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SPECIAL SESSION I

Novel methodologies, models, solutions for resilient and secure smart grids and multi-vectors networks

ORGANIZED BY

- Dr. **Giovanna Adinolfi**, ENEA
- Dr. **Maria Valenti**, ENEA
- Prof. **Giorgio Graditi**, ENEA

The success of new energy paradigm is based on “integration”.
It means integration of resources, technologies, and energy vectors integration.
A promising solution for the continuation of the decarbonization and energy transition process is represented by the integrated and optimized management of different energy vectors (electricity, heat, hydrogen, gas).
It is important to conceive the integration of different vectors as the RESOURCE to ensure secure, and resilient smart grid.
In this context, advanced hardware, software, communication and remote control systems can certainly offer valid support in guaranteeing the satisfaction of the energy needs of users, local communities and industries.
The focus is on devices, controllers, architectures, forecasting and detection methodologies, but also on privacy-preserving techniques and solutions for cyber-resilient energy networks.
This special session aims at gathering contributions able to cope with the above topics. This relates possible contributions dealing with (but not limited to):

- **Advanced solutions for the integration among electric-thermal-gas-H_2 based carriers.**
- **Control and management strategies for multi-vectors smart grid.**
- **Technologies for reliable, secure and resilient energy grids.**
- **Protection and communication solutions for secure energy grids.**
- **Methodologies and algorithms for anomaly and fault detection and prediction.**
- **Forecasting techniques for energy distributed resources.**
- **Techniques, technologies, and devices for cybersecurity and for cyber-resilient smart grids and multi-vectors networks.**
- **Machine Learning Applications for Resilient and Secure Smart Grid**.

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