The Strategic Plan 2010-20 – ABSTRACTS

To draw up its Strategic Plan, the TC analyzed, in a first step, the evolution of the environment of the **Electricity Supply Industry:** What are the facts will shape its future? What means are available to answer the challenges?
From this analysis it selected, in a second step, its main directions of CIGRE activities for the near future.

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What facts shape the future?

- The growing demand for electricity: more people connected; higher standards of living; new usages of electricity (transportation...); electricity is more and more the favoured form of energy
- The climate change and the development of carbon free generation- renewable/nuclear: thousands/millions of small dispersed units near the loads, intermittent and fluctuating, or large plants remote from the main loads - fluctuating or with limited flexibility-.
- The scarcity and cost of energy: need to tap all sources, no spilling; storage; efficiency; demand side management.
- The acceptability of power infrastructures: more environment friendly equipment; limit the extension of the system, use the full built-incapability of equipment and system..
- **The existing infrastructures:** use them efficiently, upgrade them, extend their life..

The enablers

- New and emerging technologies will help meeting the challenges: New materials, superconductors, new insulation materials; ICT developments, sensors, Power electronics; Advanced power cables and Gas Insulated Lines (GIL), new substations equipment..
- **Experience and knowledge are available in CIGRE**: worldwide cooperation and added-value; information exchange..

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The main technical directions of CIGRE activities for the next decade

- Prepare the " strong and smart " power system of the future
This future power system will have to wheel over long distances bulk power from non carbon sources ; it will interconnect the local grid, to compensate for the geographical/temporal variability or lack of flexibility of these sources. It will interface local energy networks (microgrids) which allow the optimized operation of dispersed generation, intelligent loads, storage..
This future Power system will rely massively on new techniques, UHV, DC and Power Electronics, ICT...
- Make the best use of the existing equipment and system
Use better the full built-in capacity, operate the system nearer to its limits; operate the assets up to the end useful life, assess their condition, maintain, refurbish, extend their life, replace...
- Answer the environment concerns
Develop environment friendly materials, less intrusive techniques (cables); use efficiently the assets; reduce carbon footprint of electricity..
- Develop knowledge and information
Technical expertise, cooperation of worldwide experts and access to information are keys for the success of this evolution.