



Power & Energy Society®

IEEE Sweden PE/PEL Chapter

## IEEE Seminar on “Electrical vehicles for sustainable developments with a European perspective”, by Professor Lina Bertling Tjernberg

When: Thursday Sep 23, 2021, at 15:30-17:00, CET  
Registration link: via [vTools](#)  
Webinar link: available upon registration

### Abstract

The energy system is in a global transition towards a sustainable society. Resource efficiency and environmental concerns push towards change into the use of renewable energy resources and to optimize the energy usage. This transition has been motivated by climate and energy goals and a growth in energy needs. The United Nations adapted a resolution for a sustainable development with 16 goals until 2030 and the European Commission has launched the targets towards 2030 of at least 27% renewable energy in final energy consumption at European level.

New power grid developments include possibilities and challenges with generation, delivery, and usage of electricity as an integrated part of the energy system. This involves new forms of usage of electricity, for example, for transportation and demand response, and to the updating of existing electricity infrastructures. For electricity generation, the trend is toward new large-scale developments like offshore wind farms, as well as small-scale developments like rooftop solar energy. At the same time digitalization of society is creating new opportunities for control and automation as well as new business models and energy related services. Another key area for developments are the circular economics, which result in a new dimension for the life cycle cost assessment for all technical systems.

This presentation will focus on the introduction of the electrical vehicles (EVs). The EVs both contributes directly to the reduction of fossil fuel but also as a facilitator in the power grid. The presentation will share experience from the developments in Europe. “EV and PHEV sales in Europe continue to break records in 2020 with a 142% increase of deliveries to over **1,36 million registrations** of plug-in vehicles, which is 11.4% of the total European car market, more than triple the share of 2019! “.

### Biography



Dr. Lina Bertling Tjernberg is a Professor in Power Grid Technology at KTH the Royal Institute of Technology. She is the Director of the Energy platform and is the Coordinator of Life long learning at the School of Electrical Engineering and Computer Science. She was previously Professor at Chalmers University of Technology, 2009-2013, and with the National grid 2007-2009. She completed her Ph.D. in Electric Power Systems at KTH in 2002. Her research and teaching are focused on developments of the future sustainable electric power grid with special interest in reliability analysis, predictive maintenance and asset management. She is actively involved as advisor and expert in various professional organizations. Current appointments include: the Program Committee of the World Energy Council, the National Strategic Council for Wind Power, the ISGAN Academy of Smart Grid, the National Committee of CIRED, and she is part of the expert pool for the EU commission.

Dr. Bertling Tjernberg is a Senior Member of IEEE and is a Distinguished Lecturer of IEEE PES. She has served in the Governing Board of IEEE PES (2012-2016) and been the Chair of the Swedish PE/PEL Chapter (2009-2019). She has been an Editor for the IEEE Transactions on Smart Grid Technologies and chaired the first IEEE ISGT Europe Conference. She is a [Member of the Program Committee of the World Energy Council](#) and a National expert in the ISGAN Academy of Smart Grid and National Committee of CIRED. [She is a candidate for the IEEE PES President Elect.](#) Information about the election and all candidates here <https://eballot4.votenet.com/IEEE>