of Washington, and KFUPM honoring the quality of his research. Dr. Al-Awami's industrial experience includes working for Saudi Electricity Co. and Bonneville Power Administration.