



## 3rd International Conference on Smart Grid and Renewable Energy

[www.sgre-qa.org](http://www.sgre-qa.org)

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### Special Session on SYSTEM LEVEL IMPACTS OF LOW CARBON TECHNOLOGIES GRID INTEGRATION

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#### Call for Papers

##### Outline of the Session:

Environmental concerns have forced to a growing demand for the integration of low carbon technology devices for transportation, heating, industrial and residential power supply. Therefore, power electronic converters play an important role to in this transition. On the other hand, power electronic converters will bring new additional challenges to the power systems, which are mostly related to power quality. Power quality issues, other than customer satisfaction level, will have impacts on protection, operation of metering devices, aging of system components as well as creating resonances for the power system. In a future power system, where a majority of devices are connected via power electronics converters, power quality could become a limiting factor for new connections even before reaching thermal or voltage constraint limits. In such a future, power quality will need to be planned for in a similar manner to other connection limits, creating a requirement for targeted modelling, forecasting, monitoring and management techniques. To overcome these issues, for low carbon technology devices, it is obvious that, there is still room for improvement in design, control and integration methods of power electronic based devices, to mitigate or minimize the system level impacts.

##### Topics of the session include, but are not limited to:

- Modern control methods for power electronic converters to minimize system level impacts
- Improvements in design, control and integration of Electrical Vehicle charging infrastructure/ on-board chargers
- Improvements in design, control and integration of Heat Pumps
- Distributed harmonic compensation methods/devices aided by low carbon technology devices
- Evaluation of related power system standard compliance for low carbon technology devices
- Active monitoring/management of LCT devices integration impacts in distribution power systems

##### Author's schedule:

Deadline for submission of special session papers	December 15, 2021
Notification of acceptance	January 1, 2022
Deadline for submission of final manuscripts	1 February 2022

All the instructions for paper submission are included in the conference website:

<http://www.sgre-qa.org/>